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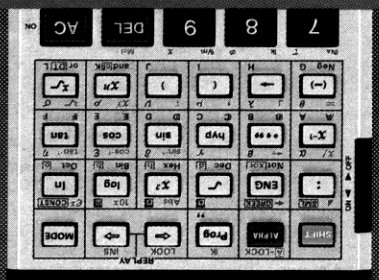

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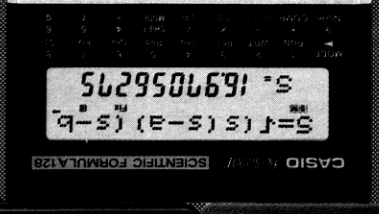

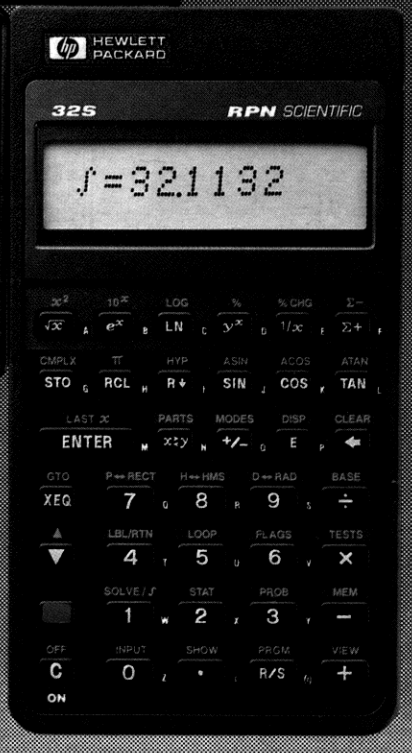

For Your Calculator $'s! page 34

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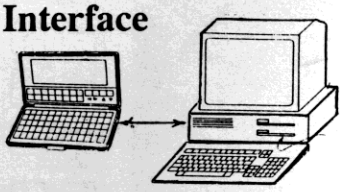

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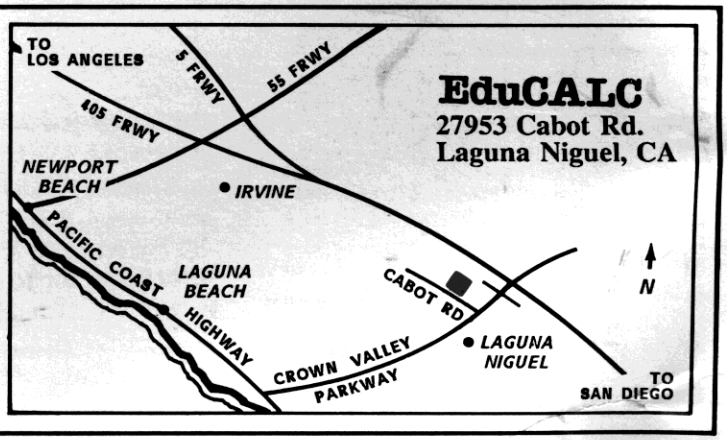

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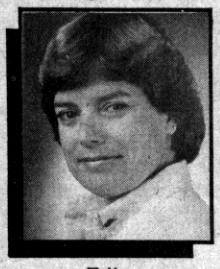
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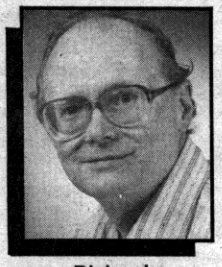
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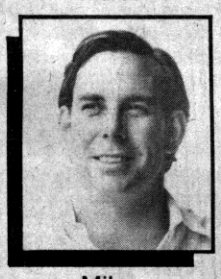
Marta

Shirley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Dear Reader,

I'd like to hear from you after you look at our "Consumer Comparison" of the TI-68 with the Casio fx-5000F and the HP-32S on page 34--we gave them a hard look and a fair look, so you'll know which is best for you. Is this comparison useful to you? What are your questions?

I've got many other new features and products for you in this issue. HP is offering a FREE BACKPACK--see coupon on page 32.

There are SALE ITEMS on nearly every page--be sure to check these out--

1) a new SUPER SAVINGS for the advanced scientific programmable TI-95 (see inside back cover)
2) we have more USED HP GEAR at rock-bottom prices (see page 59)
3) 70% OFF on the HP-IL to Video Interface (see page 56)

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Sincerely,

Jim

Jim Carter, Manager

P.S. I've hidden a coupon somewhere in this issue--find it now and enter my contest for a FREE calculator.

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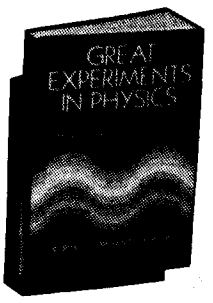

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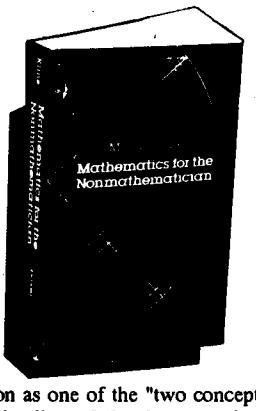

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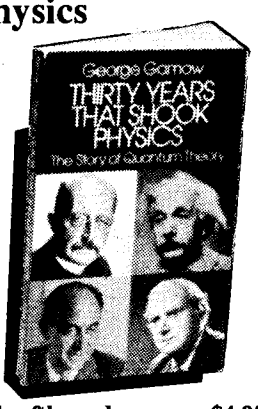

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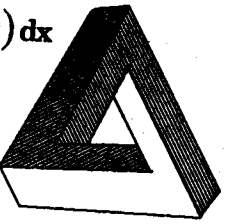

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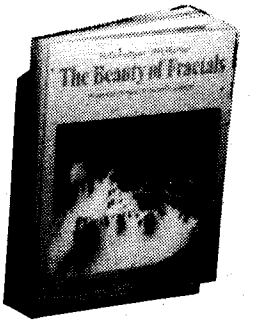

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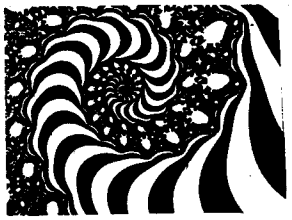
IT'S EASY TO ORDER—use the order form at the rear of this catalog (it folds up to be its own envelope with printed address)

FYI

FractalMagic

Sintar Software



"It's glorious! I can't imagine a better way to waste an afternoon or two. No color PCompatible is complete without a copy of this; get one and see what I mean," said Jerry Pournelle in *BYTE Magazine*.

Comes with 8 data files, each a different, completed pre-calculated fractal picture ready for instant display. Then you can use the program menus to change the display or to select your own fractal regions and calculate endless new displays (each one will represent perhaps 700 million calculations by your PC).

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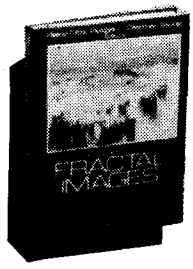
The Science of Fractal Images

edited by Peitgen/Saupe



The How-to Book of Fractals—opens the door so you can explore this fascinating subject further.

More than 3 dozen color plates, plus hundreds of figures, graphs, charts and diagrams—to show you how these computer graphics can be done. Equations, algorithms, and pseudocodes, all based on a SIGGRAPH 87 course given by 5 recognized leaders in the field.

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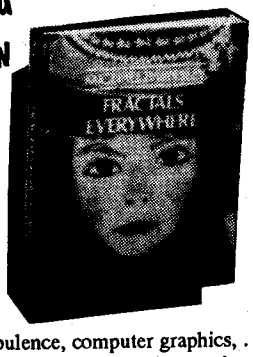
Fractals Everywhere

Brand New

The first course in deterministic fractal geometry—with color plates

by Michael Barnsley



How fractal geometry can be used to model real objects in the physical world. Rather than considering only fractal images that have been generated randomly, the approach here is to start with a natural object and find a specific fractal to fit it.

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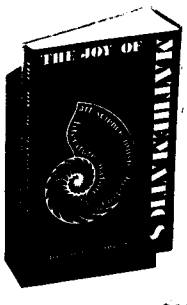
The Joy of Mathematics

by Theoni Pappas



147 short articles—history, puzzles, curiosities, insights, . . .

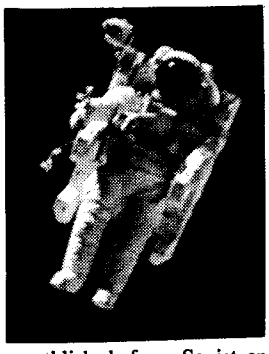
The quipu, billiards, the golden rectangle, cuneiform, transfinite numbers, trisecting, Charles Babbage, Stonehenge, the abacus, spiderwebs, . . .

Stock #A-2074, Joy of Mathematics, 241p softbouund $10.95

The Home Planet

ed. by Kevin Kelley

Brand New



▸Ask yourself, "How would I change if I went to the moon?"

▸Find your answer now with these superb pictures from space and these 200 impressionistic comments from the astronauts and cosmonauts.

Sure, this is our decade's most compelling coffee-table book— everyone wants to flip its pages for a minute. But then they won't let go.

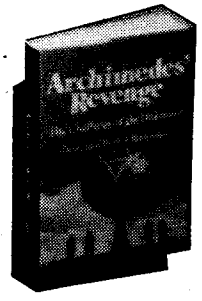
150 stunning photographs, many never before published, from Soviet and American archives. The narrative—poetic, deeply personal, often funny, often spiritual—is woven from interviews, articles and space-to-ground transmissions (appearing translated and in the original Arabic, Chinese, Hindi, Mongolian, French, German, Spanish, Hungarian, Roumanian, Polish, Czech, Bulgarian, English and Russian).

You will come to understand how the vision of a distant, beautiful, vulnerable home planet has forever altered these people's consciousness of themselves, of Earth, and of our place in the cosmos.

Stock #A-2126,Home Planet, 256p hardbound $39.95

Archimedes' Revenge

by Paul Hoffman



The joys and perils of mathematics

The title refers to that diabolical cattle problem that was solved in 1981 by a Cray 1 supercomputer, 2200 years after it was posed to torment one Apollonius. The Cray 1 found the 206,545 digit solution in just 10 minutes.

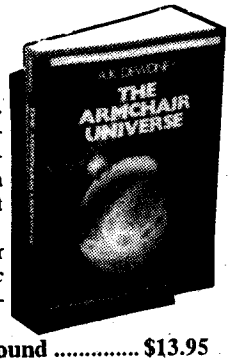
Find out about this and other things that working mathematicians actually do — Turing machines, the math of representative government, the case of the missing 3-holed hollow sphere with one handle, more . . .

In each area of math, Hoffman points out what is known and not known. Truly a bookful of surprises!

Stock #A-2077, Archimedes Revenge, 285p hardbound $17.95

The Armchair Universe

by Kee Dewdney



You're at your computer, ready for high adventure. Suddenly, with a few keystrokes, you're in the infinitesimal reaches of the Mandelbrot set. Or in the mind-bending, four-dimensional realm of hypercubes. Or in a far-off galaxy of dancing stars. Hold tight! You've just entered The Armchair Universe.

This is the first collection of Dewdney's popular 'Computer Recreations' columns, drawn from *Scientific American* magazine from 1984 to 87 (updated with comments and refinements from many loyal readers.

Stock #A-2072, Armchair Universe, 330p softbound $13.95

Riddles of the Sphinx

Stock #A-933, Riddles of the Sphinx, 164p softbound $14.50

Mathematics: Queen and Servant of Science

Stock #A-934, Math—Queen of Science, 437p softbound $18.50

It's Amazing how these things can Simplify your Life

Stock #A-921, It's Amazing, 104p softbound $4.95

Personal Calculators, Dialers, Diaries

The Mathematical Experience

by Davis/Hersh

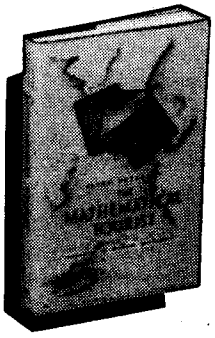
Not a mathematics book, but a book about the entire, rich, diverse world of mathematics —history, philosophy, esthetics. Read about its personalities in biographical sketches interwoven with accessible yet authoritative discussions of their work.

"A true gem, one of the masterpieces of our age."—*The American Mathematical Monthly.*

Stock #M-168, Mathematical Experience 440p soft.....$12.65

The Mathematical Tourist

by Ivars Peterson



Snapshots of modern math for everyman—chaos and order, cryptography and code-breaking, labyrinths, higher dimensions, soaring fractal towers, topology, . . . *Science News* journalist Peterson brings exciting news to the pro, yet he writes with skill instead of equations, diagrams and color illustrations instead of algorithms—so amateurs can share the pleasure and the thrills.

"*. . . really new developments in the field . . . accurate yet accessible,*" says Ronald Graham, Director, Math Sciences Research Center, Bell Labs.

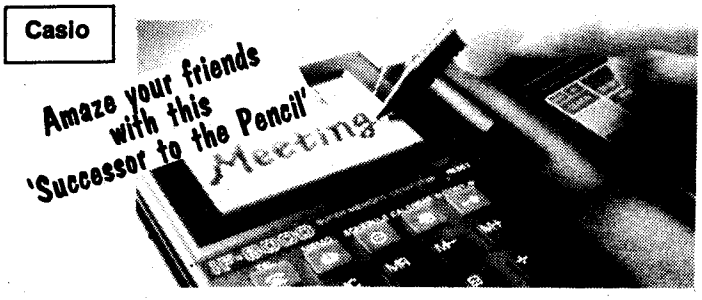
Stock #A-2071, Mathematical Tourist, 240p hardbound $17.95

LASER Pointer

Stock #A-2092 [Laser Pointer] List $500.....$349.95

IF-8000 Screen-Write Digital Diary

Casio



You write and draw right on this screen—diagrams, charts, handwriting, doodles . . . even large maps or illustrations can be stored with expand-function that gives a 8½ × 6 inch virtual screen!

Telephone directory shows 8 names at a time—touch a name on the screen to see that person's phone number—up to 630 can be stored (16K memory).

Full-month calendar pops up when you enter a date before 2099— touch for last or next month.

Your schedule is symbolized on the calendar—touch a week or a day to see its items—touch an item to access your detailed notes for it. Personal data can be secret.

Memos for currency rates, formulas, price lists, airplane schedules, anniversaries, street maps, logos, conversion tables . . .

There's never been anything like this—and it's a 7-function calculator, too!

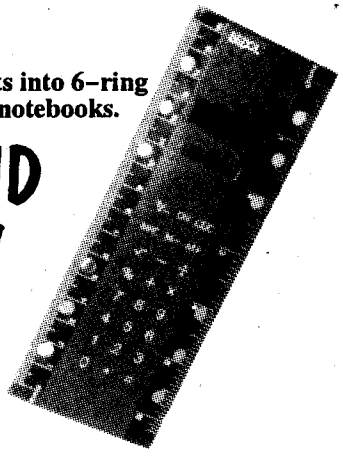
Stock #IF-8000 [Screen-Write Diary] List $180.....$159.95
Stock #CR2032 [Replacement Battery, req 3].....$1.95

EXEC-U-CALC
Clip-in Calculator

It's there when you need it—fits into 6-ring organizers or 3-ring standard notebooks.

BEDOL

BRAND NEW

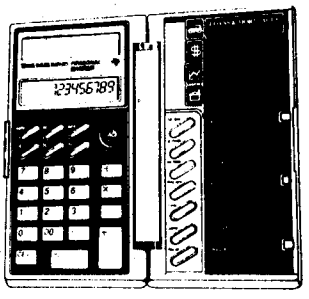


It has holes on right and left edges for your binder and is wafer thin — only 3/32 inch. Solar powered with 8 digit LCD readout and memory. Inch and metric rulers along edges — handy conversion tables on back.

Stock #C-2165 [Exec-U-Calc] List $15.....$11.95

Personal Banker Calculator

TEXAS INSTRUMENTS



Now—the financial calculator for every man and woman. Gives simple answers to time-and-money questions like

- "What will my investment be worth?"
- "What will my loan payment be?"
- "How much do I need to save every month to reach my goal?"

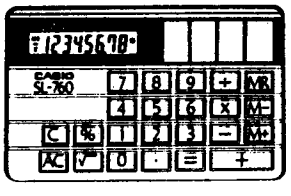
Has 4 built-in Help Cards that guide you using the special financial keys. Also operates as 4-function calculator with memory. Solar cell power works even in dim light.

Stock #TI-PB [Personal Banker] List $50.....$39.95

Calculator batteries, stands & cases—see pp 13-15

Film Card Calculator

Casio

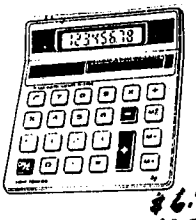


Take it with you—wherever you go. 8-digit LCD, percent, square root, 3-key memory, solar power, and it's only 0.1" thick. Pouch included.

Stock #SL760 [Film Card Calculator] List $9 .....$5.95

Big Little Solar Desktop Sale

TEXAS INSTRUMENTS



We're not usually excited by a new 7-function calculator, but this one is a fine engineering compromise.

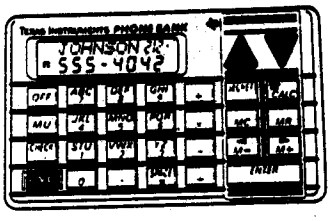
It has surprisingly BIG keys with BIG spaces between them yet it's LITTLE overall, measuring 4.2×4.8×1.1 inches. Three-key memory, percent, square root. And SOLAR means it's reliable for occasional use — so you never turn it off and it never runs down.

Stock #TI-1795 [Solar Calculator] List $13 .....~~$9.95~~ $6.95

Check out anything you want without risking a penny. At EduCALC you get a two week return privilege.

Personal Calculators, Dialers, Diaries

TI-2400 Phone Bank



You'll have 150 essential names and numbers right in the palm of your hand—phone numbers, birthdays, bank account and social security numbers, personal access codes, lock combinations, or whatever.

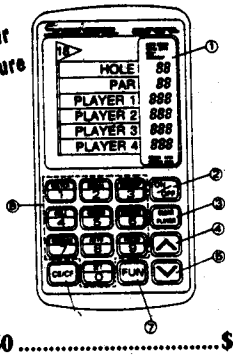
You can protect some items with password. Find entries alphabetically or by scrolling. Includes 4-key memory calculator. Auto power-down.

Stock #TI-2400 [Phone Bank] List $30 ..... $23.95

Golf Scorekeeper

Aurora

You can concentrate on your golf, not your math—and still be sure where you stand!



- Keeps scores for up to 4 players
- Stores scores for up to four 18-hole rounds
- Adjusts for players' handicaps
- Calculates Medal play or Match play for 2 players or teams
- Calculates a full Nassau with auto or manual Press function

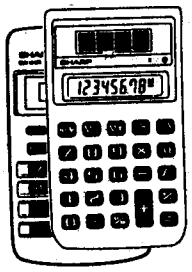
Clip wallet, manual included; 1 yr warranty.

Stock #GF21 [Golf Scorekeeper] List $60 ..... $42.95

Calculator batteries, stands & cases—see pp 13-15

8-digit hand-held calculator

Sharp



Ergonomic, contoured design with rounded square keys. 3-key memory, oversize '+' key, one-touch percent key for fast add-on/discount calculations, square roots.

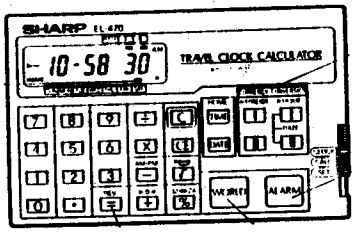
Battery included in EL-233; similar EL-243 is solar (80 lux).

Stock #EL233 [Basic Calculator] $4.95
Stock #EL243 [Solar Calculator] $5.95

The World's Favorite Travel Calculator

- Clock/Alarm/Calendar
- Currency Conversion

Sharp



Shows day and date of week—24 hour AM/PM alarm—world clock for distant time zones and easy switch-over to home time.

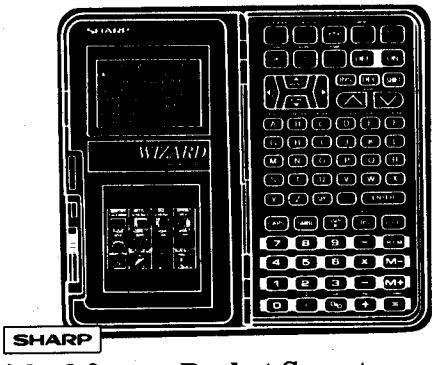
Currency conversion with 2 rate memories—arithmetic with square root and one-touch percent key for add-ons. Battery, wallet, quick guide included.

Stock #EL470 [Travel Calculator] List $35 ..... $28.95

Wizard

Sharp

Now—Hook it up to your PC



All you wished for—a Pocket Secretary, with 7 Exciting Powers.

Huge 32K RAM—holds 16 pages of densely typed text, and there's 25K of ROM, too. 8 line x 16 character LCD screen is easy to read in any light.

200-year calendar—monthly, weekly, daily, with birthdays, anniversaries, holidays—and it will beep you.

scheduler—put in your lunch appointments, flight times, times to phone, social engagements—in any order! Wizard will sort them out, put them on your calendar, and beep you if you wish.

memo pad—for anything and everything you wish to remember— Wizard will find it for you later, with 3 search routines. Perform calculations with stored data if you like.

phone/address book—up to 700 entries, and you can recall one by its spelling, a keyword like 'loan', or in sequence.

clock/world time—time, with daily and schedule alarms, plus time in 212 cities of the world.

10 digit calculator—with separate number keypad, 3-key memory, percent and square root. Features 'paperless printer' that will scroll through 50 lines of figures for audit trail and to do 'what-if' changes in any line.

secret function—protects personal info with a password (and can void it all in 2 sec).

user dictionary—stores frequently used words or phrases for easy repeated input.

optional printer—connects with optional adapter.

Designed to go with you—6 1/2 x 3 3/4 x 7/8 inches; 1 year warranty.

Optional Software expands your Wizard's Powers

ROM cards slide in a slot with state of the art, touch-sensitive keypad to give you huge additional programs and data.

language translator—369 phrases and 600 common words in English, French, German, Spanish, Italian, Swedish, Chinese and Japanese.

dictionary/thesaurus—checks spelling of 87,000, showing hyphenation and alternatives—plus 45,000 entries for 500,000 words.

time/expense management—budget your time, prioritize your day, keep track of task-time and calculate daily or weekly totals by client, record your expenses with complete descriptions and running totals by category.

Optional PC Interface

Organizer Link with Converter has all hardware and software, both 5¼" and 3½", to hook your Wizard up to your PC (at its RS232C terminal). You'll be able to enter Schedule/Tel/Memo data on the PC, then download it to your Wizard. Or upload your Wizard data to the PC—it will convert data to Sidekick or Lotus 1•2•3 format if you like.

Stock #OZ-7000 [Sharp Wizard] List $300 ..... $249.95
Stock #OZ-703 (Language Translator) $99.95
Stock #OZ-702 (Dictionary/Thesaurus) $129.95
Stock #OZ-701 (Time/Expense Management) $119.95
Stock #CE-50P [Thermal Printer with Cassette I/F] $169.95
Stock #EA-23E [Printer Adapter] $7.95
Stock #EA-1250P, Thermal Paper (5 rolls) $1.95
Stock #OZ-791A [Organizer Link/Conv] $129.95

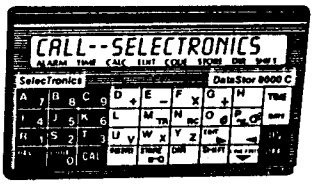
To communicate between Wizards—

Stock #OZ780 (32K RAM Card) $64.95
Stock #OZ781 (64K RAM Card) $99.95
Stock #CE152 (Cassette Recorder) $79.95
Stock #CE200L (Dubbing Cable) $24.95

Personal Calculators, Dialers, Diaries

DataStor 8000C

Selectronics



The World's Smallest 8K Memory Pocket Computer

- ▸Electronic Directory
- ▸Calculator
- ▸Time/Date
- ▸16 Message Alarms
- ▸Security
- ▸Back-up Battery

Credit-card size—this high capacity data bank stores 60 entries of up to 128 characters each. Leather-like case; 90 day warranty. See cables below.
Stock #ST8000C [Data-Stor, card] List $50 ..... $39.95

DataStor 8000D

Selectronics

Brand New

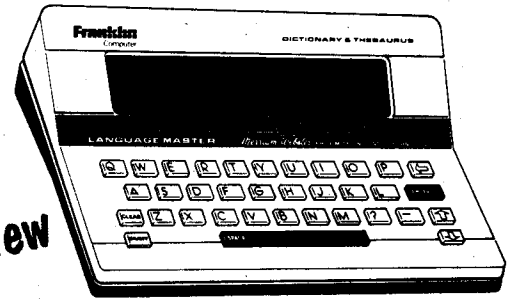
Same state-of-the-art electronics as the credit-card size 8000C above, but in desk-top format—roughly 5" square—with big keys and big display.
Stock #ST8000D [DataStor, desktop] List $50 ..... $39.95

Yes, you can transmit data from one DataStor instrument to another, automatically, or to and from your PC/compatible, using these adapter cables.
Stock #STCA01 [DS/DS Cable] List $8 ..... $6.95
Stock #STCA02 [DS/PC Cable] List $40 ..... $34.95

Language Master

Franklin

Brand New



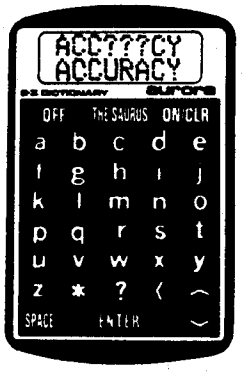
spelling and hyphenation — including plurals and suffixes.
dictionary definitions — a big Merriam-Webster-full (80,000 words) with helpful alternative meanings, too.
thesaurus synonyms — over 400,000 suggestions pop up in seconds for 35,000 words.
puzzle power — finds all words that fit a half-filled cross-word/scrabble problem.
All the language help you've wanted—super-quick and super-easy. Just key in your best shot, and this top-of-the-line unit gives you a 4-line display of words it thinks you mean. Just pick one of these and your machine will tell you what that one means and how to use it. Then key "T" and you'll see many other words with the same and similar meanings.
It's like having an English teacher as your desk-slave. A whopping 1½ megabytes of RAM and ROM, yet this impressive 7×5×1½ inch powerhouse fits in your briefcase. 90-day warranty.
Stock #LM2000 [Language Master] List $250 ..... $199.95

Calculator batteries, stands & cases—see pp 13-15

E-Z Spell
Pocket Size Spelling Checker

Aurora

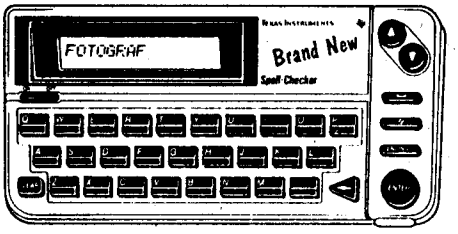
Brand New



Checks spelling of 88,000 words.
Checks spelling phonetically of 15,000 commonly misspelled words.
Ideal for word games—cross-word puzzles, hangman, scrabble, etc.
Easy-to-read dot matrix LCD.
Stock #SC-5 [E-Z Spell] List $100 ..... $59.95

Spell-Checker
quickly displays 93,000 words

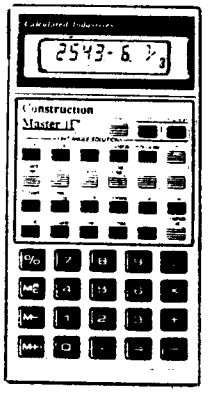
TEXAS INSTRUMENTS



phonetic entry—KWALITY becomes QUALITY
ENDINGS key—gives you word roots, common endings
WILD CARD key—finds missing letters for crossword puzzles
MISSING SERIES key—fills in a group of missing letters
Typewriter-style keyboard that's familiar and comfortable. Big 15-character dot-matrix LCD. Manual, batteries, slide case included; 1 yr warranty.
Stock #TI-SC [Spell-Checker] List $95 ..... $74.95

Construction Master II
Feet-inch Pocket Calculator

Calculated Industries

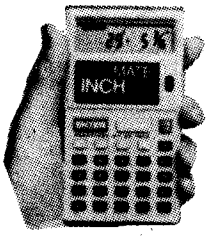


Figures with fractions! Just punch in dimensions — including fractions — and get accurate results immediately.
Accurate! Solve building problems directly in feet, inches and fractions up to 1/64". Enter dimensions right off the tape—or off plans, diagrams and prints.
Save valuable time. Solve complicated calculations such as rise, run, slope, and pitch problems in seconds! Built-in program solve right angle problems with 100% accuracy.
Eliminate costly errors caused by inaccurate decimal conversions. Instantly converts between all dimension formats: feet-inch-fraction, decimal, yards, and meters—and determines square and cubic dimensions
Make fast, accurate lumber estimates in board feet and dollars—for single boards, multiple pieces or the entire project. Wallet included.
Stock #CI-CM [Construction Master II] List $80 ..... $69.95

We guarantee everything we sell. You may return it to us in new condition within two weeks for a full refund, no questions asked.

Personal Calculators, Dialers, Diaries

INCH-MATE
The affordable Foot/Inch/Fraction Calculator



Digitool

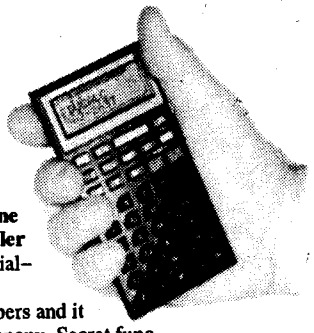
Indispensable if you use a tape-measure! Instant and accurate.

+, −, ×, : , square or square root, in Ft/In/Fraction to 1/16", or Decimal Feet or meters—convert back and forth! Find diagonal or total rise with Pythagorean theorem. Memory.

USA-engineered with tough ABS case in **high visibility yellow**. Dust-resistant membrane under color-coded keypad. 1 year warranty.

Stock #DC-INCH [Inch-Mate Calculator] List $50 ..... $39.95

Dial Master
Electronic Memory Calculator/Dialer



Sharp

Your computerized little black telephone book, memo pad, calculator, and autodialer (4 instruments in 1). Auto or manual tone dialing with 1 touch for last-number redial.

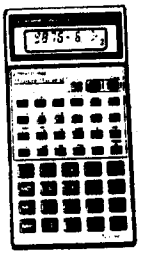
Store over 400 two-line names and numbers and it will search among them by name or by company. Secret function with password for your private friends. Calls can be charged to your credit-card number, and you can use Dialmaster to authorize access to your computer.

80-character entries for numbers or memos. Handy CALCulator mode for quick arithmetic. Backup battery holds memory even if main battery is low. All this in a thin 2½×5 inch package that will be unnoticeable in any pocket.

Wallet, manual, quick-reference guide.

Stock #EL-6250H [Dial Master] List $90 ..... $69.95

Professional Measure Master II



Calculated Industries

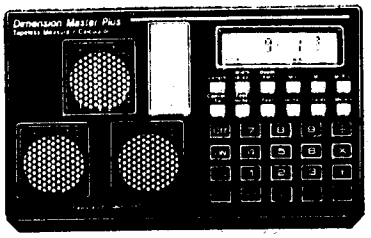
Brand New

Top-of-the-line model—has all the functions of the Construction Master II except lumber estimates, and has also the full set of trig functions for complex construction and fabrication calculations.

Stock #CI-PMM [Prof Measure Master II] List $90 ..... $79.95

Dimension Master Plus
Ultrasonic Tapeless Measure—to 60 feet, Plus a Complete Dimensional Calculator

Calculated Industries



Accurate to 0.5% over its entire 60 foot range—it uses 3 Polaroid Ultrasonic Sensors (instead of just 1) to focus its ultra-narrow beam. This allows you to shoot down hallways or through rooms crowded with furniture. Visible pointer-spot shows exact aim.

You enter dimensions through the sonic mode or from the keyboard, in feet/inch/fraction or in metric. Then you can easily find square or cubic measurements, or convert into different formats—feet, yards, meters, etc.

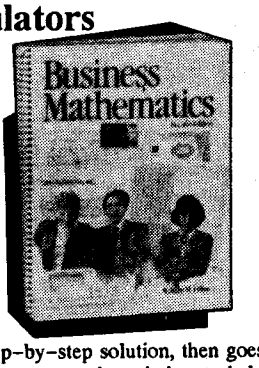
Manual, batteries included; 1-yr warranty.

Stock #CI-DMP [Dimension Master Plus] List $100 ..... $93.95

Business Math Using Calculators

by Burton/Shelton

Brand New



- **Develop** your business math skills.
- **Revive** long-forgotten skills.

Refresh on any topic, or learn them all, the easy way, with your calculator—from the fundamentals and arithmetic right through pricing and purchasing, metrics, payroll, taxes, insurance, financial accounting, interest, bank records, credit, investments.

Each chapter starts with an example and its step-by-step solution, then goes on to practice problems. There are lots of tips, shortcuts and reminders to help you—you can enjoy learning this way.

Stock #G-2169, Bus Math—Calculators, 522p spiralbnd $23.95

8-Digit Financial Calculator

Sharp

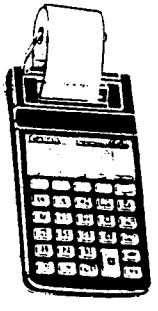
- choice of battery or solar power
- computes amortization, interest, bond price
- statistics with mean and standard deviation
- annual rate/effective rate conversion
- easy calculation of monthly payment problems
- percent and delta percent functions

Model 731 comes with batteries—has power-off memory; solar model is 50 lux. Both come with user-friendly manual that describes many real-life applications.

Stock #EL731 [Battery Financial Calculator] List $30 ..... $22.95
Stock #EL731S [Solar Financial Calculator] List $36 ..... $26.95

Palm Printer Calculator

NEW— Makes life easier



Canon

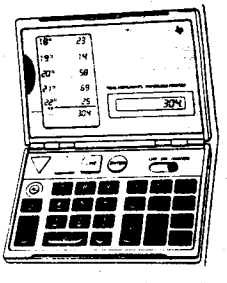
Prints on 1½" plain paper tape, yet small enough to hold in your hand and drop in your briefcase. Eight digit, percent, square-root and memory (all in less than ½ lb).

Includes roll of paper and 3 AA batteries.

Stock #CN-PZ-D [Palm Printer] List $23 ..... $19.95

Paperless Printer Calculator

TEXAS INSTRUMENTS



Surprisingly useful — all the convenience of a printing calculator, to review and verify and adjust your work, yet it's a lightweight portable that folds to fit in your pocket!

A special 6-line display scrolls through up to 100 entries and totals, along with an audit trail that shows the operations performed on each entry. It lets you review and revise, and remembers the whole problem even when turned off. Batteries included.

Stock #TI-PP [Paperless Printer] List $65 ..... $49.95

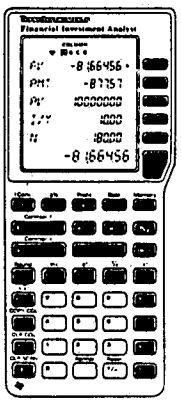
Calculator batteries, stands & cases—see pp 13-15

Business Calculators

the ultimate calculator for Financial Professionals, with multiline display and 10 built-in worksheet models!

TI Financial Investment Analyst

TEXAS INSTRUMENTS

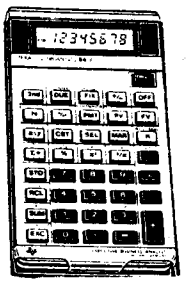


- **You solve problems quicker and easier**—because variables are grouped the way you use them
- **You have more confidence in your answers**—because you can see the whole picture at once
- **Your client or coworker can watch your work unfold**—because this display is BIG

Software worksheets for Time-Value-of-Money and Amortization, Cash Flow, Bond Calculations, more—quick and easy to use. Column feature for comparing what-ifs so you won't need pencil and paper at all — just scroll from one column to another. The big picture for big decisions!

Stock #TI-FIA [Financial Invst Analyst] List $175.....$114.95

TI Business Analyst II
TI's Best-Selling Financial Calculator



Built-in formulas give you a new ease in the world of business and finance. Standard math functions such as square root are provided in addition to statistical functions such as mean, standard deviation and linear regression.

Business functions include lease/buy options, loan amortizations, sales/earning forecasts, and real estate mortgages, all without going through manual table look-ups. With the Executive Calculator Guidebook (included) you'll find over 200 easy-to-follow business and personal situations described.

Stock #TI-BA II [Business Analyst II] List $45.....$39.95

Calculator batteries, stands & cases—see pp 13-15

The Only Easy Owner's Guide to the Business Analyst-II

Sale—While they last

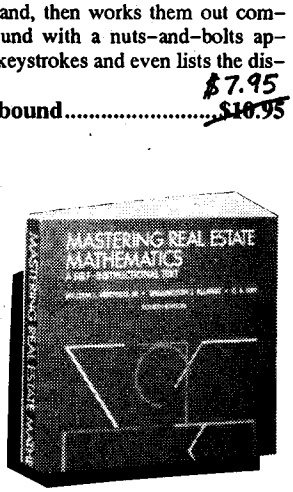
by Rick Fournier

Impress your client (or your boss) with instant 'what-if' calculations and precise bottom lines. Seminar leader Fournier takes you on a friendly, no-nonsense tour of ALL the BA-II's features.

He sets up practical problems you'll understand, then works them out completely as examples. He explains the background with a nuts-and-bolts approach you can learn from, then shows you the keystrokes and even lists the display readouts you'll see along the way.

Stock #TI-668, BA-II Guide, 43p combbound.....~~$10.95~~ $7.95

Mastering Real Estate Mathematics 5th edition
by Ventolo/Allaway/Irby



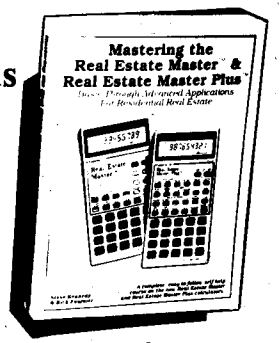
Learn to be at home with figures—sharpen your skills! Self-instruction works — if you do the exercises here you'll get immediate feedback in easy steps to real achievement.

Completely worked-out answers check your progress. All examples are given for calculators that use algebraic logic (such as TI's instruments and the new HP machines). A special section covers the use of the HP-12C.

All topics are wrapped up with sample multiple-choice questions patterned after state license exams. At the end there are two sample Final Examinations.

Stock #463, RE Math, 359p softbound $25.95

Real Estate Master & Real Estate Master Plus



Calculated Industries

Brand New

- **Simple**—just for Real Estate.
- **Fast**—everything's built in for you.
- **Accurate**—better than many lending-officers' methods.
- **Dramatic**—closes sales with quick figures.

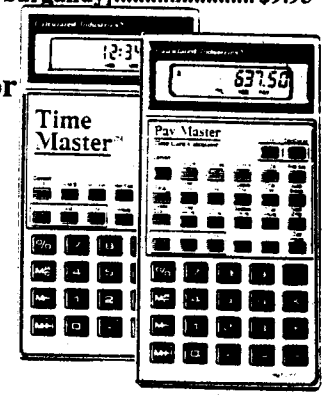
Find principal and interest for single payment or any range of payments—remaining balances with a single key. Date/Listing function instantly adds 90 days to date and shows expiration date. You can change entries for what-if calculations. You'll see labels—PMT, TERM, INT, etc.—so you'll always know what you've calculated.

PLUS model qualifies buyers on entire PITI payment, does adjusted payments on ARMs, computes Bi-Weeklies too.

Both models come with plastic case, User's Guide, 1 year warranty.

Stock #G-2157 [Real Estate Master] List $40 .....$34.95
Stock #G-2158 [R/E Master Plus] List $60.....$49.95
Stock #G-2159, R/EM Study Guide, 224p softbound $9.95
Stock #G-2160 [R/EM Leather Case, black].....$9.95
Stock #G-2161 [R/EM Leather Case, burgundy].....$9.95

Time Master
Professional Time Calculator



Calculated Industries

Brand New

Automatically calculate and convert — hours/min-seconds, min/seconds—add/subtract/mult/divide time—even work in mixed time formats. 12/24 hour. Full timer with lap function. Memory.

Includes plastic case, User's Guide, 1 year warranty.

Stock # G-2163 [Time Master] List $60.....$49.95

Pay Master
Time Card/Payroll Calculator

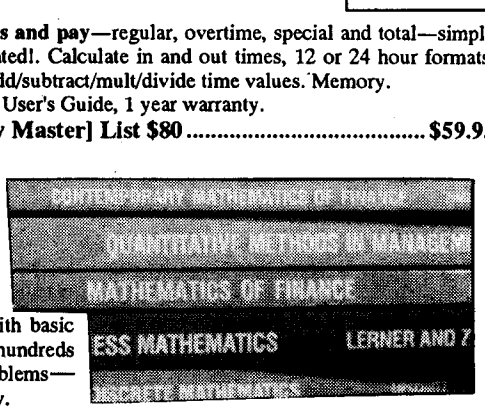
Calculated Industries

Quickly figure hours and pay—regular, overtime, special and total—simply and easily—it's automated!. Calculate in and out times, 12 or 24 hour formats, convert time formats, add/subtract/mult/divide time values. Memory.

Includes plastic case, User's Guide, 1 year warranty.

Stock #G-2162 [Pay Master] List $80 .....$59.95

Schaum's Outline Series



Low priced books with basic theory, definitions and hundreds of carefully solved problems—for reference and review.

Stock #G-2128, Business Mathematics $9.95
Stock #G-310, Business Statistics.....$10.95
Stock #G-2129, Mathematics of Finance.....$9.95
Stock #G-2130, Quantitative Methods in Management $9.95

Business Calculators

Selection Guide to HP Business Calculators

Each Model Has:

- **Efficient Keystrokes**—no need for "compute key" for TVM (Time Value of Money)
- **Direct Customer Phone Support**—so you can get quick answers to any questions on the operation of your calculator
- **Algebraic Logic**—you enter problems just as you think about them—with **parentheses** to group expressons
- **TVM**—loans, savings and leasing, with variable compounding for any number of periods/years
- **Amortization** — labeling lets you see at a glance which values are interest, principal and remaining balance, plus auto-increment for periods
- **Statistics**—std. dev., mean, weighted mean, forecasting with correlation coefficient, total, sums of $x/x^2/y/y^2/xy$, + − * / sqrt 1/x ln e^x
- **Markup** as % of Price and Cost
- **Interest Rate Conversions**
- **% Change**

	HP-10B *Business essentials plus HP quality*	**HP-14B** *Built-in ROI, break-even and inventory analysis*	**HP-19B** *The ultimate for personalized business solutions*	**HP-17B** *Delivers more than any calculator in its class*
Built-in Functions[1]	Over 100	Over 120	Over 450	Over 250
HP's Ease-of-use Features		◆	◆	◆
Labels, prompts and messages			◆	◆
Softkeys and menus			◆	◆
Multiple lines of display				
Physical and Operating Features				
LCD Display size	Numbers	1-line × 12-char	Numbers + letters	Numbers + letters[2]
Keyboard		Numbers		
Storage registers		4	10	10
Additional user RAM[3]	none	none		
3-key memory (→M, RM, M+)	◆			
Automatic constant (K Key)	◆			
Business Graphics				
Scatter diagram/curve fit				
Histogram				
NPV versus interest rate				
Time and Data Management				
Clock, calendar, appointments and alarms			◆	◆
Date arithmetic				
Edit, search, sort & store names, etc.				
Edit, sort & store lists of numbers				
Subtotals, copy lists, label items				
Business/Financial Features				
Print table with HP 82240A			◆	◆
Bond price and yield				
Breakeven, inventory turns, ROI%				
Cash flow analysis	Register-based			
Cash flow functions	IRR NPV	IRR NPV	IRR NPV NFV NUS	IRR NPV NFV NUS
Number of cash flows	15	21		
Currency conversions			◆	
Depreciation methods			SL DB SOYD ACRS	SL DB SOYD ACRS
Unit of Measurement Conversions				
Statistics/Mathematics Features				
Statistical analysis	Cumulative	Cumulative		
Curve fitting methods	LIN	LIN LOG EXP POW	LIN LOG EXP POW	LIN LOG EXP POW
		Best Fit		
Other statistical functions	3	2	◆	◆
LOG 10^x PI x^2	x^2 only	x^2 only		
Trigonometry, probability, hyperbolics				
Customizing Features				
Customizing method			HP Solve	
Conditional tests			7	7
Custom menus: user defines variable names				
Solve for any variable w/o programming				
Peripherals and Software				
HP application-specific solutions books				
Optional infrared printer (HP 82240A)				
EduCALC price	**$41.95**	**$61.95**	**$84.95**	**$134.95**

■ For each product shown, this combination of features is unique among comparably priced calculators.

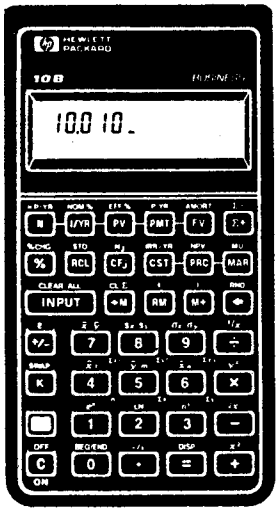
[1] Includes business, scientific, operational, customizing.
[2] HP-17B has letters accessible through softkeys.
[3] Additional user RAM for storage of user-defined equations and their variables, as well as for name and number lists.

Business Calculators

HP-10B
Algebraic entry— for Business Professionals and Students

Now — Traditional HP reliability is affordable

Algebraic



The HP-10B is the ONLY calculator under $50 that gives you ALL 3—

- **HP dependability**—molded keys, so the letters will never rub off and you'll never have to worry about sticking keys or double entries.
- **Label descriptors**—make it easy to understand and enter cash flows, and to see which values in a schedule are interest, principal and remaining balance.
- **Easy access to your solutions** — large 12-character display. Simple movement between functions, so you don't lose your data (no cumbersome 'compute' keys or mode switching, either). Auto-increment feature generates amortization schedules quickly.

☐ **Essential business and finance functions**—time value of money, amortization schedules, cash flow analysis with IRR and NPV, interest rate conversions, percent and percent change, margin and mark-up.

☐ **Statistics and math functions** — 1- and 2-variable statistics with mean, weighted mean, sample and population standard deviations, forecasting and linear regression, basic math functions.

15-memory registers (more memory than similar models, and it's more usable), automatic constant saves keystrokes on repetitive calculations. Special 3-key 'M' memory for simple, fast use.

Batteries, Manual, wallet included, 1 yr warranty.

Stock #HP-10B [Business Calculator] List $50 ..... $41.95

HP-14B Algebraic Calculator
Smart Business at a Smart Price

Algebraic

- **Business Students**
- **Professionals**
- **Small-business Owners**

HEWLETT PACKARD

110 business functions pre-programmed for you—interactive and easy-to-use with prompts, labels and messages all in English.

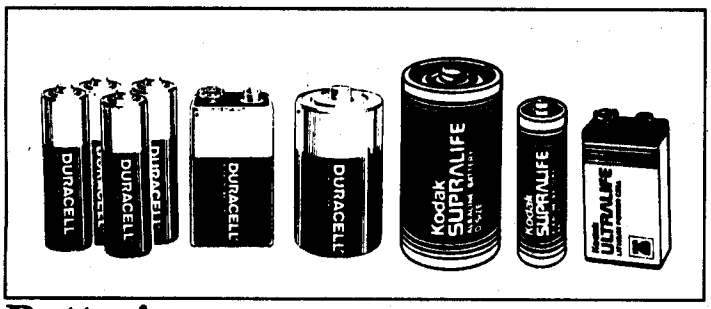
Time-Value-of-Money, percents and margins, interest rate conversions. List-based cash flow with quick entry and editing. Built-in Return-On-Investment, break-even analysis, inventory-turnover rate.

Complete 2-variable statistics, Forecasting with 4 curve fits—linear, exponential, power and log—and the Best Fit can be calculated automatically. Batteries, soft case included; 1 yr warranty.

Manual included, though you probably won't need it.

Stock #HP-14B [Algebraic Business Calculator] List $80 ..... $61.95
Stock #14-2106, Business Student Appl $9.95

Calculator Stands, Cases & Batteries



Batteries

- **Kodak dependability**
- **Longer life expectancy**

Kodak

Protect your instrument from leakage and corrosion with Kodak's superior design and triple testing —it's guaranteed.

The most used calculator battery size is A76, an alkaline button which is also called LR-44, PX76A, 1166A or V13GA. The A76 may also be replaced with our **super long life** (50% more) silver-oxide battery, S76 (also called SR44, EPX76, MS76, RS76, G13, V76PX or 1107SOP).

Stock #A76 (Alkaline battery) $0.89
Stock # S76 (Silver oxide battery) $1.95

The following alkaline batteries are usually the **original equipment specification.** We also offer nickel-cadmium (NiCd) rechargeables in most of these sizes (and rechargers)—please see the HP-41 section of this catalog for them.

Stock #AA (Alkaline battery) $0.89
Stock #AAA (Alkaline battery) $0.89
Stock #C (Alkaline battery) $1.39
Stock #D (Alkaline battery) $1.39
Stock #N (Alkaline battery) $0.98
Stock #9V (Alkaline battery) $2.80

The lithium button-cells listed below last twice as long as alkalines.

Stock #CR1616 (Lithium battery) $1.75
Stock #CR2016 (Lithium battery) $1.75
Stock #CR2025 (Lithium battery) $1.95
Stock #CR2032 (Lithium battery) $1.95

Calculator Stands, Cases & Batteries

START HERE ☛
First find your instrument in these lists, then check out the stands & cases that fit it. Buy your batteries from the list on the preceding page.

Manufacturer & Stock No.	Battery No. × Size	Stands & Wedges	Hard Leather Cases	Soft Leather Wallets	Vinyl Cases
HP-10B, 14B, 17B, 20S 21S, 22S, 27S, 32S 42S	3×A76	538, 642, 2127	2062	92169K L M 2068, 2070	82243A
HP-18C, 19B, 28C, 28S	3×N	769, 811, 2025	2063	92169D/E/F	
HP-11C, 12C, 15C, 16C	3×A76	549, 629, 858 998, 92177S	513, 2078	688N/Y/K 92169B	82174A
HP-41C, 41CV, 41CX	4×N	538,	511/2 642, 2127		82111A
HP-71B	4×AAA	569	574		82463A

Manufacturer & Stock No.	Battery No. × Size	Stands & Wedges	Hard Leather Cases
TI-BAII, 30, 36, 55III, 60	2×A76	642	
TI-CC Collegiate		769, 811, 2025	
TI-FIA Financial Analyst	2×CR2032		
TI-PB Banker			2078
TI-PP Paperless Printer		858, 998	
TI-65 Technical Analyst	2×A76	92177S	
TI-SC, 74, 95	4×AAA	569	
TI-2400 Phone Bank	1×CR2016		
Aurora GF-21, SC-5	2×CR2025		
CI-CM, GAM, PMM	2×A76	642, 2127	2078
CI-DMP	4×AAA		
Canon F-800P	2×A76	549, 629, 858, 998, 92177S	2078
Canon CN-PZ-D Palm Printer	3×AA		
Casio IF-8000 Diary	3×CR2032		

Manufacturer & Stock No.	Battery No. × Size	Stand & Wedges	Hard Leather Cases
Casio fx-7000G/8000G	3×CR2032		
Casio SF4000	3×CR2025		
Casio SF7000, SF7500	2×CR2025		
Casio A-918 Dialer	1×CR1616		
Casio A-919 Alarm	1×CR2016		
CMT MC-II, MC-V	5×AA	2104	
Digitool DC-INCH	2×A76		2078
Franklin FC-SCM	2×AAA	642, 2127	
Franklin LM2000	4×AA		
Psion CM, XP	1×9V		
Selectronics ST8000C	1×CR2025		
Sharp OZ-7000 Wizard	2×CR2032	769, 811, 2025	
Sharp EL470 Travel	2×CR2032		
Sharp EL731 Financial	2×A76	642	2078
Sharp EL-5200, EL-6250H	2×CR2032		

Desk Stands & Wedges

- **Dramatic—give your desk a professional look**
- **Sensible—avoid keying errors by putting your instrument at the right angle on non-skid feet**
- **Eye-easing—reduce fatigue with a better view of your readout**

HEWLETT PACKARD

Smoky acrylic stand—simple and handsome.
Stock #569 [Acrylic stand: Smoky] **$15.95**
Stock #92177S [Acrylic stand: Smoky] **$14.95**

Clear plastic folding stand—solidly mounts with high-bond tape pads onto back of instrument so battery is accessible and data on back is visible. Folds on calculator to fit right into original case.
Stock #549 [Folding stand: Clear] **$8.95**

Stainless steel stand—Attaches with super adhesive to the back of your instrument, offers 2 viewing angles, fits into original case, and looks good.
Stock #538 [Stainless steel stand] List $13 ..... **$11.95**

EduCALC

Ice-clear acrylic stand—strong and thick, for desk-top sparkle.
Stock #998 [Acrylic stand: Clear] **$14.95**
Stock #2025 [Acrylic stand: Clear] **$18.95**
Stock #2127 [Acrylic stand: Clear] **$9.95**

EduCALC

Bocote-wood desk wedge—exotic Bocote is amber to dark brown, dense and heavy (#858 weighs in at well over 1/2 pound). From Central America, Bocote's cost restricts its use to fine knife handles and letter opener blades.

Your name will intrigue everyone when it's engraved in brass on this desk-wedge for your calculator. Please fill in the boxes below—up to 16 characters (including punctuation and spaces)—just tear out this page and send it with your order (price includes nameplate).

Stock #811 [Bocote desk-wedge] **$29.95**
Stock #858 [Bocote desk-wedge] **$21.95**

Oak stand—dense, thick and sturdy—complements your desk and blends with other accessories.
Stock #629 [Oak stand] **$14.95**
Stock #642 [Oak stand] **$14.95**
Stock #769 [Oak stand] **$19.95**

CHROME NAMEPLATE for your desk stand

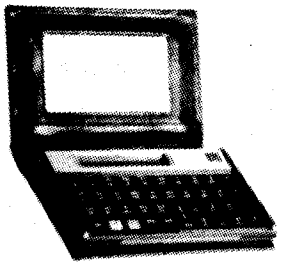
EduCALC

Personalize any stand above (except #549) with your own name, engraved in blackened letters on bright chrome-plated brass. Self adhesive backing. Please fill in boxes above for up to 16 engraved characters (including punctuation and spaces)—just tear out this page and send it with your order.

Stock #AWNP [Custom Nameplate: Chrome] **$7.95**

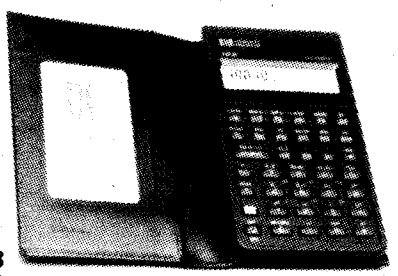
Calculator Stands, Cases & Batteries

#511
#512
#513
#574
#2062
#2063
#2078



#688N
#688Y
#688K

#92169D #92169K
#92169E #92169L
#92169F #92169M



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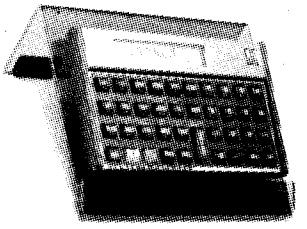
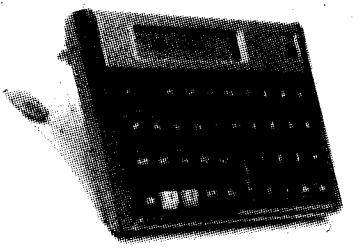
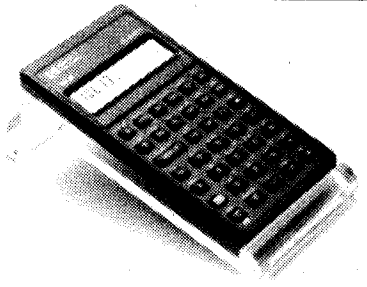
#2070



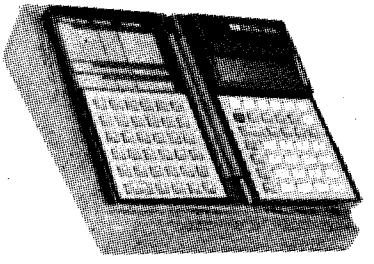
#569
#92177S



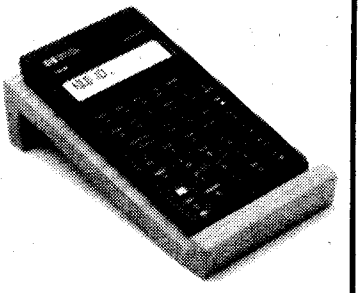
#549



#998
#2025
#2127



#811
#858



#629
#642
#769

☛ *Find out what fits your instrument in chart on facing page.*

Hard Leather Cases

- **Outdoors—surveying, construction, line work**
- **Inside the shop, factory, lab or mill**

Insure your calculator—if you work rough and ready, protect it with rigid 8 oz cowhide. Rugged, professional looking, with broad belt loop. Light tan, except 2078 is brown.

These cases are handcrafted and may require a long delivery time.

Stock #511 [Case: HP-41 without Crd Rdr] List $39.....$34.95
Stock #512 [Case: HP-41 with Crd Rdr] List $50.....$42.95
Stock #513 [Hard Leather Case] List $37.....$34.95
Stock #574 [Hard Leather Case] List $62.....$49.95
Stock #2062 [Hard Leather Case] List $35.....$34.95
Stock #2063 [Hard Leather Case] List $56.....$48.95
Stock #2078 [Hard Leather Case] List $20.....$16.95

Soft Leather Wallets

Chary

- **Impressive—radiate boardroom competence**
- **Practical—keep your calculator clean and new**
- **Attractive—match your briefcase color**

Side-folding wallet with window pocket for cards and quick-reference notes. Plastic retainer holds instrument securely.

Stock #688N [Leather wallet, Brown] List $25 .....$23.95
Stock #688Y [Leather wallet, Burgundy] List $25.....$23.95
Stock #688K [Leather wallet, Black] List $25.....$23.95

HEWLETT PACKARD

Tuck-top wallet with a second layer of pliant cowhide.

Stock #92169K [HP wallet: Black] List $19 .....$17.95
Stock #92169L [HP wallet: Brown] List $19.....$17.95
Stock #92169M [HP wallet: Burgundy] List $19 .....$17.95
Stock #92169D [HP wallet: Black] List $19 .....$17.95
Stock #92169E [HP wallet: Brown] List $19.....$17.95
Stock #92169F [HP wallet: Burgundy] List $19.....$17.95
Stock #92169B [wallet: Brown] List $12 .....$10.95

Chary

Side-folding wallet with a BIG BONUS—this wallet opens to become a desk stand when you use your instrument—holds it at the proper angle for hand and eye.

Stock #2068 [Wallet/Stand: Black] List $30.....$27.95
Stock #2070 [Wallet/Stand: Burgundy] List $30 .....$27.95

Soft Vinyl Cases

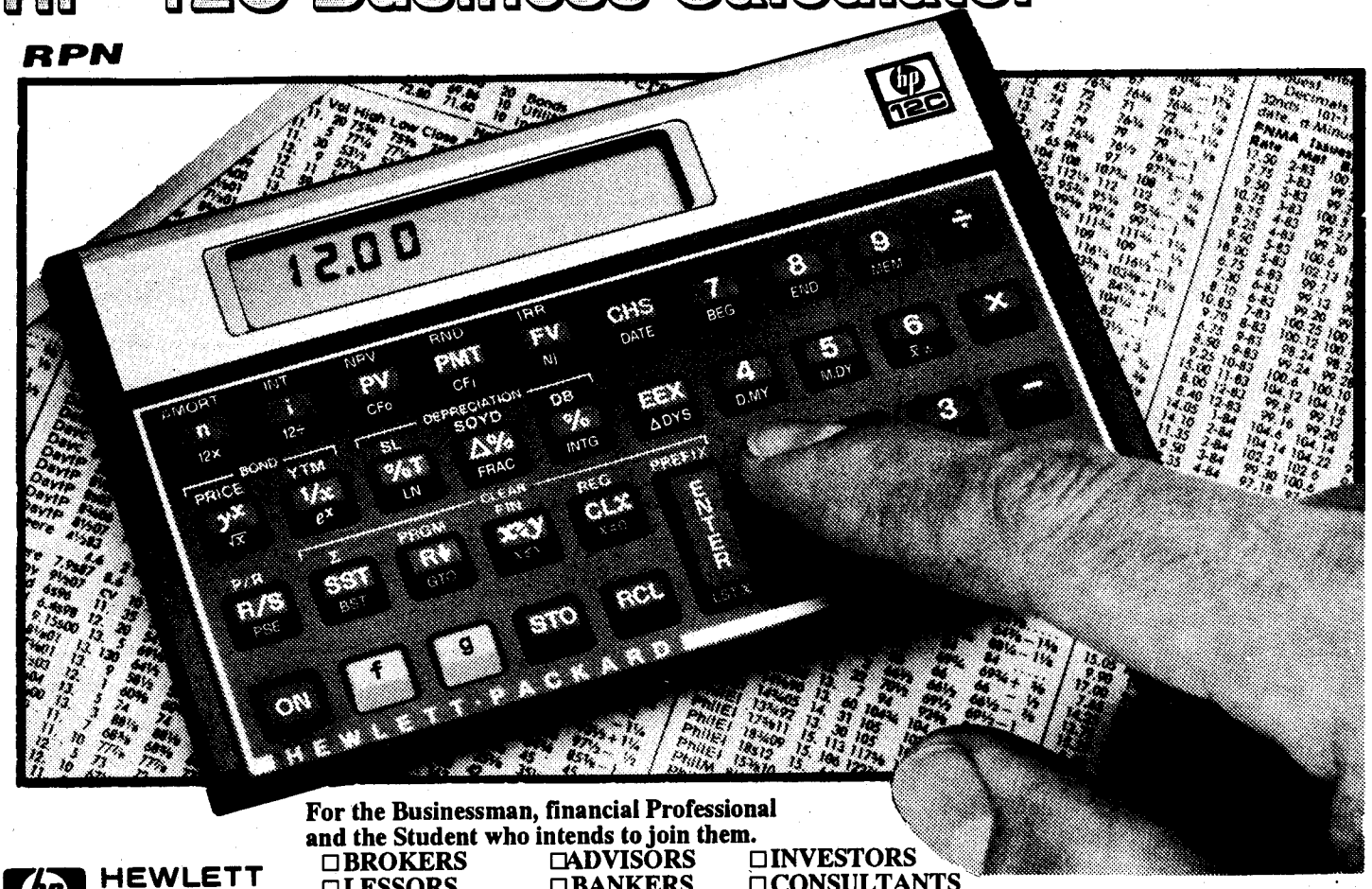
HEWLETT PACKARD

Just like the one that came with your instrument.

Stock #82111A [Vinyl case: Black] $9.95
Stock #82174A [Vinyl case: Black] $4.50
Stock #82463A [Vinyl case: Black] $9.95
Stock #82243A [Vinyl case: Black] $4.50

HP-12C Business Calculator

RPN



For the Businessman, financial Professional and the Student who intends to join them.

☐BROKERS ☐ADVISORS ☐INVESTORS
☐LESSORS ☐BANKERS ☐CONSULTANTS

HEWLETT PACKARD

Imagine Yourself . . . Calculating what-if answers with ease—right on the spot!!! Answering your client's questions instantly without tables. Being first with IRR and NPV figures, to the penny! Freeing yourself from arithmetic, so you can do the real thinking.

YOU CAN—get yourself an HP-12C calculator and buy the book or tape 'SELF SEMINAR' listed below that fits your needs. Then invest a couple of hours study time. You'll be delighted with your own quick new power and ease.

FINANCE/BUSINESS: Solves for Number of Periods (n), Compound Interest Rate (i), Present Value (PV), Payment (PMT), and Future Value (FV); Amortization with Accumulated Interest and Remaining Balance; Net Present Value (NPV); Internal Rate of Return (IRR); Bond Yield and Price; Depreciation by Straight-Line, Declining-Balance, Sum-of-Digits (SOD); Odd-day's Interest; Simple Interest; Percent, Percent Change and Percent of Total; Calendar Functions; Beginning- or End-of-Period selection; 5 Financial Registers.

STATISTICS: Summations; 2-Variable Statistics with Means, Standard Deviations, Linear Regression, and Correlation Coefficient; Factorial.

PROGRAMMING: Up to 99 Steps; Program Review; Unconditional Branching; 2 Conditional Tests; Pause.

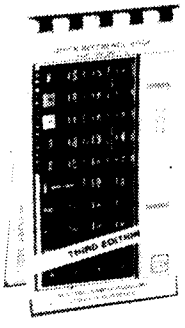
Yet it's FRIENDLY—a first-time calculator user can expect to solve amortization and cash-flow problems with the five top-row keys in just a matter of minutes!

Stock #HP-12C, List $95 (Battery & case included)..... $74.95

Calculator batteries, stands & cases—see pp 13-15

Quick Reference Guide for the HP-12C

by Evan Gost



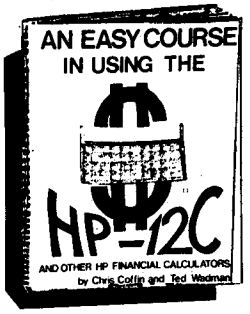
This booklet is no bargain by the ounce— that's because it's been boiled down so it fits in your shirt pocket (even with cigarettes there), or in the 12C case. It is a training guide and ready reference which supplements your Owner's Handbook. The author also gives seminars on the use of the 12C, so he knows what you need.

Believe it or not, this little book contains methods and examples covering every function of the calculator—plus more examples to steer you through problems complex enough to require two-stage solutions. It's concise, complete and useful.

Stock #12-243, 12C Quick Ref, 36p softbound..... $4.50

An Easy Course in using the HP-12C

by Coffin/Wadman

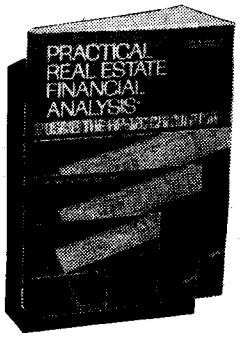


Written just for you, to work at your own pace. You can relax, sit back and let these experts show you the way with lots of illustrations, example stories and quick reviews. This is a sometimes playful treatment, from the beginning, with many common applications in lending and investment analysis. It may also be used with other HP calculators, such as the 37, 38, 67/97 with pac software, and 41 with module software. HP #92234

Stock #12-260, Easy Course 12C, 255p wirebound..... $21.95

HP-12C Business Calculator

Practical Real Estate Financial Analysis:
Using the HP-12C Calculator
by Greynolds/Aronofsky



- Executives
- Appraisers
- Consultants
- Bankers
- Accountants
- Lawyers

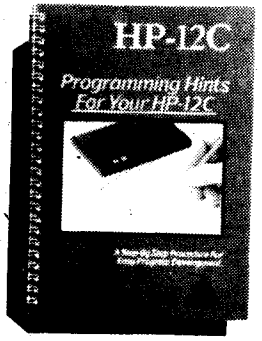
Step-by-step, for self-study—all the fundamentals, plus analysis of creative financing arrangements. Arising in an SMU short course, this book spells out the methods you need, in detail.

Programs are included to extend the power of your HP-12C. Plenty of worked-out examples, plus sufficient drills and exercises to study for certification exams.

Stock #12-461, RE Financial Anal, 233p sftbnd, List $24 ..... $21.95

Programming Hints for your HP-12C

Chary Software



A little simple, direct advice that can help you a lot. Use it as you study your *Owner's Handbook*—you'll quickly be able to get your HP-12C to do what you want it to. Success is sweet! Includes overlay.

Stock #12-328, Prog Hints 12C, 40p wirebound..... $9.95

The HP-12C Training Guide

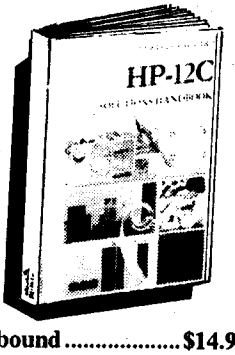
HEWLETT PACKARD

New! A self-seminar from Hewlett-Packard that begins at the beginning and ends with you feeling comfortable with your HP-12C. Lots of examples, tests with answers, summaries and reviews will guide you. When you're finished, you'll be able to calculate mortgage payments, loan amounts, determine IRRs, write and run a program, and much more!!

Stock #90022, 12C Training Guide, 169p softbound $14.95

HP-12C Solutions Handbook

HEWLETT PACKARD

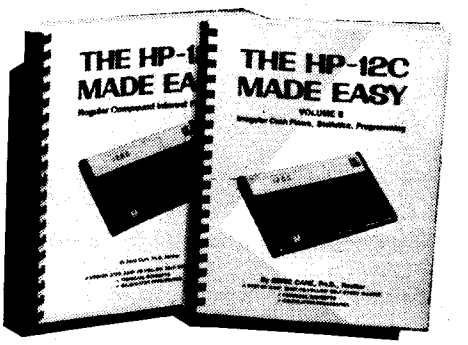


Here are keystroke procedures from Hewlett-Packard supplementing your owner's handbook for applications to real estate, lending, savings, investment analysis, securities, forecasting, pricing, statistics, personal finance, Canadian mortgages, and more.

Stock 12-477, HP-12C Solutions, 152p softbound $14.95

The HP-12C Made Easy
by Edric Cane

HEWLETT PACKARD



Open the box, open this book, and you're in business—master teacher Edric Cane will not so much simplify it as make it obvious. A realtor himself, Cane chooses examples mostly from real estate. They illustrate all the compound interest features on the HP-12C for regular cash flows. No prior knowledge of the calculator is assumed (and this course can be used with the HP-37, 38 and 41 machines as well).

This book was born in seminars where thousands of students have successfully gotten understanding and power—seminars at UCLA and UC Berkeley and to boards of realtors, executives and investors from New York to Hawaii. It anticipates your questions and gives clear, complete explanations of concepts.

Stock #12-273, HP-12C Made Easy, 246p combbound..... $19.95

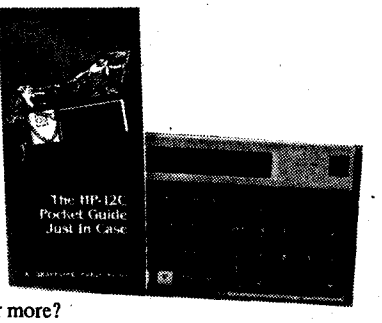
VOLUME II: Complete your kit of 12C skills—learn how to handle IRREGULAR CASH FLOWS, STATISTICS and PROGRAMMING.

It's all quickly made clear to you by Edric Cane, the master teacher who wrote Volume I as well.

Vol I is not prerequisite to Vol II—but you'll need to thoroughly understand regular cash flows and simple arithmetic on the HP-12C.

Stock #12-682, 12C Easy Vol II, 228p combbound..... $19.95

The HP-12C Pocket Guide: Just in Case
by Coffin/Wadman



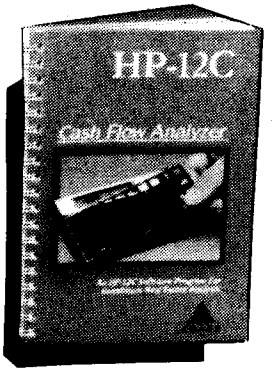
Jiffy HELP that fits in the pouch with your HP-12C— yet it is complete enough, with Descriptions, Instructions and Examples.

It covers every key, every type of problem, even guides you with (excellent) diagrams and illustrations in the authors' humorous style. It is quite well-written, plus you'll recognize the keyboard colors printed right in the instructions. Could you ask for more?

Stock #12-649, 12C Pocket Guide, 50p softbound $4.95

Cash Flow Analyzer

Chary Software



Brokers: close more deals! Investors: know if a deal 'pencils out'! Sellers: be sure of your highest price.

Upgrade your HP-12C to a Real-Estate Investment Analysis Computer—in just seconds you can have 14 investment parameters to review, and you can change numbers for recalculations, on-the-spot (expenses, seller's interest rate, down payment, gross multiplier, price or income).

Includes program, handbook and color-coded keyboard overlay.

Stock #12-308 (Cash Flow Analyzer)..... $19.95

Check out anything you want without risking a penny.
At EduCALC you get a two week return privilege.

HP-12C Business Calculator

Investment Securities Program Guide using the HP-12C

"With the programs in this book, I've got the answers my clients want while my competitors are still setting up the problem," says Stephen R. Willson, VP (Public Finance), Blunt Ellis & Loewi.Incorporated; "I'm not always near my computer. But I always carry my HP-12C."

John L. Maginn, CFA, Exec VP and Treas, Mutual of Omaha Insurance Co., says, "I especially appreciated the organization of the *Program Guide* across the spectrum of calculations for securities, options, warrants/calls, and portfolio management. The book is concise, complete and comprehensive—and essential for the investment practitioner that loves the convenience and power of the HP-12C."

Stock #12-435, Investment Securities 12C, 147p softbd $17.95

The Time Value of Money

Dave Smith

Sit back and relax as you learn—a popular, powerful seminar, ready to listen to, 8 tapes plus an 82 page manual. Thousands of professionals have taken Dave's course at $195.00 — this costs less, and YOU KEEP IT! No prior calculator skills are assumed here—each subject is taught thoroughly, in depth, while keeping it light and easy to understand.

Dave Smith is a full-time broker with an engineering education. He'll show you how to do cash-flow analysis, analyze and compare investments and much more. You'll get the comfortable power with your HP-12C that you want for a competitive edge!

Stock #12-537 (Time Value of Money, Tapes) List $195 .....$139.95

Pop-Up PC-12C

Popular Programs

A Financial Calculator on your PC—just type Alt-C!

Looks just like your HP-12C on your screen, right down to the blue and gold display of functions accessed by the prefix keys. Complete emulation of 12C functions. Has tape display you can make notes on, save to disk or print, plus the ability to feed your results to your spreadsheet or other program. On-screen help; requires PC or MS DOS, 64K RAM.

Stock #S-776 (PC-12C, 5¼") List $70 .....$64.95

HP-12C Power User Video

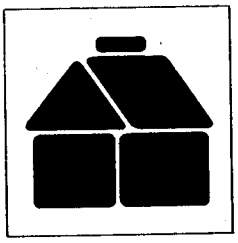
SMART Z

Dale Hillard, former college professor turned real estate broker, is your trainer. It's like attending one of his workshops at your convenience. You'll understand your machine after Dale's explanations — starting with the keyboard through depreciation, IRR, net present value . . . and finishing almost two hours later with programming.

Stock #12-2182 (Power User Video, VHS) List $50 .....$44.95

HP-12C Leasing Applications Handbook

HEWLETT PACKARD

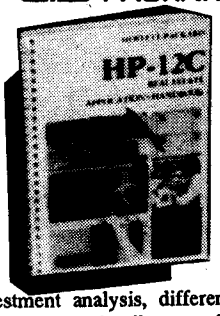


This is not a textbook. Hewlett-Packard shows you techniques which solve real problems that the leasing professional faces in today's marketplace. These practical applications include: analysis, structuring pretax/after-tax lease payments, lease vs. buy analysis.

Stock #90021, Leasing Applications, 117p softbound.....$14.95

HP-12C Real Estate Applications Handbook

HEWLETT PACKARD



Here's help from Hewlett-Packard for brokers, investors, appraisers, analysts and others in making real estate decisions. Keystroke programs with formulas, explanations and worked out examples make it easy for you to get on-the-spot figures fast without a lot of table look-ups. In addition to your calculator, you'll need the HP-12C Solutions Handbook to use this book.

Financing analysis, appraisal applications, investment analysis, differential cash flow analysis, financial management, rate of return, miscellaneous feasibility measures, calculating the number of payments, A.C.R.S. tables.

Stock #90015, Real Estate, 102p softbound.....$14.95

SAVE THESE NUMBERS

☎ ***D'ZIGN***	
Telephone	*(818)507-7408*
☎ ***TACIT LOGIC Systems, Inc***	
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BBS: HP-41/PC User Exchange	*(503)678-1040*
☎ ***HEWLETT-PACKARD***	
Technical Information	*(503)757-2004*
Repair Service	*(503)757-2002*
Thinkjet Hotline	*(206)253-3000*
☎ ***HP-12C Seminars***	
Edric Cane	*(818)957-3026*
☎ ***MICROSOFT***	
Customer Service	*(206)882-8088*
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Technical Information	*(806)747-1882*
General Information	*(806)741-2663*
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Field Service Hardware Support	*(800)624-5932*
Software Support	*(800)433-5999*
☎ ***WILEY***	
Tech Service	*(212)850-6788*

HPX—*Handheld Programming Exchange is a volunteer, member-supported club of HP handheld users focusing on the selection, application and use of today's true personal computers. Membership includes the 'HPX Exchange' publication. P.O. Box 4160. Des Plaines, IL 60016. Tel: (312)884-0099 (evenings and weekends).*

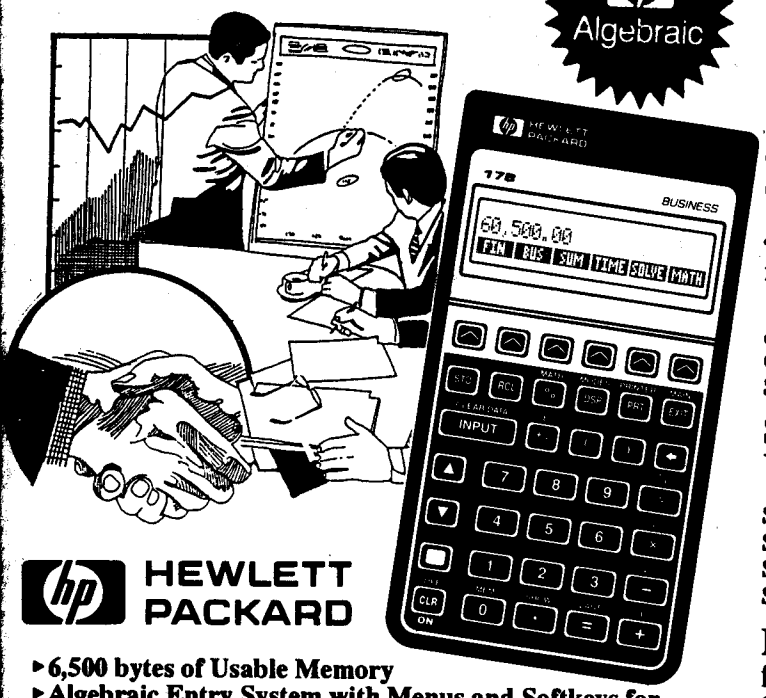
TI PPC—*TI Programmable Calculator Club includes coverage of the TI-74, TI-95 and Casio fx-7000G well as the TI-66. Membership includes 'TI PPC Notes' newsletter subscription. P.O. Box 1421, Largo, FL 34294.*

HPCC—*Handheld and Portable Computer Club. The independent group for the users of Hewlett-Packard handheld and portable computers; publishes DATAFILE 8 times a year. Direct inquiries to Membership Secretary, Geggs Lodge, Hempton Road, Deddington, Oxfordshire, 0X5 4QG, Great Britain.*

HP-17B Business Consultant

- **Business and Finance**
  - Amortization with table printout
  - Bonds; price, yield
  - Date arithmetic
  - Depreciation
  - Interest rate conversions
  - List-based cash flows
  - Mark-up as percent of price and cost, percent change, percent total
  - Number lists; edit, sort, store
  - Time value of money
- **Statistics and Math**
  - Mean, standard deviation (1 or 2 variables),
  - Weighted mean
  - Forecasting/curve fitting
  - LN, LOG, e^x, 10^x, y^x, $\sqrt{x}$, x^2, $1/x$
- **Time and Dates**
  - Appointments and alarms
  - Clock, calendar

Algebraic



HEWLETT PACKARD

- **6,500 bytes of Usable Memory**
- **Algebraic Entry System with Menus and Softkeys for Easy-to-Use Power**
- **State-of-the-art Vertical Design with one-piece keyboard/case (robot assembled) and the sleek lines of a new German car**
- **HP SOLVE—enter custom equations without programming**
- **Clock, Calendar and InfraRed Printer interface**

This powerful calculator from Hewlett-Packard is an indispensable companion for all the business problems you face daily. Practical, dependable, the HP-17B is by far the most function-packed business calculator you'll find anywhere for the price.

The HP-17B's powerful set of functions includes time value of money, amortization, discounted cash flows (NPV and IRR), interest rate conversions, percentage calculations, bonds, depreciations and more.

You'll use the HP-17B's list-based cash-flow and statistics functions to find solutions for a wide variety of business problems. Plus, you can store lists of data for quick retrieval, editing and calculating. And the HP-17B keeps a running total as you go.

You can analyze your sales by fitting them to four different curve models and use the HP-17B's forecasting application to predict future sales. In addition, this multipurpose calculator performs time calculations and reminds you of pending appointments.

And 6,500 bytes of usable memory mean you have enough room to store everything you need. Manual, batteries, soft case included; 1 yr warranty.

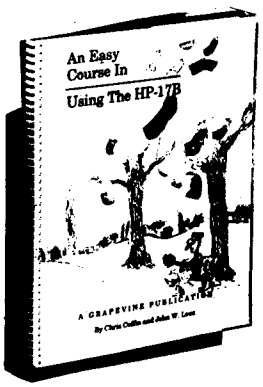
The HP-17B—it gets the job done right!

Stock #HP-17B [Business Calculator] List $110 ..... $84.95

Calculator batteries, stands & cases—see pp 13-15

An Easy Course in Using the HP-17B

from Grapevine



A clear, straightforward explanation of your HP-17B. It's written in Grapevine's friendly style, so it's easy to understand, right from the first.

You'll learn to work with menus, lists, arithmetic—how to develop your personal list of equations. Then you'll explore the built-in financial equations, the 'hows' and 'whys' of loans, mortgages and investments—and make sense of them all with the Time Value of Money keys NPV, NFV, IRR, and MIRR.

Clear diagrams and explicit, worked-out examples from Savings, Real Estate and Banking will tie it all together for you, painlessly!

Stock #17-540, 17B Easy Course, List $23 ..... $21.95

The HP-17B Pocket Guide: Just in Case

from Grapevine

Refreshes your memory after you have completed the Easy Course. Lots of examples to follow, each with keystrokes and explanations. And this Friendly Companion fits right in your calculator's case.

Stock #17-2022, HP-17B Pocket Guide, 64p sftbnd $4.95

Step-by-Step Books for Business Using the HP-17B

Stock #HP-544, Real Estate, Banking, Leasing 90019 ..... $9.95
Stock #HP-545, Business, Finance, Accounting 90020 ..... $9.95
Stock #HP-546, Marketing, Sales 90021 ..... $9.95
Stock #HP-547, Personal Invest/Tax $9.95

InfraRed Printer for your HP-17, 18, 19, 27, 28, 41 with IR Module or HP-42

Save $29

Get It Down on Paper

The Business Consultant II has a silent partner that prints your calculations and results. It's a thermal strip printer that operates on an AC adapter or four AA alkaline batteries (included) for go-anywhere portability.

An Invisible Connection

Printer connection cords have been replaced by an invisible infrared beam from the Business Consultant II. It's the only link required for your printing needs.

You have plenty of leeway—up to a foot and a half—to put the printer where it's most convenient for you Just point the Business Consultant II at it and push [PRINTER]. No cords to tangle with..

Print speed with fully-charged batteries is just a shade over a half second per 24-character line. By putting the printer in TRACE mode, you can print out a complete record of the numbers you've used in your calculations, as well as your results. Or print selectively and provide clients with copies of quotes, amortization tables or itemized lists.

Stock #82240 [InfraRed Printer] List $135 ..... $105.95
Stock #82241 [AC Adapter for IR Printer] $14.95
Stock #82175 [Printer Paper, black, 6 rolls] $9.95
Stock #82175B [Printer Paper, black, 2 rolls] $3.95
Stock #AA [Batteries, Printer uses 4] ..... each $.85
Stock #92169G [Cover, black] $22.95
Stock #92169H [Cover, brown] $22.95
Stock #92169J [Cover, burgundy] $22.95

The HP-19B Business Consultant II

John C. Dvorak of the *San Francisco Examiner* and *PC Magazine* calls the Business Consultant "The hottest new portable super calculator." He likes the printer, too: "Forget about RS-232 cables. This is the way to go. Watching a little printer magically print data from an infrared link is both eerie and exciting."

HEWLETT PACKARD Data-Saving and Sorting Power

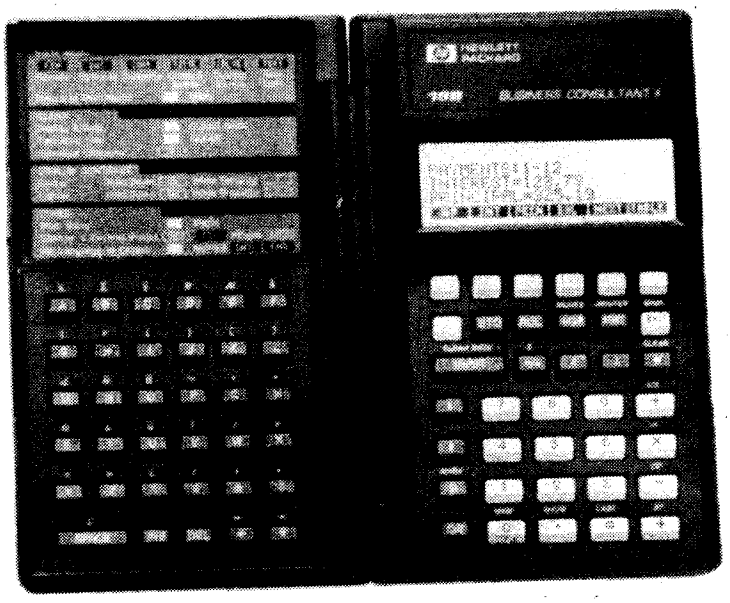
Problem-Oriented Power

Algebraic

Now—the first business calculator with GRAPHICS: scatter * plots, histograms, curve fits, etc., and you can print them! Also has SCIENTIFIC Functions: trig and hyperbolic. More than 450 functions in all.

Time-Managing Power

Menu-Driven Power



Solve your special problems WITHOUT PROGRAMMING!

☐USER DESIGNED POWER — Hewlett-Packard asked people like yourself what they wanted in a finely-designed business calculator. Now you've got it. There are **2 straightforward keyboards**—one has numbers and function keys while the other keeps your alphabet separate for typing ease—yet the Business Consultant II folds for your pocket. The **revolutionary 4-line LCD screen** shows you the numbers you're calculating with, or menu options to choose from. An **infrared printer interface** drives the optional printer, without bothersome cables.

☐MENU-DRIVEN POWER—**the Business Consultant II is self-guiding**, with Prompts in English, so you'll find it easy to use right from the start. You won't be referring to the manual very often.

Standard business formulas are already built in. Simply make a choice, then push a button.

To help you find your way around, menus—a series of headings— appear on the Business Consultant's four-line screen.

They make these functions push-button close:

- ☐Interest rates
- ☐Time and appointments
- ☐Payment schedules
- ☐Markup and margin
- ☐Statistics
- ☐Internal rate of return
- ☐Interest rate conversions

☐PROBLEM-ORIENTED POWER—**the Business Consultant II is smart**, so you'll only tell it the problem formulas, and it will figure out how to solve your problem for you. No more will you need to program your solutions; just tell your BUSINESS CONSULTANT what the problem is!

☐TIME-MANAGING POWER—**the Business Consultant II is punctual**, so it will remember appointments for you—and remind you with a beep. In addition to the 19B's calendar, there's a handy clock in it, and memory for your expenses, so you can note them right on the spot. With the clock you can keep track of billable time.

☐DATA SAVING & SORTING POWER — when you key in data to do statistical analysis (say, mean and standard deviation even on weighted data) **your Business Consultant II remembers every data point**, not just those sums it uses to calculate your statistics. Furthermore, it will sort your data points, so you can find their minimum, maximum, range, median, mode, and percentiles, or print them all out in sorted order.

The Business Consultant II does bond price/yield/depreciation, plus all the usual financial calculations, percent, compound interest, cash-flow analysis, calendar, statistics, factorial, trig, probability, and ln x, e^x, y^x—all the functions you expect.

Its new power includes Interest Rate Conversions, Markup as % of Cost and Price, Net Future Value (NFV), Net Uniform Series (NUS), Clock Functions, Appointments and Alarms, Logarithmic and Exponential and Power Curve Fitting, Currency Conversions.

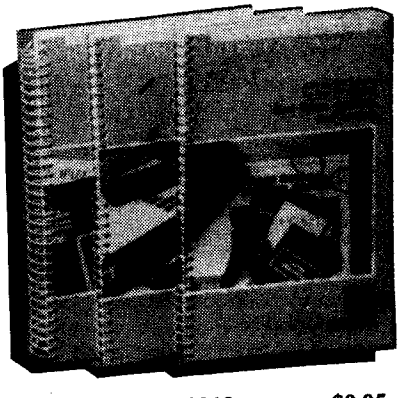
It calculates with Algebraic Logic, dealing with equations just as you write them. It has 6500 bytes of RAM memory for your own customized menus, equations or data, and it remembers everything while it's turned off.

The Business Consultant II is 3 5/8" wide by 6 1/2" high and 5/8" thick when folded; open, it's 7 1/2" wide. Owner's Manual and batteries included.

Stock #HP-19B [Business Consultant II] List $175 ..... $134.95

Calculator batteries, stands & cases—see pp 13-15

Step-by-Step Books for Business Using the HP Business Consultant II

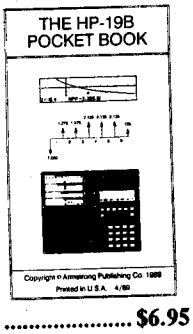


Let experts help you set up your calculations so you can work with them most easily. These professional references include practical routines and tips for getting the most from the Built-in Menus as well as setting up Personal Menus for your specific profession. Order the ones that fit your work.

Stock #HP-544, Real Estate, Banking, Leasing 90019 ..... $9.95
Stock #HP-545, Business, Finance, Accounting 90020 ..... $9.95
Stock #HP-546, Marketing, Sales 90021 ..... $9.95
Stock #HP-547, Personal Invest, Tax Plan 90022 ..... $9.95
Stock #HP-548, Tech Applications using HP Solve 90044 ..... $9.95

HP-19B Pocket Book

Brand New



All the help and reference you'll want to have along with you—fits right in the case with your instrument.

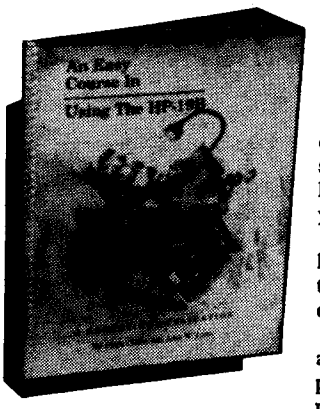
Covers calculator operation and all the functions, using menus, printing, etc. Details with examples for TVM, amortization, even and uneven cash flows, bonds, depreciation, more. How to use time and appointment functions, equation solving, text lists, exchange rates and conversions.

Stock #19-2142, 19B Pocket Book, 60p softbound $6.95

PC Software & Bookware

An Easy Course in Using the HP-19B Business Consultant

from Grapevine



How to work with Menus, Lists and Arithmetic, and how to develop a personal list of equations — all on the new HP Business Consultant II — all in the friendly style that Grapevine is known for.

You'll be amused, and even have some fun, as you become expert with the built-in financial equations, learn the 'hows' and the 'whys' of loans and leases, mortgages, investments, NPV, NFV, IRR, and much more, with ease!

You'll also get the usual clear diagrams, explicit examples and witty illustrations—and you'll have a learning adventure! List $23.

Stock #19-541, Easy Course 19B $21.95

The HP-19B Pocket Guide: Just in Case

from Grapevine

Refreshes your memory after you have completed the Easy Course. Lots of examples to follow, each with keystrokes and explanations. And this Friendly Companion fits right in your calculator's case.

Stock #19-2007, HP-19B Pocket Guide, 64p sftbnd $4.95

Alpha Keyboard Overlay for the HP-18C Business Consultant

Sale While they last

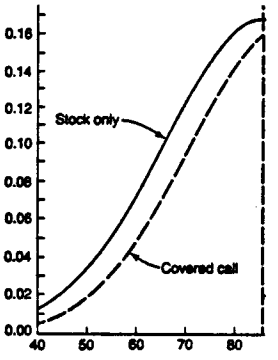
Put the 18C Shifted-Alpha symbols right by your fingertips. They're silk-screened onto the back side of an overlay, so they won't wear off. Overlay is self-adhesive to jump onto your keyboard.

Stock #18-761 [18C Alpha Overlay] List $5 ..... ~~$4.50~~ $3.75

Quantitative Methods for Financial Analysis

New

by Brown/Kritzman



The serious investment professional needs a sound understanding of these methods and concepts—as well as the ability to apply these increasingly sophisticated mathematical and statistical tools and techniques.

Starting with an introduction to quantitative methods, this unique book covers techniques in equity, fixed-income real estate and derivative security analysis, asset allocation and performance measurement.

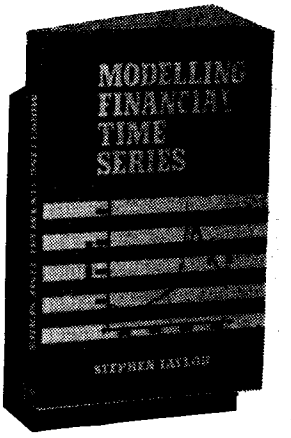
Stock #H-2029, Quantitative Fin Analysis, 229p hrdbnd $42.50

Read our mail from France—

". . . thank you for your kind letter. It's not often that companies write to tell your their supplies of stock are delayed!! One more time, thank you for being so reliable! I must say you're the best in the world!!" Bertil Wiklund, Arleux

Modelling Financial Time Series

by Stephen Taylor



Can you tell future prices from the past?

Anyone interested in financial markets soon discovers that changes in prices are frequently substantial and always difficult to forecast. Here is the first major statistical text in 15 years to focus on financial time series.

Chapters 1 and 2 introduce financial markets, previous research and definitions. Chapters 3 to 7 cover construction of accurate models for daily returns.

Implication for traders of futures and options are explored in Chapters 8 and 9. A computer program is given for readers who want to model their own time series.

Stock #B-451, Time Series, 268p softbound $47.95

Time and Money

by Robert Crowe

A practical look at the time-value-of-money concept — uses real-world examples to show you how to

- determine present and future values of single sums and annuities
- evaluate investments using discounted cash flow analysis
- project cash flows and calculate interest

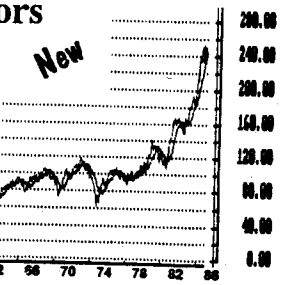
Basic formulas, HP-12C and BA-II calculators, time value tables, personal computers and spreadsheet software (including 1-2-3) are discussed in non-technical terms.

Stock #H-2028, Time and Money, 146p hardbound $27.50

The Encyclopedia of Technical Market Indicators

by Colby/Meyers

New



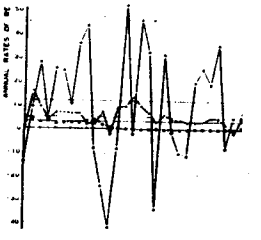
Profit whether the stock market goes up or down—learn and use the TRUE forecasting value of over 110 indicators.

This complete, comprehensive manual is an excellent introduction to indicators and then an ongoing reference source for the intelligent investor. Successful buy and sell decision rules are fully disclosed, along with clear examples and complete performance details for decades.

Stock #H-2027, Ency Tech Mkt Indicators, 581p hrdbnd $47.50

Yield Curve Analysis
The Fundamentals of Risk and Return

by Livingston Douglas



Bond portfolio managers, traders, sales people, their assistants, and individual investors need this learning tool and reference.

You can address the complexities of fixed-income investing in a straightforward and easy-to-understand way—underlying concepts come first, then real-world applications.

Yield to maturity, current yield, cash flow yield, call-adjusted yield, realized compound yield, and more.

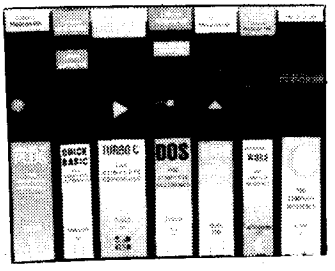
Sophisticated practitioners will appreciate the details of 15 types of bond swaps, categorized into 5 general groups (YTM, current yield, quality, liquidity and total return enhancements). Portfolio risk is analyzed in 9 components (duration, yield curve, call/convexity, quality/credit, issuer sector, intra-issuer sector, issue specific, liquidity and product risk).

Stock #H-2026, Yield Curve Analysis, 622p hardbound $65.95

PC Software & Bookware

COMPLETE REFERENCE Books—Solid Help you can Rely on

from Osborne/ McGraw-Hill



So complete that it's the only reference you'll ever need—clarifies the manual's start-up steps while you're still a beginner, teaches you steps as you progress, and becomes steps as you progress, and becomes the lifetime reference that you really know your way around in.

Every command, feature and function, every prompt or error message you'll want to find out about is covered—**a giant softbound bargain.**

Stock #E-636G, DOS: The Complete Reference, 1042p **$24.95**
Stock #E-636H, UNIX SVR3: Complete Ref, 750p **$26.95**
Stock #Y-636C, QuickBASIC: Complete Ref, 700p **$24.95**
Stock #Y-636D, C: The Complete Reference, 740p **$24.95**
Stock #Y-636E, Turbo C: Complete Reference, 850p **$24.95**
Stock #Y-636F, Turbo Pascal: Complete Ref, 640p **$24.95**
Stock #F-636A, dBASE III PLUS: Complete Ref, 768p **$22.95**
Stock #F-636B, Paradox: Complete Reference, 650p **$26.95**
Stock #J-636J, 1-2-3: The Complete Reference, 892p **$22.95**
Stock #J-636K, Quattro: Complete Reference, 660p **$24.95**
Stock #I-636L, MS WORD: Complete Reference, 900p **$24.95**
Stock #I-636M, WordPerfect: Complete Ref, 675p **$24.95**
Stock #I-636N, WordPerfect 5: Complete Ref, 1136p **$24.95**
Stock #I-636P, WordStar Prof: Complete Ref, 850p **$24.95**
Stock #I-636R, DisplayWrite 4: Complete Ref, 850p **$24.95**

Pocket Reference Books—Jump-start Help

Handy little guides that put all the essential features and commands at your fingertips. Inexpensive, compact: 4¼}7 inches, 128p softbound.

Stock #Y-567, C: The Pocket Reference **$5.95**
Stock #Y-584D, Turbo Pascal: The Pocket Reference **$5.95**
Stock #Y-584E, Turbo C: The Pocket Reference **$5.95**
Stock #F-565, dBASE III PLUS: The Pocket Reference **$5.95**
Stock #F-584H, Paradox: The Pocket Reference **$5.95**
Stock #J-564, 1-2-3: The Pocket Reference **$5.95**
Stock #J-584C, Quattro: The Pocket Reference **$5.95**
Stock #I-566, WordPerfect: The Pocket Reference **$5.95**
Stock #I-584B, MS Word: The Pocket Reference **$5.95**
Stock #I-584F, DisplayWrite: The Pocket Reference **$5.95**
Stock #I-584G, WordStar Prof: The Pocket Reference **$5.95**
Stock #E-584, DOS: The Pocket Reference **$5.95**
Stock #E-584A, OS/2: The Pocket Reference **$5.95**
Stock #E-2076, Hard Disk Mgmnt: Pocket Reference **$5.95**

MS Learning DOS

Stock #S-773 (Learning DOS, 5¼") List $50 ..... **$37.95**
Stock #S-773T (Learning DOS, 3½") List $50 ..... **$37.95**

Hard Disc Management

Stock #C-426, Hard Disc Management, 251p softbound **$19.95**

The MS-DOS Handbook 2nd edition

Stock #C-440, MS-DOS Handbook, 339p softbound **$19.95**

Quick Reference Guide to MS DOS Commands

Stock #C-517, MS DOS Quick Reference, 46p softbound **$4.95**

CD ROM—The New Papyrus

Sale $16.95

Stock #C-128, CD ROM, 619p softbound **$21.95**

Directory Window RAM-resident utility

MicroMath

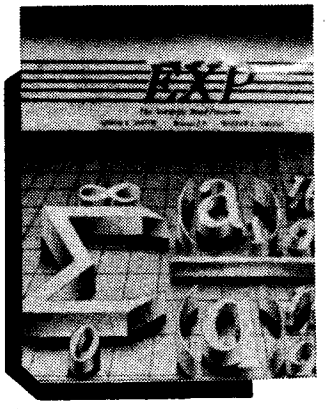
A window that you can 'pop up' anytime—unobtrusive and moveable.

Use it to SCROLL through DOS file directories, to SORT these directories by date or size or alphabetically, to COMPARE directories by popping up two simultaneously, to RENAME files easily, to DELETE files with confirmation, and to PRINT directories for archival purposes.

Stock #E-2093 (Directory Window, 5¼") List $15 ..... **$12.95**

EXP: The Scientific Word Processor 1.11

Don't Miss This One!



You can have all the scientific savvy of your own pencil in a super-fast, full-function word processor.

What you see is what you get—your screen shows symbols, fonts and formatting just as it will print. There are symbols for math, logic, sets, algebra, analysis, physics, engineering, etc. Fonts include Roman, Oxford, Russian, Italic, Greek—under and oversize. Automatic numbering of equations, chapters, sections, footnotes and exercises. Automatic positioning and centering of math symbols.

Word processing features include block operations, find, search/replace, word-wrap, soft hyphens, proportional spacing, even/odd headers, right/left justification, page numbering, footnotes, windows, non-printing comments, more.

PC/Compatible with 256K, CGA/EGA/Hercules/DGDA graphics card. Epson MX-80/FX-80/LQ-800/LQ-1000/LQ-1500, NEC P5/P6/P7, Toshiba P321/P351/P1340/P1351, Tandy DMP 2100/2100P, HP LaserJets.

Stock #S-846 (EXP, 5¼") List $150 ..... **$139.95**

Video Professor for dBASE III Plus

Sale

InfoSource

$23.95

Stock #F-962 (dBASE Introduction, Tape) **$29.95**
Stock #F-963 (dBASE Level II, Tape) **$29.95**

$23.95

Seminar on a Disc Self-Paced Training for 1-2-3

Stock #J-954 (1-2-3 Funds Seminar, 5¼") List $60 ..... **$49.95**
Stock #J-955 (1-2-3 DBM Seminar, 5¼") List $60 ..... **$49.95**
Stock #J-956 (1-2-3 Macros Seminar, 5¼") List $60 ..... **$49.95**
Stock #J-957 (1-2-3 All 3 Seminars, 5¼") List $60 ..... **$49.95**

$109.95

EXCEL 2.0

Sale $309.95

Stock #J-893 (MS Excel, 5¼") List $495 ..... **$359.95**

Mastering Excel on the IBM PC for version 2.0

Stock #J-587, Mastering Excel, 628p softbound **$24.95**

Quattro The Professional Spreadsheet

Stock #J-907(Quattro, 5¼" & 3½") List $250 ..... **$189.95**

Using Quattro: The Professional Spreadsheet

Stock #J-914, Using Quattro, 583p softbound **$21.95**

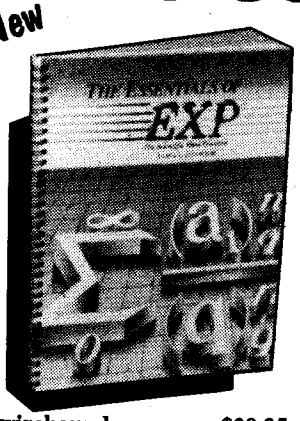
PC Software & Bookware

The Essentials of EXP

New

The fastest way to learn this scientific word processor

by Nancy O'Connor



If you're beginning with EXP, you'll learn here how to do all the basics of technical word processing—as quickly as possible.

The author, a technical typist at Cal-Tech, shows you how with many examples of mathematical expressions, each with step-by-step instructions for creating it in EXP.

Stock #I-2143, Essentials of EXP, 104p wirebound $20.95

TECH/WORD 1.0

Goldstein Software

$$\sum_{n=0}^{\infty} \frac{1}{n!} = e \qquad \oint \frac{1}{z}\,dz = 2\pi i$$

$$\int_{x=0}^{x=a} \frac{-1}{\sqrt{1-x^2}}\,dx = \cos^{-1}(x)\Big|_{x=0}^{x=a}$$

At last—a Technical Word Processor, designed for Scientists, Engineers, and Mathematicians. First of all, it's a full-featured, user-friendly word processor for the IBM PC and close compatibles. Years in development, it's a powerful, up-to-the-minute design, with pop-up help menus and lots of character features (so you can have your Greek symbols italic and bold and underlined all at once, if you want).

What you see on your graphics screen is what you get in print—including Text with print options like bold, italic, underlined, enlarged; Equations, Symbols, and Special fonts. Program comes with lots of Math Symbols, but you can also create your own and they will then appear on both screen and paper.

TECH/WORD automatically formats mathematical expressions for you. This means that fractions, roots, subscripts, superscripts, matrices, integrals, and summations adjust their positions magically as you edit them.

Requires PC/XT/AT, DOS 2.0 or later, two 5¼" disc drives or hard disc and compatible printer (most popular dot matrix and laser printers are supported). Alternate fonts will appear on the screen with Hercules, IBM Color or IBM EGA Display Adapter (but not with monochrome).

Includes a complete tutorial, so you're up and running in 30 minutes!

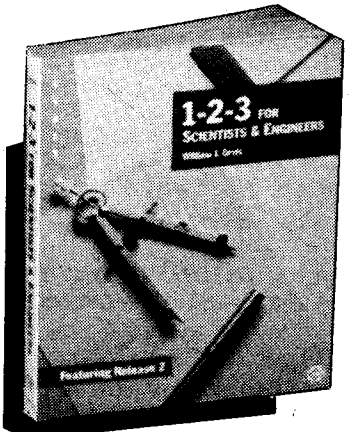
Stock #S-378 (TECH/WORD, 5¼") List $75.....$69.95

WordPerfect Desktop Companion

Stock #C-509, WordPerfect Desktop, 663p softbound.....$26.95

1-2-3 for Scientists and Engineers

by William Orvis



Did you realize that ordinary 1-2-3 offers mathematical operators and functions comparable to those in FORTRAN or BASIC? It does them with 15-digit precision and easily prints them out in handsome charts and graphs, too.

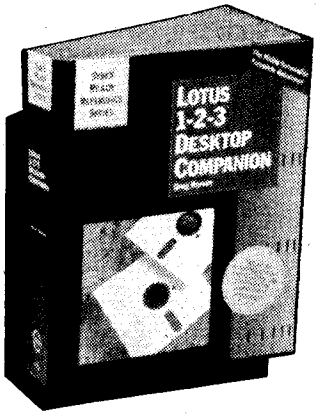
This how-to guide gives scores of examples based on real scientific applications, so you can learn to get solutions quickly and elegantly, and to present them in intuitive, graphic format.

You can create data and function tables, plot and fit curves, calculate statistics, sum series, differentiate and integrate, solve simultaneous equations and differential equations (ordinary and partial), and use database techniques for data handling.

Stock #J-525, 1-2-3 for Sci/Eng, 341p softbound.....$24.95

Lotus 1-2-3 Desktop Companion

by Greg Harvey



A blockbuster — streamlined for when you're stuck—so that you turn directly to your topic, usually without checking the index.

Greg Harvey designed this reference so, when a function isn't working as planned, a command is producing unpredicted results, or a macro refuses to give up its bugs—you can solve your problem, quickly, and get on with your work.

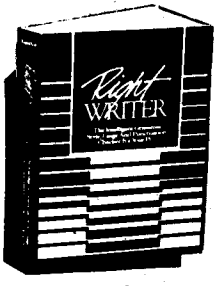
Full details on Release 1A and Release 2. And notice that the price is right.

Stock #J-469, 1-2-3 Desktop, 976p softbound.....$24.95

Price Savings with BIG Discounts

Rightwriter 3.0

Rightsoft



the Intelligent Grammar and Style Checker

Avoid embarrassment. Here's a document proofreader and writing-style analyzer for the IBM PC.

It flags your errors in grammar, spelling, usage, punctuation and style. Then it comments on your document in 6 areas—readability, strength, descriptiveness, jargon usage, sentence complexity, and uncommon words.

This program comments and recommends, never decides. And it is fast. Works with almost all PC and MS-DOS/Compatibles (192K RAM) and popular word processors.

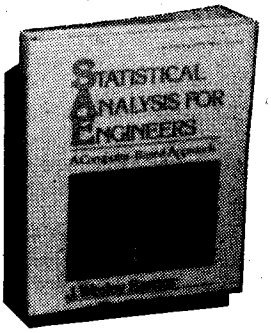
The Lawyer's PC says, "Do I recommend the program? The answer is a big yes! . . . Few programs, if any, are likely to have a bigger impact on me."

Stock #S-777 (Rightwriter 3.0, 5¼") List $95 ..... $84.95
Stock #S-777A (Rightwriter 3.0, 3½") List $95..... $84.95
Stock #S-777L, Rightwriter Literature ..... Free

Statistical Analysis for Engineers

Prentice Hall

Learn stat on your own, on your own PC!



A computer-based approach

If you are motivated to learn some practical statistics quickly, this may be just what you need—it's a complete textbook that works together with PC software.

A comprehensive package (4 discs!) of user-friendly software, plus a detailed User's Manual, will first teach you how and then be your familiar `stat-pak' for years of professional use. It's all here, from Monte Carlo simulations, distribution plots and hypothesis testing through ANOVA, multivariate regression analysis and nonparametric methods, right up to Quality Control.

The text is aimed at undergraduate engineering students, so it's application-oriented and has intuitive explanations rather than proofs. There are lots of exercises, both for pencil and for your PC program.

Requires DOS 2.1 or higher with BASICA or GWBASIC and CGA or EGA or Hercules Color Card; printer optional.

Stock #L-927 (Stat Analysis for Engnrs) List $64..... $61.95

PC Software & Bookware

THE VISUAL DISPLAY of QUANTITATIVE INFORMATION

by Edward Tufte

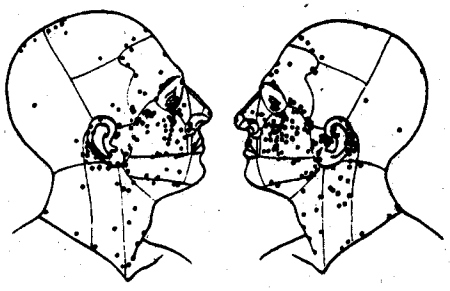


Abb. 1. Verteilung von 269 primären Melanomen auf Kopf und Hals

You will like this book, you will learn a lot from it, and you will use what you learn, I guarantee that. I couldn't put it down. *The Jour. Amer. Stat. Assoc.* review called it "the most important contribution so far to the study of the graph."

Nature summed it up: "An unusual and fascinating book . . . compulsory reading. A devastating critique of many standard statistical graphical techniques, but a constructive one that suggests many ingenious and effective improvements and alternatives." *Psychometrika* said "Wonderful."

Get this for yourself—you won't regret it.

Stock #M–358, Visual Display, 197p hardbound.....$33.95

Statistics at your Fingertips

by Mark Finkelstein

Even if you've never done statistics before, you can master the ideas and techniques needed to calculate practical statistics. All you'll need is this book, a pencil and a calculator.

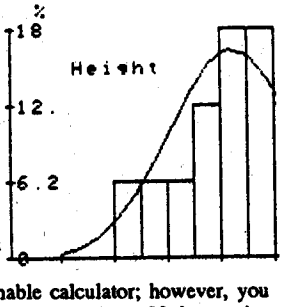
- accurate, accessible coverage of most commonly used statistical techniques (through 2–way ANOVA)
- detailed step–by–step explanations with lots of exercises that allow you to work as fast (or as slow) as you like
- informal language that makes often confusing topics (such as confidence intervals and contingency tables) easy to understand and apply
- a guide to choosing the right statistics to use in a particular situation, plus two helpful glossaries that define symbols and formulas.

Stock #M–498, Statistics at Fingertips, 312p softbound.....$24.95

Curve Fitting for Programmable Calculators

3rd edition

by William Kolb



Formulas, graphs, and sample problems for a huge assortment—40 in all—of different curves to be fit to your data.

Most of these are for one independent variable, but multiple linear regression is also covered, along with exotics like Hoerl Functions and Logistic Curves.

The equations are designed for any programmable calculator; however, you may need to change register assignments if you have fewer than 100 data registers. HP–41 programs and bar codes are included for half of these curves. In addition some program listings are given for the HP–75 and the TI–59.

Stock #M–135, Curve Fitting, 158p combbound $13.95

Applied Statistics

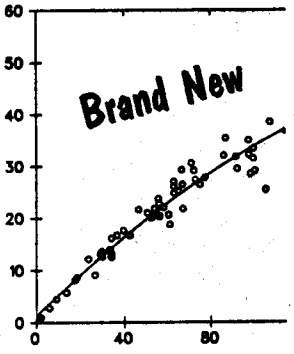
Stock #M–372, Applied Statistics, 707p hardbound.....$68.50

IBM Programs for Business

Stock #B–229, IBM Prog/Business, 270p softbound.....$21.95

Instat–SC Statistical PC Calculator

SCS



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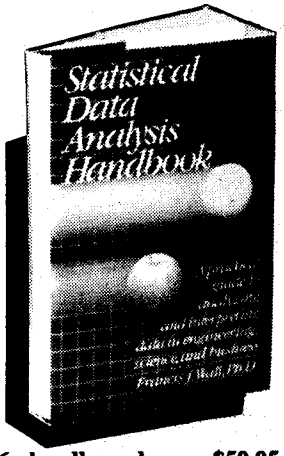

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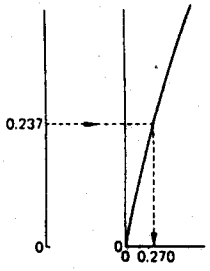

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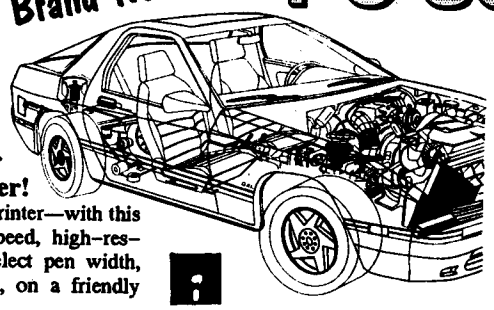

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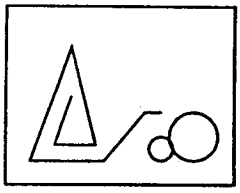

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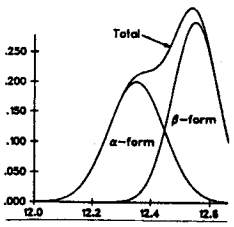

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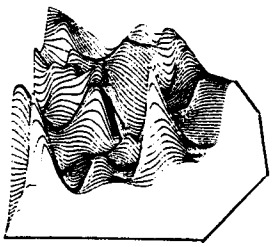

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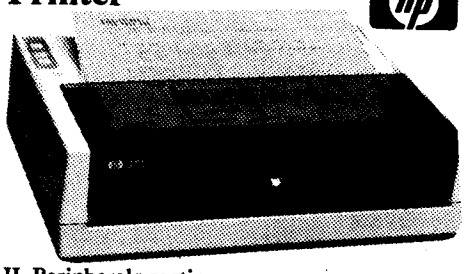

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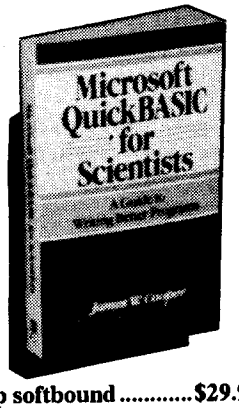

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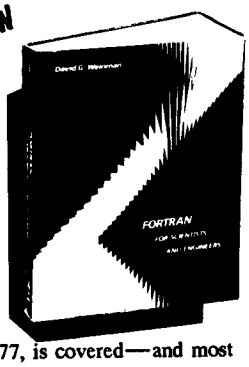

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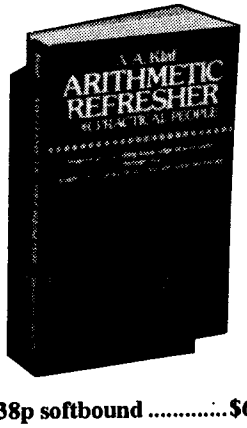

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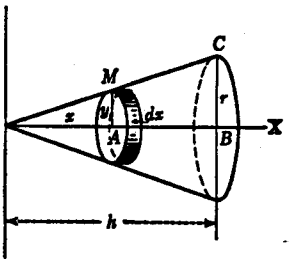

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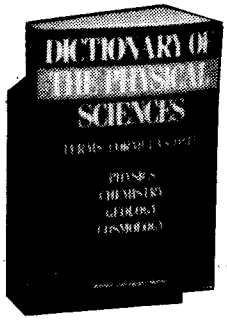

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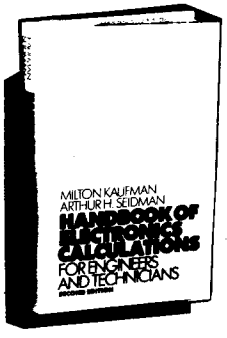

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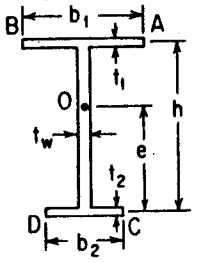

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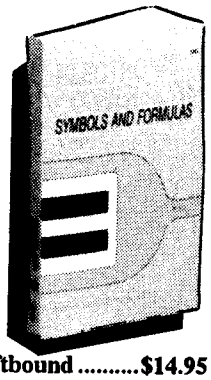

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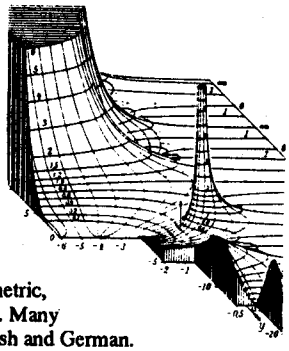

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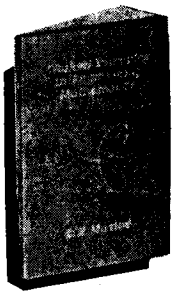

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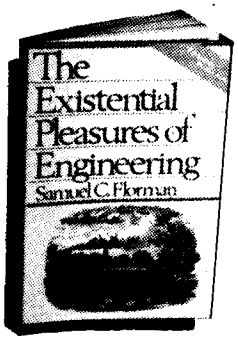

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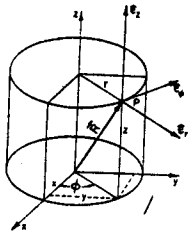

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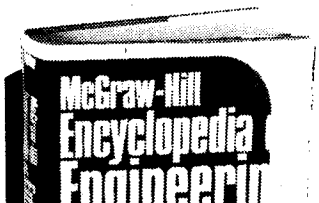

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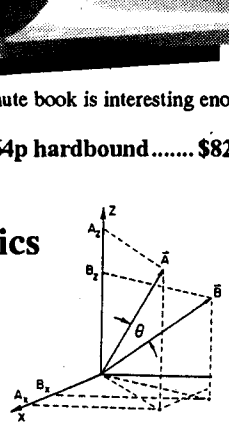

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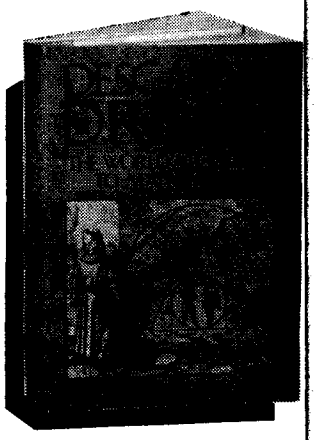

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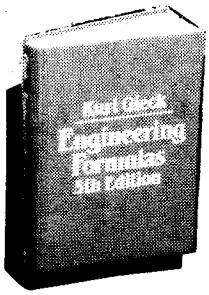

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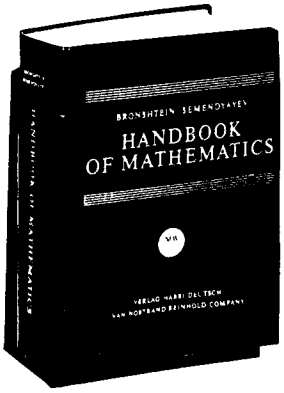

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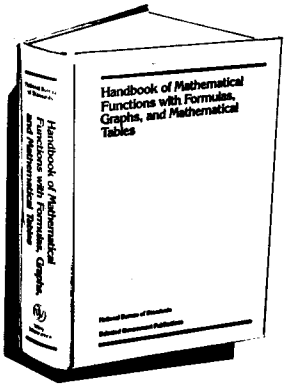

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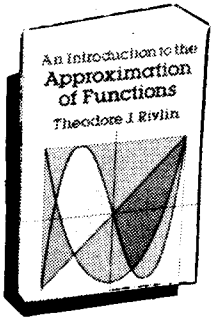

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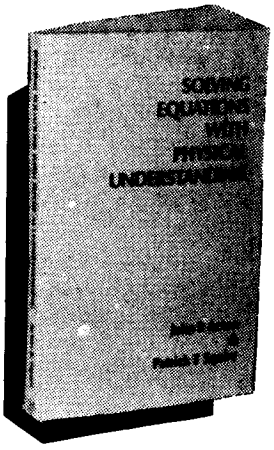

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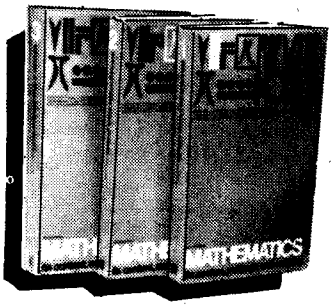

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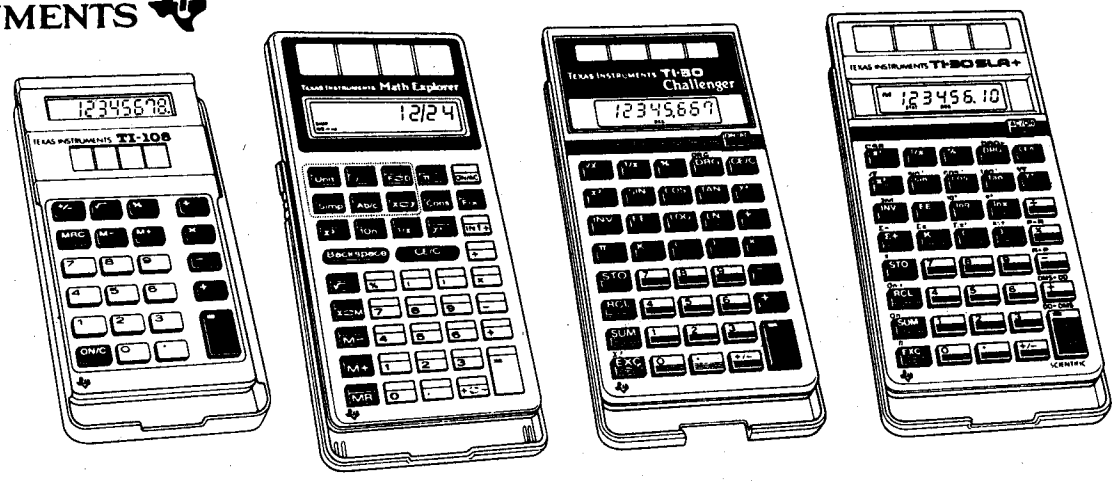

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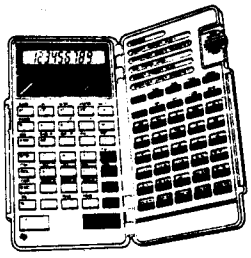

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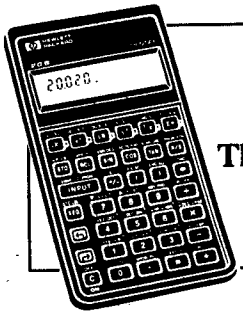

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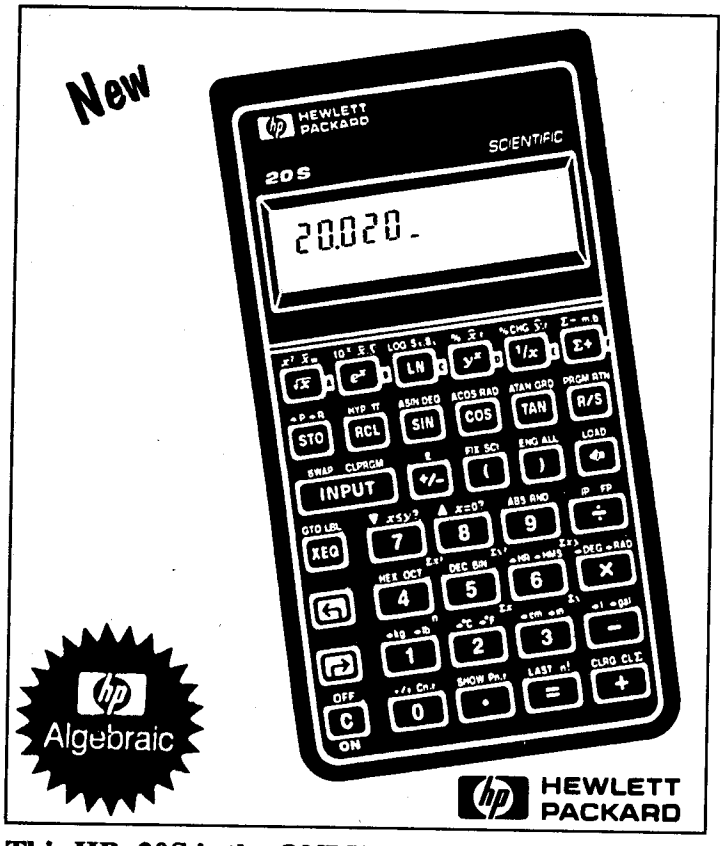

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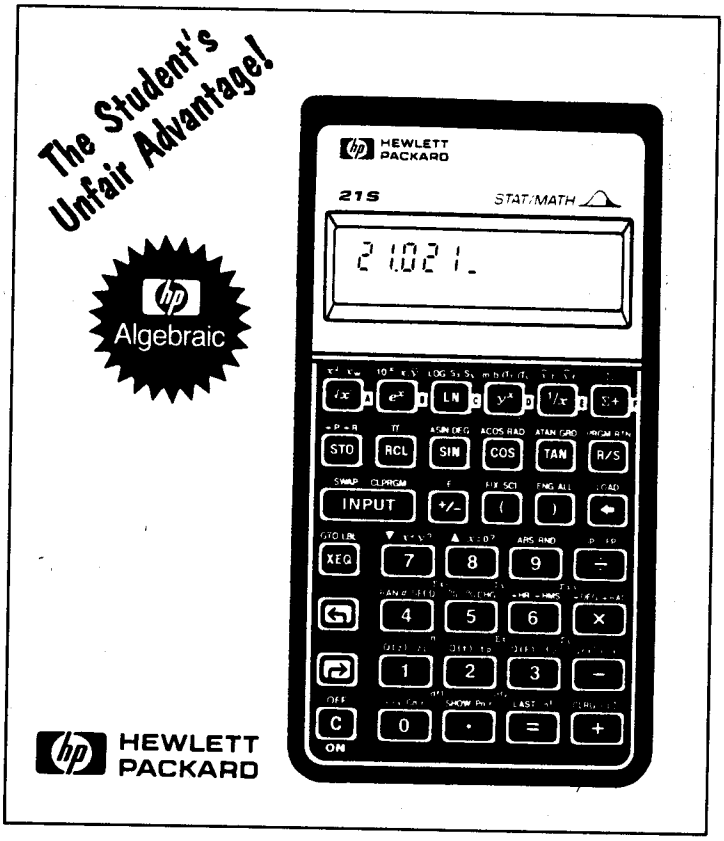

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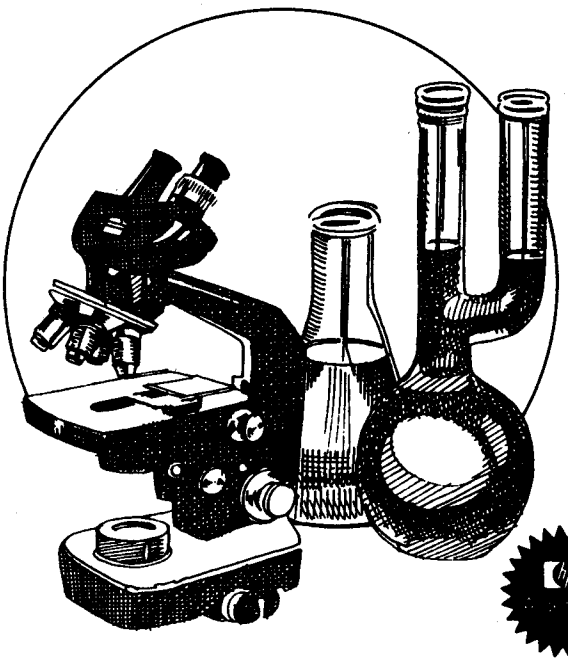

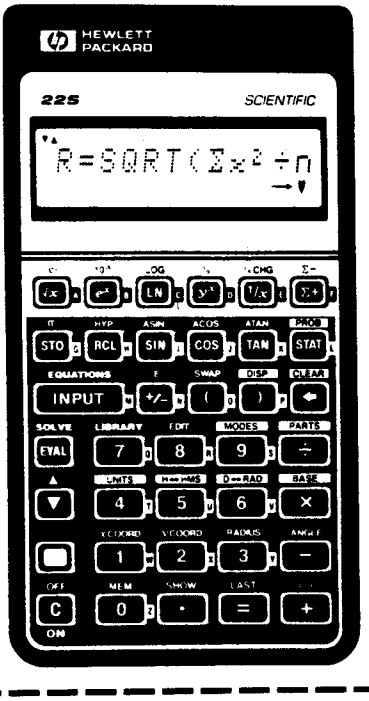

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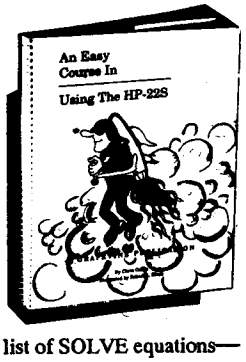

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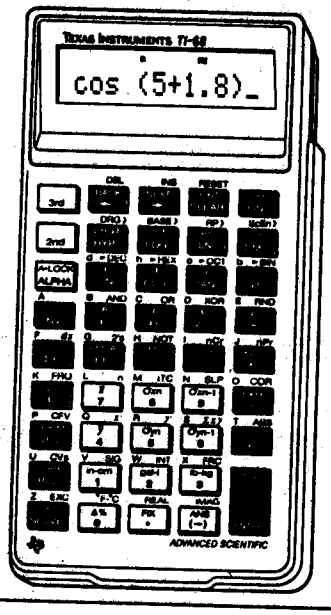

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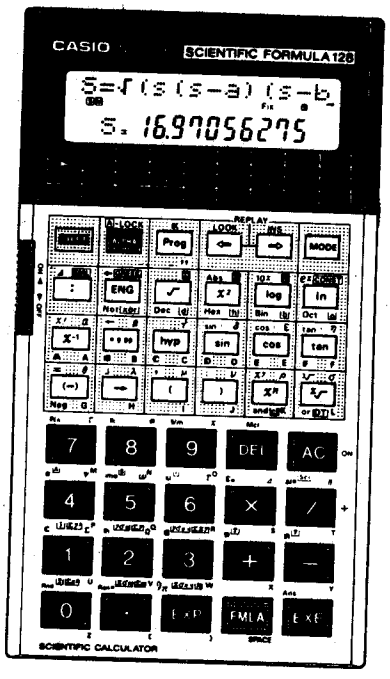

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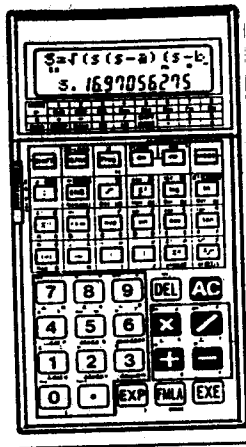
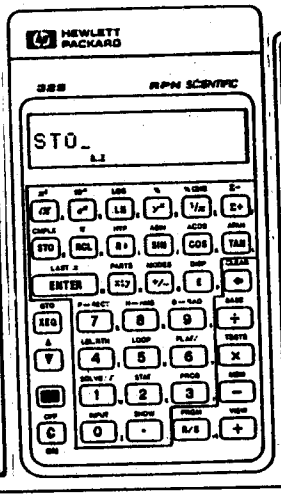
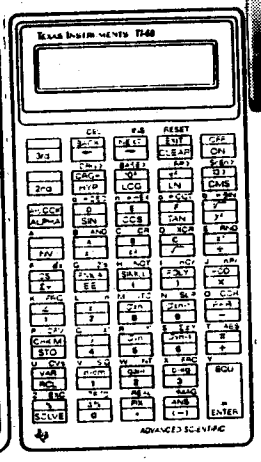
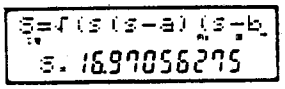
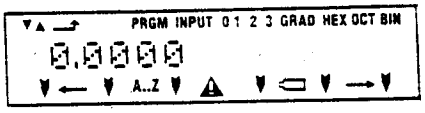




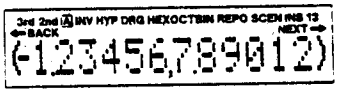




CASIO



HEWLETT PACKARD



TEXAS INSTRUMENTS

Comparison Chart for Common Features

	fx-5000F	HP-32S	TI-68
Manual—			
number of pages	232	308	159
number of index entries	none	741	309
number of examples	294, mostly simple	111, some quite complex	146, mostly simple
Display—			
screen dimensions	2.15 × .56 = 1.2 sq. in.	2.52 × .71 = 1.8 sq. in.	2.25 × .53 = 1.2 sq. in.
type of characters	5 × 6 dot matrix & 7 segment	5 × 7 dot matrix	5 × 7 dot matrix
height of characters	.11 in. & .16	.20 in.	.24 in.
number of annunciators	21 on 1 line	25 on 2 lines	22 on 2 lines
viewing angle	thumbwheel adjust	keyboard adjust	tilted, no adjustment
Keyboard—			
functions per key, usual	5 (with formulas)	3 (with menus & programs)	4 (with formulas)
feedback of keystroke	soft, wobbly, slight click	sharp click	click
Computing Power—			
RAM memory, bytes	675	390	440
data registers	10	26 (each uses 8 bytes)	55 (each uses 8 bytes)
number of digits	10 + 2 guard digits	12 + 3 guard digits	10 + 3 guard digits, or 13
exponent range	±99	±499	±99
trig test time	1.11 sec	.96 sec	2.30 sec
69 factorial time	.40 sec	.62 sec	.47 sec
overall dimensions (inches)	5 1/8 × 2 7/8 × 3/8	5 3/4 × 3 1/8 × 5/8	5 7/8 × 2 7/8 × 5/8
technical support phone no.	(800)634-1895	(503)757-2004	(806)741-2663
retail price	$60	$70	$65

To sum it up, as basic scientific calculators these machines' similarities far outweigh their differences. Our chart coaxes out these differences for you, but most buyers will find any one of these 3 units a pleasure to use. The overall distinction you will see in this chart is that **the fx-5000F is smaller**—this means **smaller** display and crammed keyboard, and it means convenient pocketability—though if your eyesight is poor you might pass up this colorful little jewel.

We have not reported the lists of functions—arithmetic, trigonometric, exponential/logarithmic and two-variable statistical—each machine has them and calculates them accurately. Or warranties—all are 1 year. Each unit has a satisfyingly long battery life—1000 hour, more or less. Each has a case—the TI case gives rigid protection, the Casio is stiff, and the HP is soft and light-weight—but these differences will probably not affect your buying decision.

more ➡

HP-32S

Uncommon Features

Our 3 machines do differ, though, in their advanced features. Many of these differences may not concern you in your work, but some of these features may well be essential to you, so **your choice of instrument will probably be made on the 7 differences listed below.**

Complex Number Functions—the HP-32S and TI-68 have them, but the fx-5000F does not.

Formula Solving—the fx-5000F has 128 built-in formulas for math, statistics, science and engineering, and you can insert 12 more formulas of your own (each "formula" expresses one variable in terms of others). **These are very handy** if you use them.

You can insert perhaps a dozen of your own formulas into the HP-32S or the TI-68 as well. The **TI-68 will also find the real or complex roots of quadratic, cubic and quartic polynomials.** The HP-32S will quickly find the real roots, and may be programmed to solve quadratics (and therefore cubics; quartics would be difficult).

But the HP-32S alone has a SOLVE feature that does more. You can see the difference in a 5-variable example (the Time Value of Money equation)

$$PI^{-1}(1-[1+I]^{-N}) + F(1+I)^{-N} + B = O$$

You can manipulate this equation easily to find formulas for B, F, N and P so you could calculate values of these variables in terms of the others on any one of these 3 machines. But you cannot solve for I algebraically in this equation, so the fx-5000F and the TI-68 have no built-in feature that will find I for you. The HP-32S does—**its SOLVE feature will find the value of any variable in the formula**, given the others.

Integrals—the HP-32S and the TI-68 can evaluate definite integrals, but the fx-5000F cannot.

Logic—the fx-5000F and the TI-68 have algebraic operating systems and the HP-32S uses RPN. Each of these systems is used by many millions of satisfied and successful consumers. Each manual explains its machine's usage clearly, with abundant examples, so you should have no trouble with any of them on this score.

Matrices & Simultaneous Equations—the fx-5000F solves 3 equations in 3 unknowns; the TI-68 will find 5 unknowns. The HP-32S solves for 3 unknowns via programs given in the manual, and those programs will also invert a 3x3 matrix or find its determinant.

Programming — of these 3 calculators, only the HP-32S is programmable with loops and branching. Its manual teaches you how to program and offers a variety of math and statistics programs, plus time value of money, unit conversions and a prime number generator.

Statistics — while all units do 2-variable statistics, they offer only straight-line fits. It is simple to modify your data to produce exponential, logarithmic or power-curve fits. However, if you calculate a lot of these curve fits, you might want to use the program in the HP-32S manual which does them automatically.

The fx-5000F has built-in formulas which will quickly calculate areas under the normal curve. The HP-32S and TI-68 will integrate to find areas under any such distribution curve. Only the HP-32S can SOLVE to find values of the inverse-normal distribution (and other inverse distributions).

Minor Features

In addition to those 128 built-in formulas, the fx-5000F has 13 scientific constants preprogrammed, with easy-to-remember labels.

The TI-68 has unit-conversion formulas built in — Metric to & from English, for length, weight, volume and temperature.

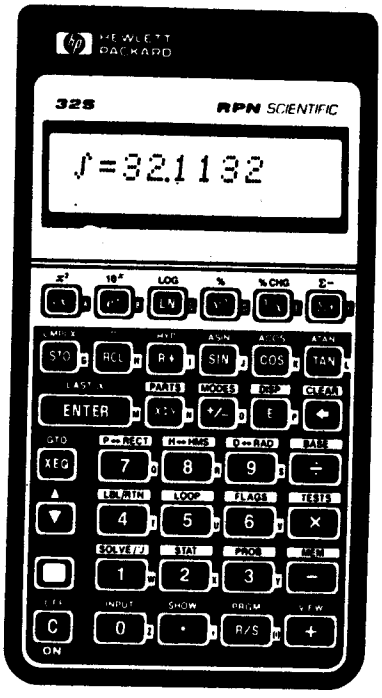
The HP-32S manual is a delight to work with—its spiral binding lies open on your desk, it has a second color printed throughout to highlight explanations, and its paper is thick and white.

The HP-32S has another goodie—a self-test feature, so it can tell you it is working properly.

Conclusions

There you have it—there is no one winner. Your choice will depend on your needs for advanced functions. We hope this comparison helps you get the one best for you. Happy calculating!

The Perfect Solution when you want a little more



- ☐ Over 180 functions, including all from HP-11C
- ☐ 2-variable statistics, correlation and regression, with weighting
- ☐ Probability: factorials, permutations, combinations
- ☐ Base conversions: decimal/hex/octal/binary
- ☐ Polar/rectangular; decimal hours/hours-min-sec
- ☐ Root finder, SOLVE for any variable

- **RPN Data Entry—quick and sure**
- **HP EQUATION SOLVER—solutions without programming**
- **Menus and Softkeys—alpha variables and messages**
- **Numeric Integration**
- **Complex Number Functions**
- **Random Numbers**
- **Modern vertical design with the Sleek Efficiency of a New German Car**

There's no guesswork with the HP-32S—prompts, menu labels, and short messages help you know where you are every step of the way.

Enter keystrokes as a program—there are 390 bytes of memory and 26 storage registers—no keystrokes to learn since it's plain English (4 flags, 26 labels, 8 tests, indirect addressing—the works).

Playing out 'what-if' situations is simple with the HP-32S. Just set up your equation, then solve for any variable. You key in the equation only once. When the situation changes, simply enter the new values for your changed variables. You get the answer—based on the new information—with little effort.

Stock #HP-32S [Scientific Calculator] List $70 ..... $56.95

Hewlett-Packard's step-by-step Solutions Book covers useful routines specific to engineering—they will help you set up applications the way you want them.

Manual, batteries, soft case included. 1 yr warranty.

Stock #32-628, Engineering Applications $9.95

Calculator batteries, stands & cases — see pp 13-15

Tips and Programs for the HP-32S

from Synthetix

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Scientific Calculators

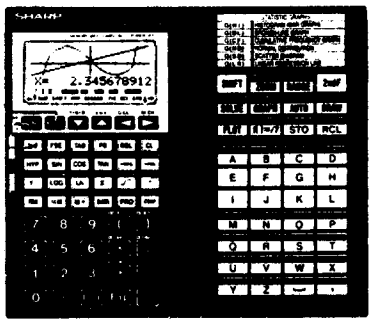
The Nat'l Council of Teachers of Math recommends that ALL students use calculators . . .

IT'S EASY TO ORDER—use the order form at the rear of this catalog (it folds up to be its own envelope)

Graphic Scientific Calculator

Sharp

Brand New



@Plot your equations and results
@Display histograms and scatterplots
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This is the famous Sharp Graphic, with 194 functions including matrix and statistics. You can store 99 programs in it, with up to 5120 steps.

Comes in wallet, fits in shirt pocket. 1 yr. warranty.

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Science, Engineering, and Financial Programs

by Cass Lewart

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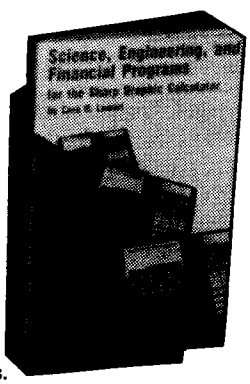

28 practical, tested, ready-to-run programs—base conversions, a strategy game, complex arithmetic, financial equations, primes, integration, impedance, sunrise/sunset, plus 20 more—all with instructions and sample problems. Also contains Hints and Undocumented Features.

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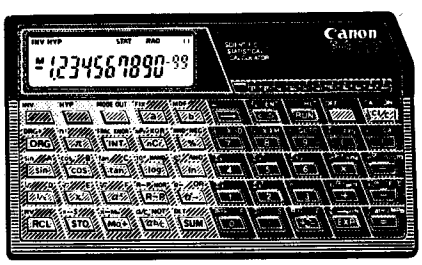
F-800P Programmable Scientific Calculator

Canon



Canon's top-of-the-line, with 149 advanced scientific, statistical and math functions. Algebraic operating system with 10 memories and 15 levels of parentheses, hexadecimal/octal/decimal modes, 149-step programmability.

Tough, compact case stands up to everyday professional and student use. Batteries, manual included.

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TI-36 Solar

TEXAS INSTRUMENTS

All 89 functions for the high school or college student, including science, trig, and 1-variable statistics.

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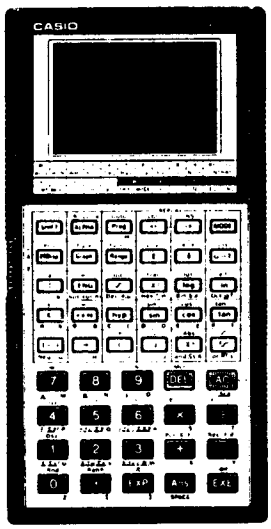
Casio Graphic Computer fx-7000G fx-8000G and 8500G for Science and Business

Casio



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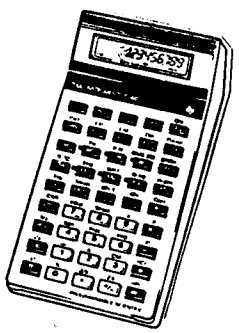
Calculator batteries, stands & cases— see pp 13-15

TI-60 Programmable Scientific Calculator

TEXAS INSTRUMENTS



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124 scientific functions and 84 programming steps eliminate repetitive keystrokes to get you to the solution faster. Quick-reference guide and comprehensive guidebook included.

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Scientific Calculators

TI-30 STAT Scientific Calculator

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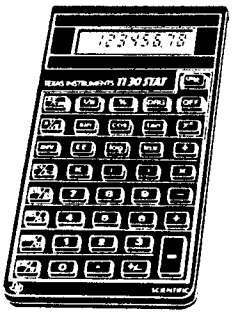

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52 functions, including factorials, powers, roots, logs and trig in degrees, radians and grads; 1-variable statistics including mean, variance and standard deviation for both sample and population data. 4-key Constant, Memory retains numbers when unit is off.

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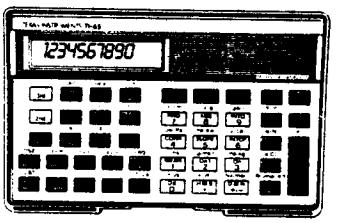

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Easy keystroke programmability lets you enter up to 100 program steps, with 16 interchangeable user memories, for your repetitive calculations (including looping, branching, subroutines and decision making).

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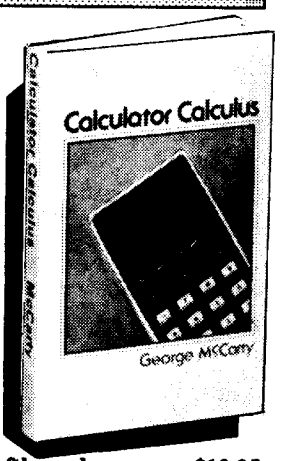
Calculator batteries, stands & cases—see pp 13-15

Calculator Calculus

by George McCarty



Shows you exactly how, step-by-step, to do real math on your scientific calculator—in just a few days. Ideal for self-study. Plenty of worked-out examples, simple exercises, and practical problems, from the biological, social and physical sciences. Plus important numerical techniques.

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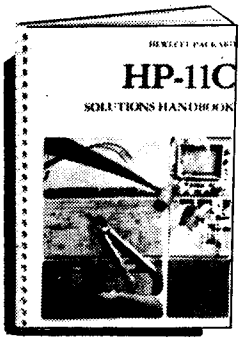
HP-11C Solutions Hand Book

HEWLETT PACKARD



Helps you get the most from your calculator, with real-world problems (plus a few good games). The math programs include coordinate transformations, differential equations, complex operations, and more. Statistics programs, t and F distributions, ANOVA, and more.

EE programs include ladder networks and Smith Chart Conversions. Other chapters cover Mechanical Engineering, Chemistry, Economic Analysis, Surveying, and Games.

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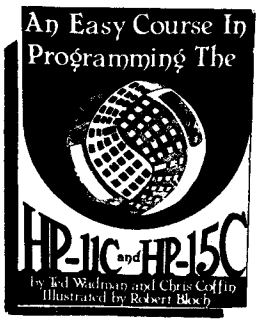
An Easy Course in Programming the HP-11C and HP-15C

by Wadman/Coffin



Jargon-free! A relaxed, self-paced course from two former HP support engineers. Their conversational style makes learning-to-program enjoyable, not intimidating, so you'll get new skills quickly and have fun doing it.

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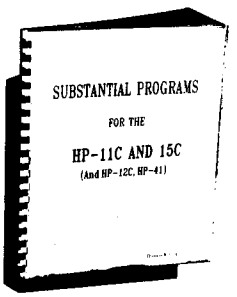
by Thomas Beers



Want a Parabolic Fit or Multiple Regression coefficients? Confidence Interval estimates from stratified samples? Time Value of Money functions and Amortization Schedules?

You can have them all on your 11C or 15C, plus several Forestry and Surveying programs as well. Each program is fully described with a background discussion, formulas and worked-out examples. The financial programs are also given in HP-41 versions, with barcode.

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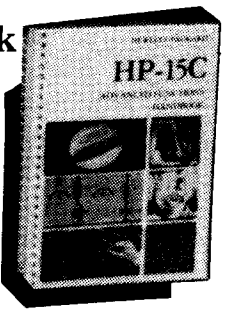
HP-15C Advanced Functions Handbook



Continues where the *Owner's Handbook* leaves off—tells you how your 15C performs its advanced functions and how to interpret their results. There's a whole section on using SOLVE effectively; another that shows you just how to work with the Numerical Integration key-function.

A third section covers calculation in the Complex Mode and shows you how to use SOLVE and to integrate complex functions with example applications. Section 4 fully describes Matrix Operations, with some application programs (like least-squares and eigenvalues/vectors) that you might use later.

The appendix thoughtfully surveys accuracy and error analysis.

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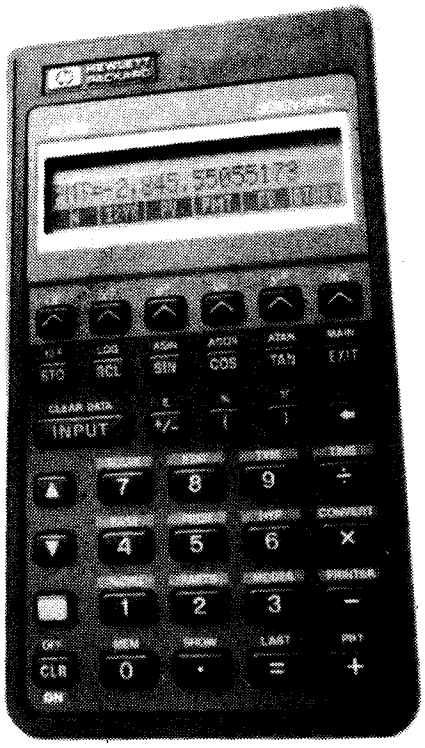
Scientific Calculators

HP-27S

Algebraic



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Coordinate transformations
Base conversions, arithmetic

☐ **Finance**
Time value of money
Amortization with table printout
Percent change

HEWLETT PACKARD

☐ **Statistics**
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Number lists; edit, sort, store
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☐ **Algebraic Entry System with Menus and Softkeys for Easy-to-Use Power**
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☐ **HP SOLVE—enter custom equations without programming**
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With one powerful calculator, you can handle the technical aspects of your profession, as well as the financial analyses of your position. Use logarithms, hyperbolics, trigonometry, base conversions and arithmetic. Then move easily into time value of money, amortization, and calculations involving days and dates.

You'll find yourself as well prepared for a session with the controller as with the R & D team. An essential tool for the technical manager.

Statistics, forecasting and curve fitting have never been so easy. Your data is kept in lists so it's easy to review and edit anytime the situation changes. And you can store any number of lists in the 6.7K bytes of memory available to you. Work with one- or two-variable statistics, four different models for curve fitting; keep running totals as you go.

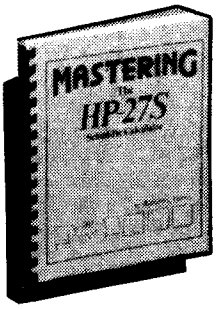
Any excuses for being late go right out the window with up to 10 alarms to remind you of pending appointments. You'll be sure of being in the right place at the right time.

No more conversion tables, either. Push one key to switch between any of four number bases, then go on with your arithmetic operations. Manual, batteries, soft case included; 1 yr warranty.

Stock #HP-27S [Scl/Business Calculator] List $110..... ~~$84.95~~ $69.95

Calculator batteries, stands & cases—see pp 13-15

Mastering the HP-27S
by Richard Harvey



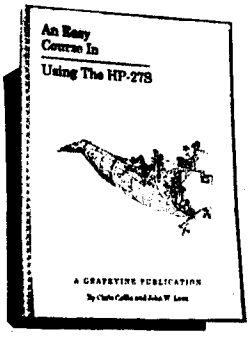
Shows you how to get the job done—quickly and practically!

For instance, you may well want more support for **Solver**, so Harvey makes it clear, in plain English—you'll learn to use Stat lists in Solver, logical operations, S (Solve for), looping, precedence, and other powerful features just hinted at in your owner's manual.

Not just a how-to book, either—you'll keep this one close at hand as a ready reference for all HP-27S functions and operations.

Stock #27-623, Mastering HP-27, 110p combbnd, List $18.... $15.95

An Easy Course in Using the HP-27S
from Grapevine



A clear, straightforward explanation of your 27S. It's written in Grapevine's friendly style, so it's easy to understand, right from the first.

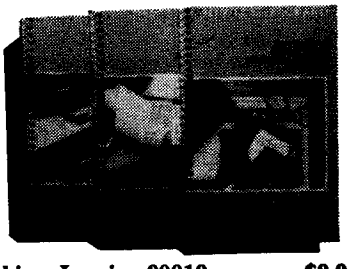
This Easy Course starts with the basics, with lessons on keyboard operation, arithmetic and how to move through a menu. Next it explains the built-in equation-solver (including all its 'smart' features). Then you'll put it all together in a series of commonly encountered, practical problems (with complete solutions).

You'll also get extensive training in personal finance using the TVM (Time Value of Money) menu, including concepts and methods of financial analysis.

Includes clear diagrams and explicit examples.

Stock #27-542, 27S Easy Course 92236C, List $23 ..... $21.95

Step-by-Step Solution Books for the HP-27S



Books for Business

Stock #HP-544, Real Estate, Banking, Leasing 90019..... $9.95
Stock #HP-545, Business, Finance, Accounting 90020..... $9.95
Stock #HP-546, Marketing, Sales 90021..... $9.95
Stock #HP-547, Personal Invest, Tax Plan 90022..... $9.95

Advanced Technical Solutions using HP Solve

Learn 2 new SOLVE functions, perform numerical differentiation and integration, carry out complex number functions and vector operations, find GCDs and LCMs, perform geometry functions, series expansions, matrix operations, factors and primes, and coordinate transformations.

Stock #HP-548, Technical Applications 90044..... $9.95

From a recent winner of EduCALC's Free Calculator drawing—

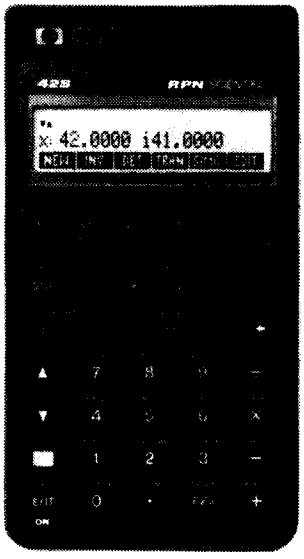
"I am overwhelmed, flabbergasted, excited . . . Thank you so much for the 15C. I will enjoy it and enjoy learning its capabilities. A quick thumb of 'Enter' says that it too will be fun to read and useful in my tutoring.

Thank you again for 'making my day'." R. A. Sturley, Kirkville, NY

HP-42S Scientific Calculator

The New World Standard
Engineered for the Engineer
SuperFast RPN Scientific

HEWLETT PACKARD



- **Shirt-pocket power**—more than 600 functions built into 64K ROM, 7.2K of user's RAM, 2 line×22 character display shows inputs or results right above English menus, prompts and label keys. 12 digit precision with exponents up to E499. Infrared signals to printer or PC. 5.6×3×0.5 inches thick, 5 oz.
- **Exceptional matrix entry and editing**—with more matrix and vector operations than any other calculator. They are fast— to enter and edit, fast to run.
- **Complex and real numbers**—work together and interchangeably. This is the only calculator that labels the complex element, so you won't need to keep track of it.
- **Solves, integrates, converts bases** — and it gives polar answers directly, without converting to rectangular mode first.
- **Statistics and forecasting**—with 4 curve fits and automatic best fit. 2-variable list and cumulative statistics with weighted mean.
- **Full HP-41CV program compatibility**—every one of the thousands that are available may be keyed in to run as-is in your new calculator, but up to 10 times faster! Of course, you can enhance these programs to use the powerful features of the HP-42S, like softkeys and menus, and the HP SmartCatalog will file them in order and scroll them for you at a keystroke.
- **Traditional HP reliability**—with gold-plated PC-boards and rigorous test procedures . . . high performance engineering that will serve you for years. 1 year warranty transfers if you sell it or give it away.

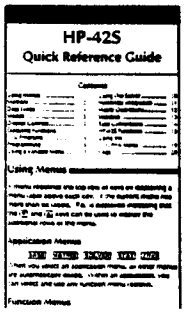
Stock #HP-42S [RPN Scientific Calculator] List $120.....$89.95

Calculator batteries, stands & cases—see pp 13-15
InfraRed Printer, see page 19
Hook-uP to your PC, see page 43.

Solution Books for your HP-42S
Step-by-step examples and programs

Stock #42-2016, Electrical Engineering.....$9.95
Stock #42-2015, Mechanical Engineering.....$9.95

HP-42S Quick Reference Guide
by Dex Smith



Super-concise summary that fits right in your instrument case—

- ▸using menus
- ▸variables/registers
- ▸data types
- ▸modes and flags
- ▸simple programming
- ▸using variable menus
- ▸numerical integration
- ▸matrix operations
- ▸executing functions/programs
- ▸statistics
- ▸base conversions
- ▸the solver

Stock #42-2064, 42 Quick Ref (92222E), 20p softbound.....$4.95

HP-42S
Surveying Solutions
from D'Zign

Brand New

- You'll like these FRIENDLY programs—written just for the surveyor.
- You'll access all of your HP-42S MEMORY and use all of its SPEED—with programs written just for it.

Point-storage traverse stores 200+ pairs of coordinates, handles sideshots and inverses and can interface to intersection solutions program. Run your traverse in any form—its all MENU-PROMPTED. Input is single-key, output can be azimuth or bearing.

Traverse adjustment by either COMPASS or TRANSIT method—also inverses between the points as it adjusts them for a complete listing of traverse.

Layout inversing for spraying in points .

No more decimal degrees — you add/sub/mult/divide or do trig functions in degrees/min/sec without converting.

Optional programs included for Coordinate Transformation, Predetermined Areas, Bearing/Azimuth and Azimuth/Bearing conversions.

You'll be able to dump your coordinate listings automatically, to an InfraRed printer (or to a PC via Hook-uP software).

Stock #42-2173, 42S Survey Solutions, 86p softbound $15.95

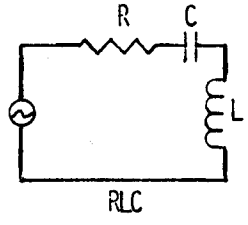
An Easy Course in Using the HP-42S
from Grapevine

Straightforward help! Easy to understand—even the type is oversize. You'll start with the basics of your HP-42S and work your way up to some of the most complex features. An ample supply of examples, diagrams and layman's language will keep up your interest as well as your understanding.

Stock #2181, Easy Course/HP-42S, 250p spiralbound $21.95

Advanced Circuit Analysis with the HP-42S
by Robert Boyd

New



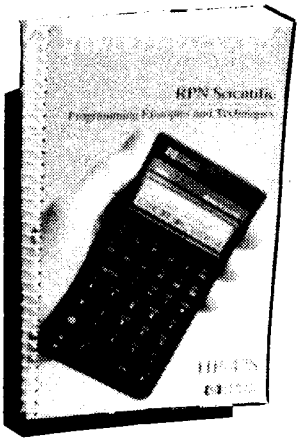
Programs with listings, examples and discussions show you **how to analyze circuits with the full power of your HP-42S.**

Boyd's unique new method handles higher order or non-linear problems and circuits with dependent sources, even when the coefficient matrixes are not symmetric. Some of the programs here will work on the HP-28S, the HP-41/Advantage Pac and HP-71/Math Pac, as well as other computers that handle complex matrices with double precision.

Stock #42-2146, 42S Circuit Analysis, 57p softbound $9.95

Programming Examples and Techniques

HEWLETT PACKARD



The serious programmer's option — examples to help you master many advanced uses of menus, labels, prompts and variables, so you can put them right to work in your own programs.

Lots of advanced techniques, too, so you can get the most out of your instrument's solver, integrator, matrix, statistics, plotting and graphics routines. Includes easy-to-load Time Value of Money routines that make it into a **menu-driven financial calculator!**

Stock #42-2065, Prgrmng Examples, 234p spiralbnd.....$9.95

HP-28S Scientific Calculator

The Unexpected HP-28S Is This Your Next Calculator?

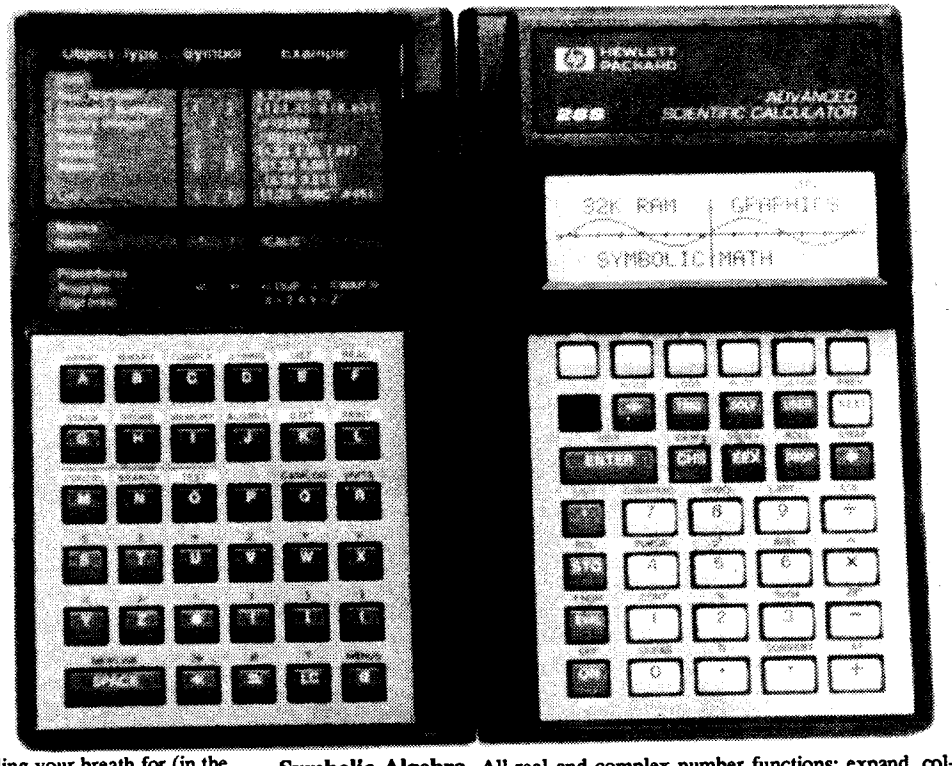
NOW—New model 28S has giant 28K RAM memory. Plus enhanced memory management, graphics, and programming support, and it's 56% faster!

SEPARATE KEYBOARDS

ON-SCREEN Menus and SOFTKEYS

PROGRAMMABILITY

SYMBOLIC ALGEBRA, even SYMBOLIC CALCULUS



If you're at all like us, this is what you've been holding your breath for (in the calculator direction, of course). Just a few years back, calculators were exciting. Maybe once a year there was a new model that could do startlingly more. Not recently, however.

Now here's our next tantalizing toy and technical tool. We haven't got room here to do it justice, there are so many interesting features and specs for it. We'll sketch it for you, though . . .

You'll have ON-SCREEN MENUS and SOFTKEYS, just like a PC—sensible access to hundreds of functions (128K ROM and 32K RAM!) and high-level problem solving. Gamma function, random numbers, . . .

Complex numbers, matrices, vectors, lists, and algebraic expressions can be viewed, edited, and then used in calculations just as easily as ordinary numbers. Dot and cross products, determinant, . . .

You can choose RPN LOGIC for calculations OR use the built-in ALGEBRAIC LOGIC—with RPN its 4-line display shows your stack OR you'll see your equation displayed just as you would write it. You choose.

You'll do no programming to get solutions, either—it will solve for any unknown variable anywhere in your equation.

It will convert between different unit systems, too. The values of 120 units are built-in, and you can add your own. Are you ready for all this right now?

You'll use SEPARATE KEYBOARDS, the right hand one for NUMBERS and the left for LETTERS. Later, you can fold it to pop into your shirt pocket.

You can plot graphs of your functions, even two at a time. Then place the cursor near where the graphs cross and press a key to calculate the x-value of the crossing, correct to 12 digits. We were amazed.

Scatter plots of your statistical data are easy too. Imagine showing all this to your colleagues!

Plotting. Plot mathematical functions and statistical data; set plot scales, axes, and center; display graphics.

Statistics. Single- or multi-variable statistics: summation, deletion, mean, standard deviation, total, maximum, minimum, variance, covariance, correlation. Linear regression and predicted value. Normal, Students t, F, and Chi-square distributions.

A major leap in technology—you'll do SYMBOLIC ALGEBRA, even SYMBOLIC CALCULUS. You'll manipulate unknowns and letters as well as numbers, even differentiate functions to get their derivative functions. This is the first small machine capable of doing symbolic mathematics, and it can be yours right now.

Symbolic Algebra. All real and complex number functions; expand, collect terms; expression editor; subexpression recall and substitution, symbolic solve; quadratic equations.

Calculus. Symbolic differentiation of arbitrary expressions; symbolic integration of polynomials; numerical integration of arbitrary expressions; Taylor series.

Programmability—You can use all of the built-in functions with your own menus and softkeys, plus sophisticated utilities.

Binary Integer Operations. Decimal, octal, hexadecimal, and binary bases; arithmetic; variable wordsize; bit shift and rotate, byte shift and rotate, arithmetic shift; logical operators; floating-point/integer conversion.

Programming Features. User-defined functions, local variables, indefinite nesting and recursion, IF . . . THEN . . . ELSE, FOR . . .NEXT, DO . . . UNTIL, WHILE . . .REPEAT; halt, continue, abort, single-step, pause, read key, beep, display, error message, error number; set/clear/test 64 user flags; conditionals, logical operators; object type.

New Features for the 28S—hierarchical directories for your own custom menus and input menus. Program support includes automatic spacing of arithmetic operators, program formatting, and error messages which identify commands. Number list arguments are automatically evaluated and arrays and lists can be symbolically addressed.

Additional argument types. POS, +, AND, OR, NOT, XOR, CROSS, PRVAR, RND.

But you can't see the best part—Your HP-28S comes with a built-in InfraRed Printer Interface. This means no wires or cables to your portable thermal printer—just point your 28S at it and press a key for an instant record. Get your printer now or later—your choice.

The HP-28S lists for $235. It will be the world's standard for years to come. You're sure to get one sooner or later. Why not now? We have them in stock, and we'll give you a discount savings of $59 now.

Hewlett-Packard has been the choice of engineers and scientists for the past 15 years, ever since the introduction of the HP-35. HP is simply the best. Yours will last you for years to come.

It comes fully supported with its 336 page *Owners Manual* and its 352 page *Reference Manual* (which has a complete dictionary of all functions), and batteries. 1 yr warranty.

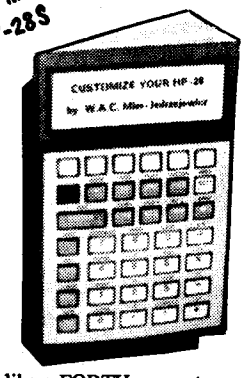
Stock #HP-28S [Sci/Professional Calculator] List $235 ..... $175.95

Calculator batteries, stands & cases—see pp 13-15

HP-28S Scientific Calculator

Customize your HP-28
2nd edition

by Wlodek Mier-Jedrzejowicz *Revised to include the HP-28S*



Make your 28 behave exactly the way you want it to. Here you get information and ideas that are not in the manuals.

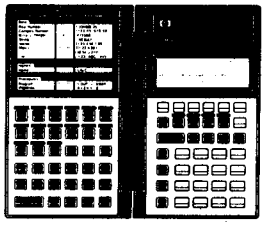
The first 2 chapters show you how to do some fairly simple things, like setting modes and creating variables. Chapter 3 gives ways to use the special instruction SYSEVAL.

You'll learn about **machine-language programming** in Chapter 4—so you can really take control. A final chapter shows you exactly how to customize by **modifying the hardware.** Appendices discuss differences between HP-28 models.

Now you'll be able to make your HP-28 act more like a FORTH computer or else more like an HP-41.

Stock #28-557A, Customize your HP-28, 100p softbound.....$16.95

Advanced Circuit Analysis with the HP-28S
by Robert Boyd

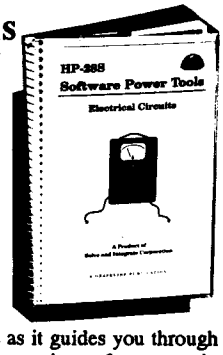


Programs with listings, examples and discussions show you **how to analyze circuits with the full power of your HP-28S.**

Boyd's unique new method handles higher order or non-linear problems and circuits with dependent sources, even when the coefficient matrices are not symmetric. Some of the programs here will work on the HP-42S, the HP-41/Advantage Pac and HP-71/Math Pac, as well as other computers that handle complex matrices with double precision.

Stock #28-2063S, 28 Circuit Analysis, 47p sftbnd.....$9.95

HP-28S Software Power Tools Electrical Circuits
by Grapevine *Brand New*



Analyze steady-state AC circuits with your HP-28S complex-matrix-crunching power!

Do mesh or nodal analysis, constant general network and ladders, build friendly, easy-to-edit descriptions of your circuits. Then vary the source frequencies and plot results, either right on your display or with an IR printer.

It's easy—this book teaches you about your machine as it guides you through its powerful software—every routine is explained, every piece of program is documented (including memory diagrams).

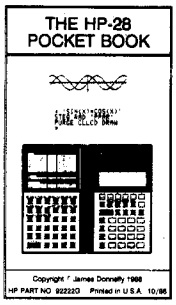
Stock #28-2117, 28S Electrical Circuits, 249p spiralbnd.....$17.95

HP Step-by-Step Books for the HP-28S and HP-28C
HEWLETT PACKARD

Let experts help you set up your calculations so you can work with them most easily. These professional references include practical routines and tips for getting the most from the Built-in Menus as well as setting up Personal Menus for your specific profession. Order the ones that fit your work:

Stock #28-603, Algebra & College Math 90101.....$9.95
Stock #28-604, Vectors & Matrices 90105.....$9.95
Stock #28-605, Calculus 90102.....$9.95
Stock #28-606, Probability & Statistics 90104.....$9.95
Stock #28-607, Math Applications 90111.....$9.95

HP-28 Pocket Book
by James Donnelly *Brand New*

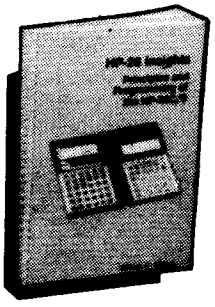


All the help and reference you'll want to have along with you—fits right in your instrument's case.

Has lists of object types, escape sequences, reserved names, unit prefixes, errors, flags, commands, much more.

Stock #28-2061, 28 Pocket Guide, 40p softbound.....$6.95

HP-28 Insights
by William Wickes



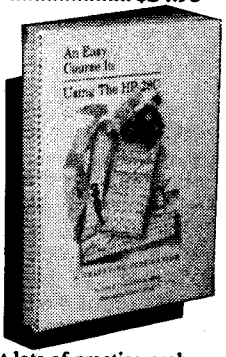
Guide to Understanding, Applying and Programming the HP-28C and HP-28S

If you want to do serious programming on the HP-28, you'll find this indispensable. It contains over 100 programs, with more than half the book applicable to programming.

Introductory chapters cover History, RPN, Objects and Execution, the Stack, Variables, and Problem Solving. Next you'll learn about the Solver, User-Defined Functions and Symbolic Math. Then you go to work on Program Development, Arrays and Lists, and Plotting.

Stock #28-616, HP-28 Insights, 340p wirebound.....$24.95

An Easy Course Using the HP-28S
by Grapevine



Looking for a clear, straightforward explanation of the powerful HP-28S? This is your book! It carefully inspects all the wonderful features of this machine, giving you the pictures and practice you'll need to make the HP-28S your favorite calculating tool.

First, several chapters bring you up to speed on the mechanics of operation, and show you exactly which keys you need to control and command the display, the stack, and the menus. You'll get lots of practice problems and explanations designed to train your fingers for action.

Then you go straight to the heart of the machine, explore all the different information `objects' and how you can manipulate them, combine them, name them and (best of all) think about them. You'll see how HP's well-known stack-oriented arithmetic becomes the engine behind all this math power, and soon you'll be harnessing it for yourself!

Then in brief separate discussions, this Easy Course touches upon specialized topics such as symbolic algebra and calculus, plotting, and programming.

It's all in Grapevine's familiar `Easy Course' format, with Robert Bloch's illustrations—a book designed to let you work at your own speed (and your own speed will soon amaze you)! It's always a pleasant surprise that learning about a calculator can be this satisfying—it can be, when the right explanations transform a mysterious machine into a friendly and powerful tool.

Stock #28-532D, HP-28S Easy Course 92236D, List $23.....$21.95

28S Classroom Display
Brand New

Firmware Corp

Project HP-28S calculations and graphics with a standard overhead projector—this modified calculator has its display transparent from the rear—it's expensive, and it won't fit in your pocket, but it will do the job for you and your institution. Order a complete description.

Stock #28-2179LIT, Classroom Display literature.....Free

HP-41 Calculators

Here's where you find...

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Memory Modules	44
Application Pacs	45
Combined Modules	49
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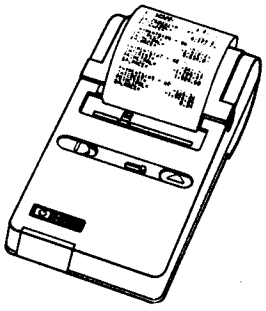
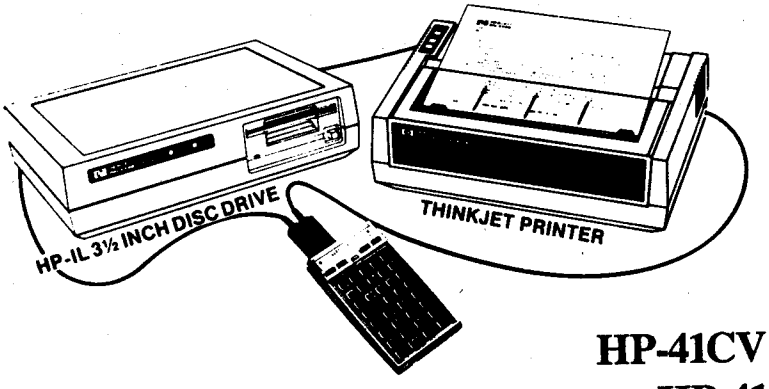
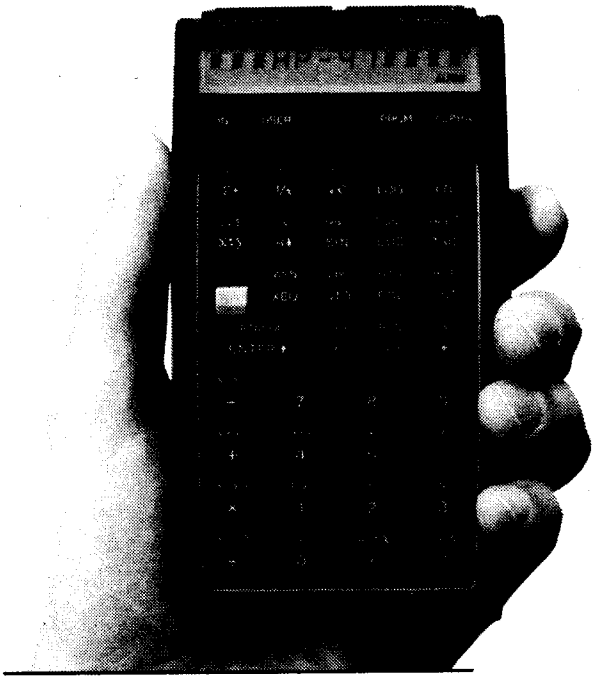
Synthetic Programming	54



HEWLETT PACKARD





HP-41CV
HP-41CX

ABSOLUTELY the WORLD'S BEST, the HP-41—standard for the leaders in each scientific profession, coveted by the smartest students.

Faster than a mainframe for your everyday problems, with keyboard simplicity, the easy logic of RPN, and the precision of 10 quick digits—the HP-41 actually guides you to your solution.

- **Big Main Memory:** 319 data registers or 2233 bytes of program and data memory.
- **Additional Memory:** 124 registers or 868 bytes of 'expanded' memory built-in (optional for the CV with Extended Function/Memory Module).
- **Even that is Expandable:** plug in 1 or 2 Extended Memory Modules— each will increase your memory by 238 registers or 1666 bytes—the possible grand total (for all models) is 919 registers or 6433 bytes!
- **24K Operating System:** 200 built-in functions at your fingertips (12K system with 128 functions in model CV, expandable to 24K with Extended Functions/Memory Module).
- **It is a Clock, Calendar, Alarm, Timer, and Stopwatch:** your HP-41 can become the heart of a time-based system controller (optional with Time Module for model CV).
- **Continuous Memory:** programs and data are remembered while your unit is OFF—no need to reprogram it.
- **Lots of Software for Your Profession:** there are many Application Pacs **right now**—for math, science, engineering, business and finance, surveying, navigation, etc. See below in this catalog. Plus magnetic cards, cassettes and bar codes to load many other programs, including over 6000 in the Users' Library.
- **4 Quick and Easy I/O Ports:** just plug in ROM software modules, memory modules, interfacing and more.
- **Take it with you, Anywhere:** it's only 205 g (7.2 oz.). With its LCD display you'll get about 6 months use from a set of alkaline batteries which are included (rechargeable batteries optional).
- **RPN Logic:** you see intermediate results of calculations, recover from errors easily.
- **ALPHANUMERIC, User-Definable Keyboard:** assign your own programs to any key—use ordinary words for prompts and labels.
- **Full Documentation to HP Standards of Excellence:** complete, readable manuals and handy quick-reference guides included.
- **You Get the Whole Kit:** tough carrying case, 4 alkaline batteries, keyboard overlay, Users' Library subscription card, Owner's Handbook included.

Stock #HP-41CV, List $175 ..... $129.95
Stock #HP-41CX, List $249 ..... $179.95

EduCALC Technical Notes

By Richard Nelson

Have a technical question? We may have the answer all ready for you — send us a 25 cent stamp for each stock number you request:

Stock #TN1, HP-41CV or HP-41CX?
Stock #TN2, HP-28C or HP-41CX?
Stock #TN3, HP-41 Printers. What are the choices?
Stock #TN4, Adding More Memory to My HP-71.
Stock #TN5, Adding More Memory to My HP-41.
Stock #TN6, Combining HP-41 Modules to Save Ports.
Stock #TN7, HP-41 Speed Ups. Worth the cost?
Stock #TN8, Advanced User Products.
Stock #TN9, HP-41 Power Sources.
Stock #TN10, HP-41 EPROMs
Stock #TN11, Video Monitors and Handheld Calculators
Stock #TN12, Connect PCs & HP Handhelds via HP-ILs.
Stock #TN13, Programming 'Languages' on the HP-41.
Stock #TN14, Static Electricity and my Calculator.
Stock #TN17, HP-41 MCODE Programming.
Stock #TN18, Off-Line Storage for my HP-41.
Stock #TN19, HP-41 Glossary of Terms.
Stock #TN20, Factoring Large Numbers on the HP-16.
Stock #TN22, What is HP-IL?
Stock #TN23, Calculating with Fractions
Stock #TN24, Synthetic Programming on the HP-42S
Stock #TN25, Currency Conversions on HP-12C
Stock #TN26, Swap Disc Service Description and Details

Calculator batteries, stands & cases—see pp 13-15

HP-41 Peripherals

InfraRed Printer for your HP-17, 18, 19, 27, 28, 41 with IR Module or HP-42

HEWLETT PACKARD

Get It Down on Paper

The Business Consultant II has a silent partner that prints your calculations and results. It's a thermal strip printer that operates on an AC adapter or four AA alkaline batteries (included) for go-anywhere portability.

An Invisible Connection

Printer connection cords have been replaced by an invisible infrared beam from the Business Consultant II. It's the only link required for your printing needs.

You have plenty of leeway—up to a foot and a half—to put the printer where it's most convenient for you Just point the Business Consultant II at it and push [PRINTER]. No cords to tangle with..

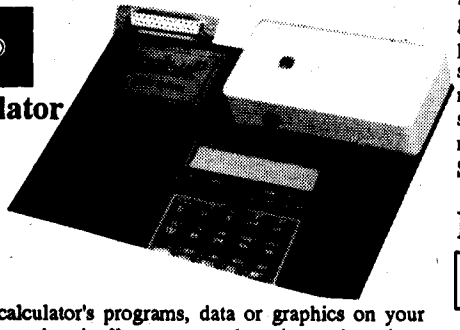
Print speed with fully-charged batteries is just a shade over a half second per 24-character line. By putting the printer in TRACE mode, you can print out a complete record of the numbers you've used in your calculations, as well as your results. Or print selectively and provide clients with copies of quotes, amortization tables or itemized lists.

Stock #82240 [InfraRed Printer] List $135 ..... $105.95
Stock #82241 [AC Adapter for IR Printer] $14.95
Stock #82175 [Printer Paper, black, 6 rolls] $9.95
Stock #82175B [Printer Paper, black, 2 rolls] $3.95
Stock #AA [Batteries, Printer uses 4] ..... each $.85
Stock #92169G [Cover, black] $22.95
Stock #92169H [Cover, brown] $22.95
Stock #92169J [Cover, burgundy] $22.95

Hook-uP

Rush Systems

Interface your InfraRed HP-calculator to your PC!



Rush Systems

Now you can display your calculator's programs, data or graphics on your computer's monitor, so you can review it all at once or show it to others (at a meeting or in class).

You can also file the calculator output on floppy or hard disc for permanent storage or mailing. Use your calculator to gather and analyze data, then use the computer to store it or manipulate it in a database or spreadsheet.

Accepts IR output from the HP-17B, 18C, 19B, 27S, 28C, 28S, HP-42S or HP-41 with IR Module. DB25 female plug attaches to your PC's serial port (COM1 or COM2). Requires DOS 2.0 or later, any printer to print text; Epson or IBM graphics printer or graphics display optional for graphics output of 19B, 28C or 28S. Manual and software included. Graphics output requires CGA or compatible card.

Stock #41-896 [Hook-uP, 5¼"] List $95 ..... $84.95
Stock #41-896A [Hook-uP, 3½"] List $95 ..... $84.95

Blank Mag Cards

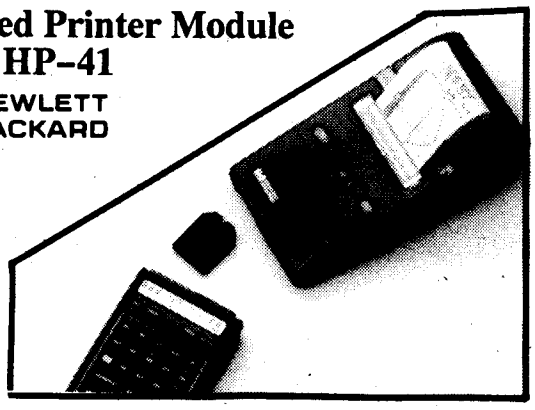
HEWLETT PACKARD

Without holders.

Stock #13141 [40 Magnetic Cards] $17.95
Stock #13143 [120 Magnetic Cards] $42.95

InfraRed Printer Module for the HP-41

HEWLETT PACKARD

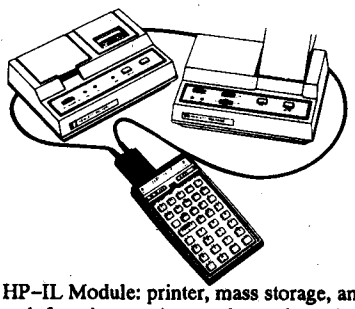


Print via infrared from your 41—this new module just plugs into your instrument. It protrudes about ¼ inch so it can flash printer commands to the 82240 printer. No cables—you merely point and push a button.

The 82240 printer can also be driven by the HP-17B, 19B, 27S and 28C. It is super-portable—small and battery powered, it will fit in a briefcase. This printer is inexpensive—yet it even does graphics, so now you'll be able to draw graphs with your 41 (see our printer description on page 14).

Stock #82242 [41 IR Printer Module] List $65 ..... $54.95

HP-IL Module



The HP-IL Interface Module plugs into any one of the four ports in the HP-41, connecting your handheld computer with an ever-growing family of HP-IL peripherals and instruments. The module gives your HP-41 control of up to 30 devices on the loop. There are three function sets supplied by the HP-IL Module: printer, mass storage, and general input/output (I/O). It includes such functions as Accumulate column into print buffer, List program lines, Print y-axis, Plot function interactively, Print stack, Remove stored file, Store program onto medium, Copy all storage registers into data file, Set interface to auto mode, Input status information from selected device, Set all devices to low power state, Trigger all devices set to respond and 43 more. Owner's Handbook included.

Stock #82160 (HP-IL Module) List $125 ..... $99.95

Mag CardHolder

Star Fleet

This unique soft plastic magnetic card holder with 40 individual slots will add organization to a cluttered world. If your collection of HP-41 mag cards is more than 10, this could be your best $2.50 investment.

Stock #41-524 [Magnetic Card Holder] $2.50

Mag Card Holder

HEWLETT PACKARD

Book style card holder from HP (like the one you got with your card reader). Holds 8 cards a page on 5 plastic pages; measures 3"×5½"×¼".

Stock #13142 [Mag Card Book] $4.25

HP-41 Mag Card Holder

Imtec

Fights chaos! Transparent plastic loose-leaf 8½"×11"sheet with 66 welded pockets for cards. Printed forms inside show which cards are out-of-file and where they go.

Stock #41-568 [HP-41 Card Sheet] $3.95

HP-41 Calculators

Batteries/Rechargers

NiCd Multi-Charger for N, AA, AAA and 9-volt size batteries

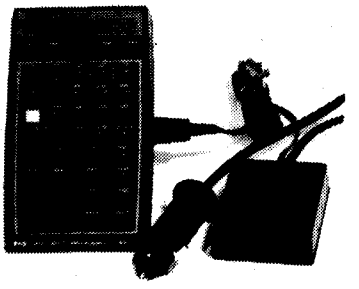
Leford Micro

Just think, in the thousands of hours of service from a NiCd (with 1000 recharges) you'll save hundreds of dollars over throw-aways. 5 year/1000 recharge warranty.

Protected against polarity reversal. 41-835 includes sleeve-adaptors for N-cells.

Stock #41-835 [Charger, Adapters, 4 NiCd N-cells] $25.95
Stock #41-738 [Charger; batteries/adapters not inc] $13.95
Stock #NAA [NiCd AA-cell] ..... each $2.95
Stock #41-836 [2 Sleeve-Adapters for N-cells] $2.50
Stock #N-NiCd [NiCd N-cell] ..... each $2.95
Stock #9VN [9v NiCd cell] $8.95

Cigarette-Lighter Adapter



S.O.S.

Power-up on the go! Replaces HP-82059 charger (except for RS-232 interface) to power the HP-41 or its printer, cassette drive, ThinkJet printer, or HP-110.

Stock #41-561 [12 VDC Adapter] List $39.95 .....$34.95

HP-41 SpeedUp Conversion Service

S.O.S.

Soup up your 41 to run at 170% of stock speed. Just send us your working HP-41—we'll return it in about 3 weeks with new muscle!

Switchable to standard speed for card reading. Conversion will void any remaining HP warranty—but S.O.S. warrants work on your used machine for 90 days or on your new one for one year.

Stock #41-840 [S.O.S. 41-Speedup] $46.95
Stock #41-840V (HP-41CV with SpeedUp) $174.95
Stock #41-840X (HP-41CX with SpeedUp) $224.95

Rechargeable Battery Pack and Recharger

HEWLETT PACKARD

The battery pack of 4 half size N Cells fits into your HP-41 and remains in your machine during recharging periods. The external recharger plugs into the pack through the tunnel cover on the side of the HP-41 and provides hundreds of recharges. The recharger fits other HP equipment.

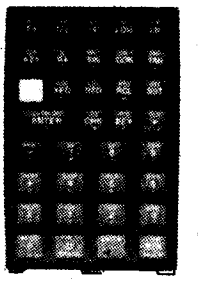
Stock #82120 [Rechargeable Battery Pack].....$32.95
Stock #82059 [Recharger].....$18.95

Thank your for your order

HP-41 Accessories

Touchpad Keyboard Overlay

HEWLETT PACKARD

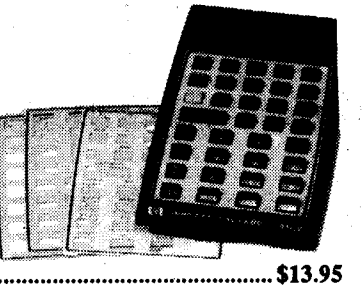


It will keep your HP-41 safe from coffee or other problem liquids or particles. This plastic membrane snaps into place over the keyboard. All of the button nomenclature has been reproduced on it.

Stock #82200 [Touchpad] List $20.....$18.95

Overlay Kit

HEWLETT PACKARD

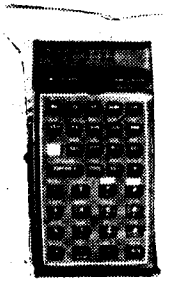


Perfect for programmers in the process of developing new programs. Has three blank plastic overlays and one with standard nomenclature. A pressure sensitive sheet of terms as well as blank spaces that may be positioned on the overlay are also included.

Stock #82152 [Overlay Kit] $13.95
Stock #82172-5 [5 Blank Overlays] $6.50
Stock #82172 [50 Blank Overlays] $54.95

Protector for HP-41 Calculators

NEW Anti-Static Version



COMP-U-BAG

Zip out dirt and moisture—you can use your calculator right in the oil field (or the pillow fight) if it's in one of these flexible, transparent bags (not sealed against pressure); used daily, each bag will last a couple months. Fits into leather field cases, with easy access to plug-in ports.

Stock #41-543 [Comp-U-Bag] List $2.50 .....$2.25
Stock #41-543T [10 Comp-U-Bags] List $25 .....$20.00
Stock #41-543A [Anti-Static Bag] List $3.50.....$2.75
Stock #41-543R [41 + RAM box Anti-Stat Bag] List $3.50 .....$2.75

Memory Modules

More Memory For Your HP-41

Do you ever run out of memory—and have to discard programs and data you want to save? Why not exploit the fantastic potential of your HP-41—get yourself the freedom of enough space, NOW!

Extended Functions for the HP-41CV or HP-41C Quad

HEWLETT PACKARD

Plug in the Extended Functions/Memory Module (EFM) to get 868 more bytes of memory—plus many new functions you can call on, such as: Clear all key assignments, Delete named program and all following it, Restore flag status, Create data file, Directory of extended memory files, Replace last program in main memory, Purge file, Copy text file to mass storage—38 in all. Owner's Manual included.

Stock #82180 [Ext Funct/Mem Module] List $75 .....$63.75

Memory Modules continued

Extended Memory
for the HP-41CX or HP-41CV/EFM or HP-41C/EFM

Plug in 1 or 2 Extended Memory Modules—each module adds 238 registers or 1666 bytes to your machine. With both added you'll have a grand total memory space of 6433 bytes, including 4200 bytes of extended memory.

Stock #82181 [Extended Memory Module] List $75.....$63.75

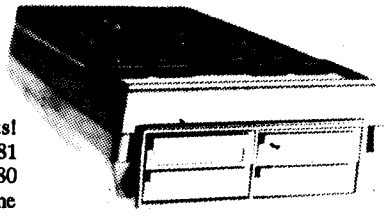
Double Extended Memory Module
for the HP-41 CX or HP-41CV/EFM or HP-41C

S.O.S.

Use only one port — this single module contains two 82181 Extended Memories, so you'll save a port for other uses. Guaranteed 1 yr by S.O.S.

Stock #41-600 [Double X Mem Module] List $185 .....$149.95

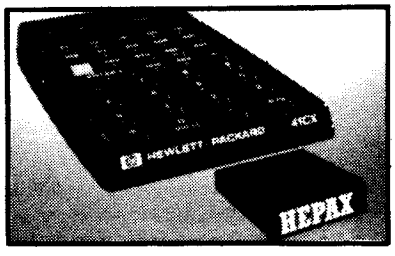
Triple Module–Double X Memory Plus X Functions
for the HP-41CV or HP-41C/Quad



Use only one port—you save two ports! This single module contains two 82181 Extended Memories plus one 82180 Extended Functions. Guaranteed one year by SOS.

Stock #41-601 [Triple Mod/Dbl X Mem] List $285.....$235.95

HEPAX Modules



Big RAM memory for your HP-41—each model of Hepax is a standard-size module containing 8K or 16K of RAM. You can store your own programs and/or data in it and use it just like an HP Application Module

Two models of Hepax contain, along with their RAM, a 16K ROM full of support functions (including equivalents to all the file-handling functions of the Extended Functions Module). Advanced functions include a powerful tool for disassembling HP-41 machine language, a hexadecimal editor so you can write your own functions in machine language, and a way to transfer whole 4K blocks of Hepax memory to/from mass storage.

'Memory lost' cannot affect your Hepax Module and programs in it can be write-protected—data is maintained as long as the module is in your instrument.

Comes with a 100p manual. You can use 2 Hepaxs at once, and only one will need ROM functions. 1 year warranty.

Stock #41-895A [Hepax, ROM & 8K RAM] $219.95
Stock #41-895B [Hepax, ROM & 16K RAM] $279.95
Stock #41-895C [Hepax, 8K RAM only].....$169.95
Stock #41-895D [Hepax, 16 K RAM only].....$229.95

We guarantee everything we sell. You may return it to us within two weeks for a full refund, no questions asked.

Application Pacs with HP-41 Modules

Transform your HP-41 into a special-purpose machine, automatically programmed for your own needs. These Pacs contain tremendous new power. Simply plug the module in a port and in some cases install a keyboard overlay and you have hundreds of hours of proven programming at your finger-tips. It's all preprogrammed with every feature the experts could think of. Here are all the available Application Pacs, arranged by the subject areas they cover. Each comes complete with owner's manual.

Here's where you find . . .

General Interest	45
Math/Science	46
Engineering	46
Navigation/Surveying	47
Business/Finance	48
Utilities/Subroutines	48

General Interest

Horserace Handicapping Program

Profit Mgt Systems

Put yourself at a real advantage over other bettors. Speed Machine II tells you when and how to bet to maximize your return on every dollar — combines fractional and final race times to select the top 4 horses in each race and tells you under what circumstances and at what odds to make your bet.

Contains statistics on every thoroughbred and harness track in North America, and it can store data on 120 horses at once. Includes stop-watch (CX only) and Money-management functions.

Requires HP-41CV or -CX (or HP-41C with quad memory module). Plug-in module comes with keyboard overlay and manual.

Stock #41-533 (Speed Machine II Module) List $300..... $259.95

Games

HEWLETT PACKARD

Super Bagels ■ Biorythms ■ Craps ■ Hangman ■ Submarine Hunt ■ Random Number Generator ■ Pinball ■ Space War

Stock #15022 (Games Module)..... $42.95

Standard Applications

HEWLETT PACKARD

RPN Primer ■ Arithmetic Teacher ■ Word Guessing Games ■ Hexadecimal-Decimal Converter ■ Financial Calculations ■ Root Finder ■ Curve Fitting ■ Vector Operations ■ Blackjack ■ Calendar Functions

Stock #15001 (Standard Applications Module) $42.95

Home Management

HEWLETT PACKARD

Home Budgeting ■ Travel Expense Record ■ Stock Portfolio Evaluation ■ Your Financial Calculator ■ Remaining Balance and Accumulated Interest ■ Tax Free Individual Retirement Account (IRA) or Keogh Planning ■ The True Cost of an Insurance Policy ■ Checking Account Reconciliation ■ Home Owner's Equity Analysis ■ The Rent or Buy Decision

Stock #15023 (Home Management Module) $42.95

Time

HEWLETT PACKARD

The Time Module expands your HP-41 computing system with time information and time-controlled operations. Using the quartz-crystal controlled Time Module, your HP-41 can become the heart of a time-based system controller, an alarm clock, an appointment reminder, a calendar, a timer, even an advanced stopwatch. Already built into 41-CX. Owner's Manual included.

Stock #82182 (Time Module) List $75 ..... $63.75
Stock #90395, Time Module Solution Book $14.50

HP-41 Calculators

Application Pacs continued

Math/Science

Advantage

HEWLETT PACKARD

Real and Complex Matrix Operations ■ Simultaneous Equations on Real and Complex Numbers ■ Solve (roots of f(x)=0) and Integrate (similar to HP-15C) ■ 3-dimensional Vector Operations ■ Complex Number Operations ■ Number Base Conversions and Boolean Logic (similar to HP-16C) ■ Curve Fitting ■ Roots and Evaluation of Polynomial Equations ■ Differential Equations ■ Coordinate Transformations ■ Time Value of Money (similar to HP-12C) ■ User-Accessible Subroutines

Stock #15055 (Advantage Module) $42.95

AECROM

Redshift Software

- **Fast, accurate curve fitting:** chooses a best fit from 16 families of curves to fit your X-Y data.
- **Inverse hyperbolic functions:** ACOSH, ASINH and ATANH as well as SINH and TANH.
- **Fractional, decimal feet, decimal inch and metric modes:** programs execute in any mode; instant conversions, without special key assignments.
- **Creates programs to solve your equations:** you key in your equation and it writes the solution program, fast.
- **Many useful Display and Print utilities.**

Stock #41-700 (AECROM Module) List $97.50 ..... $89.95

Clinical Lab and Nuclear Medicine

HEWLETT PACKARD

Clinical Chemistry ■ Beer's Law ■ Body Surface Area ■ Creatinine Clearance ■ Blood Acid-Base Status ■ Oxygen Saturation and Content ■ Red Cell Indices

Nuclear Medicine ■ Total Blood Volume ■ Thyroid Uptake Radioactive Decay Corrections

Radioimmunoassay Statistics ■ Basic Statistics ■ Chi-Square Evaluation and Distribution ■ t Statistics ■ t Distribution

Stock #15024 (Clinical Lab/Nuclear Med Module) $42.95

Math/Statistics (Combined Pac)

HEWLETT PACKARD

Matrix Operations @Solutions to f(x)=0 on an Interval ■ PolynomialSolutions/Evaluation ■ Numerical Integration ■ Differential Equations ■ Fourier Series ■ Complex Operations ■ Hyperbolics ■ Triangle Solutions ■ Coordinate Transformations ■ Basic Statistics for Two Variables ■ Moments, Skewness and Kurtosis ■ Analysis of Variance (One Way) ■ Analysis of Variance (Two Way) ■ Analysis of Covariance (One Way) ■ Curve Fitting (Linear, Exponential, Logarithmic, and Power Curve) ■ Multiple Linear Regression ■ Polynomial Regression ■ t Statistics ■ Chi-Square Evaluation ■ Contingency Table ■ Spearman's Rank Correlation Coefficient ■ Normal and Inverse Normal Distribution ■ Chi-Square Distribution

Stock #15049 (Math/Statistics Module) $42.95

Engineering

Structural Analysis for Civil Engineers

HEWLETT PACKARD

Section Properties ■ Beams ■ Simply Supported Continuous Beams ■ Continuous Frame Analysis ■ Setting of Continuous Beams ■ Steel Column Formula ■ RPN Vector Calculator ■ Reinforced Concrete Beams ■ Reinforced Concrete Columns ■ Effective Moment of Inertia for Concrete Sections

Stock #15021 (Structural Analysis Module) $44.95

Stress Analysis for Mechanical Engineers

HEWLETT PACKARD

Section Properties ■ Beams ■ Simply Supported Continuous Beams ■ Columns ■ Mohr Circle Analysis ■ Soderberg's Equation for Fatigue ■ Strain Gage Data Reduction ■ RPN Vector Calculator

Stock #15027 (Stress Analysis Module) $42.95

Hydraulics Pac for the HP-41

Paul Munroe

This Program Module, Keyboard Overlay and 43p. User Manual converts your HP-41 into a powerful hydraulics engineering tool. Analyzes system design problems and then supplies solutions. Pays for itself in minutes for Engineering Sales or Service Personnel! It is a valuable learning tool, too, with English input prompts and output labels. 6 PRESSURE Programs (unit conversions, drop with flow, hose/pipe/tube sizing, fluid compression). 4 VOLUME Programs (unit conversion, liquid/gas change with temperature, accumulator sizing), 3 VISCOSITY Programs (conversions, valve/orifice sizing), 5 AREA Programs (cylinder area/sizing, single/double rod cylinder sizing, ram sizing), 6 ROTARY POWER Programs (hydrostatic/winch transmission sizing, pump bearing life, kw/hp conversion, pump hp), 4 TEMPERATURE Programs (unit conversions, change with throttling, gas-pressure change, heat-exchanger sizing). Descriptive literature available on request.

Stock #41-148 (Hydraulics Module) $99.95

Stock #41-148L, Hydraulics Module Literature ..... Free

HP-41 Civil Engineering

March Programming

Dirt Quantity and Longitudinal Profile Calculations, handheld where you need them, and fast. Drafts the slope of the cross sections and gives cut and fill volumes separately, announcing the end balance at each cross section. Gives differential elevations between natural ground and street section. Calculates (and drafts, if required) longitudinal profile of roads and highways.

Requires HP-41C. Works with English or Metric measurements.

Stock #41-815 (March CE Module) $99.95

Petroleum Fluids

HEWLETT PACKARD

Z-Factor ■ Gas Isothermal Compressibility ■ Gas Formation Volume Factor ■ Gas Viscosity ■ Pseudocritical Temperature and Pressure from Gas Gravity ■ Gas Properties from Composition ■ Oil Isothermal Compressibility ■ Oil Formation Volume Factor ■ Oil Viscosity ■ Gas-Oil Ratio ■ Bubble Point Pressure ■ Two-Phase Formation Volume Factor ■ Water Isothermal Compressibility ■ Water Formation Volume Factor ■ Water Viscosity ■ Gas-Water Ratio ■ Rock Compressibility ■ Total Isothermal Compressibility. Includes unit management systems subroutine.

Stock #15039 (Petroleum Fluids Module) $73.95

Circuit Analysis

HEWLETT PACKARD

General Network Analysis ■ Ladder Network Analysis

Stock #15006 (Circuit Analysis Module) $42.95

Machine Design

HEWLETT PACKARD

Circular Cams ■ Generation of a Four Bar Linkage ■ Progression of a Four Bar System ■ Forces ■ Standard External Involute Spur Gears ■ Helical Spring Design ■ Forced Oscillator with Arbitrary Function ■ Coordinate Transformation ■ Points on a Circle ■ Circle by Three Points ■ Unit Conversions

Stock #15020 (Machine Design Module) $42.95

Thermal and Transport Science

HEWLETT PACKARD

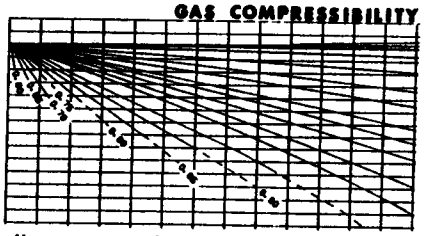
Equations of State ■ Polytropic Processes for an Ideal Gas ■ Isentropic Flow for Ideal Gases ■ Conduit Flow ■ Energy Equation for Steady Flow ■ Heat Exchanges ■ Black Body Thermal Radiation ■ Includes unit management system subroutines

Stock #15019 (Thermal and Transp Science Module) $42.95

Application Pacs continued
Engineering continued

Cv-PAK VALVE Sizing/Noise Module

Sale



Spectrum Design

Impress your clients with immediate answers to lengthy valve sizing and noise calculations evaluate alternatives by touching a button! Portable. Inexpensive.

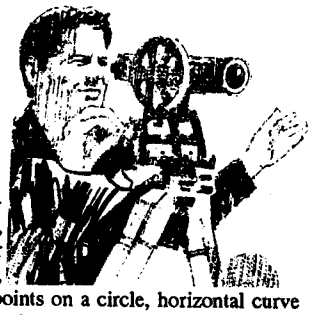
Cv-PAK is menu-driven with prompts in plain English using standard industry terminology. Solves for Cv, flow, pressure drop; gas/vapor/steam sizing — vol or weight flow; noise; outlet mach number; liquid sizing with flashing and cavitation warnings; MUCH MORE. Programs may be used as subroutines, too.

User's Manual with instructions, sample problems and reference tables; Quick Reference Card.

Stock #41-735 9Cv-PAK Module) List $275 ..... ~~$199.95~~ $129.95

Navigation/Surveying

KEYS Surveying Module



Fred McMichael

Access every routine with 1 or 2 key-strokes—no spelling out!

Traverse, inverse, B-B, B-D, D-D intersects, radial stakeout, rotation, sideshots, sideshot with elevations, offsets from a line or curve with stationing, offset intersections, slide line and swing line area cut off, three points on a circle, horizontal curve stakeout, curve solutions, point to point area and traverse-inverse area including curved sides, renumber, coordinate list, directions by point numbers, numerous automatic entries, coordinate prompting for unused points, contours, stake set, slope reduction, double angles and feet to meters conversion with optional output during side shots, hour angle sunshot using ephemeris, compass and advance compass traverse adjustment. Stores and manipulates multiple files.

Requires HP-41CX. Stores 62 points, or add an Extended Memory Module to store 181 points, or add two to store 300 points (or put 5000 points on disc or cassette).

Stock #41-901 (KEYS Surveying Module) List $200 ..... $189.95

HP-41 Astro* ROM2
Sun/Polaris/Stars Internal Ephemeris Module
An improved version of ASTRO*ROM

Elgin, Knowles & Senne, Inc.

Collect Sun, Polaris and star observation data (times and circle readings) and compute an accurate astronomic azimuth to the backsight point, on-site and without inputting ephemeris data! Improved version uses extended memory to store and recall observation data, plus additional features for easier use. Easy-to-follow prompts guide your input—many options such as conversion to state plane grid azimuth, storing data, altitude and azimuth of celestial body, generates ephemeris data, accommodates practically any observation technique.

Requires HP-41CV/CX; Time Module and Extended Memory required with CV to use time/date/extended memory options. Printer optional. Technical support phone number listed. Comes with User Manual and Quick Reference Card.

Stock #41-2148 (ASTRO*ROM2 Module) List $150 ..... $139.95

Surveying

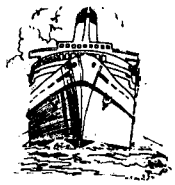
HEWLETT PACKARD

Traverse, Inverse and Sideshots ■ Compass Rule Adjustment ■ Transit Rule Adjustment ■ Intersections ■ Curve Solutions ■ Horizontal Curve Layout ■ Vertical Curves and Grades ■ Resection ■ Predetermined Area ■ Volume by Average End Area ■ Volume by Borrow Pit ■ Coordinate Transformation

Stock #15005 (Surveying Module) $42.95

Loadcom

AP Systems



Ship Stability Ability–Fast!

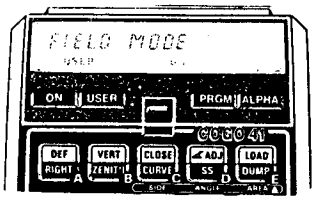
Merchant Officers get entire loading plans in minutes, handheld. Handle any type ship, carry ship to ship, use on deck/control room/bridge.

GM, KM, KG, free surface correction and moments. Drafts, trim, displacement, fresh water corrections. Totals—DWT, cargo, fuel, water, ballast, stores.

Requires HP-41CX; printer optional. Module includes Navcom navigation system.

Stock #41-814 (Loadcom Module) List $219 ..... $199.95
Stock #41-814M, Loadcom Manual only $10
Stock #41-814R (Loadcom, Module only) $189.95

COGO 41 Module 1.3



D'Zign

■ **Touchpad dustproofs keyboard** and makes this module easy to learn, easy to use
■ **16K ROM gives menu selection** for programs and solutions routines
■ **Common unit-conversions** are right on the keyboard
■ **3 quick-change modes** for Field, Office and Field Layout
■ **Input direct from instrument** via interface and IL

Field mode allows multiple input of angles and distances during a traverse. The angular error/turn is displayed with the closing routine and may be auto-adjusted. Store by point number with 2- or 3-dimensional coordinates.

Office mode assumes angle and distance inputs have been meaned. Full coordinate geometry for intersections using brg-brg, brg-dist, dist-dist and offset to a line, plus intersections of spiral and circular curves with other curves and lines. Predetermined areas, coordinate transformation, all from stored coordinates.

Field layout mode includes Remote Slope Staking, Topographic Pickup and Alignment Layout by station and offset. Lay out the curbs along Street Intersections, Cul-de-Sacs, etc., with a few keystrokes. Requires extended functions module.

Stock #41-913 (COGO 41 Module) $229.95

Navcom

AP Systems

Eliminates the drudgery — automatically applies sextant corrections, automatically records sights with built-in quartz clock time, automatically updates position for fixes. Built-in perpetual almanac. All prompts and answers displayed in plain English.

Requires HP-41CX. Pop-in module includes all functions of HP Nav Module (15017).

Stock #41-813 (Navcom Module) List $189 ..... $169.95
Stock #41-813M, Navcom Manual only $10
Stock #41-813R (Navcom, Module only) $159.95

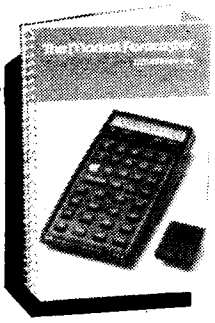
HP-41 Calculators

Application Pacs continued
Business/Finance

Market Forecaster

William Finnegan Associates

New Program for the HP-41 and Computers



Foretell the size and direction of Stock Market movement for the next 2 to 4 months—use this new program and a current copy of *Barron's*. You can literally see into the future, utilizing an econometric model with a correlation to future market moves of r = .88 over the last 25 years. Over the same period, simulated returns were 33.14% to 44.6% per year, after commissions. On funds managed since 1979, the Market Forecaster has never had a losing year. In fact, it has tripled the performance of the Dow with half the investment exposure. Now you can use this same technology to tell when to buy stocks, mutual funds or options, or when to retreat to the sidelines.

Order now—don't be another day behind in this confusing market!

Stock #41-131 (41 Computer Fstr, complete) List $339.....$299.95
Stock #41-131B, (41 Forecaster Manual only) List $22.....$20.00
Stock #S-131P (PC Forecaster, 5¼") List $339.....$$299.95
Stock #S-131M (Macintosh Forecaster) List $339.....$299.95
Stock #S-131C (Cmptr Forecaster, manual only) List $22.....$20.00

Financial Decisions

HEWLETT PACKARD

Compound Interest Solutions ■ Internal Rate of Return ■ Modified Internal Rate of Return (FMRR) ■ Net Present Value ■ Loan Amortization Schedules ■ Depreciation Schedules ■ Bond Price and Yield ■ Days Between Dates

Stock #15004 (Financial Decision Module).....$42.95

Securities

HEWLETT PACKARD

Bond/Note Price and Yield ■ Routines for Option Writers Using the Black-Scholes Evaluation Method ■ Warrant and Option Hedging ■ Butterfly Options ■ Yield on Call Options Sales ■ Bull Spread Option Strategy ■ Convertible Security Analysis ■ Stock Portfolio Valuation ■ Bond Speculation Using Margin ■ Convertible Bond Investment Analysis

Stock #15026 (Securities Module).....$42.95

Real Estate

HEWLETT PACKARD

Compound Interest and Loan Amortization ■ Internal Rate of Return ■ Modified Internal Rate of Return ■ Net Present Value ■ Depreciation Schedules ■ Income Property Analysis ■ The Rent or Buy Decision ■ Price and Yield of a Mortgage Traded at Discount/Premium ■ APR of a Loan with Fees ■ Present Value of an Increasing/Decreasing Annuity

Stock #15016 (Real Estate Module).....$44.95

Retail Car Sales

Sale

Millenium Systems

Dazzle that shopper—make your sale! With the AF-1 module plugged in, your HP-41 will do all the arithmetic, bookkeeping, look-up, etc., and flash authoritative monthly payments for your customer to see.

Automated accounting includes everything: sales tax, document fee, 3 insurance options, smog cert., trade-in and pay-off, down, pickup fee, mfr's rebate, service contract, license, add-on or APR. Recompute any number of times to see how changes lower the payments. Copy off final figures onto contract. Compute your profit at any stage.

Works with every model of HP-41—in HP-41CX (or with time module), will date records and compute first payment date. Optional printer gives permanent record. ONE COMMISSION WILL PAY FOR THIS. $99.95

Stock #41-653 (Auto Sales Module).....~~$209.95~~

Utilities/Subroutines

HP-IL Development Module

Debug an HP-IL implementation or perform HP-IL transactions which cannot be performed with other HP products.

For example, you can make the HP-41 into an HP-IL analyzer. You can internally transfer bytes between any two of: the stack, the ALPHA register or a sequence of registers, the HP-IL loop, or an array of bytes (the buffer). You can get I/O in hex, octal or binary. More. More. More.

Stock #15043 (Development Module).....$73.95

ZENROM Module

Zengrange

A Synthetiker's delight—it's like doubling the memory of your HP-41. Just plug in this 4K machine-language ROM and ALL SYNTHETIC FUNCTIONS become automatic and commonplace, without key assignments or memory used. Keyboard overlay included to show all the options for synthetic text functions. RAM Editor function works anyplace in RAM. Machine Code Editor function accesses any place in ROM (edits any plugged-in MLDL or Protocoder II).

Carefully thought-out so it's easy and efficient to use. There is a manual with good, clear instructions—and **whole chapters** on the theory of Synthetics and Machine Code which even a beginner can read! Owner's Manual included.

Stock #41-550 (ZENROM Module) List $115.....$99.95
Stock #41-550M, Manual only*.....$19.95
Stock #41-550R (ZENROM, Module only).....$80.00

CCD
(translated from the German)

W & W Software

Sale

New 8K microcode ROM adds more than 100 keywords to your HP-41—plus enhancements like lower case charakters and synthetics (STO M) right from the keyboard. Direct synthetic programming with normal keystrokes, and new CAT-, XEQ-, and ASN-funktions. PEEK & POKE utilities, with access to all RAM locations at byte level, and full handling of hex. 30 new math funktions handle matrices in RAM or X-Memory, new I/O funktions with error checking and formatted output.

Complete with English manual, quick reference guide and keyboard overlay.

Stock #41-562 (CCD Module).....~~$149.95~~ $99.95

PPC ROM Module

Sale

PPC

The PPC ROM is an 8K Custom ROM Module manufactured by HP for PPC, an independent user organization. The accompanying 500-page manual exhaustively documents the use of its 122 programs in 4 categories—math, peripheral, utility, and synthetic. State-of-the-art programs allow you to sort registers, alpha compare, do matrix operations, create synthetic instructions, assign any 2-byte function to a key, analyze bar code, do multiple function and precision plotting, perform calendar operations, count bytes, fit curves, compute derivatives, do financial calculations, integrate, and much, much more. The most powerful HP-41 ROM available, and the best value to boot.

The PPC ROM contains 67 synthetic programs. The 500-page manual is an excellent source of information for intermediate users of SP who want to learn more.

Stock #41-518 (PPC ROM Module) List $95.....$59.95 ~~$84.95~~
Stock #41-518M, Manual only*.....$7.95 ~~$12.95~~
Stock #41-518R (PPC ROM, no Manual).....$52.00 ~~$72.00~~

Application Pacs continued
Utilities/Subroutines continued

Extended I/O

HEWLETT PACKARD

The module provides 59 functions which extend the I/O capabilities of the HP-41 beyond those provided by the HP-IL Module (82160). HP-IL Module is required for use with most functions of the extended I/O Module. With the Extended I/O Module, the HP-41 can be used to control HP-IL devices or non HP-IL instruments through HP-IL interfaces. Extended I/O functions can be divided into 4 main categories:

1. Mass storage functions
2. Character manipulation functions
3. HP-IL control functions
4. Advanced control functions

Stock #82183 (Extended I/O Module) List $75.....$63.75

Plotter

HEWLETT PACKARD

The 8KB Plotter Module fits easily into one of the HP-41's four ports to give you bar code generation and plotting capabilities. The Plotter Module enables you to use your Series 40 computer with the HP7470A Graphics Plotter (opt. 003) to plot Series 40 bar code as well as non-HP bar code. It also enables a Series 40 to print Series 40 bar code using the HP82162A Thermal Printer/Plotter. Take advantage of ready-to-go bar code generation programs or write your own. The Plotter Module also allows you to produce high-quality plots on HP's low cost, HP7470A Graphics Plotter. This module contains 52 plotter functions to help you design your own programs.

Stock #82184 (Plotter Module) List $90.....$79.95

HP-41 Barcode Generator for the IBM-PC

For LaserJet+ and Series II

Tony Malburg

Sell your HP-41 programs, or send them to friends.

Just use these generators to print your programs in barcode form—they can then be read with the HP 82153 Optical Wand.

Each program comes on disk for PC/Compatibles driving an Epson/Compatible, NEC 24 pin, Star Micronics or Olympia NP dot matrix printer, or an HP-LaserJet/Compatible. Each supports the LINK program to 'print' your 41 programs to a PC file.

Generator A accepts ordinary text files containing HP-41 program instructions (including synthetics). It outputs both non-private and private program barcode.

Generator B outputs direct-executing, numeric, alpha-replace and alpha append codes. There's even a special routine so experimenters can create custom codes.

Each generator package comes with a manual giving complete descriptions and explanations as well as instructions.

Stock #S-395A (41 Barcode Generator-A, 5¼") List $50 .....$44.95
Stock #S-395B (41 Barcode Generator-B, 5¼") List $50.....$44.95

Combined Modules

Not Enough HP-41 Ports?

S.O.S.

Combine two or three HP-41 modules into one!

Dual Modules—Combine a Quad Memory, Extended Memory or Time Module with each other or any normal Application Pac.

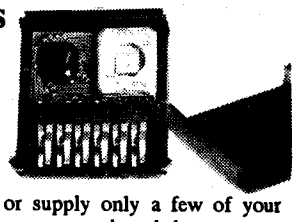
Triple Modules—Combine one Extended Functions and two Extended Memory Modules (this is the most common), or any one normal Application Pac with two Extended Memory Modules (HP-41CX).

HP-IL Conversion — Your HP-IL can be combined with either the HP-IL Development, Extended I/O or Plotter Module. All conversions are warranted by S.O.S. (not HP) for 1 year after conversion. Please allow 2 to 3 weeks, list any modules that you are enclosing for conversion on the order form and indicate that they are supplied by you. Price of service does not include modules.

Stock #41-531D [Double Module Conversion] $30.00
Stock #41-531T [Triple Module Conversion].....$55.00
Stock #41-531L [HP-IL Conversion].....$45.00

EPROM Modules

Custom EPROM Modules for the HP-41



You can have your own programs burned into a custom EPROM module in SMALL QUANTITIES! These are the same size as HP modules and merely plug into any port. That means you can test market just a few, or supply only a few of your salesmen with proprietary programs. Send your programs and worksheet on cassette tape, disc, or cards. Allow 2 wks.

In addition to the blank module (priced below), burn-in costs range from $35 to $90 per unit and $10 to $15 for duplicates (see EPROM Services, below). Worksheet required.

Stock #41-841 [CMT 10-4K] List $95 ..... $89.95
Stock #41-595 [CMT 10-8K] List $110 ..... $99.95
Stock #41-609 [CMT 10-16K] List $120 ..... $109.95
Stock #41-617V, Worksheet ..... Free

EPROM Services

Your program or data can now be burned into an EPROM. All you need to supply is your worksheet and your program data on a cassette, disk or magnetic cards (2 sets of mag cards required). What you get is an EPROM (cost included for CMT-110) containing your program data. Send for your free programming worksheet (Stock #41-617). Allow 2 weeks for the programming. Completed worksheet required.

CMT-10 Modules:	Original	Duplicates
Stock #41-676A (programming EPROM 4K)	$45	$10 each
Stock #41-676 (programming EPROM 8K)	$65	$10 each
Stock #41-677 (programming EPROM 16K)	$105	$15 each

ROM Modules 8K or 16K (One Time Programmable)

EduCALC

If you have tested your EPROM enough to be sure it's perfect, it may be time for you to produce ROMs at a fraction of the EPROM price. These ROMs can never be reprogrammed, so your EPROM must be completely tested.

For use, these plug into your 41 just like any Application Module. Minimum order 10.

Quantity	8K	16K
10-24	$95.00	$115.00
25-99	$92.00	$110.00
100-249	$90.00	$105.00

Delivery time is approx. 5 weeks. Contact EduCALC for more details.

Swap Discs

Public domain software for the HP-41, HP-71 and HP-75 is available for the cost of a blank 3 1/2" disc ($1.99 each). This is a service and not a product, as most of the programs are not documented and none are supported in any way. See Technical Note Listing 26 (page 42 of this catalog) for details.

Stock #DSK1	(CHHU01)	45/111/105
Stock #DSK2	(CHHU02)	82/79/133
Stock #DSK3	(CHHU03)	242/51/99
Stock #DSK4	(CHHU04)	9/148/9
Stock #DSK5	(CHHU05)	1/216/0

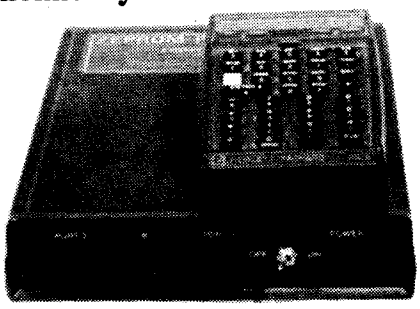
45/111/105 means 45 HP-41 files, 111 HP-71 files, and 105 HP-75 files on the disc. Most HP user groups have details on the disc contents.

HP-41 Calculators

Application Pacs continued
EPROM Modules continued

Firmware

Zeprom Programmer
Create your own 16K application modules for the HP-41—economically!



Have your own local EPROM programming capability. This self-contained device can be controlled from your HP-41—so the only other gear you'll need is an ultra violet light for erasing EPROMs.

US-made machine builds a complete 16K ROM image with global labels that can be linked across the entire 16K; it also serves as a ROM emulator for testing.

Programmer may be controlled by a 41—it's fully compatible with the cassette and disc drives. It also connects to a PC via an RS232 interface. It has 2 ports and can create 2 ROMs at once. (For further technical info, call 503-753-9314.)

ZEPROMs are programmable/erasable/reprogrammable plug-in modules that fit the HP-41. Made by Zengrange, Ltd, they can be configured 8 or 16K, or 12 or 16K bankswitched, and can accommodate User Code, M Code, or both. They can be erased and reprogrammed *without* dismantling the module case.

Best of all, ZEPROMs have been fully tested to British and NATO military standards of quality and reliability—including MIL STD 883C and BS9400.

Stock #41-863 [Zeprom Programmer] List $650.....$599.95
Stock #41-864 [Zeprom 16K module blank] List $150 .....$135.95

Logical Devices

Economy
UltraViolet EPROM Eraser

Tiny and Fast (less than 3 minutes)—erases one at a time. 110 VAC power, plastic enclosure.

Stock #LD-925 [UV EPROM Eraser].....$59.95

Soft/Bookware

PC/Compatible Transfer Program
for HP-41, 71 and 75 Files

Steinmetz & Brown

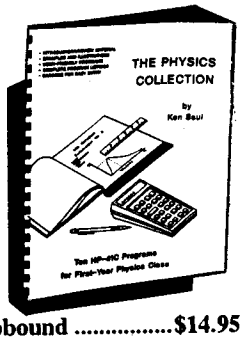
You could always use your Steinmetz & Brown disc drive to exchange HP-110 files with the IBM PC world, but now you can do the same with your HP pocket computer. Transfer files both ways. Use your PC to edit files for use on your 40/70.

The programs in this LIF-Reader package permit your to collect data on 5¼" discs using your series 40 or 70 computer. You cant hen transfer it to text, DIF, SYLK and other forms for use with your MS-DOS spreadsheet, database or wordprocessing software. Many utility functions are also included so you can alter file formats and contents

Comes on 5¼" disc for IBM PC/Compatible with 128K RAM, MS-DOS 2.0 or later, and SB 10161 or SB 10162.

Stock #S-389 (LIF REader, 5¼").....$65.95

The Physics Collection
by Ken Saul



Raises your Exam Scores!

HP-41 programs for frequent 1st year Physics problems, written by a former OSU student and published by the HP User's Library. Helps a lot in the lab as well as on homework and exams. Complete program listings and bar code. 10 programs.

Stock #41-415, Physics Collection, 66p combbound $14.95

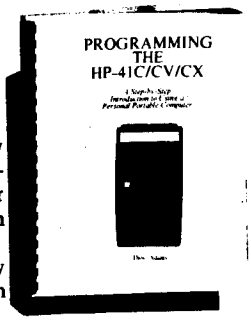
Advanced Programming Tips for the HP-41
by McCornack/Jarett

For serious programmers — explains **modular programming** (and how to save bytes and running time), **synthetic programming** (with several unpublished techniques and line-by-line analyses of many programs), **M-code** (so you can decide if this area of programming is for you), and **application routines** (with discussions of several for the ZENROM and CCD modules).

Bar code is included for the programs.

Stock #41-491, 41 Adv Programming Tips, 340p sftbnd..... $20.95

Programming the HP-41C/CV/CX 2nd Edn
by Thomas Adams

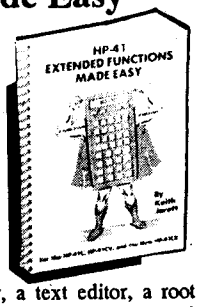


Give this step-by-step course a half-hour every day and you'll soon be a programming pro. The author has himself written many (medical) programs for the HP User's Library—now he shows you how with lots of examples, charts, diagrams and illustrations.

Despite its **intermediate** level, this introductory book has no prerequisites, and you can follow it with any model of the HP-41.

Stock #41-413, Prog HP-41C/CV/CX, 171p spiralbnd $19.95

HP-41 Extended Functions Made Easy
by Keith Jarett



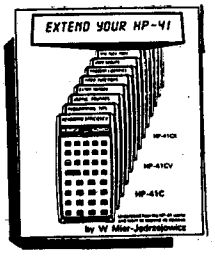
If you own an HP-41CX or an Extended Functions Module, you need this book. If HP's manuals have left you wondering whether you can really do anything useful with your Extended Functions/Memory Module or HP-41CXs, it's not your fault. The manuals barely begin to describe their capabilities. This book explains each function fully at an **intermediate-to-advanced level,** giving examples and typical uses.

Application programs include: a mailing list manager, a text editor, a root finder, differentiator, integrator, and much more. Chapter 10 has several powerful synthetic utility programs (with barcode) for advanced users or wand owners. Put your Extended Functions and Extended Memory to work!

Stock #41-206, Ext Functions Easy, 240p spiralbound.....$16.95

Extend Your HP-41
by Wlodek Mier-Jedrzejowicz

This is the definitive work on the HP-41!



The ULTIMATE REFERENCE BOOK for your HP-41 system — plus many hours of FASCINATING READING. The first 200 pages show a beginner how to make full and efficient use of his instrument; even experts will appreciate some of the clever programming hints in this **advanced-level** book.

Next come explanations of Time and Extended Functions, and Extended Memory, with a full discussion of peripherals and modules (including the Advantage). The last 200 pages introduces synthetic programming and illustrates several new SP tricks, covering PRP and PAC functions plus synthetic key assignments that use no synthetic instructions! Appendices include bar code and a list of system bugs.

This is the largest and most complete collection of useful facts for the HP-41 system—no 41 owner should be without it.

Stock #41-621, Extend your HP-41, 670p softbound $29.95

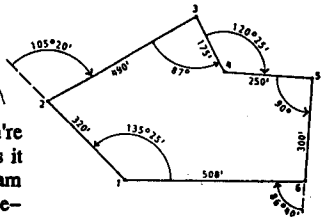
Soft/Bookware continued

Point Storage Conversions Booklets

Combined, these booklets turn your existing HP Surveying Pac into a complete Point-Storage System. Use them separately or together. Requires HP-41, Survey Pac and a few minutes time for editing. Each booklet contains program listing, user instructions and keystroke examples; also available with all programs on magnetic cards.

Traverse, Inverse and Sideshots

D'Zign



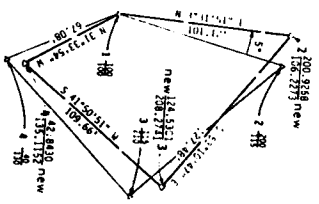
Works just like the Survey Pac you're used to, but it stores the co-ordinates as it calculates them. A short driver program also does **really fast** radial inversing between the stored points for radial stakeout.

A built-in **compass adjustment** routine not only adjusts the coordinates, it also inverses between them as it makes the adjustment. No need to re-input the adjusted coordinates to get the new bearings and distances.

Stock #41-536, Trav/Inv/Sideshots, 20p combbound.....$6.95
Stock #41-536M (Trav/Inv/Sideshots, Mag Cards incl).....$12.95

Coordinate Transformation

Rotate or re-scale the co-ordinates you stored as you calculated the traverse, or input the coordinates manually. Eliminates the need for inversing with the traverse routine after rotation or scaling of coordinates, because the inversing is done automatically as the coordinates are changed. Takes half the time of the Survey Pac program.



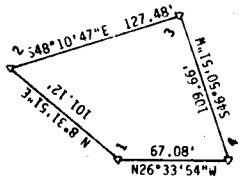
D'Zign

Stock #41-886, Coordinate Transform, 20p combbound.....$6.95
Stock #41-886M (Coord Transform, Mag Cards incl).....$12.95

Intersection Solutions

D'Zign

Use this one with the stored coordinates to establish any new points needed. It will use pre-stored or manually input coordinates **by point number** to quickly solve intersection problems. Brg-Brg, Brg-Dist, Dist-Dist or Offset to a Line.



Stock #41-527, Intersection Solutions, 16p combbound $6.95
Stock #41-527M (Intersection Sols, Mag Cards incl).....$12.95

Predetermined Areas

D'Zign

Calculate needed areas for subdividing with the stored point numbers from your traverse. Fast resolution of the area. User assigns the new point numbers as the areas are calculated. All newly generated coordinates are stored for reuse.

Stock #41-889, Predetermined Areas, 20p combbound $6.95
Stock #41-889M (Predetermined Areas, Mag Cards incl).....$12.95

These Point Storage Conversions have been programmed for your PC (with 512K and DOS 3) by Tacit Logic, Inc. Requires CALC-41, stock # S-747C, installed. You can either key in your present data to your PC or use ELI-IL or SX-232 software to transfer field information from your HP-41. Illustrated manual included.

Stock #41-2086 (PC Point Storage Conversions, 5¼") $49.95

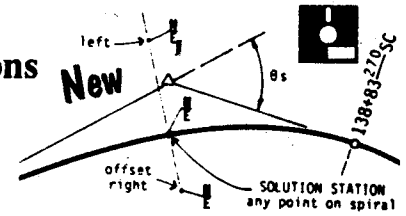
Solutions Booklets

Quick solutions to a surveyor's everyday problems—programs for use in HP-41 with Survey Pac.

Spiral Curve Solutions

New

D'Zign



The only **complete** spiral curve program for a handheld! Contains the standard Deflection-Chord and Tangent-Offset solutions, and will also calculate the coordinates of any station or offset to a station **anywhere within the system.**

Subroutine will automatically calculate the inverse from the instrument to any calculated point; new Spiral to Line and Spiral to Curve intersection routines.

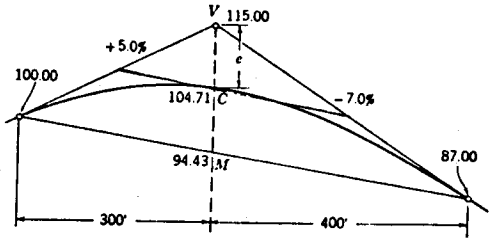
Stock #41-888, Spiral Curve Solns, 36p combbound.....$6.95
Stock #41-888M (Spiral Curve Solns, Mag Cards incl).....$12.95

PC program requires CALC-41, stock # S-747C, installed.

Stock #41-2087 (PC Spiral Curve Solns, 5¼").....$29.95

Vertical Alignment Solutions

D'Zign



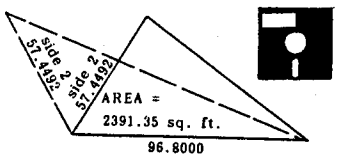
Calculate continuous vertical alignment without changing back and forth between grade and curve routines. Output is in a form that makes sense and prevents mistakes.

Asymmetrical curves are handled as easily as symmetrical. Includes a routine for calculating compounded or reverse vertical curves.

Stock #41-885, Vertical Alignment Sols, 16p combbound.....$6.95
Stock #41-885M (Vertical Alignment, Mag Cards incl).....$12.95

Triangle Solutions

D'Zign



Three sides known: Side-Angle-Side, Side-Angle-Angle, Side-Side-Angle, Angle-Side-Angle. **Area** known: Area-Side-Angle, Area-Angle-Angle or Area-Side-Side. If there are two possible solutions to a problem, both are output.

Stock #41-890, Triangle Solutions, 14p combbound.....$6.95
Stock #41-890M (Triangle Solutions, Mag Cards incl).....$12.95

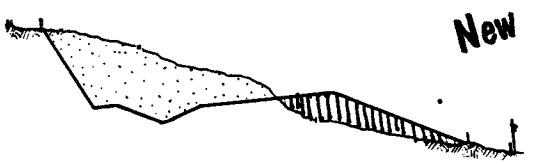
PC program requires CALC-41, stock # S-747C, installed.

Stock #41-2088 (PC Triangle Solutions, 5¼").....$29.95

EDM Slope Staking

New

D'Zign



Set slope stakes with your EDM. Program reduces each shot to the information needed to make out the stake. Subroutine gives the angle and distance for setting the reference stake, then produces the information to put on it.

Works from anywhere in the general vicinity of the alignment you are staking as long as you know the station and offset of the instrument and backsight.

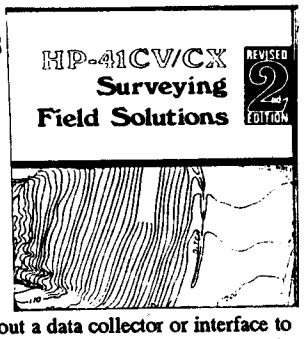
Stock #41-887, EDM Slope Staking, 18p combbound $6.95
Stock #41-887M (EDM Slope Staking, Mag Cards incl).....$12.95

HP-41 Calculators

Soft/Bookware continued

HP-41CV/CX Surveying Field Solutions

D'Zign



These programs work! They're being used right now on the BART, Los Angeles and Seattle rapid transit projects. This is due in part to the automatic stakeout routines for the alignment programs — there are no other programs available which will automatically calculate and inverse to offsets to a spiral curve.

The Topo and As-built programs work without a data collector or interface to theodolite. With a printer, the field data is broken down to ready-to-plot form in the field, as shots are taken (and with few keystrokes).

Field Layout programs are Radial Inverse, Alignment & Offsets, Auto-Inverse. Spiral Curves programs are Deflection & Chord, Alignment & Offset, Auto-Inverse, Tangent Offset, Radial Inverse. Field Location programs are Topo, As-builts, Remote Slope Staking, Tunnel Tights. Triangle Solutions.

All in all, this contains over 2000 lines of program listings—programs are also available separately on magnetic cards.

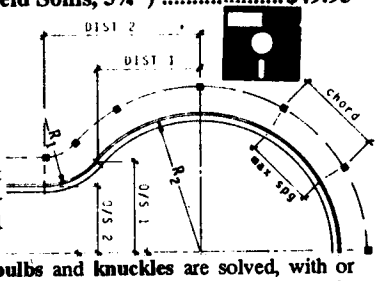
Stock #41-417, Survey Field Sol, 116p combbound $21.50
Stock #41-417C (Mag Cards for Surv Field Sol) $19.95

These Surveying Field Solutions have been programmed for your PC (with 512K and DOS 3) by Tacit Logic, Inc. You can either key in your present data to your PC or use ELI-IL or SX-232 software to transfer field information from your HP-41. Illustrated manual included.

Stock #41-2084 (PC Surveying Field Solns, 5¼") $49.95

Geometrics Solutions

D'Zign



Do you design or lay out subdivisions?

All you need to know are the street widths and the radii — you'll have solutions in minutes, with your HP-41 CV/CX.

Street intersections, cul-de-sacs, bulbs and **knuckles** are solved, with or without coordinate output. Or, you can calculate complete radial layout of a cul-de-sac or street intersection quickly, starting from scratch! No more switching back and forth between traverse, intersection and curve programs!

Book includes complete instructions with program listings. Programs also available already keyed in, on mag cards.

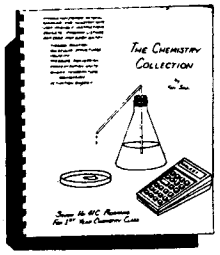
Stock #41-449, Geometrics Solutions, 94p combound $19.95
Stock #41-449C (Programmed Mag Cards only) $19.95

These Geometrics Solutions have been programmed for your PC (with 512K and DOS 3) by Tacit Logic, Inc. You can either key in your present data to your PC or use ELI-IL or SX-232 software to transfer field information from your HP-41. Illustrated manual included.

Stock #41-2085 (PC Geometrics Solutions, 5¼") $49.95

The Chemistry Collection Raises your Exam Scores!

by Ken Saul



HP-41 programs for frequent 1st year Chemistry problems, written by a former OSU student and published by the HP User's Library. Helps a lot in the lab as well as on homework and exams. Complete program listings and bar code. 7 programs.

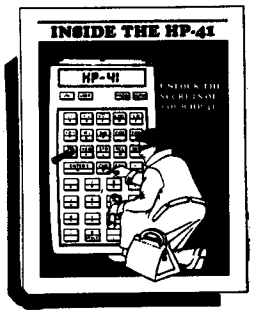
Stock #41-414, Chem Collection, 47p combbound $14.95

Inside The HP-41

by Jean-Daniel Dodin

Price Reduced

(translated from the French by Mary-Denise Dodin and I. Vandenabbeele; revised and edited by Wilson W. Holes)

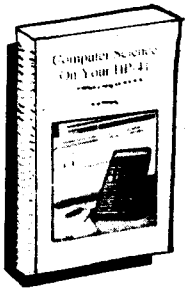


Discover the secrets of your HP-41! Here is your **intermediate-level** tour through its inner workings. Learn about memory structure, the status registers, the byte grabber, synthetic programming, and microcode—the language of the HP-41's microprocessor. See examples of the intricate internal programming of the HP-41, the microcode that makes the HP-41 what it is.

Stock #41-355, Inside the HP-41, 256p softbound $12.95

Computer Science on your HP-41 using the Advantage ROM

by Ed Keefe

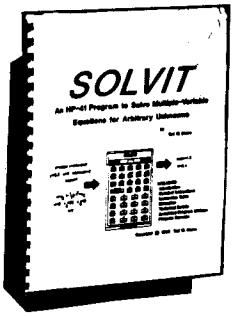


Turn your 41 into an HP-16C! Here's a powerful program in book form, with bar code as well as complete program listing — all done in Grapevine's easy-to-understand style.

Stock #41-485, Cmptr Sci on your HP-41, 183p wirebnd $14.95

HP-41 Solvit

Ted Beers



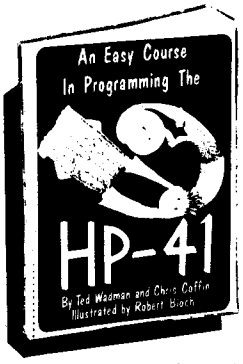
Solve Multiple-Variable Equations for Arbitrary Unknowns on your HP-41. It's like TK!SOLVER and other PC programs, or the HP-18C—you input your formula with any number of variables. Then assign known values and calculate the remaining unknown. Makes a custom menu for each equation.

Comes with instructions and examples, program listings and bar code. Requires HP-41CV, CX, or 41C with 2 Memory Modules, and Advantage Module.

Stock #41-766 (HP-41 SOLVIT) $29.95
Stock #41-766D (41-SOLVIT Pgm, 3½" Disk only) $19.95
Stock #41-766C (41-SOLVIT Pgm, Mag Cards only) $19.95

An Easy Course in Programming the HP-41

by Wadman/Coffin



Beginners, look no further. Here is your book—straightforward and clear, brief and free of technobabble. This treatment is itself programmed, so if you have some experience, you are led quickly to the topic you need. Authors Ted Wadman and Chris Coffin are former HP employees, and they know their stuff — they also know how to make it easy and make it fun.

Stock #41-193, Easy Programmg HP-41, 255p spiralbnd $20.95

Soft/Bookware continued

Statics for Students
Using your HP-41 Advantage
by Wadman/Coffin

Breeze through the hundreds of homework, test, and exam problems you encounter in a statics class—just use this book's program and your HP-41CV or CX and Advantage ROM.

Merely draw the picture for your calculator, inputting coordinates of pertinent points and known loads on the structure. Then you choose either to sum the known moments and forces about the origin, or to input the orientation of 3 unknown reactions and solve for their magnitudes—it's that easy!

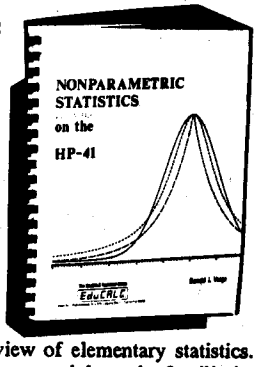
You can solve the internal forces of a structure by the 'method of sections' with a few keystrokes—**that's power!** Yet you can quickly calculate simple things, too, like the supporting reactions of a cantilever beam.

Comes with program listings, bar code, and easy-to-take instructions. There's even a review of statics principles and the math.

Stock #41-634, Statics Advantage, 80p softbound.....$11.95

Nonparametric Statistics on the HP-41
by Don Vargo

Sale



ATTENTION behavioral, biological and physical scientists: if you're using these popular new methods with a stat pac on a big computer, you're in for a pleasant surprise! On your HP-41 these same tests become straight-forward and forgiving, and errors are easy to correct.

13 tests in all, for One Sample and Matched Observations, Two Samples' Location and Dispersion, Analysis of Variance, Goodness of Fit, and Independence. These programs have a common treatment here, with complete discussions and examples. The manual begins with an introduction to nonparametric methods and a brief review of elementary statistics. Requires an HP-41CV or HP-41C with quad memory module, and a familiarity with inferential statistics.

Stock #41-307, Nonparametric Stat, 166p softbound.....~~$16.95~~ $9.95
Stock #41-307BC (Bar Code for above).....~~$9.95~~ $7.95

User's Library Software Catalog for your HP-71/HP-41

The list of topics is enormous—from crop science to computer science, from payroll to marketing, plus every engineering speciality and every field of numerical math and statistics, and physics and chemistry, and social sciences. Many of these will work for you.

Stock #202B, User's Library Software Catalog.....$9.95

Need Extra OWNER'S MANUALS?

Stock #41-90526, HP-41CV Owner's Man-Basic Oper.....$10.00
Stock #41-90474, HP-41CX Owner's Handbook, Vol I.....$10.00
Stock #41-90492, HP-41CX Owner's Handbook, Vol II.....$15.00
Stock #41-701, Card Readers Owner's Handbook.....$5.00
Stock #41-703, HP-82143A Prntr/Pltr Owner's Hndbk.....$5.00
Stock #41-705, Optical Wand Owner's Handbook.....$5.00
Stock #41-707, "Creating Your Own Bar Code" Man.....$15.00
Stock #41-714, Ext Funct/Mem Mod Owner's Hndbk.....$10.00
Stock #41-715, Time Mod Owner's Handbook.....$15.00
Stock #41-90531, Operation in Detail (CV).....$14.95
Stock #41-876, Ext I/0 Module Owner's Hndbk.....$9.95
Stock #41-877, Plotter Module Owner's Hndbk.....$26.95
Stock #41-2103, Infrared Printer Owner's Hndbk.....$9.95

SOLUTION BOOKS For The HP-41
Only $14.50 Each!

HEWLETT PACKARD

The solution books provide step-by-step keystroke listings for specific problems in specific disciplines. Although they are not as convenient as the Application Modules, they cover more programming details in many of the same areas. They are perfect for the person who is involved in specific programming solutions, program modifications, or as a reference program library. Available titles are:

Stock #90093, Antennas.....$14.50
Stock #90094, Business Statistics/Marketing/Sales.....$14.50
Stock #90145, Calendars.....$14.50
Stock #90100, Chemical Engineering.....$14.50
Stock #90102, Chemistry.....$14.50
Stock #90089, Civil Engineering.....$14.50
Stock #90092, Control Systems.....$14.50
Stock #90088, Electrical Engineering.....$14.50
Stock #90139, Fluid Dynamics & Hydraulics.....$14.50
Stock #90099, Games.....$14.50
Stock #90443, Games II.....$14.50
Stock #90084, Geometry.....$14.50
Stock #90140, Heating, Ventilating & Air Conditng.....$14.50
Stock #90083, High-Level Math.....$14.50
Stock #90096, Home Construction Estimating.....$14.50
Stock #90086, Lending, Savings, & Leasing.....$14.50
Stock #90090, Mechanical Engineering.....$14.50
Stock #90144, Optometry II (Contact Lens).....$14.50
Stock #90142, Physics.....$14.50
Stock #90136, Real Estate.....$14.50
Stock #90137, Small Business.....$14.50
Stock #90138, Solar Engineering.....$14.50
Stock #90441, Structural Design (cassette based).....$35.00
Stock #90141, Surveying.....$14.50
Stock #90082, Test Statistics.....$14.50
Stock #90395, Time Module Solutions I.....$14.50

HP Manuals in Spanish

Stock #41-90514, HP-41CX Supp to CV O's Man (Sp).....$6.95
Stock #41-90530, HP-41CV Owner's Manual (Sp).....$19.95
Stock #41-90540, HP-41CV Quick Reference Guide (Sp).....$4.95

Entry Coupon—

Free Calculator Drawing

Fill out and return this coupon to EduCALC before December 31, 1989, to enter (no purchase necessary).

I use my calculator for:
☐ *Business* ☐ *Engineering* ☐ *Science* ☐ *Research*
☐ *School/Student* ☐ *Statistics* ☐ *Pleasure*

I may consider the purchase of a Personal Data Bank (Informator™) in the future.
☐ *Yes* ☐ *No*

I want a free ☐ *HP-10B* ☐ *HP-20S*

Send it to me, _____

(street) _____

(city, state, zip) _____

(I agree to having my name announced if I win)

Christopher F. Nash of Ridgewood, NJ won a free HP-10B in our previous drawing. Enter now—it may be you this time!

HP-41 Calculators

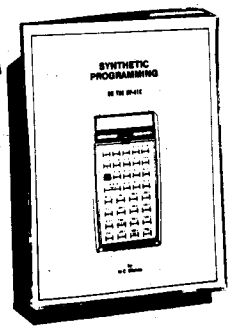
Synthetic Programming

EduCALC does support Synthetic Programming

Synthetic Programming on the HP-41C

by William Wickes

Free Quick Reference Card #41-92C

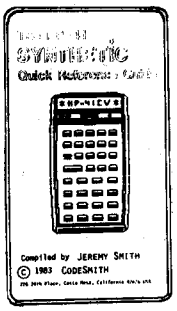


The first and still the most complete and detailed book on the subject. Some of the techniques covered are: Addition of 21 `new' display characters; transformation of the alpha register into 4 additional registers, to use as a scratch pad which does not disturb data stored by other programs; enhanced user control over the 56 user and system flags, such as clearing all 56 simultaneously; SIZE finding automatically in less than 2 seconds; rapid alphabetizing of alpha data; alpha character string processing; 6 new TONE frequencies plus variation of TONE duration; improved key assignment control, like SF 14 or GTO IND X on a single key. A Card Reader or Wand would be very helpful.

Stock #41-92, Synthetic Prog, 96p softbound.....$10.95

HP-41 Synthetic Quick Reference Guide

compiled by Jeremy Smith



Charts, Tables and Diagrams that you'll need for Synthetic Programming, collected from books and journal articles. This compilation is in compact, pocket form — it contains no explanations or examples, though references are given (e.g. to the books by Wickes, Jarett, and Reinstein).

Stock #41-147, Quick Reference Guide, 40p softbound.....$5.95

Synthetic Programming Made Easy

by Keith Jarett

The best introduction to SP for the uninitiated. Highly readable, it uses all the latest simplified techniques, including `byte grabbing' and `byte loading', to make the learning fun and easier than ever before. Contains up-to-date programs, including Extended Functions and Time Module applications. Includes a plastic Quick Reference Card (41-92C) for Synthetic Programming. All the basics are here, with a full cross-reference to other sources. By Chapter 3 you will be able to key up synthetic programs from the HP User's Library or any other source. No peripherals or modules required, but a Card Reader, XFUNCTION Module, or Wand will be helpful. Bar code for all programs is included.

Stock #41-146, HP-41 Synthetic, 192p spiralbound.....$16.95

HP Programs on Your PC!

Write or Run any HP-41 program on your PC. You can even download programs to your HP-41. See CALC-41 (page 66) and Transfer-41 (page 55).

HP-41 MCODE for Beginners

by Ken Emery

Learn to be an Insider, step-by-step. Ideas and techniques are introduced one-at-a-time and illustrated with programs — so you'll quickly be able to set up the function address table and write a simple program which accesses the mainframe ROMs. All programs are fully documented and **demystified.**

Advanced programmers will find a complete explanation of the display, including the new one that accesses additional LCD characters and allows alteration of the contrast. There's also a **first-time** description of the memories HP uses for the display. Other new stuff includes an explanation of partial key sequencing as used by the ZEN and CCD ROMs.

M-Code programming on your HP-41 requires a special Quasi-ROM memory unit, such as the ERAMCO MLDL, the RAM expansion unit, or the CMT-100 Application Module Simulator.

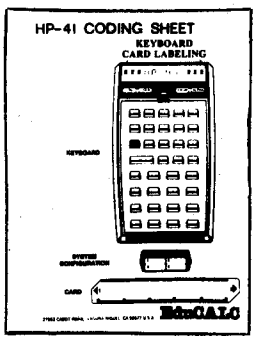
Stock #41-374, Beginners MCODE, 192p wirebound.....$24.95

Read our mail from Georgia—

"We have been using EduCALC for many years now for our HP needs and we have never taken the time to thank you for your prompt and courteous service." Ross A. Lynn, Associate V.P., Keck & Wood, Inc., Atlanta

HP-41 Coding Sheets

EduCALC Sale



Use this professional tool to get professional results that look professional. With these two-sided, 11×17 inch forms you can jot it all down: There's systematic space for Keyboard Labeling, System Configuration, Card Labels, Function Assignments, 224 Program Steps with Comments. Plenty of room, and it's so easy with this form to organize everything and remind yourself of details.

Now you'll be able to compose programs faster, with fewer bugs. Your associates will be able to read and follow your programs, and they'll be impressed by this format.

Stock #41-572 [HP-41 Coding Sheets, 25 sheets] ..... ~~$6.95~~ $4.95

Want more?

- more memory—14,000 registers?
- faster execution—5×to 10×faster?
- bigger display—8 lines ×21 characters?
- better communications—serial, parallel, IL?

Then have a look at the MC-II—see page 64

HP-IL Interface Loop

Here's where you find...

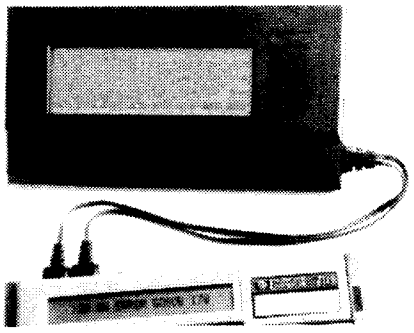
Disc/Cassette Drives	55, 58
Interfaces	55
Accessories	57
Bookware	57
Programmers' Aids	57
Printers	58
Used Gear	59

Your HP-41, HP-71 or HP-75 can plug into any of the following peripherals if it is equipped with the HP-IL (Interface Loop).

LCD Display for HP-IL

CMT

Brand New



- 8 lines×40 characters with 50 line buffer
- High-contrast super-twist LCD technology
- 8-hour portable operation with 9 v alkaline battery

Use it with your existing HP-41, 71 or 75 programs—no rewriting necessary. Displays the full HP-71B character font set. 8 softkeys give you a controlled view of buffer contents.

It accept standard HP escape sequences compatible with HP-IL controllers. Additional escape sequences give you full cursor control, power to redefine character fonts and softkeys, and raster graphics.

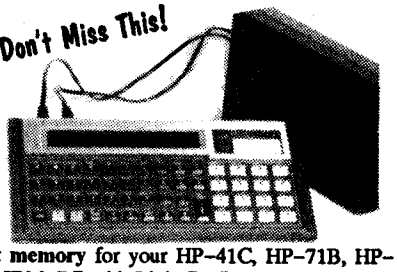
You control viewing angle with a thumbwheel and a kickstand props the display up on your desk. Display area is 1.5×4.5 inches; case is 1.25×4× 7.5 inches; the instrument weighs 12 oz without battery. Jack for external DC power; accepts rechargeable NiCd batteries.

Stock #IL-923 [HP-IL Display] List $295 ..... $274.95

Disc/Cassette Drives

HP-IL RAM Disc

Don't Miss This!



- **128K, 256K, or 512K**
- **truly rugged**
- **portable, hand-held**
- **RS-232 interface (opt.)**

At last—**super-big, super-fast memory** for your HP-41C, HP-71B, HP-75D, HP-110 or Portable Plus (or IBM-PC with Link Card). Uses same command set as 82161 Cassette Drive and same extended commands as 9114 Disc Drive System.

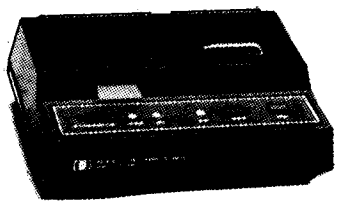
About the size of the 41C, the RAM Disc is powered by a standard 9 v alkaline battery, and is engineered for low drain. There is an on-board lithium battery that keeps data intact for over five months (should the main source run down).

With RS-232 19 pin option, RAM Disc is same physical size but has functionality of 82164 HP-IL/RS-232 Interface.

Stock #IL-820A [128K RAM] List $345 ..... $325.95
Stock #IL-820B [128K RAM/RS-232] List $445 ..... $415.95
Stock #IL-820C [256K RAM] List $495 ..... $449.95
Stock #IL-820D [256K RAM/RS-232] List $595 ..... $539.95
Stock #IL-820E [512K RAM] List $795 ..... $705.95
Stock #IL-820F [512K RAM/RS-232] List $895 ..... $795.95
Stock #IL-820G [NiCd Battery Pack] $15.00
Stock #IL-820H [AC Adapter/Recharger] $7.00
Stock #IL-820R [RS-232 only] $259.95

Digital Cassette Drive

Sale Save 60% off list



The Digital Cassette Drive uses a digital-quality mini-cassette capable of storing up to 128K bytes of information. Files can be located by name easily on this cassette drive. Rewind time is under 30 seconds and read/write operations are executed at 9 inches per second. Search speed is 30 inches per second.

All tape movement is under microprocessor control. Buffer space is provided in the Drive for temporary storage of directory information to help minimize access time and tape motion. The HP82161 can locate files when under program control. It also features STANDBY mode, enabling an HP-IL controller to turn the Drive on or off remotely. This unique feature helps extend system battery life and allows for system operation in remote applications.

The Drive uses a two-motor system to move the tape past a two-track magnetic head specially designed to resist data alteration due to externally generated magnetic fields. Owner's Handbook included.

Stock #82161 [Digital Cassette Drive] List $550 ..... $199.95
Stock #82176A [Data Mini-Cassette] $9.50
Stock #82176-10 [10 Data Mini-Cassettes] $88.95
Stock #82177A [Cassette Labels, blank] $14 95
Stock #82167A [HP-IL Cable, ½ meter] $5.95
Stock #82167B [HP-IL Cable, 1 meter] $7.95
Stock #82167D [HP-IL Cable, 5 meters] $9.95
Stock #82033A [Rechargeable Battery Pack] $24.95
Stock #82059D [Recharger] $18.95
Stock #82037A [Reserve Power Pack] $59.95

AC Power Supply

S.O.S.

Outputs a non-regulated 6-9 volts at up to 3 amps, connected to a standard Cinch-Jones receptacle. Several of our customers have reported complete success using this AC Unit to power their HP-9114 Disc Drive.

Use of a non-HP power source with the HP-9114 voids the HP Warranty—responsibility for such use lies with the user. AC Unit is warranted for 90 days to be free from defects of workmanship.

Stock #IL-480 [AC Power Supply Unit] $69.95

Replacement Battery

Used in the rechargeable battery pack (88014A). The T9 Torx Tool is required to remove the cover; spade terminals connect to the battery.

Stock #LCR-6V2 [Battery] $18.25

Stock #T9 [Disc Drive Torx Tool] $5.00

Interfaces

TRANSFER/41
HP-41 to PC Communications Program

Price Reduced

- **Store** your HP-41 programs/data on a PC disc
- **Debug** your HP-41 programs on a PC monitor
- **Print** your HP-41 output on a PC printer
- **Key** your HP-41 program into PC, then upload to your 41

Now you can have both—the portable convenience of your handheld HP-41, and the capacity and power of your PC!

Transfer/41 is PC software. It requires the HP-IL Interface Card (82973) in the PC, and the IL Interface (82160) for your calculator. With this you can freely translate up or down, to or from your PC. You can even insert your HP-41 output into a PC database or spreadsheet.

Stock #IL-902 (Transfer, 5¼") List $45 ..... $39.95

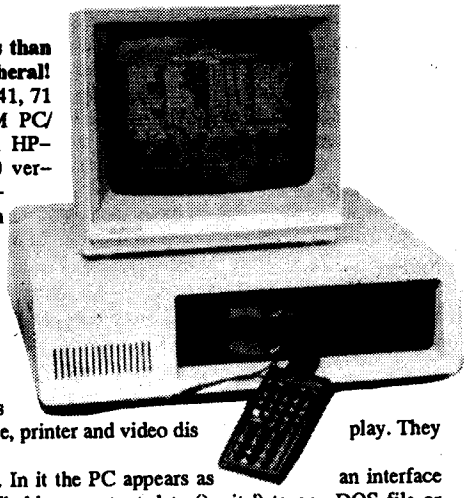
HP-IL Interface Loop

Interfaces continued

LINK Plus

Southern Software

- **Would you like a Big Monitor for your HP-41, 71 or 75?**
- **Want a Page Printer?**
- **How about a DISC DRIVE for storage?**
- **A Big Keyboard? A Mouse?**



You can have it all—for less than the cost of one single peripheral! This program links your HP-41, 71 or 75 via HP-IL to an IBM PC/Compatible or Vectra, or an HP-150. (The IBM and HP-150 versions require the 82973 Portable/Desktop Link card which has the HP-IL capabilities.)

With Link you will never have to buy another gizmo for your handheld. It has four modes of operation which you choose from a menu on the PC (or set mode from the handheld). Three of the modes are the emulators for disc drive, printer and video display. They do do what you expect.

Mode 4 is not an emulator. In it the PC appears as an interface device on the loop. The handheld can output data ('write') to any DOS file or device and it can also input data ('read') from it. It gives you access to any DOS file on your PC. You can read/write text files, binary or hexadecimal data, etc. LINK enables you to move the file pointer around so that you can add on to the end of an existing file, overwrite previous data, etc.

Manual gives detailed examples for each handheld for each mode plus a complete listing of responses to HP-IL messages. Choice of disc size.

Stock #S-785 (Link, 5¼") List $85 ..... $79.95
Stock #S-785A (Link, 3½" IBM) List $85 ..... $79.95
Stock #S-786 (Link, 3½" HP Format) List $85 ..... $79.95
Stock #S-786L, Literature ..... Free

PC/HPIL Interface Card

Interloop

Half-size card has IL ports, 4 auxiliary optically-isolated ports (2 in, 2 out), and 1 TTL-compatible digital output. TTL port can control non-IL functions like relays, motors, solenoids, reading switches and status bits. Outputs can trigger power-up of HP-IL devices. Auxiliary ports provide fused +5V, +12V and -12V outputs at an edge-mounted D-15 connector.

Comes with DOS-resident driver software and programming examples in T-Pascal, T-Basic and GW-Basic.

Stock #IL-150 [150PC/HPIL Intrfc Card] List $240 ..... $224.95

HP-IL LINK Software Package

HP-IL Link allows MS-DOS PCs to:
- ☐ Input files from and output files to the HP-71.
- ☐ Act as a remote console for the HP-71.
- ☐ Input files from the HP-75 and HP-41.

HP-IL Link supports the following PCs:
- ☐ PC/Compatibles with HP 82973A HP-IL interface.
- ☐ HP-150 with HP 45643A Extended I/O Accessory.
- ☐ HP Portable and Portable PLUS computers.

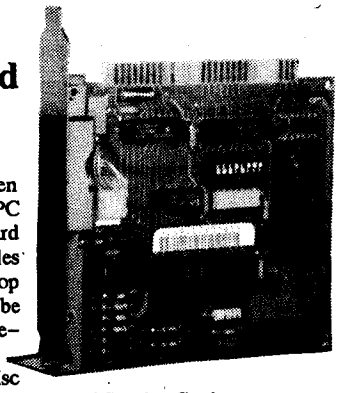
The HP-71 must have an HP 82401 HP-IL Interface; the HP-75 must have a 00075-15001 I/O ROM; and the HP-41 must have an HP 82160A HP-IL Interface.

Includes one 5¼" disc, one 3½" disc, and a "Getting Started" guide. (Full documentation is contained on disc.)

Stock #82477 (HP-IL Link, 5¼" & 3½") List $95 ..... $84.95

HP-IL Interface Card for PC/Compatibles

HEWLETT PACKARD



Transfer spreadsheets or data between your PC and the HP-110 or use your PC as controller on the IL loop. This card goes in a slot inside your PC and enables the PC to be a peripheral device on a loop controlled by the 110; the PC may also be a loop controller using IL-peripheral devices (but not both at once).

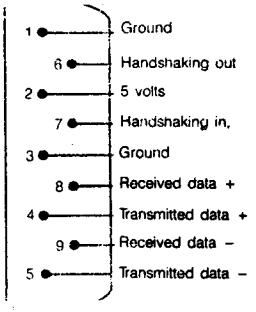
Comes with Interface Software Disc containing Owner's Manual, 1 m HP-IL Cable and Service Card.

Stock #82973A [HP-IL/IBM PC, Card] List $173 ..... $144.95
Stock #82167D [5 m HP-IL Cable] $9.95

RS-232 Interface

HEWLETT PACKARD

The Most Popular Communications Interface is Now Available for Your HP-41, HP-71 or HP-75.

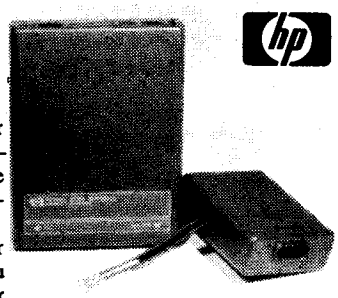


The HP-IL/RS-232C interface is fully asynchronous and bit-serial which lets your handheld talk to and work with other computers, terminals, peripherals, and modems. It features an input and output buffer, interface control logic, function keys and local or remote operating states. Extended I/O module required for most HP-41 applications.

Stock #82164 [RS-232 Interface] List $295 ..... $249.95

HP-IL to Video Interface (82163)

Sale Save 70%



You can show sixteen 32 character lines on a VHF TV set or TV monitor—use it to develop your programs—make group presentations—all from your HP-41, 71 or 75.

Display white characters on black, or inverse. Memory holds 31 lines, so you can scroll them quickly. AC adapter included.

Stock #82163 [Video Interface] List $225 ..... $67.50

HP-IL/RS-232 Battery Powered Interface

Hand Held Products

15 to 20 working hours of portable power. Interface is physically identical to the HP 82164—and functionally completely compatible.

It also has some additional functional features, like extended transmit and receive buffers with 8K byte capacities. Uses standard HP wall transformer to recharge.

Stock #IL-842 [IL/RS-232 Batt Pwrd Intrfce] List $295 ..... $269.95

Thank you for your order

HP-IL Interface Loop

Interfaces continued

HP-IL/RS-232 Interface

Firmware

Multichannel, Inexpensive

Two channel RS-232 input, two output; function set compatible with HP82164 HP-IL/RS-232 Interface; 110 to 28,800 baud rates; 500 byte transmit and receive buffers.

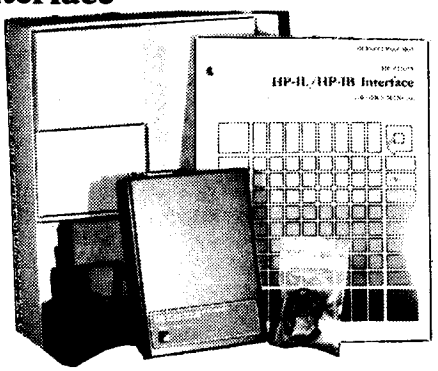
PORTABLE rechargeable-battery version available, as well as AC; 187× 101 ×15 mm.

Stock #IL-759 [Multi 232/IL Inter, 120 VAC] List $235 ..... $199.95
Stock #IL-760 [Multi 232/IL Inter, Batts] List $295 ..... $249.95

See page 43 for HP-IL Module

HP-IL/HP-IB Interface

HEWLETT PACKARD



You can connect the HP-41, HP-71 or HP-75 to some of the most sophisticated computer equipment anywhere. This interface expands your handheld's control and communications capabilities by linking low-cost HP-IL systems with high-performance HP-IB (IEEE488) computers and lab equipment. It gives you the option of using over 120 HP-IB compatible devices, not to mention many more offered by other manufacturers.

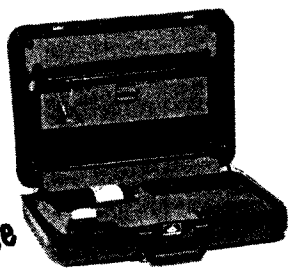
Stock #82169 [HP-IL/HP-IB Interface] List $395 ..... $334.95
Stock #82169L, HP-IL/HP-IB Interface Literature ..... Free

Accessories

Battle Cases
Carry your HP-IL System or a Peripheral safely

EduCALC

Brand New Lifetime Guarantee



- High tech—a double-wall shell of tough, solid, blow molded polyethylene
- Low cost—we've had it made to fit your gear, and we pass along the savings (no middleman)
- Hard-sided—so strong you can stand on it, resists abuse, dust and common chemicals

Handsome, a double-wall construction with trapped air layer insulates contents from shocks, vibration, temperature changes (it also provides flotation for your gear when the canoe turns over). Cannot be opened upside down by mistake. Lockable.

File folder installed inside lid for your papers and programs. Cubed foam interiors—3 layers of partially pre-cut 1-inch cubes that you pluck out by hand to fit your gear. Plus foam liner layer.

Systems Case is 17¼×12×3 inches inside—it will fit your HP-41, 71 or 75 system. Wires may be run under foam for in-case operation.

Peripherals Case is 17×11½×4¼ inches inside—it will hold your ThinkJet printer or disc drive system, including the HP-41 or 71 and small accessories.

Big case is 17×11½×5½ inches inside—it will hold everything!

Stock #IL-2118 [Systems Case] $59.95
Stock #IL-2119 [Peripherals Case] $65.95
Stock #IL-2120 [Big Case] $69.95

Bookware

Control the World with HP-IL

by Gary Friedman

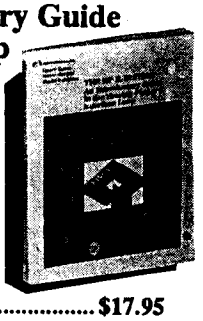
You can build and control an intelligent telephone autodialer/answering machine (complete with a speech synthesizer!), an automated darkroom controller, an ultrasonic distance measurement unit, a dissolve controller for two slide projectors, and more.

Photos, illustrations, and circuit diagrams are used throughout the book so all project instructions are easy to follow. The general-purpose building blocks and concepts behind them are so powerful that you'll find dozens of other uses for them.

Stock #IL-490, Control the World, 340p spiralbound $24.95

The HP-IL System: An Introductory Guide to the Hewlett-Packard Interface Loop

by Kane/Harper/Ushijima



This is the definitive guide to the Hewlett-Packard Interface Loop. The Loop is a bit-serial interface that links the HP-41 or the HP Series 70 personal computers to a new generation of compact peripherals. Summaries of ball HP-IL remote messages and message sequences are also included.

Stock #IL-134, HP-IL System, 106p softbound $17.95

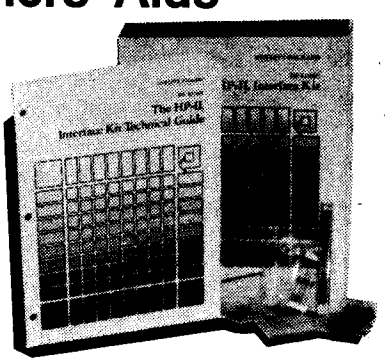
Need Extra OWNER'S MANUALS?

Stock #IL-708, HP-IL Interface Mod Owner's Handbk $10.00
Stock #IL-709, Digital Cassette Drive Owner's Hndbk $10.00
Stock #IL-710, Therm Prntr/Pltr 82162 Owner's Hndbk $10.00
Stock #IL-712, HP-IL/GPIO Interface Owner's Hndbk $15.50
Stock #IL-482, HP-71 IL Owner's Manual $25.00
Stock #IL-839D, RS-232 Owner's Handbook $20.00
Stock #IL-479, HP-IL/HP-IB Owner's Handbook $13.95

Programmers' Aids

HP-IL Converter Kit

HEWLETT PACKARD



The HP-IL Converter Kit provides the special components necessary for building HP-IL into your product. Included are: the HP-IL integrated circuits, the HP-IL transformer set, the HP-IL panel receptacle, complete component-level documentation, four complete sets of parts for prototype evaluation, and HP-IL development software for use on HP-41 and HP-71 systems. Does not include PC board.

Stock #82166C [Converter Kit] List $395 ..... $349.95

HP-IL Converter Parts. The following parts may be ordered for the HP-IL converter on an individual basis as shown below. Standard capacitors and resistors are not listed. Parts are not returnable.

Stock #9100-4226 [Transformer, HP-IL] $12.00
Stock #ILB3-0003 [IC, HP-IL] $24.00
Stock #9100-1631 [Inductor, 56 mh] $1.25
Stock #1810-0651 [Hybrid Chip] $18.00

HP-IL Interface Loop

Programmers' Aids continued

HP-IL Technical Info

Stock #82166-90016, HP-IL Integrated Circ User's Man.....$15.00
Stock #IL-483, Converter Manual.....$10.00

Economy UltraViolet EPROM Eraser

Logical Devices

Tiny (4×2×2 inches) and Fast (less than 3 minutes)—erases one at a time. 110 VAC power, plastic enclosure.
Stock #LD-925 [UV EPROM Eraser].....$59.95

JumboJet Softfonts for your HP-71 and Thinkjet

Joseph Horn

Helvetica Typestyle 08. Thin
Letter Gothic 10, Thin
Letter Gothic Bold 10, Thin
Cooper Black 14, Thin
Bauer Bodoni Condensed 14, Thin
University Roman 18. Thin
Olde English 14, Thin
Times Roman 20, Thin

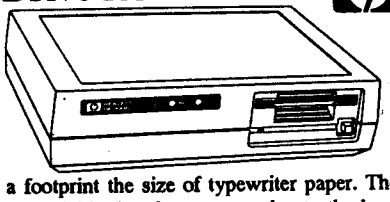
Print stunning lettering, at a stunning price—prize-winning, presentation-quality text—for business presentations, posters, signs, labels, and letterheads.

Total softfont logic, with typefaces resembling Times Roman, Helvetica, Old English, Letter Gothic, Cooper . . . 11 in all! Proportional spacing, 5 scales from 1/8 to 5 inches, justification (left, right, center or fill), kerning, leading—you can even overlap letters!

Bold, light, condensed, thin—a full disc of fonts plus clear step-by-step instructions with descriptions and sample outputs. Requires ThinkJet Printer, HP-71B (some fonts require up to 32K RAM), HP 9114 Disc Drive.
Stock #IL-2037 (JumboJet Softfonts, 3½" disc).....$24.95

Disc Drives

Portable 3½" Disc Drive for HP-IL



At last, here's quick-access mass memory for series 40 or 70 machines (and for HP-110). Two sided, with 630K capacity, yet easily portable—it weighs 6 lbs. and is battery powered. Three inches high, with a footprint the size of typewriter paper. The 3½" flexible discs are safer and more reliable than larger ones, due to the hard case and automatic shutter—and the drive automatically monitors wear and checks for defects at each insertion. Average data access time is ½ second and transfer rate is 6K/sec.

Complete with rechargeable battery, recharger, disc, one meter HP-IL cable, and manual.

This 9114B version has increased battery life, faster access times, a new battery charge indicator, and a new battery pack.

Stock #9114B [HP Disk Drive] List $677.....$549.95
Stock #92192A [3½" Disc] List $5.....$3.95
Stock #92192X [3½" Discs, Box of 10] List $49.....$36.95
Stock #92191M [Disc Carrying Case, holds 5].....$3.25
Stock #88014B [Rechargeable Battery] List $65.....$58.95
Stock #35178C [Case, cordura] List $59.....$49.95

3½" HP-compatible Disc

Stock #1351 [Spectrum/BASF 3½" Disc].....$1.95

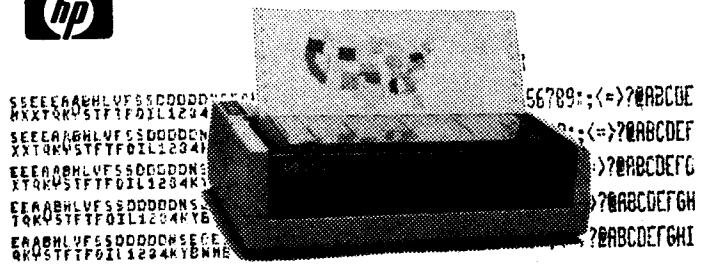
Printers

ThinkJet COLOR Printing!

HEWLETT PACKARD

Stock #51605B [Blue Ink Cartridge for 2225] List $13.....$10.95
Stock #51605G [Green Ink Cart for 2225] List $13.....$10.95
Stock #51605R [Red Ink Cartridge for 2225] List $13.....$10.95

ThinkJet



80 Column ThinkJet Printer

- **HP-IL Driven: Use it with your HP-41, HP-71, HP-75, or HP-110!**
- **Portable: Weighs 5½ lb, and it's battery powered!**
- **Super Quiet: Revolutionary print-head operates well below 50db noise level.**
- **Cost Effective: Under $400, with HP reliability.**
- **Fast: 150 Characters per second.**
- **High-Quality Print: With an 11 by 12 dot matrix, bidirectional, logic-seeking, 1KB buffer, and it does underlining or boldface in one pass!**

We were skeptical when we first heard from HP about this new printer. A glance at those specs above makes it seem like having your cake and eating it too. The explanation is simple but startling: 'THINKJET' stands for THermal INK JET, which is a highly innovative technology that scales down all the virtues of big, fast ink-jet printers to a portable size. It cost HP five and a half years of research and development, with a big-bucks budget—and, naturally, it is very popular (which means that you should **let us know right away** that you want yours).

InkJet means that tiny drops of ink are squirted onto the paper, so the print-head never actually touches the paper. That's why it's so quiet. That's also why it needs no ribbon; instead, you simply replace the printhead for just $10.95. The ink cartridge is right in the head—enough for more than 500 pages of text. Incidentally, 'Thermal' means that the head boils the ink to paint it onto the paper.

More Facts: Size 3.5"H×11.5"W×8.1"D—6 2/3" print line on 8½" paper—graphics resolution 96×96 or 192×96 dots per inch—text resolution 11×12 dots per character—print pitches: normal, expanded, compressed, expanded-compressed—print modes: boldface, underline—6 or 8 lines per vertical inch—rich ROMAN8 character set, for Danish, Dutch, English, Finnish, French, German, Italian, Norwegian, Portuguese, Spanish, and Swedish—pin feed for fanfold paper and friction feed for single sheets—8.5"×11" paper or size A4 (21.0×29.7cm)—product life 3,500,000 lines or 100,000 pages—20 watts max, operates from 50° to 104° F.

Stock #2225B [ThinkJet Printer, IL version] List $495.....$399.95
Stock #2225P [ThinkJet, Parallel, Batts] List $495.....$399.95
Stock #2225A [ThinkJet, IB version, AC] List $495.....$399.95
Stock #2225C [ThinkJ Cntrnics Parallel, AC] List $495.....$399.95
Stock #2225D [ThinkJet, RS-232 Serial, AC] List $495.....$399.95
Stock #82199A [Battery Pack].....$43.95
Stock #92261A [Printhead Cartridge].....$10.95
Stock #92261S [HP Acrylic Printer Stand].....$45.95
Stock #2097 [EduCALC Printer Stand, pictured].....$17.95
Stock #82167A [½ Meter Cable].....$5.95
Stock #82167B [1 Meter Cable].....$7.95
Stock #82167D [5 Meter Cable].....$9.95
Stock #92250V [Dust Cover].....$13.95
Stock #35178C [Case, cordura] List $59.....$49.95
Stock #51630J [Ink-Jet paper, 500 sheets].....$10.40
Stock #51630A [Ink-Jet paper, 500 sheets, fan fold*].....$13.50
Stock #92261N [Ink-Jet paper, 2500 sheets, fan fold*].....$58.95

*Add $15 (500 sheets) or $40 (2500 sheets) for Foreign Surface Shipments
Domestic Federal Exress not available

Plain Paper Printhead Cartridge for all ThinkJets and QuietJets

Stock #51604A [Plain Paper Cartridge] List $11.....$9.95

Surplus HP Gear—Now you can afford a

- 9114B HP-IL 3½" Disc Drive
- 2225B HP-IL ThinkJet Printer
- HP-75D Portable Computer/RAM/Pod Package

Up to 90% OFF!

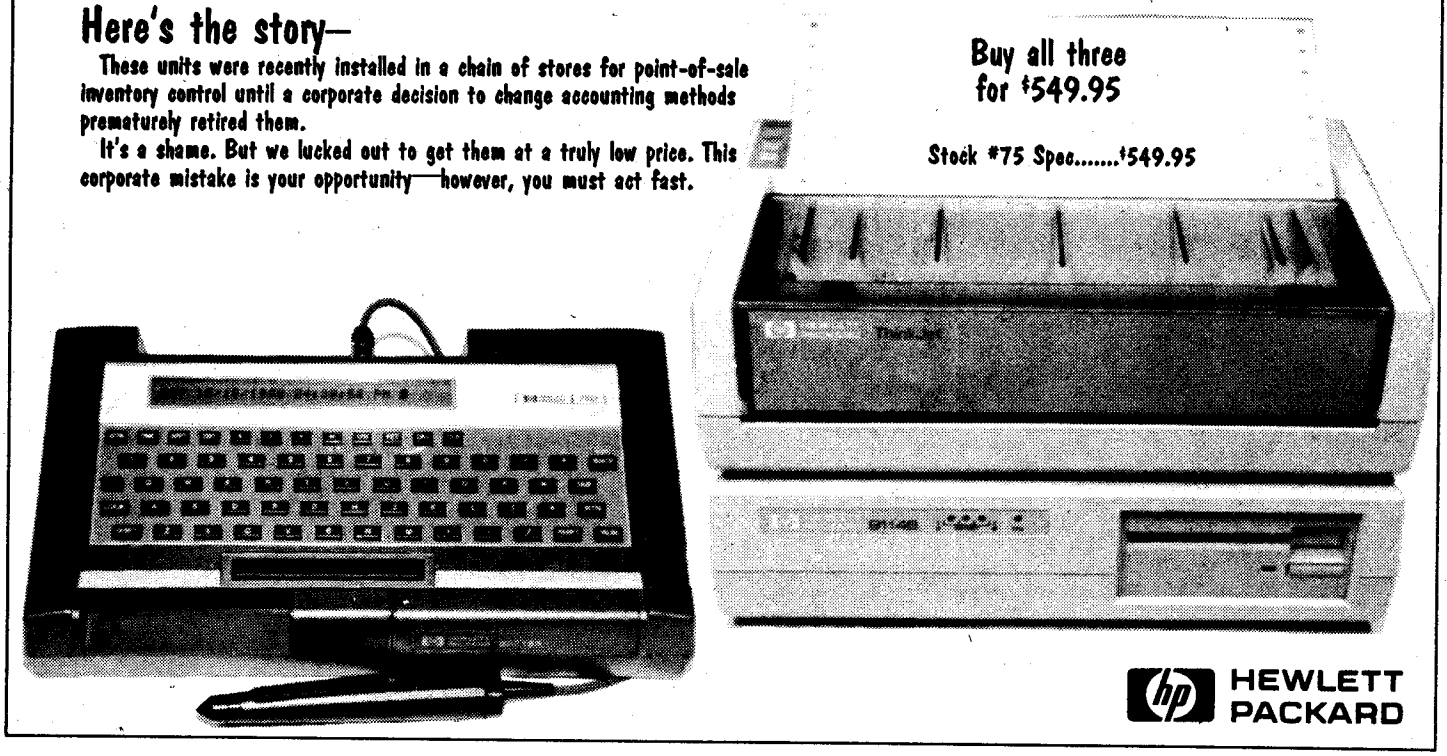
Here's the story—

These units were recently installed in a chain of stores for point-of-sale inventory control until a corporate decision to change accounting methods prematurely retired them.

It's a shame. But we lucked out to get them at a truly low price. This corporate mistake is your opportunity—however, you must act fast.

Buy all three for $549.95

Stock #75 Spec.....$549.95



HEWLETT PACKARD

Used, yes—but believe me, this industrial grade equipment is in excellent, near-new condition—perfect operating shape—and every unit comes with our 30-day guarantee. If your unit fails to operate properly in any way whatsoever, we'll replace it FREE.

This liquidation means you can have that IL Disc Drive or ThinkJet that you've wanted, and that full-memory HP-75 to experiment with—these units are really affordable! **But do not delay**—we must limit these fantastic savings to stock on hand. Let us know right away that you want one.

3½" Disc Drive—this is the current model, and it comes with everything: rechargeable batteries, recharger, disc, HP-IL cable, manual. See description of 9114B on facing page. List price new is $695, so you buy this used unit at a **whopping 57% discount!**

Stock # 9114BU [Used 3½" Disc Drive].....$279

IL ThinkJet Printer — this is the current production model that is so popular—see description of 2225B on facing page. List price new is $495, so you can have fast, quiet IL printing now at this **giant 60% discount!**

Stock #2225BU [Used ThinkJet Printer].....$179

Portable Computer/RAM/Pod Package — loaded with extras! You get the HP-75D computer, plus the 8K RAM Expansion Module that plugs into its battery compartment, plus the Expansion Pod that adds a modem, barcode decoders, and a huge 64K RAM disc full of super-fast memory, plus the Barcode Wand! That's a lot, so I'll display the list here for you (remember, you get the whole package)—

1. (HP-75) Portable Computer
2. (HP-82700) 8K RAM Memory Module
3. (HP-82718B) Expansion Pod
4. (HP-92267B) Barcode Wand

HP-75D is 5 × 10 × 1¼ in, 26 oz, with 16K RAM built in. It has a card reader, wand interface and port, touch-type keyboard (the keyboards on these units have never been used). Comes with manual, battery pack and adapter/recharger, IL cables.

Expansion Pod fits as a cradle on your 75, has 300 baud, direct-connect modem and decoders for 3 of 9 Code and Code 11.

Barcode Wand is medium resolution (0.19 mm min width of narrow element) for code produced on dot-matrix printers.

The total list price for this gear new is $2715—so your cost is discounted an unbelievable 90%!!!

Stock #HP-75DU [Used Computer Package].....$279

See pp 49, 70 for software

HP-71 Computer

Here's where you find...

HP-71B Peripherals	60
Accessories/Batteries	60
Memory/Special Modules	60
Application Pacs	61
Soft/Bookware	61
Programmers' Aids	62

HP-71 Peripherals

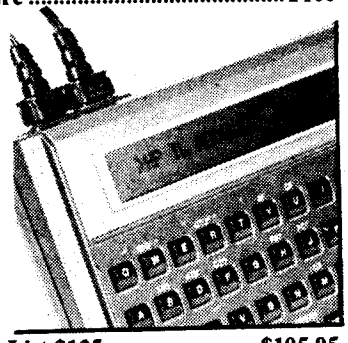
Multicase for the HP-71

CMT

Stock #71-922 [Multicase-128] List $925 ..... $799.95
Stock #71-922L Multicase Literature ..... Free

HP-IL Interface

HEWLETT PACKARD



Plugs inside port at upper left of HP-71 to create a system that can print, plot, store, retrieve, and display information. Control or read instruments, or speak to other computers. 5000 bytes/sec. Built-in ROM includes 46 separate commands. Interface to HP-IL, HP-IB, RS-232C, GPIO, or Series 80. Owner's Manual included.

Stock #82401 [71 HP-IL Interface] List $125 ..... $105.95

Card Reader

HEWLETT PACKARD

Installs easily into top of your HP-71 —uses the same hand-pulled cards as the HP-75 for inexpensive off-line storage of data/programs. 1.3K bytes per card. 5 cards included.

Stock #82400 [71 Card Reader] List $165 ..... $139.95

Accessories/Batteries

AC Adapter for the HP-71

Same stationary power source as for the HP-41 and HP-75. Does not recharge batteries in the HP-71.

Stock #82059 [Power Supply] $18.95

HP-71 Torx Tool

This is all you need to 'open up' your HP-71B.

Stock #71-T6 [Torx Tool] $6.00

Anti-Static Protector Bag

Comp-U-Bag

Zip out dirt and moisture, plus protect your instrument from loss of data or IC damage from accidental static electric discharge. Bag keeps keyboard feel, lasts for months. Easy access to ports, fits into leather case.

Stock #71-543S [Anti-Static Bag] List $3.50 ..... $2.75

Waist-Belt Battery Pack

CMT

Stock #71-795 [71 Belt Pack] List $75 ..... $69.95

71 Touchpad

EduCALC

Ruggedize your HP-71 for hazardous duty Sale

Keyboard overlay resists spills and spatters as well as dust and grit. It snaps neatly in place over your keyboard—has all key legends reproduced in their correct colors.

Stock #71-810 [71 Touchpad] List $29 ..... $14.95 ~~$23.95~~

NiCd Multi-Charger for N, AA, AAA and 9-volt size batteries

Ledford Micro

Beat the cost of throw-away batteries—this universal unit recharges NiCds for the HP-71 (also HP-19B, 28S and HP-41B)—2 or 4 at a time, in only 5 hours.

Just think, in the thousands of hours of service from a NiCd (with 1000 recharges) you'll save hundreds of dollars over throwaways. 5 year/1000 recharge warranty.

Protected against polarity reversal. 71-739 includes sleeve-adapters.

Stock #71-739 [Charger, Adapters, 8 NiCd AAA-cells] $35.95
Stock #41-738 [Charger; batteries/adapters not inc] $13.95
Stock #NAAA [NiCd Battery for 71B] Requires 4 ..... ea. $3.10
Stock #41-836 [2 Sleeve Adapters for N-cells] $2.50

HP-71B ACCESSORIES

Stock #82059 [Adapter] $18.95
Stock #82707A [30 Blank Magnetic Cards] $29.95
Stock #82462A [Overlay Kit, 5] $11.95
Stock #82715A [Notebook Card Holder, 5] $17.95
Stock #82167A [HP-IL Cable, ½ Meter] $5.95
Stock #82167B [HP-IL Cable, 1 Meter] $7.95
Stock #82167D [HP-IL Cable, 5 Meters] $9.95
Stock #AAA [Alkaline Batt for HP-71] Requires 4 ..... ea. $.89

Memory/Special Modules

RAM Memory Modules (Front Port)

Get more memory—just plug in up to 4 of these modules. (We can even hard-wire up to 8 of these at a modest additional charge.)

Stock #71-656 [32K Plug-in RAM] $149.95

JPC ROM Module

PPC Paris

Created by the French user's group—more than 100 assembly-language functions that extend your HP-71 in natural ways.

You'll have useful memory tools like WHILE/END WHILE and an automatic indenter—daily conveniences like keyboard control of printer and executions at power-off. You get tight control over your HP-IL peripherals, like changing the font on your printer or getting room available in a mass-storage device. Interactive address-direction editor. Tools to use data in programs. Date calculation. Advanced math functions. Memory editor. Disassemble functions. Lex file merging. More. More. More.

200 page complete reference manual in English, plus pocket guide. Formidable, eh?

Stock #71-917 [JPC ROM Module] List $185 ..... $173.95

HP-71 Computer

EPROMS (Front Port)

Store up to 32K or 64K of custom application programs. Unlike the RAM modules, these modules may be removed from your HP-71 front port without losing their memory, just like any HP Application Pac. They can be intentionally erased with ultraviolet light and reprogrammed many times by an EPROM burner or through our EPROM service. Better than Application Pacs, they are updatable. Programming charges are $30 from your disc; duplicates are $10.

Stock #71-672 [32K HP-71 EPROM] List $115.....$99.95
Stock #71-731 [64K HP-71 EPROM].....$155.95

HP-71 Memory Modules (Card Reader Port)

Have up to 128K in your HP-71B with one module. And, when you remove your module its contents are retained by the battery back-up. You can even combine 32K of RAM with 32K of OTP (One Time Programmable ROM) in model CR-32/32.

Stock #71-845A [CMT-CR-32R, 32K RAM] List $160.....$149.95
Stock #71-845B [CMT-CR-64R, 64K RAM] List $295.....$269.95
Stock #71-845C [CMT-CR-96R, 96K RAM] List $395.....$359.95
Stock #71-845D [CMT-CR-128R, 128K RAM] List $495....$445.95
Stock #71-845F [extra Battery].....$7.95

Economy UltraViolet EPROM Eraser

Stock #LD-925 [UV EPROM Eraser].....$59.95

Application Pacs

It's like having an IBM mainframe computer, programmed for your profession, right in your hand! Each pac comes with a ROM module (16 to 48K), which fits neatly inside your 71B, and complete documentation, written to HP's high standards.

HEWLETT PACKARD

Finance
Stock #82482 (71 Finance Module) List $75.....$69.95

Data Communications
Stock #82488 (71 DATACOMM Module) List $95.....$84.95

Math
Stock #82480 (71 Math Module) List $95.....$84.95

Surveying
Stock #82483 (71 Survey Module) List $95.....$84.95

Text Editor
Stock #82485 (71 Text Editor Module) List $75.....$69.95

Curve Fitting
Stock #82484 (71 Curve Fitting Module) List $95.....$84.95

Data Acquisition
Stock #82479 (71 Data Acquisition Module) List $195.....$169.95

Statistics
Stock #82489 (71 Statistics Module) List $95.....$84.95

AC Circuit Analysis
Stock #82481 (71 AC Circuit Module) List $75.....$69.95

HP-41 Translator
Stock #82490 (71/41 Translator Module) List $95.....$84.95

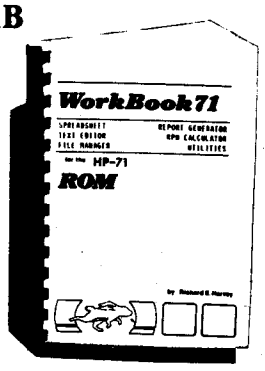
See HP-IL Section for more Peripherals:

Digital Cassette Drive, Thermal Printer/Plotter, Video Interface, Impact Printer, I/O Interface, Acoustic Coupler, RS-232 Interface, Video Monitor.

Soft/Bookware

WorkBook71 Module revision D an Integrated Spreadsheet/Data Base/Text Editor/RPN Calculator... all in 1 ROM for your HP-71B

Richard Harvey



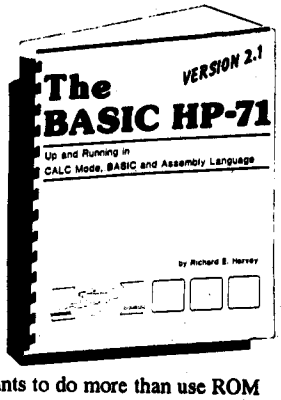
- **Text Editor**
- **Spreadsheet**
- **Better integration**
- **Two LEX files**
- **On-line help**
- **Text FormatterRPN calculator**
- **Useful sub-programs** including quick sort
- **Common user interface for Spreadsheet, Text Editor and RPN Calculator.**
- **The functionality** of HP-75 VisiCalc, the 71 Text Editor ROM and HP-41 Emulator plus other features missing from those ROMs (like data base utilities). If you could get the VisiCalc ROM for the 71 then those ROMs would cost $325 (even at EduCALC prices!) and would take three ports.
- **Efficient programs—Most modules start in under one second (the HP Text Editor, for example, takes over 4 seconds, Finance ROM over 3). Minimal memory used for variables—RPN calculator uses less than 300 bytes, spreadsheet uses 1K. There are no special key assignments or key files—it leaves your key assignments how you want them.**
- **No accessories needed**

Stock #71-740 (WorkBook71, Module) List $200 ..... $169.95
Stock #71-740M, Owner's Manual Only* $14.95
*Cost may be applied later to the purchase of the unit.

Similar program also available on disc.
Stock #71-612 (WorkBook71, Cassette) List $80 ..... $69.95

The Basic HP-71

by Richard Harvey



Do you want the ability to write programs and to make better use of programs you already have? How about having a teacher who thinks programming is FUN?

This book has NO PREREQUISITES, yet it will give you all of HP-BASIC and get you started with the powerful techniques of Assembly Language (without your buying HP's 2 vol. *Internal Design Specifications).* There's also plenty of description of the 71 hardware, software and accessories, plus copious reference tables and charts.

This book is a MUST for every 71 user who wants to do more than use ROM programs as-is.

Stock #71-658, Basic HP-71, 160p spiralbound, List $24 ..... $19.95

OWNER'S MANUALS?

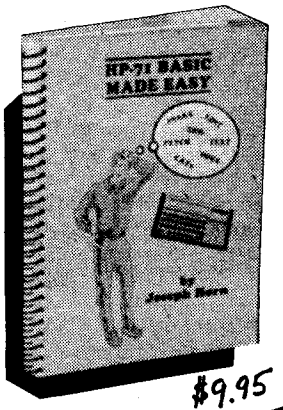
Stock #71-875A, HP-71 Owners Handbook $25.00
Stock #71-875B, HP-71 Reference Manual $30.00
Stock #71-875C, HP-71 Quick Reference Guide..... $5.00

Handheld Computers

Soft/Bookware continued

HP-71 BASIC Made Easy
by Joseph Horn

Sale



What your owner's manual doesn't reveal! Learn how to use CALC mode and the command stack as efficiently as RPN.

Learn BASIC and operation system tricks including PEEKing and POKEing. Try some of the fascinating, fun and elegant BASIC application programs, or modify them to fit your needs. Use the alphabetical syntax guide for quick reference when you are programming. An excellent tutorial and an indispensable reference, this is the definitive work on BASIC and the HP-71 by the world's foremost expert on the subject.

$9.95

Stock #71-354, HP-71 BASIC, 163p softbound ..... ~~$18.95~~

Programmers' Aids

The HP-71B has 'open architecture'; here are all the tools you'll need to develop your own sophisticated programs or to write proprietary software for it.

Forth/Assembler ROM with Debugger for the HP-71B

HEWLETT PACKARD

Dictionary Management

```
ALLOT       HERE
CONTEXT     NALLOT
CURRENT     PAD
DEFINITIONS SHRINK
FENCE       VOCABULARY
FORGET
FORTH       System
GROW        >BODY
            >STACK
```

Complete kit—Assembler Module and 3½" Debugger disk. Contains entire Forth/Assembly Development System of 82441 module as well.

FORTH{{{floating point and string operations, 20 bit implementation, increase new vocabularies, sub. foreign error messages.

ASSEMBLER{{{produce new Forth primitives, new BASIC keywords in LEX or BIN files.

Stock #82478A (FORTH Assem/Debug Mod) List $175.....$159.95

HP-71 Debugger upgrade for 82441 Forth/Assembler

HEWLETT PACKARD

Complete, easy-to-use debug software on 3½" disc—works to upgrade your 82441 FORTH/Assembly Development System Module.

Stock #82478-6 (71 Debugger, 3½" Disc) List $80 .....$69.95

Software Developer's Handbook

Sale—While they last

Provides timesaving ideas and guidelines for consistency among programs written for the HP-71. A 'cookbook' for applications programmers working with the HP-71. Recommended for independent software vendors.

$34.95

Stock #71-90097M (Handbook with Mag Cards)..... ~~$45.95~~

Stock #71-90097C (Handbook with Cassette) ..... ~~$45.95~~

$34.95

Read our mail from Bolivia—

"I have been buying from EduCALC during several years . . Congratulations on your catalog it helps very much to keep up to date on new state of the art computers and calculators. Thank you very much." Johannes Broersma, Cochabamba

TI-74 Basicalc
makes short work of homework.

TEXAS INSTRUMENTS

Custom Programming Available through EduCALC

TI's BASIC-language programmable is the only calculator that combines so much power with so much ease of use.

Easy . . . because it's powerful

Finally, here's a calculator that makes those long, tough calculations a lot easier. Packed into the sleek, compact TI-74 BASICALC are 113 BASIC commands. Along with 70 scientific functions, and 8K of RAM expandable with optional cartridge.

Easy . . . because it's flexible

Your TI-74 BASICALC is a BASIC-language programmable calculator that lets you customize your calculations to your special needs. It's a full-function scientific calculator, too, and there are 10 keys you can define yourself for simple, repetitive calculations.

Optional, plug-in software cartridges—Math, Statistics, Finance, and PASCAL programming—boost your problem-solving capability. You can add a 24 column portable printer, cassette recorder, or both.

Easy . . . because it's friendly

Calculator entries are as natural as writing them down—no reverse Polish notation. The typewriter-like keyboard has large, positive-action keys to prevent double entries. There are built-in command keys, and a 31-character LCD display.

And it's easy to own

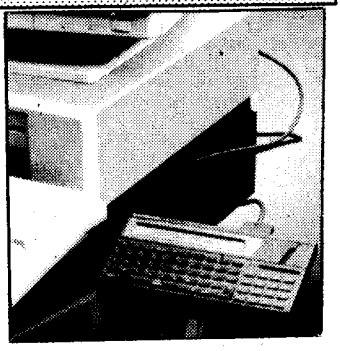
Included are protective case, batteries, quick reference card, and comprehensive User's and Programming Guides. Order the BASICALC today{{{because you want high grades{{{because homework shouldn't take up all your time!

Stock #TI-74 [BASICALC] List $135..... $99.95
Stock #74-696 (Lrn PASCAL Cartridge) List $50..... $39.95
Stock #74-697 (Statistics Cartridge) List $50..... $39.95
Stock #74-698 (Math Cartridge) List $50..... $39.95
Stock #74-930 Chemical Eng Cartridge) List $50..... $39.95
Stock #74-871 (Finance Cartridge) List $50..... $39.95
Stock #TI-695 [8K RAM Cartridge] List $50 ..... $39.95
Stock #PC-324 [Portable Printer] List $115..... $89.95
Stock #AC-9201 [Adapter] List $19..... $16.95
Stock #TP-324 [Paper] List $6 ..... $4.95
Stock #CI-7 [Cassette Interface] List $35..... $26.95
Stock #PA-201 [AC Interface]..... $6.95
Stock #74-999 Technical Data Manual, 30p combbound $9.95
Stock #74-LEARN TI-74 Learn Basic, 299p softbound $5.95

Calculator batteries, stands & cases—see pp 13-15

PC-Interface Cable

Brand New



Download data from your TI-74 to a TI or IBM-compatible PC—manipulate the data with PC programs, save to hard disc, floppies or printed hard-copies.

High-speed parallel transfer through 4' cable; connector is 1.5× .75 inches.

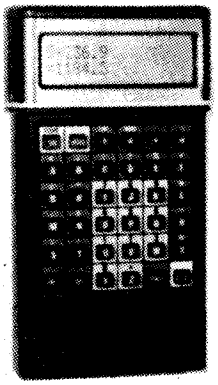
Stock #U-2153 [PC-Interface Cable] $54.95

Organizer II

The 1-2-3-Compatible PC you carry in your pocket

Psion

Free Module Offer



A 'dream' portable, battery powered and calculator sized (5.6× 3× 1.1 inches), and the price is right! There is 32K of built-in ROM program plus up to 32K RAM. It easily plugs into your desk PC so you can up or download spreadsheets, data, etc. Two solid-state drives accept up to 256K in EPROM Datapaks or software modules.

Diary that reminds you . . .Built-in

You record your appointments in a ready-made diary by date and time, for the current year and for future years too. You can browse through the entries, or go straight to a specific date. It can be set to turn itself on and beep you up to an hour before an appointment—and show you who, where and when on the screen.

8 regular Alarm Clocks . . . Built-in

You can set up to eight alarms to ring at any time during the day or week. Can be programmed to ring at weekly, daily or hourly intervals as you wish—for example, for morning calls or weekly appointments.

Indexed Filing Cabinet . . . Built-in

Stock and customer records, supplier lists, book catalogs and any other reference information can be stored and entries selected quickly and easily on particular criteria.

Personal Secretary . . . Built-in

Stores all your vital personal information, names, addresses, telephone numbers and business contacts. Just type in a small detail as a clue and the powerful cross-referencing system will recall the item you require in a second and automatically scroll it across the screen.

Calculator . . . Built-in

Calculations are displayed on the screen as they are performed, so that entries can be checked and changed if you want to carry out several similar (what-if) calculations. It has twelve-digit calculation accuracy, ten memories and full mathematical and scientific functions.

Clock and Calendar . . . Built-in

Shows a weekday, date, month, year, hours, minutes, and seconds.

Programmability . . . Built-in

Contains an extremely powerful yet easy-to-use programming language (OPL) allowing simple and sophisticated programs to be written to meet your own or your company's particular requirements. The programs can be stored either in the built-in memory, or on an optional Datapak, for repeated use later.

Product Summary

ORGANISER II—MODEL CM: 32K ROM, with built-in diary, filing, calculator, clock and alarm functions; OPL programming language. Internal 8K RAM for your personal filing, diary appointments and programs. Optional Datapaks up to 64K each; the Comms-Link, program packs and the AC adaptor can be connected. 32 character, 2 line screen.

ORGANISER II—MODEL XP: All the functions and capabilities of Model CM with four times the internal memory (32K RAM) for your data. Additionally the XP allows optional 128K Datapaks, Barcode Readers and Magnetic Card Readers to be connected.

ORGANIZER II-MODEL LZ: every feature and function of Model XP plus large 80 character, 4 line screen and big 64K ROM. This ROM adds many new functions — Extended filing system, Week-at-a-View, Calendar, Notepad, Password protection, Data encryption, World times (400 cities), International dialing codes, Stopwatch and Timer.

ORGANIZER II-MODEL LZ64: just like Model LZ, but with larger 64K RAM memory. With the LZ64 and two 128K Datapaks you can now have a total memory of 320K.

DATAPAKS: Perform a role similar to floppy disks on desk top computers and up to two Datapaks plug directly into the back of Organiser II. The use of Datapaks adds considerably to the power of Organiser II by freeing internal memory for diary entries and programs, and for the secure, battery independent storage and back-up of your information. A Datapak contains EPROM memory.

SOFTWARE PACKS: These contain pre-written permanently recorded software programs for specialized programs and plug in just like Datapaks.

The Formulator: a Solve, for your own problems or for its 250 preprogrammed formulas and conversions (no programming required). Built-ins include business, time value of money, math and stats, physics, electronics, chemistry, navigation.

The Finance Pack: for financial calculations, bank account and expense account management.

The Math Pack: solves analytical mathematical functions and provides statistical analysis.

The Concise Oxford Spelling Checker: look up the spelling of 24,000 words.

The Spreadsheet Pack: a full-function spreadsheet, 26 columns × 99 rows. Operates independently or, using the Comms-Link, can exchange spreadsheets with a PC. Generally compatible with Lotus 1-2-3™ and additionally accepts DIF format worksheets. (Model XP only.)

Standard Peripherals

COMMS-LINK plugs directly into top port of Organiser II and includes interface, cable, and Organiser II software.

Menu-driven software directly controls printers and provides asynchronous communications to other computers and modems which have an RS232 serial port. Allows bi-directional transfer of files, OPL programs and spreadsheets between Organiser and PC. Provides access to electronic mail and telex services. Communications can be controlled by OPL programs.

For use with IBM PC/Compatibles, a 5¼" disk is provided with extra software. For communications to other PCs any standard communications package will suffice. Has D25 plug for PC or XT.

Comes with manual. Uses one 9 volt battery (NOT included).

Provides RTS/CTS, XON/XOFF handshaking and XMODEM error-checking protocols. Baud rates 50-9600.

AC ADAPTOR that connects to Organiser's top slot for desk-top use, provides power in parallel to battery—does not charge battery—and preserves the Organiser RAM memory during connection.

BARCODE READER auto discriminates between UPC, CODE 39, 2 in 5 interleaved, EAN8 and EAN13. Includes Organiser II interface, high-level software and digital switched wand. Introduces command BAR$ into OPL language, which returns value of barcode scan.

MAGNETIC CARD READER includes cable, Organiser interface and high-level software. Introduces command SWIPE$ into OPL language, which returns as a string the data from track two of the card. Durable for in excess of 300,000 passes.

UV EPROM Eraser is an ultraviolet device that completely clears the contents of an EPROM Datapak, leaving it ready for reuse.

Stock #883A [Organiser II CM, 8K RAM] $179.95
Stock #883B [Organiser II XP, 32K RAM] $249.95
Stock #883W [Organiser II LZ, 32K RAM] $299.95
Stock #883X [Organiser II LZ64, 64K RAM] $399.95
Stock #883Y [Psion Portable Printer II, 9v or AC] $349.95
Stock #883C [16K Datapak] $29.95
Stock #883D [32K Datapak] $49.95
Stock #883E [64K Datapak] $89.95
Stock #883F [128K Datapak] $179.95
Stock #883V (Formulator) $49.95
Stock #883G (Finance Pack) $49.95
Stock #883H (Math Pack) $49.95
Stock #883J (Spreadsheet Pack) $79.95
Stock #883K (Spelling Checker) $49.95
Stock #883M [Comms Link, D25 plug] $99.95
Stock #883N [D25 to D9 adaptor plug for AT] $19.95
Stock #883P [AC Adaptor] $19.95
Stock #883R [Barcode Reader] $249.95
Stock #883S [Magnetic Card Reader] $199.95
Stock #LD-925 [UV EPROM Eraser] $59.95
Stock #9VA [9v alkaline battery, uses 1] $2.80
Stock #9VN [9v NiCd battery, uses 1] $8.95
Stock #883T [Formatter] $99.95
Stock #883U [32K RAMPAK] $89.95
Stock #883L, Organiser II Literature ..... Free

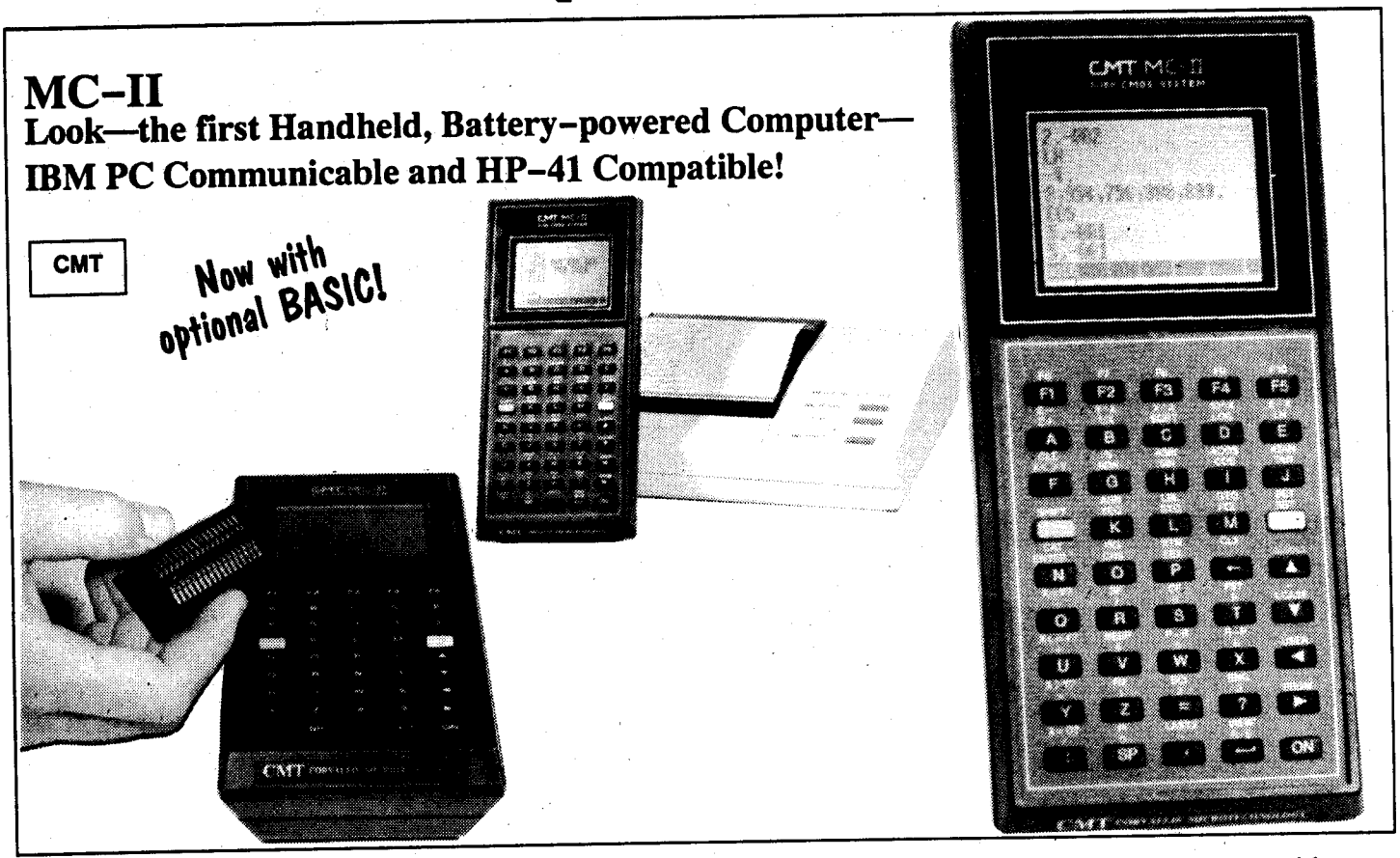
Calculator batteries, stands & cases–see pp 13-15

Handheld Computers

MC-II
Look—the first Handheld, Battery-powered Computer—IBM PC Communicable and HP-41 Compatible!

CMT

Now with optional BASIC!



- **Handheld**—8× 3.8× 1.75 inches, and you hold it vertically for easy keying in the hand. Weighs just 22 oz.
- **Battery-powered**—5 little AA batteries will serve an average user for a month before recharging.
- **IBM Communicable in Several Ways**—the CPU in the MC-II is an 80C88, a power-thrifty version of the 8088 in the PC/XT, running at 5 MHz (a little faster than the PC).

It has 2 RS-232 Serial Communications Ports (selectable 300 to 19200 baud) so files can be up or downloaded from a PC, printer, field surveying instrument, or other serial device. The Kermit protocol is built into the MC-II so you can easily talk to larger computers, too.

The MC-II operating system supports a (optional) high-level programming language, Microsoft C 4.0 or Quick C, so code can be written and tested on your PC, then linked with the MC-II library and run with no modification (and over 20 times faster than in 71-BASIC).

You can also write code for the MC-II in 8088 assembly language.

HP-41CX Compatibility—your MC-II comes with a '41M-ulator' which has every function of the CX, so every one of the huge library of HP-41 programs will run on it, but 5 to 10 times faster.

Huge Memory—128K RAM is standard, and 4 ports allow expansion to a whopping 768K! 128K ROM built-in. Addresses 1 Meg.

Display—8 line× 21 character LCD with 64× 128 dot graphics.

Peripherals—in addition to the serial ports and memory ports, there is a System Expansion Port so you can integrate a barcode reader, modem, measurement device, additional memory, etc.

Plug-in BASIC—optional module runs most GWBASIC or IBM BASIC programs without modification; data files are fully compatible. MC-BASIC has a few additional statements: to select I/O devices via an RS-232 port, to select HP-IL events to respond to, to select time and date to perform a routine. It also has a SLEEP command to conserve power while running a program until an event occurs and an OFF command giving a kind of 'suspended animation' until an event or an alarm awakens it. Truly portable, MC-BASIC can stand alone or can use your PC for full screen and keyboard support.

MBASE—an optional relational database management system, fully compatible with dBASE III Plus. Comes complete in a plug-in ROM module, so you can key in data, or use a barcode reader or scanner to enter it, or transfer whole dBASE files from/to your PC. Several databases may be linked, too.

Comes with manual, 41M-ulator and AC Adapter/Recharger.

Stock #MC-II/41 [CMT Computer] List $750 ..... $699.95
Stock #MC-IIM [128K RAM Module] List $160 ..... $143.95
Stock #MC-BASIC [BASIC Module] List $185 ..... $159.95
Stock #MC-MBASE [Database Module] List $185 ..... $159.95
Stock #MC41M (HP 41 Emulator) List $185 ..... $159.95
Stock #MC-COMKIT [COMKIT] List $35 ..... $31.95
Stock #MC-Printer [Seiko, DPU-411] List $245 ..... $216.95
Portable, 80 column compressed, thermal
Stock #MC-PAPER [Seiko printer paper, 5 rolls] $21.95
Stock #MC-CABLE [2 meter cable, serial] $4.95
Stock #MC-BATPAK [NiCad battery] List $15 ..... $12.95
Stock #MC-RECHG [AC adaptor for NiCad] $12.95
Stock #MC-TR41 [Translator software, 41C to 41M] $39.95
Stock #MC-PTRAN [Translates uploaded 41] List $145 ..... $129.95
Stock #MC-MCIILIT, Literature ..... Free
Stock #MC-2104 [Hard Leather Case] List $50 ..... $42.95

Calculator batteries, stands & cases—see pp 13-15

MC-V Environmental Version

- Outdoors—surveying, construction, line-work
- Inside the shop, factory, lab or mill

Rugged and tough, with shock-resistant, rain-tight, dust-proof case. Built-in heater allows operation to -40°.

Includes 256K RAM and choice of MBASE, MC-BASIC, or 41M module (please state which). Weighs only 26 oz; does not fit MC-POD.

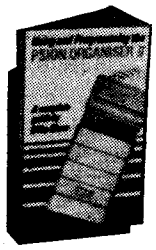
Stock #MC-V [CMT Environ. Computer] List $1450 ..... $1349.95

LapTop Computers

Using and Programming the Psion Organizer II

Brand New

by Mike Shaw



Everything you'll need if you're a beginner, plus the detailed reference material that saves time and tears for the experienced programmer.

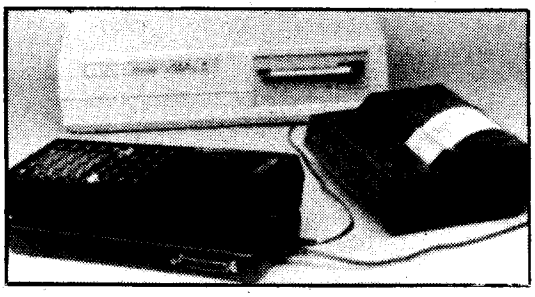
Written with considerable help from Psion, this complete guide begins by explaining how a computer works. It then covers the built-in applications—how to keep time, use alarms, file records, run a diary or do calculations.

Most of the book, though, tells you exactly how to program the Organizer II effectively and quickly. 42 programs are completely listed, as examples and for your use.

Stock #U-2150, Using/Programming Psion, 256p sftbnd.....$19.95

MC-II POD

CMT



Use all of your HP-IL peripherals with the MC-II! You get HP-IL and parallel printer interfaces as well as optional one megabyte memory.

The MC-POD enables your MC-II to control a wide range of peripherals including: Disk Drives, Printers, Displays, Internal and External RAM Disks, other MC-IIs, IEEE-488 Peripherals, and general purpose I/O Equipment.

The HP-IL interface is self-configuring. Just set up your loop and begin! The HP-IL loop can support a total of 931 peripherals, translate data at 220,000 baud, and uses very little energy. Error checking and damage protection is built into the machine.

Several new commands have been added: MD.X (make a directory), PWD.X (print the working directory), HP82163A.X and HPDISP.X, which drive the HP thermal printer and provide HP-IL display compatibility respectively.

The MC-POD fits easily onto the expansion port on the back of your MC-II. Since it only adds another 11.5 ounces of weight and .9375 inches of girth, the MC-II with pod is still a true handheld that can be conveniently carried outside the office.

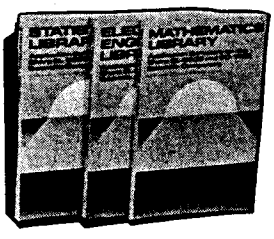
Stock #MC-POD [HP-IL/Parallel INT] List $295.....$256.95

Application Software for the Sharp EL-5500 and PC-1403 Scientific Computer

Brand New

by Swinnen/Thomas

■ **Mathematics** ■ **Statistics**
■ **Electrical Engineering**



Each of these books contains at least 23 tested, ready-to-run programs that are written specifically for the dialect of BASIC understood by the Sharp EL-5500/PC 1403 computer. (They will also run on the EL-5510, EL-5520, PC-1421 and PC-1460 computers.)

Simply type in the programs you want and you'll be up and running immediately!

Stock #U-2040, Mathematics Library, 122p softbound.....$11.95
Stock #U-2041, Statistics Library, 109p softbound.....$11.95
Stock #U-2042, Elec Engineering Library, 122p sftbnd.....$11.95

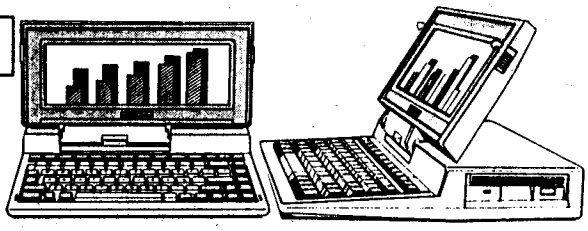
Sharp BASIC

Stock #U-2039, Sharp BASIC, 181p softbound.....$11.95

Portable Personal Computer

Toshiba

New lower prices



T1000 PC Compatible—The smallest, lightest, portable PC at just 6.4 lbs. 80C88 running at 4.77 MHz. 720K, 3½" floppy drive. 512K RAM expandable to 640K, plus 256K ROM containing MS-DOS 2.11, clock/calendar and SideKick. Supertwist 80 character× 25 line LCD display, compatible with CGA monitor. 6 interface ports.

Up to 5 hours on batteries, or plug into AC. 1 yr warranty. And what a price!

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Comes with MS-DOS 3.3, SideKick and disc-cache utilities, 100-240- v adapter/charger; 1 yr warranty.

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T1600 AT Compatible—11.6 lbs of 12 MHz portable power. 80C286 running at 12 or 6 MHz, 80C287-12 coprocessor socket, real-time clock/ calendar, 1 MB RAM (expandable to 3 or 5 MB without using the slot), 20 MB hard disc with 27 msec access, 1.44 MB 3½" drive. Detachable backlit supertwist LDC display, (EGA compatible) with 640× 400 pixels and 16 gray scales, 80 characters× 25 lines hi-res; EGA port.

Full-function 86-key keyboard with 12 function keys, 8 cursor control keys, integrated keypad and special Fn key. 1 parallel and two 9-pin series ports, expansion and modem slots, external drive and keypad ports.

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Xact 11C or 12C
HP-compatible PC-calculator

Calctech

Pop-up PC-programs, functionally equivalent to the HP-11C, 12C or 16C handheld calculators. Display on your screen also emulates the calculator, in color.

Use this RAM-resident calculator by itself or right in the midst of another program—just touch your 'hot-key', make your calculation, then pop back into your other program. You can import data from the other program, then export results back into it. On-line HELP.

Includes a simulated tape display that can be viewed, stamped, printed and saved to disc. You can write programs if you wish; add comments, save to disc.

PC/compatible with DOS 2.0+; occupies 64K in RAM, plus another 64K while it's active.

Stock #S-2049 (Xact 11C program, 5¼") List $50.....$44.95
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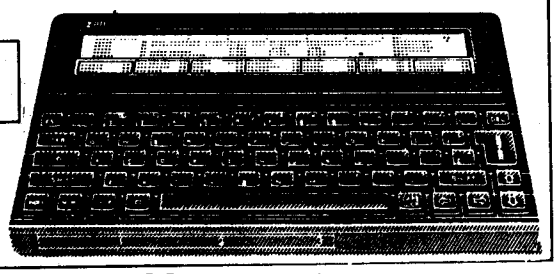
PC Solvers/Calculators

Z88

Cambridge Computers



The first truly portable computer– from the legendary inventor Sir Clive Sinclair

- **Sheet-of-paper size—less than an inch thick—less than 2 lbs weight.**
- **8 line× 106 character Supertwist LCD screen**—QWERTY keyboard with silent, short-travel keys.
- **Built-in ROM software**—word processor, spreadsheet, database, calculator, diary, calendar, clock, alarm—all work together perfectly. Basic/Assembler language also in ROM.
- **Communicates with your PC or Macintosh**—import data or programs from your desktop, or dump your Z88 work to your desktop when you get home from a trip. Z88 converts its own files into Wordstar or Lotus 1-2-3 files. All you need is PC Link or Z88-to-Mac adapter sold below.
- **32K RAM built-in, with memory-pack expansion via its 3 ports**—more RAM for computing power—EPROM for mass storage of data or programs (these work like floppy discs but they are smaller and they must be erased for re-use).
- **4 AA batteries give 20 hours of computing** or 1 year on standby!

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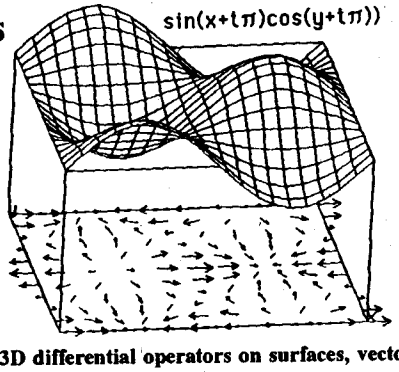

Now—display the action of 3D differential operators on surfaces, vector fields and integrals flows.

Interactive, and you can include a time parameter to generate a sequence of frames, and play them back for 'real time' **animation.**

2 and 3D surfaces and vector fields, dot and cross products, gradient, divergence, curl, Laplacian, time derivatives. View from any angle, see up to 6 layers (related functionally or differentially). For PC/Compatibles; also available for Macintosh.

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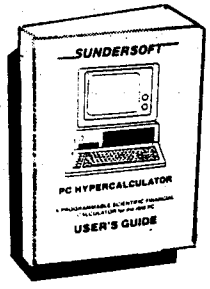
PC Hypercalculator 3.00

Sunderland Software



Do you still keep a hand-held calculator next to your powerhouse IBM PC or PC-compatible? PC Hypercalculator contains faithful emulations of both the HP-11C scientific calculator and HP-12C financial calculator, plus most-used functions from the 16C.

Has over 120 familiar HP-11C and HP-12C keyboard and program operators, plus alphanumeric prompts, hexadecimal/octal/binary arithmetic with logical operators, equation solving, numerical integration, printing, and on-line HELP. Extra goodies include matrix calculations and complex number arithmetic—even solution of DEs.

There are 100 data registers, 100 labels, 10 flags, 20 levels of subroutines, and 1000 program steps. Data can be stored on disk or transferred directly into or out of another program. Program uses 70K and can be run in pop-up mode if desired. Your HP-11C or HP-12C programs will run on PC Hypercalculator, but 20-40 times faster. Includes free 8087 support and User's Guide.

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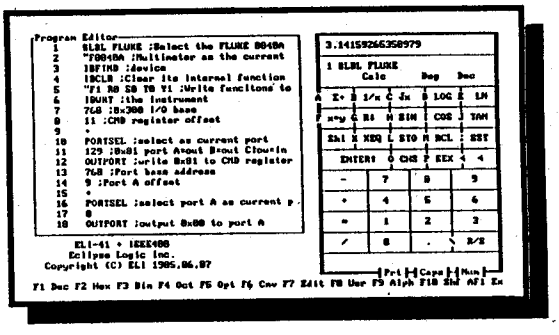
CALC-41

Tacit Logic



Professional Scientific Calculator

Run any program ever written for the HP-41 on your PC or write HP-41 programs on your PC and run them on your calculator. Majorizes Hewlett-Packard's HP-41CX, with unlimited per program file and an unlimited number of files, 30 nested levels of subroutine calls, 500 data storage registers with full indirect access, enter and view data in decimal, binary, octal or hex modes, single-step debugging, user key reassignments {{{

But all this is on your PC/Compatible, so every thing can be transferred to/from disc, viewed in large windows on your monitor (in living COLOR if your monitor does that), plus it happens much faster—faster still with an 8087 coprocessor (program will use it, but doesn't require it). Pop-up option included free. Requires DOS 2.0 or higher. Mouse supported. Can be used with Transfer-41 (see HP-IL section).

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XREF41
Cross-reference utility

Tacit Logic

Creates 'cross-reference' lists of labels, GOTOs, XEQs, flags, and registers used within CALC-41/41SX programs. Output can be stored or printed in ASCII format.

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Numerical Analysis

Nonlinear curve fitting–fast (SH)
MINSQ 3.0

MicroMath

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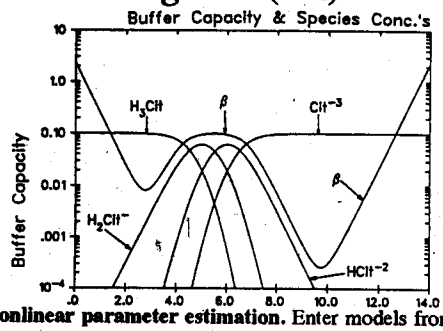

Simple, versatile nonlinear parameter estimation. Enter models from keyboard or file; functions may be simple equations or multi–line routines and you can modify them at run time with built–in editor.

Model entry has flexible syntax consistent with BASIC, FORTRAN or Pascal, and MINSQ can handle implicit, parametric or integral equations. You can select subsets of parameters (or data) for fitting, estimates can be improved prior to least–square fitting, and there is a 'fine tuning' option for adjusting step sizes and convergence criteria.

Interactive graphics with zooming, annotation with text, lines or arrows; objects may be moved or resized.

PC/compatible, 640K, CGA/EGA or hi–res monochrome graphics adapter required. Uses 80x87 if present

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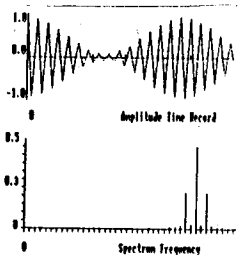

See the spectra of digitally derived signals—this menu–driven program uses both forward and inverse discrete transforms.

Easy–to–use, offers built–in waveform generators and filter software, or you may enter data by keyboard or discfile. True digital signal analysis at a low, low price.

DOS 2.0+ with 256K and CGA. Tutorial manual included.

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Basic Numerical Methods
by R. E. Scraton

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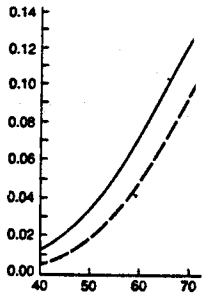

You will be well on the road to becoming an effective numerical programmer by the time you read the exercises in the later chapters!

You'll have an excellent balance between practical computation and the underlying mathematical theory with the emphasis always on producing useable programs in BASIC. Contains many complete programs. Requires beginning familiarity with BASIC.

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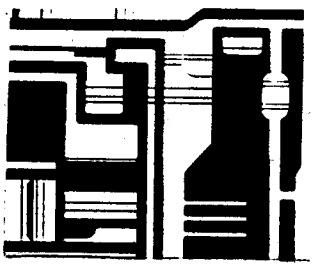
by Alston Householder



If you use or develop computational methods for solving systems of linear equations and finding characteristic roots, here's your reference. It surveys known methods and shows the math principles underlying them and relations among them.

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Programs for Scientists and Engineers (BASIC, FORTRAN or PASCAL)
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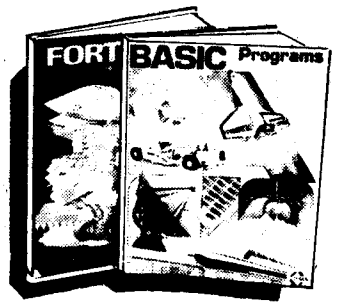

Curve fitting, vector and matrix arithmetic, numerical integration, random number generation, statistical analysis, and much more—over 60 of the most frequently used scientific math algorithms are given with formulas and discussions, complete programs and sample runs for examples. Available in 3 languages.

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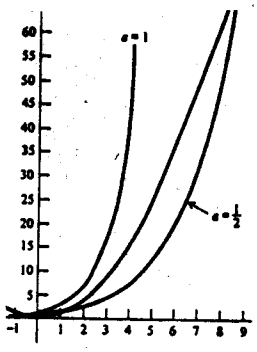
Numerical Methods for Scientists and Engineers
2nd edition
by Richard Hamming



Well–known mathematician Richard Hamming ("the Hamming code," "the Hamming distance," and "Hamming window," etc.) suggests that **the purpose of computing is insight, not merely numbers.**

You'll get that insight in this comprehensive reference–text, together with the numbers you need. Introductory fundamentals are covered, and algorithms, then a complete survey of classical methods (including Differential Equations, Chebyshev Approximation etc.)

Modern numerical methods are covered too, including the Fourier Transform and the Laplace Transform, plus Eigenvalues and Eigenvectors.

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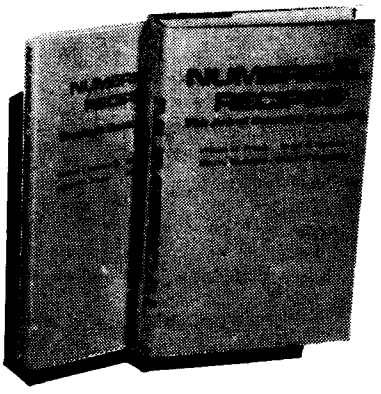
Numerical Recipes
the Art of Scientific Computing



All the routines you'd expect to find are here—but this software's Manual is an ORDER OF MAGNITUDE better than its competitors. It is 818 pages, hardbound, super well–written, with complete source codes in PASCAL and in FORTRAN—plus more than 200 pages, softbound, of demo programs and run results! The authors are the right stuff: EXXON, Harvard, Cornell and Polaroid.

About 200 function programs, including linear, matrix, eigensystem, interpolation and extrapolation programs; integration, evaluation, root–finding, maximization and minimization of functions; Fast Fourier Transform and Spectra; Statistics; Modeling; ODEs and PDEs and Boundary Value Problems; Special Functions; and Sorting Utilities—WOW, and, **the price is right!**

Comes with both the procedures and the demo programs on 5¼" DSDD discs for DOS 2.0/3.0 on PC/Compatibles. Choice of language.

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Computer Science

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2nd Edition
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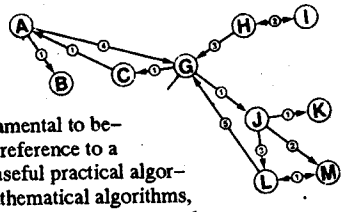

Here you can learn the techniques fundamental to becoming a serious computer user—or have reference to a number of computer implementations of useful practical algorithms. Forty chapters in seven groups: mathematical algorithms, sorting, searching, string processing, geometric algorithms, graph algorithms, and advanced topics (the FFT and simplex methods are covered).

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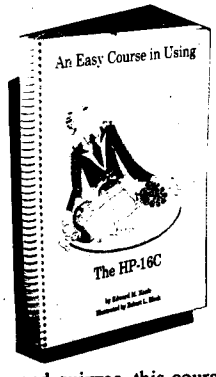
An Easy Course in Using the HP-16C
by Ed Keefe



Computer science students and professionals, here it is—the easy, painless way to get up to speed on your HP-16C calculator!

Experienced CS instructor Keefe leads you through a lively 'Easy Course' on the talents and tricks of this multilingual little machine. Whether you work in decimal, octal, binary or hexadecimal, with 4 bits or 64, here's the class you yourself teach—before you face your programs and their problems.

Filled with examples, review questions, explanations and quizzes, this course is designed to let you work at your own speed—and your own speed will soon amaze you! It's going to be a pleasant surprise that learning both the subject and the calculator can be this much fun—but it can be, when the right explanation transforms a mysterious machine into a simple and friendly tool.

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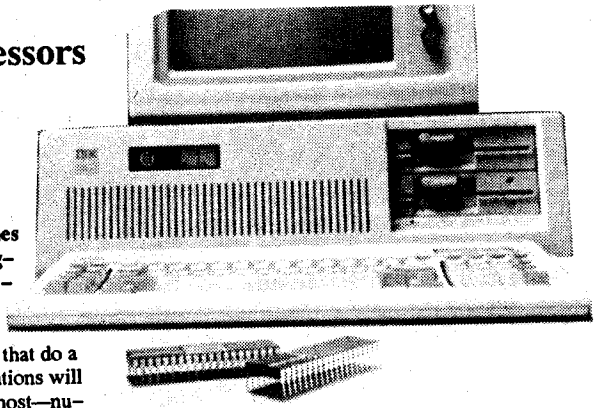
8087/80287 Math Coprocessors

intel



10 to 50 times faster floating-point arithmetic—right in your present PC. Programs that do a lot of computations will speed up the most—numerical calculations, CAD, spreadsheets and the like. Some of these programs require the coprocessor, others will use it if it's installed.

You'll find the installation easy—a half-hour job perhaps—if you have some experience working with electronics. You take the cover off your computer, possibly pull a few parts out, change a switch, put some parts in, and put the cover back on. There is no soldering! Detailed instructions with pictures are included in the box, **along with a 5-year limited warranty.**

Coprocessors will run with CPU's that are rated up to 33% faster than coprocessor rating.

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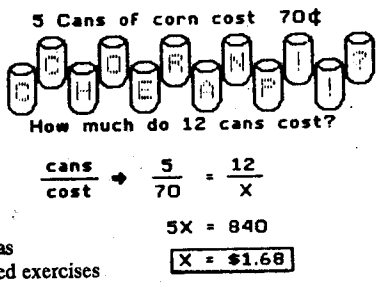
Video Tutorial Service



Kick back and learn your way — if your math skills are rusty, here's your perfect review method—easy, effective and fun — with colorful graphics. To build confidence, rerun each module of the tape as often as you like. Includes workbook with guided exercises for super-fast, efficient self-study.

"I would not hesitate recommending these tapes . . . ," says Joseph Hoffman, Consultant, California State Dept. of Education. *"The graphics are clear and appropriately complement the thorough presentation of the lectures,"* states Linda Pledger, State of Alabama Dept. of Education. Harold Jacobs of the City University of New York thinks this is *". . . a master educational product . . .".*

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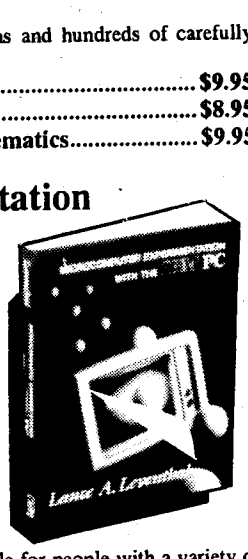
Microcomputer Experimentation with the IBM PC
by Lance Leventhal



Unique training for peripheral interfacing and controller design!

Many examples, all drawn from actual applications, show how to operate the computer, program in assembly language, do simple controller functions, make hardware/software tradeoffs. Further experiments show alternative approaches to I/O and timing, explain programmable LSI devices and describe serial communications.

Because this book is self-contained, it is suitable for people with a variety of interests and backgrounds. It requires only a PC and MS-DOS; no other software is used.

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John B. Read, Jr., CPA, Dallas

RS232 Made EASY
by Martin Seyer

Understand serial communications — investigate the functioning of each lead of an RS232 interface. No prior knowledge of the subject is required, and this light-hearted approach allows for a gradual movement into the seriousness of interfacing with RS232. Step-by-step demonstrations of the connections between printers, CRT's, and computers are given. The author is employed with American Bell.

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Introduction to Linear Algebra
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An introduction, for math and science majors as well as statistics students — written especially for those who have only a college algebra background.

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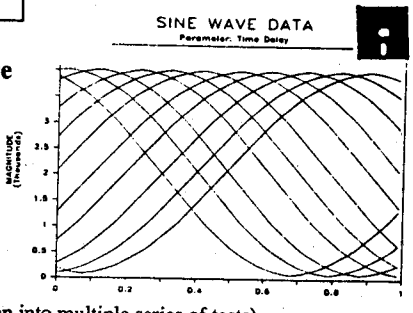
Laboratory Technologies

the Industry-Standard Data Acquisition Software



Put your instrument data into a form that PC database, spreadsheet, graphics, data-analysis and statistics software can handle easily. Such programs need more than raw data files, like the **structure** and **timing** of data, so events can be correlated (for example, with trigger points) and integrated (often into multiple series of tests).

Menu-driven, so it requires no programming. Supports a wide variety of acquisition hardware brands and interfaces, including RS-232. Real-time display, automatically uses 8087/287 if installed, foreground/background operation, non-linear curve-fitting, FFTs. PC/Compatibles.

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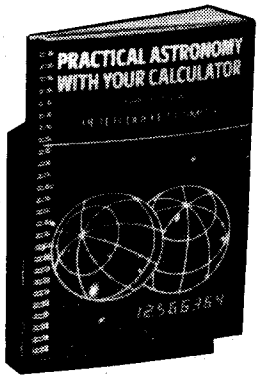
3rd edition

by Peter Duffett-Smith



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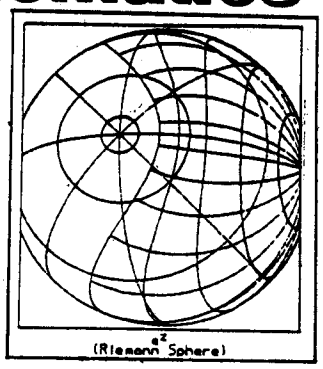

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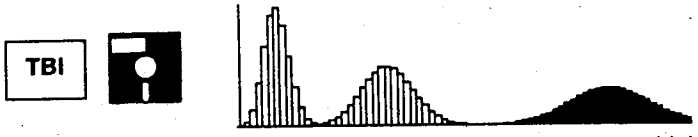

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Stock #75-669 [32K HP-75 Blank EPROM] **$179.95**

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Stock #718 HP-12C Owner's Manual **$10.00**
Stock #2108 HP-14B Owner's Manual **$10.00**
Stock #2109 HP-17B Owner's Manual **$10.00**
Stock #2110 HP-19B Owner's Manual **$10.00**
Stock #2111 HP-20S Owner's Manual **$10.00**
Stock #2178 HP-21S Owner's Manual **$10.00**
Stock #2112 HP-22S Owner's Manual **$10.00**
Stock #2113 HP-27S Owner's Manual **$10.00**
Stock #2114 HP-28S Owner's Manual **$15.00**
Stock #2115 HP-28S Reference Manual **$20.00**
Stock #2116 HP-32S Owner's Manual **$10.00**
Stock #90526 HP-41CV Owner's Manual **$10.00**
Stock #90474 HP-41CX Owner's Manual, Vol I **$10.00**
Stock #90492 HP-41CX Owner's Manual, Vol II **$15.00**
Stock #2069 HP-42S Owner's Manual **$10.00**
Stock #2103 HP-82240A Infrared Printer Owner's Manual ... **$10.00**

For other HP-41-related manuals, see page 53.

Need ACCESSORIES for Older-Model Calculators?

HEWLETT PACKARD

Available for the HP-31E, 32E, 33E/C, 34C, 37E, 38E/C:

Stock #82109A [Rechargeable Battery Pack] **$14.95**
Stock #82087 [Recharger] **$19.95**
Stock #82103A [Reserve Power Pack]* **$29.95**
Stock #82110A [Soft Vinyl Case] **$4.95**

Available for the HP-35A, 45A, 55A, 70A, 75 C/D, 80A:

Stock #82001B [Rechargeable Battery Pack] **$14.95**
Stock #82002A [Recharger] **$34.95**
Stock #82004A [Reserve Power Pack]* **$39.95**

Available for the HP-65A, 67A:

Stock #13141 [40 Magnetic Cards] **$17.95**
Stock #13143 [120 Magnetic Cards] **$42.95**
Stock #82001B [Rechargeable Battery Pack] **$14.95**
Stock #82002C [Recharger] **$34.95**
Stock #82004A [Reserve Power Pack]* **$39.95**

Available for the HP-97A:

Stock #82045B [2 rolls, blue Thermal Paper] **$3.95**
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Stock #13143 [120 Magnetic Cards] **$42.95**
Stock #82033A [Rechargeable Battery Pack] **$24.95**
Stock #82059D [Recharger] **$18.95**
Stock #82037A [Reserve Power Pack]* **$59.95**
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Available for the HP-21A, 22A, 25A/C, 27A, 29C:

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Stock #82028B [Reserve Power pack]* **$29.95**

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Stock #82052A [Battery Pack] **$29.95**

*Includes battery

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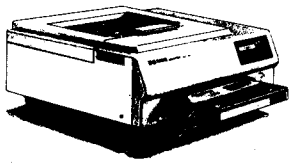
LASERJET TONER CARTRIDGES

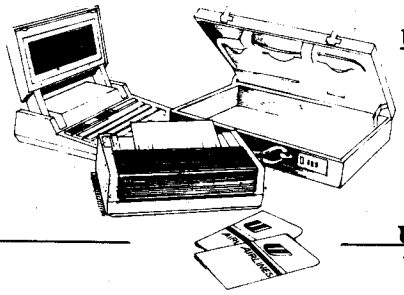


Stock #	Color	Unit	List $	EduCALC $
92285A	Black	1	$128.00	$96.95
92285G	Brown	1	$149.00	$113.95
92295A	Black (for Series II)	1	$127.00	$96.95

LASERJET FILM/LABELS (8½×11 sheets)

Stock #	Description	Unit	List $	EduCALC $
92285J	Transparency Film	50 sheets	$32.00	$24.95
92285K	Labels, 1 ×2 5/6 in.	3300 labels	$44.00	$34.95
92285L	Labels, 1 3/8×2 5/6 in.	2400 labels	$44.00	$34.95
92285M	Labels, 2 3/4× 4 1/4 in.	800 labels	$44.00	$34.95

INK-JET PRINT CARTRIDGES



Printer Model	Stock #	Color	Unit (Box)	List $	EduCALC $
2225	92261A	Black	1	$13.00	$10.95
2227	51605B	Blue	1	$13.00	$10.95
2228	51605G	Green	1	$13.00	$10.95
	51605R	Red	1 $13.00	$10.95	
	51604A	Black	1 $11.00	$9.95	

INK-JET ACCESSORIES

Printer Model	Stock #	HP Part #	Description	Unit (Box)	List $	EduCALC $
ThinkJet	92250V		Dust Cover	1	$19.00	$16.95

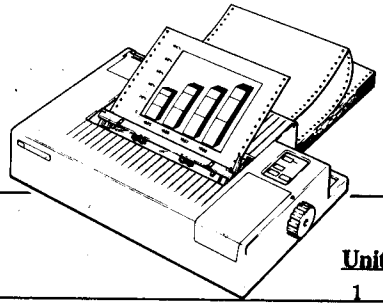
INK-JET & QUIETJET PRINTER PAPER

For the sharpest image and cleanest edges, use HP Jetpaper with HP Ink-Jet print cartridges. For your mailing lists, use Ink-Jet pressure-sensitive, 2 across labels designed by HP to run without jamming or tearing.

Printer Model	Stock#	Description	Unit (Box)	List $	EduCALC $*
2225	51630A	Fanfold, 20 lb. micro-perforated, 8.5 × 11 in.	500 sheets	$15.00	$13.50
2227	51630J	Cut-sheet ink-jet printing paper. 20 lb. 8.5 ×11 in.	500 sheets	$13.00	$10.40
	92261N	Fanfold ink-jet printing paper. 20 lb. 8.5 ×11 in.	2500 sheets	$60.00	$58.95
2228	51630L	Pressure sensitive labels, 3 1/2× 15/16 in., fanfold	2000 labels	$19.00	$16.95
Quietjet	51630B	Fanfold ink-jet printing paper. micro 14 7/8 ×11 in.	500 sheets	$16.00	$12.80

*See ThinkJet section for special shipping charges.

PAINTJET SUPPLIES



Stock #	HP Part #	Description	List $	EduCALC $
51606A		Black Print Cartridge	$27.95	$20.95
51606C		Color Print Cartridge	$34.95	$26.95
51630P		Fanfold Paper, 250 sheets	$18.95	$16.95
51630Q		Film, 50 sheets	$64.95	$51.95
51630Y		Cutsheet Paper, 250 sheets	$22.95	$17.95

DESKJET ACCESSORIES

Printer Model	Stock #	Color	Unit	List $	EduCALC $
DeskJet	51608A	Black	1	$18.95	$16.95

PRINTER RIBBONS

Printer Model	Stock#	Description	Unit (Box)	List $	EduCALC $
2631A/B or 2635A/B or 2639A	92155A	Ribbon cartridges, mobius loop, Black	3	$60.00	$53.95
2631G	92155B	Ribbon cartridges, used with 2631G, opt 200 only, Black	3	$65.00	$59.95
2932/33/34A or 82905A/B	92155L	Ribbon cartridges, continuous feed, Black	3	$72.00	$59.95
82906A	92156A	Ribbon cartridges, continuous feed, Black	2	$22.00	$18.95

DISCS

Printer Model	Stock #	Description	Unit	List $	EduCALC $
Series 80, 100, 200	92191A	3.5 in., 0.27 Mb, single-sided, auto-shutter unformatted	10	$39.00	$29.95
	92192X	3.5 in., 0.71 Mb, double-sided, auto-shutter, unformatted	10	$49.00	$36.95
Series 82900	92190A	5.25 in., 0.27 Mb, double-sided unformatted	10	$32.00	$24.95
250, 300, 3000/30 3000/33	92195A	8 in., 1.2 Mb, double-sided, unformatted	10	$61.00	$48.95

HP-Supplies

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DISCS - DATA TECH/BASF

Stock #	HP Part #	Description	Unit	List $	EduCALC $
1351	equivalent to 92192A	3.5 in., double-sided	1	$4.00	$1.99
1352	equivalent to 92190A	5.25 in., double-sided	1	$2.00	$.99
1353		5.25 in., high density	1	$3.00	$1.49

DISC DRIVE HEAD CLEANING KITS Remove contaminants safely—tested and recommended by HP. Economy kits include 2 discs each (for 30 or more cleanings).

Stock #	HP Part #	Description	Unit	List $	EduCALC $
Z-2059		Economy Kit, 5¼"	1	$17.95	$15.95
Z-2060		Economy Kit, 3½"	1	$17.95	$15.95

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PENS

Pen and Plotter Compatibility (Use the guide below to select the pens best suited to your plotter.)

Plotter Model #	Fiber-tip pens		Disposable drafting pens	Refillable drafting pens		Rollerball pens
	Paper	Transparency	Long body	Short body	Long Body	Long body
7220, 7221, 9872	♦	♦		♦		
7225	♦	♦				
ColorPro 7220, 7470, 7090	♦	♦				
7475	♦	♦		♦		
7550, DraftMaster	♦	♦	♦		♦	♦
DraftPro	♦		♦		♦	
7580, 7585, 7586	♦		♦		♦	♦

Fiber-tip Paper Pens

Narrow line (0.3 mm) Stock #	Wide line (0.7 mm) Stock #
17825P	17826P
17827P	17828P
17829P	—
17831P	17832P
17833P	—
17835P	—
17837P	—
17839P	—
17841P	17842P
17843P	—

Color Selection

Single-color packages (5 pens/package)

Black
Green
Aqua
Blue
Violet
Brown
Yellow
Orange
Red
Red-Violet

Fiber-Tip Transparency Pens

Narrow line (0.3 mm) Stock #	Wide line (0.6 mm) Stock #
17725T	17726T
17727T	17728T
17729T	—
17731T	17732T
17733T	—
17735T	—
17737T	—
17739T	—
17741T	17742T
17743T	—

Multi-color packages

Narrow line (0.3 mm)	Wide line (0.7 mm)	(1 pen in each color 5 pens/package)	Narrow line (0.3 mm)	Wide line (0.6 mm)
17845P	17846P	Black, Red, Blue, Green, Yellow	17745T	17746T
17847P	17848P	Blue, Black, Aqua, Green, Violet	17747T	17748T
17849P	17850P	Orng, Red, Brn, Yellow, Red-Violet	17749T	17750T

All fiber tip pens, List $7.00 $5.60 pkg.

Refillable Drafting Pens

Short Body

Stock #			List $	EduCALC $
9300-0955	Ultra-Fine	0.18 mm	$32.00	$25.95
9300-0956	Extra-Fine	0.25 mm	$29.00	$23.95
9300-0957	Fine	0.35 mm	$25.00	$19.95
9300-0958	Medium	0.50 mm	$25.00	$19.95
9300-0959	Broad	0.70 mm	$25.00	$19.95
9300-0960	Extra-Broad	1.00 mm	$25.00	$19.95
5061-8119	Body, Adapter, & Cap for above Points	$14.95		

Long Body

Stock #			List $	EduCALC $
9260-0742	Ultra-Fine	0.18 mm	$32.00	$25.95
9260-0741	Extra-Fine	0.25 mm	$29.00	$23.95
9260-0588	Fine	0.35 mm	$25.00	$19.95
9260-0744	Medium	0.50 mm	$25.00	$19.95
9260-0579	Broad	0.70 mm	$25.00	$19.95
9260-0743	Extra-Broad	1.00 mm	$25.00	$19.95
07580-60025	Body, Adapter & Caps for above Points			$7.95

Vellum/Paper Disposable Drafting Pens

Fine line (point size 0.35 mm) product no. Stock #	Single-Color Packages (4 pens/pkg) Reusable adapters (5061-7578) req for operation	Broad line (Point size 0.70 mm) product no. Stock #
5061-7562	Black	5061-7572
5061-7563	Blue	5061-7573
5061-7564	Green	5061-7574
5061-7565	Red	5061-7575

Extra fine line (Point Size 0.25 mm) product no. 5061-7619	Single-color Packages (4 pens/pkg) Reusable adapters (5061-7578) req for operation black	Medium Line point size 0.50 mm) product no. 5061-7620

Disposable Drafting Pens List $22 ea. $19.95

Polyester Film Disposable Drafting Pens

Single-Color (Black) Packages (2 pens/pkg)
Resusable Adapters (5061-7578) req for operation

		Stock #
Extra fine line width	Point size 0.25 mm	5062-1592
Fine line width	Point size 0.35 mm	5062-1593
Medium line width	Point size 0.50 mm	5062-1594
Broad line width	Point size 0.70 mm	5062-1595

Polyester Film Drafting Pens List $22 pkg..... $19.95

Vellum/Paper Disposable Drafting Pens

Multi-Color Packages
(4 pens/pkg. 1 of each color)
Reusable adapters (5061-7578) req for operation

Point size		Stock #
Extra fine line (point size 0.25 mm)	red/blue/green/black	5062-1557
	orange/brown/yellow/violet	5062-1558
Fine line (point size 0.35 mm)	red/blue/green/black	5061-7566
	orange/brown/yellow/violet	5062-1559
Broad line (point size 0.70 mm)	red/blue/green/black	5061-7576
	orange/brown/yellow/violet	5062-1573

Multi-color Packages List $ 22.00 ea..... $19.95

Multi-Width (Black) Package

(4 pens/pkg)
Resusable Adapters (5061-7578) req for operation
Stock #5062-1556 Extra fine line width, Fine line width, Medium line width, Broad line width
Multi-Width Package List $25 ea..... $19.95
Reusable Adapters
Stock # 5061-7578 4 Adapters & Pen Cap Assemblies List $8..$6.75

Rollerball Pens

Single-color Pens (4 pens/pkg)Narrow line width (.3 mm)

Stock #	Stock #
5061-5034 (red)	5061-5035 (green)
5061-5037 (red/blue/green/black)	
5061-5036 (blue)	5061-5033 (black

Rollerball Pens List $14 pkg..... $12.95

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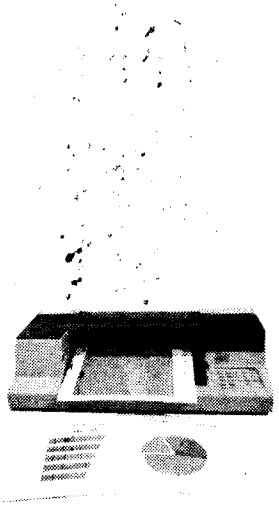
PLOTTER PAPER/FILM

Printer Model	Stock#	Description	Unit (Box)	List $	EduCALC $
Non-Glossy (use fiber-tip paper pens)					
For Most	17800P	8 1/2 × 11 in.	50 sheets	$5.50	$4.25
HP Plotters	17801P	8 1/2 × 11 in.	250 sheets	$13.00	$9.95
7475A	17804P	11 × 17 in.	50 sheets	$10.00	$7.95
7550A	17805P	11 × 17 in.	250 sheets	$26.00	$19.95
Glossy (use fiber-tip transparency pens)					
7440A, 7470A	17900G	8 1/2 × 11 in.	100 sheets	$16.00	$12.95
7475A, 7550A	17902G	11 × 17 in.	100 sheets	$28.00	$21.95
Transparency Film					
7400A, 7470A	17700T	8 1/2 × 11 in.	50 sheets	$50.00	$39.95
7475A, 7550A	17702T	8 1/2 × 11 in.	50 sheets	$50.00	$39.95
Vellum					
	9280-0601	8 1/2 × 11 in.	150 sheets	$17.00	$14.95
	9280-0602	11 × 17 in.	150 sheets	$30.00	$25.95
Polyester Film					
	9280-0605	8 1/2 × 11 in.	50 sheets	$20.00	$16.95
	9280-0607	11 × 17 in.	50 sheets	$32.00	$27.95



PLOTTER SUPPLIES KITS For use on all HP plotters

Printer Model	Stock#	Part #	Description	List $	EduCALC $
All	17820PK		250 sheets paper, 15 pens/10 colors/2 widths, pen holder	$30.00	$23.95
7470 or 7220/21	17715TK		50 sheets, A Size, transparency film, 12 pens/7 colors/2 widths	$70.00	$54.95
7475 or 7225	17717TK		50 sheets, A Size, transparency film, 12 pens/7 colors/2 widths	$70.00	$54.95

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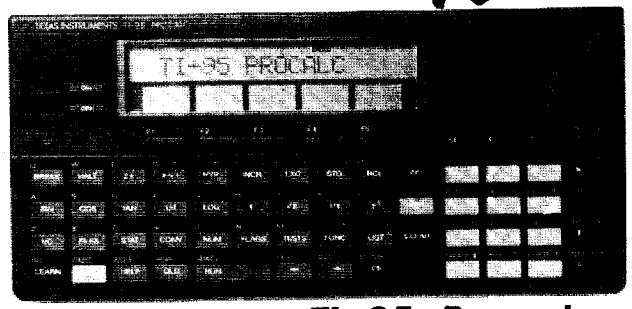

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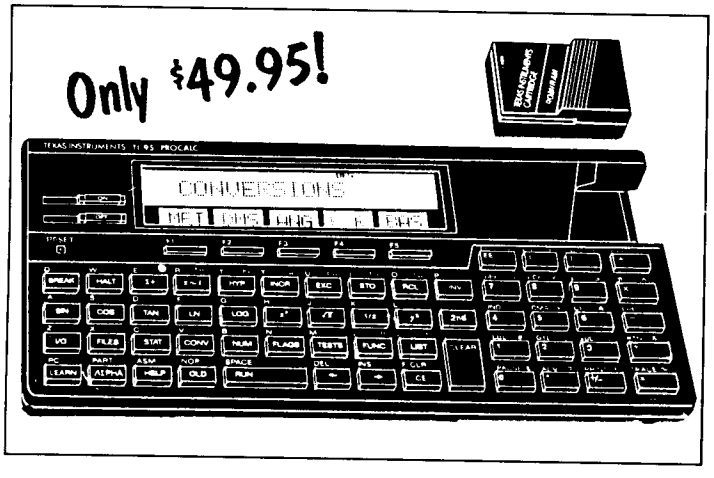

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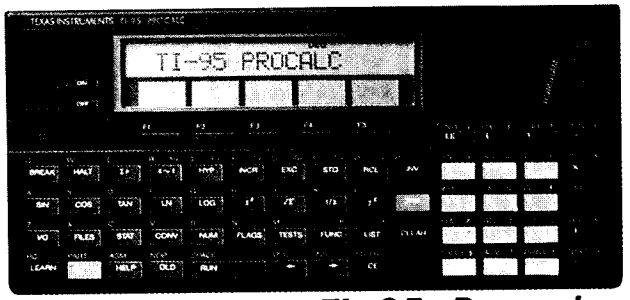

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