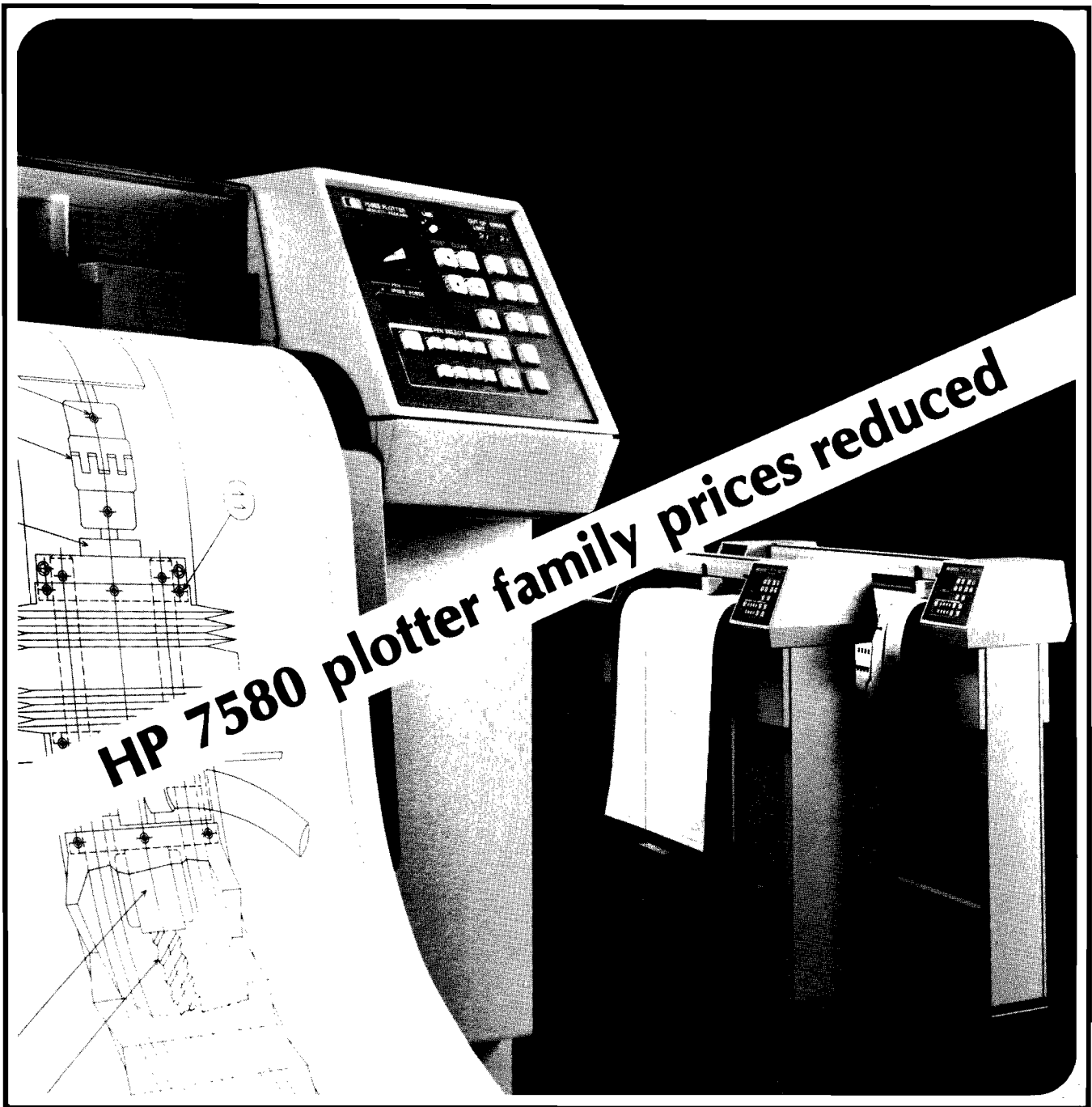


# COMPUTER FOCUS

 HEWLETT  
PACKARD

Computer News for HP OEMs and Independent Software Vendors

June 1985



INTERNATIONAL VERSION

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### *On the cover:*

The price of the HP 7580 family of drafting plotters has been reduced as of June 1. See article beginning on page 11.

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

**For research and education purposes only.**



## GENERAL

### Call for licensing success stories

Has your company advertised in the *Cross-Licensing Classified* section of *Computer Focus* (see page 13). Have you been able to close a licensing agreement as a result of the inquiries you received?

If so, we'd like to hear the good news. We will print your success story in the next available issue of *Computer Focus*. Even if you haven't closed an agreement, let us know how many inquiries you've received. *Computer Focus* is your magazine — and using the Cross-Licensing Classifieds section is an excellent way for you to recruit licensing partners.

Don't wait, write us today. We're anxious to tell other HP VARs and Software Suppliers about your success. Please send your story to:

Hewlett-Packard Company  
Value Added Solutions Marketing  
Attn: Marilyn Rauchle  
10520 Ridgeview Court  
Building 49C  
Cupertino, CA 95014  
USA

## SUPPLIES

### Cables connect HP ThinkJet printer to Apple computers

Now Apple computer users can take advantage of the speed, quiet, and low cost of HP's ThinkJet printer. Available at HP's Direct Marketing Division (DMK) are two cables that will allow the Macintosh and the Apple IIc to run with the new serial interface HP ThinkJet printer (2225D). The 92219M cable provides connection for the Macintosh, while the 92219N links the ThinkJet printer to the Apple IIc. Please be aware that the 35177M JetStart™ software program is required to make the Macintosh compatible with the HP 2225D ThinkJet printer interface.

For other printer and personal computer cables, refer to pages 17-18 of the new *Spring/Summer '85 Computer Users Catalog*.

For fast service, you should call DMK's Direct Order phone numbers.

*JetStart™ is a US trademark of Softstyle, Inc.*

### Cable linking HP ThinkJet printer to IBM PC available

HP's Direct Marketing Division now carries the 92219K cable which allows the IBM PC to run with HP's ThinkJet printer. The nine foot (2.7 meter) cable connects the HP ThinkJet printer (with Centronics interface) to the parallel interface port of the IBM PC.

If you need extension cables, refer to page 16 of the new *Spring/Summer '85 Computer Users Catalog*. For fast service, call DMK's Direct Order phone numbers.

#### HP Direct Order Phone Numbers

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

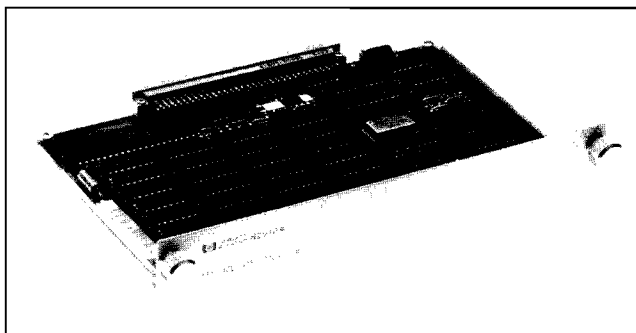
Location	Telephone Number
Austria	(0222) 2500615 (0222) 2500616
Belgium/Luxembourg	(02) 762 32 00
Canada	
Toronto Local	416-671-8383
Ontario	1-800-387-3417
Quebec	1-800-387-3417
British Columbia	112-800-387-3154
Other Provinces	1-800-387-3154
Denmark	(02) 816640, ext. 258
Finland	(90) 4550211
France	(6) 928 32 64
Greece	(01) 6471673
Italy	(02) 92 36 91 (06) 5 48 31
Middle East	
Athens	(01) 6828811
Norway	(02) 171180
South Africa	
Johannesburg	(011) 8025111
Cape Town	(021) 537954
Durban	(031) 284178
Spain	(01) 6384013
Sweden	(08) 7502028
Switzerland	(057) 31 22 54 (057) 31 22 59
The Netherlands	(020) 470639
United Kingdom	(0734) 697201
United States	800-538-8787
California	408-738-4133
West Germany	01303322



## HP 100 SERIES

### New 1M byte memory module for HP Integral PC

The 82916A 1M byte memory module for the HP Integral PC is now available and on the June 1 HP Price List. The new memory module allows you to plug-in 1M byte of RAM to be used either as user memory or RAM disc. The module installs into any one of the two I/O ports of the HP Integral PC or any of the ports in the 82904A bus expander. The new 82916A 1M byte memory module now allows the Integral PC (with a bus expander) to address up to 7M bytes of plug-in RAM. The use of the 1M byte memory module enhances the capability and performance of powerful programs and large data storage.



*The new 82916A 1M byte memory module for the HP Integral PC.*

With the introduction of the 82916A 1M byte memory module, the price of the 82927A 512K byte memory module has been decreased.

#### Ordering information

P/N	Description
82916A	1M byte memory module
82927A	512K bytes memory module
82925A	256K bytes memory module

### HP offers HP-IB instrument control with MS™-DOS personal computers

Are you interested in using your HP 150 personal computers to control instrumentation? Are you unsure of how to connect HP instruments to IBM personal computers? Would you like to be able to talk to someone who is knowledgeable about both personal computers and instruments? Then let's talk about two new products that will solve these problems.

The new products from Hewlett-Packard, the HP 14857A and HP 61062AA, provide the HP 150 personal computer and IBM PC with the capability of controlling HP-IB instruments. The HP 14857A HP-IB Command Library provides software on a 3½-inch disc. The HP 61062AA HP-IB Interface and Command Library, delivers software on a 5¼-inch disc and an HP-designed HP-IB interface card that plugs into the IBM PC.

The software provides over twenty different commands that can be used in either GW BASIC (BASICA on the IBM) or MS-Pascal. These commands are similar to the high-level commands already implemented on the HP Series 80 and HP 9000 Series 200 computers, so users experienced with those computers should feel very comfortable with the library.

In addition, we have implemented a number builder that allows data to be read directly from or into real variables (including arrays) without having to do string conversion. This feature simplifies programming. No competitive library on either the HP 150 or the IBM personal computers has this capability.

Performance does not suffer, either. Our objective was to do better than the HP-85, and in most cases we accomplished it. (See "HP-IB Command Library performance.")

Of course, no product is perfect, and there are some additional capabilities that we are considering for future releases. Our biggest concerns involve support of compiled BASIC and providing the ability to handle interrupts.

We have most of the major competitive software in house and have assembled a competitive analysis in the following articles. Our data indicates we have better functionality, better performance, better quality, and a lower price than the competitive alternatives. With support from HP COACH and the HP Response Centers we should compare favorably with any competitor.

## HP-IB Command Library uses IBM PC to control instruments

Thanks to the HP-IB Command Library, you can now use an IBM personal computer to control HP-IB instruments. Present computers supported are the IBM PC, PC XT, and PC AT. Designed to run under MS™-DOS, the Library provides access to most standard IEEE-488 control lines and bus commands.

The Library for the IBM PC, HP 61062A, consists of a plug-in HP-IB card and a 5¼-inch disc. The disc contains the Library software, and the card provides the HP-IB hardware interface. The Library commands are supported by two languages — BASIC and Pascal. They are used interactively with your application programs.

With the card installed, you can connect a standard HP-IB cable between the IBM PC and the instruments. The Library files can be copied from the Library disc to a working disc (a fixed disc is convenient if you have one) and accessed when needed.

The commands are implemented as assembly language subroutines in BASIC and functions in Pascal. When a command is encountered, its subroutine or function is called to execute it. For example, to output a string in BASIC, the following IOOUTPUTS command would be used: 1100 CALL IOOUTPUTS (DVM,INFO\$). In this case, the IOOUTPUTS command is called to send the INFO\$ string to device DVM. In Pascal, this command would be executed as a function call — ERROR := IOOUTPUTS (DVM, INFO) where ERROR is the function's return variable and INFO is the string.

As a part of the Library package, a manual is included that contains instructions on installing the HP-IB card and the Library files, and programming with the Library in BASIC and Pascal. In addition, complete syntactical references are provided for both languages, as well as programming examples.

## HP-IB Command Library performance

### Competitive analysis

The HP-IB Command Library for MS™-DOS provides HP-IB instrument control capability to personal computers that run under MS-DOS. This group of computers includes, but is not limited to, the HP 150 personal computer and the IBM PC, PC XT, and PC AT. Other HP-IB interfacing products on the market offer a solution for either the HP 150 personal computer or the IBM PC, but not both. This is a great advantage in areas where both computers are being used and HP-IB capability is needed.

The HP-IB Command Library is designed for full compatibility with HP PC-IB — the PC Instruments bus from HP. This means a mixture of HP-IB instruments and PC Instruments can be controlled from the same program. No other HP-IB interfacing product offers this capability.

### We have tested the following HP-IB interface products.

Company and product name	Target system	Supported languages	Number of commands
Hewlett-Packard HP 14857A HP-IB Library	HP 150	Interpreted MS-BASIC, MS-Pascal	25
Optimatic Solutions, Inc. HP-IB Enhancement Library	HP 150	Interpreted and Compiled MS-BASIC, Pascal, FORTRAN	17
Demand Systems, Inc.* HP-IB Driver Utility package for HP 150 personal computer	HP 150	Interpreted and Compiled MS-BASIC	20
Hewlett-Packard HP 61062A HP-IB Library (includes plug-in card)	IBM PC	BASICA, MS-Pascal	25
IBM** Personal Computer Interface Bus Adapter Guide to the GPIB adapter programming support	IBM PC	BASICA, Compiled BASIC, C, FORTRAN	33
National Instruments** GPIB-PC board GPIB-PC software	IBM PC	BASICA, Compiled BASIC, C, FORTRAN, Pascal and Assembly	31
Capital Equipment Corp. CEC-010000 IEEE 488 interface board	IBM PC	BASICA	11
IO Tech, Inc. MAC488 Bus Controller	Macintosh	Interpreted BASIC	26

\*The Demand Systems Library was found to lack many of the functions needed for a high-quality benchmark program; therefore, it is not included in our performance evaluation.

\*\*The IBM product is from National Instruments and varies only slightly from their product.

### Performance

The performance of the HP-IB Library is compared here to other computers. The Nelson Benchmark used

for the values shown below uses an HP 3437A systems voltmeter and a 3495 relay scanner to measure the voltage at each node of a biased resistor network. This benchmark represents a typical measurement loop in a small data acquisition system and checks the ability of each computer to do quick reads of an HP-IB device as well as data conversion, looping, and tolerance testing.

	Nelson Benchmark	Output 1 byte	Output 255 bytes	Enter -12.34	Enter -1.234567E-06
HP 150 with HP-IB Library	800	15.3	19.0	21.0	26.5
HP 150 with Optomatics	900	15.5	111.5	21.0	27.0
BM PC AT with HP-IB Library	349	7.1	11.2	10.8	13.2
IBM PC AT with IBM card	740	13.7	26.0	27.8	30.7
IBM PC AT with CEC card	364	2.2	18.2	14.7	18.1
IBM PC XT with HP-IB Library	841	17.6	23.8	26.2	31.5
IBM PC XT with IBM card	1,855	33.7	36.1	71.0	78.4
IBM PC XT with CEC card	720	4.9	19.2	38.1	46.1
HP Series 200 (HP 9836 with BASIC 2.0)	81	1.4	5.1	1.9	2.4
HP Series 80 (HP 86B)	1,663	40.1	136.5	28.5	34.6
HP 207 Integral PC	1,170	38.1	126.0	25.7	42.8

Note: all timing are in milliseconds.

## HP-IB Command Library compared to the IBM PC GPIB Adapter

Both Hewlett-Packard and IBM now offer instrumentation control for HP-IB. How do the two compare?

IBM offers the Personal Computer General Purpose Interface Bus Adapter (PC-GPIB). The PC-GPIB includes an interface card and accompanying software that supports BASICA, Compiled BASIC, Lattice C, FORTRAN 2.0, and Professional FORTRAN.

HP offers the HP-IB Command Library for MS™-DOS which provides control over IEEE 488 instruments with an IBM PC, PC XT, or PC AT. The HP product includes an HP-IB interface card and software. The HP-IB Library supports BASICA and MS-Pascal.

Each package provides a variety of features. PC-GPIB contains statements for entering data from a device and storing it either in program variables or in a disc file. Similar functions are available for transmitting

data, as are asynchronous transfer and DMA capabilities. Only string data can be transferred.

The HP-IB Command Library permits you to transfer string data, numeric data or arrays of numeric data. The built-in number builder and number formatter remove the burden of conversion of numeric to string data, and increase effective data-transfer speeds.

In each product, you have control over I/O termination characteristics such as timeout, EOI, character match, end-of-string sequence, and byte count. With the PC-GPIB, this can be done through use of a configuration program executed prior to the user program, which establishes a correspondence between device name, address, and the characteristics mentioned above. The HP-IB Command Library allows specification of an end-of-string sequence of up to eight characters.

Both packages also allow you to generate your own HP-IB command sequences to perform, for example, multiple device addressing. Both IBM and HP provide commands for serial and parallel polling, statements which control the IFC and REN lines and commands to transmit standard IEEE 488 bus commands such as LLO and DCL. IBM also provides an automatic serial polling and response queuing facility invoked at each function call. PC-GPIB implements full non-controller capabilities, whereas the HP product requires that the personal computer be system and active controller at all times.

The HP-IB Command Library and PC-GPIB provide error- and status-handling facilities to you. HP provides a numeric error representation and accompanying string message. Additionally, a status function exists allowing you to determine certain interface status conditions. The capability also exists to determine the reasons for termination of the last data-input statement. IBM maintains an error variable, a status variable that can be interrogated to determine the status of the SRQ line, and a count of the number of bytes transferred on the previous transaction.

Although the PC-GPIB offers more functions, benchmarking has shown the HP-IB Command Library to operate at approximately twice the speed of the IBM product (see "HP-IB Command Library performance"). The benchmarks used included byte out-

put rates for string transfers, real-number input, and a hybrid program representing a typical data-acquisition application.

## **HP advantages**

- Better performance (about two times IBM).
- Numeric I/O capabilities.
- Single-command numeric array I/O.
- Compatible with HP PC Instruments.
- Single-vendor solution for personal computer and instrumentation customers.

## **IBM advantages**

- Non-system controller capabilities.
- DMA and direct file transfers.
- Separate configuration program.
- Interactive control facility.
- Support of more programming languages.

## **HP-IB Command Library compared to HP-IB Enhancement Library from Optimatic Solutions**

The HP-IB Enhancement Library (HPEL) from Optimatic Solutions and the HP-IB Command Library from Hewlett-Packard give the HP 150 personal computer instrument control capabilities. A version of the HP-IB Command Library is also available for the IBM PC family.

HPEL supports Interpreted and Compiled BASIC, Pascal, and FORTRAN. For security, an "authorization module" is included which must be attached to an HP-IB connector in the instrument system. The HP-IB Command Library supports GWBASIC and Pascal from Microsoft.

The data-entry facilities in HPEL allow you to enter string data, a single byte of data, or a word (two bytes) of data. The HP-IB Command Library permits you to directly enter string data, numeric data, or arrays of numeric data. Analogous functions are avail-

able for data output. A built-in number builder and number formatter relieve you of the need to convert data between string and numeric formats.

With each product, you have control over I/O termination characteristics such as timeout interval, EOI mode, character match for data input, byte count and multiple-character end-of-string sequences for data output.

Both packages allow you to generate your own HP-IB command sequences. Both provide serial poll capabilities. The HP-IB Command Library also provides parallel poll capabilities. Each has functions that control the IFC and REN lines as well as commands to transmit standard IEEE 488 commands such as GTL and DCL. Neither provides non-controller capabilities.

The HPEL provides detailed error messages that include information about termination of the last data transfer, such as termination due to EOI sensed true. The HP-IB Command Library, on the other hand, provides more generalized error messages and a separate function to determine transfer termination reasons.

Benchmarks have shown performance of the two products under some conditions to be very similar, with the HP-IB Command Library having a small advantage. This includes low-end data-string transfers, an integrated instrument application and simple numeric data entry. The HP product is the clear performance leader for longer data strings. At a string length of 255 bytes, the HP-IB Command Library is over five times faster than the HPEL.

## **HP advantages**

- Numeric I/O capabilities.
- Single-command numeric array I/O.
- Compatible with HP PC Instruments.
- Lower cost.

## **Optimatic Solutions advantages**

- Per-device control over I/O termination characteristics.
- Multiple-character EOS on input permitted.
- Support of more programming languages.
- Software security.



## HP-IB Command Library support

In order to meet your various needs, the HP-IB Command Library support will come through several channels. This support will consist of SF-15 AEO (Application Engineering Operation), CompuServe, ODIN-ISD, STARS, and the Response Center AEO. ODIN is a field software update service.

SF-15 AEO provides the traditional support engineer support to the customer.

The CompuServe user-group bulletin board/database will become a nationwide clearing house for user ideas, application notes, answers to common questions, and a source for application programs for the Library. You can log on to CompuServe and browse through this material for a minimal charge. The notes, questions and programs can also be downloaded into their computer. (See "CompuServe provides HP-IB user forum.")

ODIN-ISD and STARS provide the means for support engineers to report customer problems back to the factory where they can be corrected. They also make it possible to quickly receive updates to the software.

Finally the Response Centers will provide a means for you to find an answer to your systems questions from an expert team of trained and knowledgeable support personnel.

## CompuServe provides HP-IB user forum

CompuServe, an excellent low-cost, database service, now contains support information for the HP-IB Command Library for MS™-DOS users. On CompuServe, the HP Users Forum now includes a special sub-topic in its data library dedicated to PC Instruments, including HP-IB instruments supported by the Library.

The CompuServe customer can get to this Forum by simply typing "GO HP" whereupon the user moves to the HP Series 100 Forum menu page, HP-1.

At that point users have several options. They can leave or read messages, join a conference in session, peruse the data library, read bulletins, or even receive instructions on how to use the Forum.

To get into the Data Library, type "DL". The Data Library menu allows the user to choose one of seven sub-topics, ranging from General Interest to System Utilities. Sub-topic 7 is PC Instruments.

In the PC Instruments sub-topic, the user will find application notes, newsletters, sample programs for both the PC Instruments System and the HP-IB Command Library, and answers to the most often asked questions. These can be easily downloaded to the user's disc or printer using a data communications program.

This new technique provides you with an inexpensive and up-to-date method of quickly answering your questions, passing on information to other users, and sharing your ideas and successes.





# HP 9000

## VisiCalc® for HP 9000 Series 200 obsolescence

VisiCalc®, the electronic spreadsheet software for the HP 9000 Series 200, will be removed from the HP Price List, effective October 1, 1985. The following part numbers are included in this obsolescence:

P/N	Description
98810A	VisiCalc stand-alone
98810M	VisiCalc/Right to Reproduce
98811A	VisiCalc/SRM

VisiCalc will continue to be supported by HP-COACH until October 1, 1990.

*VisiCalc® is a US registered trademark of VisiCorp.*

## Diagraph now available for the HP 9000 Series 200 workstations

Diagraph™, the powerful, interactive presentation graphics software package, is now available for the HP 9000 Series 200 computers. You can enhance any presentation using Diagraph to illustrate your ideas and concepts with a wide selection of clip-art drawings.

Diagraph™ is a powerful, easy-to-use program that is ideal for the preparation of organizational charts, forms, signs, word charts, flowcharts, and presentation aids. Diagraph is composed of symbols, text, and lines. You can choose from a library of over 1,600 symbols organized into categories including graphic aids, geometrics, signs, icons, and pictorials. Any symbol can be moved, sized, stretched, rotated, and copied. You can connect symbols and draw freeform lines using the graphics cursor. Text can be added in any of 13 type fonts. It is possible to move, size, stretch, and rotate the text anywhere on the Diagraph.

Diagraph is so easy to use because of its built-in Help facility. Help screens are available by simply pressing the Help key. We've eliminated the need for a cumbersome reference manual and put the information at your fingertips.

Series 200 Diagraph provides its own Pascal operating

environment so no particular language environment or installation is required. It runs on HP 9000 Models 216, 217, 220 (requires 98204 video interface card), 236 A/C with 512K bytes memory, and supports a wide range of peripherals. Diagraph is available worldwide; however, it will work with the keyboard in US mode only. Consult the technical data sheet (P/N 5953-9546) for more information.

Diagraph can be ordered with P/N 45463B. Specify Opt. 630 for 3½-inch media, or Opt. 655 for 5¼-inch media.

*Diagraph is a US trademark of Computer Support Corporation.*

## New version of HP 9000 Series 500 HP-IB Interface released

The 27110B is now on the HP Price List. The new version offers improved performance and reliability for the same price as the 27110A. The 27110B is completely backwards compatible with the 27110A. Therefore, the 27110A will be removed from the HP Price List in August 1985.

The 27110B consumes less time in overhead than the 27110A. The result is a 10 to 15 percent performance improvement on smaller transfers (10s of bytes). The transfer rate has not changed so larger transfers will tend not to reflect this degree of improvement.

The 27110B will be shipped in the high-speed configuration, which is required in most cases. Those requiring high-speed operation with the 27110A had to set the high-speed switch and move the resistor pack to the active position. Now with the 27110B you will not have to make modifications for high-speed operation.

Finally, the 27110B was designed for improved supportability and manufacturability.

### Ordering information

P/N	Description
27110-60101	27110B: PC assembly
27110-63001	Two meter HP-IB cable
27110-90003	Installation manual

## Obsolescence of HP 9000 Model 530 and 540

As planned and anticipated, sales of the HP 9000 Model 550, modular 32-bit computer, introduced the first of this year, have completely replaced those of the Model 530 and 540. The Model 550 is fully compatible with the 530 and 540, but is smaller, quieter, and about 15 percent less expensive.

Plans are now in place to obsolete the Model 530 and 540, removing them from the HP Price List on August 1, 1985. The specific products to be obsoleted include:

P/N	Description
9030A	Model 530 box computer in rack-mount package
9040A	Model 540 box computer in stand-alone cabinet
9040AM	Model 540 multiuser bundle
9040AT	Model 540 single-user bundle
97040A	256K byte RAM finstrate

The obsolescence schedule is as follows:

	Date
Removal from HP Price List	August 1, 1985
Final US orders accepted	September 1, 1985
Final international orders accepted	October 1, 1985
Final shipments	October 31, 1985
Support life	through November 1, 1985

## HP EGS users groups forming

Hewlett-Packard has organized users groups specifically for HP EGS software users. These groups have been organized locally with help from local HP EGS product specialists and the users themselves. There are currently over 20 such groups in North America and several are organizing in Europe. These groups are experiencing great success in exchanging

information with other members and with Hewlett-Packard.

The main advantage of the groups is information sharing with other members and with HP. The groups find that with their similar interests they can leverage their efforts to invite industry experts to make presentations at their meetings. Vendors are also being invited to make presentations at these meetings.

INTEREX, a non-HP entity which provides services to the HP 3000, HP 1000, and HP Series 100 users group communities began providing similar services for HP EGS members June 1. INTEREX's services and HP EGS users groups are described in an HP/INTEREX brochure (P/N 5953-9518).

INTEREX provides services such as: providing an initial printed circuit board personality and PC library upon membership, maintaining a contributed software library for members, maintaining a speakers bureau list, publishing both global and user group specific magazines and newsletters. INTEREX also hosts global and specific users group conferences, both regional and international. The next international conference (for HP 3000, HP 1000, HP 9000/EGS, and Series 100) will be held September 8-13 in Washington, D.C. Dave Packard will be the keynote speaker.

You may find out what HP EGS users groups are active in your area by calling INTEREX (415-941-9960), which has a list of all HP EGS groups and officers. It is not necessary to be a member of a local group to be a member of INTEREX, or vice versa.

 hp

## NETWORKS

### Upgrades to AdvanceNet LAN for HP 9000 Series 500

Current 2285A LAN users who want to upgrade to the new Network Services/9000 Series 500 (NS/9000) and LAN/500 Link interface card have been provided with a convenient upgrade package. This upgrade provides LAN users with the HP AdvanceNet network architecture, and the industry LAN standard IEEE 802.3.

NS/9000 is based on the AdvanceNet architecture; therefore, Series 500s running NS/9000 and HP-UX 5.0 cannot communicate with Series 500s running the 2285A LAN software on versions of HP-UX 4.0 or earlier without this upgrade. Series 500s running 4.0 may coexist on the same LAN cable as Series 500s running 5.0 and NS/9000, but they cannot communicate. To ensure compatibility with AdvanceNet products, 2285A users should be upgraded to the new LAN software as soon as possible.

NS/9000 allows communication with other Series 500 systems running NS/9000 and HP-UX 5.0 or with HP 3000 systems using the Network File Transfer service over an IEEE 802.3 LAN. Although the NS/9000 software can communicate using either the 27125A LAN/500 interface card or the 2285A LAN hardware, upgrading to the new LAN/500 interface card is also strongly recommended.

The LAN/500 Link interface card offers performance and reliability improvements in a smaller package. Preliminary performance benchmarks have revealed a 60 percent increase over the previous 2285A LAN product in throughput for file transfers using the Network File Transfer and Remote File Access capabilities.

Upgrades to NS/9000 and HP-UX 5.0 are provided with the software support distribution for those HP 2285A users on software material support services. For those users not on support services, a 40 percent the regular price for NS/9000 is available.

A discount off the purchase price of a 27125A LAN/500 card is available for users who trade in their 2285A LAN unit to their local sales office. The HP-IB card and cable used with the 2285A LAN unit should not be returned, and can be used for other purposes by the customer. The Ethernet transceiver and

transceiver (branch) cable may be used with the LAN/500 interface card. In this case, order the Ethernet card connector cable with the interface card (27125A option 001).

#### Ordering information

P/N	Description
50953A	NS/9000 Series 500 for Single-user HP-UX
Opt. 001	Previous revision upgrade
Opt. 022	Linus ¼" tape (must specify)
50954A	NS/9000 Series 500 for Multiuser HP-UX
Opt. 001	Previous revision upgrade
Opt. 022	Linus ¼" tape (must specify)
27125A	LAN/500 Link with IEEE 802.3 card connector cable
Opt. 001	Ethernet card connector cable
Opt. 010	2285A LAN unit trade-in

For full details on the upgrade, contact your HP sales rep.

## PLOTTERS

### HP 7580 drafting plotter prices reduced

HP is lowering the price of the HP 7580 drafting plotter family. The new prices are effective June 1, 1985. The downward trend in system prices and the fast growth of personal computer CAD systems have led to these price reductions. Our move makes the cost of an HP drafting plotter a more realistic percentage of the whole system, while improving our price/performance ratio in the bargain.

Contact your HP sales rep for more information.

The amount of discount varies depending upon the country. Check with your HP contact for more details.

## PRINTERS

### New HP LaserJet printer font cartridge

The Math Elite Font Cartridge (P/N 92286J) was introduced on the June 1, 1985, HP Price List. The Math Elite Font Cartridge will be used in technical word-processing applications. This cartridge will enable you to use subscripts and superscripts in a smaller font than the regular text. Presently, we are working with 12 software vendors to support the Math Elite Font Cartridge. The contents of the Math Elite Font Cartridge are summarized below:

Font	Orientation	Pitch	Height	Style	Weight	Symbol Set	Comments
Elite	Port	12	10	Upright	Medium	Roman 8	
Elite	Port	12	10	Upright	Medium	USASCII	
Elite	Port	12	10	Upright	Medium	Roman Ext	
Elite	Port	12	10	Upright	Bold	Roman 8	
Elite	Port	12	10	Upright	Bold	USASCII	
Elite	Port	12	10	Upright	Bold	Roman Ext	
Elite	Port	12	10	Italic	Medium	Roman 8	
Elite	Port	12	10	Italic	Medium	USASCII	
Elite	Port	12	10	Italic	Medium	Roman Ext	
Elite	Port	16 66	7	Upright	Medium	Roman 8	Available for use in subscripts and superscripts
Math Elite	Port	12	10	Upright	Medium	Math 7	
Math Elite	Port	12	10	Upright	Medium	Math 8	
Math Elite	Port	12	10	Upright	Medium	Math 8a	Lower half of Math 8
Math Elite	Port	12	10	Upright	Medium	Math 8b	Upper half of Math 8
Math Elite	Port	16 66	7	Upright	Medium	Math 8	
Math Elite	Port	16 66	7	Upright	Medium	Math 8a	Lower half of Math 8
Math Elite	Port	16 66	7	Upright	Medium	Math 8b	Upper half of Math 8
Pi	Port	12	10	Upright	Medium	Pi	Special symbols not included in Math 8
Pi	Port	12	10	Upright	Medium	Pi a	Special symbols not included in Math 8 (addressed as a 7-bit set)

There are presently 15 font cartridges available for the HP LaserJet printer. For more information on the font cartridges available for the HP LaserJet printer refer to "New font cartridges for the HP LaserJet printer" in the May 1985, issue of *Computer Focus*, pg. 27.

### HP LaserJet printer support on HP Word V

HP Word V will be available soon on the T-Delta 2 MIT. This release of HP Word requires MPE-V T-MIT or later. HP Word V provides new word-processing features and support of the HP LaserJet printer. The new capabilities are:

- "Forms Fill" features simplifying the design and filling in of pre-printed forms.
- Printing enhancements reducing the requests to the printer attender. Plus users can now view and re-order documents in the queue to any printer.

- "Marked Include" allowing users to include text from another HP Word document by marking the paragraphs for inclusion.
- "Where Am I?" key enabling users to find out the number of the line on the page on which the cursor is positioned. (This facility is only available in fixed-pitch documents.)
- Faster "Document Catalog Display," allowing wildcard search options and searching across groups and accounts.
- Added page numbering flexibility allowing users to reset the page number at any point in the document.
- LaserJet printer support, providing printing to a LaserJet printer as an HP Word attended printer, either slaved or ported. Graphics are not supported.

For LaserJet support, special font cartridges are available that ensure that the user can obtain the range of normal, bold, italic, and bold italic fonts in landscape and portrait styles in 10 and 12 pitch and proportional spacing. These cartridges must be used to achieve the expected results when printing to the LaserJet printer with HP Word.

P/N	Font cartridge
92286Q	10 pitch Courier
92286N	12 pitch Letter Gothic
92286P	PS Times Roman

HP Word V offers added functionality and considerable usability improvements, particularly in the printing area.

Now, with the introduction of HP Word/150, you can offer a single word-processing solution for personal computer and terminal users, adding considerably to the attractions and benefits provided by HP Word word processing.





## Software Packages Available and Wanted

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

## Software Packages Available

### Industry: *Engineering and scientific*

**Abstract:** TEMPLATE is a full 3D graphics subroutine library. It is a computer-independent and device-intelligent software tool designed for the scientific and engineering marketplace. TEMPLATE runs on any 32 bit or larger machine and supports over 175 different graphics devices from dumb terminals to sophisticated workstations. Typical TEMPLATE applications include 3D mechanical CAD, structure analysis, molecular modeling, and finite element analysis among others, all of which are supported on 2D or 3D and batch or interactive mode.

TEMPLATE features a mnemonic user interface which shortens training and program time, and promotes easy recall of over 250 user callable FORTRAN subroutines. TEMPLATE includes 3D modelling, multiple coordinate systems, 3D perspective and orthographic viewing, 3D hierarchial display list support, 3D contouring and surface routines, metafile processing and 3D virtual device interface all of which utilize the graphics hardware capabilities or simulate them in software when possible. TEMPLATE also supports graphics input via logical device classes.

TEMPLATE is only part of the software product family of graphics solutions that TEMPLATE the software division of Megatek Corp. offers including 2D TEMPLATE, CONTEMPLATE, DIMENSION-GKS, MICRO TEMPLATE, TK1-em, Workstation Model, the Post Processor, and PQ-Fonts.

**Company Name:** TEMPLATE, the Software Division of MEGATEX Corporation

**Address:** 9645 Scranton Rd.  
San Diego, CA 92121

**Phone Number:** (619) 455-5590

**Contact Person:** Rick Kreysar

**Type of distributor wanted:** Open

**Geographic Coverage:** Worldwide

### Industry: *Cross-industry*

**Abstract:** SHOWDIFF is a file comparison utility for the HP 3000. SHOWDIFF can quickly and reliably document changes in program source code in a concise easy-to-read report. SHOWDIFF can help the HP 3000 user with version control, program testing, auditing, conversions, and tracking changes in third party software. SHOWDIFF is very capable and easy to use; and it is affordably priced. SHOWDIFF has been commercially available since 1983 and has hundreds of users worldwide. It is also an HP Plus product.

**Company Name:** NOI Systems

**Address:** Suite 405  
1877 Broadway  
Boulder, Co 80302

**Phone Number:** (303) 447-0099

**Contact Person:** Stephen M. Kelley

**Type of Distributor Wanted:** HP 3000 software houses, Consultants

**Coverage:** Worldwide

### Industry: *Structural engineering*

**Abstract:** STAAD-III is a comprehensive structural analysis and design program. Operational in either interactive or batch modes, STAAD-III accepts simple English commands to perform planar, 3-D, truss, frame, and finite element analyses. Inclusion of current AISC and ACI Codes and Tables allows for design and code-checking of steel shapes and concrete beams and columns. Other capabilities include: joint and member generation; bandwidth reduction; P-delta analysis; weld design; and routines for the creation of geometric plots. STAAD-III is also available on most major timesharing networks throughout the world and may be purchased with a complementary graphics program, STAADPL.

**Company Name:** Research Engineers, Inc.

**Address:** 9003-D Greentree Commons  
Marlton, NJ 08053  
USA

**Phone Number:** (609) 983-5050

**Contact Person:** Carol D. Hyde

**Type of Distributor Wanted:** HP 1000 A-Series OEM/Software Supplier.

**Geographic Coverage:** Worldwide

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**Industry: *Welding — Manufacturing***

**Abstract:** Optisoud 420 determines test conditions to avoid cold cracking. The program is written for the testing of C. Mn steels. It uses the implant test results and the thermic parameters TR 800-500 degrees to propose couples, welding energy, and preheating temperature. It is available for the HP-85/86 and HP 9000 Series 200.

**Company Name:** Center Technique des Industries Mécaniques

**Address:** 74 Route de la Jonelière  
Boîte Postale 957  
44076 NANTES CEDEX  
FRANCE

**Phone Number:** (16-40) 74-03-38

**TELEX:** 710 614

**Contact Person:** Louis Primot

**Type of Distributor Wanted:** Open, prefer A. W. S. member

**Geographic Coverage:** Worldwide

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**Industry: *Mechanical and AEC (Architect, Engineering and Construction)***

**Abstract:** The CAVCAD System is a 3-Dimensional CAD/CAE software available on HP 9000 Series 200 and Series 500.

**Company Name:** CAV Corporation

**Address:** P.O. Box 4610  
Foster City, CA 94404  
USA

**Phone Number:** (415) 571-6707

**Contact Person:** Mr. Gerald C. Hsu

**Type of Distributor Wanted:** Sales and marketing organization, engineering computer specialist, manufacturing representatives, dealers and distributors

**Geographic Coverage:** Worldwide

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**Industry: *Mining and geotechnical engineering***

**Abstract:** Software products are designed for use on HP 9000 Series 200 microcomputers. These include:

- SUBSID-B for analysis of subsidence due to underground mining.
- STRESSBE — designed to analyze stress, displacement, and failure around single or multiple caverns.
- SLIDE — designed for slope stability analysis.
- MESHMAKER-2 for mesh generation using finite element analysis.
- HEATTRANS for rapid calculation of underground heat transfer.
- LEACHGRO — calculates the rate of dissolution of leach growth on cavern walls.
- MINEGRAPH — plots potash/salt mine layouts.
- DRAFTER — produces high quality graphs and illustrations.
- GEOROC-2 — predicts stresses, displacements, and failures for complex underground openings. This program is designed for use on mainframe computers.

**Company Name:** RE/SPEC Ltd.

**Address:** 005, 4616 Valiant Drive, N.W.  
Calgary, Alberta T3A 0X9  
Canada

**Phone Number:** (403) 288-7820

**Contact Person:** Dr. Hans Y. Tammemagi

**Geographic Coverage:** Open

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**Industry: *Inpatient hospitals — nurse staffing, pricing, UR-QA, discharge planning, and DRG assignment in English***

**Abstract:** The Concurrent English-Equivalent Grouper™ (CEEG™) and the DRG-Nursing Unit Manager™ are fully Touchscreen executed programs designed for physicians and nurses who require concurrent DRG assignment for productivity analysis, physician profiling, UR-QA programs, discharge planning and patient classification-nursing acuity applications. The system can be installed within minutes and user competence is attained within 15 minutes. The software runs on the HP 150 Touchscreen MAX. All applications can be customized for specialized reporting, and can be adapted for communications among multiple users. The applications can also be interpreted for integration with the HP 3000 Series.

**Company Name:** CLIENT-CENTERED SYSTEMS, INC.

**Address:** 13 Main Street  
The Carson Building, Suite #2  
Robbinsville, NJ 08691  
USA

**Phone Number:** (609) 259-6113

**Contact Person:** Russell P. Caterinicchio, Ph.D.

**Type of Distributor Wanted:** Open

**Geographic Coverage:** Open

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**Industry:** *Environmental engineering, urban drainage, sewer systems.*

**Abstract:** MOUSE is a general software package for modelling of urban sewer systems. Fully interactive menu-driven user communication. Data bases for catchment and pipe system data, synthetic and historical rain events. Range of computational modules, comprising:

- Simple and advanced surface runoff modelling
- Generalized pipe flow modelling
- Pollution load modelling

Integrated routines for tabulated and graphical presentation of input and output data.

**Contact Person:** Sten Lindberg

**Industry:** *Offshore engineering, pipelaying contactors.*

**Abstract:** The Dynamic Seapipe System is a finite-difference modelling system for three-dimensional analysis of pipeline behaviour in the sea. The software package is designed for simulations of pipe laying, tie-in operations, pipe towing, on-bottom stability calculations, riser dynamics, etc. The package is available on HP 9000 Series 200 as well as HP 1000 Series 900, 700, 600.

**Contact Person:** Jorgen Bo Nielsen

**Company Name:** Danish Hydraulic Institute

**Address:** Agern Allé 3-5  
DK-2970 Horsholm  
Denmark

**Phone Number:** 45 2 868033

**Telex:** 37352 dhimp dk

**Type of Distributor Wanted:** Open

**Geographic Coverage:** Worldwide

**Industry:** *Real Estate — REPELS*

**Abstract:** Designed to operate on the HP 150 and The Portable, REPELS allows easy access to residential and commercial listings based on user-defined keys. Ideal for brokers, agents or appraisers.

**Industry:** *Real Estate — REPELS*

**Company Name:** Information Systems Group Limited

**Address:** P.O. Box 2397, Station C  
St. John's, Newfoundland A1C 6E7  
Canada

**Phone Number:** (709) 579-5076

**Contact Person:** Ken Hann

**Type of Distributor Wanted:** Dealers, OEMs, Distributors

**Geographic Coverage:** North America

**Industry:** *Photofinishing*

**Abstract:** Designed to operate on the HP 250, this package is ideal for small to medium-size photofinishing companies. Multi-store order processing with route optimization being the basis of the system's design.

**Company Name:** Information Systems Group Limited

**Address:** P.O. Box 2397, Station C  
St. John's, Newfoundland A1C 6E7  
Canada

**Phone Number:** (709) 579-5076

**Contact Person:** Ken Hann

**Type of Distributor Wanted:** OEMs, Distributors

**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  
Value Added Solutions Marketing  
Attn: Marilyn Rauchle  
10520 Ridgeview Court  
Building 49C  
Cupertino, CA 95014  
USA

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**Editor: Tracy Wester**

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