

# data systems newsletter

For HP Field Sales Personnel

## DIVISION NEWS

### MARKETING MANAGER FOR BOISE DIVISION

by Ray Smelek/Boise

I am pleased to announce *Bill Murphy* will be joining the Boise Division as Marketing Manager. Bill has had extensive marketing experience at San Diego Division over the past 5-1/2 years. He currently is Page Products Marketing Manager and previously had marketing responsibility for system peripherals. His background in product marketing, sales development and sales and product support will be extremely valuable in his new assignment.

*Bill* will be moving to Boise in early January; in the meantime, will be formulating marketing strategy for Boise products while he phases out of his current position. 

### BOISE DIVISION NEWS

by Ray Smelek/Boise

I know there is considerable concern in the field regarding the long availability on 7970 Magnetic Tape Drives. First I want to assure you that everyone in Boise is equally concerned and striving hard to reduce it. Before I elaborate on what we are doing to rectify the situation I want to fill you in on what lead us to this predicament.

Many people feel this transfer of Mag Tapes from Mountain View to Boise was untimely and poorly planned. Well, in looking back one can always see ways of doing things better, but by and large the transfer came off very smoothly. What we did not anticipate was the sudden demand on Tape Drive deliveries.

You people in the field did an outstanding job in signing OEM's during the summer. The order rate in August, September, and October has been over 200% of forecast and every customer wants delivery yesterday. We would like to satisfy all these requirements but it is physically impossible to meet the total demand. We are trying, however, to prioritise needs and keep our customers supplied with units.

All prices quoted in this Newsletter  
are domestic USA prices only

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We have pulled up runs on our master schedule to get more material into inventory; we are sub-contracting printed circuit board assembly and cable assembly to several other HP divisions and shortly Cupertino will set up a final test and button-up operation to help us get more units through test and on to the customer. This line will be staffed with technicians who used to test 7970's at Mountain View. We are working a lot of

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**BOISE DIVISION NEWS - (Continued from page 1)**

overtime and have several people on loan in Boise who are spending full time expediting material to ensure the pull-ups occur on time. Also, we did work the three days prior to Thanksgiving.

You can help by continuing to review your customer's needs. Do not keep units scheduled in tight if your customer does not really need them. Keep us informed of his needs. If we work closely together, I know we can

work our way out of this long availability situation and still maintain good relationships with our customers.

I expect our availability to be down to 8-10 weeks by April. We must be careful we don't over produce and end up with an inventory problem in the months to come. I'd welcome the opportunity to speak to you regarding your specific customer situation and any insights you have about the future requirements for Mag Tape Drives. In the meantime, keep selling.



# PRODUCT NEWS

## SUMMARY OF DOS-IIIB DATA COMMUNICATION INTERFACES AND DRIVERS

by Dan Jorgenson

DOS-IIIB logical/physical data communication drivers and hardware interfaces currently released (as of December 15, 1974) are listed below. All driver software and a new comprehensive driver manual (24307-90012) are shipped with DOS-IIIB (24307B) and serviced under the DOS hardware service contract.

In order to utilize these drivers, each DOS-IIIB system must include a 12936A privileged interrupt card and a 12539C time base generator. These cards have a list price of \$250 and \$550 respectively; and a monthly maintenance charge of \$2.00 and \$3.00 respectively. The time base generator is standard in all M-Series DOS systems. The standard M/230 (19662B) and option 203 of the M/260 (19655B) include the privileged interrupt card.

### HSI DRIVER

Although not a logical/physical driver type, the Hardwired Serial Interface (HSI) driver is also shipped with DOS-IIIB. It carries the name of DVR 67 and works with the HP 12889A card. It enables high speed data transfer between two DOS systems.

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HARDWARE INTERFACES & PHYSICAL DRIVERS

### TERMINALS & LOGICAL DRIVERS

Terminal		TERMINALS & LOGICAL DRIVERS										
Logical Driver for Terminal		2749B	2762A	2600A	2615A	2640A (1)	Beehive super bee (2)	Terminal 1200	DOS CPU-CPU	List Price for Interface Card	Monthly Maint. Charge	
Physical Driver		ATD01	ATD01	ATD01	ATD01	ATD01	PMT01	ATD02	SLC			
Speed, Modem												
Type												
Interface												
12587B	Async. Single Line ≤ 2400 bps 103,202 or Equiv	DVR 72	✓	✓	✓	✓	✓	✓	✓	\$ 550	\$ 6	
12920B	Async. 16 Chan. mux ≤ 2400 bps 103,202 or equiv	DVR 73	✓	✓	✓	✓	✓	✓	✓	2,200	15	
12618A	Sync. single line 4800bps 208A or equiv 2000bps 201A or equiv	DVR 70							✓	700	5	

Indicates the logical driver will operate with physical driver (at the intersection of row and column) nomenclature:

- ATD01 = asynchronous terminal driver =1
- PMT01 = page mode terminal driver =1
- DVR 72 = Driver "72"
- SLC = Synchronous Line Control Package

Notes:

- (1) HP 2640A presently supported in character mode. A page mode Logical Driver is currently being written.
- (2) PMT01 supports Beehive Super Bee II Computer Terminal, Model 112-0600-000. (Former HP 2616A)

**HP Computer Museum**  
**[www.hpmuseum.net](http://www.hpmuseum.net)**

**For research and education purposes only.**

**SUMMARY OF DOS-IIIB DATA COMMUNICATION INTERFACES AND DRIVERS - (Continued from page 2)**

**UPGRADING EXISTING CUSTOMERS**

Those customers that received DOS-IIIB without one or all of these drivers may order them individually at \$25.00 per tape.

Driver	Part No. (relocatable)	Manual
DVR 67	24341-16001	12889-90007
DVR 70	24307-16009	24307-90012
DVR 72	24350-16001	24307-90012
DVR 73	24377-16001	24307-90012
ATD01	24381-16001	24307-90012
ATD02	24307-16012	24307-90012
PMT01	24307-16008	24307-90012
SLC	24307-16010	24307-90012

HEWLETT  PACKARD

**DISTRIBUTED SYSTEMS SALES AMPLIFIER ADDENDUM**

*by David Borton*

The past two months have seen changes in the distributed systems products available from the competition. In particular, two packages have been announced and another is expected soon.

MODCOMP and IBM have both announced new packages for linking computers together. DEC is also expected to announce a distributed system package by April 1975. Data General could quite easily join the group also by enhancing their present multi-CPU package to include longer distance hardware (their present hardware has a limit of 75 feet).

**MODCOMP**

MODCOMP announced a distributed systems package in October, 1974, called MAXNET III. The software prices are \$3000 for the first satellite and \$500 for each additional satellite. Hardware communication techniques supported include parallel techniques for local high-speed transfers (100K words per second), hardwired serial for up to one mile at speeds from 15K to 125K words per second, and synchronous and asynchronous modem communications for longer distances at speeds up to 9600 bits per second.

The prices for this hardware range from \$500 to \$2000 per computer. The serial hardwired technique is the same technique used by the REMACS remote measurement box and costs about \$1250. This technique is a multi-drop scheme with up to 4 drops. It

has been claimed that the REMACS and satellite CPU's can be intermixed on the same cable, but the level of software support for this approach is unknown.

The central host system must be a MODCOMP II computer with 32K or more of memory, a disc, a console device, and the extended disc version of MAX III Version F operating system. The satellite system must be a MODCOMP II computer with at least 24K words of memory, and the non-disc version of MAX III. (However, one of the examples shown in the MAXNET III brochure indicates that a MODCOMP III computer can also be a satellite computer.) The lower cost MODCOMP I computer (for dedicated applications) is not available as a satellite computer. This can be compared to HP's BCS based 2105 for dedicated applications where low cost is very important.

**MAXNET Services**

Each computer system (satellite and host) in a MAXNET III network has all the software capabilities of a system using the extended disc version of the standard MAX III Version F operating system. In addition the MAXNET III system provides the following functions and system tasks.

**Operator Directives - Satellites and Hosts**

- FIL - Initial program load a remote system.
- RAS - Create or change a logical file assignment in a remote system.
- RRS - Remote task resume.
- RDF - Create or change a logical file default assignment in a remote system.
- RTK - Remote task kill.
- RTA - Remote task activate.
- RTE - Remote task establish (make core resident).
- RTD - Remote task deestablish.
- BTK - Background take (HOST only to regain use of the batch processing task).
- BGV - Background give (HOST only to allow satellite computers to use a batch processing task).
- RBP - Remote batch processing (SATELLITE only to use background and peripherals of the HOST for program development).
- RFO - Remote task information.
- RHD - Remote task hold.
- RFI - Remote logical file interrogation.



**Rex Services and FORTRAN Calls -- available to assembly language and FORTRAN users.**

1. Remote task establish.
2. Remote default assign.
3. Remote task resume.
4. Remote task deestablish.
5. Remote task information.
6. Remote file assign.
7. Remote task activate.
8. Remote task kill.
9. Remote task hold.

*(Continued on page 4)*

**DISTRIBUTED SYSTEMS SALES AMPLIFIER  
ADDENDUM - (Continued from page 3)**

**System Tasks - provided by MAXNET III which can be included at system generation time.**

1. A link task (LKT) which interfaces to the logical I/O system and allows device independent I/O transfers over multiple computer links.
2. A loader task (LDR) which enables loading of tasks from a host system disc to a satellite computer.
3. A simultaneous output task (SYC) that takes data written to one device and outputs that same data to two devices. Normally this is used to output system messages to consoles at satellite and host systems simultaneously.
4. MAXNET III Linking Loader which looks at the computer link for binary data during remote fill operations. This loader will perform a checksum calculation on a record by record basis and request a fixed number of retries if an error is detected.
5. A software core device interface which allows a user to transfer data to and from core partitions defined at system generation time either locally or remotely.

Normally these partitions will be subdivisions of global common areas.

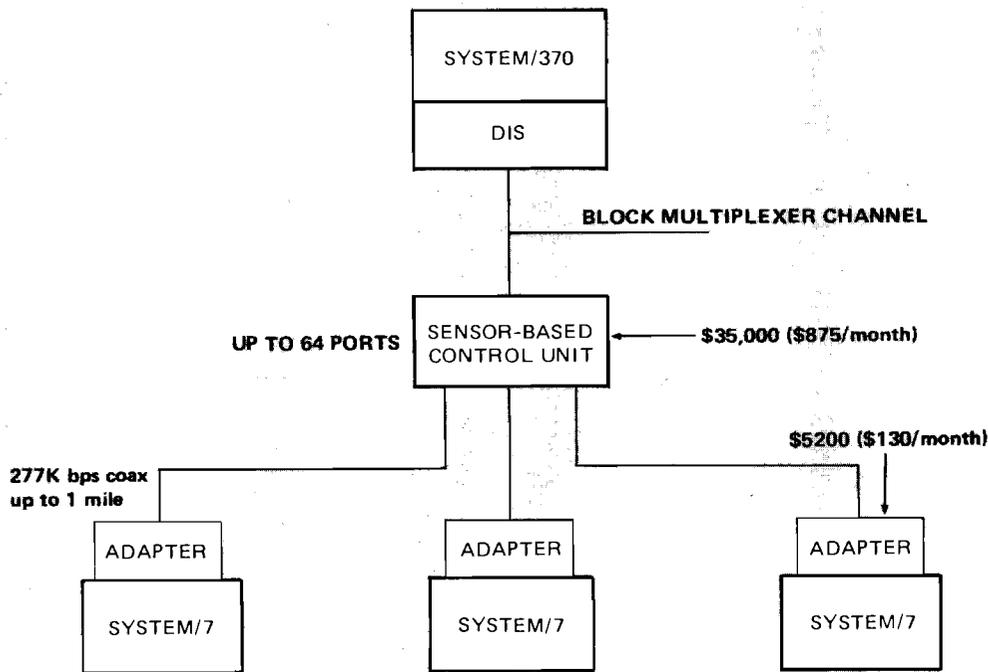
As can be seen from these calls, MODCOMP offers extensive capabilities in coordinating tasks between computers in a network. Features not provided are the named remote file access calls and the requested program load feature. (MODCOMP does provide a forced load only, however.)

**IBM**

IBM announced a distributed system package for the 370 to System/7 computers in October 1974. It basically makes a product out of equipment that had been furnished before on an RPQ (special) basis only. The package is called Distributed Intelligence System (DIS) and is provided at no charge. It operates with 370's using the following access methods: Basic Sequential (BSAM), Basic Direct (BDAM), and Virtual Sequential (VSAM).

DIS provides data transmission capabilities so that the user does not have to concern himself with data communication protocols. This is essentially equivalent to HP's approach. IBM also provides program preparation capabilities for the System/7 on the 370. In fact, this was the original technique. Not until the spring of 1974 was local program preparation available on the System/7.

The configuration is as follows:



## SYSTEMS APPLICATIONS GROUP

by Peter Rosenblatt

You may not have heard about us, but we are here to help you be successful. We are part of *Bill Krause's* organization and look at ourselves as the "Development group with an ear to the field." Our charter is to develop and maintain applications software packages which can enable you to sell more systems. Our products are based on hardware and software components created by Data Systems R & D Lab.

While we are not here to solve a particular customer's problem, we are in a position to develop a solution for a class of problems which will enable your customers to get on the air quickly, or we may be able to develop dedicated system solutions for particular end-user markets.

Let us have your inputs as to where we should apply our creativity. 

### NEW SALES POWER IN THE M-SERIES LINE-UP

by Dan Jorgenson

Effective January, 1975, several changes and additions have been made to the M-Series DOS systems to simplify and strengthen your selling efforts.

#### S/250 DATA SYSTEM DELETED

Because of the similarity in configuration and capability of the M/260 Data System (19655B) and the S/250 Data System (19660B), the S/250 has been deleted from the Corporate Price List effective January, 1975. This action will simplify your selling efforts by focusing selling activity on one rather than two data base management systems.

However, you may sell an equivalent S/250 system by adding the following accessories to the M/260.

Model Number	Description	Incremental Price	Incremental Monthly Maintenance Charge
12977A	Fast Fortran Processor	\$ 1,600	\$ 2
12987A	Line Printer	7,950	72
19655B-402	Delete Terminate Sys. Console	-6,460	-33
2615A	Add CRT Sys. Console	2,835	32
12880A	Add Console Interface	350	4
	<b>Total</b>	<b>\$ 6,275</b>	<b>\$ 77</b>
	Current M/260 price (19655B)	\$50,500	
	S/250 equivalent price (original S/250 Sys. price)	\$56,775	
		\$56,465	

### S/210 IS NOW M/210

The S/210 Data System (19657B) is now playing on the M Series team. Although this change in nomenclature is minor, the M/210 is a seasoned veteran and will round out the M-Series team identity by anchoring the starting position.

Like the former S/210, the M/210 consists of 2108A processor, 16K words X2 memory, dual channel port controller, memory protect, disc loader ROM, power fail recovery system, time base generator, 5 Mbyte cartridge disc, paper tape reader, single bay cabinet, ASR33 console printer and DOS-III B software. A new data sheet is available for the M/210 system: publication number 5952-4659.

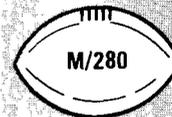
### M/280 ADDED TO LINE-UP

The newest member of the team is the M/280 Sales Order Processing System, a merchandizing extension of the M/260, based on the 19655B. The M/280 fields the ball with ON-TOP, an application software package. This hard hitting software as well as the M/280 is described in the Product News section of this Newsletter.

### The M-SERIES TEAM OF THE 2000MX SYSTEMS

As a result of the preceding changes, our M-Series team looks like this:

**\$70,235 ON-TOP  
SALES ORDER  
PROCESSING  
SYSTEM**



**\$50,500 Data  
Base Management  
System**



**\$48,950 Multitask  
Multiterminal  
Transaction  
Processing System**



**\$29,790 "Starter  
Set" DOS-III B  
System**



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**NEW SALES POWER IN THE M-SERIES LINE-UP**  
(Continued from page 5)

New price information sheets are available for the above systems:

System	Pub. No.
M/210	5952-4663
M/230	5952-4664
M/260	5952-4665

**NEW OPTION FOR M/230, M/260**

A new option 217 has been created for the M-Series DOS systems (M/230, M/260) to add dual channel port controller to the I/O extender. This option is necessary for large system configurations.

Product	Description	Price	Service
19662B-217 (M/230)	Add Dual Channel port controller to I/O extender (HP 12898A)	\$500	\$10
19655B-217 (M/260)	Add Dual Channel port controller to I/O extender (HP 12898A)	500	10

The option will be on the January, 1975 Corporate Price List. 

**TEXAS INSTRUMENTS ADDRESSES OEM MARKET**

by Dave Carver

Texas Instruments has announced a formal OEM discount schedule for its 960B and 980B minicomputers, 912 and 913 CRT terminals, and Silent 700 series hardcopy terminals. Hardware is discounted as follows:

Equipment	Quantity	Percent Discount
Computer	0 - 4	0
	5 - 9	15
	10 - 24	17
	25 - 49	19
	50 - 200	20
CRT Terminal	0 - 4	0
	5 - 24	10
	25 - 49	15
	50 - 99	20
	100 - 499	25
	500 up	35
Teleprinter	0 - 4	0
	5 - 24	10
	25 - 49	12
	50 - 99	15
	100 - 499	17
	500 up	20

For comparison, HP discounts computers and the 2640 according to this schedule:

2100/21MX Products Qty	Percent Discount
0 - 1	15
2 - 4	17
5 - 9	20
10 - 14	23
15 - 19	26
20 - 24	29
25 - 34	32
35 - 49	33
50 - 99	34
100 up	35

2640	Percent Discount
A) Quantity Six or more (applies to any customer who buys six or more at one time).	12%
B) Volume Agreement (Customer must sign a Volume Purchase Agreement)	
75 - 99	15
100 - 149	17
150 - 249	20
250 - up	23
C) HP Computer System OEM (Customer must have a current OEM agreement with HP)	
1 - 99	15
100 - 149	17
150 - 249	20
250 - up	23

TI has also limited charges for software and documentation to the first system purchased.

By announcing a formal OEM agreement, TI has made, for the first time, a significant move towards addressing the OEM market. Note that HP offers a better computer products discount schedule, and a competitive CRT schedule. HP does not discount teleprinters.



**MPE C IN USE**

by Jean-Michel Gabet

The new version of the HP 3000 Multiprogramming Executive seems to accommodate users with requirements for high reliability, even when the system is not attended. A simulation of a solid state problem undertaken by Doctor Barna of HP Labs was successfully run on an almost finished Version C of MPE last October. As the following printout indicates, the program was launched Friday, October 31, at 2:40 AM and completed running Monday, November 4, at 9:28 AM; this is over three days and 17 hours of CPU time out of four days of connect time.

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```

:JOB   ECL01,BARNA,HPL,DRBARNA
PRI= ES; INPRI= 8 ; TIME= 7
JOB NUMBER = #J6
THU, OCT 31, 1974, 9:40 AM
HP32000C.X0.92

:FORTGO

(Program)

END OF PROGRAM
:EOJ

CPU (SEC) = 320979
ELAPSED (MIN) = 5748
MON, NOV 4, 1974, 9:28 AM
END OF JOB
    
```



## "RECENT MINICOMPUTER COMPETITIVE ANNOUNCEMENTS"

by Dave Carver



### Digital Equipment Corporation PDP 11/04

DEC has just introduced a semiconductor memory version of the low end PDP 11/05. Called the 11/04, it is a minimum capability, low-priced computer aimed at dedicated control type applications that require more I/O capability than hardwired controllers. It uses the same instruction set as the 11/05, and can accept all standard PDP 11 options. The 11/04 is mounted on one board instead of the two occupied by the 11/05, and is purported to be 20% faster than the 11/05. Mainframe size is 5 1/4 inches high, with nine slots.

#### PRICING:

*CPU with 4K	\$2,495
*CPU with 8K	\$3,295
Programmer's front panel	500
Serial line interface	400
EAU	\$1,920
Floating point, parity	NOT AVAILABLE
9-slot backplane	250
**Battery backup	500

\*Includes DMA, four level I/O interrupt structure, ROM loader (switch-selectable), ROM diagnostics, 4K MOS RAM 750 ns memory, 4-slot backplane.

\*\*Sustains memory for up to two hours.

The 11/04 strengthens DEC's price advantage over the 21MX in the low-end, minimum capability market where the customer needs no features such as EAU, floating point, and parity.

The 11/04 is more densely packed than the 11/05, and appears to have more I/O real estate available. 32K of

memory can fit in the 5 1/4 inch mainframe. A key point is that the 11/04 will not be available in quantities until summer 1975. Sell the standard features and expandability of the 21MX, plus its availability now.

### New Versions of DEC PDP-8

Digital has just introduced two additions to its 12-bit PDP-8 line of minicomputers. The original PDP-8/A is now called the 8/A-100, and is priced at \$1,745 with 1K of semi-conductor RAM memory. The two new versions differ in type of memory used: the 8/A-200 will have 4K RAMs, and the 8/A-400 will use either 8K or 16K core memory modules.

Price for the 8/A-200 with 4K is \$1,995 (list), including battery backup. For the 8/A-400 with 8K of core, list price is \$2,795; with 16K, list is \$3,795. Additional core modules are priced at \$1,500 for 8K, and \$2,500 for 16K.

The PDP-8 family has less processing power and I/O capability than the 11/04, and is for such applications as small test systems and special terminals.

Deliveries of the new machines will not begin until July for Core, and September for RAM memory. HP is still the leader in semiconductor technology.

### Data General ECLIPSE

Most of you have heard of the ECLIPSE, what Data General claims to be a major new product line. Here is the "Competitive Spec Sheet":

There are two initial versions of the ECLIPSE, the S/100, aimed at the OEM market, and the S/200, intended for large systems applications. Both ECLIPSE models are priced substantially above the 21MX, and fall in the same general price range as the Nova 840 and DEC's 11/45. The major features of the ECLIPSE are an optional error correction capability, cache semiconductor memory that may be interleaved, and a fast floating point processor (hardwired) that operates in parallel with the CPU. Core memory may also be interleaved up to eight ways.

### Data General NOVA 830

Data General recently announced the Nova 830, which is nothing more than a Nova 840 repackaged with slower, cheaper 16K core memory modules. The 840 uses only 8K modules, priced at \$3,200 per 8K with 800 nanosecond cycle time. The 830 uses 16K, 1000 nanosecond modules priced at \$3,500 per 16K. As with the 840, parity is not available on the 830, and maximum memory is 128K words.

Nova 830 prices are identical to the "future" Nova price curves distributed during the October New Product Tour.

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"RECENT MINICOMPUTER COMPETITIVE ANNOUNCEMENTS" - (Continued from page 7)

Price	S/100	S/200
(16K Core, EAU)	\$11,900	\$16,300
With floating point:	16,900	21,300
With memory management and protect:	Not Available	24,600

**Processor Architecture**

Word Length:	16 bits
Data Registers:	4 accumulators, two of which act as Index Registers
	16 Memory Registers
	Hardware Stack

**Instruction Implementation: Microprogrammed**

Addressing Mode:	Direct addressing of 32K words. Multilevel indirect, indexed and immediate also available.
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**Total Instructions 149 (Standard)**

**Instruction Set Enhancements:**

Integer Arithmetic (EAU): Standard

Floating Point: \$5,000

**Memory**

Word Length:	16 bits
Maximum Memory:	S/100 - 32K words S/200 - 128K words
Technology:	CORE: \$2,700 per 8K Semiconductor with cache: \$4,200 per 8K Interleaving: CORE: up to 8 way Semiconductor: up to 4 way
Increments:	8K
Cycle Time:	CORE: 800 ns Semiconductor: 700 ns with 200 ns cache memory
Parity (Error Correction):	5 bits per word; Cost: \$1,000, plus \$1,000 per 8K of memory Available with CORE or Semiconductor memory.
Timing Technique:	Asynchronous
Memory Ports:	Single

**Input/Output Interrupts**

Type:	Programmed priority, single interrupt
Levels:	16 Programmable
Maximum Addressable Devices:	59
Internal Interrupts:	Powerfail
Timing:	Data Channel Latency: 2.9 $\mu$ seconds
DMA Transfer Rate:	1.25 MHz input .714 MHz output
Bus Structure:	1 Memory Bus, 1 I/O Bus

**Packaging**

Chassis Size:	S/100 - 5 1/4 inches high, 80 lbs. S/200 - 10 1/2 inches high, 140 lbs.
Board Capacity:	S/100 - 7 slots S/200 - 16 slots

1. Processor requires 2 slots
2. Memory requires 1 slot per 8K
3. Floating point requires 2 slots
4. I/O section is not separate from memory

**Power/Environmental**

Line Voltage:	S/100 - 92 - 138V, 5A 184 - 276V, 2.5A S/200 - 92 - 138V, 10A 184 - 276A, 5A
Line Frequency:	49 - 51 Hz, 59-61 Hz
Cycle Loss Tolerant:	None mentioned
Maximum Dissipation:	S/100 - 575 Watts S/200 - 1150 Watts
Heat Generation:	S/100 - 1960 BTU/Hr Max S/200 - 3291 BTU/Hr Max
Power Supply:	Ferro-resonant
U.L. Approval:	Yes
Powerfail:	Optional, \$400
Operating Temperature:	0 - 55° C
Operating Humidity:	To 90%

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"RECENT MINICOMPUTER COMPETITIVE ANNOUNCEMENTS" - (Continued from page 8)

**Critical Sales Factors**

**They will push:**

1. Error correction scheme - requires five extra bits per word. DG makes the point that 5 bits is not that much more than the 2 bits required for byte parity.
2. Speed of interleaved core memory and interleaved semiconductor memory with "cache".
3. Speed of floating point processor, ability to handle 64 bit operands.
4. Expandability - to 128K in S/200.
5. Three memory maps - 1 system, 1 user, 1 DMA.
6. Compatibility with previous Nova software.
7. Writable Control Store option (\$3,000).
8. Hardware stack facility

**We should push:**

1. Memory parity standard - 21MX can accomplish byte parity with one extra bit per word. ECLIPSE buyers have only the choice of very expensive (\$1,000, plus \$1,000 per BK) protection or none at all.
2. Memory price:  
  
21MX - 16K with parity: \$4,000  
  
ECLIPSE - 16K semicon, cache, error correction:  
  
\$10,400
3. Floating point price - standard on 21MX, \$5,000 on ECLIPSE.
4. Expandability - to 192K in 21-M/20
5. Dynamic Mapping option offers four maps, parity interrupt that allows user to work around bad memory pages - not just "stop the machine" as DG may claim.
6. Compatibility with previous HP software.
7. ECLIPSE user microprogramming can only be implemented through WCS. ECLIPSE WCS not software-supported. HP is industry leader in user microprogramming and offers debugging aids as well as HP-supplied plug-in instruction sets. HP WCS - \$1,250. ECLIPSE WCS - \$3,000.
8. 21MX microprogrammability allows design of firmware stack facility.
9. "Brown-out proof" power supply.
10. Power dissipation of 525 W max, versus 1125 for S/200.
11. Space available for I/O on 21MX versus S/100. S/100 with 32K has only one I/O slot available.

HEWLETT  PACKARD

**MAG TAPES - DID YOU KNOW**

by Dave Bowers

Here is a piece of information that can be used to lock-out DEC tape drive competition. Because of a 10

bit word count register in DEC's tape controller, the largest data block that can be read, or written, is limited to 2048 bytes. When talking about IBM compatibility, block transfers of 7200 bytes are common (1 track of an IBM 2314 disc drive).  H. HEWLETT  PACKARD

SELL HP!

**3000 MPE C ON TEST SITE**

by Jean-Michel Gabet

The first test site for MPE Version C has been one of the two 3000's used in the Cupertino plant for production and order processing. Although some problems were discovered and fixed through running the Operating System in that environment, the reaction of its users was extremely favorable. The use of the spooling facilities has increased the work they can accomplish as well as removing some of the burdens of controlling the way their jobs were running. Line printer permanent availability is the simple, most appreciated feature when running in session mode. Also batch users find it very convenient to feed a spooled card reader, have these read and walk out confident that the job will be automatically scheduled to run without any more human intervention. For those users who don't like punched cards manipulation, the STREAM command has been found very useful, still leaving terminals ready for further use. The reception of this new system was good enough to prompt users of the nearby 3000 to insist that their system too be run on Version C.

On the operation management aspect of the test, it has been reported that because batch is not hand fed the system shows less idle CPU time, that is more efficiency in CPU utilization and more throughput. Comments also were made to the effect that the new system had successfully managed to give the console operator many means to control and modify system load and activity when and if it is so desired.

This testing was conducted in a production environment which by essence is not a "forgiving" one and which cannot afford too much downtime. If this reception of the new MPE by those users is a forerunner of the one that our customers will experience, the results should certainly be encouraging.  H. HEWLETT  PACKARD

**ANNOUNCING THE M/280 SALES ORDER PROCESSING SYSTEM WITH ON-TOP**

by Barry Klaas

Now you can offer the M/280 Data Management System, a sales order processing system complete with application software. The M/280 can now be ordered for a price of \$70,235. The M/280 is a merchandising extension of the M/260, 19655B, which has now been configured to include options and components that serve sales order processing requirements. The

(Continued on page 10)



*M/280 2000MX Data Management System*

*Penny Hanney of Cupertino portrays entry of order information on the 2640 terminal while the 2762A prints the picking list and the 12987A prints the invoice. Not shown is the 2615A console. Sell the M/280 to big industry executives.*

**ANNOUNCING THE M/280 SALES ORDER PROCESSING SYSTEM WITH ON-TOP - (Continued from page 9)**

objective of the M/280 introduction is to help you sell more DOS systems. A new Data Systems promotion approach for the M/280 will be used--90,000 copies of the 8 page sales brochure will be distributed to the readers of Infosystems via the January issue.

Featuring the HP 21MX minicomputer, the new M/280 Data Management System provides an on-line, multiple terminal DOS solution to sales order processing problems. Utilizing ON-TOP, HP's new sales order processing application software, users can now put their order processing function on-line while minimizing any programming costs.

The M/280 with the ON-TOP (On-line Terminal Order Processor) software provides an easy, one-step means of handling all of the sales order information processing functions normally encountered in business: sales order entry; order update; order inquiry; customer update; product and product line inquiry; pick list printing; invoicing; quoting; initiation of credit memos; sales activity analysis. During order entry operations, the system will perform pricing, allocate inventory, total orders, check credit, and print pick lists and invoices. Logging and recovery as well as several batch programs are included. The ON-TOP software, working with the HP M/280 2000MX Data Management System, can handle up to ten interactive order processing terminals, local or remote.

The combination of ON-TOP and 2000MX Data Management Systems answers both hardware and application software needs of users.

Model/Option Number	Description	Purchase Price	BMMC Service
19655B	Basic system includes HP 2108A M/20 24K word microprogrammable processor, paper tape reader, 2762A terminal printer, 4.9 mbyte disc, 1600 BPI magnetic tape, system table, double bay cabinet, disc operating system software, IMAGE/2000 software.		
-162	Expands memory to 32K		
-214	Multiple port I/O extender, 12979A		
-305	ON-TOP, sales order processing software, 24386A		
24342B	TCS, terminal control system software		
12987A	Line printer, 200 LPM		

*(Continued on page 11)*

**ANNOUNCING THE M/280 SALES ORDER PROCESSING SYSTEM WITH ON-TOP - (Continued from page 10)**

2615A	System console display		
12880A	Console interface		
	<b>BASIC M/280</b>		
	<b>TOTAL PRICE</b>	<b>\$ 70,235</b>	<b>\$ 618</b>

**M/280 OPTIONS**

**System Power Option**

19655B-015	230V/50Hz operation	n/c	n/c
------------	---------------------	-----	-----

**Mass Storage Options**

19655B-001	Replace 4.9 mbyte disc (12960A) with 23.5 mbyte disc (12965A)	18,600	48
-003	Replace 1600 BPI magnetic tape subsystem with 800 BPI subsystem	-2,000	-37
-213	Add 14.7 mbyte disc storage (3 each 12960A) and cabinetry	17,000	295
-406	Delete 1600 BPI magnetic tape (12972A) (releases 2 I/O slots)	-10,900	-110

**Terminal Options**

19655B-401	Delete pick list terminal and interface	-\$6,225	-\$33
2640A	Order entry display terminal		
	Qty 1-5	3,000	25
	Qty 6-up	2,640	
12880A	Terminal interface	350	4

Specific customer configuration requirements other than the above may also be satisfied by building from the basic 19655B or 19657B with other combinations of options and components. DOS III, TCS, IMAGE/2000, 32K Memory, and hardcopy printing are requirements in any such system.

**ON-TOP SOFTWARE**

ON-TOP, sales order processing application software, is offered for \$1,500 as option 305 on 19655B. Alone, ON-TOP may be ordered as follows:

24386A	ON-TOP. Requires a DOS III based system with IMAGE/2000 and TCS. Provided on paper tape.	\$3,000	
-100	Provided on 1600 BPI magnetic tape		n/c
-101	Provided on 800 BPI magnetic tape		n/c

ON-TOP now appears on the Corporate Price List and Data Systems Availability Schedule.

ON-TOP is distributed in source form.

ON-TOP uses single channel terminal drivers and individual terminal interface cards rather than logical/physical drivers and multiplexer.

**LITERATURE AND PROMOTION**

The M/280 Brochure, ON-TOP Data Sheet, and Sales Training Manual are being distributed to the field. As mentioned, the M/280 Brochure is being distributed to the 90,000 readers of InfoSystems as a removable insert in the January issue.

Also available is extensive ON-TOP Reference Manual (24386-90001) explaining the details of executing ON-TOP and an ON-TOP Technical Manual (24386-90002) encompassing software installing instructions, program narratives and source listings.

Remember, using an M/280 with ON-TOP, your customer can get up-and-running fast, reducing application development expense and time to become operational.



**WHO'S PLAYING 2ND FIDDLE NOW?**

*by Bob Kadarauch*

The following appeared in December 16 issue of Electronic News:

# Data Topics

Competition over CRT terminals made by minicomputer manufacturers promises to heat to a new intensity early next year when **Digital Equipment** comes out with a VT-51 programmable CRT incorporating a copier unit that produces a paper record of screen display information. The new CRT from DEC is said to represent direct competition for the recently-introduced 2640 intelligent CRT from **Hewlett-Packard**, which is believed to planning a copier offering for its terminal.

Go get those customers *NOW*, why wait for DEC?



**STAY OUT FRONT**



## RECENT CLOSES

### HP BEATS IBM



by Eric Grandjean

Who said it couldn't be done? Congratulations to *Denis Ferland* of St. Louis who didn't sell *one*, but *TWO* 3000 systems last month.

One of these systems was purchased by Nooter Corporation of St. Louis, makers of large steel and alloy plat boilers. Impressively enough, the decision at Nooter to go the 3000 was made by a man who was Manager of "Common", and IBM user's group in the St. Louis area. Our 3000 system will replace their 1130 as well\* as an IBM 360/20.

The other 3000 system was ordered by Warren and Van Praag, a well established civil engineering consulting firm, also located in St. Louis. This will be their first in-house computer; they have been using Time Share services until now.

Key factors in both sales was the multi-user, multi-language capability of our system (Fortran and COBOL) as well as concurrent RJE capability.

Keep up the good work, Denis! 

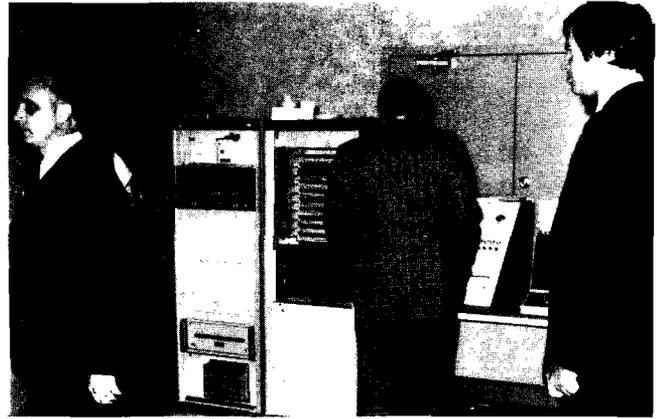
### TARGET ACCOUNT PENETRATION

by Bob Kresek

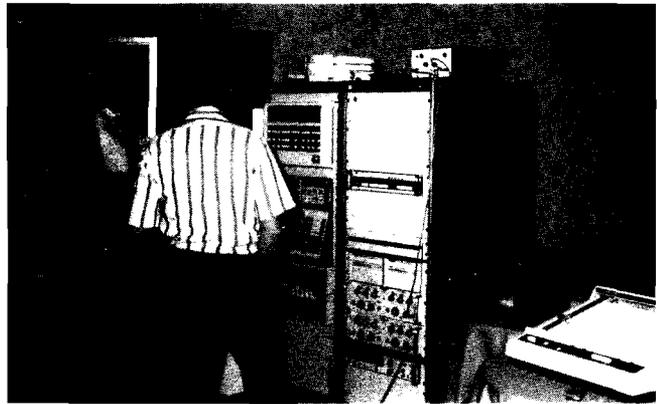


*Tom Roberts talking about The 21MX.*

Breaking into the Atomic Energy Commission's largest facility in Oakridge, Tennessee, is no small task. The rewards of success are large sales to one of the country's largest minicomputer users. To keep the momentum going in HP's sales effort, *Tom Roberts* in Atlanta, put together a major HP computer capabilities



*Customer's checking out The New 96MX System.*



*HP's Fourier Analyzer.*



*This HP 9611A was A RTE-B Distributed Systems Satellite.*

presentation for Union Carbide and Tennessee Valley Authority, both AEC contractors at Oakridge. Four computer systems were shown demonstrating the 96MX product line, Distributed Systems, and HP's Fourier Analyzer. The presentation included *Russ Stewart*, *Dennis McGinn*, *Emil Aramoonie*, *Gerald Priebe*, and *Ken Posse* all from HP Atlanta, and *Jim Schmidt* and *Bob Kresek* of Cupertino.

HP's first orders from Union Carbide Oakridge should be coming in the next couple months. 

# SALES AIDS

## LISTINGS AVAILABLE FOR BASIC CONTRIBUTED LIBRARY

by Ginny Loyola

A new option is now offered to Time-share and other HP BASIC users.

Customers can buy listings of all the BASIC Contributed Library programs in bulk form as follows:

HP 36000-19001	Listings of software on Mag Tape HP 36000-10001 (93 programs) --\$100.00
HP 36000-19002	Listings of software on Mag Tape HP 36000-10002 (176 programs) --\$100.00
HP 36000-19003	Listings of software on Mag Tape HP 36000-10003 (218 programs) --\$100.00
HP 36000-19004	Listings of software on Mag Tape HP 36000-10004 (296 programs) --\$150.00

Please note that listings for a single program are not separately available.

TSB/2000E and 9830 users (and any other customers without mag tape capability) will find these listings useful to convert TSB/2000F programs for use on their equipment. HEWLETT-PACKARD

## AN ESP GUIDE TO SOFTWARE AND MANUALS

by Chuck Ackerman

DATA SYSTEMS DOCUMENTATION  
INDEX -- WHAT IS IT??  
WHAT GOOD IS IT??  
WHO GETS IT??

### What Is It/What Good Is It

In your support of Data Systems products, have you needed information on:

1. Complete lists of Data Systems product manuals, current and obsolete, sorted by part number, model number and manual type, (i.e., languages, applications, operating and service interface, operating guides, subsystems, etc.)
2. Complete lists of current supported divisional software products and associated part numbers for both the 2000 and 3000 product line.



3. What software and manuals are available, compatible, and shipped with each of our software systems.
4. Cross reference guides relating hardware devices and their manuals to required interfaces.
5. Cross reference guides linking hardware devices to available drivers.

The document providing the information is titled "Documentation Index".

### Who Gets It

Each field office worldwide supporting Data Systems products.

Distribution Frequency - monthly and it is mailed under the Librarian label. HEWLETT-PACKARD

# EDUCATIONAL NEWS

## THE CANADIAN CHAIN

by P. Danzer-Ramirez

Don Thomson has been planning an HP computer chain in B.C.! His most recent sale, a 2000F system to Vancouver City College, is a link in this chain.

Reference selling is the basis for Don's plan. Once an HP system is installed in an area, other prospects can be shown HP's capabilities.

For example, Vancouver City College (13,000 enrollment) had been buying time from the IBM system at Simon Fraser University. The operating system was very unreliable, the response time poor, and the expenses were high. Don arranged for a terminal to be brought to the college which was hooked into the 2000F at the Vancouver School Board. Thus, two terminals operating from these two different systems were placed side by side and compared for response time and reliability for a three month period. The resulting typical response time for the HP system was less than one second, the IBM system was five to six seconds.

In addition to good reliability and response time, the college wanted a system with extensive application software and a large program library. Some time ago, Don had Carol Scheifele demonstrate IDF capabilities. At their own expense, Vancouver City College sent their CAI coordinator to Cupertino who worked with Don Lund for three days to learn more about IDF, PILOT and Coursewriter.

Impressed by these features and satisfied that a 2000F could meet all their needs, the college placed their order

(Continued on page 14)

## THE CANADIAN CHAIN - (Continued from page 13)

in October and the system was installed the first week of December. They've ordered a plotter and nine terminals with their system and plan to expand to 32 terminals in the near future. They're also a candidate for a 3000 system to replace the Honeywell 200 presently used for administrative applications.

Already the college is a reference account for two community colleges in the Vancouver area. These two schools are starting to get ports into the system and *Don* plans to continue the chain and sell them their own computer system--soon! 

## CURRICULUM PROJECT NEWS!

by P. Danzer-Ramirez

The last book set in the secondary math Curriculum Project book series has just been released. Entitled *Finite Mathematical Systems*, this set consists of a Student Text and a corresponding Teacher's Notes. The books were authored by Charles H. Lund of the St. Paul Public Schools, St. Paul, Minnesota.

Because finite systems often are not covered by standard textbooks, or are only covered briefly, the subject matter is discussed quite thoroughly, including pencil-and-paper exercises in addition to computer-oriented exercises.

The unit begins with a review of some important properties from the system of whole numbers and then branches off into a system without numbers. Each section is written on a "stand alone" basis, allowing teachers considerable flexibility in assignments depending upon student ability and materials available.

As with the other Computer Curriculum Project books, *Finite Mathematical Systems* was designed to provide students with an opportunity to use a computer as a problem-solving tool within a particular subject area and to provide teachers with problems, solutions and ideas to better "enrich" their instructional endeavors.

Priced at \$3.00 each, *Finite Mathematical Systems* (Order number 5951-5603 for the Student Text, and 5951-5604 for the Teacher's Notes) can be ordered from:

Hewlett-Packard Company  
Computer Curriculum Project  
333 Logue Avenue  
Mountain View, CA 94043

Orders under \$20.00 must include payment. All orders of ten or more receive a 25% discount.

For your desk copy of this publication, send the coupon below to *Carol Scheifele* in Cupertino.

Name: \_\_\_\_\_

Office: \_\_\_\_\_

Please send a desk copy of:  
**Finite Mathematical Systems**  
**(Student Text and Teacher's Notes)**

 HEWLETT-PACKARD

## SYSTEMS ENGINEERING NEWS

### DEMO CENTER ORGANIZED

by Stan Shell



Front Row: Stan Shell, Bob Lindsay, Sam Boot, and Dan Davis

Back Row: 3000CX Demo Machine.

The newest member of this group needs no introduction to many of you. *Bob Lindsay* has been with HP for 7 years and is coming over from AMD to Cupertino to coordinate the dissemination of the information between the System Engineering (SE's) Factory group and the field. It will be *Bob's* responsibility to see to it that the many valuable items of information generated by individual factory and field S.E.'s and customers are provided to all field S.E.'s and appropriate customers in an orderly and timely fashion. It is obvious that *Bob* will need the cooperation of all of us to accomplish this formidable task.

Our Demo Center operator *Dan Davis* may be new to many of you. He has been with HP for 2 years and most recently was working in Software and Publications Distribution. *Dan* has agreed to become the operator for the factory Demo Center and as such, will be responsible for all the day-to-day operational aspects for our equipment. *Dan* is pursuing a degree in Business Administration at night and is looking for a career in the data processing/marketing area.

The manager of the Demo Center is *Sam Boot*. *Sam* has spent 4 years at HP working primarily in the Software Publications area. He will now be the individual with overall Demo Center responsibility and will coordinate all the activities that utilize the Center's hardware and software. *Sam* brings a refreshing air of enthusiasm to an important and difficult job.

My own activities center primarily around the coordination of field sales and S.E. training. This includes NPT's, Sr. Sales Seminars and factory programs held in Cupertino or the field for HP salesmen and/or S.E.'s.  HEWLETT-PACKARD

## HP 3000 GROUP ORGANIZED FOR SUPPORT

by John Page

If you are an HP 3000 Systems Engineer (SE), and you need some technical help from the factory, who do you contact? Chances are that you know a few people in various departments but no channels formally exist to help you. We just changed all that.



*Madeline Lombaerde* and *Ralph White* have spent the last few weeks setting up in the HP 3000 SE support role. You can contact them any way you want -- phone, TWX, letter or personal visit and ask them for any kind of software support or help you need to close some HP 3000 business. In most cases, they will try to fulfill your request personally, drawing on their wide HP 3000 experience and factory contacts. If they cannot solve your problem themselves, they will pass it on to someone who can; but final responsibility for getting you an answer stays with them.

*Madeline* was with IteL Leasing at one time and has a good SPL/FORTRAN/Scientific background. *Ralph* has a more commercial bias and has worked in the Applications Group for 2-1/2 years before coming to Systems Engineering. (*Ralph* wrote SIS/3000 and some financial-type packages.)

So, if you need technical info, a demo\*, got problems with a benchmark, or anything else; contact *Ralph* or *Madeline*. They are waiting for your call. This service is available world-wide.

Cupertino (408) 257-7000

Madeline Lombaerde X3431

Ralph White X2311



*Alice Blum*, our new secretary, will be intercepting your calls if both lines are busy. *Alice* just joined Systems Engineering after being with Technical Publications for 3 years.

*Alan Mitchell*, the 3rd member of the support team, will continue to be responsible for providing a strong HP contribution to the HP 3000 Users Group, a job in which he has been held in high esteem for the past year. *Alan* is also about to set up a much improved and expanded HP 3000 Contributed Library, so if you have any ideas you feel strongly about, let him know (x2866). Watch this space for more news.

The remainder of the HP 3000 Group will be operating in a project-mode to ensure that future software products come to you with full support and documentation. Once again, if you have any ideas you feel strongly about in this area, let me know.

\*Stan Shell is putting the final touches to a Demo-Center Policy. Watch this space. HEWLETT-PACKARD

John Page

Alice Blum

### SUPPORT GROUP

Madeline  
Lombaerde

Alan Mitchell

Ralph White

### PROJECT GROUP

Bob Johnson

Orly Larson

Dick Sleght

Bob Strand

Bob Unanski

Jim Willits

Denis Winn

# TRAINING NEWS

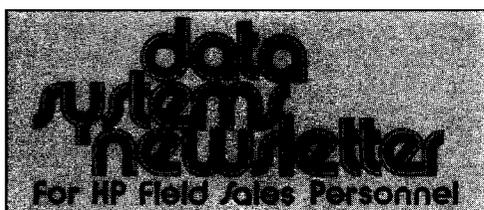
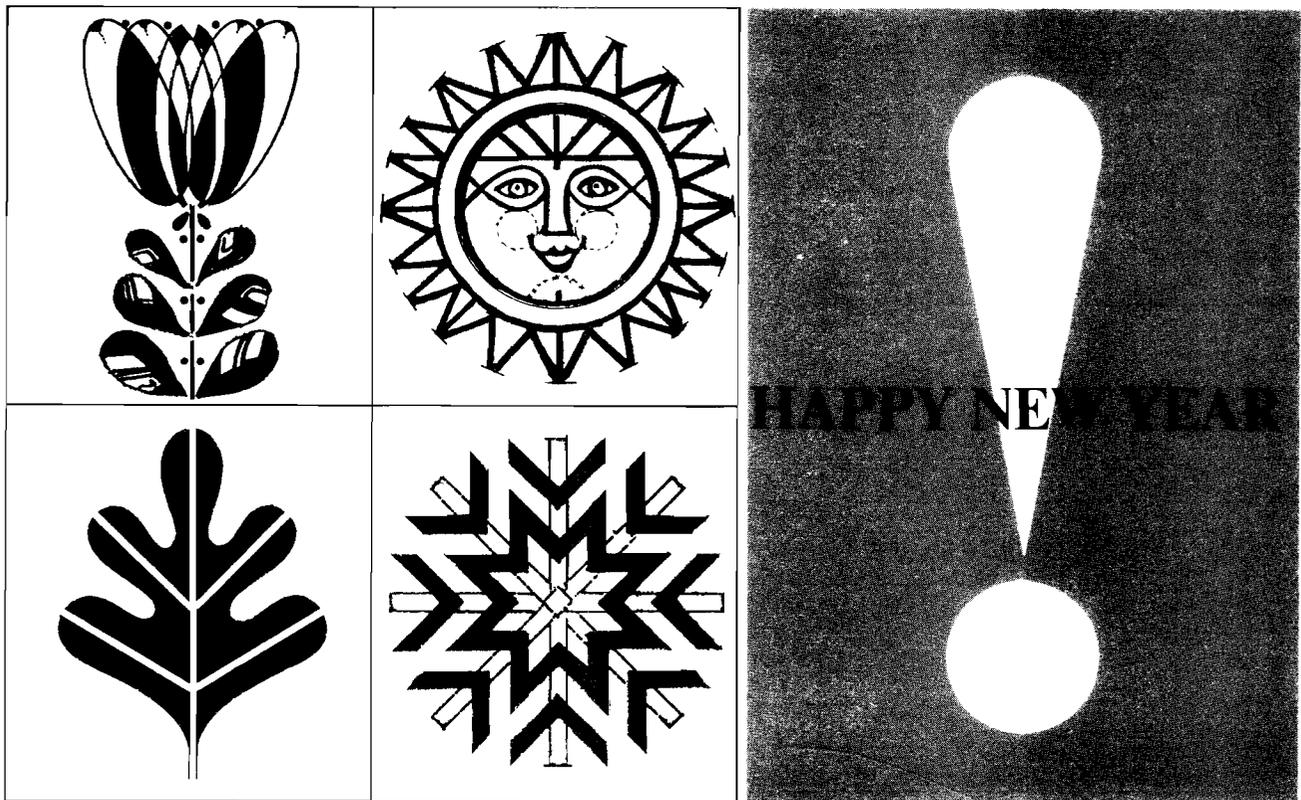
## CUSTOMER MAINTENANCE TRAINING SCHEDULE

by Tom Lowe

Some changes have been made to the Maintenance Training Schedule published in the Data Systems Newsletter of October 15.

The 21MX course announced for the week of March 24-28 has been postponed one week due to the holiday, and will now start March 31.

A 7970B course will be conducted during the week of March 17 to 21.



Address inquiries and comments to : Nancy Sanford - Editor  
Sales Development - Building 40

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