

# EduCALC TECHNICAL NOTES

27953 CABOT ROAD LAGUNA NIGUEL, CA 92677

## GOODIES DISC # 2 DESCRIPTION

This disc has two directories containing a total of 197 files. One, HORN2, has programs covering the time period since Goodies Disc #1 - 10/19/90 to 1/15/91. The program content is similar to those found on Goodies Disc #1. The second directory, DNICKEL, is dedicated to Voyager, a PC program that allows you to unthread and disassemble HP ROM code. See "IMPORTANT NOTICE" sheet included with this description. Also included is a printed version of the !README!.DOC file, the SUPPORT.DOC file, and a listing of both directories. Please help the many people who work very hard to bring this material to you by keeping the following in mind as you experience bewilderment and joy while exploring the Goodies Discs.

1. The Goodies Discs provide the best, most sophisticated advanced programs and information available on the HP 48SX for the lowest possible cost. The hundreds of donated hours, love, enthusiasm, and dedication put into the Goodies Discs is priceless.
2. The Goodies Discs are HIGH DENSITY. Use a 1.2 M Byte 5  $\frac{1}{4}$ " drive or a 1.44 M Byte 3  $\frac{1}{4}$ " drive to read the discs. Lower density drives will produce errors. If you have a machine with both high and low density (360K for example) drives you may copy the Goodies Disc's to four or five low density discs. For obvious reasons it is not practical to provide Goodies Discs in a low density format.
3. The Goodies Discs are provided "as is." The people who have spent many hours of their time to make this material available do not have the time to provide answers to questions. Just like a salted peanut you will want more - there just isn't any more. You should look at the goodies discs as something to explore, study, test, and experiment with; not as something you must be able to use or understand. Do not call EduCALC, Joe Horn, or Derek Nickel with questions about the programs or articles on the disc. Use the HP BBS if you MUST communicate with somebody about a specific topic. See Joe's comments in SUPPORT.DOC. Often an improved, error corrected, version of a program will appear on a later disc.

Goodies Disc #3 is well along and will be available when announced in EduCALC's catalog 52. A few programs were taken out of time order because they were related to Voyager and considered very important. The most important of these is TOOLS which provides the ability to assemble a LIBRARY on the HP 48. You may also extract objects out of existing Libraries using TOOLS. An other very important directory - for programmers - is IO, a collection of powerful programmers aids necessary to take advantage of System Level RPL programming. Have fun. rjn.

## ! README! .DOC

!README!.DOC - HORN2 disk of HP 48 software - 22 Feb 1991  
Collected & annotated by Joseph K. Horn, aka [-jkh-].

This is Joe Horn's personal collection of favorite HP 48 goodies, disk #2. It contains many excellent programs by many excellent programmers. Most of these files were downloaded from HP's Corvallis bulletin board system.

The DNICKEL directory on this disk is a special collection of software by Derek Nickel, which he kindly is releasing to the public domain. His most exciting program, VOYAGER, enables advanced HP 48 programmers to explore the HP 48 operating system and any HP 48 software (even libraries). Even though VOYAGER is freeware, send Derek a thank-you note if you like it!

Note: Everything on this disk is either freeware or shareware.  
If you use the shareware, please register as instructed.  
PLEASE DO give copies of this disk to everybody!

#### FILENAME EXTENSIONS

*.	(no extension) = raw binary downloadable HP 48 object.
*.DOC *.TXT	Documentation (explanation) for HP 48 file not written by HP. Same as .DOC, but by HP, for an application by HP. If a file has no DOC, look for comments in its SRC file.
*.SRC	HP 48 Source Code (user code) in downloadable ASCII format. If a file has no SRC, look for its source code in its DOC file.
*.GRO *.LIB	HP 48 Graphics Object (GROB) in binary format. HP 48 Library in binary format.
*.RPL *.ASC	Completely Unthreaded Internal hexcode listing with comments. Internal Language uncommented hex listing in Wickes' ASC format.
*.EXE *.COM *.MAC	IBM PC executable; not for HP 48, MacIntosh, Amiga, etc. IBM PC command (same as .EXE). Apple MacIntosh hypercard stack.

Notes: Files with the same name before the extension are all related. For example, FRED would be a downloadable binary; FRED.SRC would be its source code (possibly commented); FRED.DOC would be its documentation; etc.

If you own the Norton Utilities, use FI instead of DIR. I've included descriptive comments for each file on the disk. (See FILEINFO).

Do not include any comments inside GROBs' SRC files; they make GROB2TIF fail.

All other listable files have their authors' names somewhere in the first few lines. If I couldn't figure out who wrote it, it'll say "By ?".

I have tried to provide documentation of some sort for every file on this disk. If you know who wrote a file "by ?", please let me know.

Apologies to those whose files I accidentally mangled or miscredited.  
Warm thanks to all authors whose works lurk herein. Good job!

These files are not guaranteed in any way; use at your own risk.

Don't call me. Read the DOC files, and you'll know as much as I do. If you have a burning question about Voyager, it might be answered in ANSWERS.DOC.

For EduCALC Goodies Disk Customer Support, see SUPPORT.DOC on this disk.

- - - Joseph K. Horn  
Email: akcs.joehorn@hpcvbbs.UUCP  
Snail: 1042 Star Route / Orange, CA 92667 U.S.A.

## SUPPORT.DOC

### CUSTOMER SUPPORT POLICIES FOR VOYAGER AND FOR EDUCALC GOODIES DISK #2

1. Since Derek and I are making no money off these programs, we cannot afford to offer MicroSoft-style support for them. Microsoft gives its customers an 800 number to call anytime, and has about 1000 employees involved in customer support. They can afford this, since customers pay a lot for the software. Derek and I must take a different approach: Here's Voyager. We hope you enjoy it. Read the DOC files. If you want more help than that, send us lots of money. :-)
2. The files on this disk are not guaranteed in any way. Use at your own risk. EduCALC copies and sells these disks as a service, not as a product, and does not offer customer support for them in any way. Joseph K. Horn will answer terse questions with terse answers on a time-available basis, by mail, if SASE is enclosed. All e-mail to akcs.joehorn@hpcvbbs.UUCP will be answered. Do not call about how to use these programs; read the .DOC files, and then you'll know as much as we do.

Thank you for your HP 48 enthusiasm, and for your interest in Voyager.

-- Joe Horn  
1042 Star Route  
Orange, CA 92667-1042

e-mail: akcs.joehorn@hpcvbbs.UUCP

# DIRECTORIES

Volume in drive A is HORN2

Directory of A:\DNICKEL

	<DIR>		2-21-91	12:37a
.	<DIR>		2-21-91	12:37a
..				
00README	DOC	4014	1-30-91	1:53a
ADDR		51	1-30-91	1:53a
ADDR	ASC	105	1-30-91	1:53a
ADDR	LST	820	1-30-91	1:53a
ADDR	MEM	86	1-30-91	1:53a
ASC	TXT	5769	1-30-91	1:53a
ASM	DOC	12426	1-30-91	1:53a
BINTOMEM	EXE	17041	1-30-91	1:53a
DMPTOMEM	EXE	16363	1-30-91	1:53a
FROMASC	CA	92	1-30-91	1:53a
FROMASC	CAX	16	1-30-91	1:53a
FROMASC	CC	986	1-30-91	1:53a
FROMASC	CCX	288	1-30-91	1:53a
FROMASC	LST	4728	1-30-91	1:53a
FROMASC	MEM	462	1-30-91	1:53a
HP48	CA	116708	1-30-91	1:53a
HP48	CAX	29336	1-30-91	1:53a
HP48	CC	9532	1-30-91	1:53a
HP48	CCX	3304	1-30-91	1:53a
HP48SX	DOC	33111	1-30-91	1:53a
HYDE		3688	1-30-91	1:53a
HYDE	CA	380	1-30-91	1:53a
HYDE	CAX	120	1-30-91	1:53a
HYDE	MEM	7360	1-30-91	1:53a
HYDE	TXT	8341	1-30-91	1:53a
REV		85	1-30-91	1:53a
REV	ASC	175	1-30-91	1:53a
REV	CC	348	1-30-91	1:53a
REV	CCX	136	1-30-91	1:53a
REV	LST	1925	1-30-91	1:53a
REV	MEM	154	1-30-91	1:53a
SW-A	ASC	5839	1-30-91	1:53a
SW-A	CA	1301	1-30-91	1:53a
SW-A	CAX	384	1-30-91	1:53a
SW-A	MEM	5651	1-30-91	1:53a
TOASC	CA	138	1-30-91	1:53a
TOASC	CAX	24	1-30-91	1:53a
TOASC	CC	1123	1-30-91	1:53a
TOASC	CCX	320	1-30-91	1:53a
TOASC	LST	4797	1-30-91	1:53a
TOASC	MEM	372	1-30-91	1:53a
USAG	ASC	2889	1-30-91	1:53a
USAG	MEM	2787	1-30-91	1:53a
VOYAGER	DOC	14948	1-30-91	1:53a
VOYAGER	EXE	197394	1-30-91	1:53a
FILEINFO	FI	3833	2-22-91	1:53a
FILEINFO	DOC	232	1-30-91	1:53a
FILEINFO	SRC	3385	2-22-91	2:22p
50 File(s)		136704 bytes free		

Volume in drive A is HORN2

Directory of A:\HORN2

	<DIR>		2-21-91	12:42a
.	<DIR>		2-21-91	12:42a
..				
!README!	DOC	4075	2-22-91	1:53a
AIR		2285	1-22-91	1:53a
AIR	DOC	1906	1-22-91	1:53a
AIR	SRC	2361	2-22-91	1:53a
ALMANAC		5960	12-06-90	1:53a
ALMANAC	DOC	7848	2-22-91	1:53a
ALMANAC	SRC	5879	2-22-91	1:53a
ALTD3		108	11-11-90	1:53a
ALTD3	ASC	278	2-22-91	1:53a
ALTD3	DOC	1343	2-22-91	1:53a
ANSWERS	DOC	3646	2-22-91	1:53a
ASC2BIN	EXE	13633	1-19-91	1:53a
ASC2BIN	DOC	560	2-22-91	1:53a
BKDN		50	1-28-91	1:53a
BKDN	SRC	791	2-22-91	1:53a
BODEPLOT		446	11-27-90	1:53a
BODEPLOT	DOC	325	2-22-91	1:53a
BODEPLOT	SRC	931	2-22-91	1:53a
BOOTMESS		611	12-25-90	1:53a
BOOTMESS	DOC	2038	2-22-91	1:53a
BOOTMESS	SRC	848	2-22-91	1:53a
BRICK		299	11-17-90	1:53a
BRICK	DOC	181	2-22-91	1:53a
CALENDAR		2475	10-23-90	1:53a
CALENDAR	DOC	5313	2-22-91	1:53a
CHECKSUM	DOC	801	11-18-90	1:53a
CHILL		218	1-23-91	1:53a
CHILL	DOC	2593	1-23-91	1:53a
CRC		139	11-29-90	1:53a
CRC	ASC	319	2-22-91	1:53a
CRC	DOC	1428	11-29-90	1:53a
CW		3697	12-08-90	1:53a
CW	DOC	5589	2-22-91	1:53a
CW	SRC	3687	2-22-91	1:53a
DISD		11349	12-02-90	1:53a
DISD	DOC	2419	2-22-91	1:53a
DISD	SRC	13460	2-22-91	1:53a
DIST		275	11-06-90	1:53a
DIST	DOC	1516	2-22-91	1:53a
DIST	SRC	296	2-22-91	1:53a
DS		79	11-21-90	1:53a
DS	DOC	951	2-22-91	1:53a
DS	SRC	325	2-22-91	1:53a
ECHELON		1221	11-19-90	1:53a
ECHELON	SRC	1973	2-22-91	1:53a
EDITING	DOC	1710	2-22-91	1:53a
ERUPT		760	12-06-90	1:53a
ERUPT	DOC	392	2-22-91	1:53a
ERUPT	SRC	789	2-22-91	1:53a

# DIRECTORY HORN2 CONTINUED

FACNUM		286	11-11-90	1:53a	MSKERMIT	INI	28	2-22-91	1:53a
FACNUM	DOC	1442	2-22-91	1:53a	MSKERMIT	DOC	535	2-22-91	1:53a
FACNUM	SRC	1841	11-11-90	1:53a	PACK		379	1-16-91	1:53a
FACTOR		2427	2-01-91	1:53a	PACK	ASC	805	2-22-91	1:53a
FACTOR	ASC	5059	2-22-91	1:53a	PACK	DOC	2590	2-22-91	1:53a
FACTOR	DOC	6422	2-01-91	1:53a	PHONE		6552	1-24-91	1:53a
FILEINFO	FI	11302	2-22-91	1:53a	PHONE	DOC	4782	2-22-91	1:53a
FILEINFO	DOC	233	2-22-91	1:53a	PHONE	SRC	22620	1-24-91	1:53a
FILEINFO	SRC	8312	2-22-91	2:23p	PRIME		1165	12-07-90	1:53a
FIQ		252	11-23-90	1:53a	PRIME	DOC	3302	2-22-91	1:53a
FIQ	DOC	693	2-22-91	1:53a	PRIME	SRC	3172	2-22-91	1:53a
FIQ	SRC	258	2-22-91	1:53a	QSDIR		828	10-29-90	1:53a
FLOW		648	11-11-90	1:53a	QSDIR	DOC	9574	2-22-91	1:53a
FLOW	DOC	1151	2-22-91	1:53a	REVERSI		5787	12-20-90	1:53a
FLOW	SRC	542	2-22-91	1:53a	REVERSI	DOC	3932	2-22-91	1:53a
GETKEY		56	2-07-91	1:53a	REVERSI	SRC	6189	2-22-91	1:53a
GETKEY	ASC	143	2-22-91	1:53a	ROLDX2	LIB	3709	12-04-90	1:53a
GETKEY	DOC	1915	2-22-91	1:53a	ROLDX2	ASC	7712	2-22-91	1:53a
GRPH	GRO	1106	1-28-91	1:53a	ROLDX2	DOC	593	2-22-91	1:53a
GRPH	DOC	76	2-22-91	1:53a	ROTATE3D		3300	11-09-90	1:53a
GRPH	SRC	2198	1-28-91	1:53a	ROTATE3D	DOC	3409	2-22-91	1:53a
HAILPATH		81	11-01-90	1:53a	ROTATE3D	SRC	3692	2-22-91	1:53a
HAILPATH	DOC	6345	2-22-91	1:53a	RWRD		588	12-17-90	1:53a
HAILPATH	RPL	2186	2-22-91	1:53a	RWRD	DOC	436	2-22-91	1:53a
HYDE	DOC	3234	2-22-91	1:53a	RWRD	SRC	790	2-22-91	1:53a
IFERR	LIB	283	2-12-91	1:53a	SEA		2012	11-24-90	1:53a
IFERR	DOC	3984	2-12-91	1:53a	SEA	DOC	512	11-24-90	1:53a
IFERR	ASC	620	2-21-91	1:53a	SEA	SRC	5589	2-22-91	1:53a
IO		1840	2-22-91	1:53a	SUPPORT	DOC	1318	2-22-91	1:53a
IO	DOC	9295	2-22-91	1:53a	SYZYGY		959	10-30-90	1:53a
KANGAROO	TXT	1082	12-15-82	1:53a	SYZYGY	ASC	2030	2-22-91	1:53a
LISP		73	8-01-88	1:53a	SYZYGY	DOC	3694	2-22-91	1:53a
LISP	SRC	341	2-22-91	1:53a	SYZYGY	SRC	28309	10-30-90	1:53a
LNK		560	11-06-90	1:53a	TENK		11043	11-18-90	1:53a
LNK	DOC	5389	2-22-91	1:53a	TENK	DOC	7093	2-22-91	1:53a
LNK	SRC	714	2-22-91	1:53a	TENK	SRC	16386	2-22-91	1:53a
LQPOLES		7463	11-29-90	1:53a	TOOLS		8635	2-01-91	1:53a
LQPOLES	DOC	359	2-22-91	1:53a	TOOLS	ASC	17883	2-22-91	1:53a
LQPOLES	SRC	12410	2-22-91	1:53a	TOOLS	DOC	10997	2-22-91	1:53a
MATSTACK	MAC	13824	11-05-90	1:53a	TOOLS	LIB	8444	2-01-91	1:53a
MATSTACK	DOC	969	11-05-90	1:53a	TRIAL		785	12-21-90	1:53a
MEM	DOC	6435	2-22-91	1:53a	TRIAL	DOC	3502	2-22-91	1:53a
MORSE		3243	11-05-90	1:53a	TRIAL	SRC	2829	12-21-90	1:53a
MORSE	DOC	1660	11-05-90	1:53a	WALSH	DOC	2911	2-22-91	1:53a
MORSE	SRC	3702	2-22-91	1:53a	WALSH	LIB	2456	12-22-90	1:53a
MRS		280	11-16-90	1:53a	WALSH	MEM	4896	12-22-90	1:53a
MRS	DOC	733	2-22-91	1:53a	147 File(s) 136704 bytes free				
MRS	SRC	679	2-22-91	1:53a					
MSG		131	12-09-90	1:53a					
MSG	SRC	883	2-22-91	1:53a					

## IMPORTANT NOTICE

The VOYAGER program WILL NOT WORK until you follow the instructions below. You must create a Memory Scanner dump of your HP 48's operating system on your PC. Read and follow these instructions CAREFULLY! Once is all it takes.

These instructions by Derek Nickel replace (and make obsolete) the entire "MEM.DOC" file in the HORN2 directory. Please delete it to avoid any confusion in the future. The shareware telecommunications program that it mentions is no longer necessary nor offered. Please don't mail me any disks. Thanx! [-jkh-]

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To generate a Memory Scanner dump:

- 1) Attach cable connecting the PC to the HP 48SX.
- 2) Invoke KERMIT on the PC and prepare to receive data.
  - a) C> KERMIT (assuming that you're on the C: drive)
  - b) Kermit> SET BAUD 9600 (and SET PORT n if required)
  - c) Kermit> LOG SESSION HP48.DMP
  - d) Kermit> CONNECT
- 3) Invoke the Memory Scanner on the HP 48SX:
  - a) enter the interactive self test mode by pressing [ON]+[D] (press & hold ON, then press D, then release both)
  - b) enter Memory Scanner mode by pressing [-] (the drop key)
  - c) go to address 00000 by pressing [ENTER], [/]
  - d) (Note: To abort this process at any time, press [ON]+[C].)
- 4) Send memory dump to the PC:
  - a) press [SPC]. This sends 10000 (hex) nibbles down the "wire" to the PC at 9600 baud. (it takes about 4 minutes)
  - b) repeat step 4a for a total of 8 times (not more!) (whole process takes about 30 minutes)
  - c) the display should then show "80000:"...
- 5) Return the HP 48SX to normal operation by pressing [ON]+[C]
- 6) Finish kermit (on the PC)
  - a) disconnect by pressing CTRL-], C
  - b) Kermit> EXIT
- 7) Convert this Memory Scanner dump to a Voyager memory dump:
  - a) At DOS: C> DMPTOMEM HP48 (this takes a minute or so)
  - b) You may delete the HP48.DMP file now if you wish.
  - c) VOYAGER is now ready to run.

707  
255-2636  
SIM 10/10/80  
C1121-  
SOP  
Y00000

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