

# HP CHANNELS

Information For Hewlett-Packard's Value-Added Businesses

November 1989



Introducing the high-performance HP Vectra 486 PC

# HP CHANNELS

Volume 9, No. 1

Editor

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HP Channels is published monthly for Hewlett-Packard's value-added businesses to provide you with information about HP's products and services to help you be more successful.

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

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On the cover

## HP CHANNELS

Volume 9, No. 1 November 1989



Introducing the high-performance HP Vectra 486 PC

HP has moved ahead of the pack in the race to bring users advanced PC technology with the introduction of the HP Vectra 486 PC. The HP Vectra 486 PC is the first PC based on the Intel i486 microprocessor and the Extended Industry Standard Architecture (EISA) announced in the industry. See articles beginning on page 11.

HP CHANNELS  
November 1989

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

**For research and education purposes only.**

# HP VAR Program #1 in *VARBUSINESS* 1989 Annual Report Card Review

For the past four years, value-added resellers have ranked HP #1 in more categories than any other computer supplier included in the *VARBUSINESS* Annual Report Card Review. This year, for the first time, HP has also been ranked #1 overall among the 13 major vendors rated in the survey. Bill Murphy, director of marketing for HP's Networked Systems Sector, accepted the award from *VARBUSINESS* when this announcement was made in front of 4,000 HP customers attending the INTEREX (HP user's group) Conference on September 13 in San Francisco, California.

In this year's review, HP took the blue ribbon in 11 out of the 18 categories — the most first places of any vendor. HP had higher scores than any other vendor in these categories:

- Breadth of product line
  - Quality of products
- VAR technical support services
- VAR marketing support services
- Satisfaction with marketing support changes
- Provision for hardware maintenance
  - Quality of information provided
- Willingness to address VAR problems
- Ability to address VAR problems
- Commitment to VAR program
  - Overall impression of vendor

In addition, HP received the highest overall average of any vendor in the survey, and scored higher than DEC and IBM in every category.

"HP is the closest [rated vendor] *VARBUSINESS* has had to a perfect 10," stated *VARBUSINESS* news editor, Jenny McCune, during the awards presentation. "It knows how to listen to resellers and customers and provide the right systems for them. . .It's no wonder then that the HP resellers. . .have nice things to say about their vendor." Here are some reseller quotes she shared with the audience:

*"They have a 'what do we need to do to make the system work and make people happy' attitude."*

*"They've increased their market visibility. There's no more 'HP who?'"*

*"The feeling of being purr of a team trickles down from the senior management to the local rep level."*

For four years, the *VARBUSINESS* staff has been researching and publishing monthly report cards on the suppliers that VARs buy from. It interviews more than 1,200 VARs a year to find out how vendors are doing, asking them to rate their vendors in 18 categories. These categories measure a vendor's performance in marketing, support: and product areas. Vendors are rated on a scale of 1 to 10 for each category, with 1 being the lowest score and 10 the highest.

At the end of the year, the magazine puts out a compendium of the monthly report results, which it likens to the *Consumer Report* of VAR programs. The results of the monthly surveys are tallied and vendors are ranked in the Annual Review based on their previously published mean scores. For each category, the vendor with the highest score is put in first place.

"Measured by reseller comments or any other criteria," McCune concluded, "HP has done an outstanding job and the staff that administers reseller programs deserves to be congratulated." We certainly agree with her. Thanks to all our HP value-added businesses for helping to make our program so successful. We are happy our program is working well for you.

Reprints of the *VARBUSINESS* article will be available soon. Contact your HP representative to obtain a copy.

## Business Computers

General

### Announcing HP DeskMon — automatic monitoring for your entire HP DeskManager network

HP DeskMon is a software product that monitors the status of HP DeskManager systems throughout an entire network.

HP DeskMon has several benefits. It reduces the time that an administrator spends monitoring an HP DeskManager node. Resources are also more efficiently targeted due to the ability to centralize the level of technical expertise required to monitor an HP DeskManager network. HP DeskMon is easy to use, therefore, investment in training time is minimal. Using HP DeskMon means that problems are detected earlier, leading to higher user availability and a more reliable system.

HP DeskMon provides two main facilities to the administrator. It scans the HP DeskManager system and then reports exceptions to the system administrator. The monitoring can be tailored to the administrator's requirements when the monitoring process should be automatically initiated. The system administrator will be notified of exceptions either through a message output to a system console or dedicated printer. Report output may be sent to a local user, console, or printer. For users who are administering multiple computers from a central site, this information can be directed to any machine in the network, allowing for centralized reporting.

Time, effort, and money can be saved as HP DeskMon can be configured to report HP DeskManager network errors and exceptions to a central or local site.

HP DeskMon's configurator comes with an on-line help facility and also allows the administrator to go into the system and reconfigure at any time. Configuration changes made to one machine can then be duplicated on other machines, via a remote update facility.

HP DeskMon's features include a screen-driven interface with the same look and feel as the HP DeskManager configuration interface. HP DeskMon can be configured to monitor jobs, processes, queues, datasets, and inter-process communication files, and to report when predefined limits are exceeded. It can be configured to report to the console of a local or remote machine, to a local or remote printer, or via a message to an HP DeskManager user.

In addition, HP DeskMon documentation is held electronically within the product and may be printed as often as required. To maximize the benefits of HP DeskMon, a copy of the product should reside on each machine in the customer's network.

General

### Announcing HP GLANCE upgrades and purchase credits

HP recognizes that users want to protect their investments as they move to larger systems and to HP-PA. As a result, HP GLANCE upgrades and purchase credits for 100 percent of the purchase price are now available.

#### Upgrades and purchase credits

Upgrade credit requires simultaneous purchase of the same product with a higher tier system option. All HP GLANCE upgrades (from MPE V to MPE XL) are distributed on a customized subsystem tape and require both an upgrade and a system option. Purchase credits for PIN 50734 require a system upgrade from MPE V system and return of GLANCE/V (PIN 50733). The following tables will help you determine the proper upgrade and system options for your HP GLANCE orders and purchase credits.

#### Ordering information

Product No.	Description	Availability	
		MPE V	MPE XL
27568A	HP DeskMon	V-Delta-5 and later	Version 2.1 and later

# HP 260 Model 30 upgrade promotion

*For Europe only*

The HP 260 is Hewlett-Packard's answer to the small business market computing needs — more than 3,500 HP 260 Models 30 and 40 have been installed, as well as over 1,500 Turbo Boards.

One out of every three users decided on the low-end Model 30 as their entry system into the multiuser computer environment. October through December will feature an attractive upgrade promotion that offers HP 260 users the possibility of upgrading to the more powerful Model 40.

### Highlights

- An easy exchange process that calls down-time a lie
- Up to 100 percent performance increase based on disk caching (Please note that this is application dependent)
- 20 percent price slash

Contact your HP representative for more information.

Product No.	Option	Upgrade credit
50733A	OGD*	MPE V MICRO 3000 Series (credit for Option 310)
	OCE*	MPE V Series 4X-5X (credit for Option 320)
50734A	OCE*	MPE XL Series 925/LX (credit for Option 320)
	OCF*	MPE XL Series 935 (credit for Option 330)
	OG1**	MPE V MICRO 3000 Series (credit for Option 310)
	OG2**	MPE V Series 4X-5X (credit for Option 320)
	OG3**	MPE V Series 6X-70 (credit for Option 330)

\*Upgrade credit option  
\*\*Purchase credit option

### HP GLANCE distribution

HP GLANCE is distributed on either a product tape or customized subsystem tape depending on the version of MPE with which it will be used. When ordering HP GLANCE, be sure to check the MPE version you are running and choose the appropriate options as described below.

### Subsystem tape

HP GLANCE will be distributed on a customized subsystem tape for MPE XL Release 1.2 Prime (A.21.nn), MPE V (V-Delta-7), or any future releases of either operating system. When ordering

an HP GLANCE customized subsystem tape, a product media option must *not* be specified. Please note that until MPE V (V-Delta-7) is released, HP GLANCE/V orders will be distributed on a product tape as described in the following paragraph.

### Product tape

HP GLANCE is distributed on a product tape when used with MPE XL Release 1.2 (A.20.nn) or MPE V (prior to V-Delta-7). When ordering an HP GLANCE product tape, a media option in addition to a system option must be specified. The following table will help you determine the proper media and system options for your HP GLANCE product tape orders:

Product No.	Options		Comments
	Media*	System	
50733A	001	310	For MPE V MICRO 3000 Series
	002		
	001	320	For MPE V Series 4X-5X
	002		
	001	330	For MPE V Series 6X-70
	002		
50734A	001	320	For MPE XL Series 925/LX
	001	330	For MPE XL Series 935
	001	340	For MPE XL Series 9501955

\*001 = magnetic tape  
002 = cartridge tape

HP 3000

## HP 3000 and HP 9000 R-Copy software prices to increase November 1

Effective November 1, the price of the R Copy on all HP 3000 and HP 9000 Series 800 products will be raised to the same level as the A Copy. This change more accurately reflects the true value of the software since the deliverables for the A Copy and the R Copy are the same. Volume end user (VEU) discounts for A Copy and R Copy software will remain unchanged. For value-added resellers (VAR) and original equipment manufacturers (OEM) customers, some software products, primarily PL 61, 85, and IX, will move from Schedule I on the A 1001 and A 1002 exhibits, to the more aggressive Schedule III. For software products already on Schedules III, IV, or V, VAR and OEM discounts will remain unchanged.

Contact your HP representative for more information.

### Also in this issue

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## Technical Computers

General

### Introducing improved version of AFZ card

On September 1, 1989, the new HP 27114B asynchronous FIFO interface (AFI) card was added to the HP Price List. The AFI card provides a high-speed parallel connection between a CIO-based HP 9000 Series 800 system and an external device.

The HP 27114B, designed with enhanced interface flexibility and product usability, is intended to replace the HP 27114A; the HP 27114A will be removed from the price list on June 1, 1990. The HP 27114B is plug compatible with the HP 27114A in all supported applications where standard HP-UX drivers are used.

#### Additional benefits of the HP 27114B

- Three handshaking modes, including a slave mode, to accommodate a wider range of external devices
- Up to six control lines and up to six status lines to provide a more flexible interface
- A FIFO counter to increase FIFO control
- Additional ground lines to enhance signal quality when using single-ended mode

- Detailed hardware and software reference manuals
- Application notes and a performance brief for application development

To use these additional features, it is necessary to use the device driver within the 7.0 or later release of HP-UX operating system. The new HP 27114B will begin shipping with HP-UX release 7.0.

#### Trade-in discount

A discount will be given towards an HP 27114B purchase in exchange for a previously purchased HP 27114A. The trade in will be structured as Option OCZ upgrade credit to the HP 27114B product labeled. This discount offer will be discontinued on June 1, 1990.

For more information, refer to the HP 27114B data sheet available separately (PIN 5953-5041) or in the AdvanceNet Specification Guide (PIN 5956-4144). Also available are a Performance Note (PIN 5958-9047) and Application Notes (PIN 5958-9044).

General

## HP R/332 controller offers high value for the money

For a typical, rackmountable controller solution, the HP R/332 is priced at only a 16 percent premium to an HP Model 332. Yet this rugged, integrated controller offers value that is not immediately apparent.

Aside from the standard features, such as built-in touch and built-in hard disk, the HP R/332 includes the less tangible but equally important features of ruggedness, compact integrated design, transportability, and easy rack mountability.

### The HP R/332 versus Model 332

Feature	HP R/332	Model 332
Base system	\$12,390	\$ 6,080
Monochrome display	*	*
Touchscreen	*	530
3½-inch floppy plus 20-Mbyte hard disk	*	2,795
4 Mbytes RAM	2,500	2,500
Rack-mount kits	120	990
Total price (U.S. list)	\$15,010	\$12,895
Difference	\$2,115 (16%)	

\*Included in controller

Note: All prices are U.S. list for comparison.

In many cases, the HP R/332 is the best solution for instrument controller users.

### Features/benefits

- Integrated seven-inch-high rack-mount system
- Built-in ruggedness
- Turn-key solution
- Four additional DIO slots
- 400-Hz operation
- Low (Class B) EMI, high RFI immunity

- Filtered air cooling
  - Temperature alarm
- Authorization lock

### Rack-mount kit details

Description	HP R/332	Model 332
Rack-mount flanges (SPU)	A1309A	98569A
Stationary rails	12679B	NIA
Rack-mount flanges (disk)	NIA	19500B
Rack-mount kit (display)	NIA	98567A
Keyboard shelf/drawer	NIA	12131A

General

## Introductory price for Starbase Radiosity and Ray Tracing Library

Hewlett-Packard announces that the Starbase Radiosity and Ray Tracing Library is now available to our installed base of HP 9000 Series 300 and Series 800 TurboSRX users. This extension to the Starbase Graphics library allows users to produce highly realistic images using radiosity or ray tracing. Radiosity and ray tracing are global illumination algorithms that produce advanced graphics effects such as shadowing, reflection, and refraction. The normal Starbase rendering techniques consider only the positions of model surfaces with regard to light sources, surface properties, and eye position to produce shaded images. Global techniques, such as ray tracing and radiosity, also take into account relative positions of model surfaces to each other, and additional surface properties such as reflectivity and transparency. As a result, these images exhibit accurate shadows, reflections, refractions, and transmittance effects.

Starbase radiosity and ray tracing contains both radiosity and ray tracing algorithms because each has particular strengths and is best suited to particular applications. Radiosity is uniquely suited to accurately rendering environments that contain diffuse surfaces, such as painted walls and carpeted floors, which absorb some light and scatter the remainder evenly back into the environment.

In contrast, the Starbase ray tracer is very adept at modeling environments that contain specular surfaces such as chrome or glass. The ray tracer provides realistic lighting effects such as specular reflection, refraction, and transmission effects. Its results are view dependent and cannot be used in conjunction with the radiosity results.

The Starbase Radiosity and Ray Tracing Libraries will be supported on HP 9000 Series 300 and Series 800 24-plane TurboSRX workstations that are equipped with Starbase Display List and HP-UX 6.5 or later (7.0 on Series 800). We are now shipping this software with all 24-plane Models 350, 360, and 370 TurboSRX bundles. We will be doing the same for the Model 835 TurboSRX bundle by the end of the year. The part numbers for these products are 98885A/L for the HP 9000 Series 300 and B1681A/L for the Series 800. As a special consideration to our installed base, we are offering low introductory prices for the license-to-use product and the media and manuals. These introductory prices will be in effect until April 1, 1990.

Contact your HP representative for more information.



HP 9000

## Introducing HP Precision Bus HP-IB interface

The HP Precision Bus HP-IB interface allows connection of up to 14 HP-IB compatible devices to HP 9000 Series 800 systems that use the HP Precision Bus (HP-PB) backplane. Initially targeted for Models 815 and 808, the fully IEEE-488 compatible interface allows users to migrate their investment in HP-IB devices to new HP-PB based Series 800 computers. HP-IB compatible devices include flexible and hard disks, plotters, magnetic tape devices, graphics digitizers, and an extensive list of instruments.

### Features

- 980 Kbytes per second high speed, 500 Kbytes per second standard speed
- Support of up to 14 devices (8 CS/80 devices)
- Fully IEEE-488-1978 compatible
- Support of Command Set 80 (CS/80) protocol for CS/80-based disks and tapes

### Ordering information

Product No.	Description
28650A	HP-IB interface card, two-meter HP-IB cable, installation and reference manual
Opt. 0B0	Delete installation and reference manual
Opt. 001	Delete cable

HP 9000

## GPIO card for HP 9000 Series 800 HP-PB computers

On August 1, 1989, the HP 28651A general purpose I/O (GPIO) card was added to the HP Price List. The GPIO card provides a two-way, high-speed parallel connection between an HP 9000 Series 800 HP-PB system and an external device. The HP 28651A will begin shipping with HP-UX release 7.0.

The HP 28651A is designed for demanding I/O applications where high-speed data transfers are required, such as high-speed data acquisition, data telemetry, simulation, and inter-processor communication.

The HP 28651A provides exceptional flexibility in two ways. The hardware and software interfaces are designed to accommodate a wide range of external devices, and detailed documentation includes application notes, programming examples, and specific performance information to ease application development.

### Additional benefits of the HP 28651A

- Four handshaking modes, including a slave mode, to accommodate a wider range of external devices
  - Up to five control lines and up to five status lines to provide a more flexible interface
  - 1.1 Mbytes/sec maximum data transfer rate
  - 8- or 16-bit transfers. half-duplex operation
  - External interrupt capability
  - Detailed hardware and software reference manuals
- Application notes and a performance brief for application development and migration.

For more information, contact your HP representative to get a copy of the HP 28651A data sheet, available separately (PIN 5953-5042) or in the AdvanceNet Specification Guide (PIN 5956-4144). Also available are a performance note (PIN 5958-9047) and a designer's guide (PIN 28651-90002) that contains application notes.

HP 9000

## HP-UX 7.0 for HP 9000 Series 300 workstations

HP-UX 7.0 will be released soon. Here are answers to some commonly asked questions about HP-UX 7.0.

*Must every SPU have its own HP-UX license?*

Yes. A diskless workstation has a SPU and requires an HP-UX license.

*Does an HP 9000 Series 300 server with five Series 300 diskless workstations need a 16-user HP-UX license?*

No. It needs a standard 2-user HP-UX license. One user is for the display and the other is for the LAN connection.

*Does a Series 300 server or workstation with five terminals need a 16-user HP-UX license?*

Yes, and has room to add 11 more terminals.

*How many remote logons over a LAN will a Series 300 workstation accept?*

An unlimited number.

*Can a customer legally use the HP-UX 6.5 license with 7.0 software?*

No. The HP-UX license revision number must be greater than or equal to the software revision number. The revision number of the license is tied to the revision number of the software.

Are HP-UX licenses included with the SPU stand-alone products? (example: Model 370 SPU PIN 98579B)

No.

Are HP-UX licenses included with bundled nrkstation products? (example: Model 370 TurboSRX PIN 98587G)

Yes, the HP-UX 2-user license is, but the media product must be ordered separately.

How many HP-UX media products are needed if a customer orders eight workstations?

One. The tape may be used to load the operating system on any number of workstations. It may also be duplicated if users want their own backup copy as per software certificate.

HP 9000

## Introducing enhanced Native Language I/O on HP-UX 7.0

Native Language I/O (NLIO) is a subsystem on HP-UX, that lets users perform 16-bit character I/O on Asian terminals and X Window System, print 16-bit characters on Asian printers, enjoy the internationalized HP-UX commands such as 'cat' and 'vi', and draw 16-bit characters with its stick font through Starbase Graphics Library. The supported languages are Japanese, Korean, Simplified Chinese, and Traditional Chinese.

With the release of NLIO on HP-UX 7.0, the following new and enhanced features are available to users:

### For all supported Asian languages

- **OpenNLIO/X** — This feature comprises a programmatic user interface for hooking user-desired input conversion server program to certain HP XII clients. By taking advantage

of this feature, users can make their input conversion server and use it on HP XII.

### For Japanese language

- **Japanese Input Conversion Library** — This library allows users to design their favorite Japanese input user interface for their applications.
- **On-line user-word registration** — Users can register word candidates with arbitrary designations without exiting from Japanese input mode.
- **Improved user interface of Katakana input** — This feature provides conversion from Hiragana characters in the designation into the corresponding 16-bit Katakana characters.
- **Code conversion library and commands for Japanese** — A set of commands and library routines for Japanese character code conversion between JIS, Shift-JIS, and UJIS are provided.

**Enhanced Japanese graphics fonts for Starbase** — JIS Level-2 Kanji characters are supported in Helvetica-like Japanese font within Japanese Designer's Font products (HP 98864A for HP 9000 Series 300, HP 92556A for Series 800).

### For Asian languages except Japanese

- **New Asian terminal support** — The new Asian terminals for Simplified Chinese, Korean, and Traditional Chinese (HP C1010C/K/T) are supported.

The version of the new NLIO is 7.2. It is the *only* version of the NLIO supported on the HP-UX 7.0. No other version of the NLIO is supported on the HP-UX 7.0. The initial release of the new NLIO is scheduled for the November/December 1989 timeframe.

For more information, contact your HP representative.

*X Window System is a trademark of Massachusetts Institute of Technology.*

HP 9000

## ALLBASE/SQL: HP's relational DBMS for HP 9000 Systems

ALLBASE is HP's family of relational information management products. ALLBASE consists of a powerful relational SQL database called HP ALLBASEISQL; a forms generation and query tool called HP ALLBASE/QUERY; HP ALLBASE/4GL, a fourth-generation language product that is easy to use for software development; and a new remote database access capability with HP ALLBASEINET. With the 7.0 release, there is a 35 percent performance increase from the previous release of 3.1. This was measured by the D50 debitcredit benchmark on the HP 9000 Models 835 and 850.

ALLBASEISQL, together with the ALLBASE family of products, provide leading-edge technology and solutions. For new application development, we suggest ALLBASEISQL instead of HP IMAGE on HP 9000 Series 800 systems.

HP ALLBASEISQL is selected by users for its superior quality of features and functionality, for offering the best price/performance, and for HP's commitment to quality and support.

For more information about HP's relational information management products, contact your local HP representative.

### Ordering information

Model	Product No.	
	HP ALLBASE/SQL	HP IMAGE
815	92636A	92650A
8251835	92460A	92647A
840	36217A	92648A
8501855	92469A	92649A

HP 9000

### ***HP 9000 Series 300 workstations switch to SCSI for mass storage***

Hewlett-Packard is making a strategic switch to SCSI as the preferred mass storage interface for HP 9000 Series 300 workstations. HP-IB data throughput will be inadequate for future disk products, therefore, a new interface is required to provide continual performance improvements for HP's mass storage subsystems.

SCSI, the most logical candidate, is an industry standard gaining widespread acceptance by the workstation industry. As such, SCSI is the interface of choice for the next generation of removable mass storage devices (such as cartridge tape, helical scan technology, CD-ROM, and magneto-optical devices). Generally, these devices will be made available with SCSI support; HP-IB support will follow at a higher price.

Today, SCSI provides industry-leading performance. In addition, price differentials between HP-IB and SCSI are already beginning to appear. This differential will become more pronounced with time. HP is committed to continue to provide a variety of HP-IB devices for existing users, but often at a less competitive price point.

HP 9000

### ***HP BASIC/UX 5.52 extends capabilities***

The first two revisions of HP BASIC/UX have proven to be very popular products, and the 5.52 release provides features to help extend this popularity.

Like the previous revisions of HP BASIC/UX, this product provides Rocky Mountain BASIC on top of HP 9000 Series 300 HP-UX. The 5.52 revision of HP BASIC/UX provides RMB capability for the 7.0 revision of HP-UX and also adds features that make HP BASIC/UX respond more like other HP-UX applications. These added features include standard command line options to allow HP BASIC/UX to fit better within the X Windows Environment and the capability to execute HP BASIC/UX as a background process.

HP BASIC/UX 5.52 continues to provide LOAD/STORE compatibility with other HP BASIC systems including HP BASIC/WS and HP BASIC/DOS. This compatibility provides users with the means to easily develop HP BASIC applications for execution within a number of environments. Additionally, future revisions of the HP BASIC/WS and HP BASIC/DOS products are being developed to further improve this HP BASIC family compatibility.

#### **HP-UX 7.0 support**

The 5.52 revision of HP BASIC/UX provides enhancements to allow for operation within the Series 300 HP-UX release 7.0 environment.

As with previous revisions of HP BASIC/UX, the HP 9000 Series 300 HP-UX Application Execution Environment (AXE) system is required for minimal operation. The HP 9000 Series 300 HP-UX Programming Environment (PE) is required for development of HP BASIC/UX Compiled Subprograms (CSUBS).

Diskless operation has been extended in the 7.0 release of HP-UX which allows a Series 800 system to act as a diskless server for either HP 9000 Series 800 or Series 300 clients. This capability allows HP BASIC/UX to operate on HP 9000 Series 300 diskless nodes with either a Series 800 or Series 300 diskless server. This does not mean that HP BASIC/UX executes on the HP 9000 Series 800. The HP 9000 Series 800 server will not recognize HP BASIC/UX as an executable application.

The 7.0 release of HP-UX does not support operation on the Model 310 system, therefore, HP BASIC/UX will no longer be supported on the Model 310. Operation on other HP 9000 Series 300 systems is still fully supported by HP-UX as well as HP BASIC/UX. Additionally, operation on the Model 332 requires the addition of the optional 68882 math coprocessor.

#### **New HP BASIC/UX capabilities**

Additional changes have been made to the HP BASIC/UX product to incorporate some requested enhancements, documentation changes, and defect fixes.

In addition to improving compatibility with the HP BASIC/WS and HP BASIC/DOS platforms, two major enhancement requests have been satisfied with the 5.52 release of HP BASIC/UX.

A number of enhancement requests were made to improve HP BASIC/UX operation within the X Windows Environment. All previous revisions of HP BASIC/UX operated in the X Windows Environment, but specifying target display, foreground and background colors, window geometry, and other X Windows parameters was cumbersome.

The 5.52 release of HP BASICIX provides standard X Windows command line options to allow users to specify foreground and background colors, alpha buffer size, border width and color, cursor mode, font, geometry, title, target display, iconic, and retained graphics options. Additionally, the 5.52 release provides full support for the standard MOTIF window manager.

Another group of enhancement requests has been addressed with this release of HP BASICIX, as well. The previous releases of HP BASICIX did not provide the capability to execute as a background process. This limitation has been addressed and HP BASICIX now provides the capability to execute as a background process and support for redirected input and output has also been included.

This combination of redirected I/O and background operation allows HP BASICIX to behave more like other HP-UX programs and provides a number of useful capabilities to HP BASIC users that were not available before.

For example, the standard HP-UX cron capability can be used to execute an HP BASIC program at a specified time. The cron utility waits until the appropriate time, executes the HP BASIC program, and then exits. It sounds simple, but to do the same task in a previous revision of HP BASICIX required that the HP BASIC program monitor the time and execute the appropriate subprogram when the time comes. Since the cron utility uses much less system resources to monitor the time of day, this new solution will free up a significant amount of CPU power that can be used for other tasks.

#### Product details

The 5.52 revision of HP BASICIX will be released concurrently with the HP-UX 7.0 release. Product structure will remain the same as previous revisions. No changes will be made to the HP Price List since this product is simply a new revision of the existing

product. Therefore, ordering this new revision of HP BASICIX will be the same as ordering earlier versions.

Previous revisions of the HP BASICIX product will **not** be available for sale after the release of the 5.52 revision of HP BASICIX. Below is a brief list of HP BASICIX products.

Product No.	Description
98796L	HP BASIC/UX 5.52 license to use
98796A	HP BASICIX 5.52 media/documentation
98796K	HP BASICIX 5.52 documentation only
988691	HP BASICIX 5.52 software bundle license to use (includes HP-UX 7.0: AXE, PE, X Window System, NS/ARPA/NFS networking, and HP BASICIX)
98869A	HP BASIC/UX 5.52 software bundle media/documentation
98580CX	Model 332 MMAX controller bundle
98581CX	Model 332 CMAX controller bundle
98580WX	Model 360 MMAX controller bundle
98581WX	Model 360 CMAX controller bundle

HP BASICIX continues to be positioned as the high-end offering within the RMB family of products, providing an upgrade path to multitasking, fully networked, windowed environment on a standard HP-UX platform.

Contact your HP representative for more information.

*HP 9000*

## ***HP 9000 Series 300 68020 systems to be discontinued***

With the introduction of the 68030-based HP 9000 Models 340, 360, and 370 systems that offered much greater price/performance over comparable 68020 based systems, demand for the

Models 318, 319, 320, 330, and 350 systems has declined sharply.

As a result, the HP 9000 Models 318, 319, 320, 330, and 350 systems will be removed from the HP Price List effective May 1, 1990. After May 1, 1990, all effected systems will enter a 10-year support life. The following products will be effected by this discontinuance:

Product No.	Description
98563B	HP 9000 Model 318M
98564A	HP 9000 Model 319C
98573A	HP 9000 Model 319SRX
98561B/C	HP 9000 Model 320 SPU
98583S	HP 9000 Model 330C
98588S	HP 9000 Model 330CH
98582S	HP 9000 Model 330M
98589S	HP 9000 Model 330MH
98580S	HP 9000 Model 330MMA
98581S	HP 9000 Model 330CMA
98583E	HP 9000 Model 350C
98588E	HP 9000 Model 350CH
98586E	HP 9000 Model 350CX
98582E	HP 9000 Model 350M
98589E	HP 9000 Model 350MH
98587E	HP 9000 Model 350SRX
98587F	HP 9000 Model 350TurboSRX

Note that the Models 330 and 350 SPUs, P/Ns 98562A and 98562B, are not affected by this discontinuance. Users will still be able to order these products.

The scheduled date of discontinuance for the effected products are:

Removal from HP Price List	May 1, 1990
Final U.S. order accepted	May 31, 1990
Final international order accepted	July 31, 1990
Final shipments	February 28, 1991

If you have any questions, contact your HP representative.



HP 9000

## HP 9000 Series 500 emulators to be obsoleted March 1990

On March 1, 1989, the remaining HP 9000 Series 500 computers were obsoleted. HP 9000 Series 500 hardware and software products are scheduled for obsolescence on March 1, 1990. Two affected Colorado Networks Division products are the 97056A asynchronous terminal emulator for the HP 9000 Model 520 with BASIC Language System software (software only) and the 50968A IBM 278013780 Remote Job Entry (RJE) station emulator for the HP 9000 Series 500 computers (software only). Both emulators will be obsoleted on March 1, 1990, as scheduled and will have a standard five-year support life.

### Also in this issue

- HP 3000 and HP 9000 R-Copy software prices to increase* 4
- HP brings 20 Gbytes of rewritable optical storage online — the HP Series 6300 Model 20BG/A* 21
- HP Series 6300 Model 650/A rewritable optical disk — host support update* 24
- New low prices for HP midrange disks* 25
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- NS-ARPA/1000: adding FTP and Ethernet to NS/1000 at no extra cost* 29

### Personal Computers

General

## AdvanceLink host connectwns

The AdvanceLink family of terminal emulators enables users to connect their personal computers to a host system in a number of different ways. This article briefly outlines the options supported by each member of the family.

### AdvanceLink for MS-DOS<sup>™</sup>

Direct RS-232-C connection is achieved using COM1, COM2, COM3, or COM4, depending on the interface card. COM1 or COM2 can be used for remote modem connection.

HP AdvanceNet VT and CVT are supported for connection to HP 3000 or HP 9000 systems.

The Eicon Technology X.25 network adaptor card may be installed in the PC to act as a PAD (packet assembler-disassembler). This PAD may be dedicated to a stand-alone PC or shared with other PCs connected by a NetBIOS compatible LAN such as HP OfficeShare. A single network adaptor card permits up to 32 simultaneous X.25 connections to be shared by PCs on a LAN.

### AdvanceLink for MS-Windows<sup>a</sup>

This supports connections as for AdvanceLink for DOS, except:

- MS-Windows does not support COM3 or COM4, therefore, these ports are not available. Both COM1 and COM2 can be used to provide simultaneous session capability.
- HP AdvanceNet support is limited to HP 3000 connection.

### AdvanceLink for Macintosh

Direct RS-232-C connection is available via both port A (the modem port) and port B (the printer port). Remote modem connection is also supported.

HP AdvanceNet VT permits connection to HP 3000 systems. This requires either the Apple Ethertalk Interface Card which supports thick and thin cable, or the Kinetics EtherPort card which supports thick, thin, and twisted pair cable.

Contact your HP representative for more information.

*MS-DOS and MS-Windows are U.S. registered trademarks of Microsoft Corp.*

General

## AdvanceLink 150 discontinuance

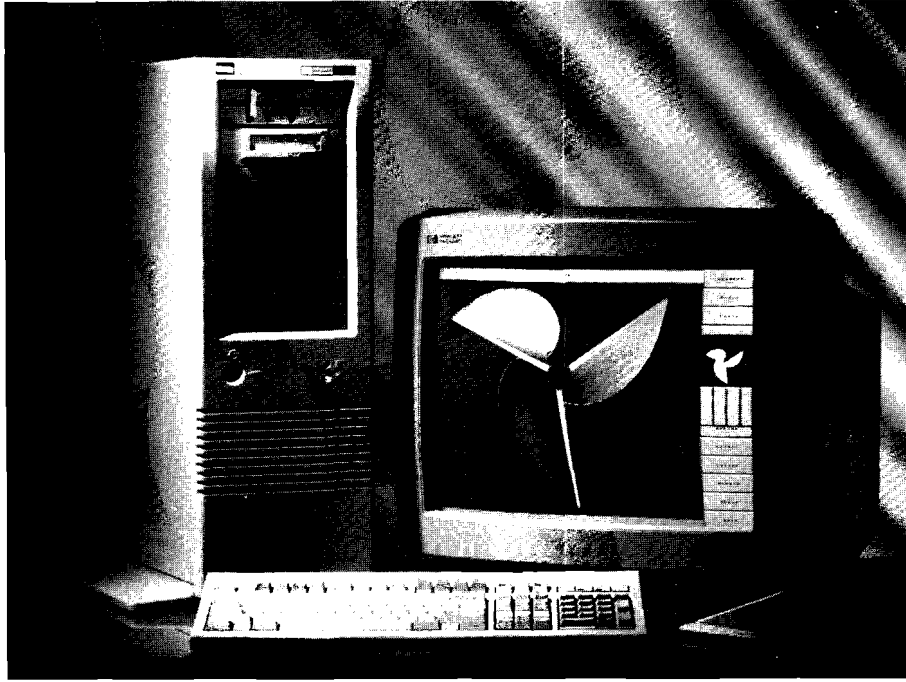
The AdvanceLink terminal emulation software for the HP 150 system (PIN 45431A) will be discontinued December 1, 1989. Support will be available for five years. No replacement will be produced as the HP 150 is also being discontinued. Users requiring MS-DOS<sup>a</sup>-based terminal emulation should purchase AdvanceLink for DOS (PIN 68333F), which runs on any HP Vectra PC, IBM PS/2, PCIXTIAT, or compatible. A version of AdvanceLink that runs within the MS-Windows\* environment on any of the above platforms is also available (PIN D2104A).

Users who have purchased PIN 45431A and wish to upgrade to a newer product may do so by purchasing the appropriate upgrade kit.

Product No.	Description
68333-65016	Single copy upgrade to AdvanceLink for DOS, 5 1/4-inch disks.
68333-63003	Single copy upgrade to AdvanceLink for DOS, 3 1/2-inch disks.
683332	10-user license upgrade to AdvanceLink for DOS, 3 1/2- and 5 1/4-inch master disks supplied.
D2104-60001	Single-copy upgrade to AdvanceLink for Windows 3 1/2- and 5 1/4-inch disks.

Desktop

## Introducing the HP Vectra 486 PC



Hewlett-Packard is one of the first in the PC industry to announce and ship an i486-based EISA system — the HP Vectra 486 PC.

The HP Vectra 486 PC is the performance flagship of the HP Vectra PC family. It is an ideal system for PC CAD and "Super PC" users, as well as users requiring a LAN server or multiuser system. It offers top performance and unmatched reliability with the breadth of solutions available today for personal computer systems.

### The HP Vectra 486 PC goes beyond

Imagine, a personal computer that offers up to 64 Mbytes of system memory on a single card, 1.3 Gbytes of mass storage, the new high-performance Extended ISA I/O bus, and the latest in VGA and high-resolution graphic solutions. The HP Vectra 486 PC offers this and more.

### Features

- **The Intel i486 Microprocessor** — The i486 (25 MHz) is the highest performing microprocessor from Intel. It performs numerical calculations (floating point) over twice as fast as a 33-MHz i386 system with coprocessor. It performs nonnumerical operations over 50 to 60 percent faster than a 33-MHz i386.
- **Extended Industry Standard Architecture (EISA)** — The HP Vectra 486 PC is HP's first implementation of the new high-performance I/O bus, EISA. This design widens the data path within the PC from 16 to 32 bits, doubling the flow of data on the I/O bus. With EISA, users are prepared for tomorrow's technologies, yet have the flexibility to use existing hardware solutions. This means that with the HP Vectra 486 PC, users will have literally thousands of solutions to choose from the very first day they receive the system.

**System memory** — The HP custom memory controller was designed for exceptional upgrade capability and top performance. The HP Vectra 486 PC supports up to 64 Mbytes of RAM, all on a single memory card. This is two to four times the capacity of most high-performance PCs.

Upgrading the memory is done simply by inserting pairs of 1-, 4-, or 8-Mbyte SIMMs. The design allows for mixing and matching the 1- and 4-Mbyte SIMMs. This results in a smooth upgrade path with up to 26 Mbytes of memory. If you want to exceed this level of system memory, just start off with the 8-Mbyte modules; then grow your system to 64 Mbytes.

- **Mass storage** — The HP Vectra 486 PC features a full range of mass storage options. From the high-capacity, industry-leading 330- and 670-Mbyte drives to the price-performing 150-Mbyte and optional 84-Mbyte drives, there is the right hard disk solution for any application.

For the most demanding applications, HP Vectra 486 PC Models 670 and 330 feature ESDI drives with average access time of less than 16 ms. These models come standard with a high-performance 20 Mbit/sec controller that has been optimized for use with the 670- and 330-Mbyte hard disk drives.

**Video** — The HP Vectra 486 PC does not come standard with a video card, allowing users to choose the correct video solution for their applications. With the HP Vectra 486 PC, both VGA and high-resolution Intelligent Graphics Controllers are supported. Users can choose the HP VGA solution that provides both 640×480×256 colors or 800×600×16 colors resolution modes. Also available for the PC CAD users is a range of high-resolution intelligent graphics controllers.

▪ **Expandability** — The HP Vectra 486 PC provides the expandability necessary for many computing environments, such as LAN servers and multiuser systems. Six half-height mass storage shelves allow users to install up to two hard disks and four flexible disk drives including a tape back-up unit. The HP Vectra 486 PC has eight EISA 32-bit I/O slots for additional ISA or EISA cards.

**User benefits**

▪ **Top speed** — The performance capabilities of the HP Vectra 486 PC offer a range of benefits depending on the specific computing environment. For example, individual PC CAD and "Super PC" users will be able to complete their jobs faster than ever before. Those choosing the i486 for LAN server or multiuser systems will be able to do more than ever before; up to 64 terminals are supported.

▪ **Solutions today and in the future** — EISA provides the benefit of today's choice (literally thousands of solutions available) and tomorrow's technology. As 110-intensive applications evolve on PC platforms, EISA will be there to carry the load.

▪ **Quality and reliability** — As the HP Vectra 486 PC takes users into new areas of PC computing, uptime becomes critical. HP has earned a reputation for reliable products; the HP Vectra 486 PC is no exception.

**The HP Vectra 486 PC — from a technology leader:**

The HP Vectra 486 PC combines the latest in microprocessor, memory, mass storage, I/O bus, and video technologies to deliver the power and speed users demand. The fact that Hewlett-Packard is one of the first to introduce makes sense; it is from a technology leader with 50 years of experience.

**Availability**

The HP Vectra 486 PC will be orderable in the first calendar quarter of 1990.

*Desktop*

**HP Vectra 486 PC standard configurations**

The HP Vectra 486 PC comes standard with the following:

- 2 Mbytes of random-access memory (RAM)
- One 5¼-inch 1.2-Mbyte flexible disk drive
- Two serial (RS-232-C) ports, one parallel (Centronics) port
- Connections for four flexible devices and two embedded hard disk drives
- Keyboard and keyboard and mouse ports
- HP disk-cache software, memory management software

Several standard configurations are available, offering an array of hard disk drives.

Standard configurations	Description
HP Vectra 486 PC	25-MHz, Intel i486 microprocessor
Model 1	2 Mbytes of RAM. 5¼-inch 1.2-Mbyte flexible disk drive
Model 150	2 Mbytes of RAM. 5¼-inch 1.2-Mbyte flexible disk drive. 152-Mbyte hard disk drive
Model 330	2 Mbytes of RAM. 5¼-inch 1.2-Mbyte flexible disk drive. 330-Mbyte hard disk drive
Model 670	2 Mbytes of RAM. 5¼-inch 1.2-Mbyte flexible disk drive. 670-Mbyte hard disk drive

**Ordering information**

Product numbering and ordering information will be available during the first quarter of 1990.

*Desktop*

**Unmatched price performance in an HP PC**

Delivering approximately 35 percent more performance than its 80386 (33 MHz) counterparts, the HP Vectra 486 PC reaches a new plateau in PC price/performance. The HP Vectra 486 PC prices come in above comparable 80386 (33 MHz) systems by approximately 15 to 20 percent.

**HP Vectra 486 PC**

Product No.	Model	Flexible disk	Hard disk
D2220A	Model 1	5¼-inch	None
D2221A	Model 150	5¼-inch	152-Mbyte
D2222A	Model 330	5¼-inch	330-Mbyte
D2223A	Model 670	5¼-inch	670-Mbyte

*Note: The above bundles do not include video.*

Desktop

## ***EISA: a winning architecture on the HP Vectra 486 PC***

The new HP Vectra 486 PC is Hewlett-Packard's first personal computer that incorporates the new Extended Industry Standard Architecture (EISA). EISA is a 32-bit extension to the Industry-Standard Architecture (ISA) and provides numerous benefits to users.

### **Open standard**

EISA was developed by a consortium of nine PC manufacturers, including HP. It is an open standard that has received broad industry support and provides all the benefits of an open standard: competitive pricing of products, technological innovation, and the freedom to choose from multiple vendors. By purchasing a PC with an open architecture, EISA users will have the widest variety of PCs and peripherals from which to choose to meet their unique computing needs.

### **EISA on high-performance PCs**

HP incorporates the EISA standard where it makes sense — on the leading edge of high-power computing. While most users will find sufficient computing power in HP's 80386-based ISA PCs, the HP Vectra 486 PC provides 32-bit flagship power for the most demanding power users who work in emerging high-performance solutions such as LANs, multiuser databases, networks, transaction processing, and multiuser applications.

### **Backward compatibility**

Because EISA is an extension of the Industry-Standard Architecture, it is fully backward compatible with literally thousands of cards and hardware accessories that are on the market today. Users who purchase the HP Vectra 486 PC may install both ISA as well as new EISA boards. The backward compatibility of EISA also provides a smooth migration path for users who wish to move from ISA to EISA PCs. This is in stark contrast to IBM's Micro Channel architecture, which is incompatible with ISA/AT accessories.

### **EISA performance benefits**

The EISA architecture provides numerous technological benefits that provide performance or ease-of-use enhancements:

- **Support of bus masters** — allows peripherals to off load the main processor for faster throughput
- **Direct Memory Access (DMA) capability** — improves overall system performance
- **EISA Configuration Utility** — facilitates automatic configuration of option boards
- **Faster data transfer rates** (32- versus 16-bit)

EISA is a winning architecture on the HP Vectra 486 PC which gives users the technological and performance edge.

Desktop

## ***EISA solutions***

With the introduction of Hewlett-Packard's first EISA system this fall, there will be EISA add-on cards available from a variety of independent hardware vendors. These EISA solutions will most likely be in the networking, multiuser, video, and hard disk access areas.

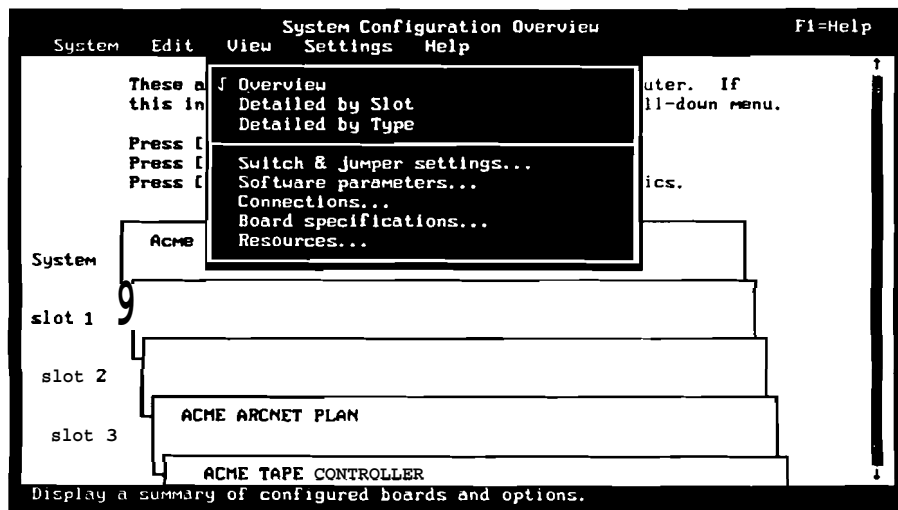
The majority of these will be 32-bit bus master cards. Bus mastering, which is not available on 16-bit ISA cards, allows the EISA card to use the CPU resource more efficiently.

Hewlett-Packard will perform some compatibility testing on a subset of EISA cards and they will be listed in the Technical Reference Guide (Blue Book).



Desktop

## Introducing EASY CONFIG—the EZSA configuration utility



The EISA configuration utility (hereafter referred to by the HP name of EASY CONFIG) is a new software utility that will perform configuration and setup functions for future EISA and ISA HP personal computers. The utility generates the configuration information for EISA programmable I/O cards and provides information for the user on how to set switches and jumpers on earlier-design ISA boards. It is a replacement for the current setup utility shipped with the current HP Vectra PC product line (it will not be backward compatible to these earlier machines.) EASY CONFIG is scheduled to be introduced with HP's first EISA offering and will ship with future EISA and ISA PCs from HP.

HP played a key role in helping to develop this utility, providing personnel and other critical resources to make this product a reality. This leadership is in keeping with the pivotal role that HP has played in the development of the EISA standard.

With the current ISA architecture, a user configuring a new system or adding accessory cards faces a complex and inconvenient process. With the current setup methodology, the user must read detailed technical documentation, set switches and jumpers, plug in boards, then test the system to see if setup was successful. The cause for an unsuccessful setup is not always apparent and can leave the user with little assistance to solve the problem. EASY CONFIG eases this problem by taking advantage of the fact that EISA boards can be designed to be configured without the use of switches and jumpers. (The presence of these physical jumpers and switches largely contributes to the fact that the ISA setup process is heavily manual.) EASY CONFIG will autoconfigure EISA boards, including the system board, and autodetect some ISA boards, besides giving configuration assistance for all these accessories.

### Product structure

EASY CONFIG will be a part of the new, improved PC kit that will begin shipping with HP's first EISA product. The files necessary for EASY CONFIG operation will reside on the disks included with the PC kit. As part of the setup procedure, users will be asked to copy the relevant files from the PC kit disks to their hard disk and proceed with installation. Another added feature aiding quick setup will be the inclusion of a summary foldout sheet showing the setup procedure in "flowchart" or block form.

### Summary

In summary, EASY CONFIG is a software utility that will significantly facilitate the setup process for a variety of PCs (both EISA and ISA based).

Direct user benefits include:

- Autoconfiguration of EISA cards
- Autodetection of some ISA cards
- Setup assistance for all users with more complex configurations
- Product line consistency (will run across a variety of HP PCs; helps protect investment in HP product)
- Industry-standard compatibility

Desktop

## HP Vectra 486 PC features wide range of high-performance disk drive subsystems

HP's powerful, new HP Vectra 486 PC comes with a full range of hard disk and controller subsystems that permit users to meet an equally wide range of performance and capacity demands.

The following tables show the standard and optional hard disk configurations that allow anywhere from 84 Mbytes to 1.3 Gbytes to be supported on the HP Vectra 486 PC.

Hard disk size	Form factor	Average seek time	Maximum throughput	Controller interface
670-Mbyte	5¼-inch full-high	< 16 ms	20 Mbits/s	ESDI
330-Mbyte	5¼-inch full-high	< 16 ms	20 Mbits/s	ESDI
152-Mbyte	5-inch half-high	16 ms	10 Mbits/s	ESDI
84-Mbyte	3-inch half-high	19 ms	N/A	Embedded*

\*A system with the embedded controller drive cannot be used with an ESDI drive and controller.

Standard system	Disk size	Controller interface	Optional hard disks	Maximum capacity
Model 670	670-Mbyte	ESDI	670-, 330-, 152-Mbyte	1.3 Gbytes
Model 330	330-Mbyte	ESDI	670-, 330-, 152-Mbyte	1.0 Gbytes
Model 150	152-Mbyte	ESDI	670-, 330-, 152-Mbyte	822 Mbytes
Model 1	None	None	670-, 330-, 152-, 84-Mbyte	168 Mbytes or 1.3 Gbytes

For the most demanding applications, HP is offering a hard disk subsystem in two capacities (670 and 330 Mbytes) that are "second-to-none" in performance. Aside from being able to reach anywhere from 330 Mbytes to 1.3 Gbytes of disk capacity, the drive to controller throughput rate is an industry-leading 20 Mbits/sec. This transfer rate represents a 33 percent improvement over Compaq's recently announced 15 Mbit/sec. hard drive controller subsystem for its 33-MHz 386 PC.

In addition to their outstanding performance, these high-capacity drives have reliability levels to match; i.e. their mean time between failure (MTBF) projection is for 150,000 hours, or three times the industry average. So, when state-of-the-art hard disk speed, capacity, and reliability are critical to user satisfaction, these drives are truly second to none.

In situations where users demand the processor performance of our new HP Vectra 486 PC, but don't need exceptionally high disk drive capacity or performance, the 10 Mbit/sec. 152-Mbyte ESDI drives will serve

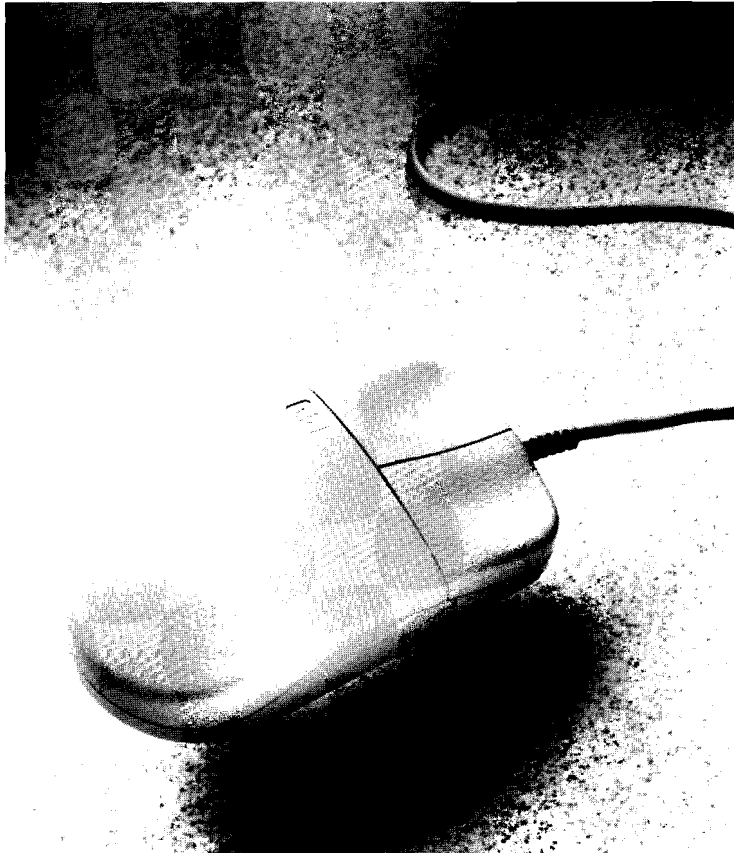
them very well. Those users can still expand up to 304 Mbytes with a second 152-Mbyte drive, or even 822 Mbytes if future needs dictate by adding a 670-Mbyte drive, since both drives operate off the 20 Mbit/sec. ESDI controller. In addition, the average seek time of 16 ms for the 152-Mbyte device is at a leading edge level for that important parameter.

Finally, for users who have minimal hard disk capacity requirements today and do not expect those needs to grow significantly in the immediate future, the 84-Mbyte drive with an embedded AT interface controller is an excellent choice. This drive has very good performance by virtue of its 19-ms seek time, and ESDI-equivalent data transfer capability (≈ 10 Mbit/sec). An added benefit of using the 84-Mbyte drive is that the controller is embedded on the drive itself, therefore, another expansion slot is made available.

All four drives will be available for the HP Vectra 486 PC introduction in early 1990, however, final pricing has not yet been approved. Ordering information, including pricing and product numbers, will be made available in December.

Desktop

## Introducing new HP Mouse with mini-DIN interface



Hewlett-Packard is proud to present one of the most comfortable mouse pointer devices in the industry — the new HP mouse with mini-DIN interface. The new mouse has two buttons and a roller-ball mechanism. During the design stage, extensive human factors and market research testing were carried out to determine user requirements. Fit, feel, and looks came out as the top differentiating user needs. One hundred sixty people from all kinds of professions and industry were asked by an external research agency to evaluate the new HP Mouse against the best mice on the market. At the end of the evaluation, they were asked to make a choice. The HP mouse won overall.

Based on feedback from this test, the design of the prototype was further refined.

The product will be available worldwide in early 1990. Only one interface will be available — the mini-DIN interface, sometimes known as the PS/2 interface. The interface will suit the new HP Vectra 486 PC. IBM PS/2, Compaq Tandy, and NEC PCs with the pointing device port can also use the new mouse. However, it will not be compatible with the older HP Vectra PCs with HIL interface. These users should continue ordering the existing mouse (PIN 46060A). The new mouse comes with the latest Microsoft Mouse driver (version 7, in 5¼- and 3½-inch diskettes), a manual in three languages, and a one-year return-to-HP warranty.

Desktop

## HP Vectra 486 PC: a premier CAD platform

*"The top three requirements for a CAD system are speed, speed, speed."*

— AutoDesk panelist at 1988 ADI conference

High performance, superior expandability, and support for industry standards positions the new HP Vectra 486 PC as the perfect system for your high-end CAD needs.

Whether users are designing a yacht, a building, or a sports car, it is important that they have a system that won't keep them waiting to redraw a picture, or retrieve a new file from a disk. Any wasted time could mean lost business. But with the HP Vectra 486 PC, users have the performance where they need it most: fast-access disk drives, expandable memory, and a state-of-the-art CPU that has integrated floating-point processing for high-speed calculations.

Combine the HP Vectra 486 PC with the HP 20-inch high-resolution display, HP Intelligent Graphics Controller, and an HP Draftmaster plotter, and users have a total CAD system with performance that is unmatched by any other vendor. All of these products have been tested with the leading CAD software packages such as AutoCAD, CADKEY, VersaCAD, DataCAD, and MEI0d.

Performance testing is underway and results will be published as soon as they are available. But don't wait for our results, get your HP representative to set up a CAD demo today.

Desktop

## **New HP Vectra PC Multiuser Program**

Hewlett-Packard announces a new PC Multiuser Program featuring HP Vectra 80386- and 80486-based PCs, and the SCO UNIX System V/386 operating system. In addition to the new UNIX operating system, HP will add three new accessories for multiuser HP Vectra PCs: the HP Terminal Multiplexor Kit, a new 120-Mbyte tape backup unit; and VP/ix for running DOS applications under UNIX systems. All of these new products will be available in November 1989. (In Europe, only the SCO UNIX product will be available in November, the balance of the products will be available during the first calendar quarter of 1990.)

PC multiuser systems are essentially "minicomputers at a PC price." As with larger minicomputers, PC multiuser systems are used primarily for transaction processing, including order entry, accounting, and database applications. PC LANs are better suited for graphics, heavy word processing, and complex spreadsheet applications, but use PCs instead of terminals and, therefore, have a greater cost per user than PC multiuser systems.

With an annual growth rate of 25 to 30 percent, the \$1.5 billion PC multiuser market is one of the fastest growing segments of the overall PC market today. This growth has been fueled by dramatic improvements in PC price/performance and the emergence of industry-standard UNIX for PCs. SCO is the acknowledged leader in PC UNIX operating systems with a market share of over 80 percent. More than 2,000 applications have been developed or ported to run on SCO UNIX.

PC multiuser systems are a popular solution for users who need a low-cost-per-user computer system for running a small- to medium-sized business, franchised operation, or department of a larger corporation. These types of mission-critical applications demand the most reliable systems, such as HP Vectra PCs. Users of HP Vectra PC multiuser systems will also be able to benefit from HP's extensive experience in the multiuser systems business. The complete, one-vendor PC multiuser solution will be fully tested and supported by HP, and will provide excellent multiuser system performance.

*UNIX is a registered trademark of AT&T in the U.S.A. and other countries.*

Desktop

## **HP Vectra 486 PC multiuser system**

The new HP Vectra 486 PC will be a superb platform for high-performance PC multiuser systems. Depending on the type of application and user load, an HP Vectra 486 PC multiuser system will support up to 64 terminals. The 80486 microprocessor, system memory, mass storage, package design, and EISA I/O bus of the HP Vectra 486 PC all contribute to improved multiuser system performance. With the HP Vectra 486 PC, true minicomputer performance can be achieved.

In Neal Nelson benchmark tests, the new 25-MHz 80486 microprocessor proved to be 40 to 50 percent faster than a 33-MHz 80386. This means that the 80486 microprocessor provides

equivalent performance as the fastest 80386 system with 40 to 50 percent more users. In addition to a faster microprocessor, the HP Vectra 486 PC is expandable with up to 64 Mbytes of memory and 1.3 Gbytes of hard disk mass storage. System expandability will be particularly important for satisfying the needs of growing small- to medium-sized companies. When an HP Vectra 486 PC multiuser system is used for running a business, the speed and reliability of the HP manufactured hard disks will also provide considerable benefits. The rugged HP Vectra 486 PC package was designed to maximize system reliability and expandability, with six mass storage shelves and eight industry-standard I/O slots.

The wider 32-bit EISA data bus significantly improves the performance of mass storage subsystems and networking accessories, directly benefiting multiuser data sharing and communications capabilities between systems. The industry standards established by EISA will provide a basis for the development of compatible 32-bit mass storage controllers and network adapters by third parties. An investment in an HP Vectra 486 PC multiuser system today will be an investment in industry-leading technology for even greater multiuser performance with future EISA accessories.

Desktop

**HP Vectra CS PC to be discontinued January 1**

Effective January 1, 1990, the HP Vectra CS PC will be removed from the HP Price List. After the January 1 discontinuance, orders will be accepted for the HP Vectra CS PC through January 31 for shipments by July 1, 1990.

This move is being made in order to focus HP resources on the more strategic 80286 and 80386 products and new high-performance PCs based on the 80486 microprocessor, and to move away from the more commodity-oriented 8086 market.

The following table summarizes the part numbers to be discontinued.

Product No.	Description
D1110A	HP Vectra CS Model 10 PC
D1115A	HP Vectra CS Model 15 PC
D1116A	HP Vectra CS Model 16 PC
D1120A	HP Vectra CS Model 20 PC
D1126A	HP Vectra CS Model 26 PC
D1127A	HP Vectra CS Model 27 PC

**Expanded memory boards removed from price list**

Effective November 1, 1989, the Expanded Memory Boards for the HP Vectra CS will be removed from the HP Price List. Third-party XT industry-standard memory boards, such as Intel's Above Board PC card, will provide customers with an alternative solution.

The following part numbers will be discontinued as of November 1, 1989.

Product No.	Description
D1174A Opt. 001	Vectra CS Expanded Memory Board with 1 Mbyte installed
D1174A Opt. 002	Vectra CS Expanded Memory Board with 2 Mbytes installed

Desktop

**Price decreases on HP Vectra QS/20 and RS/25C PCs**

On October 1, Hewlett-Packard reduced prices by up to \$700 on several models of the HP Vectra QS/20 and RS/25C PCs. These price drops support HP's strong commitment to the high-end personal computer market, including the PC-CAD and micro multiuser target markets. The new lower prices will make these powerful 386-based PCs even more attractive in the fast-growing 386 market.

On the HP Vectra RS/25C series PCs, the price of the Model 154e was decreased by \$650\*. The Model 154e is configured with a 155-Mbyte hard disk drive and 4 Mbytes of memory. The prices of the Models 150e and 100e were decreased by \$350\*. These models

feature 155-Mbyte and 103-Mbyte hard disk drives, respectively. The October 1 price reductions, when combined with price drops on all RS/25C models last July 1, result in total price drops since June of \$1,100\* on the Models 100e and 150e, \$1,400\* on the Model 154e, and \$1,300\* on the Model 304e.

On the HP Vectra QS/20 series PCs, the Model 100e price was decreased by \$700\* — a 10 percent reduction. The Model 100e includes a 108-Mbyte hard disk drive. The Models 46 and 47, which include a 40-Mbyte hard disk drive, were reduced in price by \$200\*.

The table below summarizes these price changes.

Product No.	Description	New price*	Price
D1422A	HP Vectra QS/20 Model 46 PC	\$ 5,799	-\$200
D1424A	HP Vectra QS/20 Model 47 PC	5,799	-200
D1425A	HP Vectra QS/20 Model 100e PC	6,299	-700
D2022A	HP Vectra RS/25C Model 100e PC	9,199	-350
D2023A	HP Vectra RS/25C Model 150e PC	9,799	-350
D2024A	HP Vectra RS/25C Model 154e PC	11,899	-650

*\*All prices mentioned in this article are U.S. list. Check with your HP representative for the appropriate prices in your country.*

Desktop

## Four HP Vectra PC models discontinued

In response to requests to simplify the HP Vectra PC product line, HP will remove the HP Vectra ES/12 Models 15, 20, and 40 and HP Vectra QS/20 Model 15e PCs from the January 1, 1990, HP Price List. Orders for these four configurations will be accepted through January 31 for shipments by June 30, 1990.

Beginning January 1, 1990, HP Vectra ES/12 PC users will continue to have a choice of five configurations: ES/12 Models 10, 26, 27, 46, and 47 PCs. By

ordering an HP Vectra ES/12 Model 10 PC and either an HP 20-Mbyte or 40-Mbyte hard disk drive accessory, users will be able to configure an HP Vectra ES/12 Model 20 or 40 PC. HP Vectra QS/20 PC users will continue to have a choice of four configurations: QS/20 Models 10e, 46, 47, and 100e.

The following is a summary of the products that will be removed from the January 1, 1990, HP Price List.

upgrades that were previously only supported on the HP Vectra RS/20C and QS/16S PCs.

*Note: P/Ns D1540A and D1542A were discontinued November 1, 1989. HP Vectra QS/16S PC users can upgrade their systems either with the D1640A (1-Mbyte upgrade that includes four 256-Kbyte memory modules) or the D1354A (2-Mbyte upgrade that includes two 1-Mbyte modules). It is recommended that users upgrade with the D1354A because it allows for future memory expansion to 5 Mbytes. Should users require only 1 Mbyte, the D1640A can be used. However, this will prevent users from expanding beyond 2 Mbytes.*

Contact your HP representative for more information.

Product No.	HP Vectra PC	Flexible disk size	Hard disk	Video adapter
<i>Models discontinued January 1, 1990</i>				
D1315A	ES/12 Model 15	3 1/2-inch	none	none
D1320A	ES/12 Model 20	5 1/4-inch	20-Mbyte	none
D1340A	ES/12 Model 40	5 1/4-inch	40-Mbyte	none
D1427A	QS/20 Model 15e	3 1/2-inch	none	none
<i>Available HP Vectra ES/12 and QS/20 PC models</i>				
D1310A	ES/12 Model 10	5 1/4-inch	none	none
D1326A	ES/12 Model 26	5 1/4-inch	20-Mbyte	VGA
D1327A	ES/12 Model 27	3 1/2-inch	20-Mbyte	VGA
D1346A	ES/12 Model 46	5 1/4-inch	40-Mbyte	VGA
D1347A	ES/12 Model 47	3 1/2-inch	40-Mbyte	VGA
D1420A	QS/20 Model 10e	3 1/2-inch	none	none
D1422A	QS/20 Model 46	5 1/4-inch	40-Mbyte	VGA
D1424A	QS/20 Model 47	3 1/2-inch	40-Mbyte	VGA
D1425A	QS/20 Model 100e	5 1/4-inch	108-Mbyte	none

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Desktop

## Price decrease on selected HP Vectra PC memory upgrades

Effective November 1, Hewlett-Packard has reduced the price of the high-speed (80 ns) memory upgrades by up to \$600 (U.S.). In addition, HP has standardized all memory upgrades of 80386-based PCs to use this 80 ns memory. This includes the 1-Mbyte (PIN D1640A) and 4-Mbyte (PIN D1642A) capacity HP Vectra RS/25C, RS/20C, QS/20, and QS/16S PCs.

The price reduction keeps fully configured PC systems aggressively priced, while standardizing on the 80 ns memory simplifies the memory upgrade process for 80386-based HP Vectra PCs.

Because all 80386-based PC memory upgrades have been standardized, HP has discontinued the 100 ns memory

Peripherals

General

## Introducing the new HP Intelligent Graphics Controller series



Bring workstation graphics performance to your PC with the HP Intelligent Graphics Controller series of high-resolution graphics cards. The HP Intelligent Graphics Controller 10 and 20 (P/Ns A1086A and A1083A, respectively) graphics cards combine for the first time high performance, flexibility, and affordability for the user of graphics-intensive applications such as CAD.

The HP Intelligent Graphics Controller series enhances productivity by providing faster, noninterlaced screen updates while displaying more information than conventional video graphics adapter (VGA) cards. User-installable upgrades provide a broad range of performance and features and allow for easy upgrades if needs change later. A broad selection of software is available and access to VGA applications is provided via analog VGA pass through. A software utility simplifies installation by verifying configurations and setting up application drivers.

### Key features

- **High performance** — The HP Intelligent Graphics Controller series graphics cards supply better performance than competitive cards costing 20 to 70 percent more. For example, these graphics cards provide under a second response times for complex zoom and redraw image commands in AutoCAD.
- **Flexibility** — Via the available upgrades, users are given choices in color (16 or 256), resolution (640x480 through 1280x1024), and program memory (up to 3.5 Mbytes).
- **Extensive software compatibility** — Over 300 applications including AutoCAD, AutoShade, Cadkey, GEM, HP AXDSIPC, HP ME10d, MicroCADAM, MS-Windows, and VersaCAD are supported via Texas Instruments Graphics Architecture (TIGA) and Direct Graphics Interface Standard (DGIS). Access to VGA applications is provided with VGA pass through.

- **Industry-standard compatibility** —

The HP Intelligent Graphics Controller series is compatible with hardware from a variety of manufacturers including ISA-compatible PCs from AST, Compaq, HP, NEC, and Zenith, and monitors from HP, Hitachi, Mitsubishi, Nanao, and NEC.

The HP Intelligent Graphics Controller 10 became available November 1, 1989. Based on a 50-MHz Texas Instruments TMS34010 graphics processor, its U.S. list price is \$995.

The HP Intelligent Graphics Controller 20 will be available February 1, 1990. It will be one of the first PC graphics cards to be delivered with the new 10-MIPS Texas Instruments TMS34020 graphics processor. Its U.S. list price is expected to be less than \$3,000.

### Ordering information

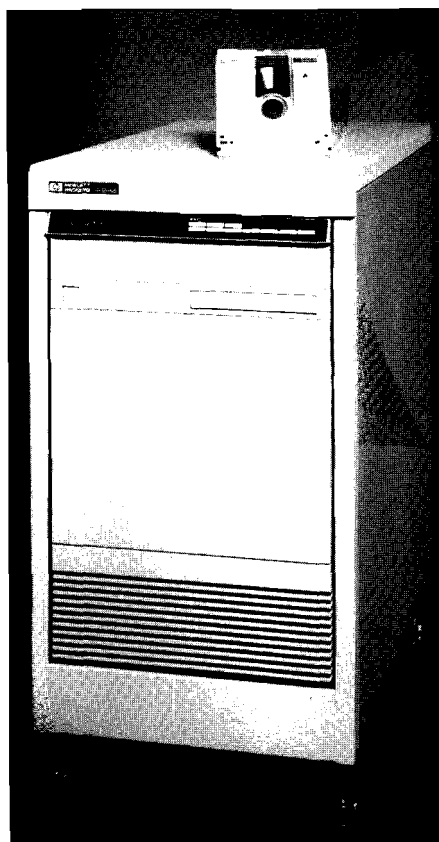
Product No.	Description
A1086A	HP Intelligent Graphics Controller 10
A1083A	HP Intelligent Graphics Controller 20
A1087A	Extension module
A1084A	VRAM kit
A1085A	DRAM kit

### Literature

Lit. No.	Description
5952-0416	HP Intelligent Graphics Controller 10 brochure
5952-0417	HP Intelligent Graphics Controller 20 brochure
5952-0421	HP Intelligent Graphics Controller series general information manual

Mass Storage

## HP brings 20 Gbytes of rewritable optical storage online — the HP Series 6300 Model 20GB/A



Last April, Hewlett-Packard became the first major systems vendor to introduce a rewritable optical disk drive — the Series 6300 Model 650/A (PIN C1700A). Now HP expands this leadership position with the introduction of a 20.8-Gbyte rewritable optical disk library system. The HP Series 6300 Model 20GB/A, which was previewed at INTEREX in September, is now on the November 1 HP Price List.

### Benefits

The HP Series 6300 Model 20GB/A combines the convenience and low storage cost of optical disk technology with the massive capacity of a library system to provide online access to vast amounts of infrequently accessed information in a fraction of the space of other storage media. Just like the stand-alone subsystem, the HP Series 6300 Model 20GB/A is a direct-access secondary storage (DASS) device that fills the price-performance gap between high-performance hard disks and low-cost tape storage. Because of its huge storage capacity and low cost per megabyte, the autochanger revolutionizes traditional mass storage by bringing more offline information online.

The HP Series 6300 Model 20GB/A is also ideal for automating labor-intensive backup/recovery processes. Value-added businesses will also quickly see its clear benefits when addressing specific applications requiring reliable, low-cost, high-capacity storage, such as archiving.

The HP 6300 Model 20GB/A takes advantage of magneto-optical technology to write and read data on removable, very durable 5%-inch disks. Optical disks are not susceptible to head crashes and are much more tolerant of magnetic interference than magnetic media. Because the laser focuses only on the disk's inner recording layer — which is well sealed in a hard polycarbonate coating — fingerprints and even small scratches on its surface have no effect on the data. Data can last more than 10 years without the repositioning or reconditioning that tapes require.

### How does it work?

The HP Series 6300 Model 20GB/A consists of an autochanger, two optical disk drives, and 32 5%-inch (650-Mbyte) optical disk cartridges all in a small desk-side cabinet. A convenient mail slot makes it easy to load or remove media. The autochanger automatically selects the appropriate cartridge and inserts it into one of its two internal drives. The whole operation is transparent to users who see only a slightly slower response time when accessing their data, approximately 100 msec if a disk is already in the drive, or about 10 to 15 seconds if a disk needs to be exchanged. Since the operating system (HP-UX 7.0) recognizes each disk side as a 325-Mbyte mountable file system, full data access and software compatibility is maintained as if it were a hard disk (a slower hard disk).

If you are concerned about reliability, you need not be. Realizing the importance of reliability in an autochanger product, HP designed this autochanger with an MTBF twice that of the industry average. HP's unique "passive payload" design eliminates many of the failure-prone components from the transport mechanism. Unlike competitors' complex designs, motors, sensors, and electronic cables are not attached to HP's autochanger arm, therefore, making our design more reliable.

### Support of industry standards

The HP Series 6300 Model 20GB/A protects your long-term investment by conforming to industry standards. The Model 20GB/A conforms to the ANSI and ISO definition for rewritable 5%-inch media, providing compatibility with the Model 650/A as well as the rewritable optical drives and media of other vendors. In keeping with our commitment to supporting industry standards, the Model 20GB/A also implements the SCSI interface. Additional interfaces, such as HP-FL, are currently under investigation.



## Host support

Initial support is provided on HP 9000 Series 300 systems under HP-UX 7.0 with SCSI. Access by other systems including the Series 800 and HP 3000 is possible over LAN via NFS or DS. Plans for direct connect on these systems are as follows:

Host	Model 20GB/A support
HP 9000	
Series 300	HP-UX 7.0
Series 800	Planned for second half 1990 (HP-UX 8.0)
Series 2001500	Not planned
HP 3000	
MPE XL	Planned for 1991
MPE V	Under investigation
HP Vectra PC	Under investigation
HP 1000	Not planned

## Mass Storage

# HP Series 6300 Model 20GB/A rewritable optical disk library system ordering information

The HP Series 6300 Model 20GB/A includes the autochanger, desk-side cabinet, two rewritable optical disk drives, 32 pieces of media (1024 bytes/sector), power cord, and a SCSI terminator. All prices include installation and a 90-day on-site warranty. Additional media is available through HP DIRECT.

The standard product will come with 32 pieces of media. A delete media option (Option 231) will delete 31 pieces of media for a credit of \$6,450 (U.S.). We encourage users to order the standard product fully loaded with media. This bundled-media price will save \$1,269 (U.S.) over individual media purchase. By buying the media with the Model 20GB/A, users will also receive the same trade discount on the media that applies to the library system.

Always buy optical media from HP to ensure best performance and highest data reliability. Some non-HP media is inappropriate for heavy autochanger use, and while it might seem to work initially, HP cannot guarantee its performance or long-term data integrity.

Product No.	Description
C1700A	Model 20GB/A rewritable optical disk library system with two drives and 32 pieces of media
Opt. 231	Delete 31 pieces of media
Opt. AFJ	Add two-meter SCSI interconnect cable
<i>Monthly maintenance contracts</i>	
SMMC	Four-hour response
BMMC	Next-day response
<i>Accessories (from HP DIRECT)</i>	
92280A	Additional media — one disk (1024 Bytes/sector)
92222B	One-meter SCSI interconnect cable
92222C	Two-meter SCSI interconnect cable
92222D	One-meter SCSI extension cable

## *HP addresses new applications with HP Series 6300 Model 20GB/A rewritable optical disk library system*

HP's new Series 6300 Model 20GB/A rewritable optical disk library system offers over 20 Gbytes of reliable, low-cost, random access storage in less than 3½ square feet of floor space. This provides opportunities for improving existing storage procedures as well as addressing new application areas previously impossible due to high online storage costs.

### Online archive

"Given the choice, all data would be kept online," is the overriding sentiment of users and industry analysts, yet over 99 percent of all business information resides offline either on paper, microfilm, or tape. The Model 20GB/A offers many significant advantages in archival applications.

First, optical media is not only durable, it's made for long-term storage — lasting more than 10 years with no data degradation or the regular maintenance required of tapes.

Second, ANSI and ISO standards allow for media interchange and future drive compatibility.

Third, information is directly accessible. Users have their data when they need it without the need of an operator searching their archives for the right tape. Another significant advantage is security. Optical disks can be individually write protected, the media can be locked in the autochanger, or in extreme situations, disks can be removed through the mail slot and locked in a safe.

### Unattended backup/restore

"Unattended," "lights out," and "operatorless" are the buzz words of today's information managers seeking better backup solutions. With shrinking operating budgets, labor-intensive backup practices are less acceptable. The Model 20GB/A offers a better way. With a capacity of over 20 Gbytes, users can automate their backup/recovery processes with capacity to spare. Not only does automated backup provide added security, operators and system managers are freed up to perform other tasks.

Because the Model 20GB/A is fully compatible with the HP-UX 7.0 operating system, existing backup commands can be used without modification. Users can also write simple HP-UX scripts to automate the process, or take advantage of more sophisticated backup utilities that will be available in the future.

Note that backup performance on HP-UX, especially over a network, has certain limitations. For true throughput numbers, a case-by-case performance analysis should be conducted taking into account the HP-UX file system, system I/O, and network overhead.

### Electronic image management

Image data (documents) is an important information resource of any organization. But because images require such large amounts of storage space (over 1 Mbyte for an 8×10 page scanned at 300 dpi), image/document data has traditionally been kept offline on paper

or microfilm. With optical storage, this data can be stored online and electronically managed and shared among many users at different locations.

As an example, some engineering management software (such as that offered by GTX Corporation of Phoenix, Arizona) allows vast numbers of scanned engineering drawings to be stored online with the Model 20GB/A. Not only are storage space and labor costs reduced, but the data are directly accessible for retrieval, modification, and electronic distribution. Software for document image management, such as that which was demonstrated by HP at INTEREX in September will also be available soon. We'll keep you informed as these and other solutions become available.

HP's Direct Access Secondary Storage (DASS) products open the door to a wide variety of applications that were previously limited by high storage costs or poor access performance. Use your imagination when building solutions.



*Mass Storage*

## **HP Series 6300 Model 650/A rewritable optical disk — host support update**

Hewlett-Packard's optical revolution is now well underway. As promised, shipments of the HP Series 6300 Model 650/A began in June. This industry-standard drive gives durable, removable media with direct access to 650 Mbytes of data per 5¼-inch disk (325 Mbytes per side). Positioned as Direct Access Secondary Storage (DASS), it helps fill the price-performance gap between hard disks and tape. Since announcing the product eight months ago, we have made significant progress on planned host support. Here is an update for your information.

### **HP 9000 Series 300**

The HP Series 6300 Model 650/A is currently supported under HP-UX 6.5 with SCSI. The next revision of Pascal, expected in the first half of 1990, will provide support with a new SCSI driver. Support is also planned with SCSI on the 6.0 revision of Rocky Mountain BASIC, now scheduled for release in the first calendar half of 1990.

### **HP 9000 Series 800**

Support for the Model 650/A is planned for HP-UX release 8.0 with SCSI in the second half of 1990.

### **HP 1000 A-Series**

An HP SCSI card for the 1000 is now under development. The current plan is for introduction of this card in the second quarter of 1990. Boot device support for the Model 650/A is planned with the initial release.

### **Apollo workstations**

Apollo Systems Division — a subsidiary of HP — is currently working to support the rewritable optical disk drive on its systems using SCSI. Support should be available by mid-1990.

### **900 Series HP 3000 (MPE XL)**

Support for the stand-alone drive is now under investigation (as a subset of optical autochanger support) for the 1991 timeframe. Alternate support connections that might allow us to provide this support earlier are also under investigation. In addition, DS copy commands can be used to transfer data to a Model 650/A connected to an HP 9000 Series 300 workstation.

### **HP Vectra PC, IBM compatible PCs, and Macintosh**

HP is developing third-party solutions using the SCSI interface and driver software that would allow connection of the Model 650/A on HP Vectra PC, Macintosh, IBM PCs, and compatibles. These solutions should be ready in the first quarter of 1990. Initially, we intend to make these solutions available

through a limited number of regional distributors. Distribution via the HP direct sales force is under investigation.

### **Sun and DEC**

HP is testing several interface cards for connectivity to DEC and Sun systems. Sales and support for these configurations will be provided through a limited number of regional distributors and is expected to begin in first quarter 1990. HP direct sales force distribution is not planned.

### **HP-IB interface**

As more and more HP host systems move toward providing support for mass storage peripherals with SCSI, the market for an HP-IB version of the Model 650/A is diminishing. We have received feedback from the field that without an HP-IB interface, many installed base customers feel this new technology is unavailable to them. However, there are now solutions for optical support with SCSI on almost all host systems in the foreseeable future. For this reason, we are not planning to develop an HP-IB interface for this product.

### **Summary**

System	Operating system	Version	Availability
HP 9000 Series 300	HP-UX	6.5	Available now First half 1990
	Pascal	next	
	Rocky Mountain BASIC	6.0	
HP 9000 Series 800	HP-UX	8.0	Second half FY90
	RTE-A		Second quarter FY90
HP 1000 Apollo	Domain		Planned for 1990
	MPE XL		Under investigation
HP 3000 900 Series	MPE V		Not planned
	MICRO, Series 70		
HP Vectra PC	MS-DOS		First quarter FY90
Macintosh			First quarter FY90
DEC, Sun			First quarter FY90

## New low prices for HP midrange disks

Effective November 1, 1989, users can purchase high-performing midrange (5 1/4-inch) disk drives for less. The prices of the following SCSI and HP-IB models have been lowered.

Product No.	Description
79578	HP 79578 81-Mbyte disk drive
79578	HP 79578 107-Mbyte disk drive
7958B	HP 79588 152-Mbyte disk drive
7958S	HP 79588 161-Mbyte disk drive
7962B	HP 79628 152-Mbyte disk drive
97962B	HP 979628 152-Mbyte upgrade kit
7959B	HP 79598 304-Mbyte disk drive
7959S	HP 79598 323-Mbyte disk drive
7963B	HP 79638 304-Mbyte disk drive
97963B	HP 979638 304-Mbyte upgrade kit

The expandable HP 7963B (with upgrades) is particularly attractive. For example, an HP 7963B with one HP 97963B upgrade kit is only \$11,025 (U.S. list). That's 608 Mbytes at only \$18 per megabyte. Users save even more when adding a third mechanism. For a total of 912 Mbytes, users pay only \$15,575 (U.S. list), or \$17 per megabyte.

Following is a competitive comparison of HP versus DEC and Sun. Although both DEC and Sun offer very price-competitive solutions in the 100- to 200-Mbyte range, these products are only available on bundled systems with restricted configurations. HP, on the

### Competitive comparison

Stand-alone solution			Integrated solution	
<i>600-Mbyte expandable systems</i>			<i>600-Mbyte system</i>	
HP 7963B	DEC 332-Mbyte	Sun 327-Mbyte	Sun Sparcstation 3XX	
+ 97963B	+ upgrade	+ upgrade	\$10,000	
\$11,025	\$12,450	\$10,500		
<i>300-Mbyte systems</i>			<i>300-Mbyte system</i>	
HP 7959	DEC 3100	Sun Sparcstation	Sun Sparcstation	
\$5,675	\$6,500	\$5,600	\$5,000	
<i>150- to 200-Mbyte systems</i>			<i>150- to 200-Mbyte systems</i>	
HP 7958	DEC RD54	Sun 208-Mbyte	DEC 3100	Sun Sparcstation
\$3,875	\$4,500	\$4,400	\$4,800	\$3,000
<i>80- to 100-Mbyte systems</i>			<i>80- to 100-Mbyte systems</i>	
HP 7957	DEC RD53	Sun 104-Mbyte	DEC 3100	Sun Sparcstation
\$3,225	\$4,190	\$2,200	\$2,400	\$2,000

*Note: All prices are U.S. list.*

other hand, offers these low prices on all midrange disk drives, regardless of the host system. Don't forget that the HP-IB disk drives are supported across the current HP 3000, HP 9000, and HP 1000 product lines. The SCSI disks are supported on the HP 9000 Series 300 running HP-UX.

If you have any questions, please contact your local representative.

## Mass Storage

### **Prices reduced on HP 9153C disk drives**

Users can now take advantage of price decreases on the highly reliable and rugged HP 9153C disk drives. The new HP 9153C prices are effective November 1, 1989.

HP 9153C Options 010, 020, and 040 include a 10-, 20-, or 40-Mbyte hard disk drive plus integrated 3½-inch floppy drive. This floppy drive uses a dual-sided, high-density 2-Mbyte (unformatted) floppy disk. Options 011, 021, and 041 have been discontinued as of November 1, 1989 (see following article). If you have any questions, call your HP representative.

## Mass Storage

### **Final notice: HP 9153C Options 011, 021, and 041 discontinued**

Effective November 1, 1989, HP 9153C Options 011, 021, and 041 will be discontinued. These options are the Winchester disk-only products (no floppy included). The option descriptions are listed below:

Product No.	Option	Description
9153C	011	10-Mbyte fixed disk drive
	021	20-Mbyte fixed disk drive
	041	40-Mbyte fixed disk drive

Orders will be accepted through November 30, 1989.

Note that the HP 9153C Options 010, 020, and 040 — which include a fixed disk drive plus flexible disk drive — remain on the HP Price List. These products are now reduced in price. If you have any questions, please call your HP representative.

## Networks

### **HP LanProbe goes metric**

Hewlett-Packard has released a new version of the HP 4990A ProbeView software, a component of the HP 4990S LanProbe distributed analysis system. This new release, version A.03.00, provides external modem support for the LanProbe as well as feet-to-meter conversion of distances on ProbeView's network map. In addition, users of this latest release of the ProbeView software will be able to export statistical data to a spreadsheet for further analysis. This latest release of ProbeView software is specifically designed to support the needs of the international market and to make the LanProbe system a more flexible local-area network (LAN) management tool for use worldwide.

The LanProbe system was introduced by HP earlier this year. It provides comprehensive and informative reporting on Ethernet LAN status, information that is vital to the prevention of downtime and impeded performance. The HP 4990S LanProbe system consists of three components: the HP 4991A LanProbe segment monitor, HP 4990A ProbeView software, and HP 4992A NodeLocator. The LanProbe segment monitor attaches to the end of an Ethernet segment and monitors all traffic. Network data relating to the segment is transferred to a workstation running ProbeView software via RS-232-C, an Ethernet adapter, or a modem connection. The NodeLocator option automatically locates the position of nodes on coax networks.

ProbeView A.03.00 software, which runs on an HP Vectra PC or PC/AT class workstation, presents network information in color graphic displays. Says Joseph Adler, general manager of the Intelligent Networks Operation at HP, "The LanProbe system is to the network what a dashboard is to

## Buy LAN Manager for OS/2 and DOS and save

The unlimited user version of HP LAN Manager for OS/2 and DOS (D1810A Options 001 or 002) will be offered at a special introductory price from November 1, 1989, through January 31, 1990.

LAN Manager is the next evolutionary step in standards-based network operating systems. LAN Manager provides networking extensions for OS/2 and DOS environments just as MS-Net provides networking extensions for DOS environments.

LAN Manager is a superset of MS-Net features and functionality and is compatible with OfficeShare III (OfficeShare is based on MS-Net). LAN Manager is the first local-area network operating system designed for client/server computing providing the distributed intelligence that makes this possible.

Key advantages provided by LAN Manager include:

- Improved performance — "Novell isn't the fastest network anymore." *InfoWorld* July 1989.  
Example: Third-party performance testing indicates that 3+Open, the base product for HP LAN Manager for OS/2 and DOS, exceeds the performance of Novell Netware version 2.15.
- Comprehensive network management and administration — LAN Manager makes it easier to manage and control users and network resources.

Example: Network auditing statistics and error logging captures critical data allowing the network administrator to track server resources, network access, and optimize network performance.

Standard multitasking environment (OS/2) — Multitasking capability increases flexibility and performance of the network and overcomes limitations that existed in single-tasking DOS environments.

Example: Multitasking allows a LAN Manager server to perform tasks in parallel. For example, a server is no longer tied up when printing occurs. The server also can output multiple print jobs simultaneously.

- Open application programming interfaces (APIs) — APIs provide a superior development platform for distributed applications and the foundation for client/server computing.

Example: Client/server computing is described as the computing environment of the future, growing to a \$20 billion business by 1993. Applications written for this environment using named pipes (an API) will outnumber Net Bios applications by 1991.

### Ordering information

Only P/Ns D1810A and Options 001 and 002 are eligible under this promotion. This promotion is only available for three months.

For further information on HP LAN Manager for OS/2 and DOS, contact your HP representative.

## StarLAN 10 Link bundles obsolescence plan

The StarLAN 10 Link bundles (PIN D1818A Options 110 and 210) offered under the LAN Attack Program will be removed from the HP Price List and obsoleted on December 1, 1989. In lieu of these bundles, users should order desired quantities of the D1808A cards.

The OfficeShare III software bundles (listed below) offered under the LAN Attack Program will continue to be available.

Product No.	Description
50925F Opt. 010	OfficeShare III software bundle PC server software, NS-user services for 10, configdiag for 10
Opt. 020	PC server software, NS-user services for 20, configdiag for 20
50923F Opt. 010	OfficeShare III software bundle NS-user services for 10, configdiag for 10

Eligibility for the low-cost or no-cost upgrade to HP LAN Manager for OS/2 and DOS with the purchase of the 50925F Options 010 or 020 will continue through November 30, 1989.

Networks

## Introducing HP-UX LU 6.2 API

Program-to-program communication will soon be available to allow greater communications between HP 9000 systems and the IBM mainframe. Combined with the HP-UX SNALink product, the new HP-UX LU 6.2 API (Application Programming Interface) product gives HP users the ability to develop applications that are distributed between an HP 9000 system and an IBM System1370 or compatible mainframe.

HP-UX LU 6.2 API provides a set of mapped conversations and type-independent verbs for application programmers to use for program-to-program communication between an HP 9000 C-language application program and a CICS application program running on an IBM host mainframe. The verbs implement the base function set plus a number of option sets of the LU 6.2 architected mapped verbs defined by IBM. These verbs initiate LU 6.2 conversations, and send and receive data over these conversations on behalf of program pairs needing to communicate to complete a transaction, such as database updates and file transfers.

The HP-UX LU 6.2 API product is available in two configurations: stand-alone and gateway. The stand-alone configuration provides IBM mainframe access for a single HP-UX machine that has its own HP-UX SNALink. The gateway configuration permits access to the IBM mainframe from multiple HP-UX machines on a LAN. These machines generally use a single HP 9000 system with a Gateway1 SNALink as a gateway to access the IBM mainframe.

### Features

- *Mapped conversation and type-independent verbs* — Allow HP 9000 system programmers to implement program-to-program communication in an SNA network.
  - *Support for C Language* — Application programs on the HP 9000 system are written in C Language.
  - *Multiple sessions* — Up to 50 LU-LU sessions per SNALink can run simultaneously. Each session responsible for a separate communication task or for adding additional bandwidth to a single communication task. Each TP can handle up to eight LU-LU sessions.
- Support for remote attach* — Enables a remote LU 6.2 application to request an HP 9000 LU 6.2 application to start running and begin communication with it.
- *SNA services compatibility* — The HP-UX LU 6.2 API is completely compatible with other HP 9000 SNA services: HP-UX SNA3270, HP-UX SNA3770, and HP-UX SNA3179G (Series 300 only). These products all may be running simultaneously over the same SNALink to the SNA network. SNALink is a hardware and software product that manages the physical link to the IBM host and implements protocols in the lower four levels of the SNA stack.

- *Trace/logging facility* — HP 9000 application programmers can track all LU 6.2 verb calls within applications being developed, serving as a valuable debugging aid during program development.

### Ordering information

To order HP-UX LU 6.2 API, identify the product number corresponding to the appropriate HP 9000 model. For Series 800 models, a choice of media option (¼-inch cartridge tape or 1600 bpi tape) must be made. Note that a choice of stand-alone or gateway configuration need not be made at ordering time.

### Ordering information

The prices of the products listed below will be published in the December 1 HP Price List.

Product No.	Description
98162A	HP-UX LU 6.2 for HP 9000 Series 300
98167A	HP-UX LU 6.2 for HP 9000 Model 815
Opt. AA0	¼-inch cartridge tape
Opt. AAI	1600 bpi tape
98164A	HP-UX LU 6.2 for HP 9000 Models 8251835
Opt. AA0	¾-inch cartridge tape
Opt. AAI	1600 bpi tape
98165A	HP-UX LU 6.2 for HP 9000 Model 840
Opt. AA0	¾-inch cartridge tape
Opt. AAI	1600 bpi tape
98166A	HP-UX LU 6.2 for HP 9000 Models 8501855
Opt. AA0	¼-inch cartridge tapc
Opt. AAI	1600 bpi tape

## Correction: HP-UX SNA-Link for HP 9000 Model 815 system

The HP *Channels* article in the September issue incorrectly stated that 50 LUs will be available for each HP-UX SNA-Link and HP-UX Gateway/SNA-Link card. The correct number is 20 LUs per card, and is correctly stated on the HP Price List.

## NS-ARPA/1000: adding FTP and Ethernet to NS/1000 at no extra cost

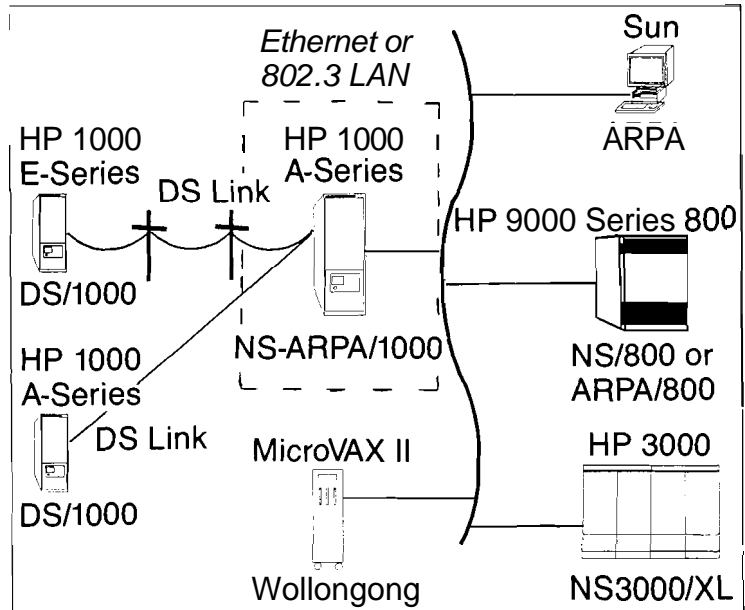
NS/1000 has been renamed NS-ARPA/1000 with the addition of more ARPA functionality. It now provides connectivity between the HP 1000 A-Series computers and DEC VAX, Sun, IBM PC, HP Vectra PC, HP 9000, HP 3000, and HP 1000 processors. NS-ARPA/1000 includes:

- ARPA Services
  - File Transfer Protocol (FTP)
  - Telnet virtual terminal protocol
- NS Services
  - NetIPC for interprocess communication
  - NFT (DSCOPY) for HP-HP file transfers/conversions
  - Remote Process Management (RPM)
  - Backward compatibility with DS/1000-V
- Transports
  - TCP/IP and support over Ethernet and 802.3 LAN
  - X.25 and point-to-point links (between HP 1000 systems only)

### Targeted at users with sophisticated communication needs

For users with sophisticated multi-vendor networking needs, NS-ARPA/1000 is the recommended solution. It provides industry-standard protocols and the most efficient means to communicate with a wide variety of computer vendors. High reliability and system-to-system communication makes implementation of distributed systems easier and more cost effective.

Currently, less than 20 percent of the installed base of HP 1000 A-Series are networked. Using NS-ARPA/1000, users can integrate their HP 1000 systems into their enterprisewide network of systems. ARPA services has the same look and feel on NS-ARPA/1000 as it does on UNIX system-based systems, allowing for a more efficient migration to a networked environment.





If users already use NS/1000 and have urgent needs for FTP and Ethernet, then NS-ARPA/1000 will meet their needs now. However, users who do not have an urgent need may wait until next spring when the next update of the operating system is expected.

Those users requiring basic multivendor applications (file transfer and virtual terminal) should consider purchasing ARPA/1000, instead. It does not include the more sophisticated and complex networking functionality of NS, making it an economical multivendor solution.

## Pricing

There will be no change in the price of NS/1000 when it is released as NS-ARPA/1000. See the most current HP Price List for further details. Users with NS/1000 SMS will receive NS-ARPA/1000 free of charge.

## Availability and further information

NS-ARPA/1000 will begin shipping in late December 1989/early January 1990. Users purchasing the product and SMS can place their order at any time. They will receive NS/1000 now, and the NS-ARPA/1000 product when it ships. Users who choose not to purchase SMS should place their orders after December 1 to ensure that they receive release 5.16.

The product and option numbers for NS-ARPA/1000 are the same as NS/1000. Contact your HP representative for more information.

**UNIX is a registered trademark of AT&T in the U.S.A. and in other countries.**

## Networks

# MTS and HP 2333A/2334A-X.25 multiplexer products to be removed from HP Price List

The HP 2333A and 2334A Plus-X.25 multiplexers, along with the multipoint terminal support (MTS) products will be removed from the HP Price List January 1, 1990. The products to be removed include:

Product No.	Description
32025A/R	Multipoint terminal support services
32026A	MTS data link connection
32027A	MTS synchronous modem link
32028A	MTS 3270 device link
<b>HP 2333A products</b>	
2333A	Multipoint cluster controller
40250A	Serial communication< processor module
40251A	Second host system adapter for HP 2333A
3074A	Data link adapter
3074M	Modem data link adapter
92901A	Connection boxes
92902A	Data link cable
92905A	Device link cable
92906A	Multipoint cable
92908A	Data link tester
92909A	Link test cable
<b>HP 2334A products</b>	
2334A	HP 2334A Plus X.25 multiplexer
40223B	Upgrade kit from HP 2333A Plus to HP 2334A Plus
402248	Upgrade kit from HP 2334A to HP 2334A Plus

MTS and HP 2333A have provided the multipoint functionality on HP 3000 MPE V systems. To provide a migration path for users moving to MPE XL

systems. HP has referenced the Micom multipoint box type 2 (MB2) statistical multiplexer. This migration path is only applicable to users of the MTS modem link. It does not apply to those using the MTS Data Link Connection or MTS 3270 Link. Users needing to migrate from MTS Data Link should use standard IEEE 802.3 LAN, while users migrating from MTS 3270 Link should look at third-party products. See the article in the February 1989 issue of *HP Channels* for more information.

The HP 2334A is replaced by the HP 2335A. The HP 2335A is less expensive and offers equivalent functionality. HP 40261A, which provides four additional modem connect ports for the HP 2334A, will remain on the HP Price List for at least two years. This ensures that the number of ports on the existing HP 2334A may be increased. There is no migration path between the HP 2334A and the HP 2335A since the HP 2335A is backward compatible.

Contact your HP representative for more information.

## New HP PaintJet XL color graphics printer designed for high-volume users



On October 30, 1989, Hewlett-Packard introduced the HP PaintJet XL color graphics printer (P/N C1602A). The HP PaintJet XL printer offers shared and high-volume users a fast color graphics printer with the quality, speed, and features they need, at a price they can afford.

The HP PaintJet XL printer has all the popular HP PaintJet printer features: fast, near-letter-quality text, 180 dpi resolution, thousands of color shades and hues, disposable print cartridges, and hardware and software compatibility.

Additional features unique to the HP PaintJet XL printer include print speed up to three times faster than the original HP PaintJet printer, automatic sheet feed for HP PaintJet printer paper and transparency film, A- and B-size

media handling, a special presentation mode for the best-possible quality on paper, and an optional font cartridge with 20 additional fonts.

### HP PaintJet XL printer users

Business professionals who need text and graphics capability for analysis, reports, and presentations are ideal HP PaintJet XL users. Designers and engineers also need the HP PaintJet XL printer's graphics capability for analysis, solids modeling, shading, and rendering.

The most likely users are among the professionals you do business with now:

- HP PaintJet printer owners who need a faster printer
- HP plotter owners looking for more versatility

- Black and white printer owners who want color
- Users who need B-size output
- PC CAD professionals

### System connectivity

The HP PaintJet printer series is designed to be used with a variety of computers. These include the HP Vectra PC family and other AT-compatibles, Apple Macintosh computers, HP technical computer systems and others.

The HP PaintJet printer series works with Microsoft Windows<sup>B</sup>. A new, faster driver for version 2.11 will soon be available and will ship with the next version of Microsoft Windows. HP also offers the HP Color PrintKit for Microsoft Windows. This kit, available December 1, gives users 12 scalable fonts for both the HP PaintJet and PaintJet XL printers.

The HP PaintJet printer series connects easily to Macintosh Plus, SE, and II computers through a new interface kit, the HP Color PrintKit for Apple Macintosh computers. The new kit supports such features as background printing, font scaling, and 32-bit color. It provides a QuickDraw-compatible software driver, fonts, cable, and user's guide.

### Two models

Now users have a choice of two HP PaintJet printer models: the original HP PaintJet printer, an affordable solution for personal use, or the HP PaintJet XL printer, a more powerful solution for shared or high-volume use.

*Microsoft Windows is a US. registered trademark of Microsoft Corp.*

Printers

## HP PaintJet XL printer software drivers

HP PaintJet XL printer users will have instant software support right from introduction. That's because the HP PaintJet XL printer (PIN C1602A) should run successfully on most software packages that have a driver for the original HP PaintJet printer (PIN 3630A).

While the HP PaintJet XL printer is fundamentally compatible with the HP PaintJet printer, original HP PaintJet printer drivers will support only HP PaintJet printer-level features on the HP PaintJet XL printer.

Specifically, HP PaintJet XL printer owners using HP PaintJet printer drivers will notice these differences:

- Because the HP PaintJet XL printer has a 10-inch print region and no printing can occur in the 1/2-inch top and bottom margins, output may be positioned differently on the page than with an HP PaintJet printer, which has a full 11-inch print region. Adjusting margins in the software will usually correct any positioning problems.
- When printing graphics, the HP PaintJet XL printer waits for an entire page of data or an explicit page advance before printing. This means the HP PaintJet XL printer will not produce multipage graphics (banners) without explicit page advances.

- The HP PaintJet XL printer cannot reverse motion while printing as the tractor-feed HP PaintJet printer can. Support features for the HP PaintJet XL printer, such as B-size paper, cartridge fonts, and soft fonts are in the works. HP PaintJet XL printer-specific drivers from several top graphics and word processing vendors are expected soon. Order an HP PaintJet XL printer software guide (PIN 5959-9764) from your HP representative.

Printers

## HP PaintJet XL printer replacement supplies

Hewlett-Packard announces that replacement supplies for the HP PaintJet XL printer are available immediately. New HP PaintJet XL printer disposal print cartridges are available to provide a full range of vivid colors and sharp images on both paper and transparency film. The HP PaintJet XL printer uses the black print cartridge, PIN 51606A (also used with the HP PaintJet printer), as well as three new color print cartridges specially designed for the HP PaintJet XL printer: cyan (PIN 51606B), magenta (PIN 51606R), and yellow (PIN 51606Y).

Although the black print cartridge (PIN 51606A) is used with both the HP PaintJet and PaintJet XL color graphics printers, the new individual color print cartridges can only be used with the new HP PaintJet XL printer.

The expanded capability of the new HP PaintJet XL printer allows the use of the larger A3/B-size cut-sheet as well as the popular A4/A-size cut-sheet media. The specially formulated surface coating provides for crisp, clear images that dry instantly and won't smudge or smear. The transparency film controls dot spread. The accompanying plastic sleeves help control color development and protect transparencies. The following media products are recommended for both HP PaintJet and PaintJet XL printers.

### Ordering information

Product No.	Description
51630Y	A-size cut-sheet paper, 200 sheets
51631Q	A-size film/sleeve, 50 sheets
51630Z*	A4-size cut-sheet paper, 200 sheets
51630S*	A4-size filmsleeve, 50 sheets
<i>Recommended for HP PaintJet XL printer only</i>	
51631A	B-size cut-sheet paper, 200 sheets
51631B*	B-size cut-sheet paper, 200 sheets

\*Metric version

Printers

## Accessory price reductions for HP LaserJet Series II and IID printers

On November 1, 1989, Hewlett-Packard reduced the prices on the optional memory boards (listed below) for the HP LaserJet Series II and IID printers, and on the JetScript Accessory Kit for the HP LaserJet Series II printer.

By adding memory to HP LaserJet Series II or IID printers, users can print

full-page 300 dpi graphics and store more macros and fonts. In addition, these price reductions make genuine Postscript printing for HP LaserJet Series II and IID printer users more affordable than ever.

For more information, contact your local HP representative.

Product No.	Description
33443B	1 Mbyte memory for HP LaserJet Series II/IID printers
33444B	2 Mbytes memory for HP LaserJet Series II/IID printers
33445B	4 Mbytes memory for HP LaserJet Series II/IID printers
88141A	JetScript Accessory Kit (includes 3 Mbytes of memory)

### HP Postscript solutions

Product	Solution	Required Memory
HP LaserJet Series II printer	JetScript Accessory Kit (P/N 88141A)	Included
HP LaserJet IID printer	HP Postscript Printer Cartridge (PIN 33438P)	2 Mbytes minimum

*PostScript is a registered trademark of Adobe Systems, Inc. in the U.S.A. and other countries.*

*JetScript is a trademark of QMS, Inc.*

Printers

## HP 26013A I/O card for HP LaserJet IID printer supported on HP 3000 systems

Hewlett-Packard announces enhanced support for the HP LaserJet IID printer on MPE XL and MPE VIE systems. The addition of an HP 26013A I/O card to the HP LaserJet IID printer allows the printer to support status checking. The HP 26013A card has been designed to meet the needs of users who require protection from data loss in case of a printer power failure.

The 26013A card plugs into the optional I/O slot in the back of the HP LaserJet IID printer and can be easily installed by the user. Instructions to install the board into the HP LaserJet IID printer and configure the HP 3000 are provided with the HP 26013A card.

The HP LaserJet IID printer configured with the HP 26013A I/O card is supported on HP 3000 MPE XL and MPE VIE systems in the same configurations as other members of the HP LaserJet printer family. See the May issue of **HP Channels** for HP LaserJet IID printer-supported configurations without the HP 26013A card.

### MPE VIE system support limitations

- ATP only, pass three and greater PCCs, no ADCC support
- No remote modem connections, direct connect only
- HP 233412335 Stat MUX configurations, direct connect only at remote end
- TT26 and TTPCL26 support (V-Delta-1 and later releases)
- Duplex support for PC applications via AdvancePrint

## MPE XL system support limitations

- DTC direct connect only, no remote modem connections
- HP 233412335 Stat MUX configurations, direct connect only at remote end
- No PAD support
- TT26 and TTPCL26 support (MPE XL 1.2 and later releases)
- Duplex support for PC applications via AdvancePrint

## Supported SPUs and support maximums

HP 3000 system	HP LaserJet IID printer maximum
MICRO 3000LX/GX	2
MICRO 3000	1
MICRO 3000XE	2
Series 37/37XE	1
Series 39-58	2
Series 6X-70	5
Series 925LX/925	4
Series 935	8
Series 95019551960	10

## Printers

### *New improved HP 82240B infrared printer*

The new HP 82240B infrared printer, designed for use with HP calculators, is replacing the HP 82240A.

The printer has a power indicator light and a feature that automatically turns the printer off after 10 minutes to help prolong battery life. Additionally, the new printer employs the ECMA 94-character set for use with future products, and defaults to Roman 8 when used with current HP calculators. Other improvements also make printouts more readable.

The HP 82240B is battery operated, and can also be plugged into a wall outlet with the use of an optional AC adapter. The printer works with HP-42S, HP-41CV/CX (requires the HP 82242A infrared printer module), HP-28S, HP-27S, HP Business Consultant II, and HP-17B calculators. It also works with the obsoleted HP Business Consultant (HP-18C) and HP-28C.

## Terminals

### *HP Terminal Program discontinued*

As previously announced (HP Channels, July 1989), the HP Terminal Program (PIN 24597A) will be removed from the HP Price List on December 1, 1989.

The replacement product is AdvanceLink, which contains the functionality users are requesting: terminal emulation, file transfer, and command language capabilities. And two versions of AdvanceLink are available: AdvanceLink for Windows Text (PIN D2104A) or AdvanceLink for DOS (PIN 68333F).

Contact your HP representative for more information.

## Terminals

### *Supported devices on HP 92917A*

The HP 92917A barcode reader is only supported on the HP 700 Series terminals: HP 700122, 700143, 700144, 700192, and 700194.

Connecting the HP 92917A to undesignated terminals such as the HP 2392A or the HP 150A PC will damage the barcode reader. Please refer to the Operating and Service Manual PIN 92917-90001 for installation procedure.

To prevent connection errors, a red warning sheet is included in each box and a warning is reminded on the HP 92917A rear cover.

## Also in this issue

- Introducing HP Precision Bus HP-IB interface* **6**
- HP 9000 Series 300 workstations switch to SCSZ for mass storage* **8**
- HP Vectrm 486 PC: a premier CAD platform* **16**

**Industry:** *Mining and geological, earth sciences*

**Abstract:** Lynx systems, incorporating the latest in 3D component modeling technology, serves the full range of mining applications: exploration, evaluation, engineering, and design. Lynx is a comprehensive information management and processing system utilizing menu, interactive graphics, and 3D CAD facilities for user communication.

A modular structure enables users to select configurations precisely suited to their application requirements and budgets. Specific application modules provide modelling and design algorithms to match all mineral deposits, mining situations, and mining methods.

**Features**

- Accurate 3D representation of geologic structure and form
  - Accurate, realistic 3D representation of grade and quality
- Innovative 3D interpretation aids
  - Efficient long- and short-range mine design and planning
- Rapid analysis of operational changes
  - Simulations of the effects of changing conditions
- Direct interaction with production models
  - Single and multi-user architecture
  - Integration of exploration and production disciplines
- Full user training and support available worldwide

**Requirements:** HP 9000 Series 3001800

**Company Name:** Lynx Geosystems Inc.

**Address:** #400 — 1199 West Pender Street  
Vancouver, BC V6E 2R1  
Canada

**Phone:** (604) 682-5484

**Fax:** (604) 669-3659

**Contact Person:** Brian K. Snyder  
International Marketing Manager

**Type of Distributor Wanted:** Experience selling engineering workstation systems to mining companies.

**Geographical Coverage:** Worldwide

**Industry:** *Community banking*

**Abstract:** "THE TOTAL BANK SYSTEM" (TBS) is an all-application-integrated software package for individual, holding company, or multi-branch banking organizations. TBS, operating on the HP 3000 family, targets banks from \$10 million to \$250 million in total assets. Applications include demand, savings, IRA, commercial loans, installment loans, mortgage loans, and customer information files. The system generates the daily accruals for loan and deposit accounts and posts the entries to the MCBA general ledger. In addition to over 600 reports that are available as stock printouts, the report generation capability of MCBA and PBNAP, along with general ledger download to electronic spreadsheet, provide a high degree of information flexibility and manipulation for bank management.

**Company Name:** First Total Systems, Inc.

**Address:** 1325 South Colorado Blvd. #24  
Denver, CO 80222

**Phone:** (303) 753-0295

**Contact Person:** Jim Grimsley — CEO

**Type of Distributor Wanted:** A well-established U.S. HP VAB with existing exposure to the community banking industry or a corporate interest in dedicating adequate resources to market development would be a likely candidate for this cross-license venture.

**Geographical Coverage:** United States

You can list your company in the **Cross-Licensing Classifieds** (either Software Packages Available or Software Packages Wanted) by sending the **information** in the format used here to:

Hewlett-Packard Company  
Value-Added Channels Development  
Attn: Marcia Nowicky  
19091 Pruneridge Ave.  
Building 46UV  
Cupertino, CA 95014  
U.S.A.

Entries will run for two months. The most recent additions are shaded. Be sure to send the **information** in at least one month before you wish it to appear.

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**HP sales reps only:** To add *new* U.S. or Canadian accounts to the distribution for *HP Channels*, please fill out a copy of "The Data Kit for Value-Added Businesses," P/N 5954-9091D, and return it to the appropriate contact listed on the cover page of the data kit. To add additional contact names to existing accounts, use your VALID edit sheets.

**For accounts outside of the U.S. and Canada:** contact Tracy Wester for the name of the person responsible for the distribution of *HP Channels* in your country.

Please address editorial correspondence to Tracy Wester at address listed below.

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# *HP CHANNELS*

*Hewlett-Packard Company*

*Tracy Wester, Editor*

*Corporate Marketing Communications*

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