

NEW FROM NETRONICS AUTO-PATCH HARD DISK

With plug-in multi-user ports
Automatically Installs Itself Into
Your Present CP/M® 2.2 Operating
system & Floppy Disk Hardware.

It's Exclusive!

6 megabytes . . . \$2995.00 12 megabytes . . . \$3495.00



What's the big concern of S100 owners when they consider adding Hard Disks? They worry that it will be difficult to install, that it won't be compatible with their present software and hardware, and that it may cause down-time on their S100 system.

Worry no more — Netronics new AUTOPATCH Hard Disks Systems are here. AUTOPATCH installs in just one-two-three: (1) plug in the hard disk S100 card; (2) run three short programs supplied on disk; (3) disable the boot on your floppy controller and enable the boot on your hard disk controller (this step not required if you wish to continue to boot to your floppy drives).

And that's it: The AUTOPATCH feature automatically finds the end of your existing BIOS and then self-relocates and patches itself into the existing BIOS. A virgin copy of CCP and BIOS are loaded into memory, a customized SBOOT is added to the front of CCP and the whole memory image is written to the reserved tracks on your hard disk. You can add up to 4 hard disks to the controller supplied. The new BIOS will automatically rename any old devices as B: and C: and define the hard disk as drive A:. All with the lift of one finger!!! If your BIOS is large you may have to re-sysgen your system down 1 or 2 k. If this is necessary the AUTOPATCH program will prompt you to do so.

AUTOPATCH Hard Disk Systems are available in 6 and 12 megabyte models. Included in the system: 6 or 12 megabyte Hard Disk Drive . . . Controller for up to 4 Hard Disk drives . . . S100 Hard Disk card with provisions for adding 8 additional I/O ports to be used when adding a multi-user operating system . . . Power Supply . . . Deluxe Steel Cabinet . . . All necessary cables . . . AUTOPATCH Programs supplied on either 8" or 5 1/4" IBM formatted single density diskettes (specify style required) . . . Complete installation instructions . . . Fully wired and tested, ready to go.

SPECIFICATIONS

Unformatted Recording Capacity: 6.4 or 11.6 MB . . .
No. of tracks: 612 or 1380 . . . Data Transfer Rate: 3 ms
. . . Bytes/sector format: 512 . . . Communication Port:
DO (other ports available on special order) . . . Programs
supplied on 5 1/4" or 8" single density IBM formatted
diskettes (North Star CP/M™ version available on
special order)

10 DAY MONEY BACK OFFER

Continental U.S.A. Credit Card Buyers Outside Conn.

CALL TOLL FREE 800-243-7428

To Order From Connecticut Or For Tech. Assist.
Call (203) 354-9375

NETRONICS R&D LTD. Dept.

333 Litchfield Road, New Milford, CT 06776

Please send the items checked below:

AUTOPATCH/6 Hard Disk System . . . \$2995.00

AUTOPATCH/12 Hard Disk System . . . \$3495.00

Additional 6-megabyte drive with power supply,
cabinet, cables and necessary software . . . \$1995.00

Additional 12-megabyte drive with power supply,
cabinet, cables and necessary software . . . \$2495.00

All plus \$15.00 P&I (postage & insurance). For Canadian orders, double the postage (\$30.00). Conn. res. add sales tax.

Total Enclosed \$ _____

Personal Check Cashier's Check/M.O.

VISA MasterCard (Bank No. _____)

Acct. No. _____ Exp. Date _____

Signature _____

Print Name _____

Address _____

City _____ State _____ Zip _____

(a)

	8080/8085	TRANS86	8086/8088 Seattle	XLT86
8-bit registers	A	AL	AL	AL
	B	CH	CH	CH
	C	CL	CL	CL
	D	DH	DH	DH
	E	DL	DL	DL
	H	BH	BH	BH
	L	BL	BL	BL
16-bit register pairs	PSW	AX(1)	AX	AX
	BC	CX	CX(2)	CX(2)
	DE	DX	DX(2)	DX(2)
	HL	BX	BX	BX
16-bit register pairs	SP	SP	SP	SP
	PC	IP	IP	IP

(1) TRANS86 does not preserve 8080 byte order on the stack.

(2) The Seattle translator uses SI on loads from memory and DI for stores to memory. TRANS86 and XLT86 do a register exchange between BX and the appropriate register to allow indirect addressing through BX, then a register exchange to fix up BX and the appropriate register.

(b)

	Z80	TRANS86	8086/8088 Seattle	XLT86
8-bit	R	(3)	(3)	(3)
	I	(3)	(3)	(3)
16-bit	IX	DI	(4)	(5)
	IY	SI	(4)	(5)
alternate registers set	BC'	(5)	(4)	(5)
	DE'	(5)	(4)	(5)
	HL'	(5)	(4)	(5)

(3) Since the 8086 does not have equivalent registers, none of the translators support these registers. However, they can be mapped to a memory location by the programmer.

(4) Seattle's TRANS86 handles these registers by generating memory references to storage locations defined by the programmer.

(5) Although these registers are not mapped by the translators, the programmer can define storage locations and deal with them through macro definitions.

Figure 6: 8080/8085/Z80-to-8086/8088 register mapping. Figure 6a shows 8080/8085-to-8086 register mapping by the three translator programs. Figure 6b shows Z80-to-8086 register mapping by the three translator programs.

● In general, when the 8080 does 16-bit arithmetic, only the carry bit is affected; this is definitely not so in the 8086.

● The Z80 and 8086 do string and block operations differently; the 8080 has no primitive block operations at all.

● As noted earlier, the segment registers in the 8086 allow addressing of up to 1 megabyte; no corresponding registers exist in either the 8080 or Z80.

● Registers used for indirect memory references in the 8080/Z80 are different from the corresponding mapped registers in the 8086.

● Conditional jumps in the 8080/Z80

can reach anywhere in its address space; conditional jumps in the 8086 can reach only 128 bytes on either side relative to the IP register.

● No conditional calls in the 8086 correspond to the conditional calls of the 8080/Z80.

Listing 1 makes it apparent that the three translators treat most instructions the same way, allowing for the differences in the target instruction set. The following comments highlight the differences found.

The only incorrect translation is TRANS86's rendering of the SPHL instruction. The transfer is in the wrong direction. The comment field of the instruction was wrong in the