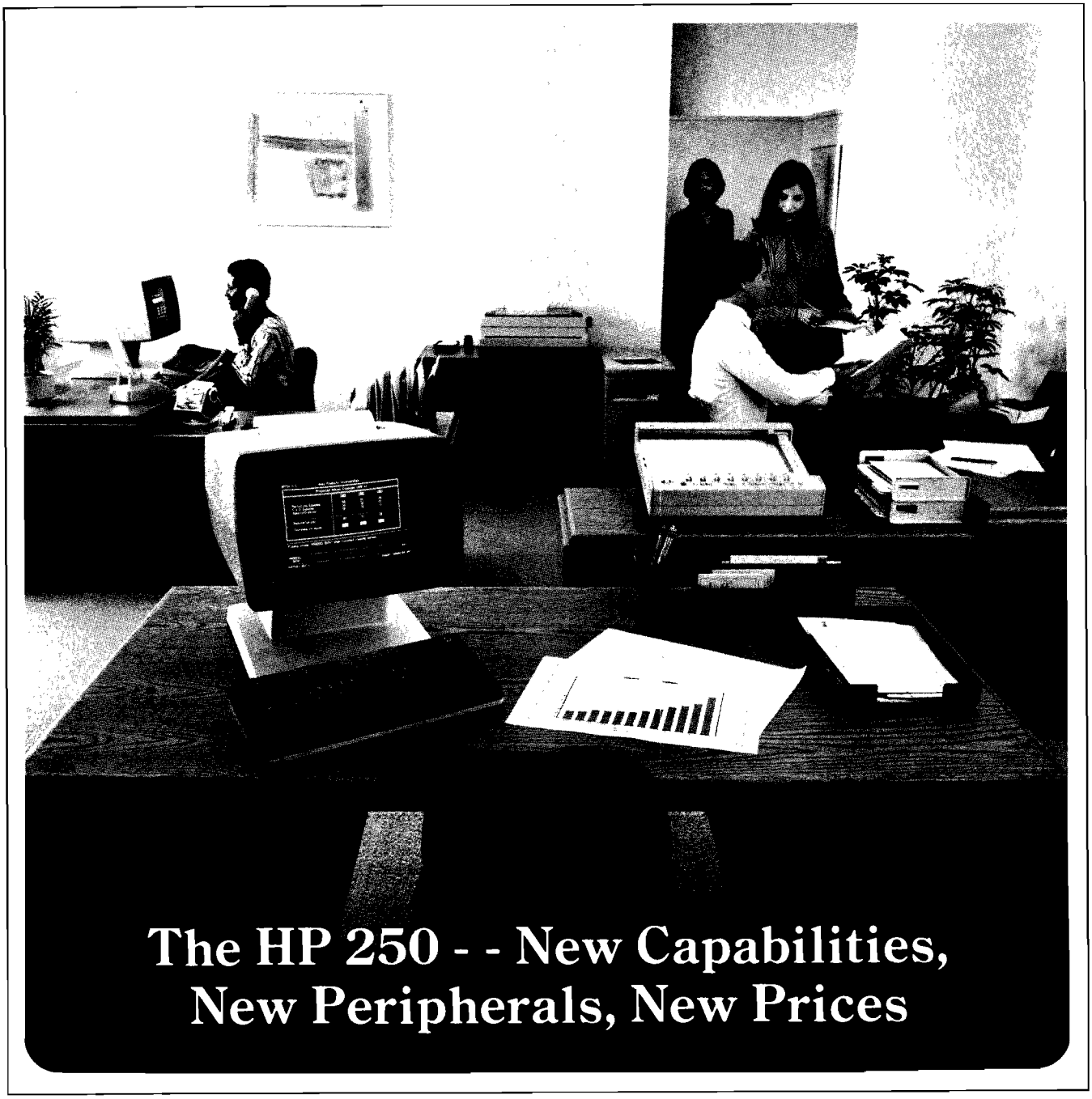
COMPUTER FOCUS

Computer News for HP OEMs and Independent Software Vendors

April 1984



The HP 250 - - New Capabilities, New Peripherals, New Prices

HEWLETT PACKARD

International

COMPUTER FOCUS

On the Cover:

The HP 250 system has grown. New Data Comm software, support of new peripherals, and enhancements to the operating system are just a few of the new features. See articles beginning on page 9.

Dispute over legal definitions delays international protection of software

If you are searching for software markets overseas or developing promotion plans with foreign partners — beware. You could be in danger of losing legal rights to your own programs. Among the conclusions formally adopted by the World Intellectual Property Organization (WIPO) Committee of Experts on the Legal Protection of Computer Software at its summer meeting in Geneva was the decision that "the Committee considers it premature to take, for the time being, a stand on the question of the best form for the international protection of computer software.. . . " The decisions of WIPO, a specialized agency of the United Nations system, are important because they may ultimately determine what international law will govern the protection of computer software when it is transported from one country to another. Theoretically, every country respects international law and, to some extent, incorporates such law into its own national statutes, particularly treaties to which it is a party. Therefore, WIPO's deliberations are significant.

There is never a shortage of diverse ideas at a WIPO conference. Attending at Geneva as observers, in addition to national representatives, were intergovernmental organizations of the United Nations and the European Economic Community (EEC). Virtually every international patent and industrial property association sent observers. Many non-governmental international organizations such as the European Computer Manufacturers Association (ECMA), and its American counterpart (CBEMA) as well as American software trade associations, notably the Association of Data Processing Service Organizations (ADAPSO) were also present. Most discussion dealt with application of copyright law to computer software.

What was most significant was the Committee's recommendation not to seek a separate treaty to supplement the Berne and Paris Conventions — the great multilateral webs of law, dealing with copyrights, and with patents and trademarks, respectively, which bind most countries of the world into a common scheme. This decision was the more striking since a draft Treaty for the Protection of Computer Software had already been prepared by the organization's own International Bureau.

A separate treaty would have signaled that the perennial dispute about the fundamental nature of computer programs — whether they are in fact "writings" or "machines" — is perhaps unresolvable. This debate originally developed in the United States a decade ago during meetings of the National Commission on the New Technological Uses of Copyrighted Works (CONTU). Commissioner John Hersey, Pulitzer Prize winning author (*A Bell for Adano*), in his heated dissent in the CONTU Final Report — still the best reading for anyone who seeks to understand the controversy — put it most colorfully. He declared that a computer program "utters work," and compared computer programs to uncopyrightable "code-magnetized cards which open and close locks" and to a mechanical device, stating the "cam, like a mature computer program, is the objectification of a series of instructions: 'Up, down, up, down.. . . ' "

Copyright has other problems. The term of copyright protection, generally the life of the author plus fifty years, or sometimes longer in the case of works for hire, is at odds with the commercial lifespan of software products. The whole notion of writers, artists and sculptors bedding down with "techie" programmers and engineers may have seemed a bit unwholesome to the artistic community. But now electronic music, movies like *Star Wars*, modern sculpture and computer graphic art itself are all helping overcome this hangup. In fact, the role of copyright in computer software protection is so firmly established in the United States that it is now largely a matter of judicial and legislative clarification of its limits and bounds.

Patent law has also developed increasingly concise doctrines and definitions concerning computer software. Several judicial decisions, in the United States and elsewhere, have held that the novel element of a patent containing a computer program may be in the programming itself. These decisions, together with recent changes to American statutory copyright law, have lessened the perceived need for unique legal protections and suggest the continued viability of the present legal framework. The trouble with patents is that they are time-consuming and very expensive both to acquire and to defend. If the legal regime of computer software depended solely upon patent law, small entrepreneurs and individual program authors would have severe problems. Copyright law, which protects writings from the moment of creation, is more democratic and must, with trade secrets, become the mainstay.

However, unless and until the legal characterization of computer software as a copyrightable writing is universally accepted, its protection under existing copyright laws will remain relatively weak. Between countries where copyright protection of software is the national law, such as the United States and West Germany, international treaties to which both are parties, *e.g.*, the Universal Copyright Convention, will apply. National laws, bolstered by treaty, will assure treatment no less favorable than that accorded in like situations to nationals of the host country. Elsewhere, however, as in Spain and Latin America, for example, where national laws recognize no copyright in software, the Universal Copyright Convention, to which most of those countries are also parties, is of little help, since computer software is not specifically mentioned. Until common definitions and doctrines are adopted, patent protection abroad, similarly, will remain uncertain.

One of WIPO's options, and a move which appears most likely to this commentator, is to eventually recommend amendment of the Berne accord and of the Universal Copyright Convention to include computer software, possibly for a lesser time than that granted literary works. Amendment of the Paris accords to create special patent provisions for programs and program-related inventions is also a likely option.

Other actions taken at Geneva point in this direction. These include the convening of a working group to adopt a new definition of computer software, the gathering of relevant court decisions worldwide, and the preparation of a working paper on the legal protection of integrated circuit designs. These actions, together with the decision to abandon the proposal that an international depository of computer software be established — an idea opposed by industrial nations — should clear the way for future progress.

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

Cross-Licensing Classifieds

Software Packages Available

Industry: *Manufacturing*

Abstract: — Two-dimensional drawing program which runs on HP 3000
— Numerically controlled machine tools program for HP 3000

Company Name: Frankel Engineering

Address: P.O. Box 501
Reading, PA 19603

Phone Number: 215-373-5205

Contact Person: Samuel R. Frankel

Type of Distributor Wanted: OEM or Software Supplier who sells primarily to the metal-working industry

Geographic Coverage: Worldwide

Industry: *Cross-Industry*

Abstract: MINISIS & MINISIS-RM are fourth generation tools for information management. Applications range from records management, libraries etc.

Company Name: SYSTEMHOUSE

Address: 2827 Riverside Drive
Ottawa, Canada, K1V OC4

Phone Number: 613-526-0670

Contact Person: Colin Townsend

Geographic Coverage: Negotiable

Industry: *Cross-Industry*

Abstract: Integrated Accounting System which includes general ledger, accounts payable/receivable and payroll

Company Name: RSK Consulting

Address: 661 West Germantown Pike, Suite 200
Plymouth, PA 19462

Phone Number: 215-825-8840

Contact Person: R. Scott Kauftheil

Geographic Coverage: North America, excluding the East Coast

Industry: *Petroleum/Mining*

Abstract: — RADCURV Well Survey Program is designed to generate directional survey reports, plots, and interpolations from well survey data using the radius of curvature method. Software is available for HP Series 80 and HP 9000 Series 200.
— WELLPLAN Well Planning Program is designed to plan standard and "S" directional oil and gas wells. Plan and vertical section views can be plotted on an A size format. Software is available for HP Series 80.

Company Name: Oracle Systems

Address: 1734 Plateau Drive
Jackson, MI 49203

Phone Number: 517-784-3255

Contact Person: Stephen Rodia

Type of Distributor Wanted: Any OEM or third party supplier with a market for this type of software

Geographic Coverage: Worldwide

Industry: *Structural Engineering*

Abstract: This is a FORTRAN program for structural analysis. Requiring general geometry of the structure, loads and geometrical properties of the elements, it is able to give as results bending moments, axial and shearing forces and displacements.

Company Name: A.G.M. S.A. de C.V.

Address: Nuevo León #209-601
Mexico City, Mexico 06170

Phone Number: (5)516.0293

Contact Person: Ramiro González Dávila G.

Type of Distributor Wanted: OEM in HP 1000 or HP Series 200, HP 9816, HP 3000, etc.

Geographic Coverage: Worldwide.

Software Packages Wanted

Industry: *Manufacturing*

Type of Package Needed: Total Manufacturing System

Needed by: RSK Consulting

Address: 661 West Germantown Pike, Suite 200
Plymouth, PA 19462

Phone Number: 215-825-8840

Contact Person: R. Scott Kauftheil

Geographic Coverage: North America

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
Third Party Marketing
Attn: Lynn Gardner
19447 Pruneridge Avenue
Cupertino, CA 95014
USA

Entries will run for approximately two months. Be sure to send the information in at least one month before you wish it to appear.

HP 3000 Users Group Conference

At the opening session of the HP 3000 Users Group Conference, February 27, at the Disneyland Hotel, HP President and CEO, John Young, spoke to over 1,600 registrants followed by Alredo Rego, president of Adager, who gave the keynote address. Young described the Users Group as a channel of communication through which HP can better serve the needs of end users. He added that the annual Users Groups Survey provides market research data to help HP meet the full needs of the widespread business community.

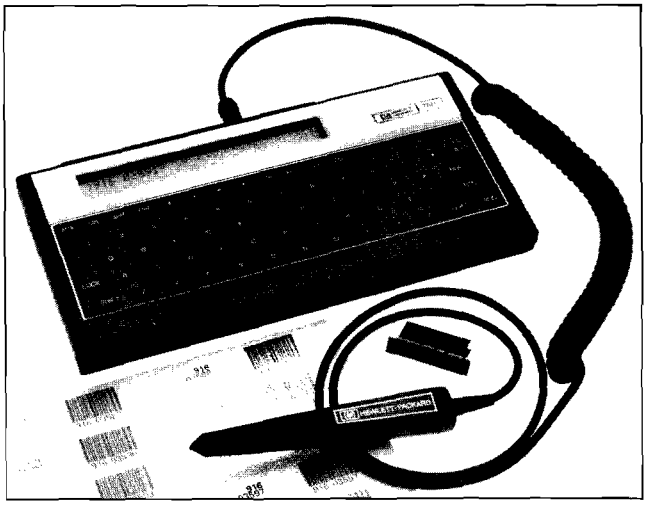
Conference activities

Held at the Disneyland Hotel, the conference was the largest Users Group conference ever. There were 106 vendors exhibiting at 174 booths, and over 80 technical papers were presented. HP duplicated 140 swap tapes for exchange during the conference. In addition to the Users Group activities and vendor exhibits, there was a reception hosted by HP, HP technical roundtables, and an HP Management Roundtable.

New name

INTEREX, the International Association of HP Computer Users, is the new name of the merged HP 1000 and HP 3000 Users Groups. INTEREX will also include the PC users groups now forming and the new HP Series 100 International Users Group announced at the conference. This latter group will have its own magazine, *Professional Computing*, published by Wiley, a contributed software library, and a newsletter, according to Phil Hardin, Chairman of the Board of INTEREX.

New HP-75D reads bar codes



Introducing Hewlett-Packard's first portable bar code reader to read major industrial bar codes.

The HP-75D bar code reading system combines the power of a portable computer and an optical scanning wand for remote data collection applications. The HP-75D is compact and rugged enough for use in the factory or in the field. With its built-in BASIC language operating system, the HP-75D can easily be programmed to provide user prompts and messages, process data, or communicate with other HP computers.

What is the HP-75D?

The HP-75D is an enhanced version of the HP-75C Portable Computer introduced in August, 1982. The HP-75C and HP-75D have the same physical characteristics, features, and functions with one important exception. The HP-75D adds a built-in bar code wand interface which allows compatible wands to be directly connected to the HP-75D.

In addition to the HP-75D, two products are required for bar code scanning: the HP 82725A Bar Code Reader Module and a compatible digital bar code wand.

The HP 82725A Bar Code Reader Module is an 8K-byte ROM module which conveniently plugs into one of the front ports of the HP-75D. The HP 82725A supports the following bar codes:

- 3 of 9 code
- Interleaved 2 of 5
- Industrial 2 of 5
- UPC (A or E)
- EAN (8 or 13)
- Code 11
- Codabar.

Two bar code wands are available for use with the HP-75D. The HP 92267A and 92267B have a rugged, lightweight case, push-to-read switch, and sealed, sapphire tip. The HP 92267A is recommended for high resolution codes with nominal narrow bar/space widths of 0.13 mm (0.005 in.). The HP 92267B is recommended for medium resolution bar code symbols with nominal narrow bar/space widths of 0.19 mm (0.0075 in.).

What are its applications?

The HP-75D is a powerful tool for applications in which data is collected, processed and stored at remote sites and later transmitted to a host computer. Typical applications include inventory collection, work-in-process tracking, field sales or service reporting and laboratory sample tracking. In many cases, the HP-75D replaces manual entry of data, providing greater accuracy and saving time and money.

How does the HP-75D meet the needs of the marketplace?

Five features of the HP-75D give it a unique position in the remote data collection and remote information processing markets.

- *Portability* — wherever fast, accurate data entry is needed.
- *Programmable* — to meet application requirements for user prompts and data processing.
- *Powerful* — an 8-bit processor to provide the speed and efficiency of a desktop computer.
- *Customizable* — a redefinable keyboard, keyboard overlays, and plug-in ROM modules.
- *Communications* — with other HP computers. With this capability HP has a unique position in this market by providing a total HP system for the customer's application.

Note: HP-75C now obsolete

With the introduction of the HP-75D, the HP-75C is planned for obsolescence. The HP-75C and HP-75D are the same size and weight and provide the same features and capabilities, with the exception of the added wand interface on the HP-75D. All programs written for the HP-75C, including solution books, plug-in ROM modules and user programs, can be used with the HP-75D. The HP-75C will be removed from the HP Price List on April 1, 1984.

Milky Way Merchant: a strategy game for the HP 150

HP expands its Edu-tainment line of software with a trading simulation game for the HP 150. *Milky Way Merchant* puts you in command of a merchant fleet of starships with a license to buy, sell, and transport supplies to settlements across the Interstellar Federation. The objective is to accumulate the maximum amount of wealth in a specified period. Your challenge is to identify the markets and their needs, plan your trading routes, and make the best deals.

A game for one to four players, *Milky Way Merchant* immerses the competitors in a continually evolving environment, where existing star systems can change their demands and new trading centers can emerge.

This is your chance to measure your trading and bargaining skills in a simulated economy.

Milky Way Merchant (P/N 92243BA) can be ordered from any authorized HP dealer or directly from CSO. Normal dealer discounts apply. (CSO Direct Order phone numbers are listed on page 11.)

HP 250 success in Europe

Local language support, friendly user environment, reliability and comprehensive third party solutions contribute to the HP 250's success in Europe. Also important to the success of the HP 250 is the operating system software designed for programmer productivity and end user acceptance. The powerful HP 250 Business BASIC language helps the programmer make optimal use of the HP 250's "softkeys." These "softkeys" continually change on the user's screen and guide the user through data entry and retrieval. The HP 250 user enjoys increased productivity with very little training or frustration involved.

Another contribution the HP 250 makes to the small business computer system marketplace is a very solid operating system. Continually enhanced over the past five years, the HP 250's operating system is highly reliable with many attractive features.

Now shipping with the HP 250 is a new revision of the operating system, B.06. For more information on one of the most powerful HP 250 operating system revisions ever released, please refer to the March issue of *Computer Focus* and the following articles.

New peripherals for the HP 250

Five exciting new printers are now supported on the HP 250 with Operating System B.06. The HP 250 can now talk to the HP 2932A, 2933A, and 2934A family of dot-matrix printers. The 293X family offers high quality matrix printing at a fast 200 cps in addition to bar code printing and a new capability called "matrix letter quality" printing. With the HP 2934A selected at the 67 or 40 cps speed, the printhead will make multiple passes over a line of text in such a manner as to produce a very nice character that looks nearly "letter quality." Since the HP 2934A also prints at 200 cps, you have a very versatile system printer on your HP 250 system.

If you need high volume matrix printing, the new HP 2563A printer is your answer. This printer has half the cost of ownership of the HP 2608 line printer and prints at a fast 300 lines per minute. If your high volume printing needs are for a really good letter quality (and more) printer, then take a look at the HP 250 and the HP 2687A tabletop laser printer. With the HP 250 and the HP 2687A you have one of the best small business systems with a laser printing solution available, and at a very low cost.

The HP 250 increases its ability to solve manufacturing solutions with the support of the HP 39800A programmable bar code reader and the HP 3081A industrial data capture terminal.

The support of these new peripherals with Operating System B.06 should open the doors to new opportunities and enhance your satisfaction. Please talk with your Hewlett-Packard sales representative for more information on these versatile new printers and data capture devices.

A customer installable system

Increasingly, the benefits of a customer installable computer system are being recognized. Naturally the customer benefits in the areas of convenience and cost reduction. HP site prep and installation is usually not necessary and the system is compact and mobile. The HP 250 family has a new customer installable system, the Model 26.

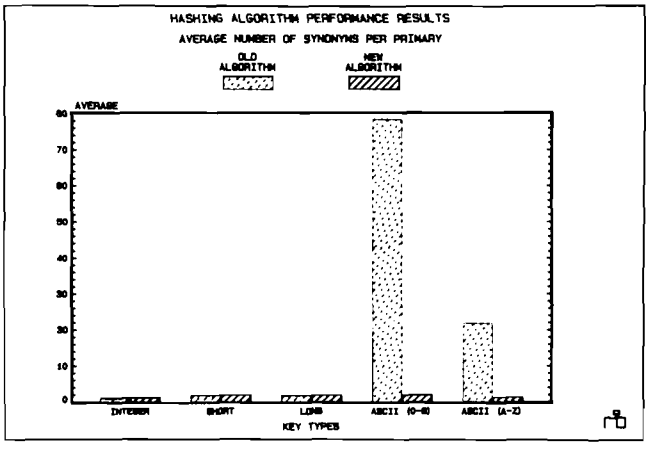
The Model 26 is designed for the small business with one to three system users who want the big system facilities of the HP 250 in a small, quiet cabinet. In fact, the Model 26 is about the size of a two-drawer file cabinet and contains the HP 250 Processor with 256Kb memory, a 15Mb Winchester Disc Drive, and a 1.2Mb Flexible Disc for file backup. The Model 26 has all the capabilities of the HP 250 and comes with a comprehensive set of system software, including a powerful BASIC language, IMAGE/250 Data Base Management System, and the new B.06 operating system.

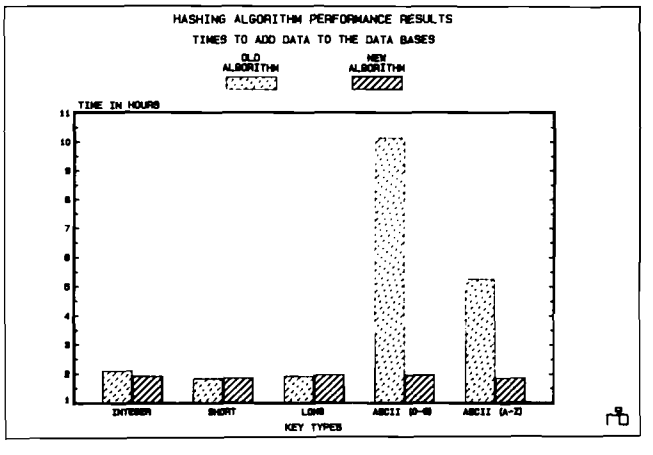
Add one or more HP 2622D workstations and a printer (RS-232-C interface) and you are ready to go. A compact system at a compact price for the customer who wants more for less. Your Hewlett-Packard Sales Representative will be happy to quote you the price of the new HP 250 Model 26.

IMAGE/250 enhanced

Many of our HP 250 Value Added System Suppliers (OEMs) selected the HP 250 system because of its superior Data Base Management System, IMAGE/250 (modeled after the award winning IMAGE/3000 on the HP 3000 Series). The rest of this article is for these OEMs.

If you are using ASCII search keys in your data bases, you are going to appreciate O/S B.06. A new hashing algorithm has been implemented which can significantly improve performance. The new algorithm generates a much higher percentage of primary records. This means that there are more unique addresses to choose from when retrieving data and the likelihood of having to do a serial search along a synonym chain is much lower. In addition, the synonym chains themselves will be shorter. Multiple tests have produced impressive results for ASCII key types. You have the option to utilize the new IMAGE hashing algorithm. O/S B.06 still supports the old algorithm. Please refer to the following graphs for performance comparisons.





Good support sells systems

Anyone who has ever owned a sophisticated and valuable piece of equipment has learned that the quality of support from the vendor is as valuable as the work the equipment performs. Hewlett-Packard strives to service our customers with a variety of hardware and software support services to ensure that our customers will be able to get their job done whenever problems might occur. Our software support contracts offer everything from on-site assistance to software and manual updates (which ensures that the customer receives all the new operating system releases like B.06 at no additional charge). However, since most HP 250 customers buy their application software from OEMs, HP can only satisfy a portion of the customer's software support needs. The good news is: a new HP 250 software product called NETWORK/250 is now available to help our OEMs support their customers.

NETWORK/250 and the B.06 operating system gives the OEM a great tool for accessing his customers' systems and operating as a virtual workstation from his office hundreds of miles away. If an OEM's customer experiences a problem while running an important job (for example, payroll) and needs immediate assistance, the OEM no longer has to do complicated, over-the-phone explanations or jump in his car for a time-consuming drive. The OEM connects to the customer's system using a modem and NETWORK/250 and has complete virtual workstation capabilities. The OEM is now a user on the customer's system and can proceed to fix the problem without leaving the office or further frustrating the customer. Software updates can also be transmitted with the file transfer facility of NETWORK/250 (B.06 must be running on both systems and the NETWORK DROMs configured and loaded).

Good support is an important sales tool. A customer is always satisfied when his sophisticated and valuable computer system is working the way it is supposed to. Sell support to keep your current customers productive, win the respect of your potential customers and improve your profitability.

Certified cartridge tapes support

How would you like to take a new cartridge tape out of the plastic wrapper and load and initialize the tape in under five minutes? Operating System Revision B.06 now supports the pre-certified tape cartridges available to back up the HP 7908, 7911 and 7912 disc drives. Buying the pre-certified cartridges can save you between 15 and 60 minutes of "certification" time. You can order a five pack of the 16.7Mb certified cartridge tapes from HP's Computer Supplies Operation using part number 88140SC. A five pack of the 67Mb certified cartridge tape is available with part number 88140LC.

CSO DIRECT ORDER

CSO Fast Phones — the easy, direct way for customers to order supplies, accessories, media, furniture and software.

Location	Telephone Number
United States	800-538-8787
California	408-738-4133
United Kingdom	0734-792868
	0734-792959
France	(6) 928 32 64
Belgium/Luxembourg	(02) 762 32 00
Switzerland	(057) 31 22 54
	or 31 22 59
West Germany	07031-142829
	07031-223133
The Netherlands	020-470639
South Africa	802-5111
	53-7954
	28-4178
Canada	
Toronto Local	416-671-8383
Ontario	1-800-268-6982
Quebec	1-800-387-3417
British Columbia	112-387-3154
Other Provinces	1-800-387-3154
Sweden	08-7502027
	08-7502028

HP 3000 OEMs: get your customers up-to-date with a Series 48

The "get up-to-date" offer, as described in the Field Training Manual sent out early in March, gives you an opportunity to offer your customers a great value on upgrades.

Through June 30, 1984, you can offer:

— HP 3000 Series 48 SPU with 2Mb Main Memory

— 1Mb Add-On Memory

— Four ADCCs (two main; two extenders)

— Two GICs

— One HP 7933H 404Mb Disc Drive

— One HP 7974A Magnetic Tape Subsystem

and:

— 10% off selected terminals and printers

— Return credits on three disc drives upgraded to one new disc drive.*

This offer is fully discountable on your OEM purchase agreement. Have your customer get:

- Greater transaction throughput
- Increased performance
- Faster response time
- Lower support costs

All for a lot less than you think!

If you have not yet received your Field Training Manual describing the "Get up-to-date" offer, you should contact your HP sales rep right away.

**Return credits may not be available in some countries.*

FOCUS '84: *SOLUTIONS* — new sales program for success

FOCUS '84 *SOLUTIONS* is a double-barrelled program that offers you terrific savings when purchasing a new HP 3000 system before July 31, 1984. You can save money through specially priced *System Packages* and *Productivity Packages.* There are four System Packages composed of HP 3000 Series 39 and Series 42 systems with additional memory, a disc drive, a tape drive, a system console, and ADCCs.

Productivity Packages combine personal workstations, either HP 150s, or HP 2628As, with HP 150 and HP 3000 office software. These office tools add onto a system to increase the productivity of both executives and secretaries. Together, a System Package and Productivity Package can provide you with a total office solution.

Select one of three Productivity Packages to match your needs. The Professional Package combines four HP 150 personal computers with HP 150-based applications and HP 3000 communication capabilities to meet the needs of office professionals. The Workgroup Package, designed for both professional and support personnel, utilizes two HP 150s and two HP 2628A word/graphics terminals with additional secretarial word processing and graphics software. The Office Support Package with four HP 2628A word/graphic terminals is solely for secretarial word processing and graphics.

The *SOLUTIONS* program, besides offering terrific savings to anyone interested in the HP 3000 and the HP 150, supports our concept of the Personal Productivity Center. This is HP's name for the integration of personal computing, office automation, data processing, and communications into a total office solution. Combine a System Package and Productivity Package to create a Personal Productivity Center at a special low price.

See your new *FOCUS '84 SOLUTIONS Field Training Manual* for details on each package's contents, pricing, and ordering procedures. Selling personal productivity with these system packages will help you close sales. *SOLUTIONS* gives you the right combination of functionality *and* price to make it happen. If you have not received a copy of the manual, contact your HP sales rep.

HP's IBM 3270 Emulator supports only US ASCII keyboards

You have certainly heard about the exciting new communication product, HP's IBM 3270 Display Emulator (HP 98695A) for the HP 9000 Series 200, introduced on the November 1983 HP Price List. This new communication product, consisting of a 3270 coax interface and a 3270 display station emulator, adds a second personality to your HP Series 200 computer. In addition to its inherent local computing power, your HP 9000 Series 200 can communicate directly with an IBM mainframe.

The first version of the emulator software works and is supported only with the US ASCII keyboards. The emulator software will not recognize national characters, so using it with national keyboards can lead to unexpected results. Since many European customers purchase US ASCII keyboards, we have chosen to leave the emulator software (P/N 98795A) on the worldwide HP Price List with a note that only US ASCII keyboards are supported.

In the second half of 1984, HP is planning to release a second version of the emulator that integrates European keyboard support into the product.

All modules of SOFTOOL® now available

The recent availability of the SOFTOOL® IBM 77 Transport module is an important addition to the Hewlett-Packard line of distributed software. HP's IBM Transport (P/N 79207 MU/SU), used with FPE (FORTRAN programming environment), automates the conversion of FORTRAN programs from IBM computers to the HP 9000 Series 500.

In developing SOFTOOL, Softool Corporation has solved a number of program development problems, including time, expense, and inconsistency of products. An integrated set of software management, development, maintenance and conversion tools, SOFTOOL is the key to effectiveness, programmer productivity, and software quality.

The combination of the HP 9000 Series 500 and SOFTOOL, used with the HP-UX operating systems, can solve many of your problems.

All modules of SOFTOOL are now available and are distributed as follows:

FORTRAN Programming Environment (FPE)
Change and Configuration Control (CCC™)
FPE and CCC Combined
Change Control (CC™)
FPE Subset
VAX™ F77 Transport (FPE prerequisite)
IBM 77 Transport (FPE prerequisite)

For further information, contact your local HP sales rep.

SOFTOOL®, CCC™, and CC™ are trademarks of Softool Corporation.

VAX™ is a trademark of Digital Equipment Corporation.

HP terminal support of block mode over X.25

Many HP terminals are capable of communicating over an X.25 Packet Switched Network. One method of connecting a terminal to the X.25 network is through a PAD (Packet Assembler/Disassembler) supplied by the network vendor. Alternatively, multiple HP terminals can be connected to the X.25 network via the HP 2334A X.25 Cluster Controller.

Although many HP terminals can communicate over the X.25 Packet Switched Network, not all HP terminals support HP block mode protocol over the X.25 network. HP terminals, released prior to the widespread popularity of X.25, were not designed to function with both HP block mode and X-off/X-on handshaking enabled simultaneously. X-off/X-on handshaking is used to control the data flow between the PAD and the terminal, while HP block mode protocol is used by the majority of HP applications to control the transfer of data blocks from the terminal. Consequently, these older terminals are unable to run HP block mode applications over an X.25 network.

Newer terminals have overcome the problem of the concurrent usage of HP block mode and X-off/X-on handshaking. These terminals are capable of supporting the HP block mode protocol over an X.25 Packet Switched Network. In addition, firmware upgrades for many of the older terminals have recently been released, enabling these terminals to support HP block mode over an X.25 network as well.

The following chart lists the terminals which support HP block mode protocol over an X.25 Packet Switched Network. If a firmware upgrade for the terminal was necessary to provide support of this feature, the firmware datecode of the revised firmware is shown along with the number of the applicable Service Note describing the revision.

Terminal	Firmware Datecode	Service Note Number
HP 2622A	2313	2622A-04
HP 2623A	2335	2623A-03
HP 2624B	2249	2624-004
HP 2625A	All units	N/A
HP 2627A	All units	N/A
HP 2628A	All units	N/A
HP 150	All units	N/A

For more information on which networks are supported, and where, please contact your HP sales rep.

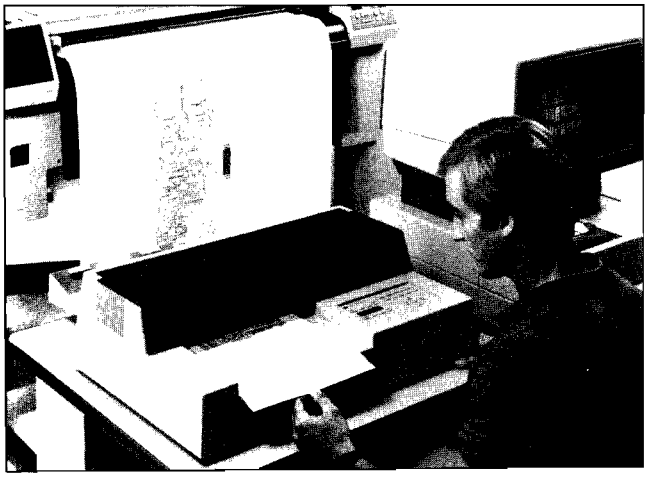
Unmatched speed and convenience — the HP 7550A graphics plotter

The most advanced peripheral of its type, the HP 7550A is a high-performance, high-volume plotter for shared environments.

Four features distinguish the HP 7550A from other plotters — automatic cut-sheet paper feed, front-panel function keys with an LCD, 6 g acceleration, and replot capability.

Let's look at these four features and others that make the HP 7550A tops in its class.

Automatic paper feed. Our most frequent customer request is to eliminate paper handling. The HP 7550A is the only graphics plotter that can automatically load sheets of A4/A and A3/B paper. (A3/B loading equipment is an accessory.)



The new HP 7550A can be used as a central systems resource plotter in the computer room. It's ideally suited for this application because of its very high throughput and automatic cut-sheet paper feed.

Although plotters with roll-feed or fanfold tractor feed are available, roll and fanfold paper can be of poor quality, is often expensive, may be hard to load, and has at least two perforated edges.

The HP 7550A handles up to 150 sheets of paper and it's as simple to load as a photocopier.

Function keys and LCD. Hard-switch settings are unfriendly and often difficult to use. For that reason, and to assist in programming, the HP 7550A features a front-panel display and function keys for messages and instructions.

Faster throughput. This is provided by several new features. An acceleration of 6 g and a pen speed of 80 cm/s (31.5 in./s) make the HP 7550A the fastest graphics plotter in its price range.

Replot capability allows the user to make 99 copies of an original graph without rerunning the program. Replotting is accomplished through the HP 7550A's 12K-byte graphics memory. As long as the graphic program does not exceed that memory capability, the commands are packed into memory and then can be replotted without rerunning the program. Replot can be executed through either program or front-panel commands. This feature is particularly useful for people who want to provide color graphs for groups, meetings, or reports.

The HP 7550A's graphics memory contributes to speedy plotting and unattended operation in another way, too. You won't tie up your computer by sending data to the HP 7550A. Instead, the graphics memory acts as an in/out storage buffer to transfer graphic data from the computer to the plotter, so the computer can be used for normal data processing except for occasional checks on the plotter.

Intelligence. If you write your own programs, you will benefit from intelligence features such as polygonal area definition and fill.

Other plotters have to be programmed, stroke-by-stroke, to fill areas with solid or cross-hatched patterns. The HP 7550A can define an area on any graph as a polygon to be filled; then just two commands will tell the plotter to produce the required number and pattern of strokes. This features saves you a great deal of time in both programming and plotting.

Pens. HP's carousel enables you to load eight pens at one time, and a built-in carousel sensor assures highest line quality by automatically adjusting pen pressure and speed for each pen type.

Media. The HP 7550A accepts A4/A and A3/B paper, double-matte polyester film, vellum, and transparency film, and fiber-tip, roller-ball, and liquid-ink pens. At this time, paper is the only medium that can be loaded automatically.

The ability to use liquid-ink pens and mylar/vellum is especially important for CAD/CAM/CAE applications.

Fonts and letters. Twenty character sets allow your customers to label in their own local language. Sets include ISO European languages and Japanese Katakana.

The HP 7550A labels in both stick font for speed, and arc font for highest quality.

HP Family of Plotters

	HP 7470A	HP 7475A	HP 7550A	HP 7580B HP 7585B	HP 7586B
Number of pens	2 in individual pen stalls	6 in carousel	8 in carousel	8 in carousel	8 in carousel
Pen types	Paper, transparency	Paper, transparency	Paper, transparency, liquid-ink, roller-ball	Paper, liquid-ink, roller-ball	Paper, liquid-ink, roller-ball
Media sizes	A4/A	A4/A, A3/B	A4/A, A3/B	A4/A, A3/B, A2/C, A1/D, (A0/E HP 7585B only)	A4/A, A3/B, A2/C, A1/D, A0/E
Media types	Paper, transparency film	Paper, transparency film	Paper, transparency film, vellum, polyester film	Paper, vellum, tracing bond, polyester film	Paper, vellum, tracing bond, polyester film
Media load methods	Manual sheet loading for above media types	Manual sheet loading for above media types	Automatic sheet feed for paper Manual sheet loading for above media types	Manual sheet loading for above media types	Automatic roll feed for above media types except tracing bond Manual sheet loading for above media types
Resolution **Addressable** **Mechanical**	0.025 mm (0.001 in.) 0.025 mm (0.001 in.)	0.025 mm (0.001 in.) 0.025 mm (0.001 in.)	0.025 mm (0.000985 in.) 0.006 mm (0.000246 in.)	0.025 mm (0.000984 in.) 0.003 mm (0.00012 in.)	0.025 mm (0.000984 in.) 0.003 mm (0.00012 in.)
Repeatability (on paper, 10-30° C)	0.1 mm (0.004 in.)	0.1 mm (0.004 in.)	0.1 mm (0.004 in.)	0.1 mm (0.004 in.)	0.1 mm (0.004 in.)
Maximum velocity (speed)	38.1 cm/s (15 in./s)	38.1 cm/s (15 in./s)	80 cm/s (31.5 in./s)	60 cm/s (24 in./s)	60 cm/s (24 in./s)
Acceleration	2 g	2 g	6 g	4 g	4 g
Labeling speed	2-3 cps	2-3 cps	8-10 cps	6-8 cps	6-8 cps
Interfaces	RS-232-C* **or** IEEE-488 (HP-IB) **or** HP-IL	RS-232-C **or** IEEE-488 (HP-IB)	RS-232-C **and** IEEE-488 (HP-IB)	RS-232-C **and** IEEE-488 (HP-IB)	RS-232-C **and** IEEE-488 (HP-IB)
HP-GL instructions**	40+	50+	80+	75+	75+
Character sets	5	19	20	21	21
Fonts	"Stick" characters, fixed spacing	"Stick" characters, fixed spacing	"Stick" characters, fixed spacing "Arc" characters, proportional spacing	"Stick" characters, fixed spacing "Arc" characters, proportional spacing "Arc" characters, fixed spacing	"Stick" characters, fixed spacing "Arc" characters, proportional spacing "Arc" characters, fixed spacing
I/O buffer size (bytes)	255	1024	1024 (default) 12 800 (available)	1024 (default) 18 432 (available)	1024 (default) 18 432 (available)

*Equivalent to RS 232 C/CCITT V.24

**Although the HP 7550A is language compatible with other HP plotters, it is not plug compatible. A comparison of HP plotter instruction sets is available by calling San Diego Division's Sales Department or SDD Europe

Fast, high quality duplication is now a reality using the new HP 7550A plotter. The "replot" function alows the HP 7550A to make up to 99 copies of a graph without rerunning the program.

Flexibility. The HP 7550A is adaptable to most system environments due to its complete device control command set and a dual interface (IEEE-488 and RS-232-C/CCITT V.24).

Family positioning. The HP 7550A is our top-of-the-line, small format plotter. The chart at left provides a quick reference source to our entire line of plotters.

Contact your HP sales rep for more information on the new HP 7550A graphics plotter.

Using the HP 7550A buffers to speed measurement throughput

The HP 7550A Graphics Plotter has a large and versatile graphics memory which makes it possible to store an entire measurement in the plotter. This buffer allows those who write their own software to continue using their measurement instrument system while the output is being plotted. Reconfiguring the plotter's graphics memory, together with efficient HP-GL programming, will help speed measurement throughput.

A. First, configure the I/O buffer to its maximum usable size. (This temporarily disables the polygon, downloadable character, replot, and vector buffers which share the HP 7550A's 12800 byte graphics memory.) The HP 7550A's default I/O buffer size is 1024 bytes and can be increased to 12,752 bytes by sending the following device control instructions:

1. Maximize the I/O buffer size by minimizing all other buffers and setting the physical I/O buffer to its maximum value.	<ESC>.T32767;0;0;0:
2. Synchronize the plotter by sending the "Output Buffer Size When Empty" instruction.	<ESC>.L
The HP 7550A will respond with:	1024<output terminator>
3. Set the logical buffer size. The plotter will now accept up to 12,752 bytes.	<ESC>.@32767:
4. Send the "Output Error" command to clear error 11 which will occur if the plotter is not an HP 7550A. This will allow plotting to continue when other models are used.	<ESC>.E

B. Second, send HP-GL data to the HP 7550A as efficiently as possible (if using a graphics ROM in your controller, you cannot implement this suggestion). Avoid these common practices; they rapidly fill the buffer without containing much plot data:

1. Sending more digits to the right of the decimal point than are needed (e.g. PA123.456789012,210.987654321;). Instead, send only what is needed (e.g. PA123.4567,210.9876;).

2. Sending unnecessary blanks (e.g. PA 123, 210;). Instead, omit blanks (e.g. PA123,210;).

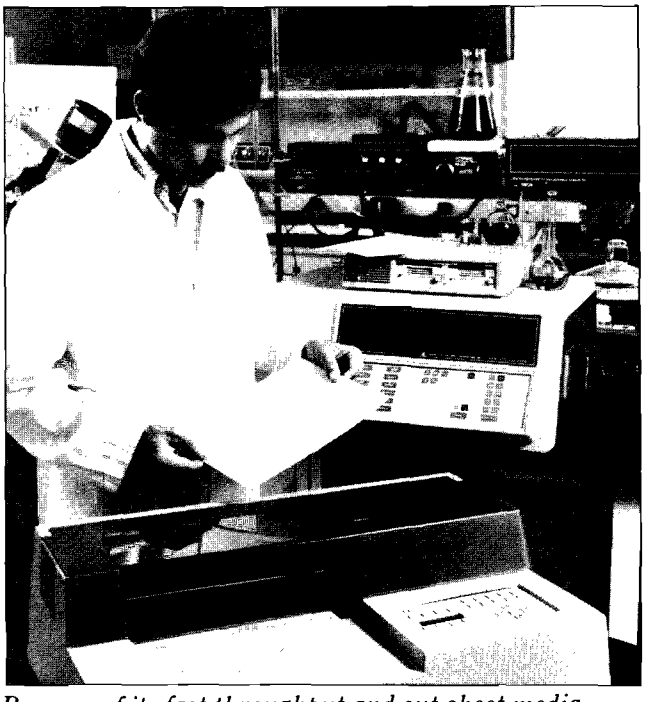
3. Sending repetitive instructions (e.g. SP1;PA0,0;SP1;PA5,5;). Instead, combine parameter strings (e.g. SP1;PA0,0,5,5;).

4. Sending many small vectors to create characters, arcs, and circles. Instead, reduce code by using the plotter's internal character set and arc and circle generator.

5. Sending a lot of points beyond the resolution of the plotter (e.g. PA.000001,0,.000002,0;). Instead, send the points in a format that will use but not exceed the plotter's full resolution (PA.001,0,.002,0;).

6. Sending a plot absolute command to move a short distance (e.g. PA5009,5009 when moving from location 5000,5000 to 5009,5009). Instead, send a plot relative command (PR9,9;) for short moves. Reserve the plot absolute command for long vectors to points close to 0,0 (e.g. when moving to 0,0 from 5000,5000 the command "PA0,0;" is more efficient than "PR-5000,-5000;").

With a reconfigured buffer and efficient programming, a fairly complex plot can be stored in the HP 7550A's buffer, freeing the host instrument's computer for further measurements. If you have any questions, contact your HP sales representative.



Because of its fast throughput and cut-sheet media feed, the HP 7550A is a good auxiliary B-size plotter for providing check plots and working copies of small sections of a larger plot. Also, because it is fast and operates unattended, the HP 7550A can be a shared central plotter for a number of workstations.

New printer option for HP 3000 graphics

Option 065, for HP 3000 system printers, provides the vector-to-raster conversion software allowing the HP 2563A printer to be an output device for DSG/3000, HP Draw, and HP EasyChart. These graphics software packages support the HP 2608S and HP 2563A HP-IB system printers as output devices from the "plot" menu when the Option 065 software or HP 36583A software package is installed on the HP 3000.

The HP 2563A and HP 2608S print graphics at a 70 by 72 dot per inch resolution. The HP 2563A plots at 14.5 to 29 inches per minute, and the HP 2608S plots at 33 inches per minute. These line printers are very fast plotting devices, but lack the higher resolution and color capabilities of pen plotters.

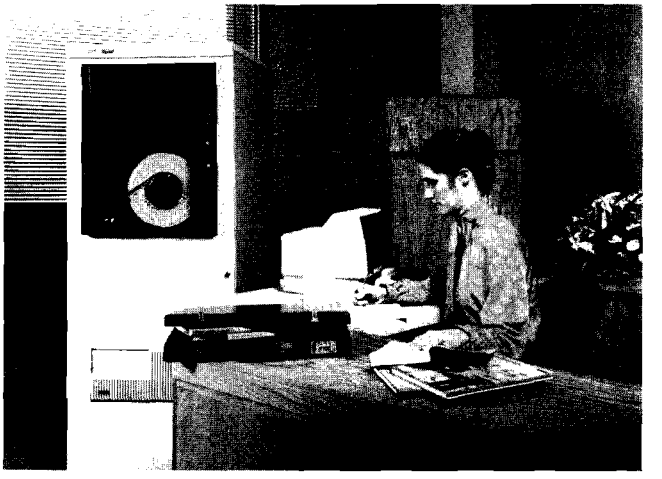
If there is already the latest release of the graphics package(s) on the HP 3000 and an HP 2563A or HP 2608S printer, then the HP 36583A HP 3000 Printer Graphics Support Software package can be purchased. This HP 36583A package also supports the HP 2680A and HP 2688A text and graphics capabilities, and only needs to be purchased once.

HP introduces the HP 7914ST

Hewlett-Packard's new HP 7914ST combines HP's 132M-byte disc drive with a 1600 cpi backup tape — packaged together in a single cabinet with room for a computer. Our second generation magnetic tape/disc combination, the HP 7914ST, features HP's new HP 7974 ½" magnetic tape, which offers up to twice the tape performance in the streaming mode (100 ips) as its predecessor, the HP 7914TD (45 ips).

The HP 7914ST can house a ½" magnetic tape, an optional computer, a disc (or two), and a ¼" streaming backup tape in a single space-saving 1.6-meter (five-foot) unit.

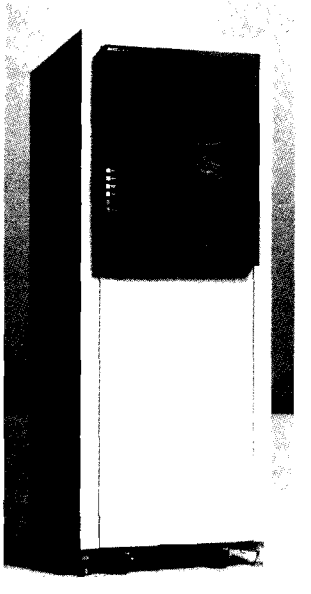
Several options are available for the HP 7914ST. Customers can buy an optional ¼" cartridge tape and a software-selectable 800 cpi/1600 cpi capability for the standard ½" tape. Also available are a dual disc configuration (264M-byte total) and a dual controller



which enables HP 3000 computers (Series 39, 40, 42, 44, and 48) to communicate with both the ¼" cartridge tape and the disc simultaneously.

Contact your HP sales rep for pricing and ordering information.

HP 7978A high performance ½" tape drive announced



You asked for it and HP delivers — a dual-density (6250 GCR/1600 PE) tape drive at about half the cost of the HP 7976A without sacrificing high performance. Operating at 75 ips in streaming mode, the drive provides the ideal backup solution for systems with greater than 400M bytes of storage.

Reliability enhanced/ cost of ownership reduced

The new drive offers greatly improved reliability. A simplified mechanical design coupled with new HP-designed LSI circuitry results in fewer parts and reduced power consumption. Extended on-board self tests and diagnostics allow detection and isolation of failures from

the front panel. What does all of this mean to you? It means faster repairs and less downtime for the system. It also means a significant decrease in monthly maintenance costs.

Software provides streaming backup

Newly developed enhancements to the system hardware and software streamline communication between the host and tape drive. A new software feature called Immediate Response uses a special 32K-byte buffer in the tape drive to stack multiple commands and data blocks, thereby minimizing waiting for commands or data from the host and allowing the drive to stream during most backup operations. Fast backup time increases system availability for other operations.

Support and availability

The HP 7978A is supported on the HP 3000, Series 39, 40/42, 44/48, 64/68. Fall 1984 support is planned for the HP 1000. There is about a ten week availability for the tape drive.

Tape drive advantage

About half the cost of the HP 7976A, the same high performance, plus approximately an 80% reduction in monthly maintenance costs — the HP 7978A is sure to be a winner.

HP 26096A digital scanner introduced

To further enhance the already impressive graphics capability of the HP 3000, a digital scanning camera is now available. The HP 26096A Digital Camera System (DCS) makes it possible to capture existing hard copy images in the form of raster graphics files on the HP 3000 computer system.

This capability is primarily intended to digitize and electronically store line art for use in document processing applications directed to the HP 2680A or 2688A Laser Printers. Using DCS allows raster graphics files on the HP 3000 to be rotated, scaled, and merged with text for final printing on the laser printer.

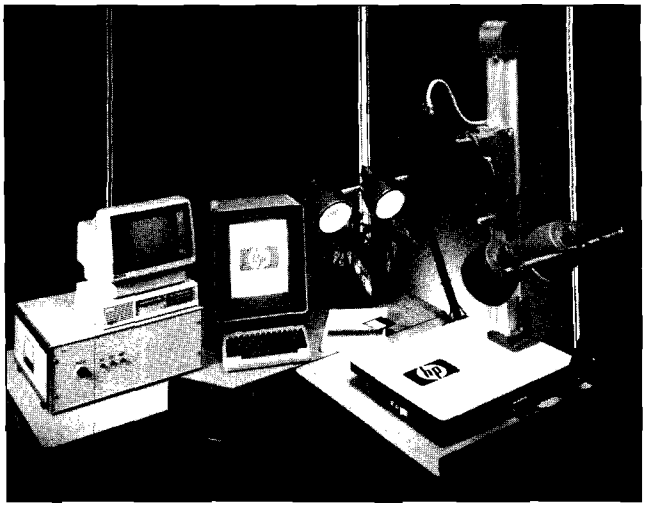
Artwork such as logos, signatures, characters, or symbols can be scan digitized and converted into the IDS/3000 character cell format. This vastly simplifies and speeds the digitizing process and will appeal strongly to anyone who needs to create and print large amounts of this type of graphic.

The HP 26096A DCS consists of a scanning camera capable of defining a matrix of 1720 by 2200 pixels. Each pixel translates directly into a dot position on a laser printer. This matrix is stored in RAM and displayed on a high-resolution CRT monitor. Since the monitor image is a dot-for-dot representation of the final printed image, adjustments to compensate for variations in artwork density and quality can be made using the CRT display and do not require a trial printed copy (what you see is what you get).

The controller included with the DCS is an HP 9816A workstation with single 3½" floppy disc drive. The HP 9816A controls the scanning process, interacts with the operator, and emulates a terminal on the HP 3000 which allows transfer of the raster files to the HP 3000 at 9600 or 19200 baud.

Software supplied with the DCS consists of the operating system for the HP 9816A and the graphics conversion routines for the HP 3000. Printing raster files created by the DCS requires an HP 2688A or 2680 Laser Printer and the laser printer graphics software (P/N 36583A).

Contact your HP sales rep for pricing and ordering information.



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