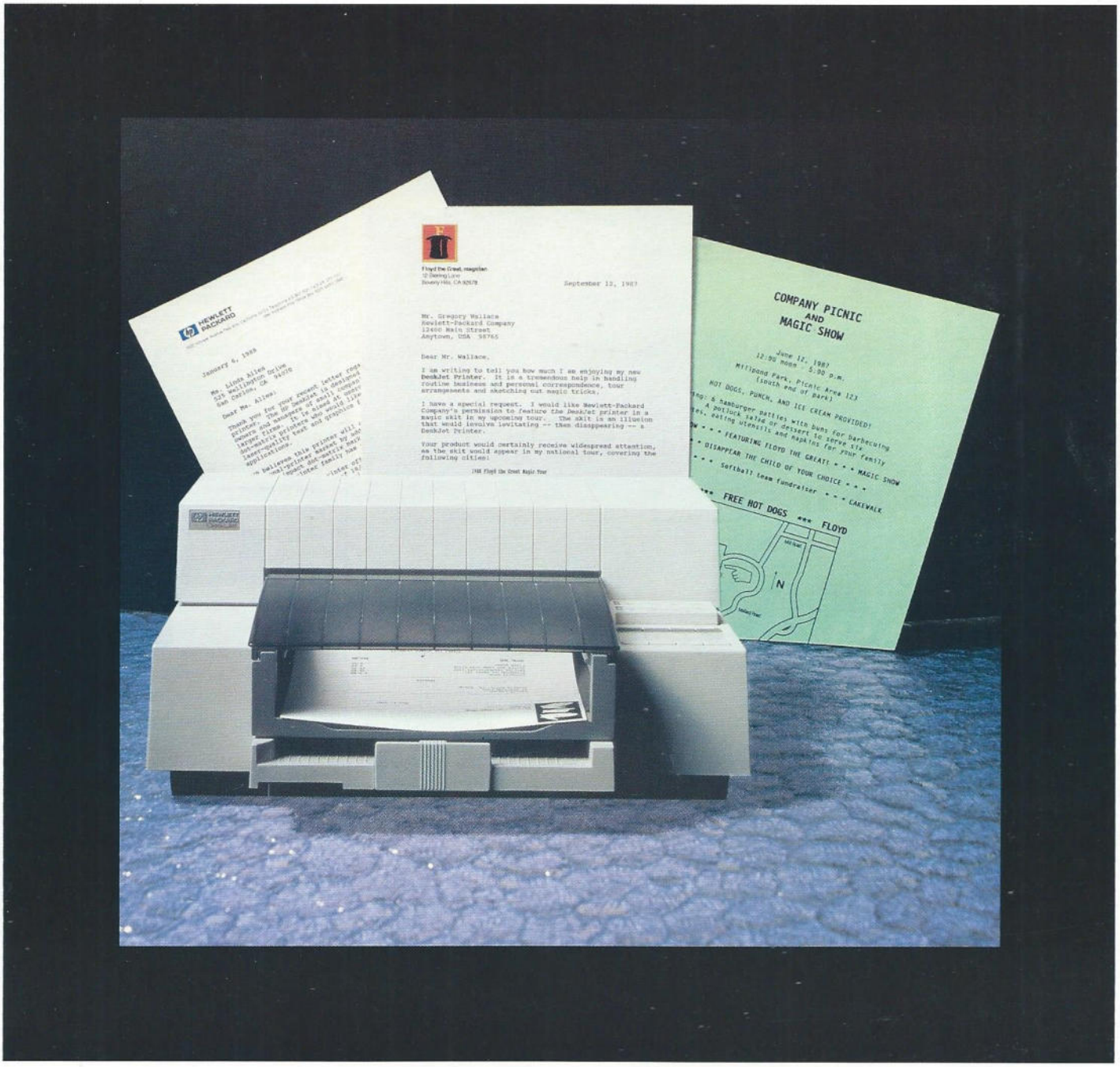
HEWLETT – PACKARD

# UPDATE

COMPUTER SYSTEMS FROM HP

JANUARY/FEBRUARY 1988

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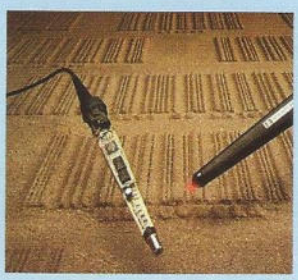

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# Improve your PC integration and productivity

Now PC users can have a single view into an organization's entire network of HP and other computer resources.

The HP NewWave software application environment allows you to work across applications and to access data and files seamlessly from multiple sources. Based on the emerging Microsoft® Windows 2.0 standard, the HP NewWave environment incorporates object-management technology, artificial-intelligence (AI) principles, and a common, graphic user interface. The result is improved personal-computer integration and ease of use.

The HP NewWave environment simplifies the physical and logical connection of people to the information and computer resources they need.

### Interface makes the difference

The HP NewWave environment's graphic interface uses icons—small pictures that represent different software applications, commands, and data files—to simplify the use of the computer. You don't have to recall and type arcane commands and multiple file names. Instead, a computer mouse is used to move the cursor to the appropriate icon.

### OMF handles compound documents

The object-management facility (OMF) enables you to move smoothly across software applications. You can easily and quickly create compound documents made up of different types of data, such as spreadsheets, data bases, text, graphics, voice, and scanned images.

The OMF also allows data in related files

to be updated automatically. For example, in a compound document that includes data from a spreadsheet, changes to the spreadsheet are automatically made to the document as well as to all other files in which the data resides.

**End-user programming with "agents"**

The HP NewWave environment also automates routine activities from the simple to the complex. This feature, called "agents," represents a form of easy, flexible programming that, when invoked from the graphics interface, copies your actions. You can "teach" agents to perform tasks either at a time and date you specify or when a predetermined set of conditions occurs.

The HP NewWave environment will be released in two phases:

- Phase One, scheduled for February, will be the shipment of the HP NewWave Developer Kit for value-added businesses, independent software vendors, and HP's major customers. The kit includes the new software, development tools, reference manuals, and other documentation.
- Phase Two, scheduled for the second half of this year, will include the end-user release of the HP NewWave environment as well as the first software applications from HP and other vendors.

The HP NewWave Developer Kit is $895.

*For more information about the Developer Release Product of the HP NewWave environment, check* **A** *on the HP Reply Card.*

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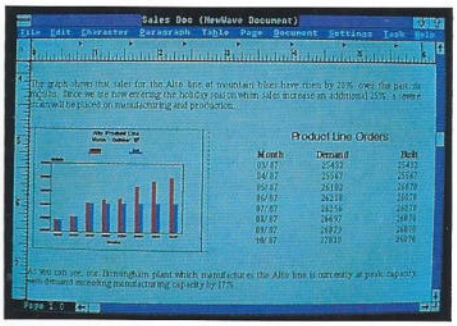



***This compound document incorporates data from a spreadsheet, a word-processing package, and a graphics program.***

## Low-cost controllers are flexible and powerful

***The PC-305CL HP BASIC controller includes an EGA color display and a 20-Mbyte internal hard disc.***

Now you have the flexibility and power of HP's instrumentation BASIC 5.0 and an IBM PC-compatible personal computer in one affordable package.

The PC-305 and new PC-308 systems are five preconfigured instrument controllers based on the new line of HP Vectra personal computers. Their dual-processor design and built-in HP-IB (IEEE 488) interface allow you to move data collected via HP BASIC into PC-DOS software applications, such as Lotus® 1-2-3®, for statistical or graphical analysis.

The entry-level PC-305M is based on the new HP Vectra CS PC (8086-compatible). It includes a single 1.44-Mbyte 3½-inch flexible disc drive, HP Language Processor (MC68000, HP-IB interface, 512K-byte RAM expandable to 4M bytes), serial/parallel interface, HP BASIC 5.0 in ROM, and a multimode video adapter with monochrome display. Model PC-305ML adds a 20-Mbyte hard disc drive. Model PC-305CL includes a 20-Mbyte hard disc and an enhanced color-graphics (EGA) display.

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

Both the PC-305 and the new PC-308 controllers can also run HP Workstation Pascal 3.2 with a software-only option that uses the same HP Language Processor Board as HP BASIC 5.0. All five controller configurations include an installation disc that allows you to bypass HP Vectra DOS 3.2 and automatically load HP BASIC 5.0.

The PC-305M, PC-305ML, and PC-305CL are priced at $3,895, $4,595, and $5,395, respectively. The PC-308ML is $5,895, and the PC-308CL is $6,695.

*For more information, check* **B** *on the HP Reply Card.*

1-2-3® and Lotus® are registered trademarks of Lotus Development Corporation.

## New error-correcting modem performs at rates up to 2400 bits/s

*The new HP 37212B modem can be configured to provide optimum performance for mainframe computers, desktop computers, terminals, and RS-232-C controlled instruments.*

The new HP 37212B Error-Correcting Modem is a full-duplex, auto-dial, auto-answer data modem whose features suit applications from desktops to mainframes.

The HP 37212B's error correction uses industry-standard MNP® protocol. An efficient implementation ensures one-hundred-percent data integrity and results in minimal speed degradation over good telephone lines.

The HP 37212B can communicate with a broad range of industry-standard modems, including Bell 103 (FSK) at 300 bits/s; Bell 212 (DPSK) at 1200 bits/s; CCITT V.22 (DPSK) at 1200 bits/s; and CCITT V.22 bis (QAM) at 2400 bits/s.

### Flexible control

The HP 37212B can be controlled manually, using the front-panel control switches. At the next level, terminal mode provides interactive control through a computer terminal. And in computer mode, control of the HP 37212B is optimized for interaction with a computer. In most cases the HP 37212B will be controlled through the RS-232-C data interface. A second, separate, control channel is provided for devices or computers unable to use the primary channel.

The HP 37212B's nonvolatile memory, leased-line operation, comprehensive built-in diagnostic and self-tests, 100/240V ac line or low-voltage dc operation, and pulse or tone dialing provide a flexible and versatile modem.

The HP 37212B is $920.

*For more information, check* **C** *on the HP Reply Card.*

Microcom Networking Protocol® is a registered trademark of Microcom Corporation.

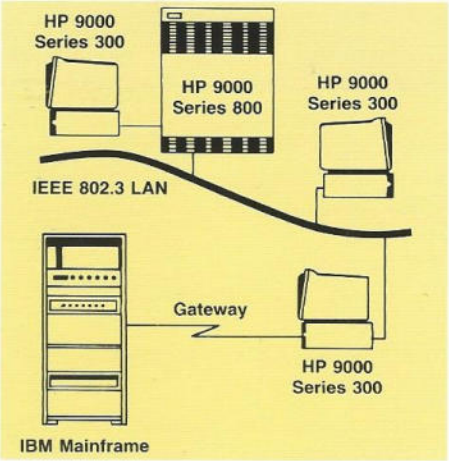
## Improved HP 9000-to-IBM communications

The new HP-UX SNA3770 allows HP 9000 Series 300 HP-UX workstations and Series 800 HP-UX minicomputers to emulate a standard subset of the functions of an IBM 3777 Model 1 Communications terminal. The new software provides batch data transfer between an HP 9000 Series 300 or 800 and an IBM System/370-compatible mainframe in an SNA environment.

A gateway configuration allows several systems on a LAN to share a single link to the IBM host. The standalone configuration provides each system its own link to the IBM mainframe and its own terminal emulation software.

### Many applications

The HP-UX SNA3770 and Gateway/SNA3770, with HP-UX SNALink or Gateway/SNALink, allows you to:




*HP-UX SNA3770 is provided in standalone and gateway configurations.*

- Print reports from IBM hosts on your HP-UX system (and vice versa)
- Share expensive mainframe peripherals
- Take advantage of the mainframes's computing power
- Access and update host resident data bases
- Routinely submit jobs in unattended operation
- Transfer files between the IBM mainframe and your HP-UX systems.

HP-UX SNA3770 requires HP-UX SNALink. SNALink allows concurrent and multiple SNA3270 and SNA3770 sessions on the same link to the host—you can have batch and interactive communications over a single link to the host. HP-UX SNALink is available with RS-232-C interfaces at transfer rates up to 19.2 kbps, and V.35 interfaces at transfer rates up to 64 kbps.

HP-UX SNA3770, the standalone configuration, is available only on the HP 9000 Series 300 workstations. HP-UX Gateway/SNA3770 is available on the HP 9000 Series 300 and 800.

HP-UX SNA3770 and Gateway/SNA3770 for the Series 300 are priced at $1,020. HP-UX Gateway/SNA3770 for the Series 800 Models 825, 840, and 850 is priced at $3,000, $7,140, and $10,000, respectively.

*For more information, check* **D** *on the HP Reply Card.*

# Laser-quality output for a personal-printer price

*The new HP DeskJet printer features laser-quality output, ease of use, small size, and low cost.*

The new HP DeskJet personal printer delivers laser-quality output for the price of a personal printer. It provides sophisticated output and excellent print quality, desktop design for personal printing, ease of use, and outstanding price/performance.

The HP DeskJet printer is especially suited to users of low-priced impact dot-matrix printers who would like to trade up to laser-quality text and graphics for typical office applications but can't afford to.

**Sophisticated output**

The new printer prints high-resolution text in multiple fonts and full-page graphics, all at 300 dots per inch (dpi). It uses all common office paper and also handles merged text and graphics output from numerous popular application packages.

**Desktop design**

Designed for individual use, the HP DeskJet printer's compact size makes it ideal for the desktop environment. It prints text at speeds of 120 characters per second (cps) or approximately two pages per minute for laser-quality text, and 240 cps for draft quality.

**Built-in cut-sheet feeder**

The printer features an automatic cut-sheet feeder (up to 100 sheets) and a front-loading design for quick reloading of paper. The printer accommodates U.S. letter, legal, and European A4 paper sizes, as well as manually fed #10 business envelopes.

**Multiple fonts**

Multiple fonts are available in a wide variety of typefaces, sizes, and styles via 12 font cartridges (four or more fonts per cartridge) and one soft or downloadable font with universal character sets, such as IBM-8, HP Roman8, and ISO-7.

The HP DeskJet printer employs HP's PCL printer language, making it compatible with most HP LaserJet printer-support software packages. Additional HP DeskJet printer features are supported by more than 60 software packages.

The HP DeskJet printer works with a variety of HP, IBM, and IBM-compatible computers and comes standard with Centronics parallel and RTS-232-C serial interfaces.

The printer will be available February 1 in the U.S. and Canada, and June 1 in the rest of the world.

The HP DeskJet printer is $995.

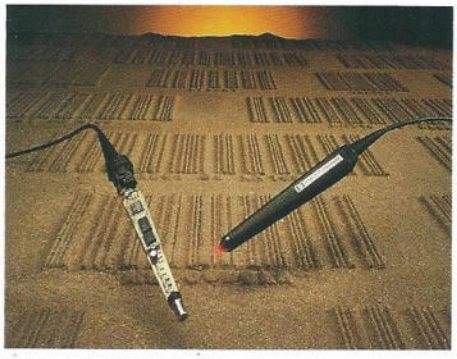
*For more information, check* **E** *on the HP Reply Card.*

## Add bar-code capability to your host system

Now you can add bar-code scanning capability to any host system that supports a 5V serial asynchronous interface. The new HBCR-8X00 SmartWand reader/scanner feature decoding intelligence located within the body of the wand scanner, eliminating the need for a separate decoding box.

The new scanner transmits decoded bar-code data in a serial ASCII format, freeing the host processor from the decoding task. Its optics and low-power electronics allow operation in a wide range of environments, including direct sunlight, intense artificial light, and electromagnetic fields.

The HBCR-8X00 series of scanners combines a powerful microcontroller, bar-code decoding software, optical and escape-sequence programmability, nonvolatile configuration memory, and a high-performance contact scanner all in a standard-size, industrial-wand package.



*The HBCR-8X00 SmartWand bar-code readers automatically recognize and decode nine different symbologies, and are optically programmable.*

Nine standard bar-code symbologies, including Code 39, are automatically recognized and decoded by the HBCR-8X00. In addition, the new scanners have the ability to convert any of the standard bar-code symbologies to Code 39 and emulate the undecoded output of a digital wand. This allows an existing decode system that can decode Code 39 to include symbologies not previously available.

The HBCR-8X00 scanner is $350.

*For more information, check* **F** *on the HP Reply Card.*

## Better PC integration with HP OfficeShare enhancements

A new release of the HP OfficeShare Network family provides several new features and enhancements for PC users. HP's OfficeShare Network family of products integrates personal computer users into an HP AdvanceNet local area network. It lets you share resources and access HP's distributed processing and Personal Productivity Center services to enhance communication, cut costs, and boost productivity.

**New services and benefits**

- HP 3000 communications. Users of the OfficeShare Network can use HP AdvanceLink and the HP Terminal Program to connect to the HP 3000 via any OfficeShare link for terminal emulation.
- Terminal access. HP OfficeShare now offers a virtual terminal capability that provides non-block mode terminal emulation to HP 1000, HP 9000, and DEC VAX machines running the HP Telnet service.
- Network file transfer. NFT provides high-speed network file transfer between HP Vectra PCs or IBM PC/XT/AT, IBM PS/2 Model 30, and HP 1000, HP 3000, HP 9000, and DEC VAX hosts.
- NetIPC/RPM development package. This package provides programmatic tools that let application developers write integrated, distributed applications using the processing power of both the PC and the HP 3000. NetIPC (Interprocess Communication) enables PC and HP 3000 processes to communicate over the network. RPM (Remote Process Management) enables the PC to control a process on an HP 3000.
- NetBIOS support. NetBIOS implements the IBM NetBIOS interface for PC-to-PC communication. It allows use of certain communication gateways such as applications written for the IBM PC, Token Ring, and other networks.
- SERIAL over X.25. The HP SERIAL Network software provides you with connectivity from a PC to an HP 3000 over X.25 networks through back-to-back HP 2334 statistical multiplexers.
- Network links. The HP OfficeShare services can be used over any of these network links: HP StarLAN, HP ThinLAN, HP SERIAL, and HP StarLAN 10.

HP 3000 server/hosts connected to PCs via the SERIAL network can also be connected to any type of LAN cabling, providing resources to PCs with both SERIAL Network remote links and the LAN.

The HP OfficeShare Networking family is a part of HP AdvanceNet, Hewlett-Packard's strategy for providing networking solutions for HP and non-HP computers. This strategy is based on the International Standards Organization OSI networking model. It includes compatibility with industry standards, such as IEEE 802.3, and employs emerging standards such as Microsoft® Networks.

Prices for the HP OfficeShare Networking family range from $85 to $1045.

*For more information on HP OfficeShare software for PCs, check* **G** *on the HP Reply Card.*

## New disc subsystem features high capacity in a compact package

The new HP 7963B Disc Subsystem is a midrange drive that features high-end capacity as well as room for future growth. Its "slotbox" design allows placement of up to three HP Winchester disc mechanisms in one package.

You can purchase a drive with one disc mechanism at first and then later install up to two more stand-alone mechanisms—all in the original package. These mechanisms are priced less than separately packaged disc-drive subsystems of equal capacity.

### Choice of capacity sizes

The drive is available in a 304-megabyte capacity configuration. Configurations of 81 and 152 Mbytes will be available later this year. The standalone mechanism is available in a 304-Mbyte upgrade kit; a 152-Mbyte kit will be available later this year.

### Winchester designed and built by HP

The foundation of this new midrange disc is HP's own 5¼-inch Winchester disc mechanism, which provides high performance traditionally found only in larger system discs. Because of its small size and tolerance over a wide range of operating environments, this reliable mechanism is well-suited for office or workstation environments. This product gives you up to 912-megabyte capacity for your particular application, whether you use an HP 1000, 3000, or 9000 Computer.

### Optimized performance

Packaged with a power supply and intelligent controller, the HP 7963B product features a 17-ms seek time and an average data transfer rate of 700 kbytes/second.

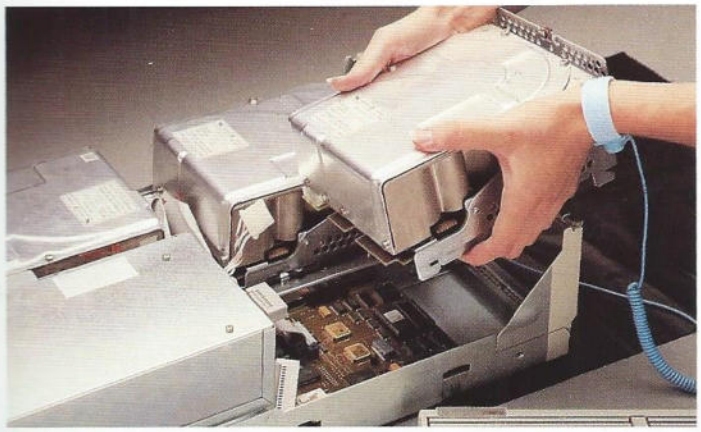
Other key performance features include: a specially designed track-positioning system using embedded servo code, a channel optimization feature similar to rotation position sensing (RPS), and automatic sparing.

### Single-mechanism alternative

If a one-disc solution better suits your needs, HP offers the new HP 7959B Disc Subsystem. Available in 304 Mbytes, this product features the same performance and reliability found in the HP 7963B. The only difference is that it is a single-mechanism solution. The HP 7959B is an excellent choice if you don't anticipate additional capacity requirements soon and if you don't need the performance benefits of a multiple-spindle solution.

The HP 7963B is priced at $10,750. The 304-Mbyte upgrade kit is $7,050. The HP 7959B is $9,350.

*For more information, check* **H** *on the HP Reply Card.*



***Additional mechanisms can be placed in the HP 7963B for total capacity of up to 912 Mbytes.***

## NFS integrates HP 9000 and multivendor files

Network File System (NFS) now allows HP 9000 Computers running HP-UX to share file systems in a multivendor network of machines and operating systems. Machines running NFS and sharing files range from minicomputers and superminicomputers to high-performance workstations and personal computers.

### Access remote and local data bases

NFS, now a de facto industry standard, permits project teams to integrate remote data or files into local applications. With NFS you can integrate remote pathnames into programming languages (applications) just as if the files were local. In addition, you can access printers, plotters, and other resources on servers through the use of spooling routines.

When using NFS you cannot distinguish between accessing remote data bases and those residing on a local disc. After you attach a file system with NFS, almost all user-level commands (list, remove, copy, and so on) and system calls operating locally will work on a remote file without any noticeable change in response time.

### Save disc storage space

Computers running NFS can access remote data bases containing drawings, schematics, netlists, models, or source code. Accessing remote files instead of copying the files reduces disc-storage requirements.

NFS is included in many of the HP 9000 Series 300 HP-UX system bundles, or you can order it separately on HP-UX HP 9000 Series 300/800s for prices ranging from $595 to $6,500.

*For more information, check* **I** *on the HP Reply Card.*

HP-UX is HP's version of AT&T's UNIX® System V operating system. UNIX® is a registered trademark of AT&T in the U.S.A. and other countries.

# Automate complex design activities

The new HP PLD Design System automatically fits complex designs into PLDs (programmable logic devices) and, if necessary, partitions large designs into multiple devices. The system is available on the full range of HP 9000 Series 300 technical workstations.

**Simplified design entry and verification**

Unlike other systems that use batch programs requiring familiarity with system and language syntax, the HP PLD Design System features an interactive user interface with easily understood icons and pop-up menus.

You can enter designs with schematic symbols, graphical state diagrams, waveforms, Boolean equations, or truth tables—without considering the target device. PLD debuggers specific to each design-entry method are tightly integrated to verify PLD designs quickly at the same level of abstraction.

The HP PLD Design System supports hierarchical design so that complex PLD designs can be split into subdesigns or blocks.

**Device independence**

Many PLD design tools require you to specify a device when you begin implementing your design. The HP PLD Design System automatically selects the most appropriate PLD—or multiple PLDs—based on pin count and generates the fuse map.

You can limit the system's choice of devices for considerations such as power consumption, price, and inventory. When a complex circuit cannot be loaded onto a single device, the HP PLD Design System automatically partitions the circuit into more than one PLD. Included is a comprehensive part library containing more than 70 architectures from leading PLD vendors.

Prices range from $8,000 to $14,500, depending on the software modules chosen.

*For more information, check* **J** *on the HP Reply Card.*



# New entry-level DA&C unit delivers high intelligence for a low price

*The new HP 48050A is designed and qualified specifically for harsh industrial environments.*

A new low-priced, compact, and intelligent front-end processor is now available for engineers who need an entry-level data-acquisition and control unit.

The new HP 48050A fits applications ranging from SCADA (supervisory control and data acquisition) systems and energy management to the measurement, monitoring, and control of remote facilities and equipment. It's especially useful in the electrical utilities, telecommunications, transportation, and process industries.

The HP 48050A extends the HP 48000 RTU Measurement and Control Unit family, addressing applications that require small point counts. The product comes standard with 23 I/O channels. You can increase this to 45 I/O channels by ordering an optional expansion board.

**Intelligent and easy to program**

The HP 48050A includes an easy-to-program, user-configurable library that contains more than 60 signal-processing and control functions. The library functions offload routine tasks from the host computer, provide distributed control capability, minimize programming, accelerate troubleshooting, and allow on-line tuning as processes change.

You can write user-defined tasks with an easy-to-use, multitasking, compiled BASIC programming language. Using a personal computer running MS-DOS, you can write custom tasks and functions in Microsoft-C, which gives you access to the HP 48050A hardware resources (available later this year). These programs can then be downloaded and added to the HP 48050A data base function library.

**Data communications flexibility**

The HP 48050A provides several data communications options for local and remote installations. For local installations, the HP 48050A plugs directly into a host computer system (HP Vectra PC or HP 9000 or HP 1000 Computers) via an RS-232-C (CCITT V.24) connection. The HP 48050A can also be programmed to match the communications protocols of a broad range of instruments used in industrial applications.

For remote installations, an optional port allows data transmission through a radio, a modem, or a wireline network. The wireline network will support up to 90 HP 48050As via multidrop with only two repeaters.

**High reliability**

Low-power-consuming CMOS components allow the unit to operate in extreme temperature conditions ranging from −40°C to +65°C, without the use of fans or heaters. Even in the event that the host computer fails, the HP 48050A can be programmed to continue to operate as a stand-alone controller.

The HP 48050A is priced at $2,950. Option 001 expansion board is $1,050.

*For more information, check* **K** *on the HP Reply Card.*

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