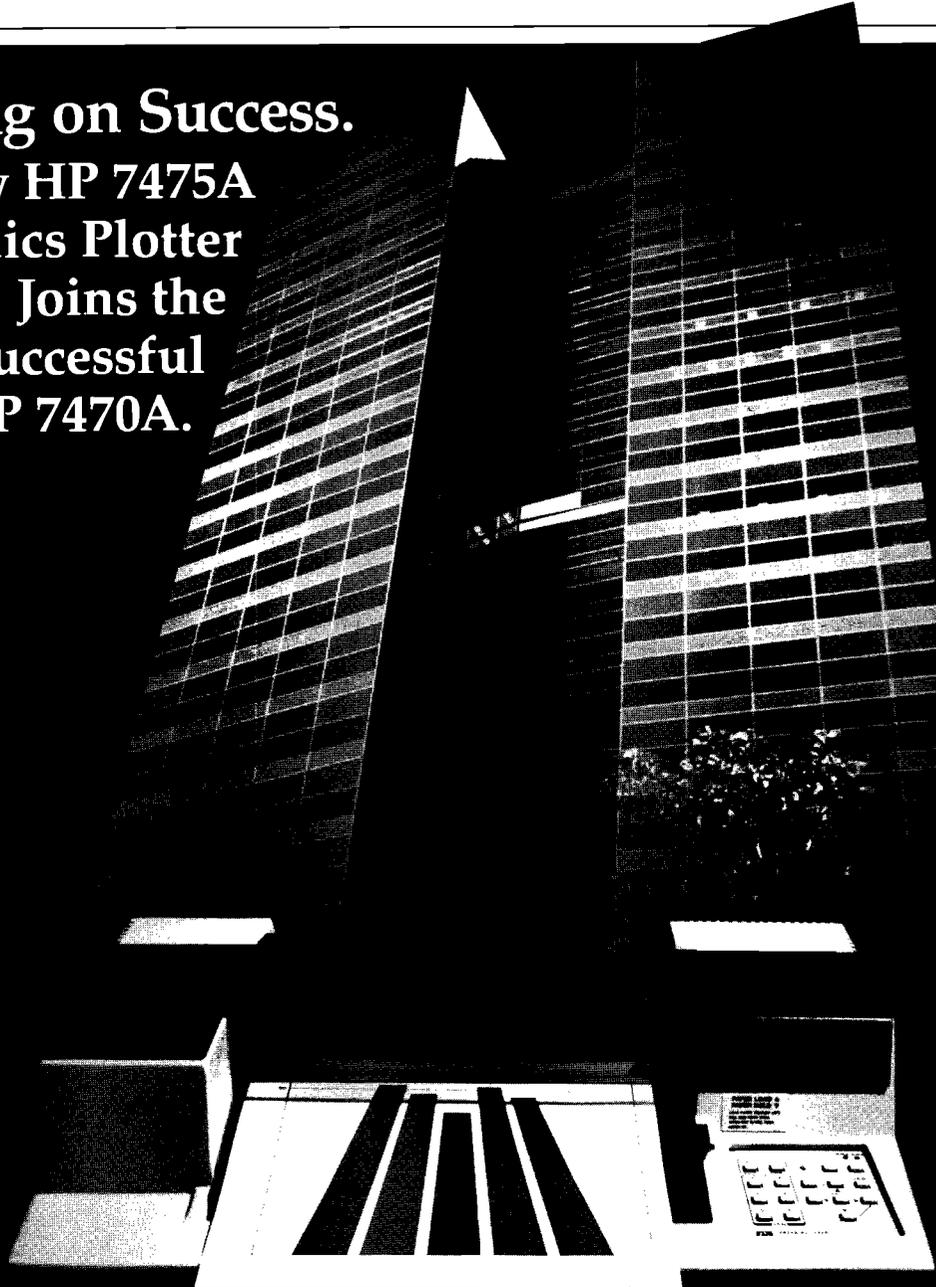


Computer News **ENM** edition

International/September, 1983

**Building on Success.
The New HP 7475A
Graphics Plotter
Joins the
Successful
HP 7470A.**



hp HEWLETT
PACKARD

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On the Cover:

Designed with business professionals in mind, the new HP 7475 six-pen plotter offers output quality, media flexibility, and low cost. See article beginning on page 22.



Getting Lost: Will They See Your Ad?

In any magazine which carries a substantial number of advertisements, there is a danger that the individual ad will "get lost" in the confusion. This is particularly true in the computer area, where trade publications are often saturated with ads for very similar products. What can an advertiser do to make sure that his message is heard through the din?

The following list of 10 techniques for getting your ad read was prepared with the help of three individuals with different views of the problem. Brian Sternthal, a professor at Northwestern University in Evanston, Illinois, teaches advertising principles and monitors trends in the industry. Christy Duquette-May is a principal of Canton, Massachusetts-based D/M Communications and a contributing editor to *The Sizzle Sheet*, a newsletter on advertising. Finally, Allen Katzoff is advertising and marketing manager for McCormack & Dodge Corporation, Needham Heights, Massachusetts.

Media research is one area all three of these experts agree on. Katzoff observes that although many companies seem to skip this step, media research is "the smartest money you can spend" because it prevents wasting money and effort. Companies should find out exactly which publications are read by the audiences they wish to reach. Coded responses also help a company determine the techniques which are working and those which aren't. Using a media research tool like "The Media Master" (published by *The Sizzle Sheet* and *C System Reports*) can help save even more.

Objectives should be planned before the campaign is begun. What is the point of the ad or series of ads? Is the company trying to build its image? Sell a new product? Reinforce its reputation? Too often such goals are not clear in the minds of the advertisers, so they do not come across clearly to the audiences. Duquette-May comments, "Think about getting people to act the way you want them to act. Sometimes I look at an ad and wonder: what do they hope to achieve besides recognition?"

Intensity/Repetition are tricky techniques because large numbers of ads can backfire in what Sternthal labels "wearout": the reader sees an ad so many times that he simply ignores it. Another problem with too much intensity or repetition is that after a while, people pay less attention to what the ad is actually saying than to their own notions about and emotional response to the company. On the other hand, intensity is often useful to help a company break through the noise level. And repetition can help because many readers don't pay attention to an ad until they've seen

it three or four times: the information just doesn't sink in, unless readers are looking for that particular product.

Placement can help catch the reader's attention when done carefully. Sternthal observes that research on consumer publications reveals that the four covers yield the best exposure. However, since this placement is expensive, advertisers may wish to get their ads placed according to the editorial content of the publication. Katzoff comments that "positioning is the key, especially for a company with a limited budget."

Atypical media can be employed to gain attention, particularly for a small company with limited funds. Sternthal gives Lanier, Inc. as an example. Lanier began using radio to sell its dictating equipment because drive time commercials reach a mass audience of executives and others who make buying decisions. Getting away from the standard advertising vehicles can allow a vendor to escape the clutter always present when many firms are trying to sell similar products to the same audience.

Blitzes can be an effective way to make an advertiser's voice heard. Duquette-May suggests vendors take advantage of all the avenues open to them, including PR functions, special event planning, mail campaigns, and ad reprints. Timing a blitz is crucial. Duquette-May explains that "timing can be really important to get things working together for impact, because that's what we're talking about. We're not just talking about whether people see it but whether the right people see it at the right time and whether they *act* on seeing it."

Creativity is particularly important in ad-filled publications. A striking photograph, a clever cartoon, inventive graphics, unusually informative text: any of these can set an individual ad apart from the crowd. Katzoff remarks, "Choose an advertising agency with real creativity. You want to use creative ads, not just many ads."

Humor can be extremely effective. But, cautions Katzoff, the advertiser must be careful not to allow the humor to become the message rather than the vehicle for the message.

Content in data processing ads must be carefully considered. Business consumers in DP areas, says Sternthal, are intelligent people who want — and need — detailed information. Print advertising is the perfect medium for providing such information because the reader can refer back to the ad repeatedly. Duquette-May adds that many advertisers make the mistake of not telling the reader the next step to take once they're interested in the product. "A lot of ads just leave you hanging: you say, 'Oh, that's interesting, isn't that a nifty thing, but then you don't know where to find it.

HP Computer Museum
www.hpmuseum.net

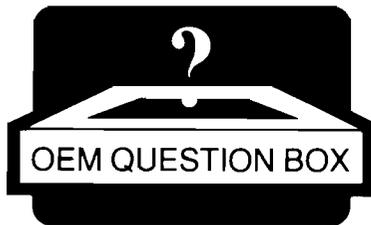
For research and education purposes only.

People don't do anything unless it's easy for them: the easier you make it for people to respond to your ad the more response you're going to get." Not to be forgotten are such details as a phone number and contact name, as well as an address where potential customers can write for brochures.

Incentives are just as effective with businessmen as they are with general consumers. "Give people a reason to respond the way you want," advises Duquette-May. It might be a special price for those who respond early, or some additional product they'll receive, or it might just be as vague as "call soon or you'll miss out." People like to feel they're getting a good deal, so promising something special gives them the incentive to go ahead and act.

Gone are the days when technology alone could make an SP&S company succeed. Vendors must now be more sophisticated about business practices of all kinds, including advertising. As the noise level in computer trade magazines increases, software and computer service firms can profit by using these techniques to help keep *their* messages from "getting lost."

Written by Sharon Gamble Rae, this article is reprinted with permission from the June 1983 issue of the ICP Insider's Letter. Copyright 1983 by International Computer Programs, Inc., 9000 Keystone Crossing, Indianapolis, IN 46240.



QUESTION: MY BUSINESS HOURS ARE 8:00 A.M. TO 5:00 P.M. WHY DOES HP OFFER A STANDARD MAINTENANCE AGREEMENT WITH COVERAGE HOURS 8:00 A.M. TO 9:00 P.M.?

ANSWER: HP's standard coverage hours span a longer period than normal business hours to provide same day response time for calls placed before 5:00 p.m. For sites within 100 miles of the service responsible office, customers can request service up to 5:00 p.m. and receive a four-hour response time. If, however, a customer desired to close his doors at 5:00 p.m. and not have HP personnel on the site, our standard coverage assures you that HP customer engineers will be at your facility by 8:00

a.m. the next morning. Thus our extended hours offer priority response time the next morning which is unavailable with 8:00 a.m. to 5:00 p.m. coverage.

Another advantage of extended coverage hours for those customers desiring after hours assistance, is that preventive maintenance can be performed after working hours — minimizing interruption to your operation and employees.

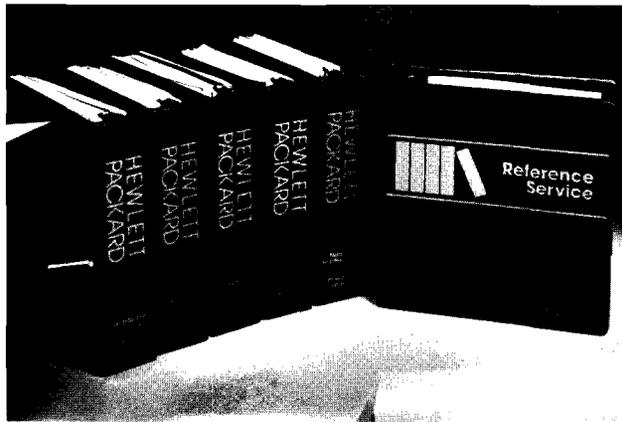
QUESTION: STANDARD MONTHLY MAINTENANCE CHARGE (SMMC) ON MY TERMINALS NOW COSTS MORE THAN THE SERVICE ON MY SYSTEM. WHY CAN'T I GET A VOLUME DISCOUNT?

ANSWER: You should discuss your specific environment with your account CE or district CE manager. Many customers find it more economical to mix the support coverage on their system and terminals. It is often more cost effective to have several spare terminals and purchase next-day support for these peripherals. If you have enough units, you may qualify for an on-site depot repair contract, which would result in additional savings. 

HP Organizes OEM Conferences

A series of conferences for all HP computer OEMs in European countries will be held during the months of October and November in several European locations. These conferences will cover HP's new product directions, and update you on HP's OEM policies and OEM program for 1984. You will have an opportunity to meet with senior HP managers to discuss how our 'working partnership' can be enhanced to make us all more successful. For more information on the conference, European OEMs should contact their local HP sales representative.

A similar conference for HP 3000 and HP 250 OEMs in North America will be held in California, November 9 – 11. The information and topics covered will be basically the same as the European conferences. European OEMs that have a strong interest in marketing their products in North America may want to attend this conference also. If representatives from your company would like more details on attending the European conferences or the U.S. meeting, you should contact your HP sales representative to make arrangements as soon as possible. 



HP Reference Service, Now Available

A handy and convenient single source of information on the entire HP Computer Group product line, The HP Reference Service (P/N 5953-8401), is now available. This comprehensive reference service consists of a five volume binder set spanning HP's technical, business and personal computers, the associated peripherals, and the software packages available for both system and workstation products. An introductory volume supplies valuable information on HP's organization, corporate objectives and history.

This handy source document is a particularly valuable tool for consultants, librarians, research organizations and individuals considering the purchase of an HP computer product. Designed with ease of use in mind, the reference service is organized to allow the reader to select only those areas and products that are of interest and will best fit their requirements. Furthermore, the service allows the reader access to the most current information about HP computer products. Key features of the reference service include:

- **Three update packages.** Ensures the user that the information will remain current throughout the year.
- **Access to HP's Information Line.** Provides the user with access to HP's factory resources so that questions about the reference service and the product information it contains can be answered. Sales related questions are handled by the local HP sales office.
- **Inside HP for Consultants.** A one year subscription to HP's bimonthly newsletter for consultants which provides valuable information to the consulting community.
- **Special mailings.** Ensures subscribers access to information based on the industry and application

areas they indicate. These special mailings will be made throughout the year.

We are sure the HP Reference Service will keep you more informed and knowledgeable about the products and services available from HP and will be a valuable tool during your decision making process.

For more information, please contact your HP sales rep.

Calling for Third Party Application Notes

To make it easier for HP sales reps to match up Third Party software applications with the needs of their customers, we will begin publishing Third Party Application Notes which briefly describe typical uses and users of your packages. We plan to distribute these application notes to all HP sales reps for their use with prospects; to make it easier to generate qualified leads for your products. We are especially interested in packages which address the needs of particular vertical markets.

We ask you to work with your HP sales rep to develop the content, and then send it on to us for typesetting, printing, and distribution to the HP OEM specialists for OEM products, and to the end user sales reps for Software Supplier products. The finished length should be no more than two pages (600 to 1000 words); we'll typeset them onto a single sheet, double-sided.

Things you should be sure to cover are:

- Name of the package
- Principal function of the package
- Profile of typical user
- Key features and benefits
- HP system it runs on
- Name of the supplier
- Address and phone of the supplier
- Support available (geographic coverage and type)
- Whether you are an OEM or Software Supplier for the package

We will be looking for ease of reading, clarity, and the kind of things we want to convey to our potential customers. It must follow HP standards for fairness, professionalism, and accuracy. Remember, this will be **your** sales literature we hand out to **your** prospective customers!

So don't delay! We are eager to help spread the word about your software applications by publishing these application notes. We want **you** to be part of the program!

Have your sales rep mail your application notes to:

Lynn Gardner
Hewlett-Packard
19447 Pruneridge Ave.
Cupertino, CA 95014

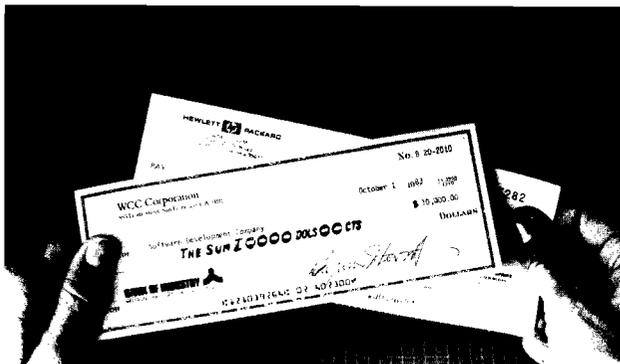
In Europe, send them to:

Spencer Chan
Hewlett-Packard S.A.
Route du Nant-d'Âvril 150
P.O. Box CH-1217 Meyrin 2
Geneva, Switzerland

New Ad Recruits Software Suppliers

This new ad focuses on the advantages of the HP PLUS Software Supplier Program which offers generous incentives for software written for HP systems.

It is designed to generate leads from interested third parties and will be appearing in *Computer Systems News*, *Mini Micro Systems*, *Software News*, *Datamation*, *Systems & Software* and *Computerworld*.



Software can be doubly rewarding.

Because every time you sell a new system with HP software, you'll not only get a check from the customer, but one from HP as well. As thanks for writing software for our systems, we'll give you a bonus of 30% of your software's sales price—up to 6% of the net HP system's price. That could mean \$3,000 on a \$50,000 system... or as much as \$30,000 on a \$500,000 system. And you'll get it every time a new system is sold with your software.

We won't tell you what kind of program to write. What industry to write it for. Or even specify the system. Our only restriction is that, to qualify for the bonus, your software must sell for at least \$10,000.

Of course, extra cash isn't the only incentive. To help you get started, we'll sell you a development computer at a 40% dis-

count. We'll also promote your software in HP catalogs, direct mail and advertisements. And you'll have the benefits of being associated with HP—one of the worldwide leaders in computing systems. A company whose products range from widely-used business computers, like the HP 3000, to one of the world's most advanced 32-bit computers, the HP 9000.

If you'd like to learn more, write to Hewlett-Packard, Attn: Owen Miller, Dept. 46173, 19447 Pruneridge Avenue, Cupertino, CA 95014. In Europe, write to Henk van Lammeren, Hewlett-Packard, Dept. 46173, P.O. Box 529, 1180 AM Amstelveen, The Netherlands.

We'll give you all the details on our HP Plus Software Supplier program. And all the reasons why it will be rewarding for you to develop software for HP.



U.S. 100 percent cash

HP Customer Service is Tops

The July 4 *Computerworld* reports results of a recent International Data Corporation (IDC) survey of small business system suppliers' customer services. Vendors included in the survey were Burroughs, Data General, DEC, HP, Honeywell, IBM, Prime, TI, Wang, third-party firms, and Sorbus.

According to the report, "In every category, (HP users) felt that HP equaled or surpassed their needs" in the "User satisfaction with customer service" section.

HP also ranked high in correcting a problem in a single visit, taking care of a problem in 90% to 99% of the time for 88% of the respondents.

Although HP ranked third in normal response time (5.9 hours) to a routine customer service request, the report shows HP to be above average in all of the following areas:

- Prompt arrival on site
- Reaching the right person at service office
- Ability to get parts
- Reliability of parts
- Service representative repairs equipment without technical assistance
- No need to replace parts
- Time taken to return with proper parts.

Customers responding to the survey indicated three of the most important elements of telephone service staffing for field service organizations:

- Giving the user the ability to reach the right person to provide assistance (have a knowledgeable person on the other end of the phone).
- Making it easy to report service problems, including having an 800 number, and a list of appropriate questions to run through to diagnose a problem properly.
- Arrival of a (serviceman) within the time estimated by a call-taker.

You can feel confident in using HP's excellent level of customer service as a prime sales tool!



HP Invites You to Telecom 83

Hewlett-Packard will participate in the fourth world telecommunications exhibition, Telecom 83. It will be held at the new exhibition and conference center in Geneva, Switzerland, from October 26 to November 1, 1983. HP welcomes visitors to its exhibit in Hall 2, Stand 166.

The world's largest telecommunications exhibition, Telecom 83, attracts telecommunications administrators, manufacturers, and operating agencies. It will include in its complementary activities a world book fair, a technical forum, and a film festival.

The HP exhibit will focus on the areas of telecommunications test, and computer datacommunications. The telecommunications instruments shown will cover voice, data, FDM, PCM, TDM, radio and computer-based systems. Our computer products will range from personal computers to large systems. These will demonstrate HP's datacommunications solutions and use of international standards for local and remote data networks. HP optoelectronic and microwave components relevant to the industry will also be on display. 

New Math Software for the HP-75

The HP-75 Math Pac (00075-15015) is a powerful and extremely versatile software pac that solves a wide range of mathematical problems. From simple numeric functions and base conversions to sophisticated mathematical capability, the Math Pac provides performance unprecedented in a portable computing product. With the Math Pac's powerful and sophisticated algorithms, the HP-75 can tackle complex problems and provide accurate answers quickly and efficiently.

The Math Pac's comprehensive function set is useful for engineers, scientists, and mathematicians in many applications. The function set includes:

- Real scalar functions
- Base conversions
- Convenient input and output of arrays
- Explicit and implicit array redimensioning
- Extensive real and complex matrix operations
- Complete set of complex functions
- Sophisticated polynomial root finder
- Solution to $f(x) = 0$
- Definite integrals
- Finite Fourier Transform.

These functions are provided as a set of BASIC statements or keywords. With the Math Pac ROM plugged into the HP-75, these keywords are instantly available to be used in programs or may be executed directly in calculator mode. Users can also select integer or decimal precision or full-floating decimal to display results in the format that is most convenient for them.

The Math Pac's ROM is coded in machine language, ensuring optimal speed, numeric accuracy, and reliability.

For more information, please contact your HP sales rep.

The New Electronic Disc Capability for the HP-85B

By now you've probably heard about the new electronic disc capability for the HP-85, but may not know what it is all about or how to make the best use of it. Well, what follows may shed a little light on the subject for you.

What is it?

Electronic disc is just what its name implies — using electronic RAM to imitate a disc drive. When the HP-86 and HP-87 were introduced and they had the capability to address all of that RAM, many people asked why we could not do the same thing to the HP-85. We could have, but at the cost of compatibility with currently existing software. But we hit upon the idea of using the extra RAM as a mass storage device — specifically, a disc. In this way, the user can speed up applications considerably, particularly mass storage intensive applications, without serious modifications to the software. And here is why.

Electronic disc transfer rates

HP-85	Tape	EDISC
Allocated Program	660 b/s	46000 b/s
Unallocated Program	660 b/s	17500 b/s
Data (Numeric)	80 b/s	3400 b/s
Data (string, best case)	80 b/s	13000 b/s
Data (string, worst case)	80 b/s	600 b/s

This is a considerable improvement in speed. For example, if the Graphics Presentation Pac were

run and it had to CHAIN (as it frequently does), it would chain about 20Kb. Off of tape this would take about $20,000/600 = 30$ seconds. Off of Electronic disc it would take $20,000/17,500 = 1$ second. Quite a difference.

It also makes data logging faster. With a memory of only 32K, the 85 had to write to tape frequently. But with the Electronic Disc, writing to mass storage is so fast that it becomes almost negligible. This can make a big difference in a speed critical application.

How to get the most from EDisc

A careful look at the Transfer Rate chart above will reveal that the EDisc can be very fast, but can also be quite slow in the case of string transfers. This article won't go into the reasons for the vast difference in speed, but will tell how to get the most from Electronic Disc.

The only place there is a real change in speed is in string data transfers. The speed of this type transfer can range from .6Kb/s to 13Kb/s. This is quite a difference. Here are some examples of how certain speeds can be obtained.

```
If a program is written like this:
10 DIM A$(10000)
20 ASSIGN#1 TO "DATA"
30 A$ = <something>
40 PRINT#1,A$
50 ASSIGN#1 TO*
60 END
```

the transfer rate to the EDisc will be about 600b/s. Not very fast. If the program was written like this:

```
10 DIM A$(10000)
20 ASSIGN#1 TO "DATA"
30 A$ # <something>
40 FOR I = 1 TO 10000/252
50 PRINT#1,I,A$ [I*252-251,I*252]
60 NEXT I
70 PRINT#1,A$[I*252-251, 10000]
80 ASSIGN#1 TO*
90 END
```

the transfer rate would be about 7Kb/s. A significant improvement!

But to really get the most out of a string transfer, here is how it is done:

```

10 DIM A$(250),B$(250),C$(250)
   . . . X$(250)
20 ASSIGN#1 TO "DATA"
30 A$,B$, . . .
   ,X$ = <something>
40 PRINT#1;A$,B$, . . . ,X$
50 ASSIGN#1 TO*
60 END

```

The transfer rate here is 13Kb/s. Very fast indeed for data of any kind.

That's all there is to it. Electronic disc can be very beneficial to your application, particularly if used to its fullest capabilities.

Series 80 Now Supports 10Mb Disc Drives

For applications which demand the extra storage capacity of a 10Mb Winchester disc drive, Series 80 now supports the HP 9133B and HP 9134B disc drives under native (BASIC language) mode. This capability is built into the new HP-85B and HP-86B computers. Owners of the HP-86A or HP-87 can add 10Mb disc drives if they also add the new Electronic Disc ROM (00087-15012); the HP-85A will not support the 10Mb discs.

The large capacity of the HP 9133B and HP 9134B disc drives is ideal for user-written applications which require fast access to huge amounts of data. With the exception of revision A of FILE/80, HP-written software will also run from a 10Mb disc drive. A new revision of FILE/80 will soon be available which takes advantage of 10Mb drives.

Also note that the 10Mb disc drives are accessible under native mode only; CP/M or p-System software cannot access these disc drives.

Series 100 — Did You Miss Issue No. 5?

In May, Issue No. 5 of the *Series 100 Communicator* was mailed to customers, SRs, SEs, CEs, and TSEs on the various Series 100 SDC subscriptions. It is easily recognizable by the orange cover.

This issue, edited by Eunice Yan, includes the following articles:

Product Review

- Single Disc Configuration Supported on Series 100
- Hard Disc Backup Now Available
- Enhanced Installation Program Available
- Introducing MicroPlan™
- Video Display Interface for the HP 125

System Management

- Series 100 International Users Group

About Applications

- Comparing Condor™ and dBASE II™
- Sending Escape Codes to Printers from WordStar® and Condor™
- Interchangeability of Word and WordStar® Text
- Two-Column Print in WordStar®
- WordStar® Quick Tips and Defaults
- Getting VisiCalc® to Round Dollar Values to Two Places
- Word: Wandering HP 2601A Printer Margins with the Sheet Feeder

Networking Notes

- DSN/Link — Enhanced File Transfer Capabilities over Link/125
- Connecting Two Series 100 Systems for ASCII File Transfer
- Transferring IMAGE/3000 Data to a Condor™ Database
- Transferring Data to the HP 2700 Color Graphics Terminal

Hardware Headlines

- Installing the Operating System on Your Fixed Disc

- Using the HP 2631B HP-IB Printer with Series 100

Programmer's Potpourri

- Programming Challenge — Bypassing WELCOME

Software Status Bulletin

- Software Status Reports
- Pen and Ink

Ordering Information

- Courses, Books, and *Communicator* Back Issues
- Software Packages
- Updated Software and Manuals
- Replacing Damaged Media
- Supplies and Accessories

How to Get Back Issues

Back issues are carried by Computer Supplies Operation:

Issue No.	Cover	US Edition	Int'l. Edition
1	Blue	5955-3930	5955-3937
2	Blue	5955-3943	5955-3947
3	Blue	5957-6203	5957-6213
4	Green	5957-6204	5957-6214
5	Orange	5957-6205	5957-6215

How to Subscribe

The subscription is Product 45530N — Series 100 Software Notification Service.

Call your local HP sales rep and ask for "Computer Products Order Processing" . . .

Condor™ is a trademark of Condor Computer Corporation.
WordStar® is a registered trademark of MicroPro International Corporation.
dBASE II™ is a trademark of Ashton-Tate.
MicroPlan™ is a trademark of Chang Laboratories, Inc.
VisiCalc® is a registered trademark of VisiCorp.

Introducing the HP 82906A Printer

The HP 82906A is a new low-cost general purpose printer for personal computers. This dot-matrix impact printer features a maximum print speed of 160 characters per second, and has a long list of features which make it an exceptionally versatile printer. The HP 82906A fits between the low-priced HP 82905B and the heavy-duty HP 2631B.

A few of the favorite features of the HP 82906A are:

- High speed (160 cps) for faster throughput
- Friction feed for single sheet paper
- HP standard raster graphics
- Six different character spacings
- Nine different line spacings
- Four levels of boldness
- Superscripts and subscripts
- Proportional spacing
- Automatic underline
- User-definable characters (or 2K print buffer).

The HP 82906A is available with HP-IB interface only, in four voltage options:

- Option 001, 100 Volts
- Option 002, 120 Volts
- Option 003, 220 Volts
- Option 004, 240 Volts

The HP 82906A is recommended for applications which require fewer than 40 pages per day on average. For high volume applications, consider a heavy duty printer from Vancouver Division. If the extra speed and features of the HP 82906A are not required, the HP 82905B is a more economical alternative. And if typewriter-like quality is essential, choose the HP 2601A or 2602A printers. But if you are looking for a printer which combines high speed, multi-application versatility, and a reasonable price, look into the new HP 82906A.

For a complete description of features, contact your HP sales rep.



New Internal HP-IB Cable

The product number (45529A) for the internal HP-IB cable inside the pod-based HP 250 systems (45260A) is in the process of being changed. The two reasons for this change are discussed below.

First, there seemed to be great difficulty in ordering and billing a replacement for the old cable. Problems were encountered whether it was ordered using its part number (8120-1833) or through a completely different product number (10631A).

The second reason for the change was to improve the system's immunity to electro-static discharge. The new cable will be double-shielded as opposed to the old cable's single-shield design.

Until the new product number has been established, all orders for a new internal HP-IB cable in the HP 250 should be made using the product number 31389A. This cable can be ordered from the Computer Supplies Operation with no difficulty at all. Please reflect this change on any documents referencing the old product number. For more information, contact your local HP sales rep.

Additional HP 250 OEM Products Available

The current issue of the *OEM Capabilities Guide* inadvertently omitted two HP 250 products offered by Mini Computer Software Specialists, Inc. (MCSS), of Milwaukee, WI. These products are offered in addition to the two MCSS products already listed in the *OEM Capabilities Guide*, the Materials & Order Management System and the Service Call System. The omitted products are:

Commercial/Public Utility Billing System

This product simplifies the entry of meter readings, speeds the calculation and printing of bills, and streamlines the accounting of cash receipts. Features include a user defined billing cycle, rate/step tables, fixed fees, and receivables/cash tracking. MCSS will customize this product to meet a particular user's needs.

Maintenance Agreement/Work Ticket System

This system tracks and controls service/maintenance agreements, including preventative maintenance. Inventory control, billing, and accounts receivable functions are included. Features include a wide range of immediate 'on screen' information retrievals, as well as standard and user-defined reports.

Both of these products are available on all HP 250 models and require a 64Kb partition of memory. For pricing information, please contact Larry Lanx, Director of Marketing, at MCSS 414-774-6277.

Lower Availability for HP 250 Products and Systems

HP's Computer Systems Division is now offering all HP 250 products and systems with a maximum availability of six weeks. In most cases, products and systems can be shipped four weeks after receipt of an order.

If you already have an order placed and would like an earlier ship date or if you have any questions about the availability of specific HP 250 products or systems for new orders, please call your HP sales rep.

HP 250 International Users Group

Last February, an HP 250 Users Club was organized in the Netherlands. This user's club currently has 25 active members, but membership is expected to double in the near future. Ideally, we would like to expand this charter and include other interested European HP 250 users as well.

Before this can happen, we first need to determine what level of interest exists among other European HP 250 users:

- Do you feel that there is a need for an HP 250 Users Club in your country?
- Do you believe that establishing a library and organizing meetings on a regular basis are important?
- Do you believe that an HP 250 informational exchange will benefit you and your customers?

- Do you believe that offering a forum for HP 250 Users and their OEMs will aid HP's image?

If you can answer "YES" to three or more of the above questions, and would like to see an HP 250 International Users Group become a reality, please contact:

John Overdorp
Beatrixlaan 24
1735 HH 'T Veld
Netherlands
Telephone: 31-2990-31171,
Extension 15

If you have any ideas or suggestions to share with other HP 250 OEMs, send them to:

Thomas Lang, BGD
Hewlett-Packard GMBH
Post Fach 1430
D-7030 Boeblingen
West Germany





How can you develop one system and offer your customers a choice of three?

Develop it around HP's new three-in-one microsystem.

Now you can develop one system and offer your customers a choice of three. The HP 1000 A-Series microsystem is designed to be used in three different configurations. It can be used as a stand-alone system, as a host for other HP 1000 processors, or as a host for other microcomputers. This flexibility allows you to develop one system that can be used in a wide variety of applications. The HP 1000 A-Series microsystem is the most powerful and flexible microsystem ever developed. It is the only microsystem that can be used in three different configurations. This flexibility allows you to develop one system that can be used in a wide variety of applications. The HP 1000 A-Series microsystem is the most powerful and flexible microsystem ever developed. It is the only microsystem that can be used in three different configurations. This flexibility allows you to develop one system that can be used in a wide variety of applications.



Ad Introduces Three-In-One HP 1000

The latest in a long series of HP 1000 ads to OEMs and system designers, this new ad on the A-Series microsystem is intended to continue building preference for HP's powerful and flexible A-Series Family. The ad focuses on the compact microsystem package with 3 levels of power.

Introducing CONTROL/1000

CONTROL/1000 refers to both a hardware configuration and a software package designed to bring the power of the HP 1000 A-Series processors to factory and plant automation.

To achieve this, we took the HP 2250 measurement and control capabilities and combined them with the A600 microcomputer, RTE-A, and DS/1000-IV to give our customers true computer processing and networking capability in their process or machine control application. The previous L-Series

CPU with its MCL/50 compiler is replaced with the A-Series machine and RTE-A. The HP-IB 2250 link to a host computer is functionally replaced with DS/1000-IV hardware and software. Initially, we will only offer the DS node version of CONTROL/1000 as a supported system (a host is necessary). CONTROL/1000 brings the following benefits to measurement and control applications:

High level languages for process control such as FORTRAN 77 or Pascal. Now your customers can write their process control programs in the high level languages of FORTRAN 77 and Pascal and run them on the A600. With CONTROL/1000, we've taken some of the best features from MCL/50, the HP 2250 measurement and control language. We've converted the MCL/50 I/O statements to subroutines capable of being called from high level languages running on the A600. Now, program control, computation, and data manipulation can be performed using the high level language, but measurement and control card I/O calls still retain the user friendliness of MCL/50. For

customers needing maximum speed, we've created a mode which allows the user to talk directly to the M&E cards without the overhead of these calls.

All the benefits of the Real-time Executive operating system such as true multi-tasking and high level languages. Up until now a user of the HP 2250 that used an HP 1000 as a host had to deal with MCL/50 and RTE. Now we've eliminated MCL/50 and replaced it with easier-to-use subroutines which users can call from application programs. They need never know that they're using anything other than a high level language. Multiple tasks can be run as background programs in the CONTROL/1000 A600 processor, while at the same time the processor is running the primary automation application program.

A large memory space of 512Kb. This provides a substantial increase in ease of writing application programs once the unit is up and running. Customers can now write their application programs without worrying about constant segment passing to the HP 2250 because of lack of memory. For those number

crunching intensive processes, the user no longer has to pass the data to the host — the A600 can do it in real-time, in the HP 2250.

True networking performance. Now process control or machine control computers can benefit from all the features of the DS/1000-IV network. This can be used to pass information to the right people at the right time, including everything from maintenance information to process efficiency data. Imagine what this can do for your customer's productivity.

CONTROL/1000 components and software will be available 12 weeks ARO. For more information, contact your HP sales rep.



A-Series Diagnostics Enhancements

There have been many changes over the past few months regarding the A/L-Series diagnostics. The first, which was announced on the A.83 PCO, was the updating of the 24612A System Diagnostics and 24613A Measurement and Control Diagnostics for the A-Series so they could be used on the L-Series.

On the HP Price List, there are more additions and changes. First, the 24613A product has been added into the 24612A product, combining the diagnostics into one package. Consequently, the price of the 24612A Diagnostics has been increased to include the measurement and control diagnostics value. The purpose of this combination is to increase the ease of ordering and the use of diagnostics. The fewer products and options there are, the less the confusion.

Additionally, there are two new media options for the 24612A Diagnostics: 1600 bpi mag tape (Option 051) and 3½" microfloppy (Option 044). This will provide support for the Micro/1000 products as well as the stand-alone 3½" microfloppy products.

RTE-4B Primary Will Not Run on 128Kb Systems

Any new RTE-4B systems sold after the C.83 PCO, coming up this Fall, must have at least 256Kb of memory to run the primary system which will be provided with it. This decision was made in lieu of removing DS or some other capability from the primary system. We will still ship systems with 128Kb of memory, however the customer must already have a development system with more memory to develop a system for the 128Kb system.

Mature Phase for SIGNAL/1000

The status of SIGNAL/1000 has been changed from active to mature. SIGNAL/1000 (92835) is a signal processing package for F-Series systems operating under RTE-6/VM or RTE/IVB. The change in status reflects the fact that no future enhancements are planned for SIGNAL/1000.

DS/BISYNC Firmware Changes for HP 1000

The DS/BSC firmware has been modified and the part numbers of the two EPROMs have been changed from 91750-80010 and 91750-80011 to 91750-80012 and 91750-80013, respectively. These changes have been made in concert with DS software changes, and together should correct problems seen with DS 1000 to 3000 communication. These EPROMs are currently used on the following PSI products:

M/E/F-Series	A/L-Series
12793B	12073A
12834A	12082A

Even though the new firmware is completely backward-compatible with old software, the system must use new software to capitalize upon the changes in the new firmware. Customers purchasing the firmware update options on the DS software subscription service will receive the new EPROMs and manual update (at no extra cost).

Customers not currently using this update service are encouraged to sign up immediately.

As an alternative, customers can buy the firmware update option (Opt. 001) of any of the above products. Opt. 001 includes both manuals and EPROMs. Customers ordering the EPROMs from CPC will not receive any updated documentation.

"New Frontiers" for HP Technical Computer Users

Have you been telling your customers about the up-and-coming Technical International Users Group Conference? From October 18 - 21, the IUG will meet in Fort Worth, Texas, for their sixth international conference. Within these four days, delegates will discuss professional tips, tricks and techniques to enhance higher system performance.

At the Fort Worth conference, delegates will deliver technical papers on topics such as computation, instrumentation, systems software, data communications, and operations.

Hewlett-Packard personnel will be presenting papers on such subjects as DS/1000; RTE & VC; HPSketch, A new Presentation Graphics; Virtual Memory for RTE-VI and implementation; Making the HP 1000 A900; Control/1000 — A Software Tool for Measurement and Control Applications; and MAC/1000 — Measurement and Control optimized for cost effectiveness and productivity, just to name a few of the titles. One of the conferences' most popular sessions is a question-and-answer forum at which HP managers respond to delegates' questions on product services and development. Additionally, a vendor exhibit will run throughout the conference. HP has three of those booths.

Opening to the theme of "New Frontiers," the HP Technical International Users Group 1983 International Conference promises to be the best conference ever. Set in the heart of one of the "Old Frontiers" legendary cities, the 1983 Conference will be held at the Hyatt Regency Hotel, Ft. Worth, Texas. It's an event you and your customers don't want to miss.

For further information regarding the conference, contact the Conference Manager, HP Technical International Users Group, 289 South San Antonio Road, Los Altos, California 94022. Telephone: 415-941-1943. Or contact Chris Carney, Technical IUG Liaison, Hewlett-Packard, telephone: 408-257-7000.



Absolute Minimum and Maximum Configuration Settings

You may have tried to look up the min-max configuration values for the HP 3000 and found that they weren't in the manuals. The table accompanying this article lists the configurator questions during SYSDUMP and gives minimum and maximum values that can be configured.

Absolute Minimum and Maximum Configuration Settings

CONFIGURATOR QUESTION	UNIT OF MEASURE	MINIMUM ALLOWED	MAXIMUM ALLOWED
MAX # OF OPEN SPOOLFILES*XXX.?	---	0	256-N ¹
CST*XXX.?	ENTRIES	128*	192
EXTENDED CST*XXXX.?	ENTRIES	32*	8191
DST*XXXX.?	ENTRIES	128*	1024
PCB*XXX.?	ENTRIES	24*	256
DISC REQUEST TABLE*XXX.?	ENTRIES	32	256
I/O QUEUE*XXX.?	ENTRIES	20	256 ²
TERMINAL BUFFERS*XXX.?	BUFFERS	32	256 ³
SYSTEM BUFFERS*XXX.?	BUFFERS	8	256
SWAP TABLE*XXX.?	ENTRIES	128	2048
PRIMARY MESSAGE TABLE*XXX.?	WORDS	10	255
SPECIAL REQUEST TABLE*XXX.?	WORDS	10	255
ICS*XXX.?	WORDS	128*	1024
UCOP REQUEST QUEUE*XXX.?	ENTRIES	1*	256
TIMER REQUEST LIST*XXX.?	---	1*	128
BREAKPOINT TABLE*XXX.?	ENTRIES	4	1024
MAX # OF USER LOGGING PROCESSES	PROCESS	2	64
MAX # OF USERS PER PROCESS		1	128
# OF RINS*YYY	---	5	1024
# OF GLOBAL RINS USED=0. MAX*XXXX.?	---	0	1024
# OF SECONDS TO LOGON*XXX.?	SECONDS	10	600
MAX # OF CONCURRENT SESSIONS*XXX.?	SESSIONS	1	96
MAX # OF CONCURRENT RUNNING JOBS*XXX.?	JOBS	1	30
DEFAULT JOB CPU TIME LIMIT*XXXXX.?	---	0	32767
LOG FILE RECORD SIZE (SECTORS)*X.?	SECTORS	1	8
LOG FILE SIZE (RECORDS)*XXXXX.?	---	16	32767
VIRTUAL MEMORY*XXXXX.?	SECTORS	1024	4
DIRECTORY USED*XXX. MIN*384 MAX*XXXX.?	SECTORS	384	6000
MSX # SPOOLFILES KILOSECTORS*XXXXXX.?	KILO-SECTORS	0	262143
#SECTORS PER SPOOLFILE EXTENT*XXXX.?	SECTORS	128	(%777777D) ⁵
MAX CODED SEGMENT SIZE*XXXXX.?	WORDS	8000*	16384
MAX STACK SIZE*XXXXX.?	WORDS	1200*	31232
MAX EXTRA DATA SEG SIZE*XXXXX.?	WORDS	0	32767
MAX # OF CODE SEGMENTS/PROCESS*XXX.?	---	0*	63
MAX # EXTRA DATA SEGMENTS/PROCESS*XXX.?	---	0	255
STD STACK SIZE*XXXX.?	WORDS	1200	4096

*MPE, subsystems, and utilities may require values larger than these absolute minimum values to function.

Notes for table:

1. N = Number of configured devices.
2. The values in the I/O queue are based on installations supporting one spooled line printer and one spooled card reader. If your installation is different, add or subtract 15 for each spooled output device and 10 for each spooled input device. However, the absolute minimum recommended is 20 regardless of configuration.
3. Values should be based on 6 times the number of concurrent active terminal users anticipated for the system.
4. Maximum value allowed is approximately 65,535 sectors plus the total number of sectors in all discs except LDEV1.
5. "SPOOLFILE kilosectors" is dependent on disc configuration (number of discs and size of discs) and planned spooling load.
6. The maximum size of a spoolfile is 32 times the number of sectors per extent. Choose the number of sectors per extent according to the size of your largest anticipated spoolfile. 384 is adequate for most applications.

Note: Each sector contains 128 words (256 bytes).

LAN 9000: HP's Entry into High-Performance Local Networking

July 1 marked the introduction of a substantial product achievement, HP LAN 9000. Representing the culmination of an enormous R&D effort compressed into approximately a 12-month period, LAN 9000 provides high-performance local area networking of HP-UX based HP 9000 Series 500/600/700 computers via an Ethernet-compatible 10Mbps link. LAN 9000 is transparent to its users and provides multi-user, multi-service, multi-connection capability.

The Series 500/600/700 is connected to the LAN Unit through a dedicated HP-IB interface. The LAN Unit is then connected to the 10Mbps Ethernet coax by way of a transceiver cable and transceiver that taps directly into the Ethernet coax. The LAN Unit is microprocessor based and is downloaded from the host HP 9000 with networking link software, which in turn allows the Series 500/600/700 to connect to the local network. (A compatible LAN I/O card currently under development will replace the HP-IB and LAN Unit in 1984.) The host resident networking software provides a full complement of services:

- Remote File Access (RFA) allows access to directories, data files, special files, and peripherals across the network
- Network File Transfer (NFT) lets the user transfer files within the network
- Remote Process Management (RPM) provides the capability of starting or stopping processes on systems throughout the network
- Interprocess Communication (IPC) is a means by which simultaneously running processes can communicate

With LAN 9000, Hewlett-Packard provides a complete networking solution, with a user interface prepared such that little data communications knowledge is needed to obtain all the networking benefits. Compare this with the numerous vendors that provide the hardware connection only, leaving the networking software for the user to write, and the advantages are obvious. Additionally, this solution is complete with a user executable diagnostic that provides both single node verification as well as loop back testing of other nodes, all of which can be conducted without disruption of activities on other systems on the network.

The networking software is substantial, unlike that of some competitors, in both features and implementation. The networking code physically measures in excess of 200Kb, and has been prepared in a layered approach following the ISO Open Systems Interconnect model. The transport implementation follows the US Government

standard ARPA specification, though it has not yet been verified for total compatibility.

This provides reliable end-to-end communication through creation of a virtual circuit connection, and allows the multiplexing of both services and users. Also, this networking software is designed around an architecture that is easily expandable and will provide a natural path to future protocols and capabilities such as internetting (access to other local networks). Finally, this LAN 9000 software will be valid for future solutions, as it provides a foundation for compatible communication with the HP 1000, HP 3000, and Series 210 (HP-UX based Series 200).

Performance characterization of LAN 9000 is not yet complete, but initial indications are that our file transfer capability is highly competitive.

Ordering information*

Product Name/No.	Description
LAN 9000/ HP 2285A	LAN 9000 Software, HP-IB interface with 2m cable, 15m transceiver cable, transceiver and N-Type connectors, and manuals.
Opt. 001	Delete HP-IB
Opt. 015	230V 50Hz operation
Opt. 022	CS-80 Disc compatible cartridge tape (MUST SPECIFY Distribution media)

Note: As a consideration in configuring systems for LAN 9000, one-half Mbyte of RAM should be dedicated to network operation.

* Order product HP 2285A from Roseville Networks Division (Div. 52). More in-depth pricing and configuration information is presented in the appropriate HP 9000 sales literature.

For more information, contact your HP sales rep. 

HP Series 200 BASIC with Extensions in ROM Available

It is now possible to order HP Series 200 BASIC with Extensions in ROM. The HP 98602A BASIC ROM system is the ideal tool where the environment is not suitable for disc system operation, or for HP 9816 systems, in which slot limitations can limit your ability to load in the BASIC Extensions. The HP 98602A ROM board contains the BASIC 2.0 system, as well as the Advanced Programming, Graphics, and SRM code. The SRM AP, XREF command, and BCD card drivers are provided on a separate disc, as the ROM board does not have the space to hold this code.

The BASIC ROM system is comparably priced to a similarly configured RAM-based system plus the required RAM.

For customers who have BASIC 2.0 in ROM, there is an upgrade kit that will allow them to add 2.1 Extensions. This kit is provided as an

exchange assembly purchased at CPC/PCE. The upgrade kit will provide the board as well as all manuals and discs to make the upgrade fully equivalent to the HP 98602A. The 98602A requires that the BASIC 2.0 ROM board be returned when your upgrade kit is received. It is available in three media options that provide the proper disc media for the utilities and code provided.

The part numbers for the HP 98601A-to-98602A upgrade kits are:

P/N	Description
98602-69630	Upgrade with media supplied on 3½-inch media
98602-69650	Upgrade with media supplied on 5¼-inch external media
98602-69660	Upgrade with media supplied on 5¼-inch internal media

People interested in using this card should be familiar with the Pascal Workstation, and should have read the Pascal 2.0 System Designer's Guide, P/N 09826-90074. Since the card is accessible only through the Pascal Workstation (including Assembly Language), the CSUB Utilities, P/N 09800-10x40*, provides BASIC Language access to the Pascal or Assembly routines.

The breadboard card, the System Designer's Guide, and the CSUB Utilities will appeal to the expert programmer. Casual programmers will find these tools difficult to use.

Ordering information

HP P/N	Description
98630A	Breadboard card
Opt. 001	Backplane extender card
09826-90074	Pascal 2.0 System Designer's Guide
09800-10x40*	CSUB Utilities

- * The X indicates the media size:
 3 for use in 3½" external flexible disc drives
 5 for use in 5¼" external flexible disc drives
 6 for use in 5¼" internal flexible disc drives.

HP Series 200 Model 20 Beep Available

A beep capability was one of the required features on the HP Model 20. It is now available. An audio signal has been added to the HP 9920 by a recent production change. This signal enables the speaker in the HP 82912A/13A to beep. The HP 9910A/S will include an additional cable for it.

This will be a very helpful feature as an audio alarm in production test and other applications.

Shipments of the HP 9920 with the beep feature started last month in the US.

HP Series 200 Breadboard Card Available

The HP 98630A Breadboard Card is available for customized prototypes of interfaces and memory type cards that plug into the Series 200 backplane. The card provides 15 square inches of circuit layout area with plated-through holes. An extender card that allows the breadboard card to extend outside the back of the computer is available as Option 001. This is useful for troubleshooting the card in operation.

Large Keyboard Available for HP Series 200 Models 16/20

A large keyboard for the HP 9816A/S and HP 9920S is now available. Now your customer can choose the original small-footprint keyboard (HP 98203A) or the large, full-function keyboard (HP 98203B), which features the exact layout of the Model 26/36 keyboard, complete with numeric pad. The new keyboard also provides an integrated palm rest, for typing comfort and to meet ergonomic standards.

The keyboard is available as an option to the HP 9816A/S and HP 9920S. The option structure is:

Language	Small Opt.	Large Opt.
ASCII	none	N/A
French	810	815
Spanish	820	825
German	830	835
Katakana	840	845
Swed/Finn	850	855

The small keyboard options are unchanged. Also, if you specify no keyboard option, you will receive the small ASCII version.

Both the HP 98203A and HP 98203B can be ordered with the appropriate language options as follows:

Language	Option
ASCII	none
French	810
Spanish	820
German	830
Katakana	840
Swed/Finn	850

For Model 16s with serial number prefix 2230A or earlier (shipped before June), a special upgrade cable is required to use the large keyboard. For Model 16s built in Germany, the serial number prefixes are 2249G (HP 9816S) and 2251G (HP 9816A) for systems shipped before mid-July. This cable is necessary to avoid possible electrostatic problems. To substitute the upgrade cable for the standard one, you must specify Opt. 001 (no charge) on the HP 98203B. The upgrade cable is not necessary for later Model 16s or any Model 20.

HP EGS/200 Introduced

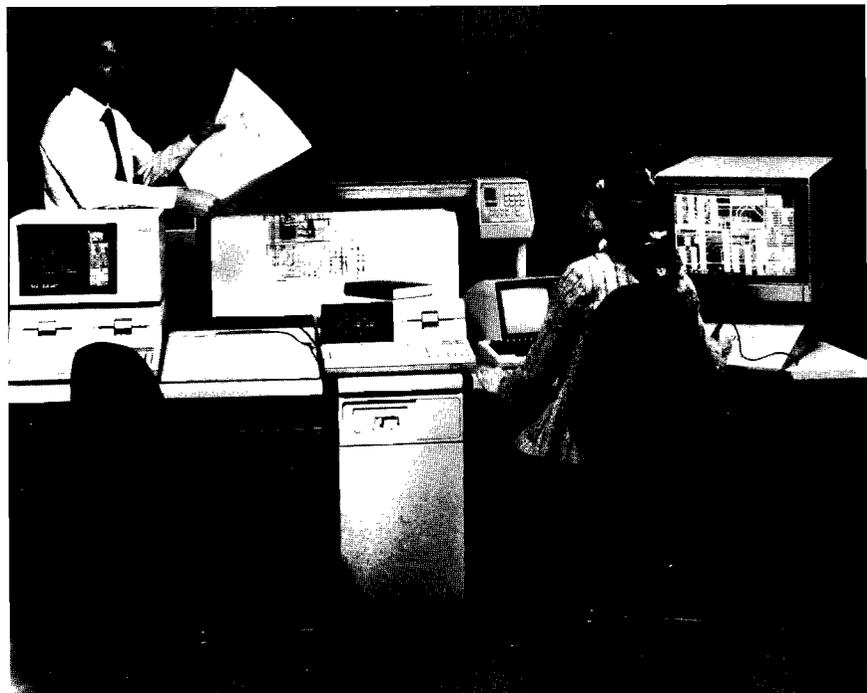
The HP Engineering Graphics System/200 (EGS/200) appeared on the July 1, 1983 HP Price List.

This product is more than just a conversion of the EGS/45 software to the Series 200 hardware. The speed and power of these computers allowed us to significantly improve EGS's price/performance; we estimate a 10-to-1 increase over

a similarly configured EGS/45 workstation. Also, a full implementation of Shared Resource Management (SRM) capabilities will allow you to configure single or multi-workstation systems that provide an excellent growth path for your customer.

While the basic features of EGS/45 were directed toward the electrical engineering market, our experience with that product showed that it had a more widespread appeal. For this reason, we have provided major enhancements for users who wish to create other kinds of technical drawings. Examples of these features are geometric construction facilities, cross-hatching, and automatic dimensioning.

Listening to inputs from users who create electrical artwork, we added the features they most frequently requested. The most important of these is the ability to generate a connection list from EGS/200 artwork, i.e., electrical schematics. Many customers need this information so they can pass it on to analysis software they are currently using or wish to use.



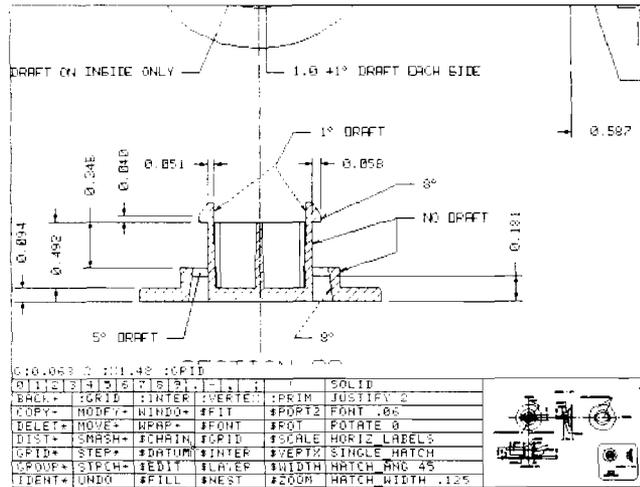
Considerable effort went into improving the EGS user interface. New capabilities include dynamic component tracking (e.g., rubber-banding), a second drawing viewpoint, fully user-definable menus, and greatly expanded macro command capabilities. These improvements make EGS/200 more powerful, and easy to learn and use.

The only EGS/45 capabilities not present in EGS/200 are the generation of photoplotter and magnetic tape output used to create PC boards. These features are not included now chiefly because the Series 200 hardware does not support a magnetic tape drive. This is a major concern; however, we decided to introduce the product now, based on our experience with EGS/45 customers. Most of these customers use the HP 7580 to produce their PC board artwork, which leads us to believe this is to be a viable alternative.

EGS/200 includes four "personalities" to help customers create technical (mechanical) drawings, schematics, PC board artwork, and general drawings. These personalities consist of tailored screen and tablet menus, macron commands, layer definitions, and parts libraries for each of these applications. The general drawing personality is of particular interest, since it is highly interactive and can be used as a learning tool to get new users up to speed quickly.

To help you sell EGS/200, we are providing three important tools:

- A demo video tape — Will allow you to make presentations to small and large groups of customers and help qualify them for further personalized demonstrations.
- Technical data sheets — Provides detailed information on EGS/200 capabilities in a high-quality format.



Screen dump of mechanical design

- The product includes a set of demo drawings and a basic set of parts. An EGS/200 Operator's Manual appendix explains the commands to call up, manipulate, and plot each of these drawings.

Typically, your customer will initially be interested in buying a single workstation. A minimum system includes a Series 200 computer with 1.4Mb of memory, the Pascal operating system, an HP 9111A Graphics Tablet, an HP 913XB Winchester Disc, and an HP 7580B Plotter. You'll find that as your customers learn about the SRM system's capabilities, they will convince themselves that they need more workstations.

Incidentally, each of the two EGS/200 beta test sites bought three new EGS/200 workstations and an SRM in their initial installations.

EGS/200 is configured as a single software product. An HP 98305M

Volume End User Right-to-Copy product and a HP 98305R OEM Right-to-Copy product have been configured to provide additional discounts for multi-workstation purchasers. Important note: EGS/200 will use the ID PROM in the Series 200 hardware for software security. Consequently, the right-to-use (or copy) products are limited to an individual machine. We will provide you with more information soon on how this security system will be implemented. The important point to know now, however, is that EGS/200 will not be compatible with Series 200 hardware that lacks ID PROM hardware.

If your customers react to EGS/200 in the same way as those who have visited the factory, you should be very successful in selling this new product.

For more information on EGS/200, contact your HP sales rep. 

New Improved Features on HP 307X Data Capture Terminals

What's to become of the HP 307X Data Capture Terminals? You may think that with the advent of the HP 3081A, these pioneers in data capture will be obsoleted. Just the opposite is true!

A major HP 307X enhancement program has been underway in Grenoble. The rationale behind this program is that a large sector of the data capture market requires the special peripheral capabilities provided by these faithful veterans. Many of our customers still use 80-column punched cards and magnetic stripe cards, for example, and we are not going to abandon them. Moreover, optional electrical interfaces are available with the HP 3075/76 model.

The following enhancements have been made and will be delivered with incoming orders:

- **New Printer**
 - Twice as fast
 - Easy maintenance
- **New bar code readers**
 - Super decoding algorithm dramatically improves hit rate
 - New light wavelength more tolerant of worn out labels
 - Wider reading angle makes wandung easier
- **New adjustable beep**
 - Loud beep can be heard in noisy factories
- **New multifunction reader**
 - Improved mechanism
 - Superior performance
- **New cooling mechanism**
 - Reduces internal temperature by 10°C (18°F) resulting in longer component life. 

Two Ways to Add Quality Graphics to Your System

There's a revolution underway in hardcopy graphics devices for the OEM. It began with the HP 7470 two-pen plotter which provided your systems with high quality, affordable graphics. The competition responded with lower prices, but not with the combination of quality and price offered by HP.

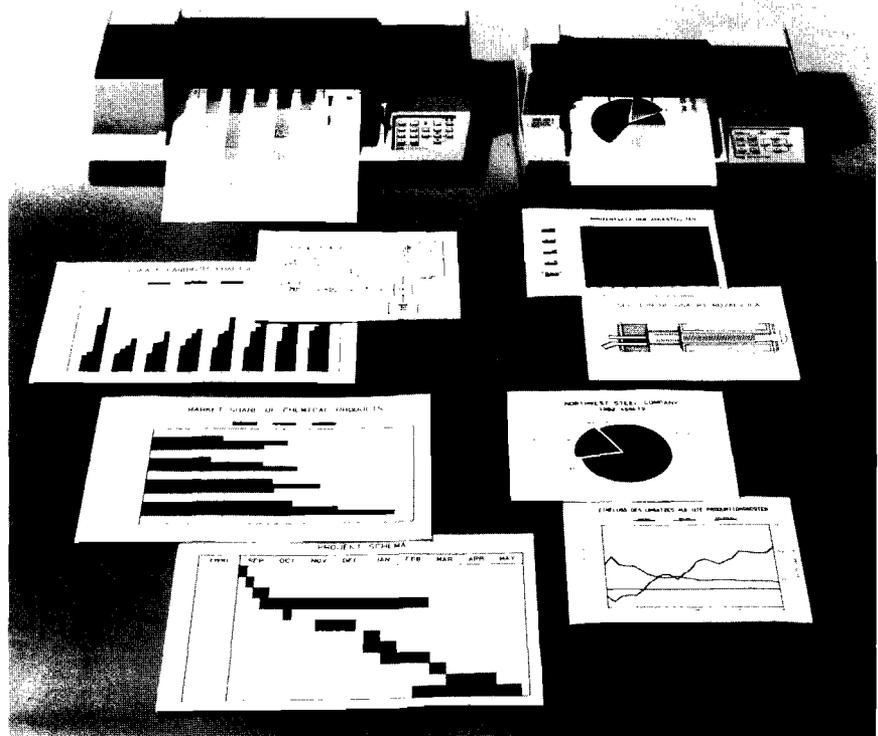
Now HP is expanding that revolution with two moves which will provide you with even better price/performance combinations. We're introducing a new low-price, six-pen plotter and reducing the price on the popular HP 7470A by 30 percent!

The new product is the six-pen, 11 x 17-inch and 8½ x 11-inch (A4/A and A3/B sizes) HP 7475A graphics plotter. Any way you look at the HP 7475A, it stands out as an OEM price/performance leader. Compared with competing plotters in the same price range, it offers much more: versatility, plot quality, product quality, product reliability, and support. And compared with high-priced competitors, the HP 7475A provides performance equal to those priced up to three times higher.

With this double offering, you can give your customers a choice of affordable graphics solutions.

HP 7475A Adds New Capability

Although the new HP 7475A is similar to the HP 7470A in appearance and performance, we've added several features that enhance its versatility:



Multiple character sets add to the worldwide appeal of the HP 7475A (left) and the HP 7470A (right).

Features	HP 7475A	HP 7470A
Media sizes	Two ANSI sizes: A (8½ x 11") and B (11 x 17") Two ISO sizes: A4 (210 x 297mm) and A3 (297 x 420mm)	One ANSI size: A (8½ x 11") One ISO size: A4 (210 x 297mm)
Pens	Six; programmable pen selection and automatic pen capping	Two; programmable pen selection and automatic pen capping
HP-GL instructions	More than 50 instructions	More than 40 instructions
Character sets	19 sets, including ISO European standards and Katakana	Five sets
Standard interfaces	HP-IB (IEEE 488-1978) or RS-232-C (CCITT V.24) Each plotter incorporates one permanent interface option.	HP-IB (IEEE 488-1978) or RS-232-C (CCITT V.24) HP-IL Each plotter incorporates one permanent interface option.
Technology	Both plotters use the same micro-grip drive for paper movement. Both plotters have the same high resolution, repeatability and velocity.	

- The 6-pen carousel gives users a wider choice of colors and line widths without requiring manual pen changes.
- The choice of two media sizes adds to a user's format flexibility.
- An HP-GL area fill command simplifies programming for solid fill areas in rectangles and wedges.
- Nineteen built-in character sets (including Katakana) make the HP 7475A a truly "universal" plotter.

The table here summarizes some of the features of the HP 7470A and HP 7475A graphics plotters.

Ask your HP sales representative for the 12-page brochure on these plotters. And ask for a demonstration. You can make graphics part of your competitive edge!

Manual Available for HP-GL Plotter Language

HP-GL, the Hewlett-Packard Graphics Language is the standard instruction set used by HP plotters (except the HP 7221 series which uses compacted binary). HP-GL commands consist of two-letter mnemonic instructions such as "PD" for "pen down" and "SP1" for "select pen 1." In total, there are about 70 different HP-GL instructions that allow users to control HP plotters and create graphs. Although there is much similarity among HP-GL instructions used by different plotters, there are also minor differences which can be important to programmers.

Because of these differences, we wrote the Programmer's Reference Manual for HP's Family of HP-GL Plotters. The manual compares HP-GL instructions for each plotter. Areas covered include coordinate system boundaries, power-up defaults, HP-GL syntax, and character set definitions.

Contact your HP sales rep for a copy; ask for P/N 5953-4161. If you have a copy now, you can get an update for the new HP 7475A plotter by contacting:

Pat Toth
 Hewlett-Packard
 San Diego Division
 16399 West Bernardo Drive
 San Diego, CA 92127
 619-487-4100, ext. 4947

Plotter Note Explains Accuracy

When we introduced the HP 7580B and HP 7585B drafting plotters early this year, we specified the endpoint accuracy of these machines for the first time. Because there is no industry-wide standard for measuring accuracy, we wrote a Plotter Note that explains what our specification means. This 12-page Note tells how to interpret the specification for actual drawings and gives tips for obtaining accurate results.

Request a copy of Plotter note No. 8 (P/N (11) 5953-4163) from your sales rep. It will help you decide if the accuracy of the HP 7580B and HP 7585B meets your requirements.



New HP 17623A Graphics Tablet May Require Terminal Upgrade, Lower Baud Rate

The new HP 17623A Graphics Tablet introduced on February 1, 1983, offers customers a convenient, low-cost workstation tablet for menu selection and digitizing needs. The tablet is designed for use with the HP 2627A Color Terminal and is fully supported on a number of HP systems and software products. Shipments of the new tablet began in early April.

There are two important things to note regarding the tablet operation:

■ A Firmware Upgrade is Required for all HP 2623A/P Terminals

A terminal upgrade is required to enable use of the tablet on all HP 2623A/P Terminals. Although the HP 2623A/P Terminal is listed in the configuration guide and is mentioned in the product data sheet, the present terminal firmware does not include the tablet control commands. In addition, terminals which do not have the optional thermal printer do not have sufficient power to operate the tablet and will require a power supply upgrade. Contact your HP sales rep for upgrade kit price and availability.

■ Improper, Spurious Data Points May Be Observed in Certain Operating Modes

When operating the HP 17623A Tablet in continuous digitizing mode such as when curve tracing, or at high stylus movement speeds in contact with the tablet surface, spurious data points may be observed. There are two causes for these spurious points. One is simply a build-up of a static charge on the surface of the tablet. CUSTOMERS SHOULD BE ADVISED TO USE THE

POLYESTER (MYLAR) OVERLAY SUPPLIED WITH THE TABLET AT ALL TIMES. This will greatly reduce any tendency for the static charge to develop, as well as protect any menu or document used on the tablet surface.

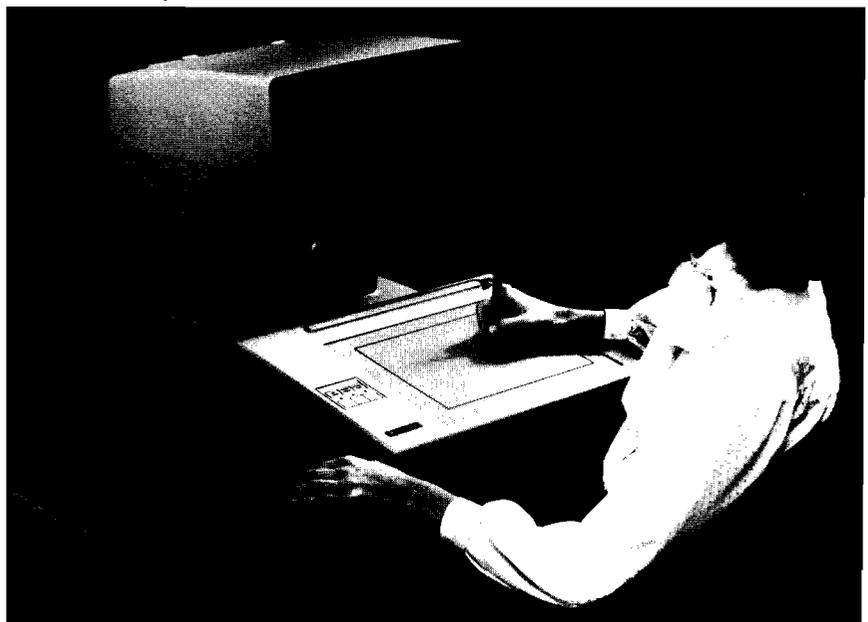
A second cause for spurious data results from timing problems within the terminal's firmware and requires a set of specific and unusual operating conditions in order to duplicate the problem.

- IF — the HP 2627A Terminal is operating in a continuous line drawing mode (e.g. the escape sequence command 'ESC* p c/C- -' is continuously sent to the terminal;
- AND — the baud rate is 9600 baud, or in some cases, 4800 baud;
- AND — the terminal is configured for a 60Hz screen refresh rate;
- THEN — an incorrect data point, usually appearing as a shift in the horizontal position on the display, may be observed.

This error occurs because of a firmware timing problem within the HP 2627A Terminal. In most installations, the problem will not occur because the necessary conditions are unusual. There are no firmware updates available at this time to eliminate the problem, but a number of work-arounds may be used.

- Under most circumstances, system activity from other users will provide sufficient delay in the operation of the terminal to prohibit occurrence. For user-written programs with GRAPHICS/1000 or GRAPHICS/9000 DGL/AGP-3, providing a 5-millisecond delay between each escape sequence command sent to the terminal will eliminate the problem.
- Operate the terminal at 2400 baud. In some cases, 4800 baud will be sufficient.
- Operate the terminal with the screen refresh rate of 50Hz. This is controlled by a terminal configuration key sequence and is independent of power-line frequency.

Please note that San Diego Division will not accept warranty charges



for service calls for either of these problems as there is nothing that can be done to the tablet or terminal to correct them at this time. Whenever customers request service on the HP 17623A Tablet because of occasional erroneous data points or intermittent operation, you should first be sure the customer is using the polyester overlay provided with the tablet, and then ask him to run the terminal selftests activated from the keyboard and the tablet-user interactive selftest activated by a switch on the tablet control module. If both tests pass, recommend one, or more, of the work-around procedures above. If the selftests fail, service to the tablet and/or terminal is required.

HP 7976A Configuration Newsflash

Just a reminder, the HP 7976A Tape Drive is only supported on the HP 3000 Series III and IIIR as an *add-on* drive. It cannot be purchased to replace the existing HP 7970 system tape drive.

The HP 3000 Series III and the Re-marketed Series IIIR each require an HP 7970E (1600 bpi) or HP 7970B (800 bpi) Magnetic Tape Drive. This requirement can also be satisfied with the HP 7971A option 470 or 480. The HP 7976A, however, is not allowed as the only system tape drive because CPU diagnostics cannot be loaded and memory dumps cannot be performed.

In summary, HP 3000 Series III/IIIR customers should not be allowed to trade-in their only HP 7970 tape drive for an HP 7976A. They may, however, want to purchase the HP 7976A as an add-on device. In this case it can provide an excellent solution for those customers who will benefit from its increased performance.

For more information, please refer to pages 1 - 8 and 1 - 18 in the "HP 3000 Configuration and Upgrades Guide for Series 30, 33, III and Pre-Series III systems," and pages 8 and 11 in the "HP 3000 Configuration Guide for re-marketed systems Series 30R, 33R and IIIR."

PEP Customer Successes

PEP is a firmware enhancement for the CS-80 discs which is designed to improve I/O performance. The amount of improvement depends on the user's application; however, a 15 - 20% improvement on single disc applications is typical.

The PEP firmware for the HP 7933 and HP 7935 has been released, and is now being shipped in all HP 7933s and HP 7935s.

Prior to the release of PEP, this firmware enhancement underwent extensive alpha and beta testing. The beta tests were conducted at five HP major accounts on HP 3000 Series 64s, 44s and IIIs, as well as an HP 1000F. The results to date have been very positive.

For example, one customer has reported an increase of 10 - 15 I/Os per second improvement measured with OPT/3000 on their Series 64 which has three HP 7933s. In addition, they noted that a batch operation which took nearly five hours, now takes only four — nearly a 20% improvement!

The successes don't stop there. Other Disc Memory Division beta test sites reported performance improvements ranging from 10% to 20%.

PEP has been a huge success at the beta test sites, and has made a significant contribution to their data processing needs. None of the alpha or beta sites have reported a problem which is related to PEP.

PEP for the HP 7911/12/14 was scheduled for release in June. The sales offices have been sent information on PEP; however, if you have any further questions, call your HP sales rep.

HP 1/4" Tape Cartridge Software Problems Being Resolved

The 1/4" Tape Cartridge Taskforce at Disc Memory Division has been actively collecting all your inputs on the 1/4" tape drive.

Most of the hardware and software problems have been resolved and the rest are being addressed.

The following major improvements have been implemented:

RTE-6

The 2301 release of RTE-6 operating system corrected all known software concerns associated with the 1/4" tape drive.

RTE-A

The June 1983 issue of *OEM News* contained an announcement by HP of new software for the A-Series. This system software greatly enhances backup and verify utilities.

HP 3000 Series

Q-Mit and later-released software also have made utilities much friendlier for the 1/4" tape drive users.

Disc drive firmware

The PEP firmware scheduled for release mid-summer will provide enhanced error reporting from the 1/4" tape drive.

System crashes

Through improved operator awareness, system crashes during the 1/4" cartridge tape head cleaning can be eliminated. A warning has been added to the head cleaning

swabs instructing the operator to "momentarily" press the switch to start the capstan motor. If the switch is held for more than one second, an RTE-6 system may crash.

Tape mechanisms

All tape mechanism problems have been corrected. We are still monitoring warranty and failure reports on a maintenance basis.

Media

A media problem is still under investigation and should be resolved soon.

Troubleshooting

Inputs from the CEO about the 1/4" tape cartridge being "difficult to troubleshoot" have led to the preparation of a troubleshooting guide which will be released soon.

If you have any additional concerns, please call your HP sales rep.

Dataquest: HP 2680 is Reliability Leader

Dataquest, Inc., an independent computer market research company, has recently completed a telephone survey of 30 North American HP 2680 customers. The preliminary results we have received from Dataquest indicate that the HP 2680 reliability compares very favorably with the results from three earlier non-impact printer surveys that Dataquest conducted on the Xerox 9700, IBM 3800 and Sperry Univac 0777.

At the Dataquest Electronic Printer Industry Service Conference, held in March 1983, Dataquest summarized the HP 2680 survey by saying HP had "astounded the marketplace with the reliability of the HP 2680." Listed below are some of the reliability responses quoted by Dataquest.

The Dataquest survey confirms that the HP 2680's reliability is a key selling point against other non-impact printer competition.

Dataquest Survey Results

Question:	HP 2680	IBM 3800	Xerox 9700	Sperry 0777
1) What % of uptime do you estimate you are experiencing with your ____ (excluding PM time)?	94.3%	94.5%	92.2%	78.4%
% of respondents who felt this was acceptable	93.0%	91.0%	83.0%	20.0%
2) How many unscheduled vendor maintenance events (excluding paper jams and PM) do you estimate you experience on your printer each month?	1.7	3.8	10.6	12.8
% of respondents who felt this was acceptable	83.0%	75.0%	58.0%	21.0%
3) MTBF (operating days)	27	11.7	4.2	2.8

56Kb MRJE/RJE for the HP 2685-40 Print Station

HP has completed the testing of MRJE/3000 and RJE/3000 at 56 kilobaud data transmission rate on the HP 2685 Model 40 Laser Print Station. Further, this testing has been verified in a customer installation by the SEO. The support of this configuration opens up many more opportunities for the HP 2685 as a remote printing station.

Following is a brief description of the performance, configurations, and restrictions. More detail is provided in "The 2685-40 Print Station Sales Reference Manual — Datacomm Update". Contact your sales rep if you need this information.

Performance

The throughput of one 56 kilobaud line is adequate to keep an HP 2680A busy. In some instances, two printers can be kept busy. This depends upon the mix of multiple copy output and 2-to-1 and 4-to-1 reduction. Details on this will be forthcoming in the 2685 Sales Reference Manual. At this high data rate the SPU overhead of MRJE can approach 100% with RJE close to 70%, thus it is expected that the

only application program running on the 3000/40 will be MRJE or RJE when full throughput of the datacomm line is desired.

Configuration

The supported configuration consists of an HP 2685 model 40 print station with one INP, one or two HP 2680A laser printers, any supported disc, and MRJE/3000 or RJE/3000 datacomm software. Note, full 45 page per minute throughput from both printers simultaneously depends upon the print applications. The INP communicates with the host mainframe at 56 kilobaud through either Bell DDS circuits for remote locations or DSUs (GTE) for short haul "direct connect" situations.

Future directions

Testing of other configurations such as multiple INPs on the HP 3000/64 will be occurring and future announcements will be made as soon as the additional configurations are tested and supported.

Bottom line

With 56 kilobaud now available for the HP 2685, and our aggressive second half pricing packages, the print station is an even better solution for high speed, high throughput printing applications in mainframe environments.

Maxell Flexible Disc Media Problem

We have recently seen a few problems with 5¼-inch flexible disc media. The problem is due to "sticktion" between the media and the head causing the spindle motor to stop spinning. The vendor of the HP media which causes this problem is Maxell. This problem was caught early enough in our factory testing to have minimal impact in the field. Purchases of HP media supplied by Maxell have been stopped until the problem is corrected.

The problem could occur, however, if a customer uses off-the-shelf Maxell media. Switching to either HP media or another qualified media will solve the problem.



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FRANKFURT (REGION HQ)
HPGR 8300

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