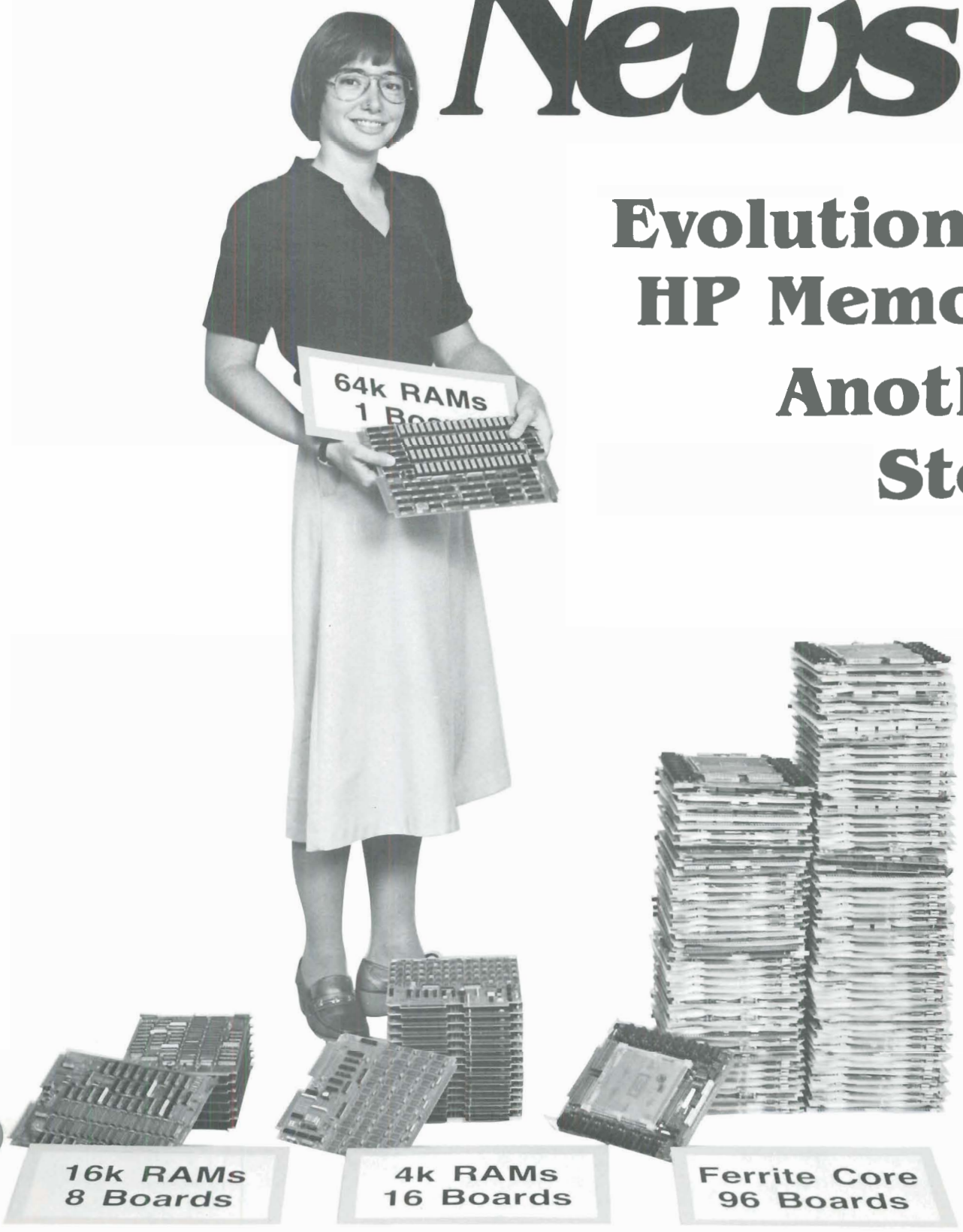
# Computer News

## Evolution of HP Memory: Another Step!



# HP Computer Museum
# www.hpmuseum.net

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Computer News
October 15, 1980
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**On the Cover**

*Sandy Metz, of Data Systems Division, holds the division's two-board 1/2-megabyte microcomputer. In front of her is an historic evolution of HP memory. From L to R are three stacks of memory boards, each consisting of 1/2-megabyte : eight boards using 16K RAMs, 16 boards using 4K RAMs and the 96 boards it took to hit a 1/2-megabyte when HP used core memory. Article begins on page 6.*

## Accelerate '80



## Sections

# In This Issue

# Computer Marketing

## CSD

### Line Conditioning Made Easy

*By Jay Friedman/CSD*

CSD is often asked whether its new HP 35030A Power Line Conditioner is an isolation transformer or a voltage regulator. This unit combines many of the characteristics of both to combat a range of power problems.

An isolation transformer has no direct current path between its primary and secondary windings and also provides for the attenuation of noise. Such devices are incorporated into many HP computer systems, such as the HP 3000 Series III and 33, as well as the HP 1000 L-series. Voltage regulators, on the other hand, provide for a constant output voltage within a specified input range. The 35030A also ties the secondary to ground to provide a non-floating reference for the connected system components.

CSD's new product therefore provides effective noise suppression as well as protection against short and long term voltage fluctuations. This device will be of value when power problems such as transients caused by lightning or heavy equipment may affect a system's performance. The HP 35030A should be recommended as an effective solution for the HP 3000 Series 30 in such instances.

### 35030A Data Sheet Available

*By Jay Friedman/CSD*

A new data sheet (PN 5953-3322) describing the features of CSD's HP 35030A Power Line Conditioner is now available and orderable. It describes this efficient and easy to install unit which provides not only immunity from power disturbances but also the voltage regulation necessary to keep a system running during transient short-term sags and surges as well as long-term brownouts. Thoroughly tested with the HP 3000 Series 30, this inexpensive, HP-supported power treatment product is an ideal solution to many power problems for these systems. Watch *Computer News* for compatibility test results with other products. List price for the 35030A is $1,350. First shipments are scheduled for the end of October.

### Maintenance on Non-HP Equipment

*By Chris Kryzan/CSD*

CSD has received a number of requests for HP maintenance on other vendors' products. Usually these are foreign devices attached to HP computer systems and, in some instances, products which are now OEM'd by HP (e.g. Data Products/2619 printer).

Our policy has long been to service only those products which are manufactured or OEM'd by HP and which therefore have a total support program in place. HP's commitment to reliability and ease of service are just two factors influencing this decision. Servicing other vendors' equipment over which we have no quality control would not be in keeping with HP's commitment to its customers.

In situations such as this, it's wise to point out the wide range of HP hardware offerings to the customer. This one vendor solution results in increased customer satisfaction.

### Setting Customer Support Expectations

*By David Garcia/CSD*

Involved in closing a deal where systems are to be installed in remote areas? Are you sure of HP's support capabilities? You may find that our support capabilities at the locations are limited or non-existent.

When support is not discussed until late in the sales cycle, misunderstandings can occur. The result — unhappy customers and embarrassment for HP.

Avoid these pitfalls by: setting the customer's expectations early in the sales cycle; resolving support issues immediately so they do not impinge upon other aspects of the sale; and determining what HP's support capabilities are in a particular area and relating them realistically to your customer. The resources that allow you to determine HP support capabilities on a worldwide basis are:

**Corporate Travel Guide** — includes maps which define the location, travel area and certain support capabilities of HP Service Responsible Offices (SROs) worldwide for all sales disciplines. Available from your local service manager.

**CSD Support Services Data Book** — details CSD Support Services, both hardware and software, and contains a complete listing of all HP Training Centers, Field Repair Centers, and SROs, both subsidiaries and distributors.

**CSD Sales Development** — the interface between CSD and the field sales force. Responsibilities include: on-line sales support, development of "special" support plans, coordination of major account support and communication of worldwide support capabilities. CSD can provide specific information on support programs offered by each office as well as the hardware by software products those offices support. Also available is the most current listing of SROs, their support uplift factors, hours of coverage and response times. If the Travel Guide and Data Book do not provide you with the necessary information, contact CSD Sales Development.

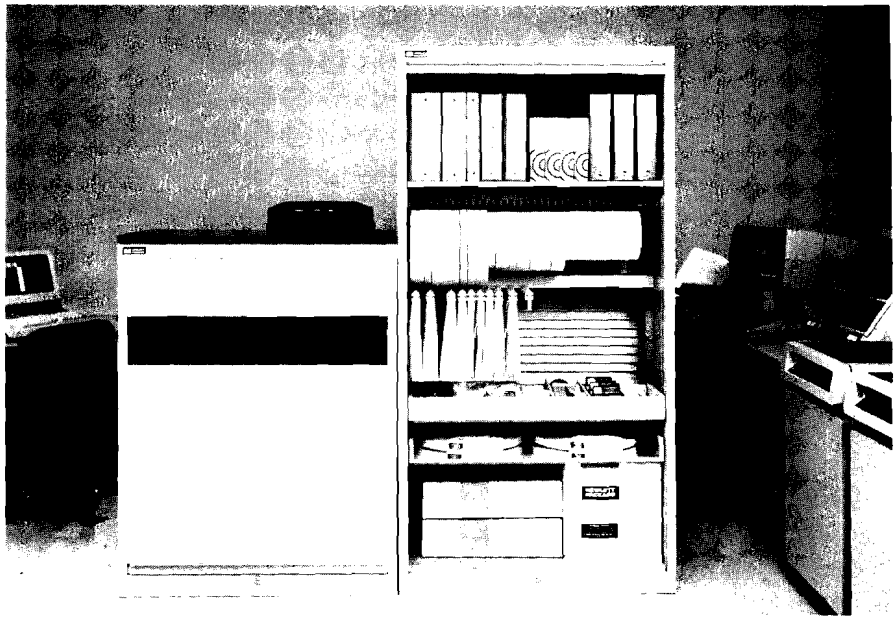
# CSO

## New Media Storage Cabinets

*By Fran Jeffries/CSO*

Computer Supplies Operation has now added media storate cabinets to complement the terminal tables, static control mats, and copy holders we already offer.

The Autumn Computer Supplies Catalog (5953-2450) offers two attractive cabinets for convenient storage and security for media, documentation and supplies. Storage features (shelf locations, etc.) have been optimized for the broadest range of requirements, after careful consultation with many HP users — ranging from those with smaller desktop computers and related instrumentation systems, to those with complete HP 3000 computer system installations. Both cabinets have roll-up doors which can be locked to keep valuable media, program listings and supplies safe and secure.



These attractive cabinets are in stock and ready for immediate shipment — with all shelves and hanger bars already installed inside. Have your customers order:

HP 92172A — 119.5 cm (47 in.) high — $790 ea.

HP 92172B — 180 cm (71 in.) high — $950 ea.

P.S. These cabinets are also available from CSO for internal HP use, at low TAC prices. Ask us for details.

## DSD

### ★Expanded Memory for L-Series

*By Joe Hess/DSD*

The most commonly requested feature on the L-Series has been expanded memory capabilities. DSD has completed a nine-month lab project which produced the expanded memory "XL" ahead of schedule. This new product set allows:

- A two-board microcomputer with 512 Kbytes of memory.
- Upgrade of existing L-Series to mapped memory capability through a CPU upgrade kit ($200) and new memory controller boards.
- L-Series computers running up to 256 concurrent user programs with up to 64 Kbyte partitions.

**How It Works**

These new L-Series features are obtained by implementing mapping instructions which allow two new memory controllers to manipulate memory maps like other HP 1000s. One of these memory controllers is loaded with 64 K RAMs so that it contains 512 Kbytes of memory in addition to the mapped memory logic. A new operating system RTE-XL, uses the mapped memory hardware to make the L-Series into a true multi-user, multi-tasking machine. The overall system has been designed to allow I/O to have direct memory access to any section of memory. In general terms, RTE-XL expands RTE-L to a true multi-user system, but stops short of providing the session-monitor and batch processing capabilities of RTE-IVB. It also supports data and program areas up to 64 Kbytes in size.

**What Does This Do For Me?**

- It makes the L-Series a 16-bit microcomputer second to none, in terms of hardware and software capabilities.
- It provides a low-cost multi-user L-Series system which is able to run the products HP customers like.
- It gives the L-Series a state-of-the-art multi-user operating system which supports modular driver structure, concurrent I/O processing, easy interchange of generated operating systems, and automatic enabling of the system map when an interrupt occurs.
- The ability to enhance the performance of the L-Series by reduction of the disc-swapping overhead through added memory.

**Pricing & Product Structure**

The two memory controllers, the 128Kb 12002A board and 512 Kbyte 12002B boards sell for $2,800 and $12,000 respectively. The 12003A 128Kb array board sells for $2,500 and connects to the 12002A board through one of a set of connectors to allow 256, 384, and 512 Kbyte "XL" configurations. The 12002A board provides 128 Kb 2103LK board sets and 2103L box computer installations when ordered as Opt. 011 to these products for $1,500 over the price of an unmapped computer.

The same option is available on L-Series systems for $1,700 and adds RTE-XL in place of RTE-L. The 512 Kbyte controller is available on boards, boxes, and systems as Opt. 012 for $11,000. The base product for RTE-XL, 92071A, lists at $3,000 and the other "XL" software products are priced accordingly higher than their RTE-L counterparts. For more pricing information prior to receiving the November CPL, please contact DSD sales development.

**When Can I Get One?**

The November CPL will have the new "XL" products with an eight-week availability.

There are limited amounts of products available sooner, so contact your sales development engineer if you need an "XL" to close a deal.

**What if my Customer Already has an L-Series?**

Existing L-Series computers can be upgraded by purchasing either memory controller with Opt. 001. This option includes a kit which upgrades a 12001A CPU to a 12001B CPU by plugging three parts into sockets on the board. This same upgrade supports other new CPU features such as D/S support of the virtual front panel feature of the L-Series. In the future, only 12001B CPUs will be shipped with L-Series computers, so that future upgrades will not need this kit.

**Marketing the XL**

The XL has more memory capability than any other LSI-based processor from a minicomputer vendor and the two-board 512 Kb micro is the first in the industry.

These features successfully position the "XL" against the DEC PDP-11/23 and Data General MP200, with only 256 Kb and 64 Kb memory capabilities, respectively. The "XL" also allows an L-Series user to grow his application upward through longer program length and planned additions of feature products. The 512 Kb board set has microcomputer size and flexibility with the software support and low development cost of a full-up minicomputer.

For more info, see the press release which has been bulk mailed to your office, call your DSD sales development engineer and attend the "XL" NPT, touring sales offices beginning November 5th.

## 9895A Floppy Disc Not Supported on HP 1000 Models 20 & 25

*By Steve Pomeroy/DSD*

The Greeley Division sales literature for the 9895A incorrectly states the 9895A is supported on the HP 1000 Model 20 and 25 systems. These products employ RTE-M, a memory-based operating system, which has not been enhanced with the driver for, or made compatible with, the 9895A. DSD is currently working on enhancements which will allow a 9895A on a memory-based system.

The 9895A is supported on RTE-IVB, the disc-based operating system used in the Model 40 and 45 systems.

The 9895A compatibility matrix should read:

**9895A Support on HP 1000**

| HP 1000 | Op. System | Interface | Driver |
|---|---|---|---|
| Model 40 & 45 System M,E,F-Series Computer | RTE-IVB | 12821A | DVA32 |
| Model 20 & 25 System M,E,F-Series Computer | RTE-M | Not Supported | Not Supported |
| Model 10 System L-Series Computer | RTE-L | 12009A | DD-30 |

## DSD Product Availabilities

*By John Moss/DSD*

To reduce inventory carrying costs and increase profits, Data Systems Division has begun building to order many of our products in a continuous flow mode (like an automobile assembly line). We are doing this so we can stock our inventories as raw parts rather than work in process or finished goods which contain substantial value-added.

Why you should care is that we have had to adjust the availabilities of some of our products to reflect the length of time it actually takes to build them. The standard availabilities we are shooting for are:

| **Hardware** | **Weeks** |
|---|---|
| Systems | 9 |
| CPU Boxes | 7 |
| CPU Boards | 5 |
| Mainframe Plugins | 5 |
| Memory Products | 5 |
| Cabinets | 4 |
| **Software** | |
| A,B,X Suffix Products | 4 |
| E,M,R,Y Suffix Products | 2 |
| **Diagnostics** | 2 |
| **Firmware** | 2 |

While we are making every effort to meet these standard availabilities for all products, we feel that it is most important for you to be able to properly set your customers' expectations and for us to meet them. Consequently, products which for one reason or another cannot meet the standard availabilities will be listed at whatever their actual availability is. In short, you should continue to use the Corporate Availability Schedule.

The Co-ordinated Delivery Program is not affected by these changes; co-ordinated products will continue to be shipped with systems as in the past.

These standard availabilities apply only to products built by DSD (2200) and do not affect PL65 products supplied by Roseville (5200), Grenoble (6300) or YHP (3300).

## Connecting New Mux to Other Devices

*By Randy Englund & Gary Brunell/DSD*

In addition to supporting HP terminals, the new 12792A Multiplexer subsystem may be used in conjunction with other HP or non-HP devices. What are the requirements and considerations for these devices to be connected to the Mux?

A prerequisite for HP support is the device must be hardwired into a direct connection (not through auxiliary subchannels), asynchronous, bit serial environment. To connect a device to the 12792A interface, three items need to be examined:

- Interface Support Definition
- Handshaking
- Driver considerations

HP's Interface Support Definition for the 12792A Mux includes:

**Electrical:** The HP 12792A provides connection for two twisted pair data lines per channel. The electrical specifications of the data lines are RS-423A, which is backwards compatible with RS-232C.

**Line Speeds:** The 12792A transmits and receives data simultaneously on any combination of channels from 50 to 19200 baud, provided that the aggregate throughput of 76800 baud (total for all eight channels) is not exceeded.

**User Data Reproduction:** Character size may be specified from five to eight bits per character, not including an optional parity bit.

**Character Insertion/Deletion:** To support the broadest range of devices, the HP 12792A may be configured to pass all user data in both directions. Character handshakes required by devices may be inserted or deleted from user data with a user written device driver. Device drivers are simply subroutines of the interface driver which are used to modify user requests and make them compatible with a specific device.

The user should be aware of the line protocol, control sequences, and handshaking used by the device. The line protocol must match in order for two way communication to exist. The HP 12792A interface card uses firmware on the card to accomplish ENQ/ACK handshaking. With handshaking enabled, data is transferred to a terminal/device in blocks of 80 characters. If handshaking is disabled, data is transmitted serially (character by character) to the terminal/device.

The other type of handshaking is from terminal/device to the Mux card. This is accomplished using DC1 and DC2 handshaking. DC1 and DC2 are used for CPU reception in block mode. Devices using hardware handshaking between the Multiplexer card and the device are not supported. XON/XOFF protocol and transmit handshaking (which are controlled by the device rather than the interface) are not supported.

The last consideration requires the user to determine if the terminal/device can function using HP supplied drivers or if it will require a user-written device driver. Devices requiring specialized control need a user-written device driver. Support is then limited to the HP Interface Support Definition.

The 12792A Multiplexer is a very intelligent card which can be an extremely versatile tool for your customers.

## New Enhancements for ATLAS/1000 From LEXICO

*By Dawson Mabey/DSD*

The following "ATLAS/1000 News" from LEXICO provides the latest update on new enhancements to their ATLAS for the HP 1000. If your customers want more information have them contact:

Al Rogers
Product Manager
LEXICO Enterprises, Inc.
Applications Support Division
1200 112th Ave., N.E. Suite C-179
Bellevue, Washington 98004
(206) 455-0743

### *ATLAS/1000 News*

***Digital ATLAS/1000***

*Digital ATLAS is now available from LEXICO for the HP 9415A or the DTS-70. (30-day delivery)*

*LEXICO announced Digital ATLAS/1000 (92111D), the second enhancement to the ATLAS/1000 Compiler, at the Boston ATE show in June. Digital ATLAS/1000 is a superset of the existing ATLAS/1000 Compiler, so, present users can easily upgrade without changing existing ATLAS programs. Digital test patterns for the ATLAS program can be generated either manually or automatically with TESTAID III. DTS-70 board probing and fault isolation can be performed by the use of the ATLAS statement PERFORM, 'fastrace' EXTERNAL $. In addition a Digital ATLAS Programmers Guide and Digital ATLAS training are included with the 92111D.*

***Software Support Service***

*Another product announced at the Boston ATE show was a Software Support Service for all ATLAS/1000 products. This product is similar to HP's Customer Support Service but includes two weeks of training. In addition to two weeks of training, this Service includes phone-in-consulting, updates to the compiler, Template Library, and documentation as well as a monthly newsletter. Now through December '80, LEXICO is offering a special six-month version of the Software Maintenance Service which includes one week of training for half the price ($2,500) of the regular Maintenance Service. Two weeks of training are included if purchased with a compiler product — an upgrade to Digital counts. Also included in this special offer is upgrade from HP RTE-IVA ATLAS to LEXICO RTE-IVB ATLAS, normally $2,000.*

## Planning for Future High Performance Markets

*By Margaret Mykland/DSD*

As a new Product Marketing Engineer at DSD, my responsibilities are related to future high-performance HP 1000 processors. As HP's link to our customers and their needs, I would like to hear your comments about the nature of competitive situations in which you have won or lost sales of the F-series, in particular. I am also interested in what new processor features or capabilities would lead to incremental sales for you. This information should provide the necessary insight into the marketplace to direct and position our future offerings. I look forward to hearing from all of you and working together in the future.

The following questionnaire details areas of primary interest. Please copy, complete and return it to me at DSD, 11000 Wolfe Rd., Cupertino, Ca. 95014. As soon as the information has been collected and analyzed, I will respond to you with the results.

**Field Sales Survey**

A. **General Information**

1. Name and location _____
2. Years in sales _____
3. What types of applications are associated with your most successful F-series sales? _____

For each competitive situation you comment on, please include the following:

B. **Customer Information**

1. Customer's business? _____
2. Customer's problem application? _____
3. Customer's performance requirements? _____
4. Price sensitivity? Rank from 1 to 5 _____
   (1 = very important, 5 = unimportant)
5. Major competitors bidding? _____

C. **Winning Situations**

1. What were the major reasons for making the sale? _____
   - Hardware capabilities — which ones? _____
   - Software packages — which ones? _____
   - HP 1000 system already in place? _____
   - Price or Price/Performance? _____
   - Peripherals offered — which ones? _____
   - Reliability/Service? _____
2. What features or capabilities would the customer like to see in the future for an upgrade path? _____

D. **Losing Situations**

1. What were the customer's major objections to the proposed HP offering? _____
2. Which capabilities of competitive offering most influenced the customer? _____
3. Was this a single vendor solution? _____
4. Was this a replacement/upgrade sale or new application? _____
5. What capabilities do you feel would have made our offering more viable? _____

_____

# DCD

## Important New 9845 Ordering Procedures

*By Susanne Cochran/DCD*

As of November 1, all orders for 9845B/T/C will need to include default keyboard and printer options. We are changing the procedure because a) the current procedure is confusing, especially as we add new enhancements to the 9845; b) current billings for printer options on the T are not always accurate; c) we need to clarify our production scheduling. The inconvenience caused by adding these options to every order will be greatly outweighed by improved efficiency of the entire system.

The new ordering procedure is summarized in the following table.

If your customers want to order some different combinations of keyboards and data base management, this system of ordering allows you to switch combinations of options to suit the situation.

### General Rules to Remember

- Always specify keyboard options, using 800 for standard ASCII.
- Specify all printer options when included free in the system (i.e., 9845T, 9845C, 9845B option 190) using 06x and 04x option numbers. For charge printers, use 56x and 54x options.
- Specify DBM option on 9845B option 190 and 9845C option 190 using the mainframe option 33x, which is no charge. For all other customers, 98430A or 98428A/R (as appropriate), with option 33x must be used. (See table)

As of November 1, all orders must conform to these rules. Nonconforming orders will be returned for correction. Please help us minimize the number of change orders required by working closely with your local order coordinators.

| Previous Products with options | English option | French option | Spanish option | German option | Katakana option | Swedish/ Finnish option |
|---|---|---|---|---|---|---|
| 9845B no options | 800 | 810 | 820 | 830 | 840 | 850 |
| 9845B with printer opt. | 800<br>560 | 810<br>561 | 820<br>561 | 830<br>561 | 840<br>541 or 540 | 850<br>561 |
| 9845C opt. 001 | 800 | 810 | 820 | 830 | 840 | 850 |
| 9845C opt. 001 with printer opt. | 800<br>560 | 810<br>561 | 820<br>561 | 830<br>561 | 840<br>541 or 540 | 850<br>561 |
| 9845T no options | 800<br>060 | 810<br>061 | 820<br>061 | 830<br>061 | 840<br>041 or 040 | 850<br>061 |
| 9845C no options | 800<br>060 | 810<br>061 | 820<br>061 | 830<br>061 | 840<br>041 or 040 | 850<br>061 |
| 9845B opt. 190 | 800<br>060<br>330 | 810<br>061<br>331* | 820<br>061<br>330+ | 830<br>061<br>332* | 840<br>041 or 040<br>330** | 850<br>061<br>330+ |
| 9845C opt. 190 | 800<br>060<br>330 | 810<br>061<br>331* | 820<br>061<br>330+ | 830<br>061<br>332* | 840<br>041 or 040<br>330** | 850<br>061<br>330+ |
| 98430A | 330 | 331* | 330+ | 332* | 330** | 330+ |
| 98428A | 330 | 331* | 330+ | 332* | 330** | 330+ |
| 98428R | 330 | 331* | 330+ | 332* | 330** | 330+ |

* When available
** Option as yet undecided and unavailable; order English
\+ Not available in local language; order English

## Are You Getting *Keyboard?*

*By Chris Stumbough/DCD*

Did you receive your September/October '80 *Keyboard?* Using the ROSTER Data base mailing distribution, this issue of *Keyboard* was mailed to all the US and Canadian sales field personnel (RSMs, AMs, DMs, SSRs, SRs). If you know your name is listed in the ROSTER Data base (in one of these categories), but you did not receive your *Keyboard,* please advise Chris Stumbough, DCD — (303) 226-3800, ext. 2235. If you are a new hire, or for some other reason, your name has not been added to the ROSTER Data base distribution and you wish to receive *Keyboard,* please contact Francine Tarmina, CMG — (408) 996-9383.

Our goal is to have *Keyboard* automatically sent to everyone in the US and Canadian 02 sales force, and to those who have account responsibility that includes HP technical computers. We want to keep you up-to-date!

In addition to SRs, *Keyboard* is distributed to other miscellaneous intracorporate personnel, not represented by the categories above. If you wish to be added to this list, contact Chris at the above number.

## New 9825T Mass Storage ROM

*By Larry Inman/DCD*

The 9825T can now support the new 9895 Flexible Disc Memory. With the recent introduction of the 98228A 9895/9885 Flexible Disc Drive ROM, the 9825T can take advantage of the 9895's increased mass storage capacity.

Major features of the new 98228A ROM are:

- It supports both 9885 and 9895 flexible disc drives.
- Bootstraps are no longer required on the disc, as is the case with the 98217A 9825A/9885 ROM; all the code now resides within the 98228A.
- The 9825T can support multiple devices on the 9895's HP-IB channel.
- Disc commands are identical to those available in the old 98217A ROM, providing easy 9825/9885 to 9825T/9895 system conversions.

This new 9895 capability provides a good mechanism to leverage upgrade kit sales. Because the 9825T is the only version that can support the 9895, 9825A/S/B customers will have to upgrade their machines to the 9825T configuration to use the 98228A ROM. Once more, the 98251F upgrades the 9825A or S to a 9825T memory configuration, and the 98252F upgrades the 9825B to a 9825T.

The 98228A is priced at $500 (US). Delivery is currently six weeks.

## Discontinued Structural Software

*By John Oster/DCD*

In line with our Computer Groups' strategy to concentrate on manufacturing applications, we plan to discontinue offering Structural Engineering software as an HP product. Effective November 1, '80, the following programs will no longer be available from DCD:

| Part Number | Description | Price |
|---|---|---|
| 09845-12750 | Continuous Frame Analysis | $450 |
| -12760 | Beam Span Analysis | 250 |
| -12770 | Multi-Story Frame | 700 |
| -12780 | General Frame Analysis | 700 |
| -12790 | Truss Analysis | 600 |
| -12800 | Space Frame Analysis | 3,000 |
| -12810 | Reinforced Concrete Beam | 350 |
| -12820 | Reinforced Concrete Column | 350 |
| -12830 | Flat Slab Analysis & Design | 500 |
| -12840 | Steel Beam Design | 250 |
| -12850 | Steel Column Design | 300 |
| -12860 | Composite Steel Beam | 250 |
| -12870 | Pre-Stressed Concrete Beam | 600 |
| -12880 | Dynamic Load Analysis | 400 |
| -12890 | Footing Design | 500 |
| -12900 | Section Properties | 150 |
| -12910 | Job Cost Accounting | 2,000 |

These programs will continue to be available from Computerized Structural Design (CSDI) in Milwaukee, the original developer of this software for HP. They have purchased the rights and will actively promote, sell, and support this software as part of our new third-party software supplier program. They are anxious to continue an active role in the structural market and welcome your inquiries for help on promotional programs. Software program information from CSDI will be distributed in the November update to the new DCD Software Catalog. CSDI will also continue to support those customers who have purchased HP structural programs. Please contact PL96 Sales Support if you need help.

We will also discontinue the following software programs:

| Part number | Description | Effective Date |
|---|---|---|
| 09845-14350 | Clinical Lab Library | Aug. 1, '80 |
| -10850 | Payroll | Nov. 1, '80 |
| -10860 | Inventory | Nov. 1, '80 |

Clin Lab applications for the System 45 will be handled through our OEM program in the future. If you have any questions about Clin Lab Software availability, please contact DCD (Dave Deane).

The Payroll and Inventory programs will be available as unsupported software through our Exchange Library. Anyone interested can purchase these programs for $25 (cash in advance). Please consult your Software Catalog for ordering details.

There will be similar announcements soon on 9815 and 9825 software programs. Until then, if you have any questions, please contact DCD.

## 9030 Benchmark & Performance Clarification

*By Charles Reese/DCD*

Due to misleading field literature, there is confusion about the 9030 Measurement and Control Processor's performance. Page 2 of the Model 9030 Technical Supplement includes an erroneous graph portraying the 9845T as having superior throughput performance to the 9825. As product histories suggest, the 9825 will have superior throughput performance in any configuration with the 9030.

No matter which desktop is selected as the 9030 controller, the desktop will invariably have to wait for the 2240 processor to transmit requested data, because the 2240 architecture does not permit data transmission to begin until all requests included in the command string have been executed. Thus, for applications where the desktop communicates only with the 2240 processor and no other peripherals, desktop performance is not significant to system throughput. For this reason, the 9835A with its CRT and computational features is recommended as the premier 9030 controller.

Applications that require mass storage peripherals and fast throughput can increase system throughput by a factor of three by using the 9825. For these applications, the 9825 is recommended, if the customer is satisfied with substituting HPL for BASIC.

Regardless of the 9030 configuration selected, fast throughput is not a feature of the machine. But although the throughput is slow, the 2240 can execute requests within one command string faster than any other HP front-end. And the easy programmability and portability of the 9030 make it an ideal solution for organizations which deal in research and development of process control systems. In this mechanical environment where component response times are slow, the 9030 throughput is fully compatible with customer needs.

# BDD

## 9825 Used for Printing Price Labels

*By Jaap Vegter/HP Amsterdam*

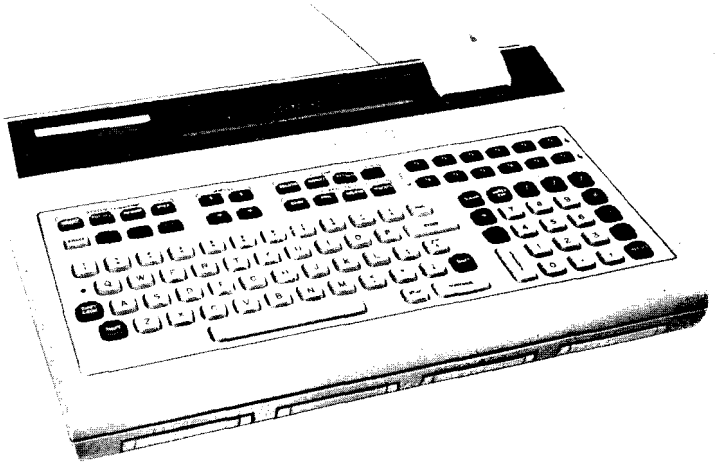
An unusual 9825 application that shows the versatility of this mainframe has led to the sale of 45 units.

About two years ago, a large chain of stores in the Netherlands asked HP to provide a solution to their price label printing problems. The firm was then using electromechanical devices that had to be set manually to produce the required four or five numbers on each label. When a series of labels was finished, new adjustments had to be made before the next series could be printed — a time-consuming and labor-intensive process.

The solution was to have a keyboard for entering label information, and a processor to handle the keyboard input. At the same time, the processor would drive one or more printers to print the labels. Some buffering technique, allowing the user to specify a new label series while another series was being printed, was highly desirable.

We decided an HP 9825 would be the right machine as data can be entered using keyboard interrupts, provided by the System Programming ROM, and a printer can be driven using output buffers handled by the Extended I/O ROM. Data specifying a label series can be accepted from the keyboard continuously, and buffered in the machine's memory until no longer required.

HP-IB was the obvious printer interface choice, because it provides a proper hardware handshake. RS-232C would have been an alternative, but no hardware handshake is available. With the HP-IB interface, a printer could be driven at its maximum speed, and no extra software was required to streamline data flow to a printer. The Facit 4540-character matrix printer was chosen because of its speed (250 characters per second),



easily-readable expanded characters, ability to print in black and red, and heavy-duty.

A program was written that shows questions in the 9825 display, accepts information from the keyboard, maintains a log on the 9825 strip printer and drives up to three printers simultaneously. There are two versions of the program. One uses printers in a nonpredictable way, i.e. the operator cannot control which series of labels is printed on which printer.

The other version asks the operator to specify the printer to be used for a label series (unless, of course, there is only one printer).

The limit of three printers is arbitrary. Using an I/O expander, the number could easily be increased.

Since we want all three printers to be driven simultaneously, three output transfers must be possible at the same time.

The output buffering used in combination with the buffers in the printers allows a true continuous process. Provided keyboard entry is done quickly, or the series of labels is long, the program keeps three printers going without interruption. At the same time, it allows more keyboard entry to take place, with each label series entered being printed as soon as a (or the selected) printer becomes free.

This configuration has now been tested for about two years, and recently an order was received for 45 HP 9825Bs with Systems Programming ROMs and interfaces.

Next the customer wants to consider connecting the 9825 to an HP 3000 computer to allow complete automatic price label printing. Rather than getting label specifications through keyboard entries, the HP 3000 will send the relevant data to the 9825, which in turn will print a label series. For more information, contact me at HP Amsterdam.

## New Software Catalogue

*By Ed Hop/BDD*

A new software catalogue for HP 9800 series desktop computers was sent to the technical sales force in September. The catalogue includes all necessary information about HP software and third party software for use on HP 9800 series desktop computers. No need to call factory marketing for software info; it's all there in one binder — info on software for statistics, EE, mechanical engineering, management science and other applications. It's just what you need when answering a customer's first inquiry about the software — part number, pack title, brief description, minimum or most likely configuration, publication number of available literature and price.

## BCG

### ★TDP/3000 Update

*By David Townsend/CSP*

The product tape for TDP/3000, (Product No. 36578A,) which includes the HP reference manual and a customer demo has been sent to all software coordinators this week. SE training in Europe and the US will be complete by mid-October.

As well as a good order rate for TDP/3000, we have had many field enquiries concerning our entry into the world of office automation. I'd like to respond to them, highlight some aspects of the Field Training Manual and give you some additional indications of where best to sell TDP/3000. Read this article in conjunction with the F T M and Steve Zalewski's article on TDP/3000 on page 14 of the Sept. 1 issue of *Computer News*, and you should get a good feel for our market.

**Is TDP/3000 the same as all other word processors?**
There is confusion on this point. There are two very broad areas into which text and word processors can be divided: 1. The "what you see is what you get" or "key stroke interactive" variety which is often the kind referred to by end users when they say "word processor". With this type, all editing and formatting is performed on the screen, from the keyboard. These capabilities are planned for HP "word processors" in FY'81. This easy and quick to learn type of word processor is primarily aimed at secretarial users. 2. TDP/3000 is a command-driven, delayed formatting system. The formatting commands that an operator enters are only executed when the work is printed. (The exception to this is the TDP SCREEN command which allows utilization of screen editing capabilities on our block mode terminals.) This type is most often used by anyone (including secretaries) who has long or complicated documents to prepare or for documents that require a lot of revision.

**How competitive are we?**
Compared to other command-driven packages, we are in front. The formatting commands are very powerful and the table creation, mathematical expression handling, built-in calculator, automatic hyphenation, and security features are all very attractive. Also, our entry price for someone who already has an HP 3000 is low — the cost of the software plus a letter quality printer. Of course, if your customer is going to need extra terminals and memory to handle extra users then you shouldn't talk him out of it.

**Where is an HP 3000 with TDP likely to be the best solution?**
Where a customer has a requirement for a business computer which should also be able to produce technical reports, manuals, proposals, legal documents, form letters etc., TDP is an extremely good solution because of its powerful functional capabilities.

There is no word processing application that TDP/3000 cannot handle, however the "what you see is what you get" — "key stroke interactive" — type of system is at its most attractive where the customer wants a variety of short letters produced by a typist.

**How easy is it to learn TDP/3000?**
The demo on the production tape will give you a feel for this. A novice could enter, correct, format, print and keep a letter with just seven commands. Obviously more time is required to take full advantage of the 120 or so commands.

To summarize, adding command driven word processing to our existing capabilities on the HP 3000 is an extra feature that should help you sell in some situations where we could not previously compete. Demonstrate the package, involve your SE, and set customer expectations correctly.

### ★7910 Upgrades for HP 250: Update

*By Paul Storaasli/GSD*

With the upgrade product for field installation of the HP 7910 disc in the HP 250, announced September 1, your dual and triple flexible disc HP 250 customers can upgrade to the Winchester hard disc installed in the system desk, and trade in their old flexible disc drives if desired!

| Product Number | 45012U | Price |
|---|---|---|
| Includes: | 7910K disc, Installed | $6,750 |
| Options: | 001 Return one flexible disc drive<br>002 Return two flexible disc drives | – 1,500 |
| Availability: | Eight weeks | |
| Discounts: | Not purchase agreement discountable | |

Now a triple flexible disc-based HP 250 customer can trade in two drives and pay only $3,750 for the Winchester disc. Note that at least one flexible disc drive must remain in the HP 250. If desired, two flexible disc drives can remain, but there is no space in the tub for three flexible discs plus the 7910; the third flexible drive must be removed. Some customers will probably want to keep the dual flexible discs for diskette copying convenience, added capacity or flexibility.

This upgrade can offer your customer increased benefits from their HP 250 systems:

- Greater reliability
- 3-4 times more on-line storage
- 2-3 times increase in throughput

While the HP 250 program has taken off well this year, the key to continued success is maintaining a high degree of customer satisfaction by offering our current customers ongoing product enhancements and upgrades. Please review your HP 250 installations for their upgrade requirements.

P.S. On a new order, the 7910 is ordered as Option 012 on the base system, priced at $6,000.

# CSD

## HP 3000 Honor Roll

*By Sheri Costa/CSD*

**HONOR ROLL**
**AUGUST, 1980**

| NAME | OFFICE | NAME | OFFICE |
|---|---|---|---|
| Larry Auster | UK | Jim Mercer | Iowa City |
| Mike Alexander | UK | Don McAvoy | King of Prussia |
| Frank Callahan | Lexington | Bill McElrath | Rockville |
| Jim Cooper | San Antonio | Art Monk | Calgary |
| Marya Daniels | Fullerton | Robert Morgan | Calgary |
| Michel Dauvilliew | France | Peter Newhaus | Airport |
| Martin Decre | Baltimore | Andrew Piekaeski | Toronto |
| John DeRoy | Netherlands | Harlan Proehl | Rolling Meadows |
| Dave Eggum | St. Paul | Ed Quarnstrom | Rolling Meadows |
| Kai Evensen | Milwaukee | Gerhard Schmid | Calgary |
| Sherry Hoff | Manhattan | Ray Shanahan | Paramus |
| Steve Jamison | Richardson | Stan Schell | Tampa |
| Jeff Kurschner | N. Hollywood | Ken Souza | Lexington |
| Dennis Lamb | Houston | Larry Stewart | Palo Alto |
| David Leicht | Ft. Lauderdale | Lee White | Richardson |
| Greg Linder | Cleveland | Bernd Winnemoeller | Germany |

**HP 3000 PROGRAM OUTSTANDING SALES REP OF THE MONTH**

**AUGUST 1980**

This is to acknowledge that Harlan Proehl of our Rolling Meadows Office achieved the highest HP 3000 Order Performance for the month of August, 1980.

Congratulations from the entire HP 3000 Program!

HP 3000 Sales Manager

HP 3000 Program Manager

# GSD

## New HP 250 Application Software Demo

*By John Whitesell/GSD*

A new HP 250 application software demo kit is now available for OEMs as well as HP sales offices. It combines the FIN/250, OM/250, and MFG/250 demos, and includes a set of diskettes that can be loaded onto either a 7906-based or 7910-based HP 250 system. In addition to the files of run-only programs on diskettes, the demo kit also includes a Demo Quick Reference Guide for FIN/250 and OM/250, a set of demo instructions for MFG/250, and installation instructions.

The demo performs exactly the same operations as the FIN/250, OM/250 and MFG/250 products, except for the Backup function. Backup has been modified to permit easy resetting of the demo data bases, so demos can be given more quickly and conveniently.

Order as P/N 45184-60001 from GSD. Price is $195. (If being ordered for sales office use, put "Please Advise" in the price field of the order). The demo software requires version A.03.01 or greater of the HP 250 operating system. Availability is three weeks ARO.

The demo kit also includes a cover sheet which contains the following information:

"There is no HP support supplied for this demo kit beyond the documentation included herein. Warranty is limited to replacement of defective media. The demo kit reflects the latest version of the FIN/250, OM/250, and MFG/250 products at the time the demo kit is purchased. Users who previously purchased the demo kit corresponding to an older version of the software products, and later want the most recent version, will need to re-purchase the Demo Kit."

## RJE/250 Needs Hard Disc or 64K!

*By Paul Storassli/GSD*

When RJE/250 is run on a system with only 32 Kbytes of user memory, software overlays are required. This means the software disc must remain on-line for the duration of RJE/250 operation. Due to media wear, a flexible disc should not be used for this. The customer must choose to use a hard disc for software, or to order memory to provide a 64 Kbyte user area. This requirement will help ensure a reliable product and a satisfied customer.

## FIN/250 & OM/250 Performance Data

*By John Whitesell/GSD*

To help you better discuss with prospects the performance characteristics of FIN/250 and OM/250, the HP 250 Lab has tested several FIN and OM functions as described below. All of these test results assume that the operator performing the actions is highly trained on both the HP 250 system and the application.

The FIN/250 testing on both the 7906-based and 7910-based configuration was performed by the same person, executing the same sequence of actions. So the comparison of these end results for the 7906- and 7910-based systems is particularly useful.

The chart below highlights the major functions tested. The times recorded to perform the various functions are stated as "minutes:seconds".

| Function | 7906-based | 7910-based | Percent Variance |
|---|---|---|---|
| **Accounts Receivable** | | | |
| Add New Invoice | 1:34 | 2:00 | 22% |
| Add Customer | 0:41 | 0:52 | 21 |
| Add Credit Memo | 0:54 | 1:03 | 14 |
| Modify Credit Memo | 0:27 | 0:34 | 21 |
| Add Cash Activity | 0:15 | 0:22 | 32 |
| Add Customer Ship To's | 0:25 | 0:29 | 14 |
| Add Tax Locations | 0:10 | 0:11 | 9 |
| Post 195 transactions | 33:26 | 37:05 | 9 |
| **Accounts Payable** | | | |
| Add Purchase Invoice | 1:17 | 1:17 | 0 |
| Modify Purchase Invoice | 0:35 | 0:43 | 19 |
| Add Vendor | 0:50 | 0:50 | 0 |
| Add Debit Memo | 0:22 | 0:22 | 0 |
| Hold Payment Report | 0:06 | 0:06 | 0 |
| Print Check | 0:07 | 0:07 | 0 |
| **General Ledger** | | | |
| Add Entity | 0:20 | 0:21 | 5 |
| Enter standard transaction | 0:26 | 0:26 | 0 |
| Enter reversing transaction | 0:30 | 0:30 | 0 |
| Print Balance Sheet (Normal) | 0:04 | 0:05 | 20 |
| Print account balances | 0:06 | 0:06 | 0 |
| Print detailed cost account report | 0:54 | 1:01 | 11 |
| **Order Entry** | | | |
| Enter 20 orders (2 line items) | 36:36 | 45:47 | 20 |
| Release 20 orders | 6:40 | 11:40 | 43 |
| Print 20 picking lists | 4:02 | 4:27 | 13 |
| **Inventory Control** | | | |
| Post 450 inventory items | 15:44 | 24:01 | 34 |
| Add 20 product codes | 3:57 | 4:13 | 6 |
| **Sales Analysis** | | | |
| Daily Sales Report | 5:02 | 5:11 | 3 |
| Post 340 transactions | 11:14 | 14:44 | 24 |

As the chart shows, moving from the 7910-based system to the 7906-based system will, on the average, improve application performance by 20-25%. However, as the chart also shows, the improvement will vary considerably depending on the particular function being executed, due to the number of disc accesses, etc.

In addition, these tests were performed in a lab environment and testing in a particular user's environment may not generate the same results. Where performance is a major factor, the prospect should perform his own testing. For more details on this performance data, please contact HP 250 Sales Development.

## New HP 250 Price Configuration Guide

*By Art Monk/GSD*

Hot off the press is a new HP 250 Configuration Guide and Price Sheet. The new guide acts primarily as a configuration planner and will be very easy for your customer to understand. The separate US price sheet will simplify the update process and help ensure future availability of this brochure combination. The new literature numbers are: HP 250 Configuration Guide, 5953-3427; HP 250 Price Sheet, 5953-3428.

Please note! All current backorders for the present Price/Configuration Guide (5953-3423D), which is now obsolete, will be filled with the new version of this brochure.

# ISD

## New HP 300 Workstation Upgrades

*By Ken Filcoff/ISD*

Do you have customers with HP 300 Workstations that would like to upgrade to the new HP 300 Model 20 (dual 7920-based) or Model 30 (dual 7925-based)? Well, enough of you asked for these products that we have put them on the October 1 price list. Both upgrades include the following:

- ICF/25A Processor
- 256 Kbytes of Error-Correcting Main Memory
- 1 Mbyte Flexible Disc Drive

- Fundamental Operating Software (Amigo/300 Operating System, System Utilities, and IMAGE/300)
- User Manual Set
- Installation

**Ordering Information**

| | | |
|---|---|---|
| 31031B | HP 300 Workstation Upgrade to Model 20. Includes products listed above plus dual 7920's. | $47,500 |
| 31031C | HP 300 Workstation Upgrade to model 30. Includes products listed above plus dual 7925's. | $60,000 |

# BGD

## HP 300 Users Meet

*By Mike Barlow/BGD*

Twenty HP 300 end users and OEMs from Germany, Finland, Denmark, UK and Holland gathered at BGD July 31-August 1 for the first HP 300 European Users meeting.

The agenda included 20-minute presentations from three users, workshop topics of "Design of Application Software for Multiple Users," "Installation Planning," and "Performance Optimisation," and discussion of HP 300 support services and R&D priorities.

HP speakers, Alan Nonnenberg, Fred Gibbons and Mike Barlow described where the HP 300 fits into the commercial product line, and the new features added to the HP 300 in Operating System A.04, leaving users confident that A.04 and subsequent releases are enhancing the HP 300 as an upgrade to System/32 RPG users while offering new features to existing BASIC language users.

A full report of session contents has been mailed to all European SEs and third party specialists. Further copies can be obtained from your BGD sales development contact.

## First RJE/250 Installation in Europe

*By Paul Mayr & Edmund Bernardi/HP Boeblingen*

The Boeblingen sales office has successfully installed the first RJE/250 application in Europe.

The application was completed in August at Germany's largest insurance company. Nine HP 250 systems are connected to three centrally located IBM 3033 mainframes via RJE/250.

The HP 250 systems are located in the firm's offices throughout Germany. These offices, or "advertising service bureaus," gather and maintain mailing lists of potential clients.

The mailing data base is maintained on the HP 250 and includes the prospective client's name, age, address and profession.

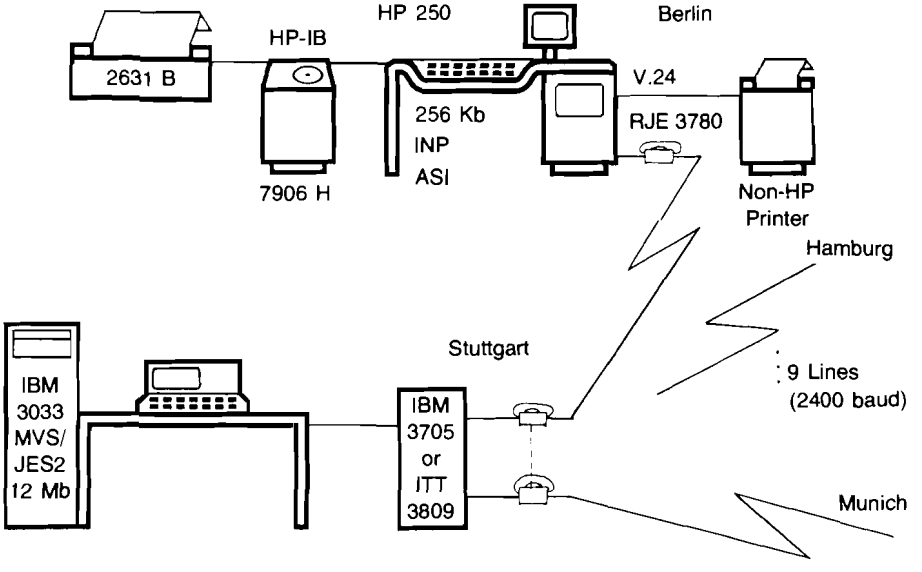
Through RJE/250, the HP 250 systems access the central mainframes, which store actuarial tables for calculating life insurance policies. These calculations require a very complex data base.

The data is then transferred (via the RJE/250) to the HP 250 system in the office, where a contract is printed and mailed to potential clients.

The customer is highly satisfied and is an excellent reference installation for our HP 250 and RJE/250.

We attribute our success in getting the order and satisfying the customer to:

- a comfortable RJE method
- an excellent installation and support plan
- complete customer support services (OS, RJE, ASI)
- special RJE-operator training at the customer site.
- excellent support from the BGD marketing group, and convincing high-level personnel in the firm to participate in our 10-day HP 250 training course.

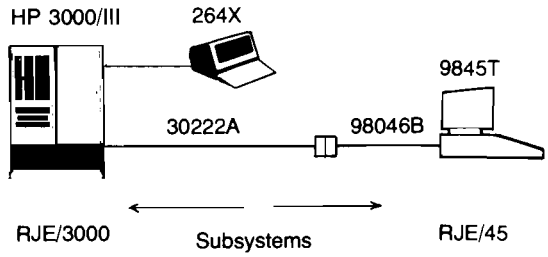


## RJE Link Between HP 3000 & 9845T Tested

*By Karl-Heinz Weiss & Helmut Schaefer/BDD*

Because of an increasing number of questions from the field about desktop operation with RJE/3000, we tested the following modes:

1A)




**1. Hardwired (Full duplex, 9600 bit/s)**

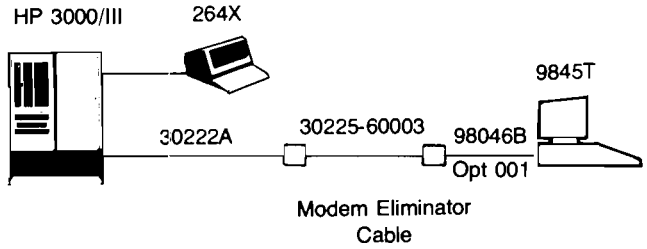
1A) Desktop config:
9845T, 98046B, Emulator: RJE/45, ROMs 98417A, 98418A, TX-Clock provided by 98046B.

HP 3000 config:
Series III, INP, Emulator: RJE-3000, 30222A, cable for Series III, 264X terminal on ATC (MUX) 2400 bps.

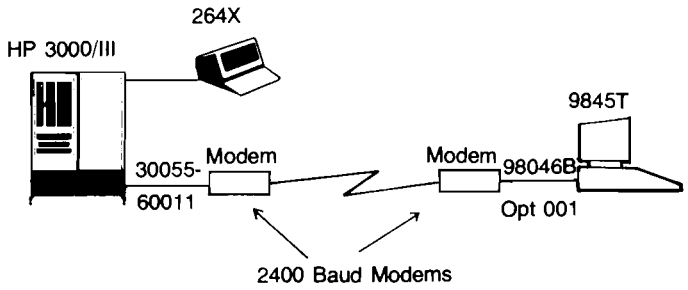
1B) Desktop config:
Same as above, but 98046B Opt. 001

HP 3000 config:
Same as above, additional modem eliminator cable 30225-60003.

1B)




2)




**2. Modem (Half duplex, 2400 bit/s)**

Desktop config:
Same as 1B) TX-Clock provided by modem.

HP 3000 config:
Series III, SSLC, 30055-60011 synch. SSLC cable, terminal as above.

Comment:
The modem connection to the HP 3000 Series 30/33 is also possible but was not tested here. Use the INP hardware instead.

**Results**

Both hardwired and modem connections were used for file transfer in both directions, using ASCII and EBCDIC codes and 2780 and 3780 emulators. All combinations worked perfectly.

There must be an operator (or stream or control file) on both sides to be able to communicate. In the three test phases, the RJE/3000 emulator needs more operator interaction than the desktop.

The RJE/3000 has no automatic receive mode, and instead needs commands such as "RJIN (RJOUT)" to go into transmit (receive) mode. In addition, the operator is expected to send EOT through the "RJEOD" command.

For other RJE/3000 commands, refer to the HP 3000 Communications handbook. For desktops, refer to the binder provided with the 2780/3780 RJE terminal emulator software P/N 09835-10190, 09845-10190.

# Terminals

## DTD

### Top DTD Salesman

*By Rich Ferguson/DTD*

George Workman from the Neely Santa Clara Sales Office has received DTD's special Top Salesman Award for 1975-1980. During that time George sold the most DTD dollar volume of any SR worldwide.

What did George receive? A million dollars of course — in chips!

*Bob Watson, DTD Manager, (Right) congratulates George.*

### Caps Lock vs. Caps Mode

*By Jim Schrempp/DTD*

Have you ever noticed that the 262X keyboard caps mode does not work exactly like the caps lock function? Well, you're right.

Toggling the caps mode by hitting the "caps" key once puts the terminal in a mode where all unshifted alphabetic keys are interpreted as capitals. When in this mode, all shifted alphabetic keys are interpreted as lower case. Non-alphabetic keys are not affected. To leave this mode, hit the "caps" key again.

On the other hand, when the terminal has the "caps lock" function asserted the terminal will only generate teletype compatible codes. Unshifted alphabetic keys produce their uppercase equivalents. The {, | , and } generate [, \, and ] respectively. The ' and ~ are ignored. (This is also true of the 264X caps lock key).

This is all detailed on pages 4-6 of the new 2626A reference manual.

### 2626A Remote Configuration

*By Jim Schrempp/DTD*

Anyone who uses the 2626A will no doubt want to modify the window/workspace configuration. When doing this remotely through escape sequences, the user needs to be aware of a few points.

- Be sure that the execution of the escape sequences will not result in the total number of rows allocated exceeding the total available.
- Be sure that window specifications do not overlap.
- Before defining a window to the left of the vertical border, the border must be positioned at a column $> 0$. Before defining a window to the right of the vertical border, the border must be positioned at a column $< 80$.

For more information see pages 2-15 of the 2626A reference manual.

### SEO/CEO Help from DTD

*By Jim Schrempp/DTD*

If you'd like an easy way to keep your reference library up to data or assemble new libraries for new SEs and CEs, DTD has the answer.

As mentioned in *Computer News*, June 15, '80 issue, there is now a terminal subscription service available through SDC. If you are signed up, you will receive new materials such as: Manuals, Demo Tapes, Games Tapes, Service Notes, etc. DTD's other new helpers are SE and CE Starter Kits. These kits contain enough manuals on terminals, printers and plotters to give every new CE and SE a good start toward a working reference library.

To subscribe to the distribution service, TWX Jeff Nagle at COMSYS 5600 for an order form. Be sure to get on the appropriate service: SE 5955-6049; CE 5955-6050; TSE 5955-6051.

To order an SE or CE Starter Kit, submit a HEART 12 Order Override for: SE Kit 5955-6039; CE Kit 5955-6040. Supply Division 5006; Price — Please Advise.

# HPG

## Using Your Local Language on a 2631B Printer

*By Michel Bart/HPG*

You have ordered option 009 (extended Roman character set) to get the print-out in your own local language on a 2631B connected to a 9835A/B, 9845B, an HP 250, or an HP 300! You are right!

But these systems use bit 8 mode to select the secondary character set, and Shift in/Shift out mode is default on the 2631B. So, to make the printer compatible with these systems, select 8 bit mode by sending the following escape sequence to the 2631B: Esc & k 1 I (page 3-6 of the 2630B Family Reference Manual).

# Vancouver

## 2675A Datacom Handshakes

*By Brodie Keast/VCD*

The HP 2675A must be configured for some type of receiving handshake at baud rates of 1200 baud or higher. There are several handshakes available which can be used by the 2675A to control the pace at which data is sent from the host computer. They are:

**ENQ/ACK:**

ENQ/ACK means ENQUIRY/ ACKNOWLEDGE handshake. With this protocol, the host computer uses an ASCII ENQ character (control E) to signify that it is ready to transmit a block of data, and the 2675A triggers the data transmission with an ASCII ACK character (control F) when the 2675A's I/O buffer is empty and ready to receive more characters. Note that this is an HP protocol and may not be available on all computer systems. The largest block of data sent between handshakes should not be greater than 96 characters.

**XON/XOFF:**

This handshake protocol allows the 2675A to signal the host computer to stop sending data and to resume sending data as the input buffer empties. Note that the XON signal is represented by a DC1 (control Q) and the XOFF character is represented by a DC3 (control S) character transmission. Once an XOFF signal has been sent to the host computer, the 2675A will continue to accept an additional 48 characters in an overflow buffer without loss of data.

**Hardware:**

The receive hardware handshake allows the 2675A to send a "busy" signal on the data terminal ready line (CD for RS-232C 108.2 for CCiTT V.24).

## HP 1000 to 2675A Interface

*By Bill Becker/VCD*

The HP 2675A cannot be used as the system console on the HP 1000 because the diagnostic tapes require a 264X terminal. However, the 2675A can be interfaced either directly or over telephone lines with the HP 1000 to perform a variety of functions. These functions parallel those performed by a 264X terminal where portability and printing are desirable.

The 2675A can be interfaced in one of three ways to the HP 1000:

- Hardwired to the HP 1000 using the 12966A Option 005 Asynchronous Communications Interface or the 12880A interface with the 13222C cable or the 12531D Option 001 Current Loop Terminal Interface with the 13222N cable.
- Over telephone lines using an external modem. This can be accomplished either with the 12966A Option 002 Asynchronous Communications Interface with the 13222N cable or with the 12531D Option 002 Current Loop Terminal Interface with the 13222N cable.
- Over telephone lines using modular phones with the terminal's optional built-in modem. In this case, the modular phone connection plugs directly into the back of the 2675A eliminating the need for any other modems or cables.

**HP 1000 L-Series to 2675A Interface**

The HP 2675A can be used as the system console on the HP 1000 L-Series because the diagnostic software can be loaded into memory from a 12012A/12024A Flexible Disc Subsystem. In addition, the 2675A can be used on the HP 1000 L-Series to perform functions that are similar to those performed by a 2645A terminal.

The 2675A can be interfaced in one of three ways to the HP 1000 L-Series:

- Hardwired to the computer using the 12005A Option 001 Asynchronous Serial Interface with cable.
- Over telephone lines using an external modem. This is accomplished by using the 12005A Option 003 Asynchronous Serial Interface with a cable for connection to a US modem. In addition, a 13222N cable would be required at the 2675A end of the communication line.
- Over telephone lines using modular phones with the terminal's optional built-in modem. The modular phone connection plugs directly into the back of the 2675A.

## 2675 Print Head Life

*By Web Augustine/VCD*

In addition to printing 120 crisp, clear characters per second, the print head in the 2675 thermal print mechanism has been designed for a long life.

The head has been engineered for a minimum life of 35 million characters. A high per cent of heads have been printing up to 100 million characters during reliability tests. For a typical 2675 user, this means a print head life of up to two years. Replacement, when necessary, is covered under stand service agreements.

# Peripherals

## Boise

### How Does the 2619A Stack Up?

*By Ron Whiteleather/Boise*

The HP 2619A is a successful product for Boise Division. We have just completed our first year of shipments and have been working closely with our vendor, Data Printer Corporation, who builds this printer for HP, to improve the total product.

During this year we have learned a lot about 2619A customers and their expectations regarding paper stacking. Most customers realize the limitations of a high speed printer without a power stacker. They either allow for the times when the printer does not stack output or purchase one of the commercially available power stackers.

The fact that line printers in the class of the 2613A, 2617A, and 2619A, do not stack paper dependably under all conditions is a de facto industry standard. We have not specifically stated in our data sheets for these printers that they may not, under all circumstances, stack paper reliably, however, it must be explained to a potential customer that these possible short-comings exist. If a customer's expectations are adequately set prior to the order, then he/she is likely to be more satisfied with the entire system.

We are continuing our efforts to improve the quality and reliability of our products. Also, support on additional systems is being planned for system printers. Together, this will help you to continue selling the best total solutions — HP!

### Boise's Specials Engineering

*By Tom Mills/Boise*

Boise Division offers HP customers a way to handle unique product modifications through its Specials Engineering Department. On occasion, customers want to change our products to more effectively address their requirements. In fact, there have been instances where the sale of one or more systems was contingent upon Specials Engineering's ability to make a requested modification.

What kinds of specials are developed by this group? Kel Winters, manager, Henry Hickey, and John Kook (pronounced "cook") are quick to point out that projects undertaken seem to be limited only by customers' imaginations. Examples include printers designed to operate at 50,000 feet of altitude, automatically skipping a line on every print job, and printing Arabic text right to left (as it is read). More mundane specials include extra-long cables, special paint and logos, and unique character sets.

If you have a customer requesting a special modification of our printers or tape drives, notify your regional Sales Development contact. Each request is considered on an individual basis as to business potential and engineering feasibility and, if approved, a price quotation is provided for the customer's approval before development begins. So, don't give up if a customer has an unusual request . . . give us a call!

## Greeley

### Improved Disc Drive for HP 250

*By Rosemary Kramer/Greeley*

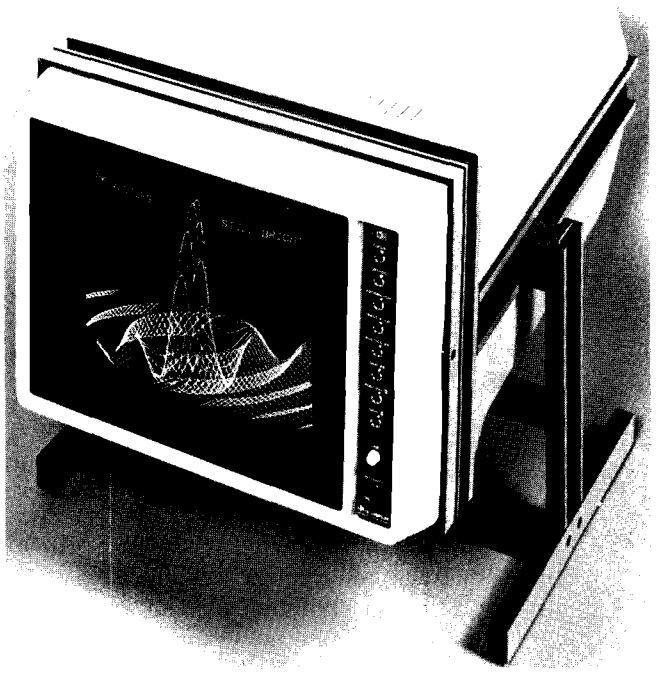
The HP 250 business computers coming off the line now feature the reliability of the 9895A Flexible Disc Memory. The new 9895 "K", the built-in version of the stand-alone device, replaces the 7902A Drive.

The 9895, a double-sided, double-density mass storage device, has set an impressive track record since its introduction in July. Manufactured by Control Data, this drive has a stable head design offering improved storage capacity and reliability. The drive, combined with the new double-sided media 92195, assures hassle-free performance for the HP business computer user.

Note of caution: The 9164-0100 media used on the 7902 drive will wear out prematurely if used on the 9895K. Do Not Use. The drives are manufactured by two different companies (9895 CDC/Shugart 7902) and use two different head designs. Any data on the old discs should be copied to the new. The new media, however, is compatible with both the 7902 and the 9895 and may be used interchangeably.

The new media 92195 also offers a lower error rate and much longer wear-life. Supplied through several vendors, the 92195 quality media is now available "off the shelf."

# Colorado Springs



*The "B" version displays feature an optical glass faceplate for improved display presentations.*

## X-Y Displays Improved for Graphics Market

*By Joe Hunter/Colorado Springs*

Todays mini-, desktop, and microcomputer users are turning increasingly to graphic displays for meaningful output of their processed information. The technology in these digital computers is sufficient to accommodate the complex processing for detailed graphical outputs.

In the past, computer system designers have used versions of their alphanumeric, electromagnetic, raster displays for graphic displays. Although these are bright, they do not have pleasing straight lines, relying instead on constructing a line with a series of discontinuous dots. These displays lack the resolution and writing rates necessary to display graphics not much more complex pictures than bar graphs or pie charts.

To accommodate more complex graphics, system designers turned to two, rather expensive, display devices. The first uses an electromagnetic CRT in a vector drawing mode. This allows for bright, straight lines but the unit is limited in writing speed (decreased picture complexity) and has large power requirements (heat, fans, and lowered reliability).

The second method uses a storage-type display. This method allows for straight lines, adequate resolution, and a great deal of picture complexity. The picture, however, is very dim, takes a good deal of time to draw, must be entirely redrawn when a change is made and cannot show motion or rotation of views (limited interactivity).

With these limited methods is there a more advantageous solution? There certainly is! It's an HP 1300 Series X-Y Display using electrostatic deflection.

The electrostatic CRTs use a vector drawing technique. Available in sizes of 14" to 21", these displays provide bright, straight, high resolution vectors. Their high writing speeds allow detailed and complex pictures. Displays can also show motion and rotation for operator interactivity.

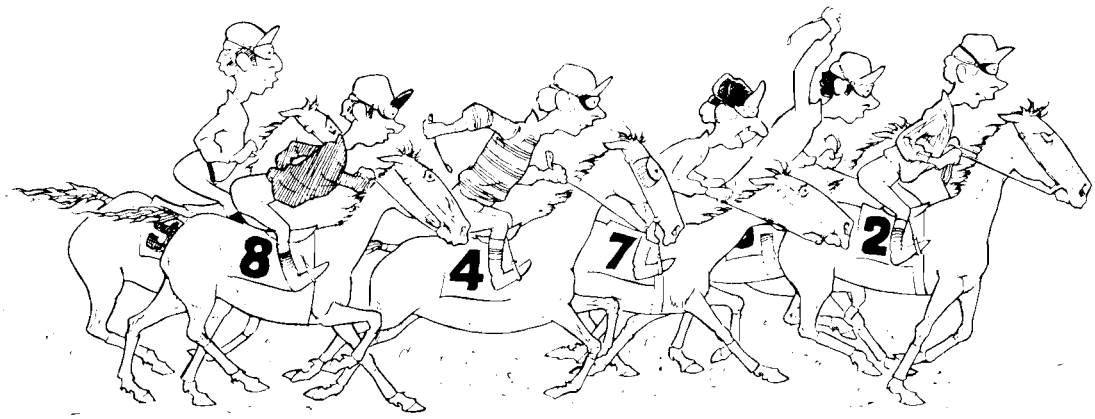
To further enhance the capabilities of these products, the large screen products (HP 1311, 10, 17 and 21) are undergoing improvements as "B" models. The first "B" version displays are the 1311B (14") and the recently announced 1310B (19").

Typical "B" model improvements are:

- A new, flat-faced optical quality glass contrast filter that does not diffuse the CRT trace. This dramatically improves observed trace quality and display contrast.
- An entirely new CRT that boosts the quality area to full screen. Exceptional edge and corner focus is obtained.
- A new contrast control that enhances display performance with the 1350A Graphics Translator. (This was Option 057 on the "A" model.)
- A "beefed up" high voltage power supply that increases focus and brightness stability with changes in Z-axis drive and/or picture complexity.
- A regulated CRT filament, contributing substantially to CRT life.
- A tilt stand included with the 1311 and 1310.

These improvements give HP customers the most advanced CRT for the demands of computer graphics. When used with HP's broad computer line, the user has the best high performance graphics products available.

Winner's Circle




# FINAL RESULTS

Final results of the Winner's Circle Sales contest are now in!

Winners are DMs whose districts were 110% of quota or better for the three-month contest period (June-August) and individual SRs who were 120% of quota or better for the three-month period.

**Neely Sales Region**

**DMs:** Ron Westergren, Jack Caffey, John Knopp, Santa Clara; Bill Little, El Paso; George Inglehart, Joe O'Brien, West Valley; Len Souza, Airport.

**SRs:** Fred London, Bob McMahan Harper Thorpe, Palo Alto; Rocky McGee, Hawaii; Larry Stewart, Dennis McDonnell, Dick Judd, Mike O'Reilly, Jim Sherriff, George Workman, John Trudeau, Roselie Tobes, Jim Nelson, Ralph Okada, Bob Claycomb, Les Flammer, Carl Schulenberg, Bob Taylor, Santa Clara; Ed Etzel, Don Grind, Sacramento; Marya Daniels, Ed Savarese, Bill Howard, San Diego; Jim Hilliard, Phoenix; Bob Littlefield, Gary Cooper, Tucson; Ralph Kotoski, Albuquerque; Chris Smith, Dave Hendrix, John Linebaugh, El Paso; Mark Verbofsky, Gary Thomas, Rick Tessitore, Darryl Boom, Roy Baker, Carl Penrod, Steve Kreidman, Steve Hillyer, Bob Woolbert, Virginia Colwell, Fullerton; Alex Caravajal, John DiFonzo, Tom Hart, Mark Creamer, Frank Zuhde, Gary Wessely, Pete Watters, John Conroy, West Valley; Kirk Hansen, Bill Theisner, John Helms, Doug Ford, Jeff Kurschner, Pete Neuhaus, Phil Hocking, Jim McGregor, Bruce Snyder, Nate Yovina, Harriett Bennett, Airport; Pam Odle, Jim Jaskovsky, Dick Peterson, Randy Pfluger, Bellevue; John Renshaw, Spokane; Ludwig Schmidt, Dan Kearns, Wilsonville; Steve Evans, Boise; Tom Linnen, Lyle Bass, John Abegg, Bill FlaHavhan, Jim Jensen, Englewood.

**Southern Sales Region**

**DMs: West Area** — Randy Foster, Tulsa; Jack Oliphant, Dallas; Roger Jones, Ft. Worth; Hector deLeon, Houston; Tom Gulczynski, San Antonio.

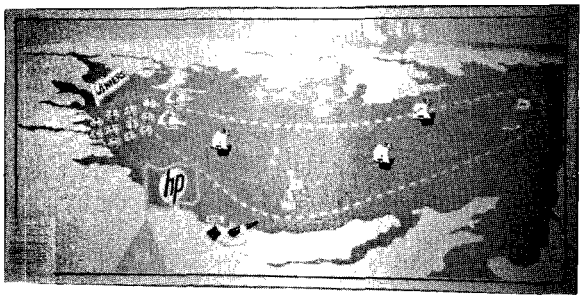
**East Area** — Dan Gollahon, Greensboro; Mark Milford, Atlanta; Clark Macaulay, Orlando; Bob McCoy, Huntsville.

**SRs: West Area** — Frank Simms, Stanley Fields, Roger Nielsen, Tulsa; Allyn Field, Dave Lyons, Lee White, Jim Tucker, Tom Clemons, Giora Stein, Alan Arnette, Dallas; Guy Collister, Steve Beckner, Barry Poff, Ft. Worth; A.J. Berkeley, Spec Hall, New Orleans; Billy Sumrall, Joe Norton, Dennis Lamb, Mark Friedman, Ed Kurtzer, Don McKay, Don Lutter, Greg Bishop, Orv Tulley, Houston; Luis Suarez, Marty Rector, Jim Cooper, Payton Reynolds, San Antonio.

**East Area** — Niles Howard, Jack Mathewson, Van Duncan, Greensboro; John McLellan, Columbia; Bill McCarrick, Sally Haas, Bob Brancheau, Atlanta; Wayne Diehl, Ron Cornett, Fred Muniz, Richmond; Stan Shell, Tampa; Bubber Smith, Doug Lyda, Vince Wojteczko, Orlando; Dick Folga, Pensacola; Marilyn Gibson, David Leicht, Ft. Lauderdale; Bob Dewitt, Dave Bunch, Huntsville; Pierre Naggiar, Bob Simpson, Knoxville.

**Eastern Sales Region**

**DMs:** Dilip Mathur, Boston Commercial; Bob Johnson, Connecticut Technical; Ange Colucci, Manhattan North Comm.; Sandy Effron, Manhattan South Comm.; Arnie Tuber, King of Prussia Tech.; Bob Bryer/Len Matlaw, Baltimore Washington Tech.; Don McClure, Govt, DOD.




*ESR-Rockville office's imaginative representation of Chesapeake Bay depicted sailboats (districts) and life preservers (individual SRs) on their way to the Winner's Circle.*

**SRs:** Steve Patterson, Lexington-AA; Bill Dinan, Roy Kuphal, Lexington-Tech.; Ed Sorgi, Ken Souza, Rich McNabb, Joe Vavricka, Frank Callahan, Sue Foley, Boston-Comm.; Mike Cohn, Bill Kaiser, Connecticut-Gen; Maureen Caudill, Jerry Mason, Connecticut-Tech.; Ken Howard, Paul Barrella, Long Island-Gen.; Charlie Kessler, Ray Shanahan, Alan Maggio, Manhattan/N-C; Sherry Hoff, Ric Ammon, John Riche, Manhattan/S-C; Joe Mangano, Paramus/N-AA; Mike Shope, Mark Kolansky, Nancy Bruun, Paramus/S-AA; Tom Montella, Ken Birmingham, Jim Eisert, Paramus-Tech.; Joe Pirozzi, Paramus-Comm.; Tom Papson, New Brunswick-AA; John Bowley, Rochester-Gen.; Charles Klayman, Rex Kesser, Dick Dienna, King of Prussia-AA; Carmen Marchionni, Len Wisniewski, Ken Rossi, Gene Colalongo, Philadelphia-AA; Tony Lepone, Susan Kienzle, Richard Coogan, Kyriakos Papademetriou, KoP-Tech.; Marsha Mirman, Russ Dodd, Don McAvoy, Carl Nessen, Philadelphia-Comm.; Cliff Falcon, Jim Banisch, Baltimore-Comm.; Don Bacastow, Washington-Comm.; Ted Buis, Jim Stefancic, Bill Bures, Ray Weber, Dan Selario, Baltimore/Washington-Tech.; Mal Wiseman, Bob Watson, Rob Kirkland, Govt. DOD.

**Midwest Sales Region**

**DMs:** Dan Branda, Indianapolis; John Malone, Rolling Meadows; Bill Payne, Cleveland; Ron Stevenson, Rolling Meadows.

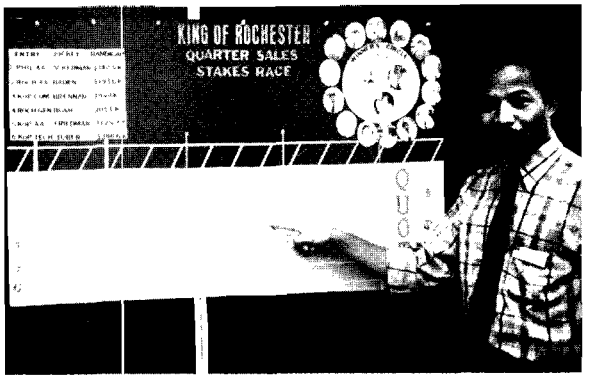
**SRs:** Bob Berlon, Jerry Reinker, Dayton; Joe Kail, Cincinnati; Harry Elston, Mike Naughton, Roger Biery, John Hughes, Greg Graham, Keith Obenchain, Indianapolis; John Burich, Hank Potts, Louisville; Ed Case, Greg Raquet, Grand Rapids; Al Walker, Farmington Hills; Ed Quanstrom, Rolling Meadows; Harlan Proehl, Bloomington; Dick Peake, Columbus; Rich Dixon, Bhuck Boeauff, Greg Linder, Jim Leath, Cleveland; Tom Cooper, Toledo; Frank Trenery, St. Louis; Kai Evenson, Milwaukee; Jim Mercer, Rod Cerkoney, Iowa City; Dave Eggum, Wayne Quehl, Edna Slavin, Wayne Husby, St. Paul; Gil Daughtrey, Kansas City; Steve Weiber, Adam Butkus, Howard Boyd, John Hammond, Pittsburgh; Barry Humphrey, Tom Henshaw, Rolling Meadows.

**Canada**

**DMs:** Conway Reimer, Calgary; Dan McLean, London; Mark Matoza, Toronto.

**SRs: Western Area** — Leo Cizek, Vancouver; Paul Rew, Art Monk, Ron Lim, Doug Clark, Bob Morgan, Gerhard Schmid, Calgary; Dean Kagawa, Bill Jones, Edmonton.

**Eastern & Central Areas** — Pierre Pelletier, Phil Hoffman, Irene Sobel, Montreal; Andrew Piekarski, Bob Morency, Frank Switt, Walt Kuryliak, Toronto; Mark Rukowski, London; Ray Fisher, Ottawa; Ian Menzies, Dartmouth.




*At ESR-King of Prussia office, frontrunners in the "King of Rochester Quarter Sales Stakes Race" attracted attention.*

**Hewlett-Packard Computer Marketing Group**
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