

Computer News ENM

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edition



HP 3081A Industrial Workstation Terminal

- Rugged
- Bar Code Capability
- Small
- Low Cost

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On the Cover:

The HP 3081A is a rugged data collection terminal designed specially for use in the factory environment. See article beginning on page 22.



Personal Computers: A View from the Top (conclusion)

Last month, in the July issue of OEM NEWS, we presented the first-half of a two-part interview with Paul Ely, Executive Vice President of Hewlett-Packard. Following is the second half of the interview. Paul comments on the progress HP is making in graphics capabilities, portability, and software development with its personal computers. In addition, he outlines recent organizational changes within the Personal Computer Group and discusses the impact that these changes will have on the products and overall direction of this group. Paul also discusses general datacommunications capabilities and shares with us some of his insights for the future.

Interviewer: "How do the needs of professionals and managers utilizing personal computers differ from the needs of other segments of the personal computer market?"

Paul: "There are some differences, but there are also lots of similarities. In fact, the similarities are probably more important than the differences. The differences usually center around specialized software, not specialized hardware, so the physical product may not have to be much different.

"What HP would really like to have is a portable desktop computer with exactly the same user interface and the same software so that customers can work with both products. Both desk and the briefcase models would work in exactly the same way.

"If you were using a computer at home for your personal finances, my guess is that you'd want a lot of the same capabilities that you would use in your work. You might have some software that would be specialized for the home. However, I use VisiCalc® for personal finances just like I use it for business. Many of the capabilities satisfy the same needs.

"If you happen to be a small business person running a retail store, again I think you'd need a lot of the same things — VisiCalc®, word processing, mailing to handle billings — in fact, you'd also need some special software. This specialized software is probably going to come from a software company specializing in that particular kind of retail establishment. What's so nice about it is that personal computers allow personalized, owner-specialized software to be simply plugged in on a floppy disc.

"My secretary and I use the same machine but we use it quite differently. We even use some of the same software packages, such as WordStar.™ I use maybe five

percent of the capabilities of WordStar™ because I don't do a lot of typing. She uses ninety-five percent of the capabilities because she is preparing reports, letters, mailing lists and so on. So even though the product is the same, it can be used in many different ways — I don't think there is a big difference in products — I think the differences are in the software."

Interviewer: "Where is HP going with the software that is being developed for personal computers? And, how do third party software suppliers fit into this picture?"

Paul: "We really have three different kinds of software thrusts. As you know, we recently established the Personal Software Division, and in a way it has responsibilities for all three.

"First, we need to develop some proprietary internal HP software that makes our hardware particularly valuable. We can then take further advantage of our graphics and our plotters. We also want to take advantage of the extra strength we have built into our keyboard, such as our softkeys. It would also allow the personal computer to work with larger HP systems. In parallel, we feel that the amount of innovations and contributions made by the personal computer software industry in general is enormous. Therefore, we want to ensure that all the most popular software packages are available on our machines.

"Second, our Personal Software Division has two labs: an engineering lab where unique HP inventions are developed, and a lab consisting of a team of people who are responsible for helping companies like MicroPro, VisiCorp, Lotus, Context Management Systems get their software running on our systems utilizing some of the unique capabilities of our products. This general-use software falls into the category of what we call computer-aided work.

"Third, our thrust is to work mostly through the retail market, but through software suppliers, who have special expertise and special products for certain kinds of applications. I gave an example of the retail store but how about grainery storage software for the midwest or small medical clinics? The list of specialized software is exhaustive.

"What we are really trying to do is work in all three areas. And we're anxious to have all our proprietary software make the opportunities greater for third party people to build value-added features into our machines."

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

Interviewer: "You mentioned the Personal Software Division. Just recently there have been a number of organizational changes at HP. What impact do you feel that the reorganization of the personal computer group will have on the products, strategy, and charter of this group?"

Paul: "We really had been participating in the personal computer industry from three somewhat specialized positions. One of our personal computer efforts was started as an extension of our handheld computer activities. Another was started as an extension of our engineering workstation activities, and a third was started as an extension of our terminal capabilities. With this new group, we've combined all those activities and have added a substantial amount of R&D resources, particularly in the software areas just mentioned. Instead of having three or four or five specialized products, we really need to have a much smaller number of products that have much more general capabilities. We've put together our new personal computer organization because we are really serious about this business. We've concentrated our hardware and software development activities so that they have a single management team. I think the result will be less products and more general capabilities."

Interviewer: "What about the graphic capabilities of HP personal computers? For example, suppose you wanted to indicate profit and loss data via a bar or pie chart slide. Can the HP personal computer accept the raw data and generate a final, presentation slide?"

Paul: "Yes. I have both a plotter and a personal computer at home. It's hooked up via a modem to the company's data center. I create many of the slides that I used to have my secretary make. It's actually easier than sketching it out so that she can create it. Besides indicating bar graphs or pie charts, you can also format the captions or titles that accompany the figure. The job becomes more interesting because the difficulty and routineness of creating such slides is removed and, therefore, less time-consuming."

"In general, I feel that graphics offers one of the biggest opportunities in personal computers. Most of the graphics capabilities up to now, although useful, are just scratching the surface. If you look at the more powerful graphics systems that are available today, you can create complex slides very easily — slides that are very helpful to your thinking and communicating process."

"VisiCalc® is ideal as the electronic worksheet. However, I think that what we also need is the electronic sketch pad. Wouldn't it be convenient if the electronic sketch pad contained a whole set of specialized

templates in memory? One could just call these template sets up on the screen, select, change the size, and position without any programming."

"All the kinds of graphics available today are things we need: charts, bar charts, pie charts. But, in addition, I think we need to devise a way of helping people think and communicate using graphics. This goes way beyond some of the things that are currently available."

"In fact, HP actually was the pioneer of graphics charting. We came up with a product called AUTO PLOT on our terminals. MULTIPLOT was a follow-on, then came HPDRAW. We're getting closer to an ultimate graphics package, but I don't think we're quite there yet. I see that as a real area for potential contribution. Some of the graphics I'm talking about require a lot of computer horsepower. And it requires certain capabilities from the display which we haven't designed yet. It will be one of HP's highest objectives to provide that kind of electronic sketch pad for our customers."

Interviewer: "What about portability in those instances when you leave town? Do you ever need materials for a presentation or seminar which requires physically transporting your personal computer?"

Paul: "HP's not quite there yet, but we're working on it. My personal computer at home allows me to use my electronic mail there. I use it in spread sheet analysis, gathering information, plotting orders and trends and tracking. I do a lot of it when I'm traveling by using an HP-75. We have not yet made it possible to connect the HP-75 into our HPMAIL, but we're working on it. When we do, it will be a great advantage."

"For example, when traveling by airplane and reading my mail, I will be able to just type my response into the HP-75 and leave it there until I arrive at my hotel room. Then I can simply call up the system on the telephone, press a button, and send messages. And, any messages sent to me can quickly be extracted via the telephone into my HP-75."

"One of HP's major thrusts is in the portable computer area, so we're going to be able to offer many more capabilities. For example, we are developing equipment that will be small enough to fit into a briefcase but be as powerful as today's large personal computers. Such a product would make us all more productive. It's a long term strategy for HP, but we will make significant steps in the near future — both with the HP-75 and other more powerful products."

Interviewer: "In summary, in terms of HP's direction with personal computers, with graphics capabilities and portability, HP is indeed aggressively addressing a significant share in the personal computer market."

Paul: "Yes. I think I might parallel that with another point. It is my belief that many of the terminals that people buy to use on our computers today will be replaced in the future by personal computers. Four or five years in the future, 90% of all the hardware hooked with our systems will be personal computers instead of simple terminals. When I say 'personal computer', I mean something that does much of the immediate processing and interacts with you as opposed to the terminal which allows you to send your information, but doesn't do a lot of local processing."

VisiCalc® is a U.S. registered trademark of VisiCorp.
WordStar™ is a U.S. trademark of MicroPro International Corporation.



QUESTION: MY COMPANY IS CONSIDERING EXPANDING OUR HP NETWORK TO INCLUDE INSTALLATIONS AT INTERNATIONAL SITES. WHAT ARE HP'S SUPPORT CAPABILITIES OUTSIDE OF THE UNITED STATES?

ANSWER: HP has 239 offices in 54 countries worldwide. HP's strategy has been to provide consistent support services worldwide, including qualified Customer Engineers and System Engineers, complete customer training, and consistent product offerings. Ask your sales representative for a copy of the *Travel and Office Directory*. This document will describe our support capabilities worldwide.

QUESTION: I WAS DISAPPOINTED TO LEARN THAT A CLASS I WAS RECENTLY ENROLLED IN WAS CANCELLED. WHAT IS YOUR POLICY ON THIS?

ANSWER: Unfortunately, it is not always possible to conduct classes as scheduled; therefore, Hewlett-Packard reserves the right to cancel a training course anytime up to fourteen days prior to the class starting date. If a class is cancelled, we guarantee that the next offering of that class in the same training center will take place as scheduled. If you have any questions on the training course schedules, please contact your local HP training registrar.

QUESTION: WHAT SUPPORT CAN YOU PROVIDE TO ASSIST US IN THE INTERNAL DESIGN AND IMPLEMENTATION OF OUR APPLICATION SYSTEM?

ANSWER: The main objective of our Training Courses and SE Consulting services is to help you receive the maximum value from your HP system by enabling you to design a complete and efficient application system. HP customer training courses are designed to help you understand your system and its capabilities. Once you have taken the appropriate standard courses, an HP Systems Engineer or Systems Specialist can help you apply the course material to your application.

HP consulting can help you make more productive use of your system by adapting to your specific needs. HP offers standardized consulting services as well as general consulting. General consulting packages are available at a daily rate. These packages are project-oriented with the goals predefined by you and HP. Time and Materials assistance will provide you with application support and consulting assistance on an hourly basis.

Discuss these options with your account SE to determine which assistance would best fit your situation.



Remote Support Works

The remote support program in the UK has started to become an effective tool in solving customers' problems. The following successful users of this valuable CE tool have been extracted from the Winnersh office Remote Support Log:

ITT CANNON — Basingstoke 2/25/83 (HP 3000 Series III)

Call received from ITT Cannon at 9:00. Reported problem was that there was an INP board failure and they could not shut down the MTS line in order to restart it.

Logged on as a remote console and asked the customer to disconnect the interface cable which forced an I/O error on MTS and aborted it. We were then able to run DSM (diagnostic) on INP which proved the INP was good. Re-opened the MTS line without any problems. Customer was able to print a dump of the INP failure which is submitted to Technical Support via PICS.

This exercise saved a false call out and got the customer up in less than one hour.

FISHER BODY — Belfast 3/7/83 (HP 3000 Series 44)

Had been experiencing intermittent system hangs for some time and the memory dumps were inconclusive. Had been escalated to HOTSITE and the factory in Germany was directly involved.

The factory suspected that there were problems associated with the disc drives (the dumps were inconclusive) and thought it would be useful to have a look at the system when it was "HUNG." But how could a

factory engineer be around at the exact time it failed? Answer — Remote Support!

An action plan was formed that upon the next incident, the customer would phone on-line support in Germany direct, and they would dial up and look at the system.

First event did not work — there was a public holiday in Germany.

Second event, the factory dialed-in successfully and managed to interrogate the system for one hour and confirmed there was a problem with the disc subchannel.

MANULIFE — Stevenage 2/24/83 (HP 3000 Series 64)

The system (HP 3000 Series 64) had been running normally all day when at about 1540 it had hung up. The customer attempted to do a memory dump but this failed. The customer then attempted to start the machine back up, but again this failed. At this point the customer called the local Customer Engineering office for assistance.

The call was taken by an engineer who was not familiar with this system and since no other engineer was available, he called the nearest Technical Support Engineer.

Using the Remote Support facility at his office, he made a connection to the customer's machine. This was done without any problems. By looking in the Event Log (a log of hardware events on the machine), it was clear that at the time of the system hang, one of the Power Supplies in the machine had failed. Although this supply was now running, the machine was left in a bad state and this was preventing the machine from being restarted. The TSE asked the customer to turn off the machine and then turn it back on again to reset the power supplies. This was done and the customer was able to start the machine up.

The TSE then contacted the CE and told him that the bad supply would need to be replaced at an early, but convenient time. The customer had the machine back on line within an hour with the problem diagnosed. If he had not had the Remote Support facility, this could have taken several hours (in fact, since the call was not taken until quite late in the day, the fault may not have been fixed until the next day).

The moral of this story is . . . *Remote Support Works.*



"Remote Support Works"

HP Wins Hanover

The Hanover Fair, the largest Industrial Exhibition in the world, took place in April. Over half a million people visited the fair to see the latest technological advances. In the area of computing, the emphasis this year had noticeably shifted from hardware to application software.

HP displayed a variety of software, including the wide range of CAD solutions now available. The HP stand attracted quite a crowd and the response to the software demonstrations was enthusiastic.

In particular, the demonstration of HP-DESIGN, our 2D variation design software, was generally considered one of the best to be seen anywhere in the show. It was performed live each time, and showed how a typical part could be designed in just 13 minutes.

The other HP software on display included HP-FE, HP-NC, and HP-DRAFT.

One visitor came to the HP stand after seeing the competition and commented, "I feel as if I've just come from the Stone Age!"

The number of inquiries resulting from the exhibition has been very encouraging; over 300 companies would like to know more about HP-DESIGN.

Help us to build on this success by making it yours, too.



Announcing TERM/80 — HP 2622 Terminal Emulation for HP-86 or HP-87

Run VIEW/3000 Applications on Your HP-86/87.

Now, with TERM/80, you can use your HP-86 or HP-87 as a VIEW/3000 compatible workstation. Support for BLOCK MODE operation as well as FORMAT MODE. INVERSE VIDEO is the only screen enhancement supported by Series 80. (½ BRITE, UNDERLINING and BLINKING are not supported.) However, MEMORY LOCK and SCROLLING are supported on SERIES 80.

Auxiliary Processor?

Yes, that's right. To accomplish this with HP-86/87 Personal computers, we utilized the Z80 plug-in module (formerly called CP/M) as the CPU, to execute the Z80 software from an HP 2622 terminal. We now call this plug-in card the AUXILIARY PROCESSOR. It is used by both CP/M and by TERM/80. Since 2622 terminals use a Z80 as their processor, we thought it made sense to do the same, and avoid re-inventing the wheel to provide this level of terminal emulation capability for HP-86/87 computers.

What Do I Need?

TERM/80 comes in two forms:

- Complete emulation system
- Emulation software only

For those users who wish 2622 emulation but who have not yet purchased a CP/M system, they need:

- 82900A Opt. 001 TERM/80 Terminal Emulation System, which consists of the TERM/80 software, Auxiliary Processor and User's manual.

For those users who previously purchased a 82900A CP/M system, they need:

- 82849A — TERM/80 Terminal Emulation Software, which consists of the TERM/80 software and User's manual.

Other Equipment Needed

- HP-86 or HP-87 Personal Computer
- RS-232 Interface 82939A (specify Option none, 001, 002)

What About IBM 3270?

Yes, your HP-86 or 87 can also be used as an IBM 3270 workstation by using TERM/80, an RS-232 interface, and a PROTOCOL converter made by one of the following vendors:

LOCAL DATA
2701 Toledo St.
Torrance, CA 90503 USA
Phone: 213-320-7126
DATASTREAM
1115 Space Park Dr.
Santa Clara, CA 95050 USA
Phone: 408-727-2980

NOTE: Hewlett-Packard does not warrant, in any way, the operation or integrity of these Third Party vendors' products.

Graphics for the HP-75C

The HP-75C Graphics Solutions Book is a friendly software solution to generating graphical plots using the HP-75C and the HP 7470A Plotter. This Users' Library solutions book contains three separate BASIC language utilities by which the HP-75C can generate line, bar and pie charts. These programs take advantage of the HP-75C's native ability to be an HP-IL loop controller to drive the plotter via HP-GL low-level commands. No additional hardware, ROMs or binary programs are required.

Additional Capabilities

This graphics software, organized similarly to graphics presentations software for desktop computers provides a friendly method for generating good quality, multi-color plots with mass storage and external display compatibility, via the HP 82161A Digital Cassette Drive and the HP 82163 Video Interface*.

Graphics Capabilities

The line-chart plotting program allows the generation of one-plotter-page, multiple line graphs. Seven line types and two pen colors can be used, allowing a large variety of high-contrast plots. The bar-chart plotting program provides for multiple bars, a variety of hatch types and two pen colors. The pie chart plotting program produces a single pie whose sections may be "pulled" and hatched.

Memory Capacity

Each program utility consists of two programs (averaging 9Kb per pair) which, with the generated data file, will fit easily within the 16K RAM capacity of the HP-75C.

Ordering Information

The HP-75C Graphics Solutions Book (P/N 00075-13016) comes with complete documentation, commented program listings, and



magnetic cards. The solutions book may be ordered on cassette for use with the HP 82161A Digital Cassette Drive.

The individual programs may also be ordered independently through the Users' Library.

Contact your HP sales rep for ordering or for further information.

*The HP 82163 supports text only.

REV "C" DataComm Pac for Series 80 Available

Several "field reported" difficulties have now been rectified in the latest edition of the Series 80 DataComm Pac. Those changes include:

- **Hand Shaking** — XON/XOFF handshaking is now working reliably to allow large data files to be uploaded or downloaded with no data loss
- **No Handshake Mode** — some hosts don't use handshaking. A "no-handshake" mode was added to allow for this
- **Documentation** — the previous Series 80 DataComm Pac User's Manual only showed HP 1000 examples. Now HP 1000 and HP 3000 examples as well as others are covered

Availability

The standard DataComm Pac product is orderable in three forms.

82821A Series 80 DataComm

Opt 610 85 cartridge

Opt 630 3½" disc

Opt 650 5¼" disc

Customers desiring to "update" their previously purchased "A" or "B" revisions should order the following from their HP sales rep:

00085-17102 85 cartridge

00085-17301 3½" disc

00085-17503 5¼" disc

Printing Mailing Labels from Series 100/Condor

Series 100/Condor™ and word processing go well together. Either Series 100/Word or Series 100/WordStar® (with MailMerge™) may be used to generate labels from variable-length field information in a Condor database.

It's in the Communicator

This subject is covered in detail in Issue #4 of the *Series 100 Communicator*. This issue also includes articles entitled:

- "International System Summary"
- "Condor News"
- "Introducing BPI Payroll"
- "Comparing BPI and Peachtree Accounting"
- "dBASE II"
- "Two Tax Planning Packages"
- "New Accessories"
- "The Series 100 Computer Tutor"
- "Books on Computing"
- "More on HPMAIL and the Series 100"
- "File Transfers Using PIP"
- "Accessing a Plotter from BASIC"
- "Software Status Reports"
- "Updated Software and Manuals"
- "Replacing Damaged Media"

Back issues are carried by HP's Computer Supplies Operation:

Issue #	US P/N	Intl. P/N
1	5955-3930	5955-3937
2	5955-3943	5955-3947
3	5957-6203	5957-6213
4	5957-6204	5957-6214

How to Subscribe

The subscription is Product 45530N — Series 100 Software Notification Service.

- Customers: call your HP sales rep and order "Computer Products Order Processing"

Condor™ is a trademark of Condor Computer Corporation.

WordStar® is a registered trademark of MicroPro International Corporation.

MailMerge™ is a trademark of MicroPro International Corporation.

The New HP-85B Hits the Street

The HP-85B is a result of HP's ongoing commitment to the Series 80 product line, and in a nutshell, the following is what it has to offer:

- 64K RAM built-in, 32Kb of which is user RAM. The other 32Kb is electronic disc
- 32K Electronic Disc — The HP-85B has another 32K of RAM built-in which functions as electronic disc mass storage. It is addressed using the Mass Storage/Electronic Disc ROM Set for the purpose of storing both programs and data. In addition, the electronic disc can be increased through the use of the 82908A and 82909A 64K and 128K memory modules to a maximum size of 544K (by inserting four 128K modules into the I/O ports)
- Built-in Mass Storage/Electronic Disc ROM Set — These two ROMs are housed right on the logic board, and provide the commands necessary to drive the built-in tape drive, the electronic disc, current flexible and Winchester disc drives as well as the new 10Mb Winchester discs. All of the commands of the 00085-15001 Mass Storage ROM, then, are built into the HP-85B. And the Electronic Disc ROM adds eight additional mass storage statements, two of which are for the electronic disc only. Those statements are the following:
 - CONFIG — initializes the electronic disc for multiple volumes
 - SWAP — exchanges programs between electronic disc and user RAM
 - GET — retrieves ASCII data files as programs
 - SAVE — stores programs as ASCII data files
 - DISC FREE — determines the amount disc space available

Personal Computers

MSI — short for MASS STORAGE IS

MSUS\$ — returns the current MSUS

VOL\$ — returns the volume label for the specified MSUS

- Software compatible with the HP-85A. The HP-85B and the HP-85A are totally software compatible — including binaries. This enables major accounts and OEMs to switch easily from the HP-85A to the HP-85B
- System integration of printer, CRT, and tape drive — The HP-85B maintains the systems integration that has made the HP-85A such a successful

HP is also introducing seven optional HP-85B configurations which are analogous to the HP-85F configurations. These are called the HP-85B Interfacing Systems. These systems have, in addition to the Mass Storage/Electronic Disc ROM Set, the I/O ROM built-in, and are bundled with an interface. The configurations are as follows:

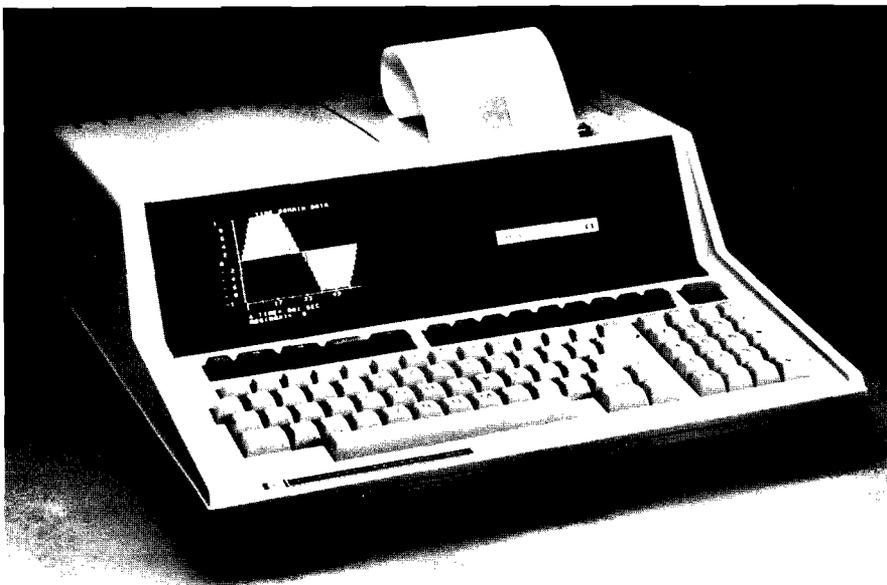
HP-85B Interfacing Systems

Opt.	Interface
001	82939A RS-232C (standard)
002	82939A Opt. 001 RS-232C (male)
003	82939A Opt. 002 RS-232C (female)
004	82940A GPIO
005	82941A BCD
006	82938A HP-IL
007	82937A HP-IB

Since the ROMs are all built-in, a ROM Drawer is not included with these systems. Because of the built-in ROMs and no need for the 16Kb memory module, the HP-85B has all four ports available for interfaces and large memory modules.

You may be wondering by now what happens to the HP-85A? The answer is that even though the HP-85B makes it obsolete from a price/performance standpoint, the HP-85A will remain on the Corporate Price List because of the large number of OEMs who are using it as their systems controller. At this time, we have set February 1, 1984, as the targeted obsolescence date for the HP-85A. This allows the OEM ample planning time to switch.

One final point is that the 82972A HP-85A Upgrade Kit will be on the August 1 HP Price List.



HP 250 Cable Number Changes

In reviewing some of the HP 250 documentation, a couple of errors were found in the specification of cable part numbers.

The first error is on page 11 of the HP 250 COMMUNICATOR (Issue 7, March 1983) in the article titled "New Low Cost Printer Support". The article incorrectly lists the part number for the cable that connects the printer to the HP 250.

This article specifies:
8120-1358

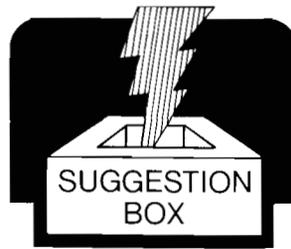
It should specify:
8120-3258

This is the only place this error occurs. The second mistake is in regard to the internal 1 metre HP-IB cable needed to upgrade the HP 250 Models 20 and 25 to add the external HP-IB capability. The product number for this cable is incorrectly listed on pages 7, 8 and 15 in the HP 250 SMALL BUSINESS COMPUTER SYSTEM CONFIGURATION GUIDE.

The configuration guide lists the cable product number as:
45529A

It should specify:
31389A

Please note these two changes in your copies of the aforementioned documentation. If your system already has these cables incorporated then use this information for future reference only.



This month's suggestion comes from Dr. Ulrich Fauser, who heads up the software department at Weigang-MCS-GmbH, one of our HP 250 OEMs in Europe. The suggestion was prompted by the April Suggestion Box, and also deals with switching between foreground and background partitions. Dr. Fauser:

"In the April edition, the advantages of using background partitions for several purposes were highlighted. We fully acknowledge the facts dealt with in this article.

"However, burdening the end user with REQUEST, ATTACH RELEASE and even Task ID's is something different. This is something the normal user does not know and does not want to know.

"Because of this, we some time ago implemented a task switching routine in all of our application packages which gives much simpler handling.

"Besides other values, a task ID is defined for all or only some foreground USRIDs, which are stored in a system parameter data file, read in by the application menu at program start and stored in the common block.

"For all USRIDs and TASKIDs the general menu is started via AUTOSTART. This sets the condition ON HALT CALL halt, where Halt is the following routine:

```
SUB Halt
  COM INTEGER Task, . . . . .
  ON ERROR GOTO E
  COMMAND"REQUEST #Task,E"
  IF NOT E THEN
    COMMAND"ATTACH #Task"
  ELSE
    IF USRID = Task THEN
      COMMAND"DETACH"
    ELSE
      BEEP
    END IF
  END IF
SUBEXIT
E: BEEP
SUBEND
```

"The user switches between his two tasks by simply pressing the HALT key. Release #Task might be placed anywhere where it makes sense in the programs, but you should be aware that RELEASE is executed only when the executing home task is attached."

Our thanks to Dr. Fauser for this suggestion. If you have any ideas or suggestions to share with other HP 250 OEMs, we would like to hear from you. Send your inputs to:

Lynne Ovington
Hewlett-Packard
19447 Pruneridge Avenue
Cupertino, CA 95014 USA

or in Europe to:

Thomas Lang
Hewlett-Packard GMBH
Post Fach 1430
D-7030 Boeblingen
West Germany



HP 1000 Upgrade Program Now Available

HP is pleased to announce the expansion of its successful upgrade programs to include the HP 1000E- and F-Series computer systems.

This program is designed to ease your move to the new and more powerful A900. The Upgrade Program, when coupled with the Preferred Paths and Transition Aids offered by HP, is a very powerful sales tool.

HP now offers Hardware Return Credits to customers upgrading their HP 2113B/E or 2117F processors to the new A900. Also included in this program are additional credits for many memory, I/O, and accessory boards along with selected peripherals. Depending upon your system configuration, return credits could be as high as 20% of current list price.

In recognition of the various HP 1000 configurations in the field, the return credits are set up on a component basis. There are over 30 individual parts qualifying for return credits. Please call your HP sales rep for more information.

In the June issue of OEM NEWS, we introduced HP's new microsystem packaging for the A-Series. Because interest has been overwhelming, we are including further information about this system. — Editor.

A-Series Microsystems Deliver Big Performance in Compact, Low-Cost Package

HP's Micro 1000 is a family of microsystems which puts the entire power range of the HP 1000 A-Series into the same compact package.

This family of real-time systems merges major new capabilities of the HP 1000 A-Series computers with an innovative architectural design in the compact Micro 26, Micro 27 and Micro 29 systems.

More and more HP computers and systems are being placed in environments where there are severe space limitations, such as in labs and on factory floors. Consequently, we have seen a critical need to develop a system design which could pack a choice of processor power and I/O cards, into one compact box, yet deliver the same powerful levels of performance.



In fact, each Micro 1000 system is packed in a rugged, compact enclosure which is able to withstand adverse environmental conditions. The most innovative packaging is the new accessory wheeled stand which can be easily and conveniently moved about. The new microsystems can, therefore, be placed next to or under a desk without taking up limited work space. The package can also rack in a 19-inch EIA cabinet or sit on a benchtop.

The Micro 1000 family provides a newly-designed 16-slot card cage which can house a choice of HP 1000 A-Series computers including the A600+ microcomputer, the A700 minicomputer and the A900 supermini, plus extensive memory capacity control store I/O and dedicated slots for plug-in measurement and control cards and battery backup cards. And, with all these features, we've left room for an optional 9.4Mb mini-Winchester fixed disc and a 270Kb microfloppy.

In this way, each Micro 1000 system provides users with the capacity and flexibility to configure the exact performance and power levels needed to suit their specific applications.

Its designed-in modularity gives users convenient access to components. So, replacements, additions, and repairs are easy. With today's highly competitive marketplace, more and greater demands are being placed on computer systems. This modular design provides users with an easy growth path. As their application needs grow, they can easily add more power and performance to their existing Micro 1000 box.

The HP 1000 A-Series computer family is targeted to OEMs and end-users in industrial automation markets where computer systems have to operate efficiently and reliably under real-time, demanding conditions. They are best suited for

a wide range of applications from computer numeric control, automated tests and process control to supervision of dedicated processors, high-speed graphical analysis and display capabilities.

Retaining the identical hardware and software of the A-Series family provides the Micro 1000 family total compatibility with all currently supported HP 1000 instruments, terminals, printers, graphic plotters, discs and communication links.

Micro/1000 comes in system and box configurations. Boxes include processor and memory, while systems also include operating system software, interface cards, site prep, and installation. When optional integrated peripherals are ordered, a disc I/O card is included in both the box and system configurations.

New Access to Loader ROMS

Problem: In order to access two of the four loader ROMs on M/E/F CPUs, the board must be removed from the box. This operation was awkward and time consuming. Also, those of you who were accustomed to the paper tape or CRT loader ROMs in specified locations were impacted when the paper tape loader ROMS were removed from standard shipments.

Solution: Thanks to input from the field and a re-evaluation by manufacturing, a larger hole was cut in the universal deck sheet metal. Now easy access is provided to all four loader ROM locations just inside the front panel. This change has been made with new stock manufactured in early '83.

Microprogramming Development Package Replaced

Option 701 on HP 2197C/D includes all the tools that A700 owners need to start developing microcode. Microprogramming is particularly useful for applications where a small part of the code accounts for a much larger percentage of the total system usage. By microprogramming that small part of the application, a user can significantly improve total system performance. Option 701 includes 2Mb memory, FORTRAN 77 and Pascal compilers, Symbolic Debug/1000, a 12153A Writable Control Store card, and the HP 92045A RTE Microprogramming package.

Option 701 replaces Option 700 which was offered on HP 2197A/B. In addition to the above microprogramming tools, Option 700 included the HP 22976 Microprogramming Workshop. As this workshop is only offered in the US, international customers cannot easily take advantage of it. Option 701 makes the Microprogramming Development Package more attractive to customers located in areas where this workshop is not offered. The workshop is still available from HP, according to the published schedule, for those who can attend. Contact your HP sales rep for scheduling information.

HP's Interactive Office Strategy (In Less Than 80 Words!)

When buying or selling any of HP's Interactive Office products, it's usually of vital importance for you to be able to differentiate HP's strategy from the office strategies of IBM, DEC, Wang and other HP competitors.

So, here's HP's strategy:

HP provides a complete range of *integrated office functions*: electronic mail, secretarial and professional word-processing, electronic telex, personal computing, business graphics, and so forth, optimized for different types of office users. However, the workstation on the user's desk allows him to not only perform the *office functions* he requires, but also access the information stored on his company's computer network in an easy manner, without requiring any computer expertise.

The second point (accessing the information stored on his computer network) is one of the primary features which makes HP unique in the marketplace today.

This conceptual difference, which you can demonstrate with INFORM and IMF, when followed by a good demonstration of our office products, is a two-step approach which we find almost never fails. None of our competitors can equal this combination. So, when you have a prospect who has decided to purchase office automation equipment, you're already 75% home. Try this approach at your next opportunity, and see for yourself!

Report Prototyping With RAPID

Prototyping reports with HP Inform and HP Report is now a reality. With the new utility INFCNV customers can now do very effective prototyping. INFCNV converts Inform commands to a Report source code file.

With Inform the MIS professional can sit at a terminal with the end user and develop the core of a report by simply running through the menu screens and getting trial copies of the report. The user can keep making changes to the report until it is correct. The MIS person then runs the conversion utility (INFCNV) producing a file containing Report source code. The source is embellished with formatting commands and a production report is completed in hours. If development had been done using traditional techniques and languages this process would have taken days.

INFCNV can also be viewed as a source code generator for Report. As a byproduct, the utility is an education tool for Report, helping to shorten the learning curve.

Introducing INPs and ADCCs

Good news! HP is now able to offer the following products for your needs. These products will be available on a limited basis.

P/N	Description
HP 30018AR	ADCC Main
HP 30019AR	ADCC Extender
HP 30010AR	INP Series III
HP 30020AR	INP S/30/33/40/44

Quantities are limited, so be sure to call your HP sales rep to reserve these products. We cannot guarantee the availability of products that are not reserved.



Ordering ATP with the HP 3000/S68 Auxiliary I/O Bay

HP has just introduced the S/68 Auxiliary I/O Bay (Option 250 in HP 32468/30468 products) to further extend the I/O and peripheral capacity of the Series 68. When ordering ATP hardware to be installed on the Auxiliary I/O Bay, an Option 003 is introduced to the ATP Port Controllers (30145A and 30155A products). This Option 003 provides preassembly of all the minibboards with terminal connectors to the Auxiliary I/O Bay. Otherwise, your CE will spend hours in the field installing minibboards to the Auxiliary I/O Bay. So remember:

- HP 30145A ATP Direct Connect Port Controller
 - Opt. 001: Order once to pre-assemble ATP hardware on the system I/O Bay
 - Opt. 002: Replace RS422 with RS 232
 - Opt. 003: Order once to pre-assemble ATP hardware on the Auxiliary I/O Bay
- HP 30155A ATP Modem Port Controller
 - Opt. 001: Order once to pre-assemble ATP hardware on the system I/O Bay
 - Opt. 003: Order once to pre-assemble ATP hardware on the Auxiliary I/O Bay.

The Option 003 for 30145A and 30155A is a no charge option.

So, for a new customer purchase of S/68 without Auxiliary I/O Bay (only system I/O Bay), order appropriate port controllers with one Option 001. For a customer purchase of S/68 with Auxiliary I/O Bay (i.e., Option 250), order appropriate port controllers with one Option 001 and one Option 003. If Option 003 is not ordered with an Auxiliary I/O Bay, your CE will be doing a lot of installation in the field.

More Than a Thousand Sold Rapidly

The 1000th set of RAPID products was sold only a little over a year after it was first introduced. That makes it the hottest selling system software product in HP's history. And the success continues. We currently have over 1350 satisfied installations, and the list is growing rapidly.

There are three reasons for RAPID's success.

First is Dictionary. Very simply, what Database technology was for computers in the 70s, the Dictionary technology is in the 80s. For instance, with the Dictionary/3000,

you can systematically catalog information about any file, whether it is Image, KSAM or MPE. This way, data needs to be defined only once, resulting in significant gains to an organization.

Second is Transact. As a tool for prototyping and transaction processing application, it has few equals in the industry. It may not have the speed of execution or the functionality that a general purpose language like Cobol provides, but as a specialized tool it is unmatched.

Third is the Inform-Report combination. This makes your 3000 a very useful system in the hands of end-users. They can now quickly generate reports from data through the use of Dictionary. Later, when they are sure of the results, they can enhance and customize it with Report. (See the article "Report Prototyping with RAPID" in this issue.)

RAPID has also come a long way since its introduction. It is a much more solid product with better documentation and better field support. And we are committed to improving it and enhancing it even further.

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Graphics Presentations/36C

On June 1, 1983, Graphics Presentations was revised to include the HP Model 36C. This software (P/N 98815A), will run on all Series 200 products. It offers these exciting enhancements:

- Negative bar charts
- Area fill of pie charts
- Solid fill, a new fill type, for both bar and pie charts
- English and metric paper sizes
- Eight designer pen palette

There will be two palettes — the standard and the designer. The designer pen colors are: black, olive green, aqua, royal blue, maroon, brick red, orange, and brown. These colors will be displayed on the Model 36C.

HP 98634A is Discontinued

Effective immediately, the HP 98634A HP-IL card for Series 200 computers is being removed from the price list. The card is being discontinued because relatively few sales of HP-IL devices are expected on Series 200 computers. The HP 82169A HP-IB to HP-IL converter provides similar functionality to the 98634A for those customers desiring HP-IL capability on Series 200 computers.

New CPU Board Upgrade Kit Available

The HP 98143A CPU Upgrade Kit is now available. This is the same CPU that began shipping in the HP 9826A/S, 9836A/S, 9836C/CS, and 9920A/S in April 1983. The unique features provided by this new CPU board include:

- An additional 64Kb of RAM for a total of 128Kb on the CPU board
- The computer serial number in EPROM for software security
- The 3.0 Boot ROM that allows the user to boot an operating system from a remote mass storage device, including the Shared Resource Management (SRM) system

Ordering Information

Product/Option	Description
HP 98143A	CPU Upgrade Kit
Opt. 101	CE Installation
Opt. 026	For the HP 9826
Opt. 036	For the HP 9836

Additionally, the comment section of the order form must include the serial number of the computer in which the new board is being installed.

At the time of installation, the CE will exchange the new CPU board with the old one and return the old board.

HP BASIC and Pascal Manual Updates

Beginning with the new HP 98612A BASIC Extensions 2.1 and 98615A Pascal 2.1, HP is providing all changes to each manual set in a single update kit. Each kit has its own part number, so you can order just the changes you need, rather than an entirely new set.

Each kit includes all the needed new and/or revised pages and instructions to help you upgrade your BASIC 2.0 or Pascal 2.0 manuals. When possible, we've made the updating job easier by providing a complete section or chapter, rather than just the individual revised pages. Our goal is to help make manual updates easier to order, insert and understand.

BASIC Manual Update

The update kit of BASIC Extensions 2.1 includes:

- BASIC Graphics Techniques (09826-90015) — This manual shows how to use BASIC black and white graphics on any HP Series 200 computer and explains the new 2.1 color graphics enhancements for the Model 36C
- Programming Techniques Manual Update — covers the new AP 2.1 language extensions
- Interfacing Techniques Manual Update — covers the 2.1 extensions for the new EPROM programmer and HP-IL interface cards
- Language Reference Update — adds all 2.1 extensions to the language reference
- A revised copy of the SRM Programming with BASIC manual

The complete update kit is being shipped with the new 98612A/R BASIC Extensions 2.1 and with the BASIC Extensions 2.1 Language Upgrade Kits. The update kit is also being distributed via SDC to all Series 200 BASIC Support Services (SNS, SIS, SSS, SE, and TSE services) subscribers.

You can order extra copies of the update kit from your sales rep by using P/N 98612-90090.

To order a complete set of manuals for BASIC 2.1 Extensions, you must order the BASIC 2.0 (with extensions) manual set, P/N 98612-87902, and this new update kit.

Pascal Manual Update

The Pascal 2.1 Manual Update Kit includes:

- Pascal User's Manual Update — Provides the listings and displays changed for Pascal 2.1
- Pascal Procedures Library Update — Covers revised DGL Graphics Library

This update kit is supplied with the new 98615A/R Pascal 2.1 products and with the Pascal 2.1 Language Upgrade Kits. HP is also shipping the update kit to all Series 200 Pascal Support Services (SNS, SIS, SSS, SE, and TSE services) subscribers.

Order extra copies of the update kit from your sales rep using P/N 98612-90090.

When ordering a complete set of manuals for Pascal 2.1, be sure to order the Pascal 2.0 manual set, P/N 98615-87901, and the new update kit.

HP Series 200 Pascal Internals Documentation is Here

The Pascal 2.0 System Internals Documentation is finally available. The Internals Documentation includes the System Designers' Guide, and two volumes of listings describing much of our Pascal source code. It details the inner workings of Pascal 2.0 for the Series 200 Computers.

The Designers' Guide contains over 500 pages of useful information covering a broad range of topics, from hardware addresses to command interpreters. If you are a Pascal programmer and have a special application that requires modifying the Pascal system, the Guide probably has the answers you need. However, be forewarned: the Internals Documentation is not application-oriented. You won't find a lot of examples, just the facts. The System Internals Documentation can be ordered by contacting your sales rep; order P/N 09826-90074.

HP Series 200 BASIC 2.1 Manuals are Expanded

The HP Series 200 Model 36C introduction gave us the opportunity to expand the Programming Techniques for the Series 200 computers. You can throw out Chapter 14 of the BASIC Programming Techniques manual, because a new, multi-chapter book will be ready when the Series 200 Model 36C goes out. BASIC Graphics Techniques supersedes and replaces the Graphics Programming chapter in BASIC Programming Techniques. The new book provides a tutorial introduction to BASIC graphics operations, along with sections on color, interactive graphics, and external plotting devices.

Extra Benefits

We are trying something new, too; two diskettes of sample programs, including all the examples from the book, will be shipped out. One is general graphics, and is shipped with the BASIC 2.1 Language System Extensions. Called "Graphics Programs," it includes most of the program examples used in the BASIC Graphics Techniques manual. Some included programs are:

- "Pen" demos — CRT drawing modes
- "Gstore" — using GLOAD and GSTORE for constant backgrounds

- "Storm" — an electrifying demo of color map animation
- "MARQUEE" — another color map demo, suitable for introducing a program

A diskette of interactive color graphics examples is being shipped with the Model 36C. Included on it are:

- "SKETCH4" — an interactive graphics program driven by the HP 9111A Graphics Tablet, with freehand drawing, area fills, and a calligraphic pen
- "NEW MODELS" — a tutorial program on the Series 200 Model 36C color models that clarifies the color definition
- "SET-COLOR" — an interactive color selector to simplify creating palettes (sets of colors) for the Model 36C color map

The new book is BASIC Graphics Techniques (order P/N 09826-90015 from your HP sales rep. It is part of the BASIC Extensions 2.1 Update Kit, P/N 98612-90090, which is being sent to all Series 200 BASIC support services (SS, SIS, and SNS) subscribers.

New Stripped-Down HP 9816S Available

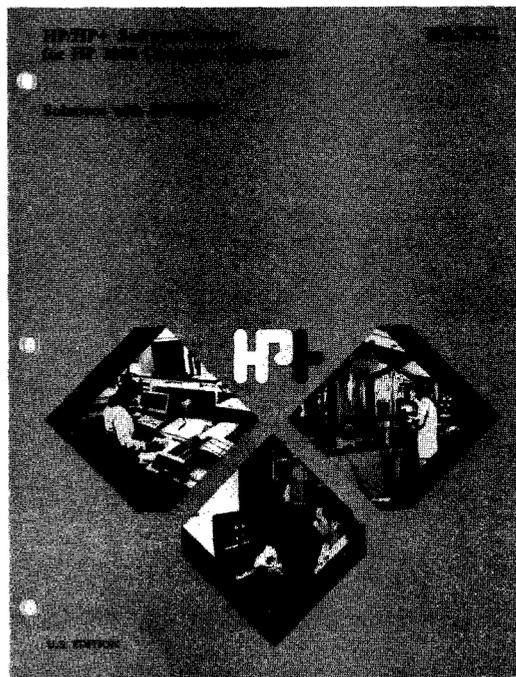
We have added an exciting, cost-effective new HP Model 16 configuration for OEMs. The new HP 9816S Option 256 deletes the BASIC 2.0 language and one HP 98256A memory card. What's left is the 9816S mainframe with 256Kb of memory on the processor board, the full function 3.0 Boot ROM, and no language. (This compares with the 9816A, which has 128Kb of memory on the processor board, the more limited 3.0L Boot ROM, and no language.)

Those who might want this option include:

- OEMs or software suppliers with Pascal, execute-only systems that run in 256Kb of memory
- HPL or ROM BASIC users who need more than the 9816A's 128Kb of memory and/or the 3.0 Boot ROM

- Large companies that can expense a Model 16 in parts, if each part is under a certain dollar limit

If you fall into one of these categories, or need a stripped-down Model 16 for some other reason, now you have a cost-effective configuration to help out!



CP/M-68K is Available for HP Series 200

CP/M-68K for the Series 200 is now available as a third-party distributed product. Our primary objective in introducing it is to expand our software offerings, particularly in the area of core CAW software, by obtaining an industry-standard operating system. A secondary objective is to enhance our dealer sales where this operating system is very widely used. The advantages of CP/M-68K are:

- The system has been rewritten in C to take advantage of the 68000's performance
- The system will include a C compiler and run-time library, providing a powerful programming tool and potential bridge to UNIX
- We believe that many applications now running on CP/M will eventually be converted to CP/M-68K
- The system is very space-efficient (33Kb), as are most of the applications

The user must be aware that applications currently running on CP/M will have to be converted to run on CP/M-68K. If the application is

written in a high-level language such as C or CBASIC, the conversion should be fairly simple. (Initially, only the C language will be available.) If there is assembly code involved, it will have to be rewritten. Providing CP/M-68K now gives these independent software vendors (ISVs) an opportunity to convert, using the powerful Series 200 with a familiar user interface.

Ordering Information

P/N	Description
HP 98052JA	
Opt. 630	3½" media
HP 98052JA	
Opt. 650	5¼" media

Disc Formats and Utilities

CP/M-68K supports two disc formats, IBM on single-sided 8-inch discs and HP CP/M format on 3½ and 5¼ inch and hard discs (the same format used on the Series 80 and 100 CP/M discs). Neither of these is LIF compatible, so the system includes a set of utilities that allow transfer of ASCII data files from one format to the other.

CP/M-68K provides an excellent opportunity to enhance the software offerings available on the HP Series 200.





The HP 3081A with alphanumeric keyboard and industrial bar code wand.

HP 3081A Industrial Workstation Terminal: a Sensation in Data Collection Marketplace

The HP 3081A Industrial Workstation Terminal is a reality: In response to market needs for a low cost, compact, easy-to-use, reliable and rugged data collection terminal, the HP 3081A represents a major breakthrough for HP. The product is unique in the marketplace today.

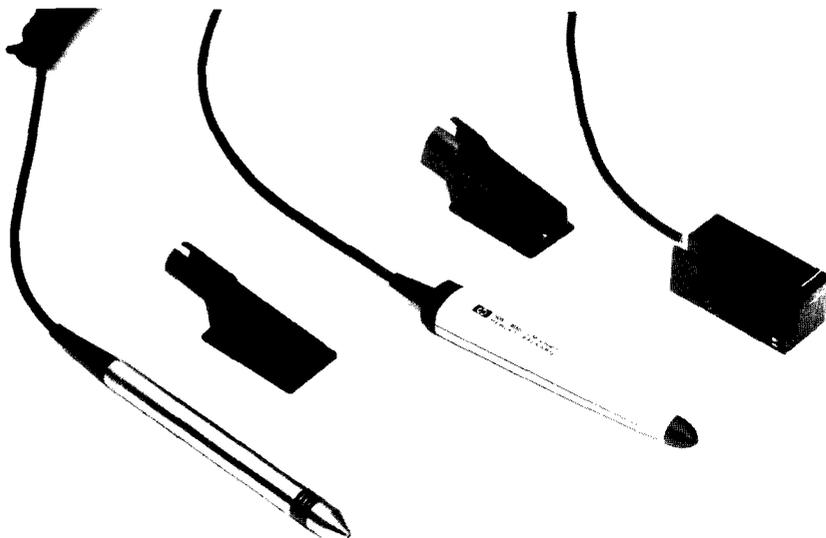
Where are the needs?

The needs exist in industrial environments like automobile manufacturing plants (where there are nearly a million parts) and aircraft maintenance operations (where every transaction must be recorded), in laboratories (where chemicals are analyzed), in libraries, videotape clubs, mail order houses — anywhere small fields of data must be available to an online system in vast quantities.

How Does The HP 3081A Meet The Needs of The Marketplace?

Small in size, it doesn't take up a lot of space on a workbench, counter or desk. Also a bracket can be ordered to mount the terminal on a flat surface (wall or bench) when space is at a premium.

Completely sealed, the HP 3081A is protected against dust regardless the particle size, and it can be washed with soap and water. In fact, it can withstand accidental immersion in water, and the only effect hosing it down will have is to clean it. Also, most chemical vapors and droplets cannot hurt the terminal.



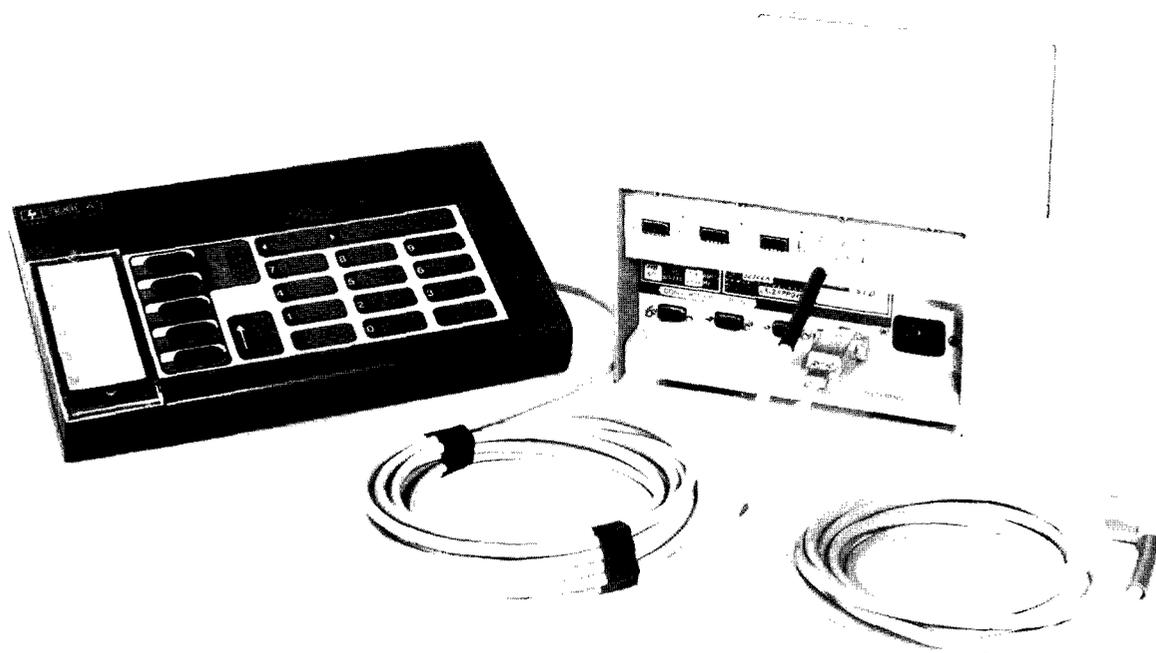
Industrial bar code wand and holder, general purpose bar code wand and holder, bar code slot reader.

The easy-to-read one-line display can send prompting messages to users and allows them to review input data. Its bright 32 alphanumeric characters offer excellent readability in both bright and dim light environments.

Customers can choose from six bar code readers (two general purpose wands, two industrial wands and two industrial slot readers).

The HP 3081A can read the two most popular industrial bar codes (codes 3 of 9 and Interleaved 2 out of 5). Data accuracy is further enhanced by an optional check digit and/or a field length verification.

"Black-on-black" security labels can be used with the bar code slot reader, offering an alternative to the magnetic stripe technique for personnel identification.



The HP 92922A Four-Channel Adapter is used with the HP 3081A in point-to-point configurations.

Terminals

The HP 3081A comes standard with a numeric keyboard and five function keys (10 with shift). An optional alphanumeric keyboard is available. With audible and tactile feedback, the keyboard provides a way to enter small quantities of information and is especially appreciated when a defective bar code is encountered.

Data (like a part number) is entered directly by the person doing the job (like updating a printed circuit board), a method that eliminates the need for batch data entry operators, improves accuracy and maintains the database in real-time.

It is easy to maintain and service the HP 3081A whose MTBF is on the order of 12 years. All parts are throw-away items.

The HP 3081A uses high noise immunity current loop datacomm, an asset in factory environments.

The HP 92922A four-channel RS-232C-to-current loop adapter, which also supplies DC power to the terminals, is available for point-to-point applications.

For larger scale applications, up to 32 terminals can be connected to the HP 2333A Multipoint Cluster Controller.

The opportunities for the HP 3081A Industrial Workstation Terminal are vast. It's the terminal that will sell a system!



Large keys allow operation with work gloves.

Reduce Glare up to 94% on HP 262X/264X Terminals

Overhead fluorescent lights, sunshine through a window, light from any direct source — all can cause headaches, blurred vision, fatigue, and neck and shoulder pains in terminal operators.

HP now has a solution to this problem — the HP 92207A & B Anti-Glare Filter. Constructed of optically-coated safety glass mounted on a sturdy plastic frame, our filter can reduce annoying glare by up to 94%. Easy installation is also a strong selling feature. It's simply a matter of attaching self-adhesive Velcro strips to the terminal bezel. When in place, the filter has a clean, custom appearance that complements the terminal's design.

On-site testing in HP's telemarketing department confirmed that for our eight-hour-per-day CRT operators, the filter made prolonged viewing of the display both easier (increased contrast) and less fatiguing (reduced glare).

Many types of anti-glare filters were tested (mesh screens, rough surfaced plastic, polarizing glass), but for general office and lab use, the optically coated type was found the most satisfactory. In fact, HP has built this brand of anti-glare filter into many products: the Series 9000 Model 20 computers, and the 2700-series terminals.

Contact your HP sales rep for assistance in ordering.



RTE-A Primaries on Mag Tape

What makes the already great HP 7914TD, 7933H, and 7935H products even better? RTE-A primaries on magnetic tape. The new VCP ROMs now on the A-Series processors have the capability to boot-up from a 7970E 1600 bpi mag tape drive. This will allow an HP 1000 A-Series system to be configured with a 1600 bpi Mag Tape drive as the only input media in the system. This prevents the necessity of floppies or CS'80 cartridge tapes on a 7914TD system, thereby reducing the overall system cost. Additionally, this allows systems to be configured with a 7933H or 7935H disc as the only disc drive in the system. The diagnostics will be available on mag tape later this year also allowing us to add an option to our systems products for mag tape. For now, you can get RTE-A (P/N 92077A) on 1600 bpi tape in CS'80 format (it works for any of the CS'80 drives) via media Option 061.

An A-Series Integrated Modem Solution

HP now offers an exciting new integrated modem solution to A-Series customers. The HP 37222A Integral Modem is the second HP modem offered for A-Series systems. Best of all, this modem fits on a standard A-Series interface card, which plugs right into the backplane of an A600, A600+, A700, and A900 processor, with no other interface card needed.

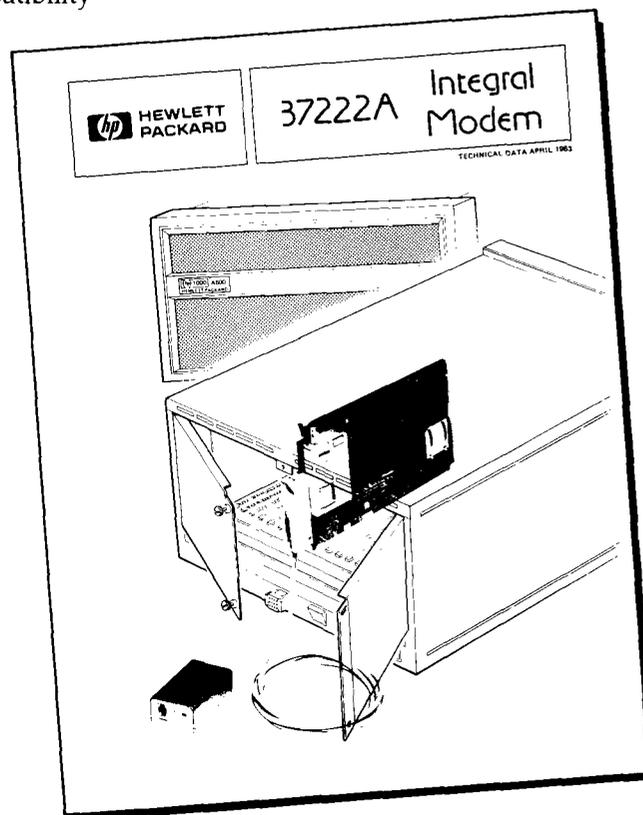
The HP 37222A offers the same features as the HP 37213A/4A Systems Modem:

- Full-Duplex 300/1200 Baud
- Bell 212A/CCITT V.22 compatibility

- Auto-dial and Auto-answer capability
- User-program controllable

The 37222A is software-compatible with the 37214A Systems Modem, so applications developed for use with 37213A/4A may be used with 37222A. The software driver is already available in the current RTE-A operating systems product (and operating systems products after REV 2301).

Start thinking about how the A-Series Integral Modem can fill your needs in remote data acquisition/ data collection applications. To our knowledge, HP is the only computer vendor to offer its customers a direct connection from the CPU to an external phone line.



New Developments on RS-232 Cash Drawer

The RS-232 cash drawer, product interface has been modified to work with the HP 2624B, 2626A, 120 and 125.

The cash drawer connects to pin 4 (+ 12V), pin 23 (toggle), and pin 7 (ground) on port 2 of these devices. Since these pins are not used by the serial printer, cables can be constructed to allow simultaneous access of both the printer and the drawer! An escape sequence sent from a user key or datacomm toggles the line and triggers the drawer mechanism. The escape sequences are:

HP 2624B and HP 2626A-
Esc & q2te0 1P Esc &
q2te0}OP

HP 120 and HP 125-
Esc & m80f01 an3ebfd301c-
93effd301c980f01t80f51T
(block mode)

Esc & mff901an3ebfd301-
c93effd301 c 98f90 1t80f51T
(non block mode)

Note: Softkeys must be defined for local use.

The cash drawer and interface are available from:

APG, Inc.
1601 67th Ave., North
Brooklyn Center, Minn 55430 USA
Telephone: 612-560-1440
Model #M-1-0120123

For additional information, call Mark Wedel at APG.

Note: Grenoble is currently investigating an interface solution for HP 307X terminals.

New HP 2685 Options

We have recently added four options to the standard HP 2685 to help you configure a print station to fit you and your customer's needs.

Option 095

Deletes the HP 7971A tape drive from the 2685 print station. An alternate tape drive should be ordered separately.

Option 096

Deletes the HP 2382A console from the 2685 print station. An alternate console (e.g., HP 2635) should be ordered separately.

Option 097

Deletes the HP 7912P disc drive from the 2685 print station. An alternate disc drive should be ordered separately. (Note: At least 65Mb is needed for a workable system since adequate disc space is needed to hold the entire print file in the spooler before printing.)

Option 607

Upgrades the controller (Series 40) memory from one-half megabyte (two boards) to a full megabyte (one board). This memory upgrade is primarily for those customers who plan to run applications on the 2685 in addition to using it as a print station. The standard half megabyte is adequate for "print station only" configurations.

General Information Manual Available

HP has produced a new General Information Manual for you and your customers. Entitled, "The HP 2680A Page Printer: Today's Solution For Your Printing Needs," the manual offers an in-depth look at printing on the laser printer. It answers common questions on:

- How the laser printer operates as a line printer replacement, its benefits and features
- Where specific savings can be realized by using the laser printer
- How to use the laser printer for applications beyond line printing, including sections on labels and bar code printing, signatures and logos, and the use of carbonless paper

In addition, its appendices discuss the laser printer's IDS/IFS software, available documentation, related hardware products, and a technical perspective of laser printing.

The manual can be ordered through your HP sales rep (P/N 5953-7125). The French and German translations will be available soon.

Order this manual as a supplemental training tool for your office staff, or offer it to your customers as a laser printing tutorial piece.

Four New HP 2685 Print Station Offerings

Four new HP 2685 laser print station configurations have recently been announced. These products should put HP in a very strong competitive position. They are:

- Entry Level System
- "Datacomm Ready" System
- High Performance Offline System
- Dual Printer System

Entry Level System —

This print station is an offline system consisting of an HP 2680A laser printer, an HP 3000 Series 33R as the controller with an HP 7920R HP 7971 and system console. The power and the price of this system should certainly open many doors!

"Datacomm Ready" System

This print station is configured to be an online RJE station. It consists of an HP 2680 laser printer, an HP 3000 Series 40 as the controller, console, HP 7914 with tape cartridge, and one INP with RJE (or MRJE) software. This is an ideal system to use for remote laser printing in mainframe shops.

Higher Performance Offline System —

This print station is positioned to be a very attractive alternative to the entry level print station described above. It is configured with an HP 3000 Series 40 as the controller, a console and a 7914TD for disc and tape.

Dual-Printer System

This print station is configured with two 2680s, an HP 3000 Series 40, 7914TD and console. As an offline system, it offers 90 pages-per-minute printing capacity with redundant printers.

None of these systems includes graphics or forms design hardware or software.

Ten-Year Support Life for HP 7470A Plotter

In these days of shrinking value, Hewlett-Packard is taking steps to reverse the trend. We're increasing the support life on the HP 7470A Graphics Plotter from five years to ten years. This means parts, service, and support will be available for ten years after the date of obsolescence.

This extension reduces you or your customer's ownership costs because the 7470A has a longer useful life. And you can build the 7470A into your system and be assured of plotter support for ten full years.

Disc Ad Appears in *Interact*

An ad positioning HP's high-end discs as "some of the fastest, lowest-cost-per-megabyte" disc drives in the industry appeared in the May/June issue of *Interact*, the magazine sponsored by the HP 3000 International User's Group.

The ad discusses the special HP 7933G pricing package; the performance and features of the 7935; and PEP, HP's new performance enhancement firmware.

The ad outlines the performance and price features that make HP competitive in the high end disc market; then concludes with an invitation to the reader to contact the local HP sales office for a demonstration or for more information.

Putting it simply.

If you're serious about buying disc drives, consider this fact: Hewlett-Packard sells some of the highest performance, lowest cost-per-megabyte disc drives in the industry.



Take our disc drive package, for example, at 17% below list.
Buy the 7933G — a bundled system consisting of three 404-megabyte 7933H drives — and pay 17% less than the individual list prices. In addition, summer specials are going on now; call your HP Sales Office for even more savings.

Or consider the highest capacity, fastest removable disc on today's market.
The 404-megabyte 7935 is not only the fastest, it's also the lowest cost-per-megabyte removable disc drive in the industry. Featuring the largest removable disc available, it's ideal for private volumes, convenient data transportability, and fast image backup.

Introducing firmware that gives you up to 50% more I/Os per second.
Enter HP's new disc performance enhancement firmware — designed to reduce overhead and increase the number of I/O transactions per second. Now standard with all large discs, this new firmware makes our discs operate 15–20% faster on most single disc applications on the HP 3000, and up to 50% faster on HP 3000 applications using four discs. And it can be retrofit to existing CS90 discs.

Care to compare? Call your local HP Sales Office today for a demonstration of some of the fastest, lowest cost-per-megabyte disc drives in the industry.

 **HEWLETT
PACKARD**

4802-324

Announcing Standalone HP 7970ER Tape Drives

We hear you! Our inventory levels are up and so in response to all of your many, many requests, HP is introducing as another something extra, HP 7970ER tape drives as standalone units. The 1600 bpi master tape drive is attractively packaged in a compact lo-boy cabinet. And as with all other HP remarketed products, the 7970ER is completely refurbished and covered by a 90-day warranty. The 7970ER is compatible with all HP 3000 computer systems including the Series/III, 3x, 4x and 64.

Since quantities are limited, your HP sales rep must call first to reserve your units before presenting you with a quote.

Ordering Information

Product	Description
HP 7970ER	1600 bpi Master Tape Drive, lo-boy cabinet (Re-marketed)
- 324	Initial Master Drive for S/III, S/IIIR
- 426	HP-IB Interface

HP 2680 Stacking Considerations for Non-Standard Paper Sizes

One of the HP 2680's strengths over other laser printers is its ability to print on paper other than the standard 8.5 by 12 inches. It is important, however, to properly set customers' expectations when selling the 2680 to a customer who wants to print on paper other than the standard 8.5 by 12 inches.

The 2680 printer can print on papers ranging in length (direction of paper motion) from 3 to 17 inches. The power stacker, however, will accommodate only lengths from 6 to 12 inches, so papers outside this range must be manually stacked. Manual stacking will work quite well with little or no additional operator intervention with some paper sizes over 12 inches, but it is important to try the customer's paper and make him/her aware of the manual stacking requirement if the non-standard paper size is a key selling point.

Printer Trade-in Program — One More Time

Yes, the impact printer trade-in program is alive and well. Through October 31, 1983, you and your customers can trade in HP impact printers and obtain credit towards the purchase of an HP 2680 or HP 2685. This is a revised version of the program we offered during the first half of the year.

The printers that qualify are:

Printer	FBP\$ Trade-in (US)	Order Option
HP 2608 S/A	\$ 8,000	U08
HP 2611A	10,500	U11
HP 2613A	3,500	U13
HP 2617A	6,500	U17
HP 2619A	14,500	U19

Please note the following details:

- A maximum of two printer credits will be allowed for each laser printer order
- Purchase agreement discounts as well as other special discounts can be used together with the trade-in credits
- There is no age restriction on returned printers, but they must be on a current HP service agreement
- This program is offered worldwide, but orders must be placed by October 31, 1983

For more specific details, contact your HP sales rep.

Printer "WIN" Program

Our used printer program is designed to offer you or your customers reliable system printers at significant savings. Compare prices.

Printer	New Price*	Used Price*	Savings
HP 2608A	\$11,600	\$ 7,500	\$4,100
HP 2608S	10,900	8,000	2,900
HP 2611A	18,110	12,000	6,110
HP 2617A	N/A	12,000	—
HP 2619A	25,730	16,000	9,730

Prices include standard installation and 90-day warranty. The interface option, as well as any other options not on an available printer, will be quoted in addition to the printer itself.

Since the availability of these printers does vary, you must have your sales rep contact HP for a price quote. The program is offered on a worldwide basis.

Let's use these printers as a way to gain the competitive edge and "WIN" that business for HP.

*US Factory Based Price without interface or other options.

Remarketing Efforts Underway for the 1/4" Cartridge Tape Drive

During the past year, HP engineers have been working on improving the reliability of the 1/4" cartridge tape. Those efforts have resulted in cutting the warranty failure in half — and it's still improving! We have put forth a strong effort to develop this product into a reliable backup solution for mid-range system users.

We have prepared a brochure which positions the cartridge tape drive as *the* backup solution between floppies and magnetic tape drives. The brochure will be out soon; we will be notifying you via *OEM News* when it becomes available.

HP's 1/4" Cartridge Tape Drive Improvements

HP's 1/4" Cartridge Tape Drive, incorporated with the HP 7908, 7911, 7912, and 7914 disc drives, has undergone major reliability improvements.

Failure Rate Cut in Half!

During the past year, significant engineering efforts have taken place to improve the cartridge tape's reliability. Those efforts have resulted in our cutting the warranty failure rate in half — and it's still improving.

Our original goal of a 20,000-hr MTBF (assuming the disc drive is on for an average of 12 hrs/day), has been exceeded, making our MTBF very competitive with other tape drives.

Taskforce to Study Overall Failure Rate

Although the hardware failure rate is decreasing, we are continuing to receive feedback about dissatisfied customers. A taskforce has been set up to review the total cartridge tape backup system and solve the remaining problems. The taskforce will focus on these areas:

- Host system software utilities
- Disk drive hardware subsystem
- Tape cartridge
- Customer applications

We Need Your Help

To determine any remaining problems, we need your continued inputs. Please contact your HP sales rep if you know of any problems with the 1/4" cartridge tape drive.

HP Will Replace Contaminated 1/4" Cartridge Tape Drives

In order to provide you with the highest quality products, we would like to inform you of a situation which potentially could lead to a cartridge tape failure. The failure could appear in one of these forms:

- Read failure
- Tape errors resulting in frequent auto-sparing
- Verify failures

The Cause

A chemical was recently added to our vendor's tape manufacturing process to aid in tape performance. This substance, appearing in the form of a white dust, is being released from some tape cartridges. The residue collects on the cartridge guide pins, the tape drive heads, and the recording surface of the tape itself. While the dust doesn't cause an immediate problem, if the condition persists, the residue can accumulate to a level where read errors can occur. Also, the dust that collects on the heads can transfer to clean tapes that normally would not exhibit the problem. This can be prevented by cleaning the heads prior to loading the tapes; also, cleaning will allow the system to recover data from many failing tapes.

HP is committed to replacing all tape cartridges (at no charge) that have visible contamination, and we are working with the tape vendor to correct this problem. In order to minimize customer inconvenience, replacement cartridges will be pre-certified (HP #88140LC or 88140SC) at no extra charge. (Note: This is not a general recall. Only those cartridges exhibiting contamination should be replaced.)

Please contact your HP sales rep for more details about the program.

Introducing PRESENTATION/2700

The HP 2700 Model 65 presentation graphics workstation just got even better! Since its introduction in September 1982 the 2700 has turned quite a few heads with its high performance color features and sophisticated design capabilities. Designers from graphic artists to technical documenters have recognized the value of the 2700, and with your feedback we are making it an even better solution for graphics design. HP proudly announces PRESENTATION/2700, a series of two software enhancements for the HP 2700 Model 65 which make it an even stronger standalone graphics workstation or a more powerful node in an HP 3000 network.

35mm Slide Production

A significant capability offered by PRESENTATION/2700 is the ability to create presentation quality 35mm slides, as well as 4 x 5 and 8 x 10 negatives, when used with the new MATRIX QCR-D4/2 high resolution film recorder. Unlike 35mm slides produced by screen photographs or RGB film recorders, slides produced with this pair are truly presentation quality and can be used at any level within an organization — including the boardroom. If an organization has the need to produce 35mm slides, they are a potential HP 2700 customer. HOPE REPORTS estimates that over 400 million original 35mm slides were produced last year at a cost of about \$3 billion. Most of this was spent on the labor to create the artwork, and only about 5% of the total was created using computer equipment. An area in need of productivity tools!

With the HP 2700 and PRESENTATION/2700 35mm slides, the dominant presentation media can be produced as easily as overhead transparencies. Not only can users enjoy the speed, flexibility, and quick turnaround of the 2700 in the preparation of their slides, but they benefit from substantial cost sav-

ings as well. With industry average slide production costs of \$50 to \$75 per original, the estimated \$10 – \$15 cost (including labor and material) with the HP 2700/MATRIX pair means it doesn't take many slides to realize substantial savings. Upper level managers will also appreciate the data security aspects an "in-house" system will afford them. No longer need confidential data leave the premises. With plotter and film recorder output to produce overhead transparencies and 35mm slides, the HP 2700 has the versatility to solve virtually any presentation problem.

The PRESENTATION software utilizes the ability of the 2700 to draw and store pictures on a large (32,000 x 32,000 point) address space. All, or any part, of this space may be displayed on the workstation's 512 x 390 pixel screen. As such, a scaling exists between the "true" stored resolution of an image and that which is displayed on the screen. For example, the AUTO PLOT/2700 software produces images which are stored at 10 times screen resolution or 5110 x 3890 points, although they are represented on the screen at lower (512 x 390 pixel) resolution. PRESENTATION/2700 takes the high resolution image in memory and digitally transfers up to a 4096 x 3072 pixel representation of it to the MATRIX D-4/2 film recorder. This technique virtually eliminates the "jaggies" normally associated with computer generated graphics.

PRESENTATION/2700 does not disturb the existing PAINTBRUSH/2700 and AUTO PLOT/2700 software. Connection of the film recorder, the device which interfaces a 35mm camera to digital signals provided by the HP 2700, requires an HP-IB interface (Option 096) — just like a plotter. Picture transfer is similarly easy with a convenient "PLOT TO CAMERA" initiating exposure. Additional features include:

- A picture spooler to allow for unattended exposure of previously created picture files stored on disc

- Color separation into 3- and 4-color outputs for printing applications
- Simple user interface
- Exposure times of about five minutes for a 2000 x 1500 pixel image
- Variable resolution output from screen resolution (512 x 390 pixels) up to the limits of the film recorder (4096 x 3072 pixels) and media aspect ratio

HP 3000 Interface

And there is more. The PRESENTATION/2700 software also allows picture files created locally to be uploaded into the HP 3000 computer in the same file format as graphics created using system software such as DSG/3000 or HPDRAW. This means that the extremely powerful PAINTBRUSH/2700 and AUTO PLOT/2700 packages can be used to create images which when sent to the HP 3000 can be displayed on other terminals, plotted on remote plotters, used with other peripherals, or processed by system level software. A particularly useful application of this is to create images which can then be merged with text in TDP/3000 for eventual printing on the 2680 laser printer. The power of the HP 2700 to create graphics for laser printer output greatly reduces CPU burden and improves total system performance. One more way the HP 2700 is the total presentation graphics workstation.

PRESENTATION/2700 will be included in the HP 2700 Model 65 and is an accessory, 13273E priced at \$1250, for existing units. The availability of the Model 65 and 13273E accessory is 8 – 10 weeks.

Matrix Instruments is located at 230 Pegasus Avenue, Northvale, NJ 07647; Telephone 201-767-1750. In Europe the address is Honeywell S.A., Avenue Henri Matisse 14, B1140, Brussels, Belgium; Telex 22788; Phone (32)-2-243-1487; Attn: Frank Kasper.

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FRANKFURT (REGION HQ)
HPGR 8300

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OEM News is published monthly for Hewlett-Packard OEMs to keep you informed of HP products and services and to provide information to help you be more successful.

If you work for a company that is an OEM for Hewlett-Packard and want to receive your own copy of **OEM News**, call your Hewlett-Packard sales representative.

For further information on any of the products and services discussed in **OEM News**, please contact your HP sales rep.

Note: Not all HP computer products are sold and supported in all countries. Please check with your local HP Sales Office.

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9. Sep. 1983

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If you have any suggestions, comments, or letters about **OEM News**, please send them to:

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