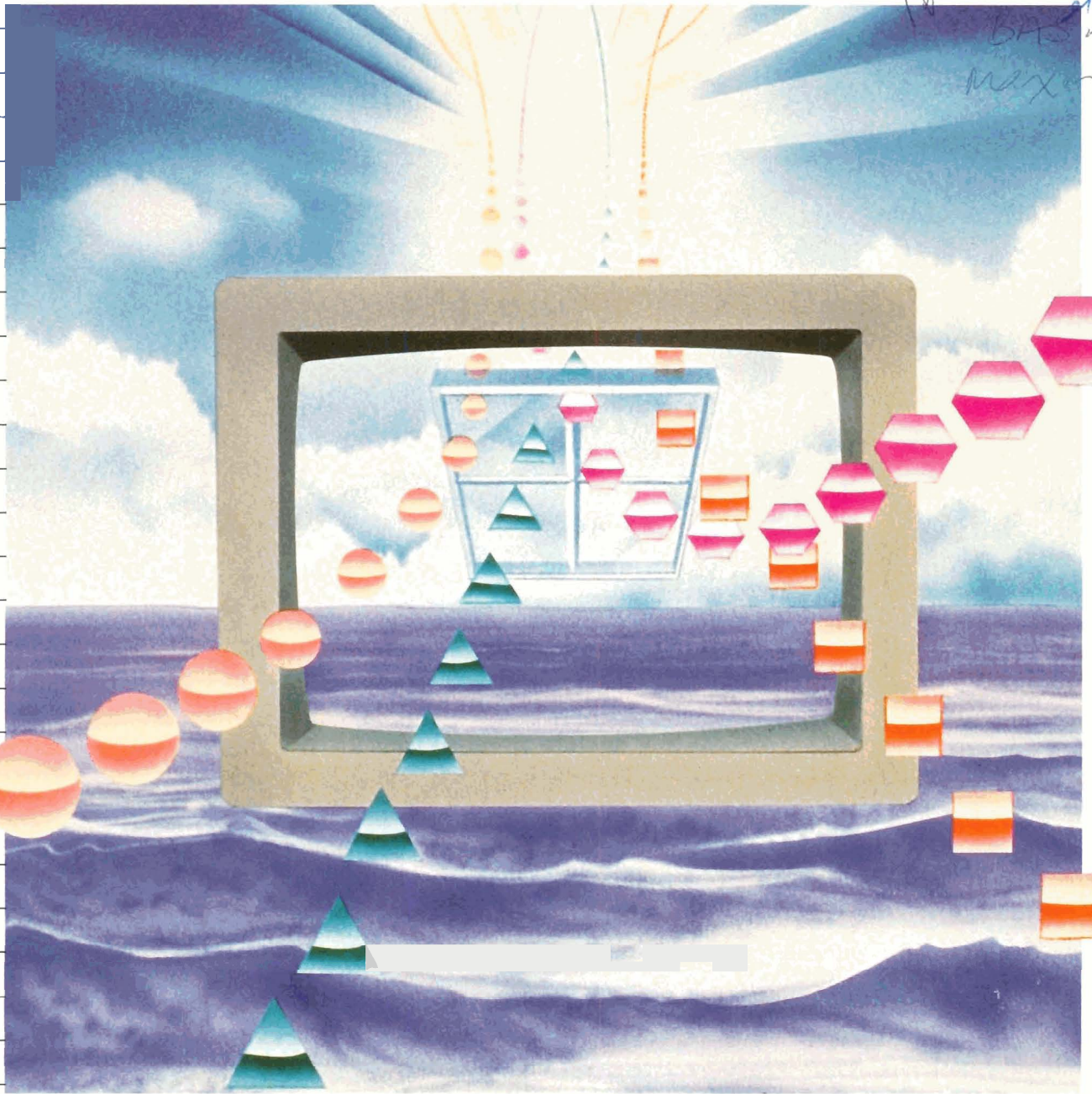


HP CHANNELS

Information For Hewlett-Packard's Value-Added Businesses

December 1987

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HP NewWave Environment

HP CHANNELS

Volume 7, No. 2

Editor
Tracy Wester

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.

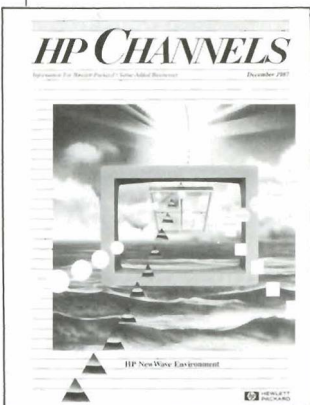
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On the cover



The HP NewWave applications environment, based on the Microsoft® Windows standard, incorporates object-management technology and a common, graphical user interface to enhance a user's ability to access, manipulate, and transmit information to or from any point in a network of information and computing resources. See articles beginning on page 14.

HP CHANNELS
December 1987

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HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

HP Scores High in 1987 VARBUSINESS Report Card Review

The Number One Club

'87

Number of 1st Place Wins

1	Hewlett-Packard	6
2	Prime	4
3	Altos	2
3	Datapoint	2
5	Burroughs/Unisys	1
5	DEC	1

Hewlett-Packard recently outscored other major computer vendors in *Computer Systems News'* (CSN) VARBUSINESS 1987 Annual Report Card Review by receiving number-one ratings in the most categories. HP scored the highest in the following areas:

- Quality of products
- VAR support services
- Provision for hardware maintenance
- Willingness to address VAR problems
- Ability to address VAR problems
- Overall impression of vendor.

Several areas are especially important to HP. One of those is quality of products. Hewlett-Packard received a score of 9.21 on a scale of 1 to 10. Another area is that of VAR support services, where HP moved up eight places to finish first. The category of "overall impression of vendor" is also a significant one for HP. We were ranked number one, as we were last year.

Hewlett-Packard is committed to providing a program that rates highly with value-added businesses. According to Bill Murphy, marketing manager of the Business Systems Sector, HP's strategy has resulted in a significant portion of commercial computer sales made through these companies. "We have achieved a 25 percent growth rate for the past three years in this channel of distribution. And we intend to grow this channel by continuing to invest in our industry-leading value-added sales and marketing programs."



Business Computers

General

HP DESKMANAGER CONNECTS TO DEC'S ALL-IN-ONE

MAILbridge Server/HP Desk is a new product developed and sold by Soft Switch Inc. to provide a link between HP DeskManager and Digital Equipment Corporation's All-in-One, as well as links to other electronic mail products via an IBM mainframe.

Version 1 Level 1 supports a direct connection to Soft Switch's MAILbridge Server/DEC on a DEC VAX. By installing a copy of MAILbridge Server/HP Desk on one HP 3000 in an HP DeskManager network, and one copy of MAILbridge Server/DEC on a VAX in a DECnet, HP DeskManager and All-in-One/VMSmail networks can be transparently integrated into a single electronic-mail network. To All-in-One users, the HP network appears to be additional All-in-One or VMSmail nodes. Likewise, to HP DeskManager users, the VAX network appears to be additional HP DeskManager systems. Thus, users do not have to learn additional procedures to exchange messages with the foreign networks.

Version 1 Level 0 of the product is available immediately and connects directly to Soft Switch Central/MVS or Soft Switch/VM via a bisynchronous connection. Through these Soft Switch hubs, HP DeskManager users can exchange messages with users of DEC's All-in-One and VMS Mail; IBM's DISOSS, PROFS, PS/36, PS/38, 5520 and PCs; MCI Mail; Novell LANS with The Coordinator, Wang's OFFICE and MAILWAY; and 3Com LANS with 3+Mail.

Both Version 1 Level 0, and Version 1 Level 1 of MAILbridge Server/HP Desk will allow HP DeskManager users to exchange messages, ASCII text, and HP Slate documents (in final form) with users of other systems as easily as if they were HP DeskManager users.

HP's relationship with Soft Switch

HP formed the relationship with Soft Switch with the specific objective of providing a direct connection between HP Desk and All-in-One:

Soft Switch developed MAILbridge Server/HP Desk, and they will be responsible for the marketing, sales, and support of the product.

- HP worked closely with Soft Switch in the development of MAILbridge Server/HP Desk. This involved loaning Soft Switch an HP 3000 plus the necessary software, and providing them with technical consulting.
- HP has no plans to make the MAILbridge Server/HP Desk an HP product or to enter into any joint marketing with Soft Switch.

Product positioning

The direct connection from Soft Switch is a proprietary link and should be positioned as a tactical solution to our customers. HP's preferred and strategic solution for connecting HP DeskManager to DEC (and other non-IBM systems) will be X.400. This is a standard that defines a standard for message handling systems.

Soft Switch will also be able to offer a direct connection between HP DeskManager and PROFS and DISOSS.

There will be some overlap between this connection from Soft Switch and our own HP OfficeConnect products in some accounts. If connection to All-in-One is required, Soft Switch offers the better overall solution. If only IBM connection is required, HP's Office Connect products are recommended.

HP is committed to integrating HP DeskManager into the IBM environment and will continue to invest in providing HP solutions in this area.

Further information

Please contact your HP sales rep for more information on Soft Switch and their products.

Small Business Computing

NEW PERIPHERALS CERTIFIED ON HP 260 SYSTEMS

Everyone is excited about HP's new terminal family, the new line of PCs, and the new HP RuggedWriter 480 printer. But will they be supported on the HP 260? Yes!

HP terminals

The new HP 700192 display terminal is the answer for today's HP 260 terminal needs. This combination offers not only outstanding new features like standard printer port and choice of three different monitor colors, but also a cost-reduced solution, as well. The HP 700192 has been designed to provide a large degree of similarity to the HP 2392A. The HP 700192 is certified for support on the HP 2501260 systems. Support of the HP 700192 has high priority and will be announced as soon as detailed performance data is available.

HP Vectra PC family

The new family of HP Vectra PCs offers new opportunities for HP 260 PC integration. With the new HP Vectra CS PC and the HP 260 PC integration, users can now enjoy the best of two worlds – the power of a multiuser, database-oriented system and the personal productivity offered by PCs for a very low price.

Since the HP Terminal Program – used for terminal emulation – is included with each PC, AdvanceLink is optional and should be added only when users require file transfer.

The new line of HP Vectra PCs will use a new, industry-compatible keyboard. For users who want to avoid retraining with a new keyboard layout, a transition keyboard with the older 103-key layout is available. The transition keyboard is supported only on the new HP Vectra ES and ES/12 PCs. Support will be announced when the impact of the new keyboards on HP 260 applications is determined.

HP RuggedWriter 480 printer

The new HP RuggedWriter 480 printer is the printer users have been waiting for. The HP RuggedWriter printer is an excellent fit in the HP 260 environment where one printer must handle many tasks – letters on cut-sheet paper, spreadsheets on computer paper, and multipart forms.

The HP RuggedWriter printer is certified for support on the HP 260 with an RS-232 interface.

Certification

HP 3000

BUSINESS SYSTEM PLUS: TODAY'S NEW BUSINESS SYSTEM SUPPORTS THE WAVE OF THE FUTURE

HP's new Business System Plus integrates personal computers and the HP 3000 into a single, centrally managed system. This powerful software product provides a complete office solution today, as well as a smooth transition to the HP NewWave environment tomorrow (see NewWave articles beginning on page 14).

Today: a complete, integrated business system

Business System Plus is a fresh approach to the complex world of office systems. With one product number, the user orders a complete set of Personal Productivity Center software, enhanced by streamlined software installation and PC network management.

Business Systems Plus features

▪ *The best of PPC* – Business System Plus offers full office functionality, with delete options that provide the flexibility for an exact fit. Components include:

- Resource Sharing (standard)
- PAM (standard)
- New Network Setup Utility (standard)
- New Installation Utility (standard)
- Information Access (optional)
- HP DeskManager (optional)
AdvanceMail
- Vectra Office Professional Pak (optional)
Executive MemoMaker
Lotus[™] 1-2-3[®]
Gallery Collection
Executive Card Manager
AdvanceLink

▪ *Attractive pricing* – Business System Plus provides this rich feature set at an attractive price. The complete package has the deepest discount, so the more you buy, the more you save.

▪ *Automatic distribution of PC applications* – PC software is distributed via the HP 3000 to each PC on the system, replacing a tedious manual process that would take 31 diskettes, 8 manuals, and countless hours of frustrated user's time. This feature also guarantees consistent versions of PC applications, reinforced by semiannual updates using the same, easy installation method.

▪ *Improved network management* – Adding new PCs to the network has been vastly simplified by an automatic process to create HP 3000 network structures. The system manager just describes the PC's characteristics and the system handles the rest.

▪ *Consistent user interface* – Because Business System Plus offers PAM on the IBM PC, users with mixed shops get a consistent user interface on all their PCs.

▪ *Matching support products* – The support products complement the Business System Plus product structure, with the first SPU-based support pricing in HP history. Support pricing offers the deepest discounts on the lower-cost SPUs.

Software licensing – Business System Plus can be rented under an innovative new licensing program that gives the user clear financial incentives while providing you with 100 percent quota and commission.

continued on next page

▪ *Streamlined installation* – Business System Plus reduces the complexity of the installation process by providing default configurations that are easily customized. This cuts installation time in half.

Tomorrow: a smooth transition to the HP NewWave environment

Business System Plus is the strategic platform for migrating users to the HP NewWave environment. The user's investment will be protected throughout this transition:

- Workstation applications sold today will be supported in the NewWave environment.
- Networking and HP DeskManager will be in place to support a workgroup implementation of the HP NewWave environment.
- Business System Plus will be the preferred method for distributing the HP NewWave environment in HP 3000 environments.

Business System Plus is a powerful extension to any HP 3000. This strong, integrated office system is a lasting investment for HP 3000 users.

The HP NewWave environment will bring with it clear superiority for HP in the office marketplace. To get started, purchase Business System Plus now, and prepare for a smooth transition to the HP NewWave environment next year.

HP 3000

INTRODUCING THE BUSINESS SYSTEM 3000: A NETWORK-READY HP MICRO 3000

Business System 3000 is a specially configured HP MICRO 3000 developed specifically to support Business System Plus. This complete entry-level system is the ideal choice for branch office or departmental applications where the user requires local-area networking and PC integration. One product number delivers the Full Size MICRO ISS integrated with networking.

StarLAN or ThinLAN networking is configured on the system, and the Business System Plus software, FOS, Easytime, and disc caching are loaded on the system at the factory before shipment. When the system arrives at the user site, the HP customer engineer doesn't even have to load FOS – they just have to plug the system in and they're ready to start connecting PCs into the network. This reduces the time required for hardware installation by over five hours.

Business System 3000 components

- HP MICRO 3000 ISS Full Size system
 - 4 Mbytes memory
 - HP 7958A disc drive
 - HP 9144A tape drive
 - HP 2392A system console
 - ATP/M
- Additional HP 7958A disc drive
 - StarLAN Link (standard)
 - StarLAN Hub (standard)
 - ThinLAN Link (optional)

Business System 3000 can only be ordered in conjunction with the Business System Plus software.

In addition, we've simplified the process for getting the accessory software for Business System 3000. Business System 3000 software (32508A) is a no-charge product consisting of:

- HP Easytime (32503A Opt. 635)
- Disc Caching (30538A)
- OfficeShare LAN/3000 Link (30240A)

Ordering information

Product No.	Description
32509A	Business System 3000
Opt. 001	Replace StarLAN Link and Hub with ThinLAN Link
32508A	Business System 3000 Software

Ordering an HP MICRO 3000 configuration with networking has never been simpler.

HP 3000

MATCHING SUPPORT PRODUCTS FOR BUSINESS SYSTEM PLUS AND BUSINESS SYSTEM 3000

New support products that complement Business System Plus give users a complete solution, simplify the support product structure, and reduce costs.

The Support Materials Subscription (SMSIEMS) services for the component products of Business System Plus can now be ordered under a single product number for each distinct configuration. As a result, users can save from 10 to 35 percent compared to the purchase price for support of the individual products. The structure has been simplified, reducing the number of line items from as many as eight to one.

Business System Plus - before

SMS Product No.	Product name
32597A+S00	Resource Sharing
32596A+S00	Information Access
36570A+S00	HP DeskManager
27535L+So0	AdvanceMail
68330L+So0	Executive MemoMaker
68331L+S00	Executive Card Manager
68333L+S00	AdvanceLink
68352L+S00	Gallery Collection
NIA	Lotus® 1-2-3®*

* Due to licensing and other legal restrictions, SMS services do not include updates for Lotus 1-2-3.

Business System Plus - now

Product No.	Product name
<i>SMS-Business System Plus</i>	
32500A #310 + _00	HP 3000 Series 37XE and HP MICRO 3000
32500A #320 + _00	HP 3000 Series 42/5X
32500A #330 + _00	HP 3000 Series 6X-7X

Products are available to match each distinct Business System Plus configuration. A specific product number correlates to each combination of delete options, and is priced accordingly.

For AMS or RCS for the Business System Plus product, a category or family product must also be ordered in addition to SMS. The related products for Business System Plus are listed in the table at the end of this article.

Business System 3000 support

Hardware support for the Business System 3000 (32509A) is the same as for the MICRO 3000 ISS Full Size System (32535F), with its additional disc drive. The standard support product also must be ordered for MPE/FOS (32535A+_00).

In addition, support must be ordered for the new Business System 3000 Software product (32508A).

Datacom B category is not required to support StarLAN or ThinLAN on the

Business Systems Plus related products

Product No.	Category or family	Business Systems Plus component
99089B	Office Services Category	Information Access Resource Sharing
99105B+ 00	Office Applications Family	HP DeskManager
99090A	Workgroup Coordinator Assistance - HP Vectra Office PC	AdvanceMail AdvanceLink Gallery Collection Executive MemoMaker Executive Card Manager Lotus 1-2-3

Business System 3000. SMS for 32508A includes LAN support.

The new support structure simplifies ordering while reducing prices, and provides a complete solution for users.

HP 3000

PAM IS AVAILABLE FOR IBM PCs WITH BUSINESS SYSTEM PLUS

HP has been lauded for the simple user interface on the HP Vectra PC - the Personal Application Manager (PAM). Now, with Business System Plus, users can enjoy the benefits of PAM for all PC users in a workgroup, including those with IBM PCs.

With PAM, users access applications from a common interface. By shielding them from the complexities of MS®-DOS commands, PAM reduces confusion and simplifies training. In accounts that have combinations of HP Vectra PCs and IBM PCs, this consistent interface can be a real selling advantage.

PAM is *only* available on IBM PCs with the purchase of Business System Plus software. For each IBM PC, order the Business System Plus IBM PC kit (P/N 32511A) that contains a certificate for PAM and the necessary OfficeShare hardware and software to connect IBM PCs to an HP 3000.

HP 3000

RESOURCE SHARING PERFORMANCE IMPROVEMENT

A substantial improvement in Resource Sharing performance will be incorporated into both Business System Plus and a new Resource Sharing version available in the first quarter of 1988 (Resource Sharing users must be on support contract at that time to be automatically upgraded to the new version).

A streamlined new directory structure provides consistent response, regardless of where files are located on the shared disc (see chart). PC Applications now load from an HP MICRO 3000-based subdirectory twice as fast as before in single-user tests, with sizable decreases in file loading times to match. The HP 3000 Series 70 boasts similar performance gains, approaching hard disc speeds for many activities.

continued on next page

These improvements are achieved when Business System Plus is paired with OfficeShare III (B.00.00). OfficeShare II users will see noticeable, but less dramatic performance gains.

Load applications from any HP 3000

Previously recommended for Series 68 and 70 servers only, application loading is now entirely feasible from the full range of supported HP 3000s. Many users with low-end and midrange servers will now choose to use Resource Sharing for application loading. Those who require performance near that of a hard disc should still load applications from either an HP Vectra PC server or a hard disc, using Resource sharing for shared files, shared printing, and PC backup. Work with your HP sales rep to get the best solution for your needs.

Multiple user performance

Multiple user performance has also improved substantially over previous Resource Sharing versions. Preliminary tests of intensive database, spreadsheet, and word-processing activity are approximately twice as fast for one to

five active users on an HP MICRO 3000. As tests are completed for higher numbers of users and for other SPUs, these results, including competitive statistics, will be announced.

Competitive performance

For application loads, Business System Plus delivers performance comparable with other system vendors (like DEC). PC LAN vendors (like Novell) are able to offer faster load times. This difference has now been reduced by HP's improved performance, allowing you to concentrate on the advantages of an HP solution.

PCs are faster than terminals

In a race against terminal performance, LAN user performance wins hands down. PC users on LANs experience near-instantaneous response during most application activities, because the processing is local to the PC. Perceptible delays occur only during major I/O activities such as loading applications, reading files, and saving files. Now that load and save times have been slashed, the performance benefits of a LAN solution are clear.

HP 3000

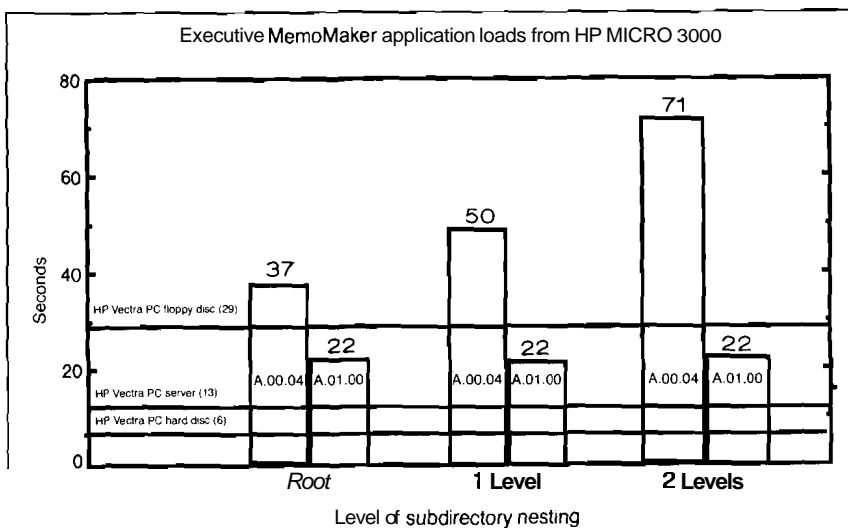
COOPERATIVE SERVICES FOR EVEN MORE PC INTEGRATION

Cooperative Services is a new development tool to help users create cooperative-processing applications. Now, software developers can use the PC to design applications that integrate PCs with HP 3000s for commercial-transaction processing. Users now can fully utilize the power of the PC for development, transaction processing, and cross-functional office applications such as Lotus® 1-2-3®, Graphics Gallery, and Information Access.

Cooperative Services is a communications library that allows developers to use the MS®-DOS programming environment to develop applications that access the full power of the MPE operating environment across the network. It consists of an MS-DOS procedure library and an HP 3000 intrinsic server. Using the PC as the development workstation, developers call Cooperative Services routines to provide the programmatic interface between the PC application being developed and the HP 3000.

Many users have asked us to provide update capabilities in the Information Access product. Our response has always been that Information Access is a decision-oriented end-user tool, not a tool for transaction processing. Cooperative Services is the tool that will allow users to access and update HP 3000 data for transaction processing. The Cooperative Services programming environment on the PC is very similar to the HP 3000. Using well-known languages such as COBOL, Pascal, and C, developers simply call high-level TurboIMAGE and MPE file intrinsics, such as DBOPEN, DBUPDATE, FOPEN, and FWRITE. Developers may also call the MPE COMMAND intrinsic or access procedures that reside in an SL on the HP 3000. This means that experienced HP 3000 programmers

Resource Sharing performance enhancement



will be able to use Cooperative Services with very little training.

Cooperative Services also offers developers network flexibility in designing their applications. PCs may be connected to the HP 3000 by all supported HP data communication links including the OfficeShare family of networks (StarLAN, ThinLAN, and SERIAL) or by basic serial (RS-232) connections. PC to HP 3000 connections can be established at all times or only when required by the application.

Users of Cooperative Services can migrate existing HP 3000 applications or develop entirely new PC-based applications specially tailored to end-user needs. VABs can expand their market by developing new PC-based cooperative processing applications.

For current or new users who will be developing for the HP NewWave environment on the PC. Cooperative Services can be used to integrate the HP NewWave environment with their PC-based transaction-processing applications.

Users wanting to maintain centralized security and control of their HP 3000 data while offloading some application development and transaction processing to the PC should buy Cooperative Services. Both developers and

application end users will benefit from the superior user interface and predictable response time of the PC.

Cooperative Services (PIN 32570A) is orderable on the December 1, 1987, HP Price List. Availability is the same as the V-Delta-! MIT. For pricing and more details, see your HP sales rep.

Cooperative Processing example

This HP 3000 customer developed a new telephone order processing application using Cooperative Services. Repetitious product look-up and pricing information has been offloaded to the PC and is updated on a daily basis. When customers call their sales rep, they are able to quickly obtain the product information they need as well as provide new order information. Any new order information is collected on the PC. Connection to the HP 3000 is established only when the central database is periodically updated to reflect new orders or when new product or price information is required by the PC application.

With this cooperative design, users enjoy the faster response of local PC processing. The HP 3000 can now focus on central database management and other product-related applications. MIS enjoys increased efficiency of both the PC and the HP 3000 resources.

HP 3000

ANNOUNCING HP SQL/V RELEASE 2

Since the introduction of HP SQL in February 1986, our industry-standard relational database has been received with great interest. Our installed base includes major accounts, governments, and a variety of industries.

HP SQL/V is being used on a variety of HP 3000 systems to train the users' staff on the relational database and to develop applications targeted for production on an HP 3000 Series 930 or 950. (HP SQL/V is recommended for multiuser production applications on the Series 58 and above.) Successful HP SQL/V applications focus primarily on reference and decision-support activities.

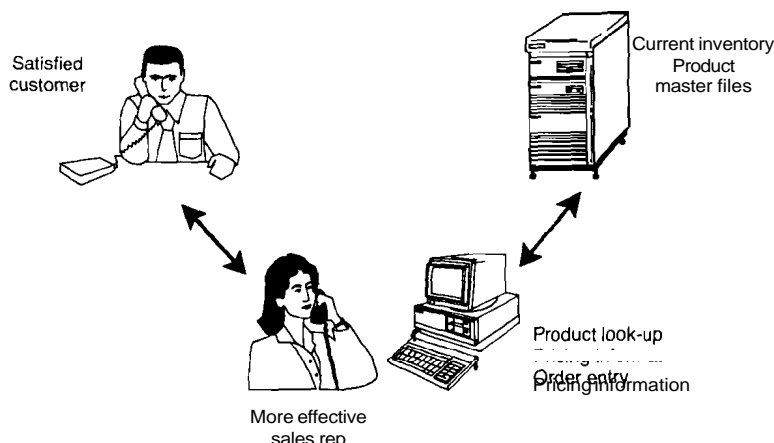
With that experience, we are continuing to evolve HP SQL to better meet users' needs across a broad range of applications. Today, the second release of HP SQL/V provides a variety of improvements to the compatibility, usability, reliability, and performance of the HP SQL/V database management system.

Compatibility between MPE V and XL

One-hundred percent source-code compatibility is provided between HP SQWV and ALLBASE/XL's HP SQL interface.

The SQLGEN utility, first available with the Release 1' patch, facilitates database migration between MPE V and XL systems by automatically generating all of the command scripts needed to recreate the database and

Faster, more effective information processing



unloadload data. (Users are advised to save their VIEW definitions, as these cannot be migrated.) Transfer of data between MPE V and XL systems can be accomplished quickly, using their compatible INTERNAL unloadload formats.

Enhancements based on user feedback

Users have suggested numerous enhancements to the usability of HP SQL. Many of those have been implemented, including those shown here.

- *Reliability improvements* – Release 2 contains all of the enhancements and changes that have been made since the initial release of HP SQLIV; there are no known critical or serious bugs in this product. In addition, we have redesigned the DBEMonitor, a program that automatically seeks and cleans up when processes are aborted. This boosts both reliability and database resource availability.
- *Performance enhancements* – Release 2 provides a 20 to 25 percent average improvement in application throughput via reductions in CPU utilization by HP SQL. The query optimizer is "smarter" than in previous releases, and operations on "current of cursor" should show above-average improvements.
- *Conversion from Release 1 to Release 2 on MPE V* – Users who choose to upgrade to Release 2 of HP SQLIV must go through a process similar to migration from MPE V to MPE XL. This is a one-time effort, necessary to achieve MPE XL compatibility. Due to the myriad of other improvements included in Release 2, this version is recommended for all users.

Coming soon

HP SQL/V Release 2 will be available this winter. Watch for details in future issues of *HP Channels*.

HP 3000

SNA SERVER

ACCESSIXL

REPLACEMENT

Due to changes in the HP Price List option structures, the HP SNA SERVER ACCESSIXL product (PIN 30256) for the HP 3000 Series 930 and Series 950 has been removed from the price list effective October 1, 1987, and replaced with an option to another product.

HP SNA SERVER ACCESS for the Series 930 and Series 950 must be ordered as Option 340 of the HP SNA SERVER ACCESS, PIN 30255.

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Technical Computers

HP 1000

HP PCIF/1000

DEVICE

COMMUNICATIONS

Worldwide manufacturing and processing industries are placing an ever-increasing focus on device connectivity and networking requirements. HP Programmable Controller Interface 1000 (PCIF/1000) provides device communications for the plant floor to meet industrial-automation requirements – today.

A systems engineer (SE) from Southern California states that PCIF/1000 is "the most important factory-automation application software tool that Hewlett-Packard currently offers." His major cement-processing company has just completed installing PCIF/1000 on the A400 computer. His conviction is supported by comments from SEs and SRs around the world.

PCIF/1000 is an invaluable tool in communicating with factory-floor devices. PCIF/1000 also provides a pivotal communication link to many other software packages. Some users write new software or link their existing proprietary software to PCIF/1000, using the concentrated data it provides to monitor and control their manufacturing facilities. Others link PCIF/1000 to off-the-shelf software, such as Process Monitoring and Information System (PMIS/1000) by Bradley Ward, Inc., Automated Industrial Monitoring System (AIM) by Biles and Associates, or HP Process Monitoring and Control/1000 (PMC/1000).

General Motors (GM) included PCIF1000 as a major functional element in their plant computer integrated manufacturing (CIM) hierarchy. GM's Truck and Bus (GMT-400) Cell Controller was developed from standard HP 1000 manufacturing applications. The Cell "talks" via PCIF/1000 to a number of factory-floor devices that assemble, move, weld, and paint GM's new C/K pickup trucks. These devices include programmable logic controllers (PLCs), "smart" automatic vehicle identifiers (AVIs), and various robots and welders.

PCIF/1000 supports some of the most widely used Programmable Logic Controllers (PLCs), including those made by Allen-Bradley, Gould-Modicon, General Electric, Siemens, and Telemecanique.

HP 1000

HP PCIF/1000 ENHANCEMENTS

Now, PCIF/1000 users benefit from recent enhancements that provide added flexibility and a lower PCIF/1000 system price than ever before.

- RTE-A, 5.0 - PCIF/1000 is certified to run on Version 5.0 of RTE-A. PCIF/1000 makes use of the new expanded security feature.
- *Could-Modicon* - The PCIF1000 Could-Modicon Handler now supports the 884 PLC by Gould-Modicon, rounding out the Gould PLC line. (Order HP PIN 92403A.)
- *120400 MUX* - The 12040D Multiplexer is now included in the list of PCIF/1000 supported devices. This MUX provides significant performance improvements over the 12040C MUX. (Use this MUX for Gould-Modicon PLC applications.)

▪ *Low-price system* - PCIF/1000 is now available on the A400 computer. Already installed at three sites, this option provides users with a low-price, high-performance system.

The price for an A400-based system can be as low as \$15,000 (U.S. list) depending on application requirements, configuration, and user discounts. This price range provides users with a low investment system that can be used in a broad range of applications. Or, they may use the system for development or evaluation of system performance requirements.

These new enhancements for PCIF/1000 provide users with an easier purchase decision, compatibility with other applications that run on the A400, and a path for growth to higher performance A-Series computers.

Contact your HP sales rep for more information about PCIF/1000.

HP 1000

HP 1000 A600 20-SLOT BOX

DISCONTINUANCE

Effective December 1, 1987, HP will provide a one-year notification for the discontinuance of the HP 1000 A600 + 20-slot box product, PIN 2156C/D. This product will be removed from the HP Price List on December 1, 1988. As with any discontinued product, HP will honor any orders for 30 days beyond December 1, 1988.

A direct replacement for the 2156C exists today with the A400 20-slot box product, PIN 2134A. This product was designed for OEM/VEU users looking for a lower-cost solution with more I/O slots. The A400 product is rack mountable with an external disc and is completely compatible with users' current A600 + 20-slot box applications. The 2134A provides a better solution for users with large 110-intensive applications than the 2156C.

Note that for existing A600 20-slot configurations, replacing the two A600 boards with the single A400 board will generate an unsupported configuration.

Listed below is a feature comparison of the two products.

Product No.	Description
2156C	A600 - core includes A600 boards that contain 512-Kbyte memory controller, 20-slot box, and "E" version of RTE (92077E)
2134A	A400 - core includes A400 board that contains 512-Kbyte memory and four serial ports. 20-slot box, and "E" version of RTE (92077E)

We are encouraging A600 users to begin thinking about the conversion of their A600 20-slot orders to the new, lower-cost A400 20-slot product. If you have any additional questions, please contact your local HP sales rep.

HP 1000

RTE 5.0 RELEASED

A significant revision to RTE, the HP 1000 operating system, was released this fall. In addition to addressing over 600 service requests, the enhancements listed below were developed. Enhancement 1 is for RTE-A only and the remainder described are for both RTE-A and RTE-6/VM, except where noted. This revision is a direct result of feedback received from both internal and external users.

Enhancements

- Improved security and resource protection
 - 32 levels of security assignable to users and programs
 - Capability to limit users' access to specific devices

continued on next page

- Enforceable limits on user's CPU access time or connect time
- Benefits include the ability for the system manager to make more efficient use of available resources.
- Improved file system access – less effort is required to move up directory trees and address generic files. A user more efficiently accesses files, therefore lowering development costs.
- A more versatile Symbolic Debug
 - Debug programs after execution has begun
 - Monitor a program so that if the program aborts, execution is suspended to allow adoption by Symbolic Debug
 - Better debug Pascal (support of all data types)
 - Calculate variable values during debugging
 - Support VMA
 - Use 32-bit arithmetic to handle large arrays
 - Symbolic Debug can now operate on more HP 1000 software and identify the point where a program aborts. This encourages the discovery and correction of more code problems than historically possible. This should also lead to lower long-term software support costs and better quality software in end users' systems.
- Two performance analysis tools are now available, RTE Profile Monitor and SNAPSHOT11000 (available only for RTE-A).

These programs will assist users in optimizing programs. RTE Profile Monitor will work within a software program, while SNAPSHOT/1000 will work globally through the operating system. SNAPSHOT11000 is a service that the HP sales engineer will perform.

In addition to these benefits, new peripherals have been supported, larger programs (RTE-A only) such as Ada/1000 can be supported, and the linker has been enhanced.

HP 9000

ANNOUNCING HP 9000 SERIES 800 OEM/ VAR CONVERSION INCENTIVE DISCOUNT

HP is proud to announce that a special OEM/VAR promotional discount program for the HP 9000 Series 800 has been put into place recently in the U.S. and non-European (Intercontinental) sales regions. (Similar discount programs are in place in Europe. Contact your HP sales rep for more information.)

This new discount promotion (known internally as CONVERT 800) is a value-added marketing program designed to attract resellers to our HP 9000 Series 800 product line by offering special product discount incentives. Between the start date of the promotion (October 1, 1987, in the U.S. and November 1, 1987, in the Intercontinental regions) and October 31, 1988, all HP 9000 Series 800 system processing units (SPUs), options, and operating systems ordered for resale under an OEM or Combo Purchase Agreement will receive a minimum 25 percent discount. Except for the start dates, the program is the same in the U.S. and Intercontinental regions.

This promotion offers a very attractive program for new and existing VARs and OEMs who wish to incorporate the HP 9000 Series 800 into their product lines. The discount program has been designed to protect OEMIVAR profit margins while sales of Series 800-based solutions grow. It may also help to finance development or migration costs.

The new discount will be applied to all Series 800 OEM/Combo orders regardless of the type of application. While the discount program has been designed to attract new resellers for the Series 800, all OEM/Combo users – both new and existing – are eligible for the 25 percent minimum discount. Existing users will receive the 25 percent discount or the volume discount for which they are eligible – whichever is higher. The discount will be applied to Series 800 options and operating systems only. It will not be applied to peripherals or other products even if they are ordered as part of a Series 800 coordinated shipment.

CONVERT 800 is a limited-time promotional discount program and has no effect on OEM or Combo Purchase Agreement dates. The promotion will end on October 31, 1988, and will not be extended or renewed. At that time, discounts for the Series 800 will revert to the terms of the contract that the user has signed.

We know you'll agree that CONVERT 800 is one of the most competitive programs HP has ever offered to resellers. Contact your HP sales rep to find out how you can use this program to your advantage to boost your '88 sales.

HP 9000

WORKSTATION PASCAL AVAILABLE FOR HP VECTRA PCs

HP's popular workstation Pascal language (PAWS) is now available for the HP Vectra PC. The HP Pascal Language Processor consists of an HP Vectra PC plug-in card, HP Pascal 3.2 language software, and documentation. This is the same Pascal 3.2 that runs on HP 9000 Series 200/300 computers, supplied on 5¼-inch flexible discs.

When installed in an HP Vectra PC, the new subsystem delivers the best of both worlds – HP's powerful Pascal workstation environment and access to a wealth of PC-DOS application software. Now, users who desire (or are required to use) personal computers do not need to forego the power, performance, and time-saving advantages of HP Pascal or rewrite their Series 2001300 Pascal programs. The Pascal Language Processor is object-code compatible with Series 2001300 Pascal workstations. Since code written for the language processor will also run on high-performance HP workstations, a natural migration path is established. Other benefits are listed below.

- Low entry price (512 Kbyte card with Pascal)
- Compute and I/O performance similar to HP 9816
- Access to industry-standard LAN (SRM and IEEE 802.3 available)
- Foreground/background operation

HP Pascal facilitates program development through a rich set of language and library extensions, file operations, string manipulations, graphics routines, and I/O operations.

Its very large memory-address capability makes handling of large arrays and data structures possible. The Pascal software includes a full set of software tools: editor, filer, compiler, assembler, and debugger.

The language processor board, which includes a Motorola 68000 CPU and up to 4 Mbytes of RAM, emulates a Series 2001300 workstation. The high performance of built-in HP-IB is assured by the 68000-based architecture. Pascal is invoked like any other PC-DOS application and can take advantage of DOS discs, peripherals, and other PC resources. At the same time, compatibility with programs, data, and peripherals used by other HP Pascal workstations has been maintained.

With optional hardware, the processor operates on HP networks such as SRM and OfficeShare and can pass files to ARPA (IEEE 802.3) networks as well. This networking flexibility makes an HP Vectra PC/HP Pascal system an excellent gateway between SRM and industry-standard LANs.

The HP Pascal Language Processor (82310A) includes:

- MC 68000 processor card
 - 512 Kbytes of RAM (expandable to 4 Mbytes)
 - Built-in HP-IB interface
 - DIO connectors (for SRM, GPIO options)
 - Connectors for ROM Expansion Board

HP Pascal 3.2 software

- PC Emulator software

Manuals and keyboard overlays

A software-only option (82311A) is available as well. This includes Pascal on 5 $\frac{1}{4}$ -inch discs and manuals.

Related accessory products include:

- RAM Expansion Board and 512-Kbyte Expansion Kits
- GPIO Interface
- Shared Resource Manager (SRM) Interface.

HP 9000

VMEBUS FOR HP 9000 SERIES 300

HP is extending its support of industry standards with the introduction of the HP 9000 Series 300 VMEbus expander. The 98577A offers the stability of access to the industry-standard VMEbus

for Model 3301350 HP-UX workstations. In addition, the open-systems flexibility allows the addition of custom or third-party VMEbus cards that extend the feature set of the workstation. Porting of "C" language drivers, or development of new drivers for the VMEbus cards, is aided by the "Series 300 HP-UX Driver Development Guide" which is included with the product.

Housed in a cabinet similar to the SPU, the expander connects to either the Model 330 or 350 workstation and provides four slots for Revision C.1-compatible VMEbus cards. A fifth slot is occupied by circuitry that provides the interface to DIO-II, as well as bus arbitration and system controller functions. Software access to the VMEbus expander is highly transparent, in that the VMEbus memory space looks like DIO-II to the Series 300. 32-bit Data and Address modes are supported, and DMA is supported only in the 32-bit address mode. A peak hardware data-transfer rate of 5 Mbytes/sec yields greater than 4 Mbytes/sec sustained data-transfer rate.

Users with existing Model 330s who plan to use the VMEbus expander should check with their local HP service office to determine if their workstation requires processor-board upgrade. The expense of this upgrade is covered by a Model 330 service note.

Supported configurations include use with Models 3301350, or use with Models 3301350 and one 98570A DIO-II expander. The VMEbus drivers will be included in HP-UX 6.0 Application Execution Environment. Driver development software including examples and source code for the VMEbus drivers, is included in the programming environment of HP-UX 6.0.

The HP 98577A VMEbus will be on the December 1 price list.

HP 9000

HP 9000 MODEL 330

UPGRADE TO MODEL 350

A new field upgrade is now available for HP 9000 Model 330 users who would like the increased performance of a Model 350. A user of the Model 330C/CH who wants to upgrade to the Model 350 will incur an incremental cost of only \$1,600 (U.S. list) over the initial purchase of a Model 350. This is the delta between the price of the Model 350C/CH with a 16-inch monitor and the total price of a Model 330C/CH upgraded to the Model 350C/CH by this field upgrade.

This field upgrade strengthens the position of the Model 330 by increasing its value to the user. The Model 330 will be one of the few mid-range workstations that is upgradable to 4-MIPS performance. The VAX-Station/2000, SUN3/110, and Apollo DN3000 cannot be upgraded to a 4-MIPS workstation.

The Model 330 is limited to a maximum of 8 Mbytes of RAM. This field upgrade allows users to increase RAM as well as performance. Many users have applications that have outgrown the Model 330 and need the increased CPU power and RAM capacity (expandable up to 48 Mbytes) that the Model 350 offers.

Because the Model 350 is object-code compatible, no recompilation is required. The user can easily migrate to the Model 350, providing complete protection for their software investment.

Features and benefits

Features	Benefits
The incremental cost is only \$1,600 for the most popular 2D configurations	Very small risk to purchase the Model 330 initially and then upgrade later
Expandability to 2X CPU performance and RAM capacity to 48 Mbytes (maximum)	Provides investment protection and growth path
Object-code compatibility	Easy migration

To receive the upgrade, order product number 98244A. This includes a Model 350 processor board, 4-Mbyte controller board, 4-Mbyte add-on board, and a two-high system bus. The user's Model 330 CPU board must be returned to HP.

Contact your HP sales rep for more details on configuration and ordering.

HP 9000

NEW REVISION OF SHARED RESOURCE MANAGER

The SRM 3.1 release will begin shipping January 1, 1988. This release provides enhancements to the 98619A SRM Operating System. Enhancements include new printer and plotter support, printer and plotter environment files (for setup strings), spooler scheduling and performance improvements, and a battery-powered time-of-day clock. It also fixes bugs outstanding since SRM 3.0, and improves the reliability and supportability of the low-speed (HP-IB) and high-speed disc interface drivers.

Enhancement highlights

- **New peripherals supported** – Support for the new HP Draftmaster plotters, the HP LaserJet, LaserJet Series II, QuietJet, and RuggedWriter printers is in this revision of the SRM. Support for these peripherals has been frequently requested.

- **Environment files** – Environment (or setup) files will be supported for spoolers. An environment file can be selected and passed to the printer to initialize it for each file being spooled.

- **High-priority spooling** – A high-priority queue has been implemented for print and plot spoolers. This allows important documents to be printed or plotted immediately after the current document completes, even if there is a large backlog of files waiting to be printed or plotted.

- **Battery-powered clock** – There will be support for a battery-powered time-of-day clock. This feature will assure that the server and all workstations on the SRM network will always have access to the correct date and time. This will help prevent confusion that can be caused when the SRM goes down, e.g. during a power failure, and cannot keep track of the current time and date.

Distribution logistics

SRM 3.1 will be distributed on December 1, 1987, to users on subscription service.

Shipments of 50960A and 98619A, incorporating the new SRM 3.1 Operating System software, will begin January 1, 1988.

Price list changes

Effective January 1, 1988, the SRM Operating System software will no longer be available on flexible discs. It will only be available in a 1/4-inch tape cartridge. The 50960A will include Revision 3.1 of the SRM Operating System software, a battery-powered clock as standard, and will have options for additional memory. The battery-powered clock will also be offered as an upgrade option, 50960U Opt. 100, for the installed base of 50960A owners.

HP 9000

INCREASE IN RIGHT-TO-COPY PRICES FOR BASIC AND PASCAL

Consistent with the decision to standardize the right-to-copy pricing across the corporation, we will be increasing the BASIC and Pascal right-to-copy prices on January 1, 1988. To ease the transition, we will be making the increase in two steps – January 1 and April 1. The products that are affected are listed below.

Product No.	Description
98616R	BASIC 5.0 RTR with Sublicense
98616M	BASIC 5.0 RTR no Sublicense
98617R	Pascal 3.2 RTR Sublicense
98617M	Pascal 3.2 RTR no Sublicense
98617E	Pascal 3.1 RTE with Sublicense
Opt. 090	99 more RTEs with Sublicense
98613R	BASIC 4.0 RTR with Sublicense
98615R	Pascal 3.1 RTR with Sublicense
98615E	Pascal 3.1 RTE with Sublicense
Opt. 090	99 more RTEs with Sublicense

The price increase will only affect the standalone "R" product prices: Series 200 and 300 bundles and bundle prices will not be affected. Sales of BASIC and Pascal continue to be strong, especially with the introduction of the new Model 330 bundles: the HP 98581M Model 330CMA Color Instrument Controller, the HP 98580M Model 330MMA Monochrome Instrument Controller, and the HP 98580A Model 310M Instrument Controller that already includes BASIC.

Contact your HP sales rep for the new prices.

HP 9000

DISCLESS – THE HP WAY: SUPERIOR PERFORMANCE AT CONSIDERABLE COST SAVINGS

The next release of HP-UX for the HP 9000 Series 300 will add new features. With Release 6.0, users are provided with:

- Lower cost per seat
- Easier, more efficient information sharing

Simplified system administration

Support for key industry standards

The bottom line is a full-featured, competitive UNIX® operating-system implementation.

Many of our competitors have a disc-less capability, but no clear de facto standard has emerged. The HP enhancements added with this release are listed below.

Features	Benefits
- Disc resources are shared among several workstations	- Low cost per workstation seat
- New software bundling/pricing	
- Discless system passes SVVS	- Commitment to standards
- NFS (RTM) available	
- Global tile system allows all nodes to have the same view of the tile system	- File system transparency
- Single point system administration frees most users from these tasks	- Less system administration required for the cluster
All systems do not need a disc	- More suitable to harsh environments

The HP-UX implementation of disc-less allows a cluster of Series 300 systems with a Model 350 as the cluster server to share the operating system and file system on a single disc.

NFS permits computers to share file systems over a local-area network. Workstations or PCs with NFS can access databases on remote systems containing drawings, schematics, netlists, graphics, source code, etc. NFS has emerged as the de facto standard for file access on heterogeneous operating systems across a common network.

Contact your HP sales rep for more information.

Also in this issue

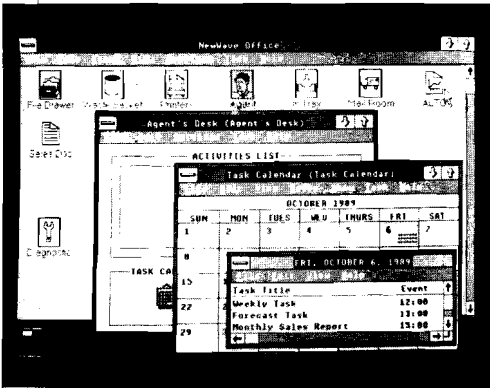
Universal 2400 Bit/s Modem for Desktops to Mainframes

20

Personal Computers

General

INTRODUCING THE HP NEWWAVE ENVIRONMENT



The HP NewWave environment is a truly advanced application environment providing a single window, or view, into an organization's entire network of information and computing resources. The HP NewWave Developer Release is the first phase of the program explained fully in the following article entitled, "HP NewWave Developer Products." In addition, to completely understand the benefits of the HP NewWave environment, it is helpful to understand the user perspective.

What is the HP NewWave environment?

To a user, the HP NewWave environment is a complete and integrated environment – resident on a personal computer – that is both high powered and easy to learn and use. The environment builds upon Microsoft® Windows 2.0. It presents the user with icons on the screen, representing the common tasks people accomplish in an office. This allows the user to focus on completing tasks rather than on learning and using many different software tools.

The HP NewWave environment is an effective partner for the HP 3000, delivering complete access to information: for example, information that is maintained in an HP 3000 IMAGE database, as well as access to communication networks via HP Desk and a special NewWave Mail product. The result is that the user benefits from having a single window or view into the organization's network of information and computing resources.

Leadership features

The HP NewWave environment offers a number of leadership features designed to make people working in offices more productive. For example, the Object Management Facility (OMF) is a collection of system routines that allows "objects" to exist and be managed within the environment. OMF considers any data, or any combination of data, to be an object. For example, spreadsheet data, text, graphics, data, scanned image, and voice annotation are each considered to be types of objects. The environment maintains information about all objects, including data types, location, and relationships among objects. The OMF is completely transparent to the user.

Another innovative feature of the HP NewWave environment is called "Agents." At first glance, the Agent looks much like a macro. But the Agent functionality goes far beyond today's macro capabilities because it performs its tasks across multiple applications and data sources. The Agent provides the interface for future artificial intelligence in the HP NewWave environment.

Especially for developers

Because it was designed as an extension to Microsoft Windows 2.0, the HP NewWave environment offers software developers the benefits of an industry-standard platform, plus significant enhancements developed by HP. Greater flexibility and tailorability, more consistent applications, better integration between applications, and better integration with other computers on the network are all things the applications developer will enjoy. In addition, the developer's applications will be presented to the user by an easily understood graphics interface.

Pathway to the future

The HP NewWave environment is important to applications developers today because it allows them to begin writing applications for the workplace of tomorrow. Developers can take advantage of defined encapsulation levels and use HP's guidelines to encapsulate or build today's applications to function in a well-behaved manner within the HP NewWave environment.

A more productive future

With the HP NewWave environment, ease of use brings increased productivity – both for the individual and for the organization. At the individual workstation, people have the OMF working for them, keeping track of the data as well as the applications being used. That means that today's need to focus on the tools in use will be replaced by a more productive focus on the tasks to be accomplished. And the graphics interface is a proven aid to learning. At the organization level, the HP NewWave environment delivers true seamless integration into the information and communications resources of the organization. The information individuals need to get the job done is easy to access, and the resulting communications are just as easily mailed.

Additional information

A complete set of literature is available to give a thorough picture of the HP NewWave environment. For additional information, please contact your HP sales rep.

Features of the HP NewWave environment

- Takes advantage of Microsoft Windows features
 - Consistent graphic interface
 - Multiple windows on screen
 - Pull-down menus
- Object-oriented approach versus file-oriented approach means that the environment considers any type of data (text, graphic, image, etc.) as an object
- Allows seamless creation of compound objects or multimedia objects
- "Office" metaphor presents on-screen representation of tasks commonly performed in the office; screen icons include images representing a file drawer, wastebasket, In tray, and Out tray
 - "Hot-links" between objects allows automatic updating of objects that have been shared
- Agents that learn and perform tasks across multiple applications and data sources
- Computer-based training (CBT)
 - Context-sensitive help

Benefits of the HP NewWave environment

- *Ease of use is the main benefit*
- Ease of learning
 - Ability to create and edit compound objects
 - Automation of repetitive tasks
- Improved individual productivity – the environment eliminates the segmentation of traditional applications
- Improved workgroup productivity – the environment is tightly linked to the HP 3000 for mail and data access

Today, HP announces the availability of the HP NewWave Developer Products (see following article). These products are designed to encourage developers among our VABs, ISVs, and corporate customers to write their applications to the HP NewWave environment. The actual end-user product is planned for release in the second-half of 1988, so the developer who acts now will have the advantage of being among the first to deliver a product that makes use of the HP NewWave environment.

General

HP NEWWAVE DEVELOPER PRODUCTS

The HP NewWave developer release is the first phase of the HP NewWave program. This special release of the HP NewWave environment allows VABs, ISVs, and major accounts to begin immediate development of HP NewWave-based applications and/or the integration of their current applications with the HP NewWave environment. In the second half of 1988, HP will begin distributing an end-user version of the HP NewWave environment.

HP NewWave Developer Kit

The HP NewWave Developer Kit contains HP NewWave environment components needed to write applications for this environment. The kit contains the environment software, services, software libraries, development tools, and samples of application source code. HP will provide update releases, free of charge, until the HP NewWave end-user version is released. Shipments of the kit are expected to begin in early 1988.

HP NewWave Developer Training

This is an introductory course for software developers interested in developing applications for the HP NewWave environment. The HP NewWave Developer Training course is five days; classes are held at HP's Personal Software Division in Santa Clara, California. Developers must attend this training course as a prerequisite for the support services to be offered by HP's National Response Center. In addition, a class is being planned to cover advanced developer concepts.

Order information

Product No.	Description
D1701A	HP NewWave Developer Kit
Opt. ABA	U.S. version
Opt. AA9	5%-inch discs (1.2 Mbyte format)
D1702A	HP NewWave Training
D1701A + H00	HP NewWave Suppon

Additional components for developers are required. Please refer to the HP NewWave Developer Products data sheet for more information, PIN 5954-9516.

The HP NewWave Developer Kit and HP NewWave Training is nondiscountable.

Developers can qualify for a 40 percent demoldevelopment discount on one HP Vectra ES/12 PC, with an expanded memory card, for every HP NewWave Developer Kit ordered.

General

MORE ABOUT THE HP NEWWAVE ENVIRONMENT: THE OBJECT MANAGEMENT FACILITY

One of the strengths of the HP NewWave environment is its orientation toward objects rather than files. This means that the Object Management Facility (OMF), while completely transparent to the user, tracks all "objects" in the environment. An object can be data or a combination of data. For example, text, spreadsheet data, graphics, scanned images, and voice are data types that can be managed by the OMF. The OMF tracks all objects in a global-system database by recording the object's characteristics, the actual data included in the object, and the relationships to application programs and other objects.

To a user, for example, this means that a bar chart (graphics object) can be integrated into a report that is being prepared, simply by clicking on the graphics-object icon and releasing the mouse button to drop that icon into place in the report. Now the report is a compound object that includes text and graphics. In the HP NewWave environment, a compound object can also include a scanned image or a voice annotation. The user needn't be concerned about the data type because the OMF takes care of the integration.

Software applications developers appreciate the fact that Hewlett-Packard has built the OMF into the HP NewWave environment. The OMF manages the difficult task of tracking objects and their relationship, giving the developer one less thing to worry about.

General

PREPARING FOR THE FUTURE WITH THE HP NEWWAVE ENVIRONMENT

The announcement of the HP NewWave environment developer release has generated interest regarding how users can grow into this new, leading-edge technology. HP has given a great deal of thought to providing users with a smooth growth path while protecting their investments in software and hardware.

All of the applications in the new Business System Plus and the HP Vectra Office PC software packs will work with the HP NewWave environment. The Business System Plus and HP Vectra Office PC Software products today are the basic platforms for integrating the HP NewWave environment with workgroup services.

Specifically, many products will be able to be used in the HP NewWave environment with no modifications at all. In some cases, an upgrade to the most recent version of the application may be required to implement the new environment completely. In other cases, users may need to add memory, a mouse, or other hardware to their existing 80286 PCs to meet the specifications for the HP NewWave environment. Let's look at some of today's products and how they will eventually be used with the HP NewWave environment.

PC software products

All HP Vectra Office PC software will be accessible from the HP NewWave Office via encapsulation. This technology allows integration of current MS-DOS-based programs into the HP NewWave environment while preserving the interfaces the user is familiar with. Encapsulation of HP and third-party applications provides a range of integration with the environment. For example, Graphics Gallery and Lotus^B

1-2-3[®] will be highly encapsulated. A shell has been built around them so that they create HP NewWave objects that can be used just like objects created with the HP NewWave environment.

Other HP Vectra Office PC products (Executive MemoMaker, Executive Card Manager, AdvanceWrite Plus) and many third-party applications may be executed through a PAM-like interface that is accessible in a single step from the NewWave Office.

Business System Plus

All of the components of Business System Plus will work with the HP NewWave environment (see articles beginning on page 3). Specifically, Information Access will be highly encapsulated. Users will be able to access data on other systems just as they do today. All of the print sharing and PC backup services of Resource Sharing will still appear as transparent services to users of the HP NewWave environment. In fact, the HP NewWave environment will be able to be downloaded from Business System Plus in the future, just as the HP Vectra Office PC applications are today.

HP DeskManager will continue to provide the electronic-mail transport services to both the HP NewWave environment and to existing users. This will be accomplished via the NewWave Mail product, that will provide all of the necessary access to HP DeskManager services. Upgrades will be announced in the future. Also, several converters are being added to allow terminal-based users of HP DeskManager to send and receive messages from HP NewWave environment users.

Users will continue to use HP Desk-Manager for electronic mail regardless of their mix of HP NewWave environment workstations and terminals.

PC hardware

The HP Vectra ES or ES/12 PC is the primary workstation for the HP NewWave environment. Also, there will be a variety of add ons to enhance existing personal-computer capabilities. 80286 and 80386 PCs (HP Vectra PCs, IBM PC/ATs, PS/2s Models 50, 60, 80) will require at least 2 Mbytes of EMS (Lotus, Intel, Microsoft [LIM 4.0]) memory and a 20-Mbyte hard disc, a mouse, MS-DOS 3.2, and Microsoft Windows 2.0. In addition to the PCs themselves, most popular peripherals are supported by the HP NewWave environment. Additional details are available from your HP sales rep.

Networks

The HP NewWave environment will require the latest release of OfficeShare, which will be available in the Spring of 1988. With that version, the HP NewWave environment will be able to use OfficeShare Serial, ThinLAN, StarLAN, and StarLAN 10 networks. Keep in mind that a LAN should be used for optimum performance as well as for the Resource Sharing functionality (shared printing and PC back-up) which is not available over serial links.

HP has made every effort to protect users' investments in current applications by offering a smooth growth path for users who choose to move into the HP NewWave environment.

General

HP NEWWAVE

DEVELOPER'S CONFERENCE TO FOLLOW VAR CONFERENCE

Commercial VARs should update their calendars to include a one-day HP NewWave Developer's Conference on March 16, following the annual VAR Conference at the Fairmont Hotel in San Jose, California.

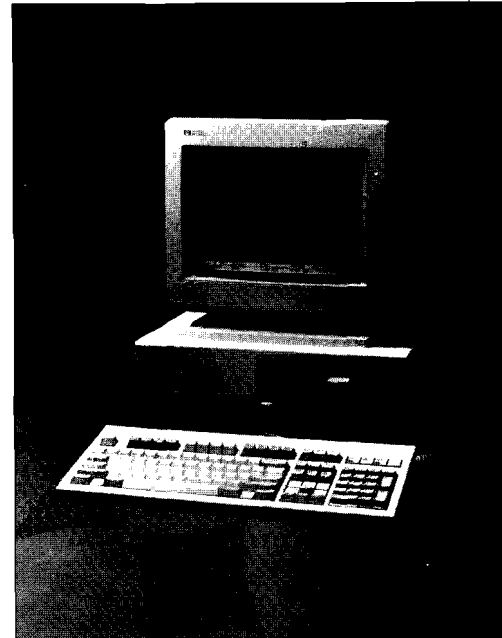
The HP NewWave Developer's Conference will focus on the HP NewWave environment, a complete end-user and application environment based on Microsoft Windows. It provides a task-oriented, single view into an organization's information and computing resources.

Planned events for the HP NewWave Developer's Conference include HP NewWave strategy talks, demonstrations, technical presentations, and workshops. Key speakers will discuss such topics as "The office and HP NewWave applications," "Trends in architectures," and "How to increase your sales with HP NewWave." We'd like to familiarize VARs with the benefits of developing their products under the HP NewWave environment.

Commercial VARs will receive more information about the HP NewWave Developer's Conference around March 16 through direct mailings and future HP *Channels* articles.

General

NEW PC-3051308 LOW-COST CONTROLLERS



The HP PC-305CL Controller includes an EGA color display and a 20-Mbyte internal hard disc drive.

Hewlett-Packard announces five preconfigured instrument controllers based on the new HP Vectra PCs. The PC-305 and new PC-308 are systems that include either an HP Vectra CS PC (8086-class) or Vectra ES/12 PC (80286-class at 12Mhz), an HP BASIC Language Processor, HP BASIC 5.0 in read-only memory (ROM), and PC-DOS. These new systems are designed for engineers and scientists who want the flexibility and power of HP's instrumentation BASIC and an IBM PC-compatible personal computer - an all-in-one, affordable package.

continued on next page

Thanks to a dual-processor design and built-in HP-IB (IEEE-488) interface, the PC-305 and PC-308 allow users to move data collected via HP BASIC into popular PC-DOS software applications, such as *Lotus@ 1-2-3®*, for statistical or graphical analysis.

All five controller configurations include a single 3%-inch 1.44-Mbyte flexible disc drive and have the ability to run HP BASIC 5.0 and HP Vectra PC DOS 3.2 software applications. The enhanced HP Language Processor Emulator (Viper 1.5) is bundled with the five controllers. An installation disc that allows the end user to bypass HP Vectra PC DOS 3.2 and automatically load HP BASIC 5.0 is also included.

The entry-level PC-305M (82316A) is based on the new HP Vectra CS PC (8086 compatible). The PC-305M includes a single 1.44 Mbyte 3%-inch flexible disc drive, HP Language Processor Board (MC68000, HP-IB [IEEE-488] interface, 512 Kbytes RAM expandable to 4 Mbytes RAM), serial/parallel interface. HP BASIC 5.0 in ROM, and a Multimode video adapter with monochrome display. The model PC-305ML (82317A) adds a 20-Mbyte hard disc drive. The third model, PC-305CL, (82318A), includes a 20-Mbyte hard disc and an enhanced color-graphics (EGA) display.

The PC-308ML (82314B) and PC-308CL (82315B) are higher-performance models based on the HP Vectra ES/12 PC (12Mhz 80286). They include the same options as the PC-305ML and CL described above.

Both the PC-305 and new PC-308 controllers can also optionally run HP Workstation Pascal 3.2 (82311B). The software-only option uses the same HP Language Processor Board as HP BASIC 5.0.

Ordering information

Product No.	Description
82316A	PC-305M Controller (Mono/floppy system)
82317A	PC-305ML Controller (Monohard disc system)
82318A	PC-305CL Controller (Color1 hard disc system)
82314B	PC-308ML Controller (Monohard disc system)
82315B	PC-308CL Controller (Color1 hard disc system)
82311B	HP Pascal 3.2 Software-only option

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General

PC-308M/C

CONTROLLERS

OBSOLETE

On December 1, the older 82314A PC-308M Controller and the HP 82315A PC-308C Controller were obsoleted. With the announcement of the new PC-308ML and PC-308CL Controllers (see previous article), which are based on the new HP Vectra ES/12 PC, the models PC-308M and PC-308C, which are based on the old HP Vectra PC (8Mhz), will be taken off the HP Price List as of December 1.

Portable

OBSOLESCENCE OF

LOTUS 1-2-3

RELEASE 1A FOR THE

HP PORTABLE PLUS

Effective January 1, 1987, Lotus[™] 1-2-3[®] Release 1A for the HP Portable PLUS will be removed from the HP Price List. Lotus 1-2-3 Version 2.01 is now available at the same list price as Release 1A, with the additional functionality of 40 new macro capabilities, 39 new functions, enhanced memory management, context-sensitive help menus, and data regression capabilities. Version 2.01 can read Version 1A files, while Release 2.01 files can be translated to Release 1A files by using the Translate utility.

Upgrades for Lotus 1-2-3 Release 1A are being handled through HP DIRECT. The front page of the Lotus 1-2-3 Release 1A manual is required as proof of purchase for all upgrades. European users should follow standard ordering procedures through HP's Direct Marketing Operation (DMO).

Ordering information

Product No.	Description
<i>Replacement products</i>	
45539K Opt. 400	Lotus 1-2-3 Release 2.01
45539K-64001	Upgrade. Release 2.01
<i>To be obsoleted</i>	
45548K Opt. 400	Lotus 1-2-3 Release 1A

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Desktop

HP VECTRA CS PC: DESIGNED FOR COMPATIBILITY WITH THE ZBM PC XT

The HP Vectra CS PC is a powerful personal computer. Its 7.16 MHz 8086-compatible processor, 16-bit memory bus, advanced hard disc controller, and disc cache software give it performance comparable to an original IBM PC AT. In determining whether the HP Vectra CS PC is suitable for a given task, it is important to be aware that it was designed to be compatible with the IBM PC XT. In contrast, the HP Vectra ES PC was designed to be compatible with the IBM PC AT. Although in most cases, this distinction is unimportant; the HP Vectra CS PC differs somewhat from the HP Vectra ES PC in several areas.

Software

The 8086-compatible microprocessor in the HP Vectra CS PC cannot run software written for the "protected mode" of the 80286 used in the HP Vectra ES PC. This includes multitasking operating systems such as Microsoft OS/2 and SCO Xenix 286. However, nearly all MS[®]-DOS software on the market today was written to be compatible with the IBM PC XT, and runs without difficulty on the HP Vectra CS PC.

Accessory cards

The input/output bus of the HP Vectra CS PC handles data 8 bits at a time. This means that the few accessory cards which were designed exclusively for the 16-bit bus in the IBM PC AT will not work. Fortunately, the makers of these cards usually offer an 8-bit version with similar features.

Disc drives

HP offers three disc drives for the HP Vectra CS PC: 360-Kbyte, 5%-inch and 1.44-Mbyte, 3%-inch flexible disc drives, and a 20-Mbyte hard disc. The 1.2-Mbyte flexible disc drive is not supported, as it was designed to work only in AT-architecture computers. While the market for high-end discs in an entry-level PC appears to be limited, we will consider supporting a higher-capacity hard disc if sufficient demand develops. Users who wish to add third-party hard discs should be careful to get an "XT" controller; "AT" controllers will not work.

I/O ports

The standard HP Vectra CS PC has a serial port and a parallel port. Adding a second serial port brings the HP Vectra CS PC to its maximum configuration of two serial ports and one parallel port, which is the same as that of the IBM PC XT and IBM PS/2 Model 30. The HP Vectra ES PC supports up to four serial ports and two parallel ports for users who need to connect many devices.

HP-HIL

Support for HP-HIL pointing devices is provided on the HP Vectra CS PC by an optional HP-HIL interface. This plug-in card, which will be available soon, will allow HP-HIL pointing devices to be connected to the HP Vectra CS PC. It will also enable several HP software applications to access certain advanced features of the Multimode Video Adapter (HP 45981A). For additional information, see the article on HP-HIL on page 8 of the November 1987 issue of HP Channels.

Desktop

HP 150 TO HP VECTRA PC SOFTWARE UPGRADES FOR MICROSOFT WORD AND WORDSTAR

HP 150 PC users are eligible for software upgrade programs being offered by Microsoft Corporation and MicroPro International. These programs allow users to upgrade their HP 150 software to a later release of the IBM PC version of the same product.

Any Wordstar[®] user may upgrade to Wordstar Professional, Release 4.0, for the IBM PC at a cost of \$89 (U.S. list) plus handling. The upgrade is available now and will probably be available until early 1988, although an official ending date has not been established by MicroPro. Users should call MicroPro directly at 800-227-5609 to order the upgrade. They will be asked to supply the serial number of their Wordstar product (can be Wordstar or Wordstar Professional). The upgrade is available on 5%-inch and 3M-inch media for IBM PCs and compatibles.

Microsoft is offering an upgrade to Release 4.0 of Microsoft[®] Word for the IBM PC at a cost of \$75 (U.S. list). Any user of Version 1.X is eligible for this upgrade. Call 800-426-9400 (in Washington and Alaska call 206-882-8088) and request the upgrade kit for Word 4.0. In return, you'll receive a form to be returned with payment and either the title page of the manual or a master disc. The \$75 price is good until December 31, 1987.

Both upgrade programs offer excellent opportunities for users to obtain IBM PC-compatible software if they are participating in the HP 150 PC trade-in programs. However, please remember that these upgrades are available *only*

through the specified vendors, and not directly from HP. Also, the upgraded products are not supported by HP, but by Microsoft and MicroPro.

For more information on the upgrade programs, please contact Microsoft and MicroPro at the numbers given above.

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

Microsoft® is a U.S. registered trademark of Microsoft Corporation.

Desktop

NOTE ON USING WINDOWS WITH HP VECTRA CS PC

To use Windows on an HP Vectra CS PC, Microsoft® Windows for the HP Vectra PC, Version B.02.00 is required. The English version (HP 45954B) will be available soon and localized versions will be available in the March/April time frame.

Microsoft Windows Version A.01.03 (HP 45954A) is not supported or recommended for use on the HP Vectra CS PC. Using this version can result in the loss of data.

Users who have purchased the incorrect version of Windows should contact their local HP sales office to return the unopened package for a complete refund.

Update on Windows 2.0 availability

Please note that the availability dates of the Windows product in the box were incorrectly listed in the Direct and Reseller's Price Guides (page 5).

Product No.	Description	Correct availability date
45954B	Windows 2.0 (5¼-inch discs)	First quarter FY88*
45954C	Windows 2.0 (3½-inch discs)	First quarter FY88*

*November 1987 through January 1988.

Microsoft® is a U.S. registered trademark of Microsoft Corp.

Desktop

ADVANCEWRITE PLUS AND THE HP LASERJET 2000 PRINTER

You can now use the new AdvanceWrite Plus with the HP LaserJet 2000 printer. The driver is included in the AdvanceWrite Plus product. All the basic features of this printer are supported in this release, with the exception of duplex printing. You also can print your integrated text and graphics documents using AdvanceWrite Plus and the HP LaserJet 2000 printer.

Also in this issue

<i>Business System Plus: Today's New Business System Supports the Wave of the Future</i>	5
<i>PAM is Available for IBM PCs with Business System Plus</i>	7
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<i>Universal 2400 bit/s Modem for Desktops to Mainframes</i>	20

Peripherals

General

UNIVERSAL 2400 BIT/S MODEL FOR DESKTOPS TO MAINFRAMES

The new HP 37212B Error Correcting Modem is a self-contained, full-duplex, auto-dial, auto-answer modem. It offers a wide range of features to suit virtually any application. A range of configurations provides optimum performance for mainframe computers, desktop computers, terminals, and RS-232-C controlled instruments or devices.

Available December 1, the HP 37212B offers many new features in addition to those that have proved so popular in its predecessor, the HP 37212A. Of particular note is the CCITT V.22 standard, which supports 2400 bit/s over dial-up lines, and the optimal use of industry-standard MNP error-correcting protocol. V.22, Bell 212 (1200 bit/s), and Bell 103 (300 bit/s) modulation standards are also offered. Three command modes – terminal, computer, and manual – plus two separate control channels (for those devices that are unable to output configuration or dialing information on their data ports) add greatly to the versatility of the HP 37212B.

Nonvolatile memory, pulse or tone dialing, leased-line operation, DC power option, automatic terminal-speed matching, and rack-mount kit combine to make this the most capable modem ever offered by HP.

The HP 37212B replaces the HP 37212A, which will be obsoleted on March 1, 1988. Connection approval for the new product has already been granted in the U.S. and Canada, and is being sought in the U.K. Other countries will follow as the demand arises.

Please contact your HP sales rep for more information.

Mass Storage

XP DISC DRIVES UNSUPPORTED ON MPE XL SYSTEMS

HP has received several inquiries about the system support of the cached (XP) disc drives. Currently, the drives are supported only on MPE V and RTE-A systems.

Controller cache does provide a benefit on MPE V systems by enabling users to turn off in-memory cache (MPE disc cache) and recover CPU cycles while maintaining a high I/O rate. The MPE XL disc caching performs in an optimal manner, adjusting to fit the workload demands of the system. Therefore, "XP" disc drives cannot be expected to improve MPE XL performance.

The HP 7933H, 7935H, 7936H, and 7937H disc drives are supported on all versions of the MPE XL operating system. The "XP" (cached) versions of the above disc drives are not supported at this time on MPE XL. However, support is planned on the first delta (1.1) of the operating system.

To maximize user satisfaction, keep these points in mind:

If you are currently ordering for any MPE XL system, you must order the "H" (noncached) version of the disc drives.

If you have ordered an MPE XL system and plan to move any type of disc drive from existing MPE V or RTE-A systems to the new system, be sure to have your HP sales rep arrange for one of the following if "XP" drives are involved:

- Switch drives around on existing systems to free up the required "H" drives.
- Contact the market development representative at HP's Finance & Remarketing Division for short-term rental information.
- Arrange for temporary use of field demolconsignment "H" drive inventory.

It is not necessary to use "XP" drives for performance on MPE XL systems, and they currently are not supported. If you need more information, contact your HP sales rep.

Mass Storage

NEW INFORMATION SHEET: HP 7980A TAPE DRIVES AND TURBOSTORE

An information sheet is now available for HP 3000 Series 70 users describing the performance advantage of two HP 7980A tape drives and TurboSTORE. It illustrates the performance improvement that can be realized with the addition of a second HP 7980A autoloader tape drive and TurboSTORE, and it includes a payback worksheet to help the user cost justify the purchase. Copies of this information sheet were included in the latest *Megabytes Plus* mailing. To obtain additional copies, order PIN 5953-6896 from your HP sales rep.

Networks

EVEN BETTER HP TO DEC NETWORKING

HP has done it again. Our multivendor, industry-standard networking just got better. Users have been requesting a virtual terminal capability for our Networking Services product that runs in DEC VAX computers and integrates HP and DEC together.

HP Network Services for the DEC VAX computer has been enhanced to include support for the de facto standard Advanced Research Projects Agency (ARPA) TELNET virtual terminal service. With this bidirectional service, HP computer users can log on to DEC VAXIVMS and MicroVAX/MicroVMS computers on a DECnet network, and DEC users can access HP computers across IEEE 802.3/Ethernet networks to browse directories, manipulate files, and perform other tasks.

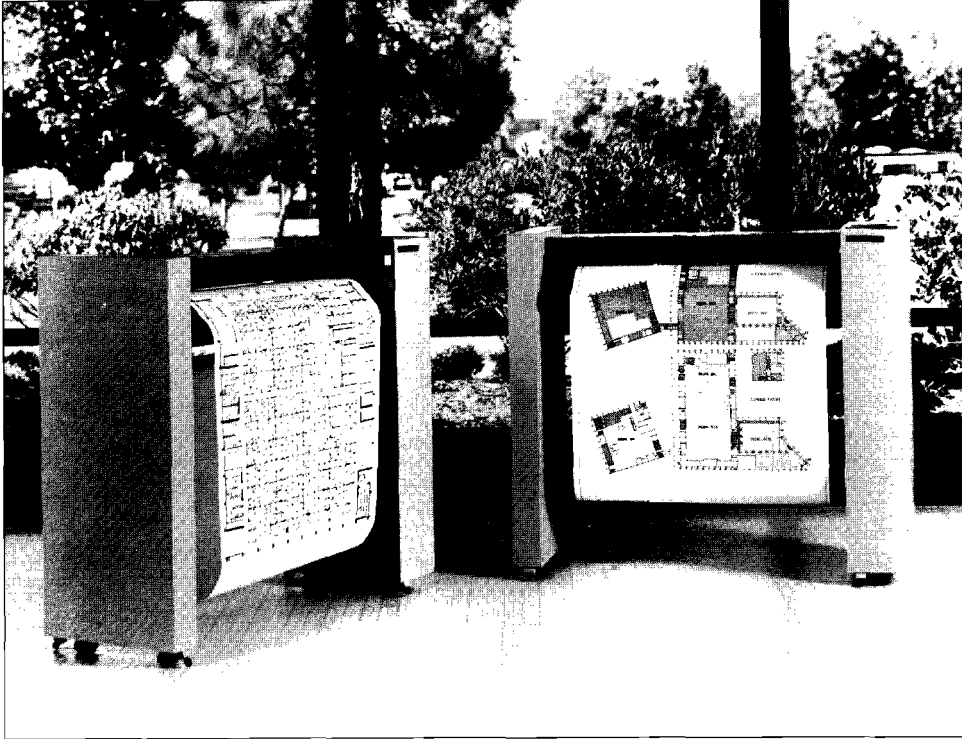
This new service strongly complements the robust network file transfer capability already offered in the HP NS for the DEC VAX computer product. And it is being added to the existing product with no increase in price. This means more functionality at the same cost to the user.

The new TELNET virtual terminal service capability will be added to the existing product in December - with first user shipments starting in late December. Users on the appropriate subscription services will automatically be updated in January.

For more information, please contact your HP sales rep.

Plotters

NO WAITING FOR HP DRAFTMASTER PLOTTERS



The HP DraftMaster plotters have been handicapped by long availability (up to 10 weeks) since their introduction in March of this year. The unexpected high demand coupled with the normal new product start-up delays, caused the delivery problem. HP is happy to report that effective now, the HP DraftMaster plotters are "in stock" worldwide.

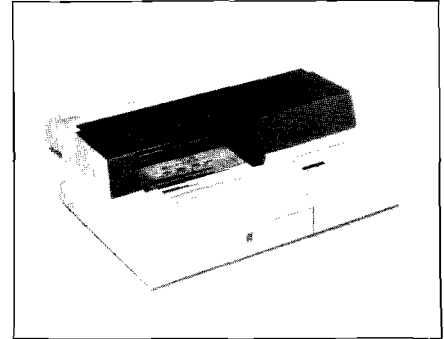
In June the HP DraftMaster plotter received *PC* magazine's "Editor's Choice" award and continues to receive favorable press comments.

In October, we began a direct mail campaign for the HP DraftMaster plotter and hope to run this campaign in Europe soon. A reprint of the June 9 *PC* magazine article is one of the response pieces showing how the HP DraftMaster plotter compared to competitors such as CalComp 1041GT, Bruning Zetadraf 900, and Ioline LP4000.

Contact your HP sales rep for more information on the HP DraftMaster plotter.

Plotters

PROGRAMMING MANUAL NO LONGER SHIPPED WITH HP 7550A PRODUCT



The vast majority of our customers use software packages to interact with their plotters; very few do any programming themselves. Since most of our customers do not need the manual, the *Interfacing and Programming Manual for the HP 7550A Graphics Plotter* will no longer be shipped with the product. The manual will continue to be available as an accessory.

The change affects the English, European English, French, and German options. Japanese customers will continue to receive a programming manual. The programming manuals will be pulled over a period of about a year as the operating manuals come up for reprint.

Contact your HP sales rep for more information.

Printers

NEW HP LASERJET PRINTER FAMILY LITERATURE

New HP LaserJet printer literature is now available and can be ordered through your HP Sales rep.

The ordering information is listed below.

Pub. No.	Title	Product
5954-8951	Configuring the HP LaserJet 2000 Printer to Data General MV Series Computers	HP LaserJet 2000 printer
5954-8952	Configuring the HP LaserJet 2000 printer to Digital Equipment Corporation VAX Computers	HP LaserJet 2000 printer
5954-8959	Configuring an HP LaserJet 2000 printer to IBM mainframe computers	HP LaserJet 2000 printer
5956-4252*	Supplies and Accessories for Your HP LaserJet Printers	HP LaserJet/ LaserJet PLUS/ LaserJet 500 PLUS/ LaserJet Series 11/ LaserJet 2000 printers
5954-8967	HP LaserJet 2000 printer sales and Promotional Opportunities binder	HP LaserJet 2000 printer
5954-8973	HP 2680185189 High-Speed Laser Page Printer Family data sheet	HP 268X family
5954-8961	Electronic Forms Design Service data sheet	HP 268X family

* Replaces the *Font Cartridge Selection Guide* (PIN 5954-7337), and *Soft Font Selection Guide* (PIN 5954-7321).

Terminals

MORE FEATURES WITH THE HP 700/92 AND 700/94

You already know that the new block terminals for HP systems have enhanced features and a much lower price. But are you aware of all the new features of the HP 700192 and the 700/94?

The main features that you have read about include 132 columns, eight pages of memory (sixteen for the 700/94), a standard RS-232 printer port, a one-year warranty, amber and soft-white display phosphors available in addition to green, a 14-inch screen, and DEC VT220 emulation in ANSI mode. Here are some additional features that may be just as important as the primary ones listed above:

Redefinable keys – By simply accessing the Terminal Configuration Menu, you can automatically program the Return key to equal "Enter," the Tab key to equal "Spaces," and the Numeric Pad Tab key to equal "Return" or "Enter."

▪ *Wraparound with insert and delete* – With the new wrap functions that have been added to the "Insert Char" key and the "Delete Char" key, editing is a lot easier. Now you can insert words to text without losing data off the screen. This prevents having to retype the lines that follow. Using the wraparound with delete also saves you from needing to edit multiple lines.

continued on next page

▪ *Block cursor* – Now you have a choice of using either a line or a block cursor. A block cursor is easier to find on screens that are busy with lots of data.

▪ *CRT screen saver* – Increase the life of your CRT tube by setting your terminal screen to automatically go off when not in use. Via a menu, you can program the terminal to do this after 5, 10, or 15 minutes of inactivity.

▪ *Scroll up and scroll down keys* – For users who never liked having to shift with the cursor keys to scroll up and down, we've now added two new keys to the keyboard. The "Scroll Up" and the "Scroll Down" keys are located with the cursor control pad and allow easier viewing of lengthy text. Other minor modifications to the keyboard have provided an overall improved keyboard layout.

For U.S. users only

Users can test the new features of the HP 700192 and the HP 700194 for themselves *and* get 50 percent off the first unit ordered if they take advantage of our special 50 percent off evaluation offer. This offer applies to all U.S. users when they order from HP DIRECT by January 29, 1988.

Also in this issue

<i>HP DeskManager Connects to DEC's AU-in-One</i>	2
<i>AdvanceWrite PLUS and HP LaserJet 2000 printer</i>	20

Supplies

Supplies

WINTER 1987 COMPUTER USERS' CATALOG AVAILABLE

HP DIRECT's newest catalog is now available, and can make it easier than ever for users to get computer supplies and accessories.

Our latest catalog features a wide range of products, in an easy-to-use format. Some of our newer product offerings include:

▪ **HP RuggedWriter 480 printer supplies and accessories**, including ribbons, printer stands, sheet feeder accessories, and font cartridge accessories

3%-inch floppy disc that stores up to 1.44 Mbytes of data

▪ **HP ThinkJet printer paper catchers**, to keep your printer output neatly stacked and folded

▪ **HP PaintJet printer print cartridges in black and in color**, plus dust covers, printer paper, and 128-Kbyte RAM cartridges

Users will appreciate HP DIRECT's convenient telephone order service. In the U.S., call 800-538-8787 (those outside the U.S. should refer to the telephone list at right for U.S. and international versions of the *Computer Users' Catalog*). Purchases can be charged to VISA, Mastercard, or American Express. We provide surface delivery at no extra charge, and same-day shipment of orders received by 2 p.m.

HP DIRECT order phone numbers

HP DIRECT Fast Phones – the easy, direct way for users to order supplies, accessories, media, furniture, and software from HP DIRECT.

Location	Telephone Number
Australia	(03) 895-2645 (03) 895-2615 (03) 895-2815 (03) 895-2861
Austria	(0222) 2500-614/615/616
Belgium/Luxembourg	(02) 761 31 11
Canada	
Toronto Local	416-671-8383
Ontario	1-800-387-3417
Quebec	1-800-387-3417
British Columbia	112-800-387-3154
Other Provinces	1-800-387-3154
Denmark	04 30 16 40
Finland	(90) 887 2361
France	(1) 69 28 83 90 (1) 69 28 32 64
Greece	(01) 6726090
Italy	(02) 9236 9702
Japan	
Sagamihara	0427 59 1311
Osaka	06 304 6021
Middle East	
Athens	(01) 6828811
Norway	(02) 24 60 90
South Africa	
Johannesburg	(011) 8025111
Cape Town	(021) 537954
Spain	(91) 6374013 (91) 6370011
Sweden	(08) 7502400
Switzerland	(057) 31 24 90
The Netherlands	(020) 547 6606
United Kingdom	(0734) 697201
United States	800-538-8787
West Germany	(0130) 3322

SOFTWARE PACKAGES AVAILABLE AND WANTED

If you have a software package available for cross-licensing, or are looking for a package to cross-license, this section will help you. Your entry will appear for two months; the most recent additions are shaded. To list your company in the Cross-Licensing Classifieds (at no charge), see the address at the end of this section.

Software Packages Available

Industry: *Civil Engineering. Water Resources*

Abstract: HydroCAD is a computer-aided design program for analyzing the hydrology and hydraulics of storm water run off. It allows the construction of a complete model for any watershed and drainage system. This model can then be used to predict flooding or other occurrences, and to determine the effects of proposed development.

The market for storm water analysis tools is expanding rapidly as more state and local agencies require these studies for all new construction and development. There is also a growing recognition of the need to evaluate existing drainage systems which may be inadequate. HydroCAD is designed to meet these needs by incorporating the latest engineering techniques into an interactive modeling system.

HydroCAD runs under the BASIC operating system on most HP 9000 Series 200 and 300 computers.

Company Name: Applied Microcomputer Systems

Address: Page Hill Road
Chocorua, NH 03817
U.S.A.

Phone: 603-323-8666

Contact Person: Peter Smart

Type of Distributor Wanted: Open

Geographic Coverage: Worldwide

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: Marilyn Rauchle
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.

How to get your name added to the distribution for *HP Channels*

If you work for a company that is a value-added business for Hewlett-Packard and want to receive your own copy of *HP Channels*, call Hewlett-Packard and have your sales rep send your name and the information requested below to Tracy Wester.

HP sales reps only: To add new U.S. or Canadian accounts to the distribution for *HP Channels*, please send Tracy Wester the following information (on HP Desk 0000/53 or to the address listed below): company name address, phone number, contacts' name/title, and HP sales rep name, COMSYS number, and engineer code. For accounts outside of the U.S. or Canada, contact Tracy Wester to get the name of the person who handles the distribution of *HP Channels* in your country.

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

HP CHANNELS

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Corporate Marketing Communications
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