

REINHARDT, HELMUT
FRANKFURT
HPSA

COMPUTER SYSTEMS NEWSLETTER

For HP Field Sales Personnel

HEWLETT  PACKARD

Vol. 3, No. 5
Jan. 9, 1978

HP 3000 Garneres 1st Place in Datapro User Ratings



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Product News

2631's Are Rolling!!

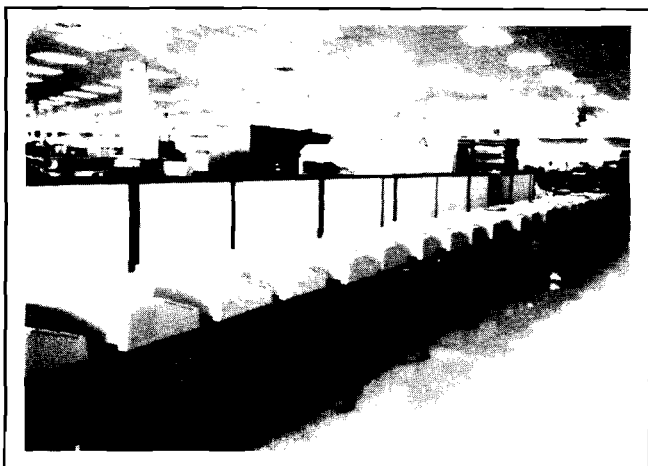
By: Larry Andrews/Boise

After shipping over 90 2631's in November, December promises to be fantastic shipment month. As of December 13th, over 100 units had gone to Q.A. We expect to get another 100-200 units out before the end of the month.

The 2635 will begin quantity shipments in early January. We plan to ship about 400 total units (2631's and 2635's) in January, accelerating to 600 units in February.

With this plan, we will have availability down to 6 weeks in the 2nd fiscal quarter. The 2631 availability has already been reduced from 16 to 14 weeks.

With Manufacturing cranking up to these high shipment levels, the burden shifts to the sales force to keep enough orders coming in to keep them busy, so sell the 2630 family!



2631's waiting for Q.A.

The 2630 Family at 1200 Baud

By: Larry Andrews/Boise

The 2630 family prints at 180 characters per second, right? 1200 baud data comes in at 120 characters per second, right? So the 2630 family can keep up with 1200 baud for sure — Wrong!

Several things reduce the average print speed of any serial printer, ours included. Many functions, such as line feed and form feed, take longer to execute than printing a normal character. In addition, on the 2630 family, 8 characters per line are effectively printed at half speed due to acceleration and deceleration of the print head.

In a normal printing application with no embedded blanks (these increase average print speed if there are more than 10 in a row), one line feed per printed line, and no control characters (these inhibit bi-directional printing), the data must have more than 30 characters per line to ensure data won't be lost. This is only required if the ENQ/ACK protocol isn't used (ENQ/ACK allows the printer to hold off data from the system when its buffer is full).

When ENQ/ACK isn't used, be especially careful of applications using lots of form feeds. One form feed can take up to 1.6 seconds to execute. Five form feeds in a row followed by data would cause a buffer overflow even at 300 baud!

These problems are not unique to the 2630 family. They are a characteristic of asynchronous communications. So take advantage of the ENQ/ACK protocol whenever possible.

2631's and Serial Interfaces

By: Larry Andrews/Boise



Remember that the 2631 needs a serial front panel to work with a serial interface. (RS232, current loop). This will be a concern when using the 2631 with more than one interface (demo's etc.). The solution is to order the 2631 with a serial interface, (automatically includes serial front panel) and order the extra interface as a 26095A with the appropriate option. (Parallel interfaces work just fine with the serial front panel).

Price Changes in Mag Tape Products

By: Mike Harrigan/Boise

Due to changing production costs, the following price changes will be effective January 1, 1978:

Product	Old Price	New Price
7970B Mag Tape Drive	\$6360	\$6780
7970B/E #005 I/O Connectors	30	35
7970B/E #048 48VDC Power Option	750	800
13182A 7 Track Interface	7350	7720
13190A 12.5 Foot Multi-Unit Cable	295	375
13194A 20 Foot Multi-Unit Cable	390	450
13251A 48VDC Retrofit Kit	1125	1250

Remember, according to the HP thirty day price protection policy, orders entered before February 1, 1978 will be accepted at the old price. Also, please note that the price of

the 12970A subsystem remains unchanged although the price of the 7978B mag tape drive has increased.



2630 Family Interfacing Data

By: Larry Andrews/Boise

In order to provide the Lab with inputs about new product requirements, and to provide you with data on interfacing to non-HP systems, we would like to establish a system for collecting and disseminating interfacing information. To get started, we would appreciate any information you can send us on non-HP systems and/or competing products. Also, if you've successfully figured out how to connect an HP terminal or printer to a non-HP system, send us the details (model numbers, I/O options, configuration, etc.) and we'll catalog it and pass it on to the rest of the sales force.

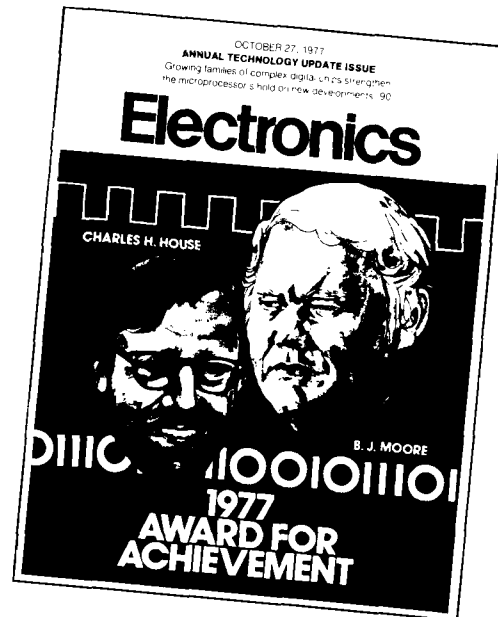
DATA SYSTEMS NEWS

Competition

HP 2240 Wins Technology Award!!

By: Peter Palm/DSD

—BUILT-IN MICROPROCESSOR TECHNOLOGY WINS AGAIN. . . SELL IT!!



CHRONOLOGY

Significant advances in electronics technology reported over the past year in *Electronics*

- April 1977**
 - IBM announces the System/34 business computer. *April 28, p. 30*
 - A high-speed digital facsimile machine produced by 3M Co. sends a 300-word letter in about 20 s when transmitted at the unit's top speed of 9,600 b/s. *April 28, p. 36*
- May 1977**
 - Texas Instruments introduces first microprocessor-based 40-channel combination a-m and single-sideband CB radios. *May 12, p. 31*
 - Philips Gloeilampfabrieken develops a reduction-projection mask aligner with an alignment accuracy of 0.1 μm . *May 12, p. 32*
 - For the first time, Burr-Brown builds complete microprocessor-compatible analog I/O systems as thick-film hybrids in IC-compatible packages. *May 26, p. 106*
- June 1977**
 - Xerox Corp. introduces the 9700 electrophotographic nonimpact printing system, which runs at 21,000 lines per minute. *June 9, p. 26*
 - Researchers at Japan's Cooperative Laboratory develop an electron-beam lithography system that completes a pattern directly on a wafer in half the time taken by competitive equipment. *June 9, p. 33*
 - First 16-bit microcomputer chip, from Texas Instruments, the 9940, is industry's most powerful single-chip controller. It has 128 bytes of RAM and 2,049 bytes of ROM, can address 32 kbytes of I/O, and handles 16-bit words. *June 23, p. 118*
- July 1977**
 - Analog I²L, Analog Devices for the first time puts a self-contained microprocessor-compatible 16-bit A-D converter on a single chip. *July 7, p. 25*
 - Bell Labs scientists report on GaAs solid-state lasers with projected lifetimes of 1 million hours and 10 years of operation. *July 7, p. 26*
 - Motorola Government Electronics division introduces modules and boards that implement the NBS encryption algorithm. *July 7, p. 40*
 - Hewlett-Packard introduces first instrument using C-MOS-on-sapphire technology, the 2240A measurement and control unit. *July 7, p. 128*
 - The first digital switch, built by Stromberg-Carlson, for small central telephone offices is cut over in Georgia. *July 21, p. 25*

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

Product News

9603R and 91063A (6940B) Digital I/O Subsystem and Plug-In Cards Removed from Price List

By: Peter Palm/DSD

The 9603R and all its options and the 91063A (HP 6940B + HP 1000 Interface) Multiprogrammer has been removed from the Corporate Price List effective December 1, 1977. Orders via HEART override will still be accepted for 30 days. In addition, the 91XXX (6940B field add-on plug-in cards listed below) have been removed from the Corporate Price List Dec. 1, 1977. The HP 2313B and the HP 2240A effectively replace the 9603R. The HP 2240B replaces the HP 91063A (HP 6940B) for digital I/O. For customers who still desire the multiprogrammer cards or boxes for compatibility, etc., the same products can be ordered via HP New Jersey Division product numbers as shown below.

Deleted DSD #	New Jersey Product #	Description
91063A	6940B & 14550A	Multiprogrammer and Interface to 21MX
91063A-001	Buy Remote 6940B as special from Special Engineering	
91140A	6941B	Multiprogrammer Extender Voltage Regulator
91132A	69351B	Voltage Regulator
91201A	69331A	Digital Output-ground True TTL
-001	69331A-073	Digital Output-ground False TTL
91202A	69431A-069	Digital Input-ground True, TTL
91202A-001	69431A-070	-ground True, +16-14V
91202A-002	69431A-073	-ground False, TTL

91206A	69370A	Digital-to-analog current converter
91209A	69601B	Frequency Reference
91129A	69048A-015	48V Power Supply (50 Hz)
91131A	69048E	48V Power Supply

Remote measurement subsystems (9603R & 91063A) can now only be ordered via the 9611R or through Special Engineering.

DSD will continue to support existing 9603R & 91063A subsystems but New Jersey Division will pick up pre- and post-sale support for the 6940B and its plug-ins.

Cabinet Related Price Changes

By: Jim McCabe/DSD

Please take note of the following cabinet price changes effective January 1st:

	Old Price	New Price
29402B Option		
400 Add-on cabinet wiring (110V)	\$ 400	\$ 300
410 Add-on cabinet wiring (230V)	400	300
40017A Cabinet Stabilizer	300	450
40010A Lifting Bracket	25	60
2170A Option 002 Add-on cabinet	1,950	1,850
2171A Option 002 Add-on cabinet	1,950	1,850
2172A Option 002 Add-on cabinet	1,200	1,650

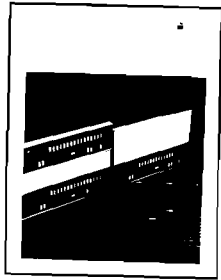
System cabinet options are priced identical to the price of their components e.g.: 2172A Option 002 consists of:

29402B	\$ 1,150
Opt. 200	650
Opt. 051	400
40017A	450
Delete 12962D	< 14,500 >
Add 12962C	13,500
TOTAL	\$ 1,650

Sales Aids

Introducing the New, Easier-to-Use 21MX Selection and Configuration Guide

By: Steve Coit & Ted Proske/DSD



Making configuration and price information easier for you to access is one of the objectives of the new 21MX Selection and Configuration Guide (5953-0891). The new guide, which has been forwarded to your office, replaces the 21MX Price Information booklet (5953-0862).

In addition to the usual price list, this guide provides selection and configuration information. Diagrams like the sample below illustrate the physical configuration of the various 21MX computer series as well as fault control memory configurations. Also the price tables are subdivided to make them easier to use.

P.S. Nothing is Perfect.

Good as it is, the new 21MX Selection and Configuration Guide has its faults. On Page 7 beneath the 21MX COMPUTERS heading, for example, the mention of L-Series is an editorial error that occurs in three places; the L-Series does not exist.

Also, on Page 19 paper tape media Option 010 has been omitted from the listings for the 91740A, 91740B, and 91741A DS/1000 software-firmware products. If paper tape is the desired medium for any of these products, Option 010 must be ordered.

These errors and any others uncovered in the interim will be corrected in the next revision of the guide.

21MX Computer family configurations

21MX E-Series

2109B Computer configuration (front panel end facing forward)

Reserved for 12897B Dual Channel Port Controller
(provides two direct memory access ports)

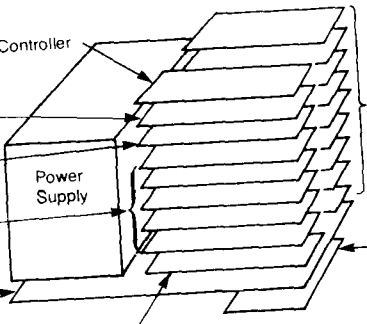
Reserved for 12892B Memory Protect module

Reserved for 12731A Memory Expansion Module

Available mainframe storage capacity
five memory module slots
(640k bytes, maximum)

CPU Processor Board

2102B, 2102E, or 2102C Memory Controller



Nine I/O channels
(usable for 12539C Time Base Generator I/O interface cards; and/or additional 13197A or 13047A Control Store boards)

13304A Firmware Accessory Board
(prerequisite for 13307A Dynamic Mapping Instructions; 13306A Fast Fortran Processor and DS 1000 firmware in 91740B DS 1000 Network Software Firmware; also offers control store space available to the user)

2113B Computer configuration

The 2113B Computer configuration is the same as the 2109B Computer configuration, except that it provides ten memory module slots (1280k bytes maximum capacity) and fourteen I/O channels.

21MX K-Series

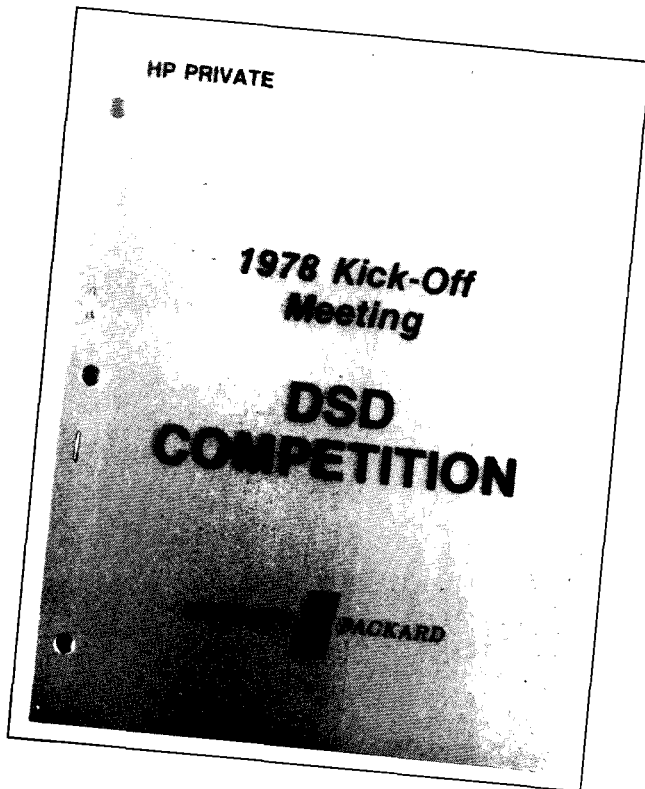
2108K Processor board (configuration with P... card cage)

Competitive Session Booklets Are Being Mailed Out

By: Steve Coit/DSD

Since so many of you found the competition session at our 1978 Kick-Off meeting valuable, we have prepared a booklet which includes all the slides from the session as well as notes on each. Copies are now mailed out to all those who did not get one at the meeting.

The booklet covers IBM Series/1, Data General, and DEC using the format of HP's own questionnaire ad campaign. Joe Schoendorf's comebacks are also included.



If you don't receive a copy and would like one, let us know.

The booklet is part of an on-going effort on our part to bring our competitive information up to date. If you come across a situation where you need competitive information or if you have data that others might find useful, get in touch with DSD Product Marketing.

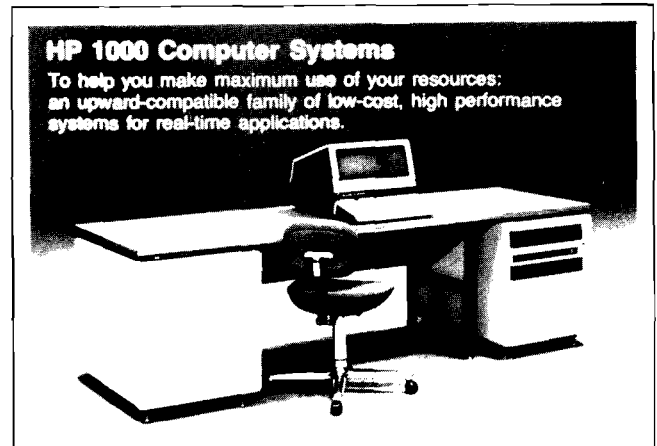
Understanding who you're up against in a tough sales situation can give you the upper hand.

Plan Your Own Direct Mail Campaign

By: Jan Weldon/DSD

Since most companies are on a new fiscal year, why not consider doing an HP 1000 direct mail campaign in your territory or region? DSD MARCOM has revised the four-color HP 1000 flyer so that it appeals to both end-users and OEMs. You can order copies of the mailer (5953-0892) and matching blue envelopes (5953-0894) in quantity from the Sales Literature Distribution Center in Palo Alto.

For the mere price of the postage, you can customize your own advertising. The envelope has plenty of room for a special cover letter, additional product information, and (of course!) your business card. Do a mailing to 50 or 500 selected prospects in your area . . . it's a smart way to maximize your contacts with a minimum amount of effort.



IDC Data Base

By: Dennis Haar/DSD

DSD OEM Market Development now maintains the International Data Corporation OEM list on an IMAGE Database. There are currently 1715 companies in the database with updates and additions taking place with each new IDC tape. The database contains 68 different attributes for each entry including name, address, contacts, applications, markets and current vendors.

The sample below shows the standard output which we can provide for each OEM. In addition to this format, 3-1/2" X 1" mailing labels are also available. This information could be extremely useful for OEM seminars, direct mailings or just for locating new OEM's in your district.

If you would like either one or both of these outputs for any reason, just send me the range of zip codes for the area to be searched. If you have any questions about the database, please give me a call on ext. 3134 at DSD.

COMPANY: ADVANCED ELECTRONICS DESIGN INC
 ADDRESS: 440 POTTERO
 SUNNYVALE, CA 94086
 TELEPHONE: 408 - 733 - 3555
 MAJOR PRODUCT OF SERVICE: DISK CONTROLLERS
 APPLICATIONS:
 CONTACTS: JERRY KENNEDY V. PRES
 THOMAS SACKO DIR. MFG. LEVL
 REC # 25
 INDUSTRIES MARKETING TO: ALL END USES
 AVERAGE SYSTEM PRICE: \$4005000
 MINIS PURCHASED: VENDOR MODEL 76 ONTY 77 ONTY
 DEC PDF-1170S 003 005
 DECEN NOV8 002 005
 NUMBER OF SYSTEMS INSTALLED: 1000
 1976 SALES: \$4000000

COMPANY: EMI THERAPY SYSTEMS INC
 ADDRESS: 570 DEL SEV AVE
 SUNNYVALE, CA 94086
 TELEPHONE: 408 - 245 - 3136
 MAJOR PRODUCT OF SERVICE: BIOTHERAPY SYSTEMS
 APPLICATIONS:
 CONTACTS: J. G. KOENIG EXEC VP
 JOSEPH KOENIG DIR. MFG. LEVL
 REC # 26
 INDUSTRIES MARKETING TO: MEDICAL/HEALTH SVCS
 AVERAGE SYSTEM PRICE: \$6120000
 MINIS PURCHASED: VENDOR MODEL 76 ONTY 77 ONTY
 DEC PDF-8VE 018 026
 NUMBER OF SYSTEMS INSTALLED: 8926
 1976 SALES: \$6400000

COMPANY: MICROTST SYSTEMS INC
 ADDRESS: 743 W PASTORIA AV
 SUNNYVALE, CA 94086
 TELEPHONE: 408 - 739 - 8001
 MAJOR PRODUCT OF SERVICE: SEMICONDUCTOR BURNIN OVEN
 APPLICATIONS: AUTOMATIC TEST EQUIP
 CONTACTS: G. MOGEL DIR. MFG. LEVL
 J. C. STEINBOFF SLE. MGR
 JOHN STANHOARD VP
 REC # 27
 INDUSTRIES MARKETING TO: MANUFACTURING
 AVERAGE SYSTEM PRICE: \$6685000
 MINIS PURCHASED: VENDOR MODEL 76 ONTY 77 ONTY
 MICRODATA REALITY
 NUMBER OF SYSTEMS INSTALLED: 0010
 1976 SALES: \$6000000

Upcoming HP-ATS/Microwave Customer Training

By: Phil Ebersole/DSD

Get those customer reservations in now for the following HP-ATS/Microwave Training courses! Some of these courses will be obsoleted soon after the dates indicated below, so it is important to schedule as many customers as possible for each class.

Reservations can be made for your customers by contacting Pam Navarro, extension 2815 at DSD. Please accompany each reservation with a purchase order number from the customer.

The following customer courses will be given on the dates indicated:

Course #	Title	Location	Dates
92780A	HP-ATS*	DSD	1/16-1/20
92781A	ATLAS**	DSD	1/23-1/27
92780A	HP-ATS*	DSD	1/6-2/10
92720A	ASA (8580)	DSD	2/13-2/17

Course #	Title	Location	Dates
92722A	TODS II/III	DSD	2/22-2/28
92728A	8580 Maint.	DSD	3/1-3/14
92727A	8542 Maint.	DSD	3/8-3/21
92700B+001***	9500D + TODS	DSD	3/13-3/20
92780A	HP-ATS*	DSD	3/27-3/31
92781A	ATLAS**	DSD	4/3-4/7

*This course requires formal RTE training or equivalent knowledge and experience as a prerequisite. Students may sign up and attend the first week of the RTE-II/III Operating System Course (22965B) to satisfy this requirement. The mechanism for doing this is to sell them the "22967B Programming Course" (a catch-all number) and then coordinate with your local training center to register the student in the course.

**This course requires 92780A (HP-ATS) training as a prerequisite or equivalent knowledge and experience in RTE and Test System Programming.

***This is the last time this class will be taught.

DATA TERMINALS NEWS

Division News

Terminal Training Course March 6, 1978

By: Carl Flock/DTD

Data Terminals will be conducting an in-depth sales/technical training class starting March 6, 1978, for five days in Cupertino.

The class is intended for those salespersons who carry a substantial quota in terminals and in one way or another "specialize" in our product lines. It will be of particular benefit to those who are out getting "new business."

The main objective is to provide an in-depth look at our product lines so that the salesperson can handle the question from a customer, "Will your terminal work on my computer?" Along with this, attention will be given to ways in which the products can be more effectively presented and demonstrated to prospects.

To this end, extensive use of "hands on" lab sessions will be used along with factory specialists giving lectures and guidance. It will be an intensive period of hard work including nightly homework assignments and quizzes for those in attendance.

If you feel that you or a member of your sales team will benefit by attending, please fill in the coupon below and send it to *Soni Hogan* at DTD for a seat reservation. The class size must be limited to 16, so your prompt response will be greatly appreciated. In addition, preference for seat reservations will be given to those with large terminal quotas.

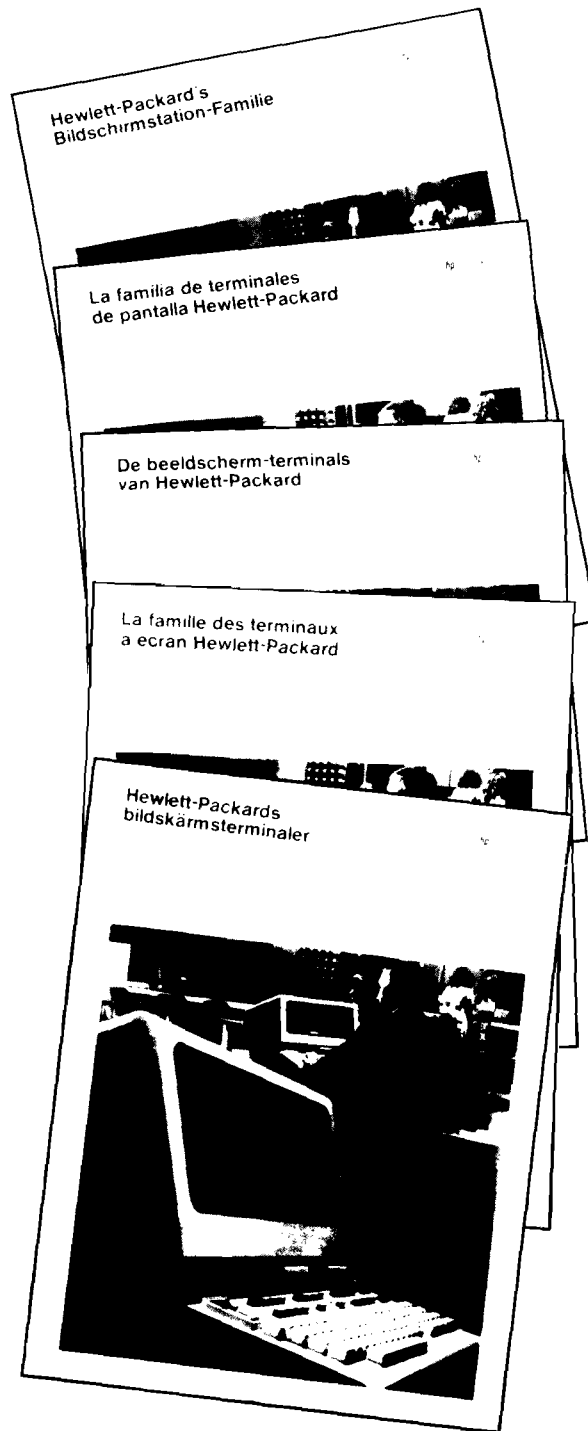
MARCH 6, 1978 Class - Registration

NAME _____
(Print)

OFFICE _____

TERMINAL QUOTA _____

DM APPROVAL _____
(Signature Required)



Data Terminals Communication Interface

By: Eric Grandjean/DTD

Thanks from all of us to all of you for a SUPER YEAR!

DATA TERMINALS MARKETING COMMUNICATIONS INTERFACE

```

-----
JIM ARTHUR,DIV MGR
DTD CUPERTINO
-----
ED HAYES,MGR
SYLVIA RAUMAKER,SCY
SD CARL FLOCK
-- SONI HOGAN,SCY
MIKE TARENS NSR-NORTH
WENDI BRUBAKER NSR-SOUTH
TOM LEE MSR-EAST/WEST
SERGE DAoust SSR
BILL SWIFT ESR CENTRAL
TIM HANEY ESR NORTH/SOUTH
ERIC GRANDJEAN ICDN,CSR,SA
OP LARRY ROTH
-- SONI HOGAN,SCY
JOAN LOVELESS,PTR,A/R
BARRY PATRICK NSR
GARY TRAYNOR HPSA
VERDELL VAN BERGEN,STATS,CS
KATHY RICHARDS,ACC.BKS.
NANCY SANCHEZ,SCHED
MARTA KISS MSR,SSR
KATHY DULL ESR,CSR
LEATHA HENDERSON,BILL'S,D.E.
JESSICA SWANSON,FACT.ORDERS
CE JIM ELLIOTT
-- SYLVIA RAUMAKER,SCY
GAIL CROWTHER
HAL SINDLER
HP GRENoble
-----
PIERRE ARDICHVILLI,MGR
CATHERINE CLAY,SCY
FRANCIS MARC F,MED
CATHERINE CLAY,SCY
MAURICE POIZAT D,E
CHRISTIAN GRAFF I,S,N,SF,CH
RICHARD FRANKLIN UK,N,B,DK
YHP TOKYO
-----
MATSUJI TEZUKA,MGR
HIDEKI GUSHIMA
KATY ROMANI
CATHFRINE CLAY,SCY
ANNIE BARBE
CATHERINE CELLI
GABRIELLE MINGAT
MARIE-ODILE LAURENCIN
    
```

P.S. Please do not tear up this section of your *Newsletter*. This Communications Interface will be distributed again with the January edition of the DTD Price Guide.



Cursor Sense on Reverse Search: Softkey Application Note #16

By: Carl Flock/DTD

When the J switch is open and the "ENTER" key is pressed, a non-displaying terminator will be written, the display will be reverse searched to the last non-displaying terminator, then, depending on the setting of the D, G, H and K switches a block transfer of data will occur.

This procedure is very useful but suppose you need to know the cursor address of the last non-displaying terminator that you located, before you transmit. How do you do the cursor sense? Use the following soft key to perform the "ENTER" operation and your problem is solved — cursor sense and all:

```

█ L
&c177120a76d373d41d370d377d246d167d315d143d27d303d117dd177120aE&af&d
    
```

Considerations:

- A. J switch open; D, G, H and K open or closed, as desired.
- B. With G and H open, you will still require a DC1 to get the actual block transfer — this might not be as you would expect.
- C. This works with a 2645A only and has been tested with 13260A and B communications only but should work with multipoint in theory.

(NOTE: THIS IS A CONTRIBUTED PROGRAM — NO GUARANTEES ARE IMPLIED.)

In this example with X = 1 and Y= 2, and the following data:

```

10 20 10 30 10 40 10 50 20 30 20 40
2050
2060
3010
3020 30 30
30
40
30
50
    
```

These points will be plotted:

X	Y	X	Y (Cont'd.)
(10, 20)		(20, 50)	
(10, 30)		(20, 60)	
(10, 40)		(30, 10)	
(10, 50)		(30, 20)	
(20, 30)		(30, 30)	
(20, 40)		(30, 40)	
		(30, 50)	

This makes it extremely easy to construct scattergrams consisting of large amounts of data. Over 186K points may be represented (if you want to blank the screen out) and sent from either datacomm or cartridge tape. (The terminal memory will not hold this amount of data). The remainder of the Autoplot Menu may be constructed by the user in the standard fashion. Refer to page 3-24 of the 2648A Reference Manual for additional information on Autoplot.



Erratum Number Two in 2648A Quick Reference Guide

By: Eric Grandjean/DTD

I have been told that there are only two errors in our 2648A Pocket Guide! The first one was reported in the last issue of the *Newsletter*, (Vol. 3, Number 4, December 15).

The second error in the Pocket Guide is on page 6, top of page. The correct codes to define sofkeys are as follows:

- 0 (normal)
- 1 (local)
- 2 (transmit only)

To [remotely] define f1 as a normal key in order to execute/display in terminal mode and transmit when in remote mode, the escape sequence would be:

`&f1k0a...`

`&f1k0a13HELLO-MYACNT&`

In the example given, the sequence should be:

`&f1E`

To leave you on a more cheerful note, I would like to draw your attention to the escape sequence just below the example. This is a command which allows you to execute a softkey without actually pressing that soft key! For instance:

Computer printout executes (triggers) f1.

This last sequence can also be loaded in a softkey to trigger or execute another softkey.

Maintenance Charges on TEK Series 4025 Graphics Terminal

By: Rich Ferguson/DTD

As you may remember, I have been quoted in the past as saying that a good measure of a vendor's own perception of his reliability lies in how much he charges for maintenance on his products.

Looking at the 2640 series products in the last couple of years, you've seen several price reductions on our BMMC.

Tektronix' basic monthly maintenance charge for their 4025 graphics terminal is \$43.00 a month versus the 2648A charge of \$22.00 per month. TEK charges almost *DOUBLE* what we charge!

Inverse Video Graphics? Of Course!

By: Eric Grandjean/DTD

Clear graphic memory is equivalent to escape sequence:

`Ec*dA` (Or "SHIFT-CLEAR")

The inverse of clear graphic memory is "set graphic memory" or escape sequence:

`Ec*dB`

This sequence will turn the whole screen in inverse video, which means that you will draw black vectors on a white background. You have to do one more thing. Since drawing vectors on inverse video screen requires use of the "clear" drawing mode; this mode is obtained by escape sequence:

`Ec*m1A`

Or as an alternate, `Ec*m3A`, called a complement mode can be used to facilitate vector "erasing" (redrawing in complement mode actually erases).

Drawing dashed lines or any other line patterns is easily done via the escape sequence

E_c^*m [line type] B.

[Line Type] is a code used to select pre-defined or user-defined line types.

For instance, to get a nice standard dash line pattern, you can use (type)

E_c^*m6B

To go back to solid lines, type E_c^*m1B .

You should be aware that when the terminal is in inverse video graphic mode, alphanumeric data will be overlaid and will not be visible (even in alphanumeric inverse video!)

Is that bad? (Guess what the answer is!)

Remember that graphic and alphanumeric memories are independent, and that the graphic and alphanumeric DISPLAY can be turned on and off independently:

- | | |
|-----------|-------------------------------|
| E_c^*dC | Turn on graphic display |
| E_c^*dD | Turn off graphic display |
| E_c^*dE | Turn on alphanumeric display |
| E_c^*dF | Turn off alphanumeric display |

By using "set graphic memory" in combination with turn on/off graphic display you can create the effect, for instance, of covering a "page" of text or a message or a set of instructions with a white page, then opening a wide range of applications (self instruction, security, etc) . . .

Have fun!

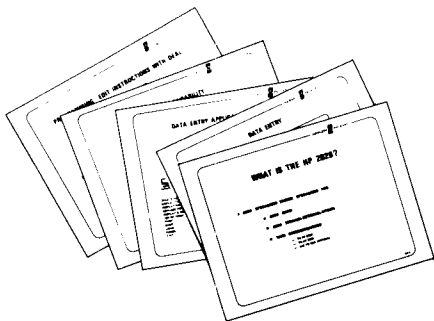
GENERAL SYSTEMS NEWS

Sales Aids

HP 2026 Customer Presentation Available

By: Dick Baumann/GSD

An updated version of the 2026 overhead slide presentation for customers may now be ordered from GSD. It includes 34 overhead transparencies and a printed version of the transparencies with a script that suggests the key points to bring out for each slide.



The package differs from the previous version in that it tells a much more complete story about the 2026's capabilities, and it's more modular. There are slides which cover HP's experience with COMSYS and several optional slides which delve into the more technical aspects of the system. So, you've got slides that can fit every situation (involving a 2026 presentation, that is).

The printed version of the slides and script is being distributed (you may even have it by now!). If you've always wanted to know more about the 2026, take just a few minutes and read through the slides and script. That's a relatively painless way to pick up a lot of product knowledge real quick.

The transparencies themselves have been distributed to Area Sales Managers. Copies of the transparencies may be ordered from *Bob Hall* at GSD or an IOS. The Part Number is 47-760511 and price is \$51.00.

And . . . next time you're on the phone with your Sales Development person or me, let us know your ideas on what other sales aids you think you could use. We want a lot of 2026 networks out there and want you to have the right materials to make that happen!

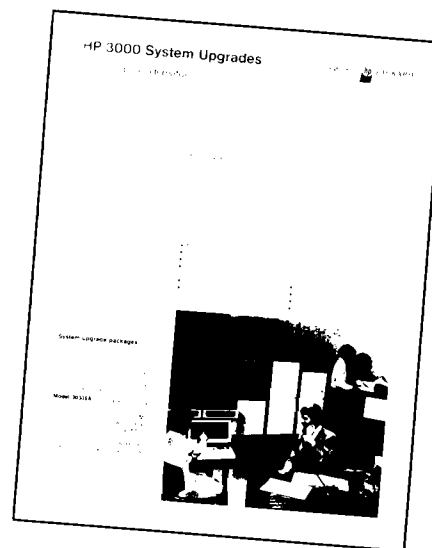
HP 3000 System Upgrades Brochure

By: Jon Jacobson/GSD

Great news! The missing link has arrived. We in the Series I group have come up with a brochure that we feel will help bring the HP 3000 family of products into sharper focus, the "HP 3000 System Upgrades". Our intent is to provide you with a brochure that will not only support the Series I and Series II but link them together as a range of products. This brochure is now being distributed to you through MARCOM.

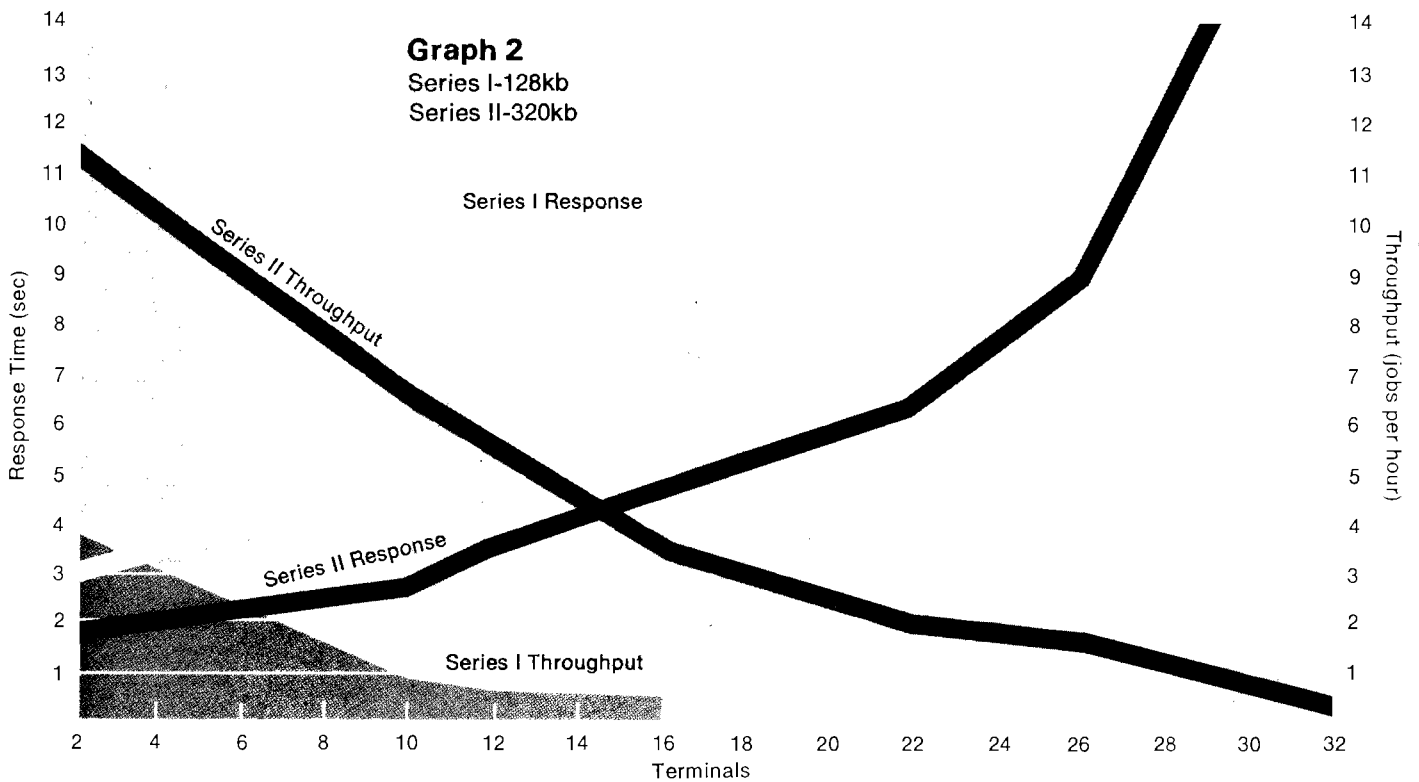
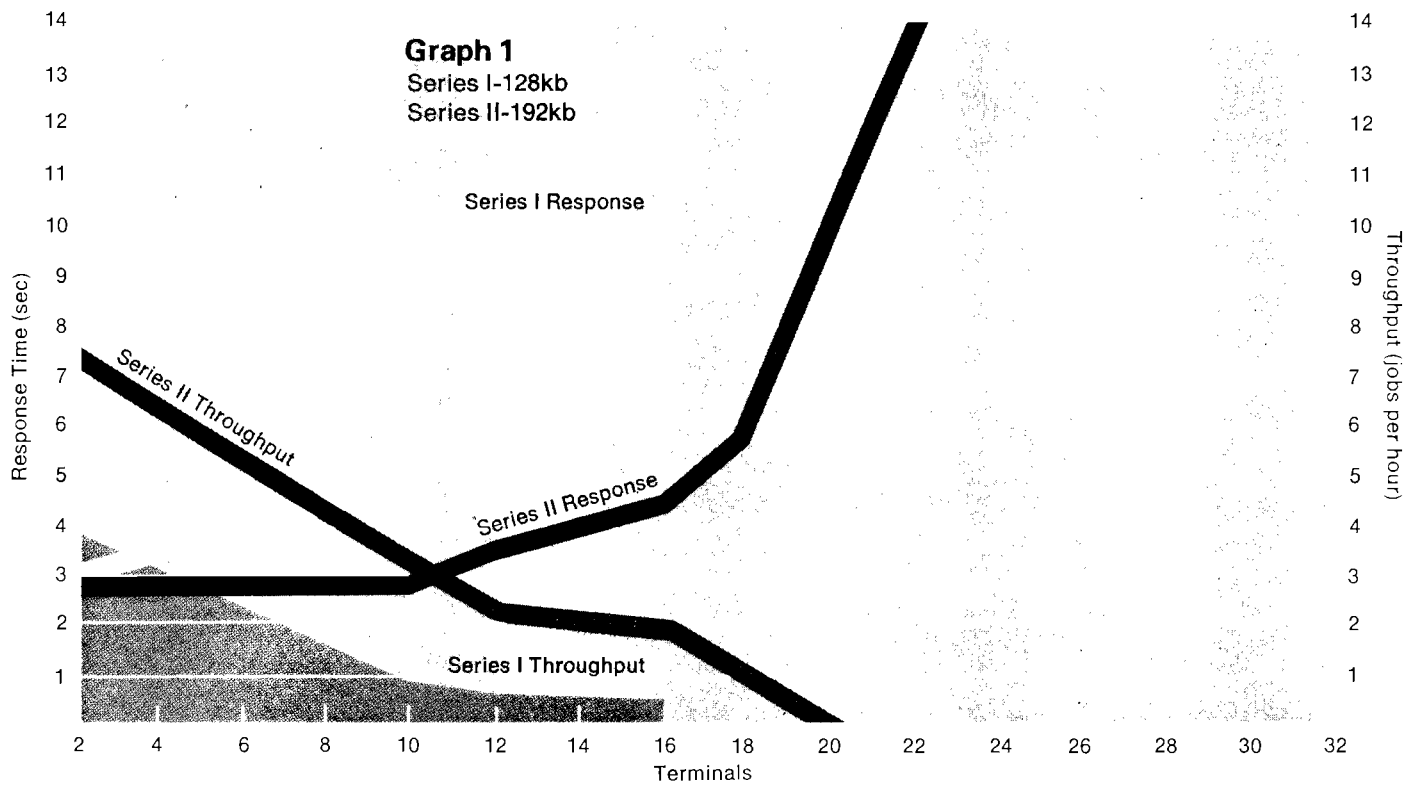
Using the same performance evaluation that was done in the Series I and Series II brochures, we were able to compare the two systems at various memory configurations. (See following graphs for throughput curves).

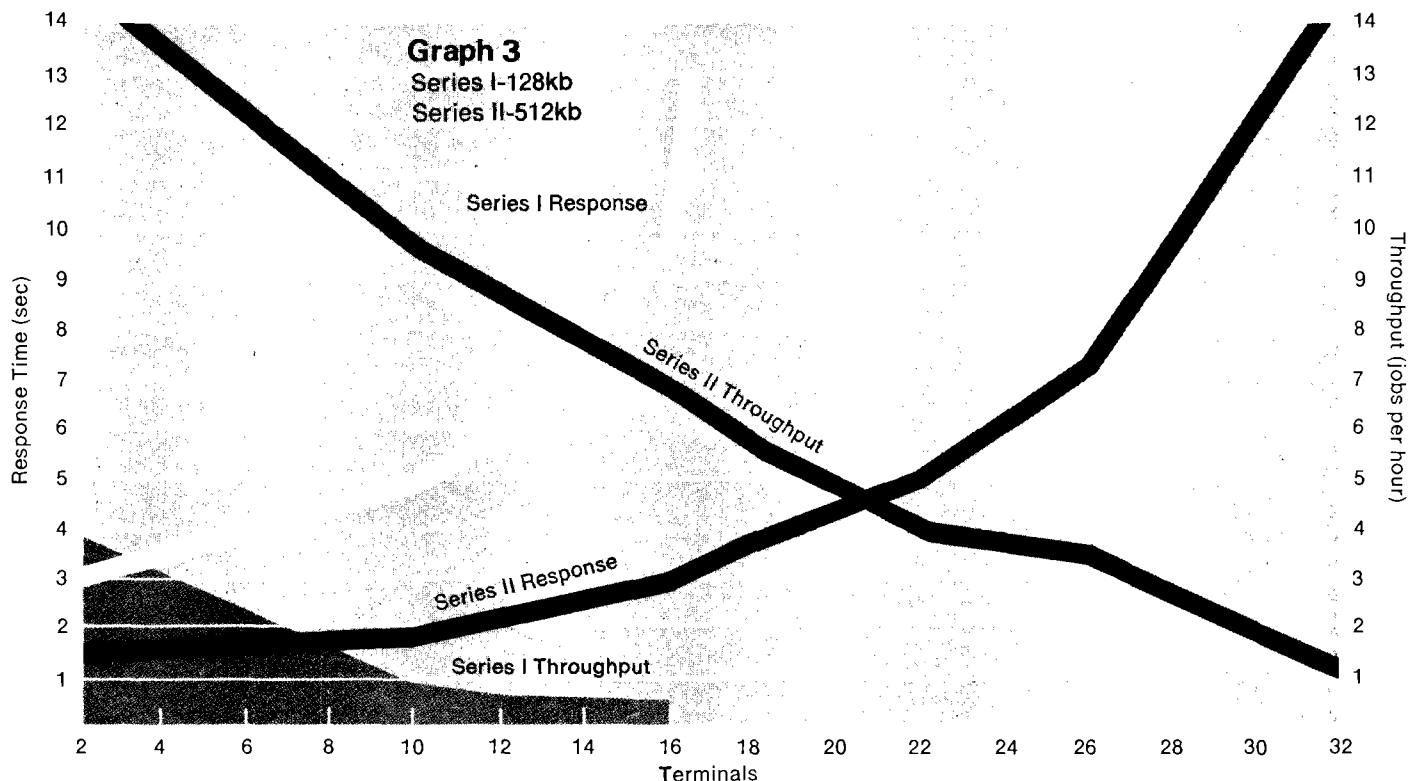
Now you can show your customer the system configuration he needs today and then show him how and when he can meet his growth needs for the future.



I'd like to leave you with a thought. Based on your inputs, we've created a more cost/effective upgrade path for the Series I. Now we've created a brochure that clearly shows the Series I as the best buy for your HP 3000 customer with needs for 8 or less terminals.

Let us know what else we can do to help you keep selling Series I.





HP 3000 Users' Group Membership Applications

By: Ralph Manies/GSD

When talking to prospective HP 3000 customers, the question "How do I join the Users' Group?" often comes up. A customer joins by simply filling out the Membership Application, which is pre-stamped and addressed. To help the Users' Group reach prospective members, we (HP) have distributed application forms, along with a brochure describing the Users' Group, to all training centers. Brochures and applications are to be given to each attendee of an introductory course on the HP 3000.

Additionally, starting in December, the System Manager specified on the Software Purchase Agreement will receive a letter of invitation from the Executive Board of the HP 3000 Users' Group, along with the brochure and application. These approaches should deliver the information about the Users' Group to your customers.

To cover other situations, brochures and applications have been mailed to all SE Managers and Supervisors. If you need a spare, contact an SE Manager/Supervisor, or send us a COMGRAM with the customer's name and address, and we will mail a brochure/application to the customer.

There are two types of memberships in the Users' Group:

Installation

Each site owning or leasing an HP 3000 System is eligible, one membership per system. Each separate membership

carries the right to designate one *voting representative* with the following privileges:

- Participation in all Users' Group activities
- May be elected to office
- Receives subscription to Journal of the HP 3000 Users' Group (published bi-monthly)
- Receives Contributed Library, plus updating (magnetic tape), documentation and index
- Proceedings of international meeting

General

Any person who uses an HP 3000 System is eligible for individual, *non-voting* membership with the following benefits:

- Participation in all Users' Group activities
- May be elected to office
- Receives subscription to Journal of the HP 3000 Users' Group (published bi-monthly)

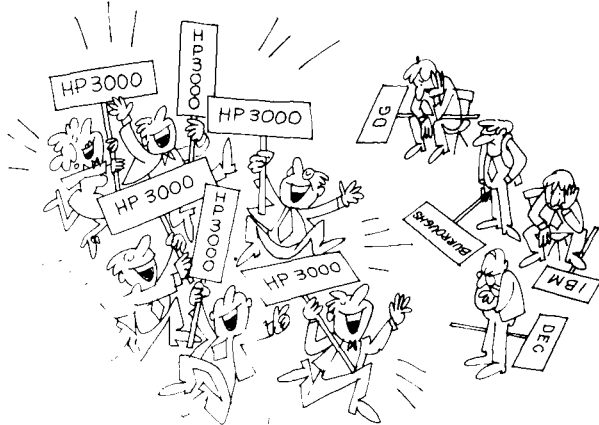
As the brochure on the Users' Group states:

An installation membership for each site is a very small investment that will pay for itself many times over in production benefits.

We hope we have made it easy and straightforward for users to join. Your mentioning the HP 3000 Users' Group to prospective customers would be appreciated.

HP 3000 Garner's 1st Place* In Datapro User Ratings

By: Rich Edwards/GSD



The HP 3000 outshines its competitors again! Last year IMAGE/3000 was the first database management system ever to be elected to the *Datapro Software Honor Roll*. This year the HP 3000 won the highest rating by users of minicomputers and small business computers. More precisely:

OUT OF 76 DIFFERENT SYSTEMS/MANUFACTURERS COVERED BY THE 1977 DATAPRO SURVEY OF 816 USERS OF MINICOMPUTERS & SMALL BUSINESS SYSTEMS, THE HP 3000 HAD THE HIGHEST RATING IN OVERALL SATISFACTION OF THOSE SYSTEMS MENTIONED BY 6 OR MORE USERS.

Full details can be found in *Datapro Feature Report M07-100-401* dated November 1977, published by *Datapro Research Corp.*, Deiron, N.J. 08075. A few highlights of the report include the following:

The survey, conducted during June 1977, was aimed at a random 10,000 *Datapro* subscribers. The results included responses on 2,362 installed systems owned by 816 users. 67% of the total respondents used their systems for business data processing. While not mutually exclusive categories, 16% used their computers with data base management; 24% reported data communications applications.

The scores in all categories were computed using weighted averages based on a scale of 4.0 for Excellent, 3 for Good, 2 for Fair, and 1 for Poor.

Here's how the HP 3000 stacked up:

Total Survey: overall satisfaction	3.1
HP 3000: overall satisfaction	3.5

When looking at the competitive comparisons, keep in mind *Datapro's* warning: "Prospective buyers should note that the small sample sizes for some of the minicomputer models make it unwise to draw firm conclusions from the indicated ratings."

*Systems with 6 or more responses.

Taking a look at the overall satisfaction ratings (Figure 1), it's easy to see how well the HP 3000 was rated. Most people regard the satisfaction of the IBM System/3 to be the industry standard to try to match. Great news: the HP 3000 (rating 3.5) is way ahead of the total System/3 (rating 3.3) and the Model 15 (rating 3.2).

The HP 3000 received the second highest rating (3.8) in the industry for Ease of Operation (Figure 2). Taking 1st place was the NCR 8200/8250 with a 3.9 rating from 9 users (average memory 89 Kb); it scored a 3.0 in overall satisfaction, however. Once again, the HP 3000 was several points ahead of the perceived benchmark winner, IBM's System/3-15 (3.4). (All System/3's combined were rated 3.5.)

You're all aware that the HP 3000's greatest competitive edge is the advanced MPE operating system. Your customers agree! **NO OTHER OPERATING SYSTEM WAS MORE HIGHLY RATED THAN MPE!*** Specifically, in Figure 3 note the relative standings of the most frequently encountered competitive systems.

Another area where the HP 3000 scored very well was in the reliability of the mainframe. As Figure 4 shows, HP 3000 users rated it about as reliable as the IBM System/3 and much more reliable than the rest of the industry.

The last category graphically depicted shows the relatively high standing of the HP 3000 in ease of conversion. Remember that the two systems shown in Figure 5 with higher ratings come from very small user populations.

*Systems with 6 or more responses.

The total survey included 12 categories; here's how the HP 3000 compared to the overall user's rating:

Category	HP 3000	Survey	Difference
Ease of Operation	3.8	3.4	+ .4
Reliability of mainframe	3.7	3.4	+ .3
Reliability of peripherals	3.4	3.0	+ .4
Responsiveness of maintenance service	2.8	3.0	- .2
Effectiveness of maintenance service	2.8	3.0	- .2
Technical support	2.7	2.6	+ .1
Manufacturer's software			
Operating system	3.7	3.0	+ .7
Compilers and assemblies	3.8	3.0	+ .8
Applications programs	3.1	2.7	+ .4
Ease of programming	3.6	3.1	+ .5
Ease of conversion	3.4	3.0	+ .4
Overall satisfaction	3.5	3.1	+ .4

Figure 1
Datapro Weighted Average User Ratings
(1976 and 1977)
Category: Overall Satisfaction

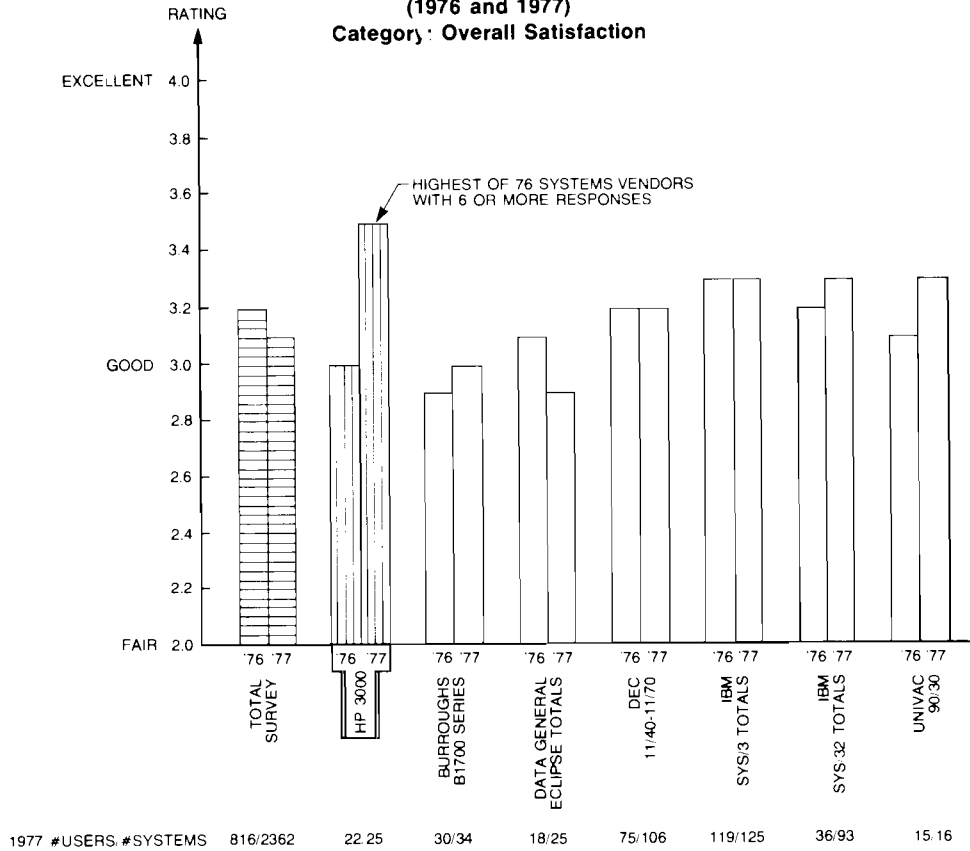


Figure 2
Datapro Weighted Average User Ratings
(1976 and 1977)
Category: Ease of Operation

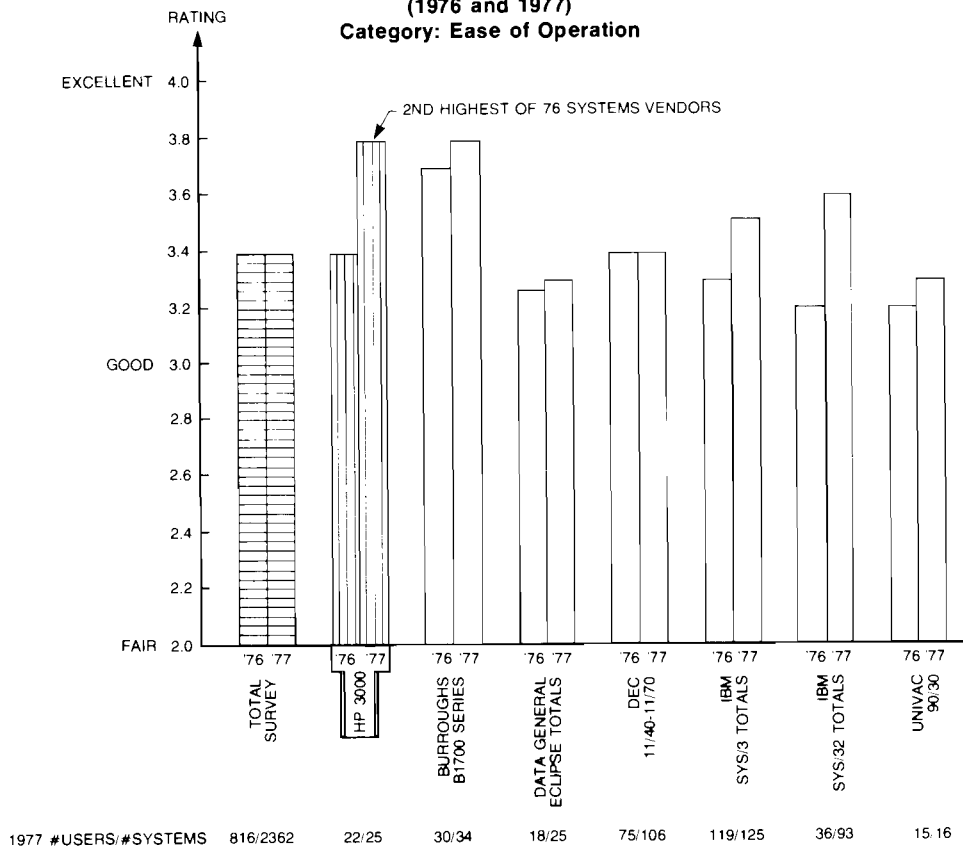


Figure 3
Datapro Weighted Average User Ratings
(1976 and 1977)
Category: Operating System

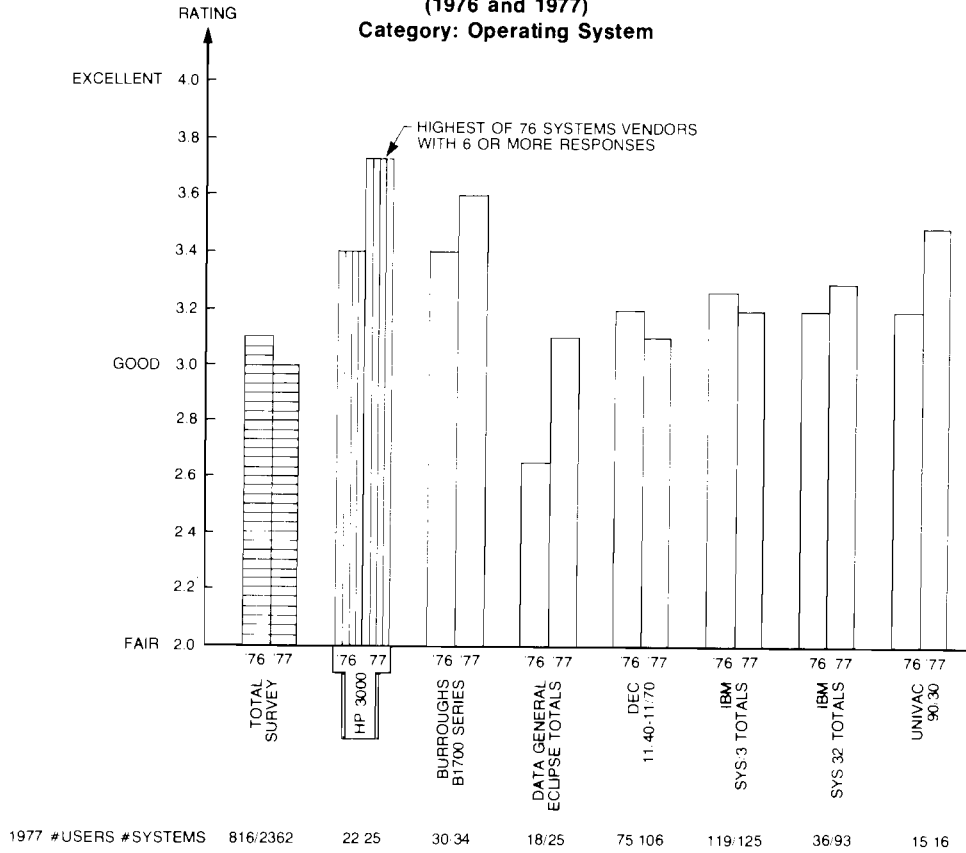


Figure 4
Datapro Weighted Average User Ratings
(1976 and 1977)
Category: Reliability of Mainframe

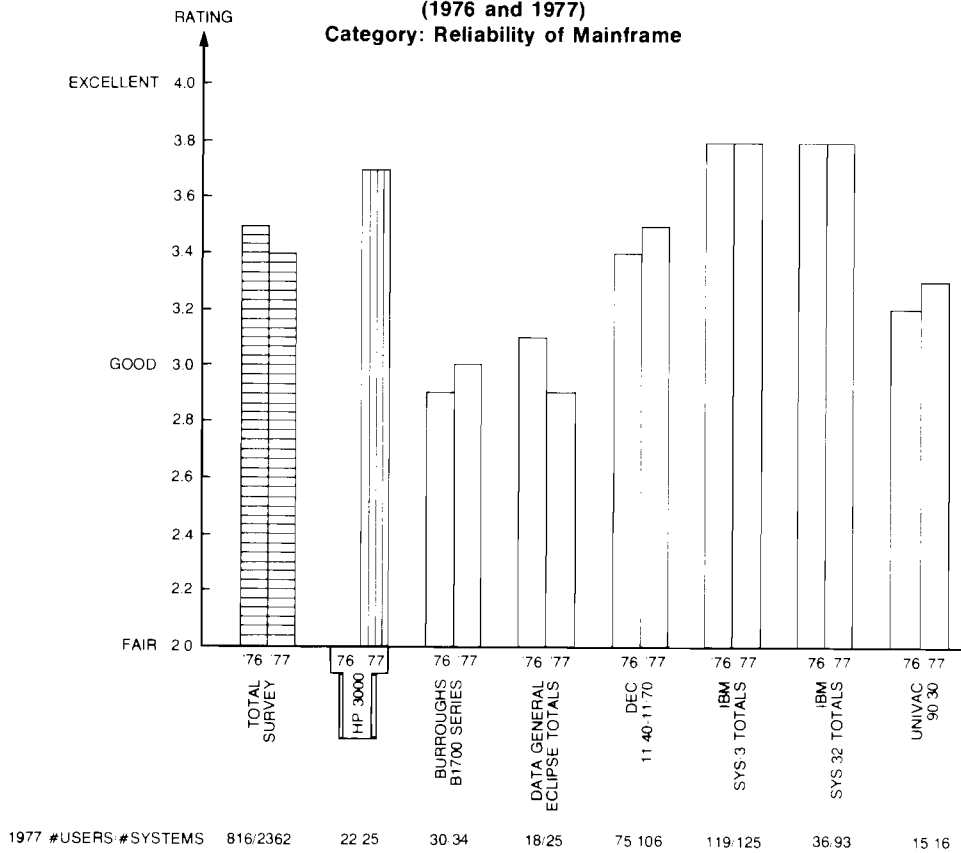
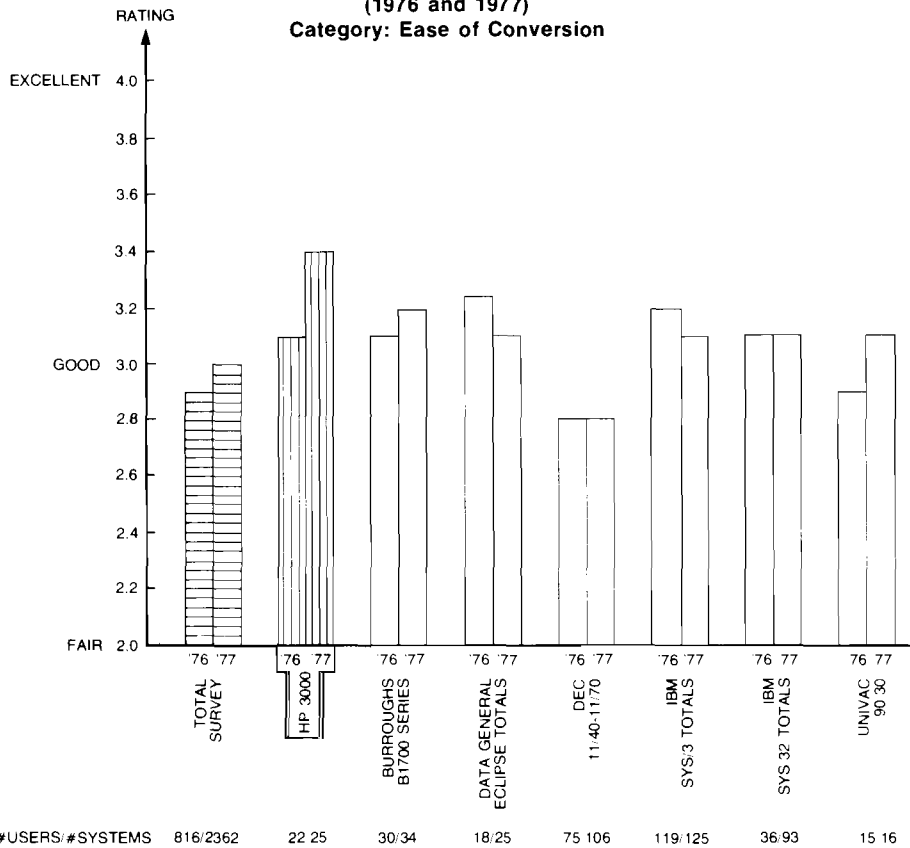


Figure 5
Datapro Weighted Average User Ratings
(1976 and 1977)
Category: Ease of Conversion



Competition

DEC Announces VAX

By: Pete Van Kuran/GSD

At their annual meeting in October, DEC announced a new high end processor, the VAX-11/780. This article will analyze the impact of that announcement and show how you can be successful against DEC.

VAX Features

From a features point of view, DEC has announced:

1. A 32-bit processor extension to the PDP-11 family that is about 2-3 times faster in raw execution speeds than the Series II. The VAX PDP-11/780 is offered in three system configurations only, plus one OEM CPU only configurations at \$87K. It can be expanded to 2 Mb, with error correcting code MOS memory. The processor has a new instruction set, 8K of bipolar cache memory, 16 general purpose registers, 2 clocks, 12K of user accessible writable control store (optional), floating point accelerator (optional), a 10-minute battery backup or memory (optional), and remote diagnostic capability.
2. A new operating system, VAX/VMS, that uses code and data segment paging in fixed 512-byte segments, and can handle 63 users and multi-stream batch.

3. Support for FORTRAN IV PLUS and VAX-11 MACRO in native mode (i.e., the 32-bit environment) and support for PDP-11 COBOL, and PDP-11 BASIC-PLUS-2 in compatibility mode (16-bit environment) under RSX-11M Application Migration Executive (AME).

The significant feature of DEC's decision to implement a 32-bit machine is the completely new operating system and compilers that are required. The VAX can operate in native mode (using the new instruction set) or PDP-11 compatibility mode. However, the full power of the machine can only be realized in native mode. DEC's major limitation on the VAX today will be lack of software for native mode execution.

Market Analysis

DEC has chosen to implement new versions of their MACRO Assembler and FORTRAN IV on the VAX. These generate native code, including in some cases one machine instruction per source instruction. As far as file systems, sequential and random access are offered. The operating system is a true virtual memory system with both code and data segment paging. DEC is also offering an optional floating point accelerator. DEC's initial target market will be the heavy engineering/scientific market that is characterized by large data segments, minimal data base, and high computational requirements.

A key element in DEC's strategy will be to penetrate markets where their lack of software will not be a disadvantage. Among the major areas are:

- A. The engineering departments of manufacturing companies.
NOTE: DEC will be limited by the lack of RJE capability on the VAX.
- B. University computation centers and computer science departments. Here the FORTRAN and MACRO language offerings, a virtual memory operating system and the 32-bit architecture will be the key attractions.
- C. Stand-alone processing systems ("iron") to OEM's, large government research and industrial organizations who will take the hardware and develop their own software. As in the past on the PDP-8 and PDP-11, we will probably see this software marketed by DEC in a year or two.

Although DEC is offering COBOL and BASIC-PLUS-2, it is only in compatibility mode in what is essentially RSX-11 emulation. We understand that performance of COBOL and BASIC in this RSX-11 environment will be the same as on the PDP-11/70. Additionally, the PDP-11/70 64 Kb addressing limitation applies in compatibility mode. DEC is not offering DBMS (RMS-11 is only offered in compatibility mode) with their initial release.

It is significant that DEC has implemented a decimal instruction set on the VAX, a feature not on the PDP-11/70. They have also implemented a high speed controller called the Synchronous Backplane Interface with a data rate of 13.3 megabytes per second. A third new feature is multi-stream batch, a facility lacking in RSTS-E. The message is that DEC has eliminated some of the architecture disadvantages of the 11/70 and RSTS-E. When their software catches up, VAX could be a formidable competitor in the commercial market.

VAX Position in DEC Product Line

The VAX is being labeled as an extension to the PDP-11 family, but it has little in common with its brethren: a new machine architecture, new instruction set, and a new operating system. It does appear that most of the higher level languages will be compatible, however, at the source language level.

DEC is positioning the VAX as a high performance extension to the 11/70, not a replacement. With the recent 25% price cuts on the PDP 11/70, DEC made room for its new entry. You may begin to see the VAX proposed in situations where the 11/70 is not powerful enough. However, as the new software becomes available, we will begin to see the VAX proposed in other situations where the 11/70 is weak: DBMS and COBOL performance.

Sales Strategy

Lack of software will probably not stop DEC from proposing the VAX, especially when decision points are 6-12 months away.

Here are some tips on selling against it:

1. Pre-release software: We understand DEC is making customers sign a form with each order acknowledging that they will be receiving pre-release (i.e., not a finished product) software. Expected release date of finished software is August 1978. HP does not pre-release software.
2. Availability: DEC will have very limited manufacturing capability through June 1978 and probably longer. The Series II has a 12-week availability now, and that is our goal for FY '78.
3. Ask for a benchmark: Because of the limited VAX availability, DEC will not be shipping the VAX to the field offices until summer of '78. All benchmarks will be done in Maynard and will be closely controlled. Pushing for a benchmark may be effective, especially if DEC is proposing compatibility mode. If DEC agrees to a benchmark, it probably means they really want the business.
4. Compare Software:

	DEC - VAX	HP - Series II
Operating System	VAX-VMS (pre-release)	MPE - Proven, reliable
Languages		
FORTRAN	Native Mode/Pre-release	FORTRAN/3000
System Level	MACRO - Native Mode Pre-release	SPL
COBOL	Compatibility/Pre-release	COBOL/3000
BASIC	BASIC-PLUS-2/Pre-release Compatibility	
RPG	No	RPG/3000
APL	No	APL/3000
DBMS	No	IMAGE/QUERY
Indexed Sequential	Compatibility - RMS-11	KSAM
SORT/MERGE	? Native. Yes compatibility	Yes
DS	DECNET - Phase II for VAX will be announced later, not available first release	DS/3000
RJE	No	2780 Emulation MRJE - soon

**DEC VAX vs. Series II
Configuration**

Memory	128K		256K		512K	
	VAX	Series II	VAX	SERIES II	VAX	Series II
Price	\$128,600	\$110,000	\$153,000	\$117,400	\$185,000	\$136,100*
Disc-Model	2 - RK06	1 - 7920	1 - REM03	1 - 7920	1 - REP06	1 - 7920
Capacity	28 Mb	50 Mb	67 Mb	50 Mb	176	50 Mb
Tape	None	7970E/ 1600 bpi	TEE-16 1600 bpi	7970E/ 1600 bpi	TEE-16 1600 bpi	7970E/ 1600 bpi
Floppy	RX-11 512 Kb	None	RX-11 512 Kb	None	RX-11 512 Kb	None
Console	DECwriter LA36	2640B	DECwriter LA36	2640B	DECwriter LA36	2640B
Cabinets	3 Bays	2 Bays	4 Bays	2 Bays	4 Bays	2 Bays

*Based on a 512K Byte Model 6

Price/Performance

In raw speed, the VAX is 2-3 times faster than the Series II. It is interesting that DEC will only be quoting their *FORTRAN in native mode as 1.2 to 2 times faster than the 11/70*. However, instruction execution speeds are only one small part of the performance spectrum. The proof of the pudding is *how the operating system and compilers utilize the hardware to provide throughput and response time to the customer*. The VAX/VMS today is an unknown; MPE is a highly reliable, proven operating system.

From a configuration point of view, the Series II has the advantage on absolute price, even if extra 7290's at 14,000 each are added to balance the discrepancies in on-line storage. You should also note that VAX is physically a big system and any VAX configuration of 256K bytes or greater requires 4 bays versus 2 for the Series II.

Conclusions

One of the conclusions that must be drawn is that the VAX does not represent a significant improvement in price/performance today. The significant aspect of the VAX is not even the 32-bit machine, since that only solves one problem for the customer (data segment addressing, and a 16-bit machine could do that). The advance DEC has made is to "bite the bullet" and *develop a new operating system and new instruction set that will set the stage for growth in the 80's*. The price they will pay is a temporary lack of software combined with user conversion/compatibility problems.

You can capitalize on these shortcomings to continue to win against DEC proposals. When DEC proposes PDP-11 COBOL and BASIC-PLUS-2 in compatibility mode for commercial applications, remember they offer no more power for more bucks. The VAX is vulnerable today in the arena where the HP 3000 is strongest. Sell MPE, languages and data base against the VAX and you can be a winner!

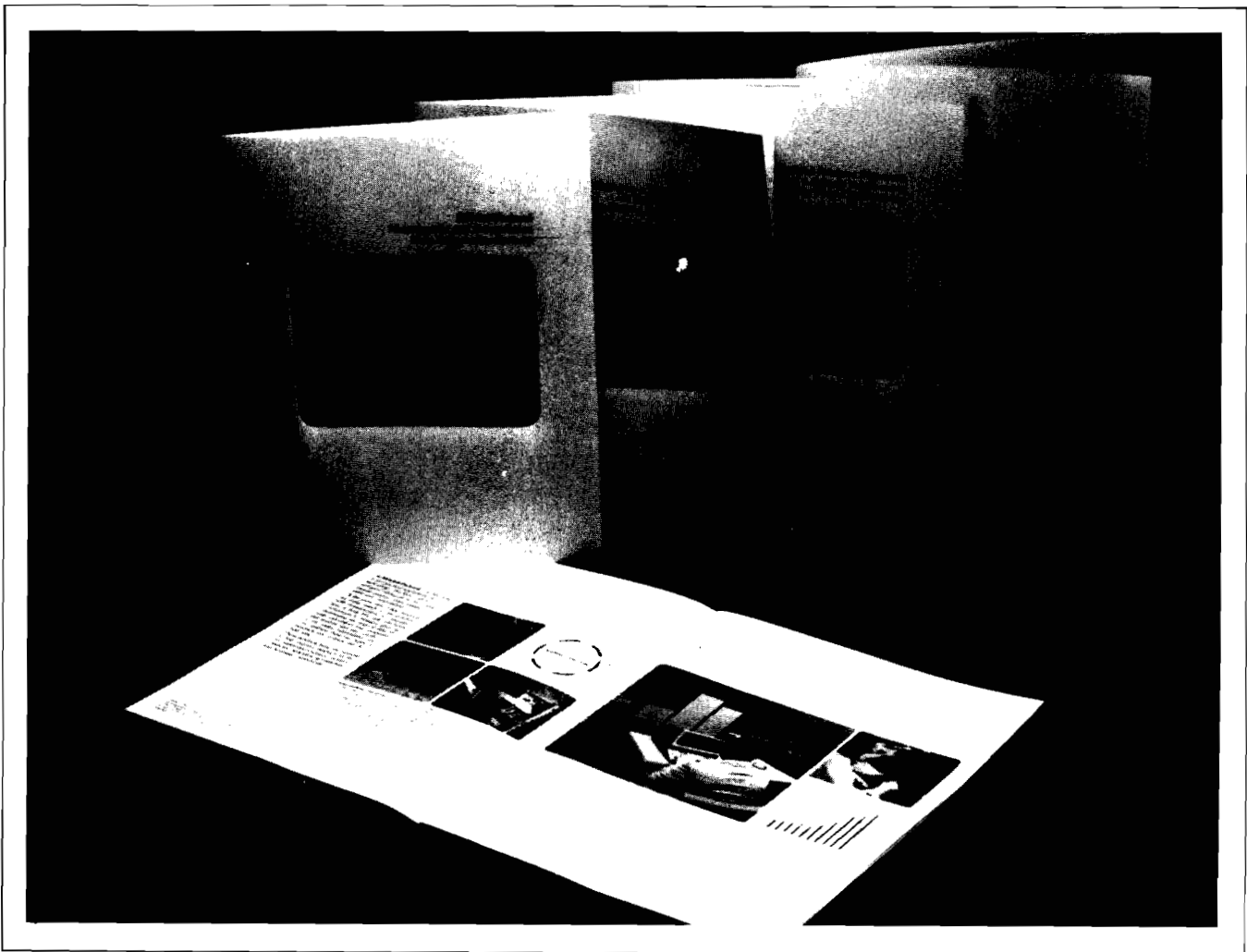
CS GROUP NEWS

COMPANIES OF INTEREST

HP Measurement and Computation Capabilities Brochure

By: Gary Buzzard/Corp

"Hewlett Packard Measurement and Computation Help Improve Productivity" is the title of a 4-color, 8-page brochure, available for all HP field sales people. It is designed to stimulate a favorable response to HP's products from important buying influences in customer and prospect organizations.



Content and uses

This brochure gives a brief overview of HP's product range, vital statistics, and highlights our after-sale support. It can be used as a direct mail piece with a letter or note attached; as an element in presentations, proposals, and seminars; as a response to management inquiries; and as a leave-behind.

How to order

The brochure comes in a variety of language and geographic configurations as follows:

These versions are available through Corporate Literature Distribution, 1820 Embarcadero Road, Palo Alto, California 94303 Bldg. 9B:

- United States (5952-0056D)
- Spanish Language (5952-0056SP)
- Australia, New Zealand, South Africa English language (5952-00561C)

These versions are available through the appropriate country offices:

- Canadian, English language (5952-0056CA)
- Pan European, English language (5952-0056EU — available through Amstelveen Literature Depot)
- United Kingdom (5952-0056UK)
- (The French, German, and Italian versions shown in the photo are currently out-of-stock)



New Videotapes from Corporate Training

By: *Chuck Ernst/Corp.*

Here are some of the latest videotapes available from Corporate Training and Management Development.

Title: HIGHLIGHTS OF THE OCTOBER 1977 COMPUTER SYSTEMS NEW PRODUCT TOUR

Content: *Larry Andrews and Steve Richardson offer a short review of Boise Division's present products and announce the new 2631A and 2635A Printers and Printing Terminals. Larry describes the features of the new terminals and shows their modular construction including user replaceable parts. Steve covers ordering information and discount strategies. The 2631A demonstration is shown with tips on how to get the most out of it.*

Time: 58 minutes

Part Number: 90679Z

Date Released: November 1977

Title: TRANSLATION DUBBING

Content: Do you want to put your own local language translation on an HP videotape? This program shows you:

1. the equipment to use,
2. the equipment not to use,
3. how to set up the equipment for dubbing (recording)
4. how to dub (record) your language on the tape without disturbing the video recording, and
5. how to order the English script and a dubbing master tape.

Also, the program shows how to replace a defective audio record switch on older Sony videocassette recorders.

Time: 25 minutes.

Part Number: 90469Z

Date Released: October 1977

Title: RETIREMENT: END OR BEGINNING? ... IT'S UP TO YOU

Content: The psychological aspects of facing retirement and suggestions for successfully making the transition from full-time employment to retirement are covered in the videotape. Interviews with HP pre-retirees and retirees deal with the apprehension about retirement, the value of preparation for retirement, and the importance of a positive outlook.

This is the first of nine tapes in the HP Pre-Retirement Series. See also 90472Z through 90479Z.

Time: 29 minutes

Part Number: 90471Z

Date Released: November 1977

Title: THE NAME OF THE GAME

Content: *Tom Sharp*, super salesman, makes all the common mistakes in this informative and entertaining satire. It can be useful for sales meetings or for sales training. This program was purchased from Kodak. It is not for sale.

Time: 15 minutes

Part Number: 90567Z

Date Released: November 1977

Title: HP CORPORATE OBJECTIVES

Purpose: To familiarize HP employees with the Corporate Objectives so they can apply them in their work.

Content: In 1957 the policies and practices which contributed to the success of the Hewlett Packard Company were documented. This video program explains these policies and shows how work done in accordance with the HP Corporate Objectives assures employees of the continued benefits of working for a successful HP.

Time: 9 minutes

Part Number: 90583Z

Date Released: November 1977

Title: ENVIRONMENTAL QUALIFICATION TESTING

Purpose: To show that Computer Systems products are a safe buy because they are environmentally qualified before being put into production.

Content: Before optimum reliability can be built into a product, its design first must be qualified environmentally. This program shows the 16 environmental tests that are given Computer Systems products before they can be put into production. After viewing this program you and your customers will understand why Computer Systems products can meet—or exceed—their published specifications.

Time: 13 minutes

Part Number: 90694Z

Date Released: December 1977

How To Order: First, check with your local videotape coordinator. If they don't have a copy, transmit a HEART (COCHISE) 12 Order to Video Products, Division 0700, Palo Alto. (These programs are not for sale to customers.)

HP GRENOBLE NEWS

Division News

2649A Customer Training Course

By: Maurice Poizat/HPG

The next course (13294A) in Grenoble is scheduled for the week starting January 30, 1978. Do not forget it! And new graphics option is added to the course!

Remember! This course will help your customers to implement their own 2649A application. Feel free to contact me!



Traitement réparti, ou Confusion répartie?

Pour résoudre votre problème de traitement réparti, la plupart des sociétés d'informatique se contentent de vous apporter leur solution toute faite. En fondant sa solution sur vos besoins, Hewlett-Packard vous évitera beaucoup de déboires. Et beaucoup de confusion.

Si votre investissement en matériel informatique est déjà important, la première chose à éviter c'est un plan de traitement réparti de données qui risque de faire vieillir votre installation ou d'être lui-même dépassé dans quelques années.

Hewlett-Packard peut simplifier les problèmes d'implantation de la puissance de traitement. Nos systèmes peuvent vous aider à tirer le meilleur parti de votre système actuel, à informatiser de nombreuses fonctions que vous exécutez actuellement par des moyens manuels et vous laisser la maîtrise centrale grâce à des liaisons avec votre gros ordinateur. De plus ils peuvent s'adapter aux changements.

Ces performances globales font du HP 3000 l'ordinateur idéal au niveau du département de l'entreprise. En effet, vous pouvez recourir à ses services pour des problèmes aussi divers que : traitement des commandes, gestion des stocks, comptabilité analytique et calcul des besoins matières.

Vous constaterez une amélioration considérable du rendement dans votre usine, votre bureau de vente ou votre centre de distribution. En même temps, vous disposerez d'un meilleur système de saisie des données pouvant réduire les erreurs de saisie et donc

les coûts de transmission. En outre, notre système peut évoluer facilement, soit au sein d'un département, soit dans le cadre d'un réseau d'ordinateurs.

Un réseau d'ordinateurs à votre disposition.

Notre nouveau logiciel transforme un ensemble de HP 3000 en un réseau extrêmement simple et fonctionnel. A partir d'un terminal, vous pouvez utiliser les programmes, les fichiers et les données répertoriés dans n'importe quel HP 3000 interconnecté. Il suffit pour cela d'identifier l'ordinateur auquel vous voulez parler et vous êtes connecté.

Avec la même facilité, vous pouvez transférer des programmes et des fichiers d'un HP 3000 à l'autre et exécuter en même temps un traitement local et un traitement éloigné.

De cette façon, les points éloignés peuvent obtenir beaucoup plus rapidement des informations précises et d'actualité que lorsqu'ils sont tributaires d'un ordinateur central surchargé.

Comment un petit ordinateur exécute les travaux d'un gros ordinateur.

Grâce à la polyvalence du HP 3000, le système peut exécuter des programmes en traitement par lots pendant que vous obtenez des informations de l'ordinateur sur un terminal.

Vous pouvez utiliser également jusqu'à six langages de "gros ordinateur", exécuter de grands programmes et élaborer un logiciel rapidement et à peu de frais, (cet aspect prend toute son importance quand on considère la

montée en flèche des coûts de programmation).

Le moniteur d'exploitation est si évolué qu'il constituera le cœur de l'ordinateur pendant de longues années. Vous pouvez donc ajouter des éléments à votre système sans avoir à abandonner vos anciens programmes. De plus, la souplesse caractéristique du HP 3000 vous permettra de faire face à l'évolution des besoins en matière de traitement réparti.

Exploitation des données brutes.

Votre gros ordinateur dispose d'une base de données pour regrouper des informations apparentées au sein de fichiers facilement accessibles. Cette possibilité est tout aussi importante au niveau des points éloignés pour permettre aux utilisateurs d'obtenir instantanément les éléments d'information dont ils ont besoin, et sous une forme facilement compréhensible.

Le HP 3000 dispose d'une fonction de gestion de base de données extrêmement efficace pour faire apparaître des imprimés, des titres, des en-têtes de pages et des colonnes. Et grâce au logiciel DS/3000, vous pouvez appeler n'importe quel fichier HP 3000 du réseau.

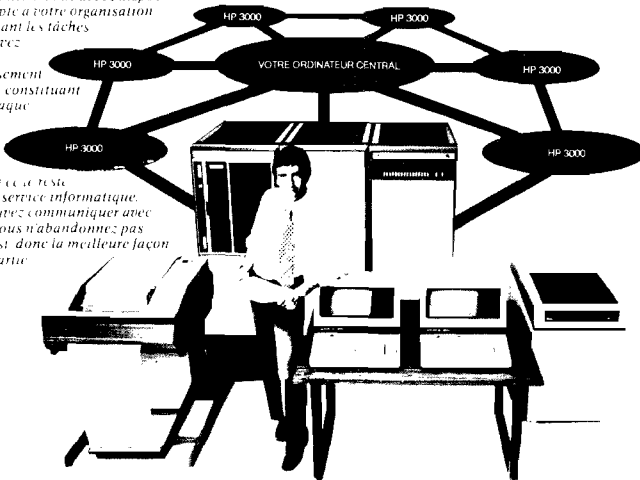
Un bon produit ne suffit pas.

L'assistance vient toujours en tête des préoccupations de Hewlett-Packard, avant et après la vente, avec formation sur place et documentation complète. Près de 1 000 ingénieurs-systèmes et ingénieurs de maintenance, répartis dans 65 pays, assurent la maintenance et peuvent proposer leur assistance à la mise au point de programmes d'application.

Si vous voulez y voir plus clair dès maintenant en matière de traitement réparti, renvoyez-nous le coupon joint.

HP 3000 : Avec le système HP 3000, tout paraît tout de suite plus simple.

Pour assurer une bonne gestion, vous devez disposer d'un ordinateur qui s'adapte à votre organisation informatique tout en traitant les tâches quotidiennes que vous devez informatiser dans les départements. C'est précisément ce que fait le HP 3000. En constituant un réseau de HP 3000, chaque département peut faire face à sa propre charge de travail et également partager des programmes et des bases de données avec le reste de l'organisation de votre service informatique. En même temps, vous pouvez communiquer avec votre gros ordinateur et vous n'abandonnez pas la gestion centralisée. C'est donc la meilleure façon d'éviter la "confusion répartie".



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Bon à renvoyer à Hewlett-Packard France, Z.I. de Courtabœuf, B.P. 70.91401 Orsay Cedex.

Je désire recevoir votre documentation sur le traitement réparti sans confusion

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