

HEWLETT - PACKARD

# UPDATE

COMPUTER SYSTEMS FROM HP

MARCH / APRIL / MAY 1991



**R**esolution Enhancement & Microfine Toner

**Technical Overview**

The Resolution Enhancement technology found in the HP LaserJet III Si printer improves the sharpness and clarity of printed pages and the sharpness and clarity of printed pages and the sharpness and clarity of printed pages...

Resolution Enhancement technology improves the sharpness and clarity of printed pages and the sharpness and clarity of printed pages...

Resolution Enhancement technology improves the sharpness and clarity of printed pages and the sharpness and clarity of printed pages...

The race belongs to the swiftest. The HP LaserJet III Si Printer.

**COVER STORY ON PAGE 3:**

You can now take delivery of HP's fastest, most advanced desktop printer, the HP LaserJet III<sup>Si</sup>, to print 17 pages per minute on letter-size paper. It handles 50,000 pages per month in shared environments.



**Install, maintain LANs faster and easier with new HP Media Scanners**

Now you can install and maintain local area networks (LANs) faster and easier than ever before and cut network downtime with HP's new family of LAN media scanners.

The **HP J2187A Quick Scanner**, **HP J2181A Cable Scanner**, and **HP J2177A Pair Scanner** quickly pinpoint the exact location of cable and connector transmission faults—which are most of the LAN problems you will ever encounter.

The **HP 28687A Wire Test Instrument** is designed for certifying twisted-pair cabling systems for compatibility with the IEEE 802.3 **10BASE-T** standard.

The three hand-held time domain reflectometers (TDRs), are designed for installation and troubleshooting by network service groups, and for private network managers who manage their own LANs.

The scanners not only report the nature of the fault but also tell you exactly where it is located on the cable. Advanced TDR technology, sometimes called cable radar, makes this possible.

You will see clearly reported results (for example, "Short at 306 feet"). The rugged HP scanners are battery operated, portable, easy to use, and can test all twisted-pair or coaxial LANs, including 802.3, 802.5, 10BASE-T, and ArcNet.

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



*New hand-held HP scanners instantly pinpoint the exact location and nature of LAN network cabling problems.*

- 2** Install and maintain LANs quickly with new HP Media Scanners
- 3** New HP **LaserJet III<sup>Si</sup>** printer increases speed and productivity
- 4** HP introduces 5 business systems and servers with mainframe performance  
**HP Vectra 486 PC** helps produce higher-protein milk low in fat
- 5** New **HP Apollo** workstations bring excellent speed, graphics  
HPCD-ROM is the choice for workstations
- 6** HP Network Storage System offers top solutions for PC LANs  
HP introduces its most powerful PC, the **HP Vectra 486/33T PC**
- 7** Faster, brighter color printing solutions now available from HP
- 8** Stock Exchange of Singapore installs 1,800 high-performance **HP Apollo** workstations

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

**For research and education purposes only.**



## New HP LaserJet IIISi printer increases speed, productivity

You can now take delivery of HP's fastest, most advanced business desktop printer for the office, the HP LaserJet IIISi printer.

Operating at business speed, the HP LaserJet IIISi printer prints 17 pages per minute (PPM) on letter-size paper and 16 PPM on A4 paper. The printer handles the demands of shared environments, printing 50,000 pages per month.

### Paper handling for shared environments

The HP LaserJet IIISi printer comes with two 500-sheet letter-size paper-input trays, a 500-sheet output bin, and a 50-sheet reverse-order empty tray. Options include user-installable duplex, power envelope feeder, and other paper tray sizes.

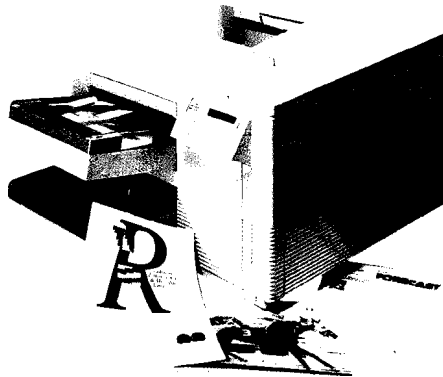
### Print quality that rivals 600 dpi printers

The HP LaserJet IIISi printer uses new microfine toner which, in combination with HP's Resolution Enhancement technology,<sup>TM</sup> produces print quality comparable to that of many higher-resolution printers. Microfine toner creates images from toner particles about half the size of other 300-dpi laser printer toner, resulting in sharper edges and less toner scatter.

### PCL 5 and optional Adobe Postscript

A RISC-based formatter with PCL 5 scales type and produces mixed text and graphics at or near the printer's rated engine speed. HP PCL 5 features built-in HP-GL/2 and Intellifont font-scaling technology for fast type scaling from 0.25 to 999.75 points, in 0.25-point increments.

You can also choose Adobe<sup>®</sup> PostScript<sup>®</sup> as a fully integrated option, with 35 scalable Adobe (Type 1) typefaces and Adobe's ATM (Adobe Type Manager) font-rendering technology. Optional PostScript is available at introduction as a dealer-installed upgrade. Starting this summer, PostScript will be available as a factory installed option.



*The HP LaserJet IIISi printer gives you the fastest 300 dpi printing in the business, and 50,000 pages a month. It features Resolution Enhancement and new microfine toner for improved print quality.*

To meet the needs of shared environments for both PCL 5 and Postscript jobs, the HP LaserJet IIISi printer supports language switching between PCL 5 and PostScript from the printer front panel, or it is software-selectable from your computer.

### Network interface alternatives

The HP LaserJet IIISi printer comes standard with an RS232/Centronics interface. The printer also offers four interface options for networks so you can connect it anywhere on a local area network. The interfaces are designed for Ethernet and Token Ring networks running Novell NetWare, 3Com 3+Open, or HP LAN Manager for OS/2. The interfaces improve the speed at which data can be sent to the printer and minimize server overhead.

### Industry-standard SIMMs memory

The HP LaserJet IIISi printer comes configured with 1 MByte of printer memory and has four memory module slots for units shipped into InterAmerica and Pacific Asia. In Europe, the printer comes with 2 Mbytes of memory and has three single-memory slots. Printer memory can be expanded up to 17 Mbytes by adding low-cost 1- or 4-Mbyte SIMM memory modules.

### More built-in fonts

Thirteen scalable typefaces in four families come with the printer—CG Times, Univers, Univers Condensed, and Zapf Dingbats. The printer also includes 14 bit-mapped fonts.

All HP disk and cartridge-based MasterType Library products can be used with the HP LaserJet IIISi printer, including the scalable typeface cartridge collections used with HP LaserJet III and IIID printers.

The HP LaserJet IIISi printer is your best printer investment, with field-proven reliability, durability, and performance at a low, competitive price.

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

Adobe and PostScript are registered trademarks of Adobe Systems Inc. in the U.S.A. and other countries.

## HP introduces 5 business systems and servers with mainframe performance

HP introduced five business systems and servers that deliver mainframe-level performance at a minicomputer size and price.

Four of the new computers provide triple the performance previously available in the mid-range of the HP 9000 and HP 3000 computer families. The fifth computer broadens the performance of the high-end of the HP 9000 computer family.

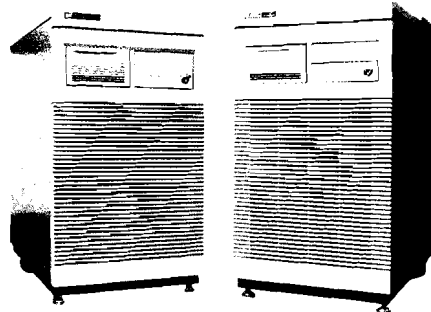
The computers are designed for your client-server and multiuser applications. They are the mid-range HP 9000 Models 842S and 852S servers, the mid-range HP 3000 Series 948 and 958 systems and servers, and the high-end HP 9000 Model 865S server.

They combine two leading technologies—submicron complementary metal-oxide semiconductor (CMOS) and Precision Architecture-RISC (reduced-instruction-set computing).

Submicron CMOS technology allows HP to design extremely dense chips that greatly increase processor performance. PA-RISC allows HP to build systems that are less expensive than comparable systems using traditional architectures.

The new business systems and servers combine advances in processor performance with a broad set of capabilities. As a result, you can run mission-critical applications without the high cost and cumbersome operation of mainframes.

The HP 9000 Models 842S and 852S computers enhance the HP 9000 Series 800 family. HP offers the industry's broadest family of single-architecture, object-code-compatible computers based on a UNIX\* system.



*HP 3000 and HP 9000 systems and servers use submicron CMOS-based chip technology that offers you mainframe-level commercial performance at a substantially reduced size and cost.*

The HP 9000 Model 865S is the most recent implementation of submicron CMOS technology for HP's high-end business servers. It extends the number of price/performance options within the HP 9000 Series 800 family.

All HP 9000 and HP 3000 systems and servers offer increased performance through simple, nondisruptive field upgrades. Because PA-RISC architecture is scalable, your investment in software is fully protected.

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

\*UNIX is a registered trademark of UNIX Systems Laboratories Inc. in the USA and other countries.

## HP Vectra 486 PC helps produce higher-protein milk low in fat

The Agricultural Data Processing Centre (ADPC) in Helsinki, Finland has selected the HP Vectra 486 PC for use in analyzing and matching genetic traits in dairy cows.

The ADPC hopes to breed an entirely new strain of cattle that produce milk significantly lower in fat and higher in protein.

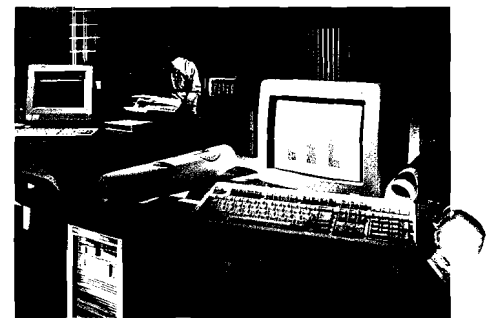
ADPC is using the computers to manage raw data on the protein and fat yields of about 2 million Finnish dairy cows, the first PC-based system of its type in Europe.

Software developed by the Agricultural Research Centre of Finland and the University of Helsinki calculates breeding indexes based on milk characteristics of selected cows and genetic traits of selected bulls.

With the indexes, ADPC calculates a total breeding rating for each animal to select and match animals whose milk exhibits the desired protein-to-fat ratio.

"Bringing this application to a PC from the minicomputer/mainframe puts ADPC on the leading edge of distributed computing," said Tarmo Kiuru, managing director of ADPC. "If an HP personal computer can help Finland's cows produce a higher quality of milk, think what else can be done."

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



*The HP Vectra 486 PC is used in Finland to analyze and match genetic traits of 2 million dairy cows to help breed a new strain of cattle that produce milk lower in fat and higher in protein.*

## New HP Apollo workstations bring excellent speed, graphics

HP's Fort Collins Systems Division has introduced a new high-performance workstation with the powerful 25 MHz MC68040-based CPU, the HP Apollo 9000 Model 425s.

HP also is volume shipping the HP Apollo 9000 Model 425t and 25 MHz MC68040-based upgrades for existing MC68030-based systems.

### High-end automation, science applications

The new HP Apollo 9000 Model 425s provides increased memory, I/O, and mass storage in a desktop system. It offers you excellent CPU and graphics performance, immediate access to 3,200 applications, and full compatibility with other MC68000 workstations.

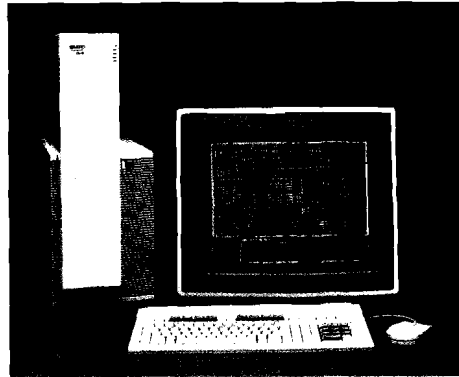
The HP Model 425s delivers up to 22.1 MIPS and 2.9 MFLOPS with optional internal cache. It combines all features and benefits of the Model 425t and offers increased expansibility in a desktop system.

It provides up to 128 Mbytes of ECC RAM, a choice of EISA or DIO-II I/O capabilities, and a variety of mass-storage devices. The HP Apollo 9000 Model 425s is ideal for high-end design automation, visualization, and scientific computation applications.

### For financial services/desktop publishing

The HP Apollo 9000 Model 425t operates at 22.1 MIPS and provides 2.6 MFLOPS. It is a strong performance system for financial services and desktop publishing applications, computer-aided software engineering (CASE), and electronic or mechanical design.

All HP Apollo 9000 Series 400 workstations, including the Model 425s, are compatible with the HP Apollo 9000 VRX graphics systems. They run both Domain/OS\* and HP-UX\* operating systems, which are based on and fully comply with USL's UNIX® system.



*The HP Apollo 9000 Model 425s workstation serves your high-end design automation, visualization, and scientific computation applications. It provides competitive processor and graphics performance, and access to more than 3,200 applications.*

### Upgrades boost performance

If you are now using Motorola MC68030-based HP workstations, you can expect dramatic performance increases and 100% binary compatibility with HP's 25 MHz MC68040 upgrade.

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

UNIX is a registered trademark of UNIX System Laboratories, Inc. in the U.S.A. and other countries.

\*HP-UX and Domain/OS are based on and comply with AT&T's UNIX system.

## HP CD-ROM is the choice for workstations

HP's CD-ROM programs provide all of the advantages of CD-ROM technology for you with HP-UX software and documentation.

### HP LaserRelease/UX

With the HP LaserRelease/UX program, you can get HP-UX software products and updates on CD-ROM media for HP 9000 Series 300 and HP Apollo 9000 Series 400 workstations. CD-ROM media is a versatile alternative to magnetic media that can significantly reduce your software update costs.

You will also be able to reduce storage space, minimize media errors, and perform software updates significantly faster than with magnetic tape.

### HP LaserROM/UX

The HP LaserROM/UX program provides quick and easy multiuser access to HP-UX manuals and support information on CD-ROM media. With CD-ROM, you spend less time searching for information and more time using it.

The most current system documentation is available on a single compact disc, allowing you to improve your effectiveness and significantly reduce storage space. You can also reduce cost of ownership with lower prices for HP-UX documentation on CD-ROM media.

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

## HP Network Storage System offers top solutions for PC LANs

The HPNetwork Storage System is now an even better mass storage solution for your PC LAN or multiuser system because it supports Extended Industry Standard Architecture (EISA) systems, support on systems running SCO-UNIX System V/386, and the availability of a rewritable optical disk drive for NetWare 386 systems.

The HPNetwork Storage System is a total mass storage solution that offers dependability and ease of use in a single, large-capacity SCSI system, as well as diagnostic and storage capabilities typically associated with minicomputers.

You can configure several high-performance SCSI mass storage devices in a single modular cabinet on a single host bus adapter (HBA) with bus master capabilities. Previously, these HBAs provided complete flexibility only with Micro-Channel and PC-AT systems.

### Mass storage on networks

This is the first time an HP external storage system, offering traditional HP quality and assurance, has been available in the SCO-UNIX market on networks and multiuser systems.

If you have a PC LAN running Novell NetWare 386, the HPNetwork Storage System now gives you a wider choice of mass storage devices. In addition to the 332 Mbyte, 664 Mbyte, or 1 Gbyte Winchester hard disks, and the 1.3 Gbyte DDS format digital audio tape drive (DAT), you may now select a 590 Mbyte rewritable optical disk drive.

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

\*SCO-UNIX support and the rewritable optical disk drive are not available in Europe yet. Introduction is planned later this year.

## HP introduces its most powerful PC, the HP Vectra 486/33T PC

The HPVectra 486/33T PC, HP's most powerful personal computer—and the first based on the i486 microprocessor operating at 33 MHz—is now available to meet your LAN and multiuser server needs. It is capable of supporting more than 200 LAN users or 100 UNIX® multiuser terminals.

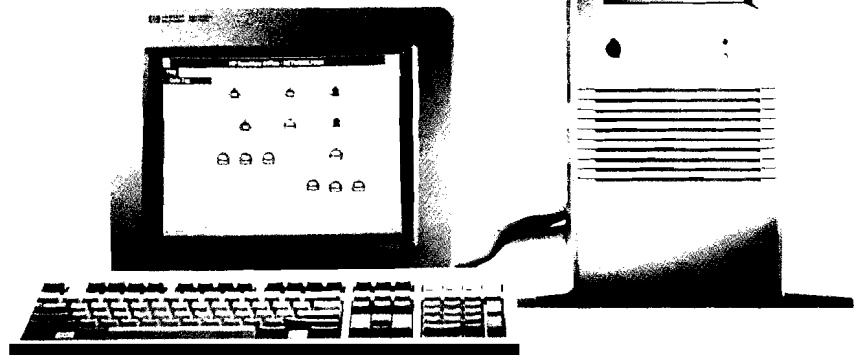
### Top price/performance, compatibility

Outstanding price/performance, reliability, and compatibility make the HPVectra 486/33T PC an excellent network and multiuser server. These same attributes make the floor-standing PC ideal for computer-aided design (CAD), complex financial analysis, and other office and technical workstation applications.

The new PC offers a choice of internal disk drives from 84-Mbyte to 1,000-Mbyte storage capacity. SCSI-2, ESDI, and AT-embedded interfaces.

### Standard benefits help increase productivity

The HPVectra 486/33T PC comes standard with eight 32-bit EISA expansion slots, an HP custom memory controller with 128-Kbyte external memory cache and burst-mode support, 4 Mbytes of zero-wait-state main memory (expandable to 64 Mbytes), a Weitek 4167 coprocessor socket, two serial/one parallel port, and a 3½" or 5¼" flexible disk drive.



*The HP Vectra 486/33T PC, the most powerful member of the HP Vectra family, offers you outstanding price/performance, reliability, and compatibility. Applications include use as a network and multiuser server, computer-aided design, financial analysis, and other office and technical workstation needs.*

### Mass storage options enhance value

A wide assortment of mass storage options is available, including the new bus-mastered SCSI-2 EISA host bus adapter, and 440-, 670-, and 1,000-Mbyte SCSI-2 hard disk drives. The new HP computer is Novell NetWare and Banyan certified. It supports SCO™ UNIX, MS-DOS® OS/2, and other operating systems.

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

UNIX is a registered trademark of UNIX Systems Laboratories Inc in the USA and in other countries. MS-DOS and Microsoft are U.S. registered trademarks of Microsoft Corp.

i286, i386, and i486 are U.S. trademarks of Intel Corp. SCO is a trademark of the Santa Cruz Operation, Inc.



## Faster, brighter color printing solutions now available from HP

HP can now help you communicate more colorfully and effectively. Color printing is affordable, easier, and more impressive with an HP PaintJet Series or PaintWriter Series color graphics printer.

For your presentations, desktop publishing, color proofing, storyboards, architectural rendering, fabric design, or prepress color, HP's newly enhanced color printer family will increase the excellence of your work.

HP PaintJet Series and HP PaintWriter Series printers now offer:

- New bolder, brighter colors on overhead transparencies and paper when used with HP media.
- New color software features for Macintosh and Microsoft® Windows 3.0 environments.
- New personal-size HP PaintWriter color graphics printer for the Macintosh.

### Get overheads with brilliant colors

Now your overhead transparencies will shine with brilliant colors using HP's newly enhanced, replaceable print cartridges on HP PaintJet film. Your paper graphics will show a broader, richer range of colors using HP PaintJet paper.

HP also offers easy-to-use color software features for Apple Macintosh and Microsoft Windows 3.0 users, including Pantone-licensed color support and screen-to-printer color matching using HP Color Enhancement technology.

### Colors matched automatically

This HP proprietary technology automatically optimizes the color match between your computer screen and your HP printer output. You get the colors you want automatically, eliminating time-consuming trial and error.



*Bolder, brighter colors are now yours with all HP color printers. DOS and Windows users can select either the personal-size HP PaintJet printer or the high-volume HP PaintJet XL printer with automatic sheer feed. Macintosh users can choose the new personal-size HP PaintWriter or the high-volume HP PaintWriter XL with AppleTalk and automatic sheet feed.*

In addition to the HP PaintWriter XL printer for the Macintosh, Apple Macintosh users now can order the new Mac-only HP PaintWriter color graphics printer, which offers a three-fold speed improvement over the HP PaintJet printer with the HP Color PrintKit. The HP PaintWriter XL adds AppleTalk, automatic sheet feed, and tabloid-size (A3/B) capability.

### Select from over 16 million bold colors

Both HP PaintWriter printers give you bolder output colors, smooth gradient shading, precise inkjet operation, and new color software tools, including color matching and Pantone-licensed support. Used with 32-bit QuickDraw installed in your Macintosh LC Series, II Series, or SE/30 computer, HP PaintWriter and HP PaintWriter XL printers deliver over 16 million colors.

### Use 13 standard scalable type fonts

HP PaintWriter and HP PaintWriter XL printers also give you powerful text printing capabilities with 13 standard outline fonts, all fully scalable from 6 to 250 points.

The HP PaintJet and HP PaintJet XL printers can be used with IBM PC/XT/AT and compatibles, PS/2, Commodore Amiga, and other personal computers. The HP PaintJet XL is also Novell NetWare certified and provides automatic sheet-feed and tabloid-size capability.

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

PANTONE is Pantone, Inc.'s check standard trademark for color reproduction.  
Microsoft is a U.S. registered trademark of Microsoft Corporation.



## Stock Exchange of Singapore installs 1,800 high-performance HP Apollo workstations

To establish itself as one of the leading securities markets in Asia, the Stock Exchange of Singapore (SES) decided last year to replace 1,800 personal computers with an equal number of high-performance HP Apollo 9000 Model 425t workstations.

"SES decided that the PCs would be replaced with full functionality UNIX system-based workstations," said Lim Choo Peng, president of SES. "This upgrade of the trading system is consistent with the exchange's corporate mission to provide an orderly market for capital raising and securities trading and to establish itself as one of the leading securities markets in the region."

"We are impressed with the power and flexibility of the HP Series 400 workstations," he said. "With the new workstations, the dealers will be able to execute orders and monitor market activities more efficiently."

Every dealer has an HP Apollo 9000 Model 425T workstation. The stock exchange also has two HP 9000 Model 855S systems which handle buy/sell orders and generate market information, one Model 850S, five Model 635SV systems in the stock exchange computer room, and 49 Model 825S systems in brokerage houses.

In 1988, the SES made history when it launched a fully computerized trading system known as the Central Limit Order Book (CLOB) system for the SESDAQ market—the first step toward floorless trading for the industry



*Singapore Stock Exchange brokers are using HP Apollo 9000 Model 425t workstations to provide comprehensive information about the market, order status, top 20 stocks ranked by volume of transactions, and details of all trades executed against the broker's orders.*

The system is based entirely on HP's computing hardware, consisting of 60 HP 9000 Series 800 computers, acting as broker controllers near the stockbrokers, as a gateway, and as main trading computers at the exchange. They support the 1,800 order-processing workstations.

The new HP workstations provide brokers with comprehensive information about the market, order status, the top 20 stocks ranked by volume of transactions, and details of all trades executed against the brokers' orders. They also enable brokers to create watch lists or portfolios of stocks.

HP Apollo 9000 Series 400 workstations were introduced in Singapore in July 1990, offering the HP-UX\* or the Domain\* oper-

ating system. The application base includes over 3,200 software solutions.

The HP Apollo 9000 Series 400 workstation's multiple screens enable brokers to perform many tasks simultaneously, increasing their productivity. The workstations can be easily upgraded to meet future needs and performance applications.

"We believe this latest group of workstations has the best price/performance ratio in the industry today," said Paul K. W. Chan, general sales manager of HP Singapore. "With HP's excellent support and service, leadership in open systems, and commitment to protecting the customer's investment, the Series 400 is our fastest-selling workstation to date."

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

\*HP-UX and Domain OS are based on and comply with AT&T's UNIX system