

NEWSLETTER

New Address: In March, 1977, DIGITAL SYSTEMS moved to a new, larger location. Please note the change in address and phone number:
6017 Margarido Drive, Oakland, CA 94618 Phone (415) 428-0950.

Double Density Controller: We now have available a double density controller, the FDC-3. The new board is capable of recording 77 tracks of 58 sectors, with 128 bytes/sector. Also available is a dual density board which allows the user to software select either double density or IBM 3740 format. The dual density controller enables you to copy from single to double density and is fully compatible with our S100 bus HB interface card. The FDC-3 is offered in both single and dual drive systems.

Retail Prices:

	Double Density	Dual Density
Single Drive System	\$1995	\$2045
Dual Drive System	2695	2745
FDC-3 board only	800	850

To customers who have already purchased systems with the FDC-2 we are offering a \$550 trade-in on the old board. OEM and dealer discounts are available.

Customer Software: DIGITAL SYSTEMS will market our customers software. If you have a debugged, documented program that you would like us to distribute for you, please contact us for further details.

Shugart Manuals: We now have a supply of Shugart Diskette Drive SA 800/801 Maintenance Manuals. Send \$5.00 (plus tax in California) to: DIGITAL SYSTEMS Order Department, 6017 Margarido Drive, Oakland, CA 94618.

Double-sided Diskette Drives: Shugart Associates will soon be releasing their SA 850/851 double sided diskette drives and we will offer them as soon as we can stock them. Our present controller and interface systems are designed to accomodate the new drives.

Incompatibilities: We would like to hear about any configuration which is incompatible with our HB interface card. Please include the HB version number in your note.

Engineering Changes in the HB Interface Card: Various types of memory boards use bus control signals in different ways. For this reason, we have made several engineering changes in the HB interface card, making it as accomodating as possible. The latest version is HB-1.4. If you have an earlier model and find that it may be incompatible with your memory, send us a description of your system and we will send you the appropriate modifications.

Diskette Warning: Please make sure that the diskettes you use have been certified by Shugart. Those which have met Shugart's specifications as of June 1, 1977, are Shugart, Dysan, and IBM. For further information, contact your local Shugart agent.

Operating with SOL: The DIGITAL SYSTEMS FDS-2 runs successfully on the SOL computer if the following provisions are made:

1. The SOL must have all of Processor Technology's engineering changes which bring it up to revision E.
2. On the SOL motherboard, U44 pin 4 should be moved from U107 11 to U107 12.
3. The Phantom jumper should be removed.
4. The HB interface card should have the trace cut to bus pin 67. (This cut has been made on version 1.4 and after.)
5. The CP/M diskette, as is normally shipped, requires that the user be able to key in Console In and Out. SOL does not have a front panel on which to make this I/O patch. DIGITAL SYSTEMS will put the SOL I/O on the CP/M diskette if requested. See below.

Custom I/O: Our customers have varied I/O requirements and we do not recommend any particular I/O board or configuration. We, therefore, have been shipping a general purpose CP/M without any I/O drivers. Instructions have been included to help the user key in his own I/O drivers, save the patches on diskette, and relocate as necessary. We are now offering custom diskettes incorporating I/O drivers into the CBIOS and the RELOC.COM program. This will greatly simplify the relocation procedure for the user. Some I/O patches are more or less "standard" and we can ship them directly. If you have some other configuration, send us the tested code that you need inserted. Remember, we will not have the hardware to test the patches, so you should key the programs into your computer and test by communicating with your terminal before sending the code to us.

The costs of the various CP/M packages are as follows:

	General I/O	Standard	Custom
CP/M license, diskette and manuals	\$70	\$85	\$100
Extra diskette ordered with system	10	10	10
Reorder at later date	15	15	30
Second copy at same time	10	10	10

CP/M User Group: A user group is being formed in New York. If you are interested, contact Tony Gold, 345 East 86th St. New York, NY 10028. If you would like to start a local group, let us know and we will inform others in your area.

Permanent Error Message: There has been some confusion about the "PERMANENT ERROR DISK" message. If you get such a message, pay close attention to the one digit number that appears on the line above; this is a clue to the problem. On page 5 of the DIGITAL SYSTEMS Interface Manual (included in your notebook) there is a description of the status bits, the high order bits representing errors. These error bits have been coded and it is this code number which appears on the line above the permanent error message. The most commonly found error codes, and what they mean, are given below.

CODE	BIT	MEANING
1	4	track error, usually a memory problem
3	4,5	sector needs to be rewritten
4	6	CRC error
8	7	could be software problem: unacceptable sector number; <u>or</u> you need to reinitialize

CP/M Notes: You can change drives within a single command line; i.e., you don't need to first select the drive and then give the command. Example:

=TYPE B:CBIOS.ASM
or ED B:CBIOS.ASM

Typo: At the bottom of page 13 of Digital Research's Introduction to CP/M the explanation of GET SYSTEM should read as follows: If a memory image of the CP/M is present (delete not)

JUNE 1977

SOFTWARE LIST

DIGITAL SYSTEMS is constantly trying to upgrade the number and quality of software packages available to our customers. We have recently added the following items to our inventory.

1. Diagnostic program - DISKTEST offers disk access and tests for errors. Documentation comes with the program.
2. Copy - Copies all of A to B.

These two programs will be added automatically to the CP/M diskette as of June 15, 1977. Customers who have already received their CP/M may order these new programs on a separate diskette or in combination with any of the programs listed below.

3. Basic-E Ver: 2.0 - This second version is free of known bugs but it has not been modified to correct the integer arithmetic problem.
4. Basic-E Ver: K2.0 - This version is free of all known bugs and the numeric routines have been modified so integer arithmetic is correct (ie., in Ver. 1.0 the number 93 was printed as 93.00001). Included are a series of callable routines that demonstrate a method of performing 12 digit three function arithmetic (+, -, *). Also included is a 20+ page documentation supplement. It includes extensive coverage of file-handling, showing interaction with CP/M and explaining (with numerous examples) all Basic-E file statements. The documentation also includes coverage of the random-number functions, an errata sheet for the original manual and a section on programming hints and tips.
5. GAMES - This package is a collection of eleven games written in Basic-E. All games come on a diskette in source format (filetype BAS). Included are: LUNAR LANDER (two versions); STARTREK; BAGELS; BIORHYTHM; TIC-TAC-TOE; CRAPS; CANNONS (fire a cannon); POET (Haiku writer); WRITE-A-STORY (You and the computer write a funny story); HANGMAN; BLACKFRIDAY (Stock market game).
6. Tiny Basic - A new version of Tiny Basic has been donated by Bruce Sherry. This version has disk save and disk load and a file containing documentation. A STARTREK game comes with Tiny Basic.

Prices:

DIGITAL SYSTEMS charges a flat fee of \$15 each to duplicate and distribute diskettes. There is no additional charge for items 1, 2, 3, and 6, above. Items 4 and 5 were written by Structured Systems Group and they have set the following prices (in addition to our handling fee):

Basic-E Ver: K2.0	\$25
GAMES	25

ALL SOFTWARE ORDERS MUST BE WRITTEN AND PREPAID.

Note: Also included on each public domain Basic-E diskette are two other public domain (and essentially unsupported) programs: ML80 and a new version of ACT interpreter which is useful for string processing.

RETAIL PRICE LIST

Floppy Disk Drive Systems

	Density		
	Single	Double	Dual
Single Drive System	\$1845	\$1995	\$2045
Dual Drive System	2545	2695	2745

HB-1.4 Interface 95.00

Controller Boards

FDC-2	650.00
FDC-3 (double)	800.00
FDC-3 (dual)	850.00

Initialization ROMs 20.00

	Single Density	Double Density
Diskettes - each	8.00	10.00
- box of 10	75.00	90.00

Documentation

System Notebook	35.00
CP/M Manuals (set 6)	25.00
Shugart Maintenance Manual	5.00
Basic-E Manual	5.00
ML80 Manual	6.00
ACT Manual	1.00

Software

	General I/O	Standard	Custom
CP/M license, diskette and manuals	\$70	\$85	\$100
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Basic-E Ver: 2.0
Diagnositc
Copy
Tiny Basic
ML80
ACT

No charge for these programs. \$15 for cost of diskette and handling.