

COMPUTER SYSTEMS NEWSLETTER

For HP Field Sales Personnel

HEWLETT  PACKARD**Vol. 4, No. 8**
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BOISE DIVISION NEWS

Division News

HP 2630 Family Intensive Training

By: Mary McNally/Boise

Boise Division would like to announce a new series of intensive printer/terminal training classes. The classes are scheduled after DTD training, and will run from Monday through Wednesday. Classes have been scheduled for March 19, April 30, and June 11.

The objective of the course is to provide an in-depth, working knowledge of the HP 2630 family of printers and terminals. The presentations will cover such topics as:

1. General characteristics of the HP 2630 family.
2. Unique features such as graphics, high density print, and extended interfacing.
3. Datacommunications. This will include both a primer and specific issues on HP 2630 family interfacing.
4. The extended serial interface in the 2639A.
5. Sales Applications and Competition.

Each of the major topics will have an associated lab and product demonstration. The objective of the course is to provide a hardware/hands-on orientation of the 2630 Family to the student. The course will focus primarily on information necessary to use and demonstrate the capabilities of the 2630 Family.

Product News

The Hot 2608A

By: Gary Sherwood/Boise

As you all know the 2608A has been selling very well, as it should. This is not, however, the subject of this article. When the 2608A is used for graphics printing the situation could arise in which the display requires a lot of dots to be printed for many lines. Such would be the case, for example, if a black background were being printed. When the print hammers are being fired the core bar naturally heats up. When a lot of them are being fired continuously the core bar

could get hot. This can lead to burning up the core bar in some of our competitors' units. (They often put cautionary notes in their data sheets.)

But once again HP foresight pays off. In the 2608A there is a "too many-dots" detection circuit. This circuit prevents excessive temperatures being encountered by the printing of too many dots. This is performed by counting the number of dots per unit time and stopping printing for a short time if the preset limit is exceeded. This slows the overall graphics print rate, allowing the core bar to cool to safe limits. Voilà—no high cost repairs due to burnt core bars, or lost time due to a down printer. HP quality is real—and at a competitive price. Sell 2608A's!

Cabling for the 263X Extended Serial Interface

By: Steve Davis/Boise

Because of its flexibility, the extended serial interface allows the 2631A or the 2639A to be connected to a variety of controlling devices. Although instances will arise where your customer will need to manufacture a cable to fit his own unique application, HP cables will be suitable in many situations. The following chart shows what cable is required to install a 2631A or 2639A with extended serial interface in several specific applications.

Application	Cable
263X to 13250B Serial Printer Interface (in 264X CRT)	13232C (on 263X) 13232G (on 13250B)
263X to U.S. modem or hard-wired to HP computer system (male EIA connector on cable)	13232N (2639A Opt 102)
263X to European modem	13232M
263X to 20mA current loop interface	13232F
263X to 12531D/12880A	13232B
263X to non-HP computer requiring female EIA connector on cable	13232C

The Extended Serial Interface Reference Manual (Part No. 02639-90902) provides more detailed information about configuring the extended serial interface. The Cabling Application Brief for 2640 Series Terminals (Part No. 5952-9975) has information describing the cables.

If neither of these manuals answers your questions, your Boise Division Sales Development Engineer will be happy to help.

GOOD SELLING!

The 2608A's Are Rolling,—The Beards Are Going!

By: Steve Richardson/Boise



Soon after we introduced the 2608A, the men on the 2608A production line made a pact to not shave until we shipped 100% of our monthly shipment target.

"When we launched the crusade" according to *Tony Crespi*, production line lead and the idea man behind it, "we didn't know how long it would be until we could shave. We just knew we had to show everyone in the division that we had a commitment to make our targets as soon as possible!"

By working overtime at night and on weekends the entire team make goal this January 31st, and shipped over 40 units.



Pictured above are the men who participated. Some shaved the very first day while others are determined to keep their beards for the challenging production growth months ahead.

All the production problems have been ironed out and we are planning to significantly increase production over the next weeks to knock availability down. We have a commitment not to hold up systems shipments and are doing everything possible to meet this commitment. The fantastic sales success of the 2608A is due to you. It's now our turn to help you out and build these units as fast as you can sell them.

COMPUTER SERVICE NEWS

Division News

The Customer Engineer — Part II Or, "Do I Have To Go Back to School Again?"

By: Dick Baumann/CSD



The newly-hired Customer Engineer's training program begins the first day he or she reports to work at the HP sales office. The biggest part of this training will be the ACE (Associate Customer Engineer) Basic program . . . eleven weeks spent at the Computer Service Division training center in Cupertino or, for European CE's, at the CE training school in Grenoble, France. Usually a CE will spend at least one month in the office before traveling away to "school." During this time, he or she must complete the prerequisites for "ACE Basic" training. "Pre-study" consists of a structured orientation program (for orientation to HP, to the Region, and to the office), and a series of 24 practical exercises encompassing 21XX machine-language programming and operations; as well as running diagnostics and operating and servicing the 2645 Display Station. During the first month in the office he or she may also work with more senior CE's, assisting them on service calls or otherwise getting a small taste of life in the "real world."

Soon it's time to journey off for eleven weeks in sunny California or picturesque Grenoble. The "ACE Basic" objective is "to produce a broad-based peripherals-oriented CE capable of conducting quality preventive maintenance, backing-up and restoring our standard computer systems, and able to solve 70% to 80% of defined peripherals-related problems." On the technical side, the ACE trainee will complete lab projects in the P.M., adjustments, alignments, logical troubleshooting and repair-by-subassembly-replacement of the following products: 21XX CPU's; 2608,

2613, 2617 printers; 2631, 2635, 2645, 2648 terminals; 7900, 7902, 7905/6, 7920/5 disc drives; and 7970 B and E magnetic tape drives. This portion of ACE Basic takes approximately eight weeks. In the last three weeks the CE completes lab assignments in the back-up and restoration of the HP 250, HP 300, HP 1000 and HP 3000 systems so that he or she will feel confident when confronting the customer's system. With all the lab projects, the CE must use the appropriate field procedures and paperwork.

There's much more to the CE's job than the technical side; in fact "fixing equipment" may be less than half of the job. A lot of the job is "fixing the customer." Interspersed within the eleven weeks of training are a number of non-technical topics. Problem analysis, customer relations, effective communications, account management, and practical customer engineering are but a few. Orientation to HP and to the CE's role in the marketing team is continued. The CE learns more about "the HP-way," then gets a first-hand look at several CSG and Corporate locations. By the time this article has been published, CE's will have joined new Sales Reps and System Engineers in the revised two-day Corporate Neophyte program in Palo Alto, followed by (at least) one day with CSG Sales Reps and SE's in the CSG Overview Course.

"ACE Basic" is an arduous eleven weeks long. By the time graduation day arrives, the CE has been exposed to a staggering array of products, concepts, techniques and ideas. He or she is eager to get back home and apply all this new learning. But the learning process has only begun. The short exposure to computer systems in the last three weeks has only whetted the appetite; he or she must learn more about these! The HP people that the CE has worked with and heard from have reinforced the feeling that he or she is working for a truly first-rate organization. Other computer companies that the CE may have heard about (or even worked for) didn't have such a good technical training program. Nor did they go to such lengths to make the CE feel part of the company and part of a marketing team, nor prepare him or her for the non-technical aspects of the job.

The objective of being number one in computer service will not come easily. Recruiting the best people and challenging them right away with a complete training program are steps along the path that will help us reach the goal.

Next, "Graduate School Beckons."

DISC MEMORY NEWS

Product News

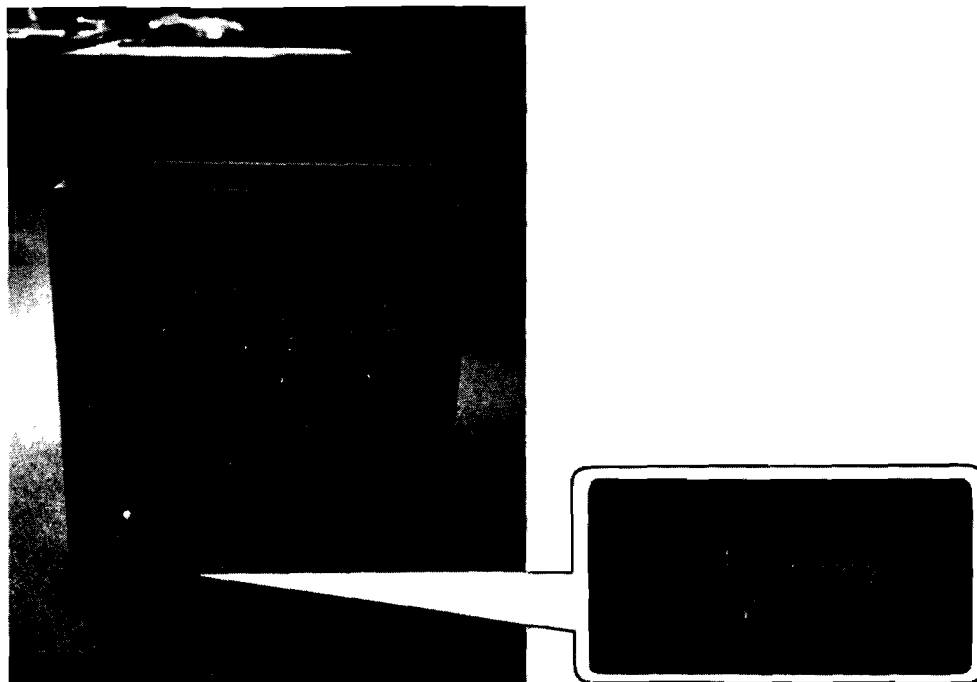
50 Mbyte Disc Drive Modification

By: Tom Steipp/DMD

In keeping with DMD's goals of providing the most advanced and cost effective mass storage devices available, a refined version of the 7920 disc drive will be shipped starting in April. Since the new version of the 7920 disc drive will retain the numerous features enjoyed by current users, these new system enhancements may not be readily apparent to your customer. The major improvement involved incorporation of existing 7925 (120 Mbyte disc drive) PCA boards into the 7920 design. The most apparent result will be an increase in the level of serviceability due to the greater number of common parts between these two discs. Use of the 7925 boards should also improve the already noteworthy reliability of the 7920 disc drive for an even greater degree of customer satisfaction.

In addition to the current UL and CSA ratings, each new 7920 disc drive has been designed to comply with the stringent VDE product safety and RFI emission standards. These disc drives have been tested for RFI emissions and licensed in conjunction with HP 300/Amigo and HP 3000 Series 33/Toothpick systems and are currently listed with the FTZ (German Post Office). VDE product safety testing will be conducted in Mid-1979.

You will be pleased to note that these features will be offered at no additional cost to the user. Since there will be no noticeable change to the Corporate Price List the only method for recognizing these drives is to note the "B" suffix on the date code indication (see photo) which will replace the present "A" suffix.



The Case of the "Mystery Disc Drive"

By: Terril Hurst/DMD

Question: What has a transparent top, is not much bigger than a briefcase, and fits in the bottom of the HP 300 cabinet?

If you sell the HP 300 (Amigo), you know the answer. Or if you've seen an Amigo mainframe with the front panel removed, perhaps you've seen this "mystery box." Well, here's what it is: the 12 megabyte fixed-disc HP 7910 disc drive!

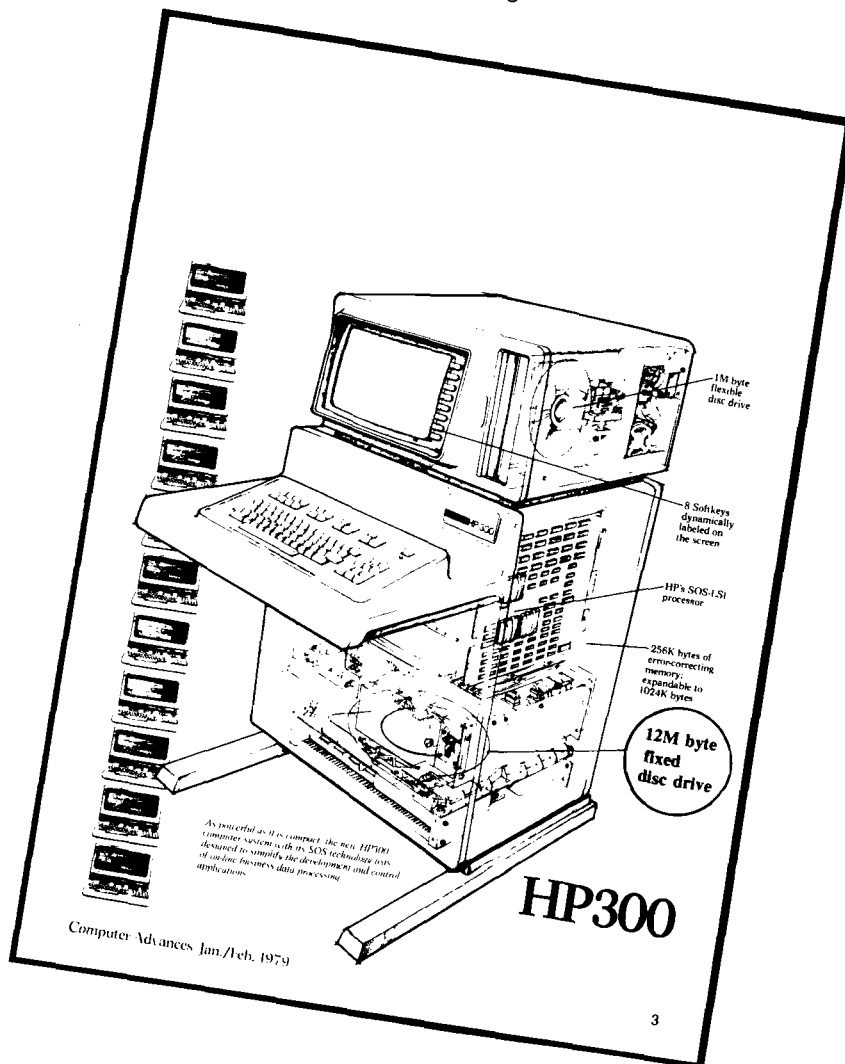
The 7910 is currently supplied only as a component for the HP 300. Known internally as the 7910K-Option 020, the Amigo version of the 7910 was officially released to manufacturing in late December. GSD is currently integrating production units in Amigo mainframes.

The 7910 is HP's first entry into fixed-disc "Winchester" technology. This implies several distinguishing features not seen in conventional disc drives — such as read/write heads that "land" on or "take off" from the disc surface; a simple tone-arm head actuator; and a fixed disc that is sealed inside a compartment.

In addition to the advanced features of Winchester technology, the 7910 includes many other contributions: a self-contained HP-IB controller using HP's silicon-on-sapphire (SOS) technology; a built-in set of extensive self-test and diagnostic routines; a recording format (known as Double Frequency) that results in exceptionally low data error rates and eliminates the need for costly error-correction electronics; and a compact, highly modular design that facilitates quick, board-level repair.

The 7910 is not an easy product to build. In addition to the traditional "millionths of an inch" environment in which conventional disc drives are built, special "Class 100" clean rooms are required to assemble the 7910 heads and media. This head/media interface must be more closely scrutinized than ever for cleanliness before being sealed inside the 7910's transparent compartment. But DMD manufacturing is fast learning what it takes to produce a fixed-disc drive. As more 7910's roll off the line, DMD acquires valuable knowledge that will be the basis for producing a growing family of fixed-disc drives.

So the next time you read an HP 300 ad that mentions "a 12 megabyte fixed-disc drive," remember: the 7910 is HP's first representative of a new head/media technology that will help keep HP systems competitive through reduced mass storage costs.



Sales Aids

Impact of Disc Drives on System Sellability — Part II

By: John Bolt/DMD

The previous issue began a series of articles describing the impact that disc drives can have on overall system competitiveness and sellability. The first article discussed trends in mass storage (disc) prices now appearing throughout the minicomputer industry. It was pointed out that disc drives now account for about 40% of the overall purchase price of the typical minicomputer system. It appears that this percentage is growing, and that in the future, even more money will be spent on disc purchases.

Part II: Pricing Impact

How does the growing expense of mass storage affect system sellability? What obstacles may the field anticipate as the costs associated with disc drives rise beyond 40% of system prices?

The most visible consequences may appear in three ways:

First, high-priced discs may easily ruin system price competitiveness. With growing demand for disc storage, a high-priced drive can easily cause disc prices to soar over 40% of system price. Even on systems with only moderate mass storage requirements, high-priced discs will make it very difficult to maintain a competitive overall system price. Many of our competitors are faced with this weakness in their price competitiveness right now, especially those that are unable to manufacture disc drives in-house. These competitors are forced to buy OEM disc drives from outside sources, paying prices for discs much beyond a normal manufacturing cost.

Passing these drives on to the customer at even marginal profit results in excessive disc prices. A good example is the DEC RJP-06 (OEM'ed from Memorex). A "master" version of this drive provides 176 megabytes for \$46,200, or \$262 per megabyte (Data Pro Minicomputer Review). This compares with \$175 per megabyte for the HP 7925M.

By the way, when competing against these vendors, convincing the customer he needs a maximum amount of mass storage with the initial purchase can only improve your price competitiveness. Against vendors such as DEC, Prime, Har-

ris, and Burroughs, HP discs can supply you with significant pricing advantages. Clearly, with any sizable mass storage capacity requirements, a high-priced disc can easily destroy system price competitiveness.

The second problem that may arise from the growing percentage of system dollars spent on discs involves credibility with the customer. No doubt, the customer may become very concerned as he sees more of his budgetary dollars spent on discs — components that are not really viewed as part of the "operational heart" of the system. Your customer may perceive this as a deliberate merchandising plan aimed at making profits on system "accessories" after being locked-in by the initial sale. His belief may be that technology should be able to provide lower disc drive prices, just as LSI technology has done for processors. He may feel a sense of being "ripped-off." Should this situation occur the HP salesperson may have to expend considerable effort to restore his or her own credibility, along with that of HP.

Finally, and most importantly, the rising concentration of dollars spent on disc drives will certainly bring more competition eager to get a piece of the action. Plug-compatible vendors and third-party disc suppliers will become more prevalent. Evidence of this trend already exists. Hewlett-Packard has already experienced competition from third-party disc suppliers (e.g. Telefile and MSC) aimed at the HP 3000 market. The IBM Series I plug-compatible disc market is well established and the largest minicomputer PCM market due to the relatively high prices of IBM discs and the attractive size of the market. Increased competition for disc sales can be expected throughout the minicomputer market as more dollars are made available for disc purchases.

Incidentally, increased third-party competition can virtually be assured in the future as a result of the recent announcement of the IBM "Whitney" disc which utilizes thin-film head technology. This drive is the largest ever offered by IBM (571 megabytes) with the highest performance (20ms average access time). It also features the lowest cost-per megabyte for disc storage available in the entire industry (price is \$23,400). The product will virtually eliminate the IBM plug-compatible market, forcing existing vendors to search elsewhere for survival. No doubt Hewlett-Packard may become a prime target for plug-compatible drives.

Stay tuned in the next issue for a look at what HP has done to keep disc prices (and your system prices) competitive; suggestions on how to handle your customers' concern over rising mass storage prices, and ideas for keeping third-party discs off your systems.



DATA SYSTEMS NEWS

Product News

HP 2240A Sales Soar: Record January Shows 108% Growth!!

By: Dave Hannebrink, DSD

Thanks to your efforts in selling the winning concept behind the HP 2240A Measurement and Control Processor, we've seen an impressive growth in HP 2240A sales. Our 2240A product line sales are more than double those of a year ago. Furthermore, the first quarter showed a 78% growth over Q1 '78!

These statistics reiterate DSD's commitments to helping you sell instrumentation-leveraged HP 1000 systems.

Make the intelligent choice—sell the HP 2240A!!

MACS Racks: How the HP 2240A Stacks Up

By: Dave Hannebrink, DSD

Many of you have asked about racking the 2240A with the HP 1000 (upright versions). Here are the alternatives:

1. If the 2240A is ordered with an *add-on cabinet*, i.e., 29402B Option 400 or 410, DSD will rack the 2240A for the customer. See 2240A Technical Data Book 5952-8452, page 50.

2. If a customer orders a 2240A with no add-on cabinet and wishes the 2240A racked in the same bay as the computer, consult DSD Sales Development. Certain configurations have already been quoted.
3. If the customer will be using 2240A Signal Conditioning *he probably wants a door to protect the screw termination assemblies*. Remember to order the appropriate cabinet Option 29402B-050/051 to include a door for the bay.

This should fill in the cracks.

GOOD SELLING!

RTE-IV Drivers Package Source Code

By: John Koskinen/DSD

The RTE-IV Drivers Package source code, 92062X, is now available from DSD as a standard product. This is the same package that is available with the RTE-IV Sources. The Drivers package will be placed on the March 1, 1979 price list at \$1000, purchase agreement discountable. The package includes driver sources for all the standard supported peripheral drivers supplied with an HP 1000 computer system. A software sources license is required. There is no software sources subscription service for this product. The drivers are available on 800 or 1600 bpi mag tape. The driver writing manual is included.

DATA TERMINALS NEWS

Division News

2647A Demo Derby

By: Bill Swift/DTD

The Demo Derby is off to a fast start. The response we've received from the field has been terrific. Included with the BASIC interpreter in the 2647A are many unique terminal-oriented statements that give the terminal unusual power and flexibility. You can enter the Demo Derby simply by picking one of the many features of the 2647A and writing a short BASIC program which demonstrates the feature. Send your program to us on a cartridge tape and include a listing. We will be combining all the entries to build a library of BASIC/AGL programs which we will make available to you.

In the next issue of the *CS News/letter*, we'll be telling you more about the exciting prizes in the contest.

Keep those cards and letters coming! Remember, the contest ends April 30, so don't wait to get started.

Order Processing

Advance Purchase Orders

By: Mary Chin/DTD

Advance Purchase Orders (APO's) can be important sales tools. Via an APO, a product can be reserved for a particular customer, even before a firm order can be transmitted. To reserve a product within the production schedule, here are a few ground rules:

1. An APO must be transmitted via TWX or letter and should contain customer name, sales order number, product configuration and required date. NOTE: Please APO *terminals only*.
2. An APO is booked to availability or if the required date is outside of availability, to the Friday before the required date. After booking, the APO is acknowledged to the field via TWX.

3. The APO is good for four weeks. It can be extended *once* for four more weeks via TWX, letter or telephone. If no firm order or request for extension is received by the factory after the first four week period, the APO is *cancelled without further notice*. The field is responsible for monitoring the status of their APO's.

4. When you do transmit the order, reference the APO in the Special Instructions Box.

We want APO's to be effective sales tools for you. Call us if you have any questions. We're here to help.

Returned Equipment

By: Joan Loveless/DTD

During recent months, DTD has observed a noticeable increase on returned equipment. As a rule, this is an extremely expensive situation. The factory would like to take this opportunity to touch base with the field on this topic.

The following reasons for return are some of the more common during the timeframe of December 1, 1978 through January 31, 1979.

1. Order cancelled upon shipment.
2. Incorrect configuration ordered.
3. Duplicate order transmitted.
4. Incorrect "Required Date" on HEART packet.
5. Incorrect "Ship To" address on HEART packet.
6. Customer application changed without factory being notified via Change Order.
7. Double shipment.
8. Shipped without credit release.
9. Loan return (not a problem).
10. Sales Office placed order in error.
11. Order pushed out and no header change was transmitted to reflect new Required Date.
12. Factory pulled incorrect product.
13. Order shipped incomplete.

In reviewing this, please work with Order Processing closely to help alleviate the problem areas.

Another area that needs attention is in the way returned products are handled. Please, before returning anything, contact Order Processing and the "Returns" Coordinator for authorization and a Notice of Return number.

Many things are appearing in the Receiving Department without Notice of Return number, Sales Order number, name, etc. In many cases, if the parts returned are non-serialized, it is impossible to guarantee proper credit. There is no way to trace the return, so we will have to return these items to the sender.

A joint effort, field and factory, is needed to make this happen more smoothly. Both the customers and HP will definitely benefit.

Sales Aids

2647A Manuals

By: Craig Clark/DTD

Our technical publications group has been working feverishly to clean up and finalize the 2647A manuals. They have published a schedule that indicates the User, Reference and BASIC manuals will be back from the printer by March 30, 1979.

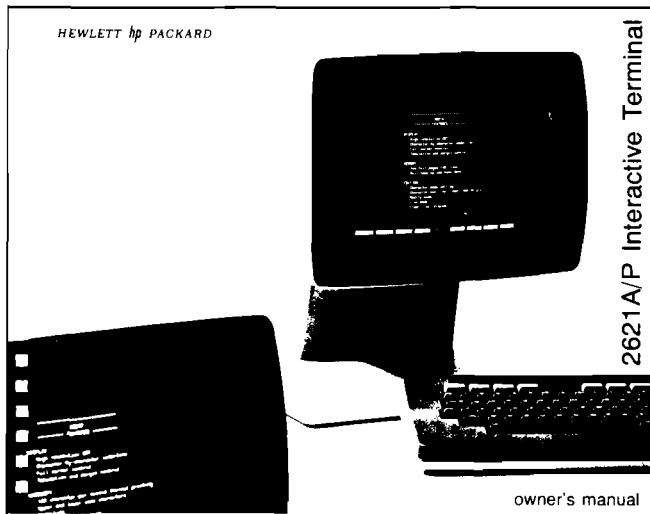
If you need a copy of any of these manuals — get your orders in now!

2647A User Manual	#02647-90001
2647A Reference Manual	#02647-90002
2647A BASIC Manual	#02647-90005

Also note that customers who have received Xerox copies of these manuals with their 2647A terminals can send in a form found in the back of the green manual binder. This will get them a new set of manuals as soon as they arrive. Encourage your customers to send those request forms in.

The 2621A/P Owner's Manual

By: Eric Grandjean/DTD

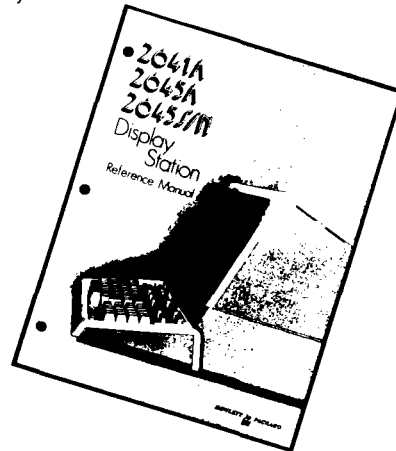


This handsome new 7x9" manual, P/N 02620-90001, is now in stock. Customer request reply cards will therefore be honored very shortly. It may not be a bad idea to order a few for your own use. This manual contains all you and your customers have to know to take full advantage of the many powerful features of the 2621A or the 2621P, its printing cousin.

GOOD SELLING!

New 2645X Reference Manual

By: Eric Grandjean/DTD



Now is the time to update your file and your office library with the latest 2645 Reference Manual. The new edition has the same old number—02645-90005—but it has a new date code, 11/78. Price is \$6.75 U.S.

Be sure to specify the date code when you order. The new manual covers the 2641A, 2645A and both 2645 S/N. Most of the changes are in the communications section.

This Reference Manual is more than ever an excellent source of information and remains a reading must for anyone serious about selling terminals, especially in a non-HP environment.

GOOD LUCK!

Product News

How Rugged Is a 2645A?

By: Mike Tarens/DTD

We all know how reliable and serviceable the 2645A product is, but just how rugged is it? We have strife-tested a 307X product with an elephant standing on it. It proved to be stronger than a Tonka Truck. We bake our 2621X products in ovens at extreme temperatures. They survive. But, what about the 2645A?

Well, now we have some unbiased, third-party input which proves that we probably have the "American Tourister" of the terminal products marketplace! About three months ago, I received a call from a private citizen (Monte Edington) in Phoenix, Arizona. He said he had found one of our terminals at the side of Interstate 10 in its packing box and

wondered what he should do with it. I had our local DM (Norm Matlock) contact Monte and pick up the terminal (2645A) and bring it back to the office. Upon further investigation, it was determined that the 2645A was destined for a customer in New Mexico and had fallen out of the delivery truck. When I asked Norm how the terminal looked, Norm replied in his usual eloquent, flawless English:

"The box is knocked all to κ!*\"?"

I later found out that the terminal worked fine once the boards had been re-seated. The terminal was tested, certified O.K. and then re-packed and sent to the customer. This episode indicates the ruggedness of our tested-tough terminals. They can be dropped off a truck moving at high speed, bounce along the freeway, encounter citizen and DM abuse and still come out unscathed and working. (At least one has.)

The bottom line is that our terminals are tough and will meet the demands of most customers and environments.

We were very pleased to have the terminal found and returned to HP. As a gesture of our appreciation to Monte Edington, Data Terminals Division has awarded him an HP-27 Calculator. The picture shows Ron Segler, Phoenix Office Manager, presenting Monte with the HP-27.

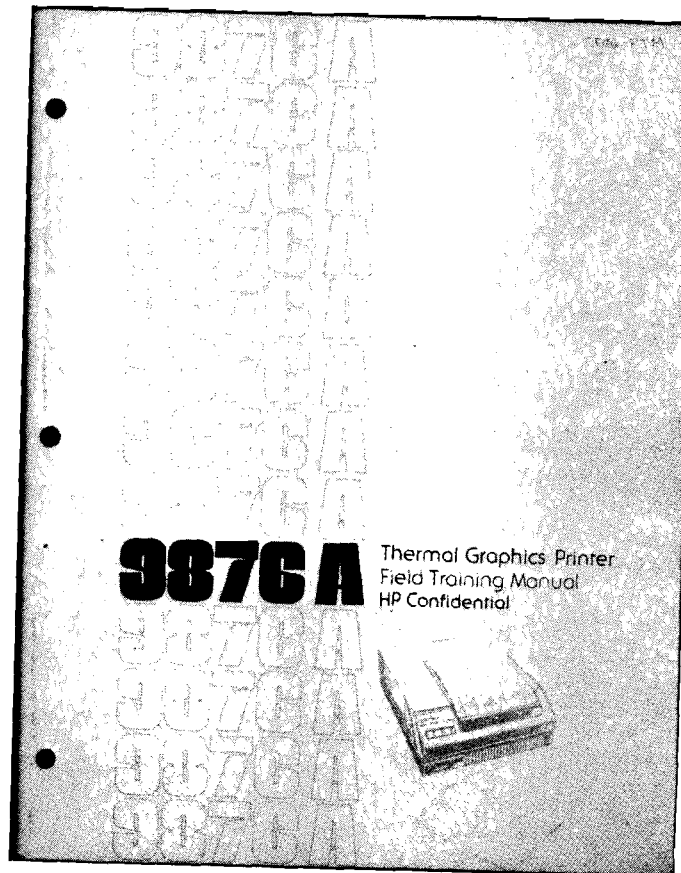


P.S. Thanks for your editorial comment, Norm.

SELL DTD!

Basic BASIC

By: Eric Grandjean/DTD



We are often asked what the differences are between calculator BASIC/AGL and the terminal BASIC/AGL. Not many.

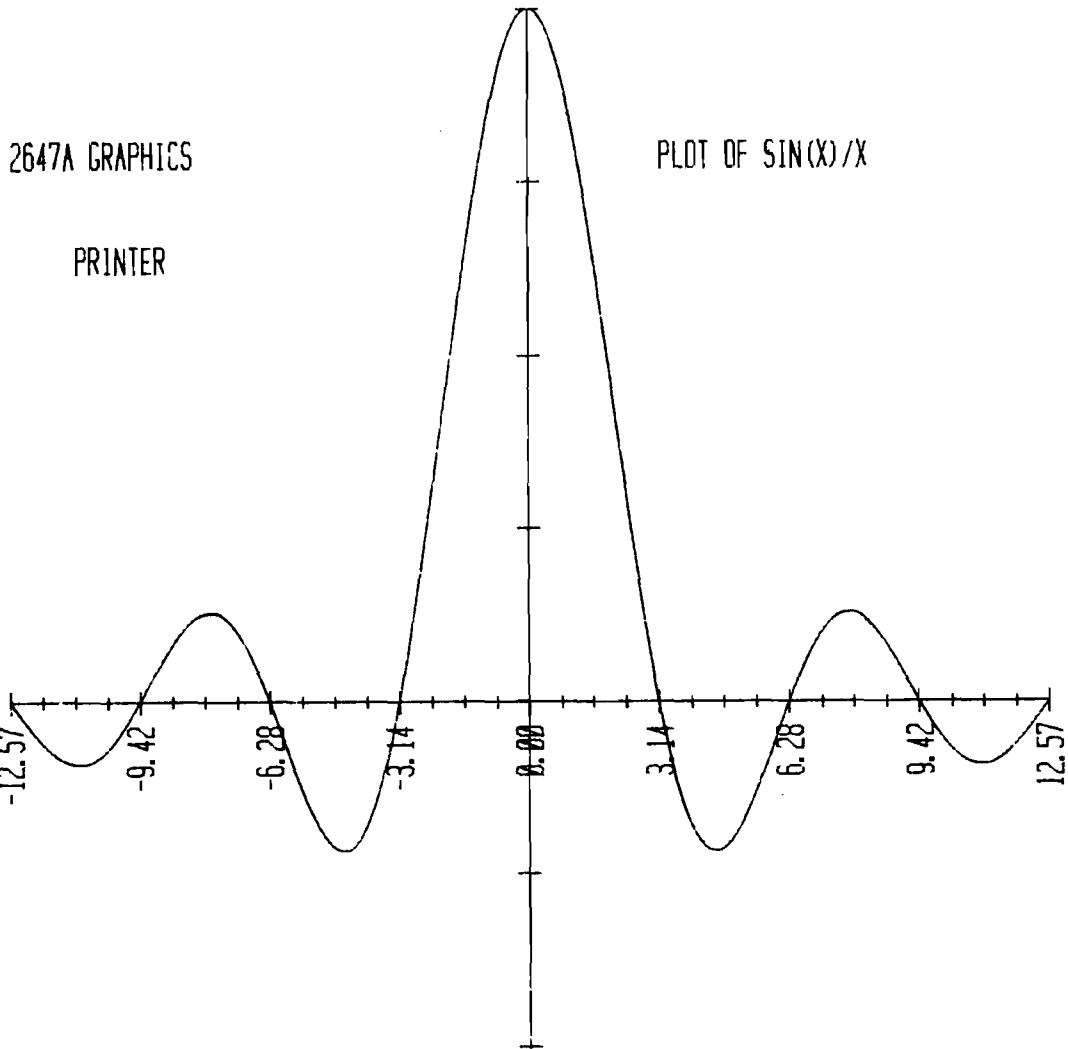
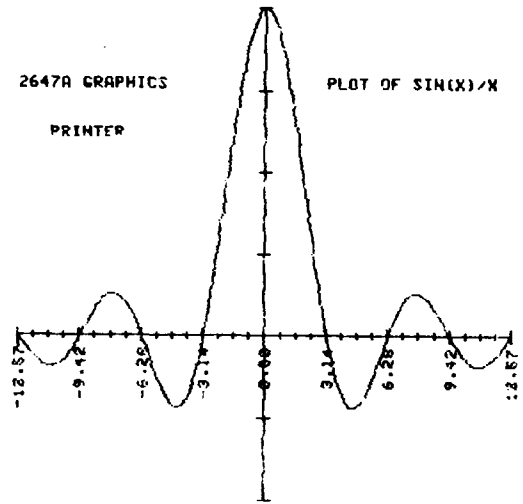
To see some of the differences, please turn to page 20 of the new 9876A Thermal Graphic Printer Field Training Manual. Here you see an example of 9845A BASIC/AGL programming.

We have reproduced the same function in the 2647A. Do you see the differences? Not many, indeed!

Graphic dump version

```

10 Pi=3.14159
20 PLDTR (9,1)
30 FXD (2)
40 LOCATE (5,95,5,95)
50 SCALE (-4*Pi,4*Pi,-.5,1)
60 LXAXIS (Pi/4,0,0,4,1,1)
70 YAXIS (.25,0,0,1,1)
80 FOR X=-4*Pi TO 4*Pi STEP .1
90 DRAW (X,SIN(X)/X)
100 NEXT X
110 MOVE (-4*Pi,.75)\ PRINT #0;"2647A GRAPHICS"
120 MOVE (-3.5*Pi,-.6)\ PRINT #0;"PRINTER"
130 MOVE (Pi,.75)\ PRINT #0;"PLOT OF SIN(X)/X"
    
```



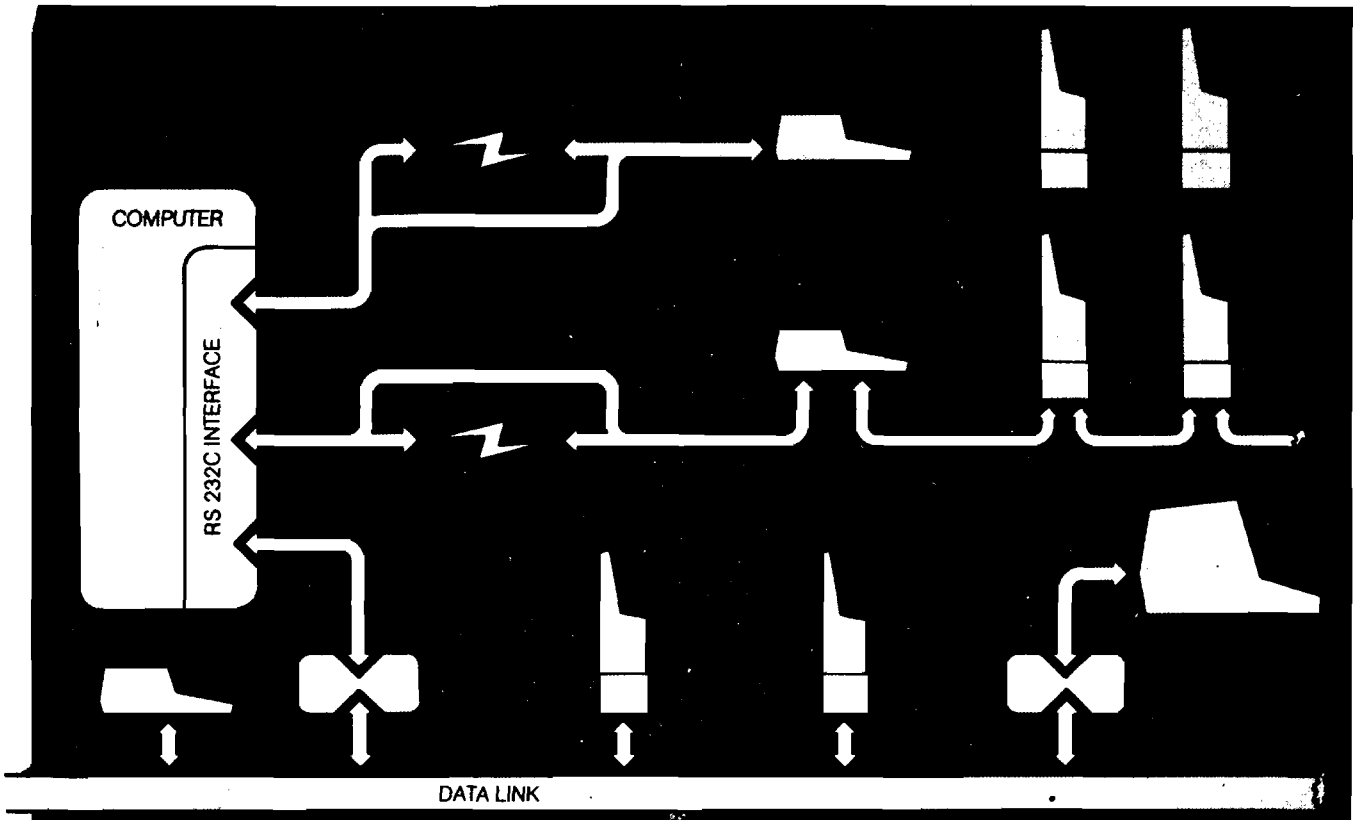
Note the use of multistatements separated by a "\\" in the 2647A; also the parentheses around parameters, and Axes generation.

Note: The 9876A manual is full of useful information and is definitely fun reading.

GOOD SELLING!

3075 Family Datacomm

By: Wendi Brubaker/DTD



The 3075 mini New Product Tour has just finished and hopefully you are starting to aggressively sell the new data capture terminals. This seems like the perfect time to go over multidrop and multipoint connections.

Let's look at the similarities first. Both the Grenoble multidrop data link and multipoint use multipoint protocol, are asynchronous, and use differential signals. The advantages of multipoint protocol include comprehensive error checking, automatic retransmission of bad data blocks, and shared I/O ports at the CPU. The differential signals give very high noise immunity to the connection which means fewer retransmissions and the possibility of long distances between terminals.

There are also some differences between the multipoint and the data link. First of all, multipoint uses four twisted-pair cables with an overall shield and the link uses a single shielded twisted-pair. To buy the multipoint daisy-chain cable from HP, your customer can order 8120-2305 which is \$.60/ft. or a 13232R extension cable of 100 ft. for \$75.00. The twisted-pair cable for the link is product number 92902A-001 for 100 meters at \$165.00 or Option 002 for 300 meters at \$490.00. Cabling prices are an advantage for the data link network.

You might have wondered why multipoint uses eight wires when multidrop uses only two wires. The extra lines are used for the "clear to send" and "request to send" signals in addition to the differential data lines in both directions. These allow group polls and quicker responses. Both of these capabilities provide lower system overhead and improved performance.

Another difference is the multidrop data link connection boxes. These boxes can be located anywhere on the line and do not have to have a 307X at every drop. Data capture terminals can be plugged in and unplugged without interruption to the system. The connection boxes do offer both of these advantages over multipoint. Please note that the 3075's do not support the 13232T power protect cabling.

If you have looked at the 3075 family data sheet, you will have noticed that only point-to-point and multipoint communications support modems. The 3075 in a point-to-point configuration can handle only full-duplex modems and multipoint networks can use either full or half-duplex modems. Even though the 3074A converts RS-232 signals to the data link, it does not have the intelligence to control a modem.

There are other differences to consider between multipoint and multidrop, but the above facts should keep you going in the correct direction. Don't forget that a communication network can include multidrop, multipoint, 2645's and 3075's.

Let's keep fulfilling our customers' data capture needs with HP systems and HP terminals.

Amplifier on a Previous CS Newsletter Article

By: Eric Grandjean/DTD

The article which appeared on page 14 of the February 1st, 1979 issue of the CS Newsletter contains a small error. The 9876A Thermal Graphic Printer has a "raster scan" row 560 dots wide, not 580. Sorry for this mistake.

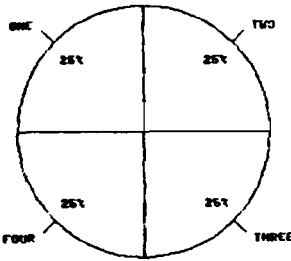
An important point I wanted to amplify is that 2647A Multiplot provides a way to obtain 3/4 size (560 dot wide) pie, bar or linear charts on the screen! How is that for compatibility! If you type the letter "S" in the plotter field of any of the Multiplot menus, you will get a shrunk screen display. This is precisely what you want to do if your raster dump device happens to be a 9876A. The 3/4 size reproduction will of course occur in both horizontal and vertical axes so the original aspect ratio is conserved.

You will lose something of the overall resolution in the reduced size version, but the result is still very adequate.

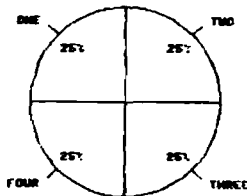
We hope that any worries you may have had concerning Multiplot device-to-device compatibility have now completely vanished.

GOOD SELLING!

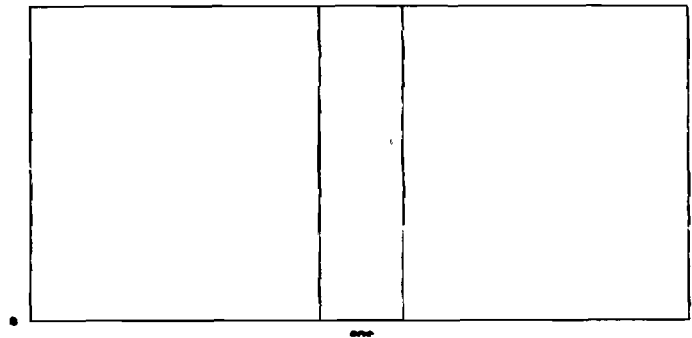
NORMAL SIZE PLOT



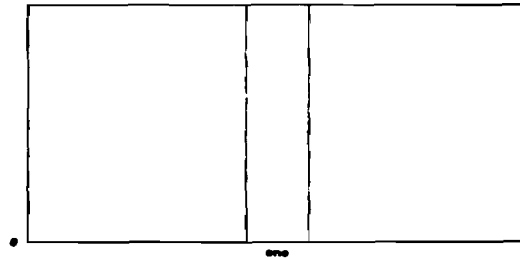
SHRUNK SIZE PLOT



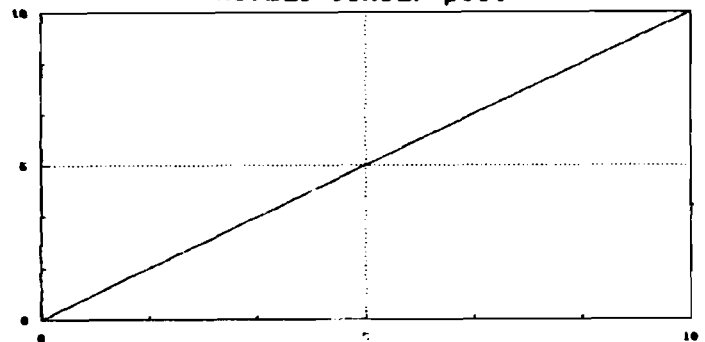
Normal bar chart



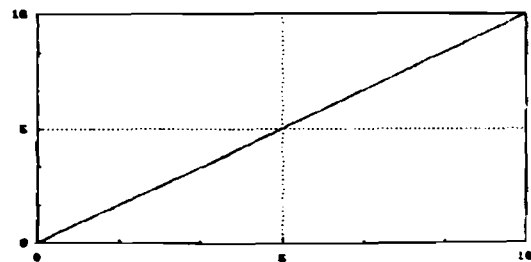
Shrunk bar chart



Normal linear plot



shrunk linear plot



GENERAL SYSTEMS NEWS

Product News



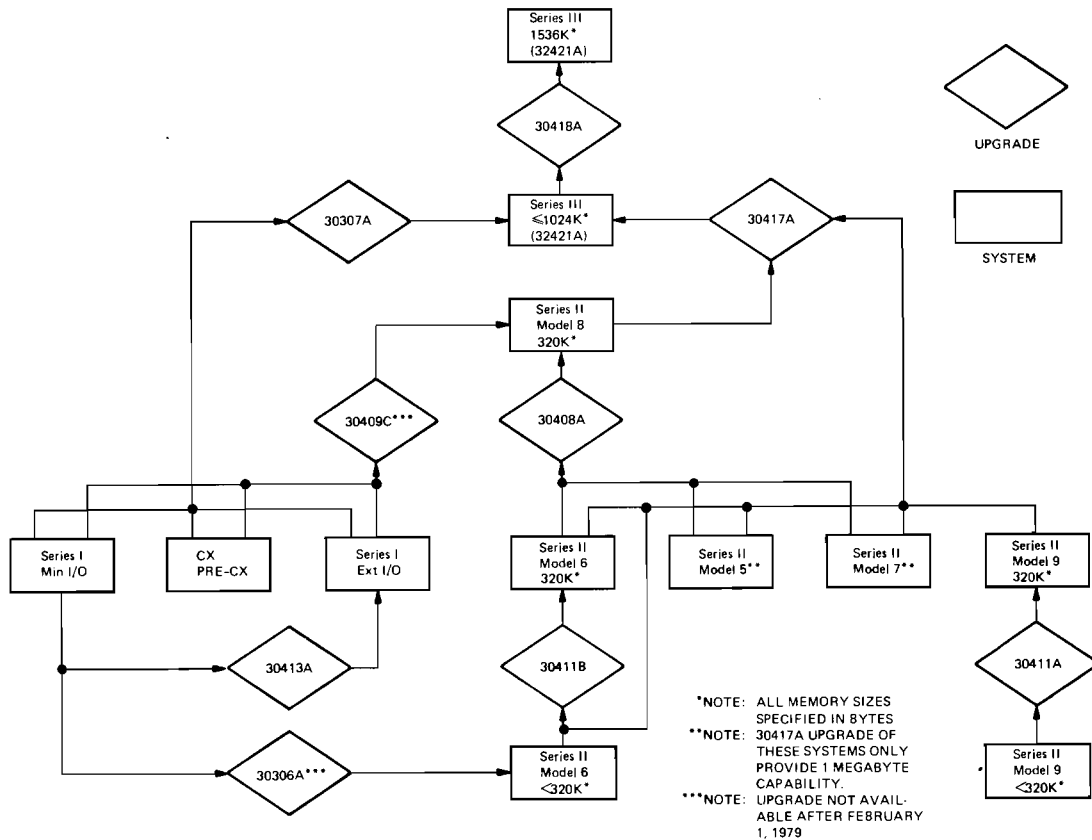
HP 3000 Series II and Series III Product Upgrade

By: Ron Schlitzkus/GSD

General Systems Division's introduction of the HP 3000 Series III affords Hewlett-Packard the capability to meet the ever increasing need for more computing power. The rapid growth in our product line means a greater number of available system upgrades for those customers that have outgrown their present system.

The HP 3000 upgrades have proven to be a very popular and cost effective method for expansion. As the number of products and upgrades increase, the problems of tracking the appropriate upgrades for each product also increase.

Therefore, we have included the latest upgrade configuration chart to help you identify and follow each product.



HP 3000 SERIES I, II, OR III UPGRADES

The new HP 3000 Series III (32435A) will not include upgrade capabilities from present Series II and Series III systems.

"Previews" of Coming HP 300 Attractions

By: Bill Spaulding/GSD

As you all know, the HP 300 is an innovative, high capability, low cost computer system. What you may not know is that the HP 300 manuals match the computer system with innovations in design, style, and content.

Every HP 300 manual will have the distinctive "HP 300 look" that is being established by those manuals already in final form. And perhaps more important to our customers, the manuals are easy to use and the tone is conversational and friendly. All the fine qualities of the manuals could be pointed out in great detail but your opinion is much more valuable if you form it yourself. So why not read through a manual or two if you haven't already done so? Or better yet, use the HP 300 along with the manuals; that's the way your customers do it.

So that you can speak knowledgeably to your customers, we (the HP 300 Users Services group) want you to know what we are doing now regarding the manuals, and what our plans are.

Every purchaser of an HP 300 becomes a subscriber to the HP 300 "Comprehensive Software Support" (CSS) service. Every purchaser also receives a basic set of ten manuals with the HP 300. The CSS subscription automatically provides the customer with one set of all manual updates and revisions as they are issued. The ten manuals shipped with each HP 300 are:

HP 300 Owner's Manual	31000-90001
HP 300 Console Operations Manual	31000-90025
HP 300 Error Messages Manual	31000-90003
HP 300 System Reference Manual	31000-90009
HP 300 Typist Reference Manual	31000-90010
HP 300 Sort/Merge Reference Manual	31000-90033*
Business BASIC/300 Reference Manual	31442-90001*
RPG II/300 Reference Manual	31445-90001
RPG II/300 Sample Programs Manual	31445-90002
IMAGE/300 Reference Manual	31424-90001

There are also six "HP 300 Guides" available. The guides are intended as supplements to the manuals for more advanced HP 300 users.

HP 300 Architecture Guide	31000-90004*
HP 300 Multiterminal Applications Guide	31000-90005*
HP 300 Display System Application Guide	31000-90008
HP 300 System Services Guide	31000-90034
HP 300 Program and Library Operations Guide	31000-90035
HP 300 File and Peripheral Access Guide	31000-90037

Additional copies of these manuals and guides can be ordered from SDC (Division 50, Entity 06, Kardex 09). Transmit an IOS internal order form to:

Ralph Sierra
Hewlett-Packard, Building 49B
19320 Pruneridge Avenue
Cupertino, California 95014

The manuals and guides are not all available in "Final" printed form. At the present time, the basic manual set consists of a mixture of "Preview" manuals and "Final" manuals. (An asterisk following the part number in the lists above indicates available in "Final" form.) To provide timely information for the system, we have implemented a two-step method of printing the manuals:

1. After appropriate review cycles, each manual is printed in "Preview" form. A "Preview" manual is reasonably complete and accurate, of better than "copy center quality," and reflects the current state of evolution of the manual.
2. We print the manual in "Final" form to replace the "Preview" as soon as manpower, schedules, and the time required for typesetting and printing permits.

When all ten manuals are "Final," complete sets will be orderable with one part number. However, until then, we ask that you (and your customers) order individual manuals.

If you have any questions or comments about the manuals or anything relating to them, please contact *Walter Utz*, the manager of HP 300 Users' Services at:

Hewlett-Packard
General Systems Division
5303 Stevens Creek Blvd.
Santa Clara, California 95050

Telephone: (408) 249-7020, extension 3212

New Release of HP 300 O/S and Subsystem

By: Steve Wilk/GSD

I am happy to report that a revised and greatly improved version of the AMIGO/300 operating system and language subsystems (Business BASIC and RPG II) will be installed on all HP 300 systems around the first of March. This release represents a significant improvement over the HP 300 software currently in the field, and, as a result, shipment of HP 300 units to customers for program development purposes will contain this new release.

A detailed characterization of the remaining known system problems will be sent to the account responsible S.E. during this installation period.

DEL/3000 Obsolescence Update

By: Dick Knudtsen/GSD

Orders for DEL/3000:

DEL/3000 was removed from the Corporate Price List on 1 Jan '79. Additional copies may be desired by OEM's and VEU's to implement existing applications. To accommodate this customer desire, DEL/3000 can be ordered as a special by notifying GSD sales development (*Brian Fischer*) and over-riding HEART.

The unlimited right to use DEL/3000 on one HP 3000 system is available for a \$100 handling fee. Use product #32206A.

Support for DEL/3000:

HP will continue to offer comprehensive software support to all existing and new DEL/3000 customers. This support (22823A-004) includes PICS and on-site software service, plus all services under software subscription service, and will continue to be priced at \$50 per month.

Software subscription service, providing software communication and software problem documentation, will continue to be available at \$15 per month.

There will be no software enhancements or documentation manual updates to DEL/3000. However, current DEL manuals will continue to be available.

DEL/3000 Trade-in on VIEW/3000:

For those customers who had purchased DEL/3000 and choose to begin developing new applications exclusively with VIEW/3000, HP will provide a full trade-in value for the DEL/3000 initial payment of \$300, or \$900 if purchased with the pre-paid option, to be credited toward the list price, \$1500, of VIEW/3000. If DEL/3000 was purchased at a discount, the trade-in value should not exceed the discounted purchase price. The value of this trade-in applies to the list price of VIEW/3000 prior to discounts, and extends only until April 1, 1979.

The right to use VIEW/3000 requires HP's standard software purchase agreement for either 12 or 48 months.

DEL/3000 Training:

Customer training and consulting on DEL/3000 (22819A) is discontinued. However, training for HP's SE's will continue so they can properly support DEL.

I hope that this helps resolve the large number of questions raised concerning DEL's obsolescence. Clearly, we want to encourage the purchase of VIEW/3000 to replace DEL. At the same time, we need to provide for the continued purchase and support of DEL for OEM's and volume end-users who need to protect their own software investment.

Please address any questions to *Brian Fischer*, GSD/BSP Sales Development.

Update on Ordering VIEW/3000

By: *Dick Knudtsen/GSD*

Several items require clarification and correction to the price/configuration guide:

1. VIEW/3000 templates: 7120-1189 (Data Entry) and 7120-1190 (Forms Design) should be ordered from the Corporate Parts Center using a HEART order.
2. Software Subscription Service is \$25.00 per month, not \$24.00.
3. VIEW/3000 Training, two day on-site course (22830A) is \$1150, not \$1800.

4. VIEW/3000 manuals:

33209-90001	VIEW Reference Manual	\$12.75
33209-90002	VIEW Programmers Guide	available February
33209-90003	VIEW Operators Guide	available February
33209-90004	Introducing VIEW	available April

If you have any questions related to VIEW/3000, please contact *Brian Fischer*, GSD/BSP Sales Development.

MFG/3000 Customer Training Changes Course

By: *Pete Van Kuran/GSD*

Beginning March 1, MFG/3000 customers will be able to choose between classroom training given at an HP technical center or on-site training. Now, each customer will be able to select the mix of training courses that makes the most sense for each budget and implementation schedule. The new course offerings are:

	Duration	Location	Cost	Product #
MFG/3000	5 days	HP Technical Center	\$500/Student	32378A
EDC/3000 User Administrator	2 days	On-site	\$1150	32383B
IOS/3000 User/Administrator	2 days	On-site	\$1150	32387B
MRP/3000 User/Administrator	1 Day	On-site	\$ 575	32391B

The five day User/Administrator course has the same content as the three on-site courses. The course content has not changed from the current seven days of training, but instead has been condensed to eliminate some redundant information.

Customers can choose the mix of training appropriate for their situation by trading off the cost of sending someone to classroom training (up to \$100/day for travel, meals and hotel) and tuition (\$100/day per student) vs. the higher one-time price for on-site training. Additionally, the customer should consider the timing of his implementation schedule. It may not make sense to send all members of the implementation team to a one-week course at project initiation. Instead, you might want to suggest having one or two people (like the Project Manager and/or System Administrator) attend the one week course. As the customer works up to each separate product in his implementation schedule, he can have the Industry Specialist do on-site training for key players on the implementation team.

Customer training classes also make excellent sales tools — what better way for a customer to get hands-on, in-depth experience with a product than to attend the course. The new one week MFG/3000 class is an effective evaluation tool. Suggest it to the customer who wants to know everything before he buys.

Whether the customer attends before he buys or after, the updated courses are a powerful combination to help make your customer successful.

SELL TRAINING!

Sales Aids

HP 300: Selling a Tapeless System

By: Jim Groff/GSD

Many prospective HP 300 customers who initially object to its lack of mag tape actually consider a "tapeless" system an *advantage* after closer examination. Let's look at a few of the reasons why:

Cost: With the continuing price/performance improvement in disc storage, the customer can buy an additional 20 or 50 Mbyte disc for about the same price as a mag tape. This gives him or her more on-line storage and more "growing room."

Backup: With the HP 300's disc-to-disc backup (either with the fixed/removable 7906 drive or dual 7920's or 7925's), volume backup is actually faster than disc-to-tape backup. In daily operation, this increases the likelihood that backup will be performed, and minimizes potential customer problems.

Convenience: OEM's who sell into the small business marketplace tell us that handling of disc packs and cartridges is much easier for "non-computer" personnel than handling mag tape, with its threading, etc. This simplifies the OEM's training and support burden, and minimizes operational problems after the HP 300 is installed.

Offline File & Program Storage: The vast majority of files and programs stored on mag tape consume far less than the full capacity of the tape reel — many times only the first few feet of tape are used. For this type of offline storage, the HP 300's flexible discs offer more convenient, randomly-accessible storage, that takes up less storage space.

Of course, there will be some customers who need mag tape for high-volume archival storage or data exchange with other systems, where flexible discs will not suffice. But in many cases, the benefits and cost savings of the "tapeless" HP 300 will more than meet the customer's needs.

Key Points in Selling HP 300 Cost of Ownership

By: Curt Gowan/GSD

The high reliability of the HP 300 is backed up with a comprehensive set of serviceability features which contribute to the system's low cost of ownership. This is of particular interest to OEM's. Here are the key selling points:

- All hardware configuration settings are visible upon opening the rear door of the system — there are no hidden switches or jumpers.
- Sophisticated firmware self-tests are built into the system. These use the SOS microprocessors distributed through the system, in conjunction with the SOS main processor, to diagnose most hardware failures.
- You can rapidly run friendly hardware diagnostic programs — including a keyboard test that's downright fun to use.

In short, the HP 300 diagnostic capabilities are made as easily available as the operating capabilities.

SELL HP 300 SERVICEABILITY!

New Applications

IBM 3033 Leases Evaluated by HP 3000

By: Barry Klaas/GSD

Application: Lease Analysis

Industry: Financial

Background:

Leverage lease underwriting companies bring together lessees and lessors to finance such diverse equipment as oil tankers, 707's, train engines, and large computer systems such as the IBM 3033. These companies currently place on lease annually an estimated \$10 billion of equipment. One of the keys to success in this business is the use of a computer to model the complex trade-offs for both lessee and lessor and make matches that make sense for both parties. Lessees are the users of the equipment, lessors are typically a consortium of banks and other financial institutions. The leverage lease company brings the two sides together.

Application

Into the investment analysis models which are run as the HP 3000, terminals feed such data as cash flow requirements, investor's (lessor's) tax rates, risk factors, desired profits, depreciation rates, investment tax credit and tax law considerations. Built into the model is the knowledge of many disciplines; i.e. contract law, finance and tax practices, market risk analysis, economic analysis, and accounting practices.

The HP 3000 generates reports that are the basis of the lessor's ultimate decision to participate or not. The reports include input parameter assumptions, tax accounting exhibits showing lessor's income, expenses, taxable income, and tax liability for each year of the lease term. Another report projects cash flow. Displayed are lease receipts, interest expense, principal payments and unpaid balance, before-tax and after-tax cash flow. Investment analysis also provides a pro forma balance sheet and income statement for each year of the lease. Based on risk factors, some companies even provide a projected default exposure schedule.

The HP 3000 system currently consists of a Series II with 192Kb memory, an HP 3000 lpm printer, and three HP 2640 terminals. Some accounting application software was supplied by a software house while proprietary leasing analysis software was transferred from the previously used outside timesharing system. HP software currently used consists of KSAM, FORTRAN, RPG, and some SPL.

Benefits:

This leasing company significantly lowered its EDP costs. It had been running on a national timesharing system. (Incidentally, four years ago, the largest leverage leasing company in the United States made a similar switch to the HP 3000 and saved over \$20,000 per month. We can send you a reprint of an article on this.) Armed with the knowledge about the industry leader, the strong cost saving reasons, and the privacy and control of an in-house HP 3000 system, the decision was easily made in favor of HP.

Also, with the HP 3000 solution, the total processing cycle time (from CRT input to report receipt) was considerably shortened. When million dollar decisions are being made in this dynamic financial business, rapid analysis is a must. The HP 3000 has proven to be fast and solidly reliable.

For more information on this application or references to leasing companies used HP 3000's, contact *Regina Fanelli* or *Barry Klaas* at GSD.

General News

New Faces in GSD Sales Development

By: *Ed North/GSD*

It's my pleasure to introduce to you two new faces in GSD Sales Development.



Left to right: *Andrea Long, Ed North, Lee White.*

Andrea Long comes to GSD from HP Corporate Accounting Systems in Palo Alto where she had responsibility for designing the Corporate legal accounting systems on the HP 3000. Prior to HP, *Andrea* worked for Fairchild performing business and financial analysis for the Discrete Marketing Group while working on her MBA at Santa Clara University. *Andrea* will be supporting the Neely, Bellevue, Fullerton and San Diego sales offices.

Lee White joined HP upon receiving his Business Degree and MBA from Texas A&M. He was the Varsity punter and place-kicker for Texas A&M during his undergraduate years. *Lee* will be supporting the Southern Sales Region for GSD with *Chuck Smith*. Feel free to call either *Chuck* or *Lee* for Sales Development assistance from GSD.

GOOD SELLING!

Datapro Releases New Report on HP 3000 Series

By: *Rich Edwards/GSD*



The January, 1979 updates to Datapro's Minicomputer Report contains a brand new article on the HP 3000 (report #M11-472-601). The first page features (in text and a photograph) the new Series 33, which Datapro describes as follows:

Management Summary

Hewlett-Packard has considerably enhanced its already sophisticated HP 3000 line by replacing the Series I processor with the Series 33, based on a silicon-on-sapphire (SOS/CMOS) large-scale integration process. The use of the SOS metal-gate technology has allowed the reduction of nine Series III CPU boards to two printed circuit boards in the new processor. HP states that the Series 33 name was chosen to reflect both compatibility with the established MPE III operating system and the beginning of a new series of HP 3000's employing a new CPU technology and I/O structure. The future may hold downward as well as upward expansion of this new series.

One section your prospects should be sure not to miss is "User Reaction." The report contains more details, but here are some highlights:

"Twenty-two users with a total of 33 installed HP 3000 systems responded to Datapro's 1979 survey of mini-computer and small business computer users . . .

All but one user reported business data processing as a principal application, and database management, data communications, and scientific/engineering computing were also listed by some of the users . . .

These systems had been installed for periods ranging from 3 months to over 40 months, with an average installation life of 15 months."

I've added the 1977 survey (most recent) results to those in the current survey as reported in the report:

	Current ratings (Fall, 1978)				1977 ratings	
	Excellent	Good	Fair	Poor	WA*	WA*
Ease of operation	15	7	0	0	3.7	3.8
Reliability of mainframe	21	1	0	0	4.0	3.7
Reliability of peripherals	14	7	0	0	3.7	3.4
Maintenance service:						
Responsiveness	5	14	1	0	3.2	2.8
Effectiveness	10	7	3	0	3.4	2.8
Technical support	6	7	6	0	3.0	2.7
Manufacturer's software:						
Operating System	12	8	2	0	3.5	3.7
Compilers and assemblers	9	9	4	0	3.2	3.8
Application programs	6	6	1	1	3.2	3.1
Ease of programming	11	9	1	0	3.5	3.6
Ease of conversion	10	6	1	1	3.4	3.4
Overall satisfaction	12	10	0	0	3.6	3.5

*Weighted Average on a scale of 4.0 for Excellent.

NOTE THAT OVERALL SATISFACTION HAS IMPROVED OVER LAST YEAR WHEN WE REPORTED THAT THE HP 3000 GARNERED 1st PLACE IN THE DATAPRO RATINGS OF 76 DIFFERENT SYSTEMS (MENTIONED BY 6 OR MORE USERS).

The total survey results should be available next month from Datapro (Datapro Research Corp., 1805 Underwood Blvd., Delran, NJ 08075).

A few of the summary comments on the survey are of interest:

"These users were obviously well satisfied with virtually all aspects of their HP 3000 systems"

The one comment that seemed to best sum up the feelings expressed by most of these users was 'Reliable and easy to use.'

The HP 3000 Series has been a very successful product line for Hewlett-Packard, and as long as the company continues to provide the quality of tools and support that it has supplied to date, it should continue to be successful. If the new Series 33 is as good as HP believes it to be, the competitive strength of the HP 3000 line will increase, and we will certainly see more of the SOS technology in other HP products."

SELL HP 3000's — ANOTHER HP WINNER!!

VIEW/3000

By: Jutta Kernke/GSD

Sales of VIEW/3000 for January '79 have exceeded our forecasts. In fact, since product introduction in November of '78, we have sold over 300 units, thanks to your efforts and a good product!

Some of you have asked me for some "application stories" on VIEW/3000 and believe me, we too are interested in hearing them.

By now, there must be a lot of customers deeply involved in implementing VIEW/3000. Why not share some of the information with us?

Just write me a note or simply pick up the phone and call me. I'd like to hear whatever you have . . . "praises," "gripes," "successes," "limitations," anything. In return, I'll publish some of your stories in the CS Newsletter.

So, let me hear from you!

HP GRENOBLE NEWS

Division News

Parties . . . and Courses in Grenoble

By: Christian Graff/HPG

Although we enjoy social events, we also have more serious activities like the TNT Course (Terminal Newcomers Training) that was held in Grenoble January 8-12. Let me remind you that this one-week course is primarily aimed at FE's and Staff Engineers who have never had any formal training on terminals and covers products from DTD, Boise and Grenoble.

The next session of the course will take place in Grenoble April 9-13 and there are still seats available.

I have to forecast by myself;
all my guys are short-sighted
and my secretary is blind!



The Terminals Support Team sharing the Twelfth-Night cake.

Francis Marc, Jacques Biard, Jean-Louis Chapuis, Richard Franklin, Maurice Poizat, Christian Graff, and Valentino Liva.

The dealer
has 18 so
I'll take
another
card . . .



Sven Jensen (CPH), Valentino Liva (GRE), Egil Oedegaard (OSL), Guenter Cavallar (Vie), Maurice Poizat (GRE), and Manfred Schwarzbier (Vie).

CS GROUP NEWS

CSG News

Changes to the Terminal Products Purchase Agreement

By: Joe Rodgers/CSG

HEWLETT PACKARD

PRODUCTS SUBJECT TO DISCOUNT HP TERMINAL PRODUCTS
EXHIBIT A-3

HP Terminal Products earn discounts based on the total quantity of products purchased from the list below, in accordance with the discount schedule below.

2621X CRT Printer
2631X Terminal
2635A CRT
2639A CRT
2640A CRT
2641A CRT
2645A CRT
2647A Graphic CRT
13298X Printer Subsystem
2648A Graphic CRT

COMPATIBLE ITEMS

Items and accessories listed below are subject to the discounts earned on the associated products above when purchased for use with these products. The quantity of items ordered does not add to the quantity of products listed above for discount purposes.

9871A Printer
13231A Display Enhancement
13232 Cable Series
13234A Memory Module - 4k
13236B Cartridge Tape Upgrade
13240A Duplex Register
13245A I/O Extender
13246A Character Generator Kit
13247A Serial Printer I/F
13248A Video Output I/F
13249A Technical Info Package
13255A Firmware Support Package
13266A Series
13267A Firmware Support
13267A Level Terminal
13290B

2648E CRT Terminal
1307X Data Capture Terminal
1221A Graphic Plotter
1225A Graphic Plotter
745A Serial Optical Mark Reader
9872A Graphic Plotter
9873A Digital Cartridge Tape Drive
9874A Thermal Graphics Printer
9875A
9876A

13291A PROM Module (4K)
13292A 8K Byte Write/Read Control
13293A Diagnostic Module
13294A Keyboard Kit
13295A HP-IB Interface
13296A 8K RAM Module
13297A 32K PROM Module
13298A Personality Module Gen. I/O
17600A Personality Module HP-IB/HP-GL
17601A Personality Module Parallel I/O
17602A Field Inst. Char. Set ROMs for 2631A
26094A Extra I/F for 2630 Family
26095A Stand for 2630A
26096A Stand for 2631A

TERMINAL PRODUCTS	DISCOUNT PERCENTAGE SCHEDULE
QUANTITY	DISCOUNT
1-4	0%
5-7	4
8-14	7
15-24	10
25-34	13
35-49	15
50-74	17
75-99	19
100-149	22
150-199	24
200-249	25
250-299	
300 up	

*NOTE: In addition to the above discounts, products on this exhibit which are preceded by an asterisk will receive an additional 10% Component OEM discount when purchased by an OEM customer.

Revision No. R12-78
1983-20182200

PRODUCTS SUBJECT TO DISCOUNT HP PERIPHERAL PRODUCTS
EXHIBIT A-4

Discounts based on the Total Functional Units earned. Functional Units are determined by the total functional unit level when purchased for End-User applications as the discount indicated on the total user discount schedule. When purchased for OEM applications, all items and peripheral products listed (*) which receive the Component OEM schedule discounts.

**TABLE I
PERIPHERAL PRODUCTS EARNING FUNCTIONAL UNITS**

FUNCTIONAL UNITS	DESCRIPTION
1.0	7906M-5 25 MB Cartridge Disc Drive
1.0	7920M-5 50 MB Pack Disc Drive
1.0	7920M-5 120 MB Disc Drive
0.5	7970E Magnetic Tape Drive
0.5	9871A Magnetic Tape Drive
0.5	9872A Printer
0.5	9874A Graphic Plotter
0.5	9875A Digital Cartridge Tape Drive
0.5	9885M Cartridge Memory (Master)
0.5	9885S Flexible Disc Memory (Slave)

DISCOUNT PERCENTAGE SCHEDULES

END-USER SCHEDULE	OEM SCHEDULE	OEM COMPONENT SCHEDULE (*)
0%	0%	15%
4	10%	14
7	14	17
10	17	19
13	20	22
15	23	25
17	25	28
19	27	31
22	29	32
24	30	34
25	32	35
27	33	37
	33	38

The HP Terminal Products Exhibit (A-3) has been revised to include recently introduced new products. This latest revision dated R12-78 requires some additional explanation which will benefit your sales program.

- Remember that all products listed on the top section of Exhibit A-3 are leveraged to count toward the total quantity count for determining discounts according to Exhibit B. This list is now larger!
- Any "Compatible Items" in the lower section of Exhibit A-3 which are purchased concurrently with and for use with the Terminal Products listed on the top section of

Exhibit A-3, will receive the same discount earned on the associated Terminal Products. This also applies to the larger OEM discounts.

- And finally, for purposes of determining the number of functional units purchased under Exhibit A-4, or the quantity purchased under Exhibit A-3, all applicable units are counted, regardless of the discount schedule used when the products are purchased. For example, a customer buying (40) - 2631's, (30) - 7906's and (25) 2645's would be credited with quantity 65 on Exhibit A-3 and 50 functional units on Exhibit A-4.

Recent Articles on HP Computer Applications

By: Bob Ingols/CSG

Listed below are some recent articles on HP computer applications which appeared recently. You and/or your customers may find them helpful to a current sales situation. The stories result from leads provided from the sales force, so continue to let me know of your customers with solid applications.

Application Article Appearances

Article Number and Title	Magazine	Issue	System	Customer	Application
C-135 Orderly Growth through Computerization	<i>Manufacturing Engineering</i>	1-79	HP 1000	Gardco	Manufacturing management, financial reporting, engineering
C-141 Computerized Microfilm system speeds data handling for BG&E	<i>Electric Light and Power</i>	1-79	HP 3000	Baltimore Gas & Electric	Document and drawing retrieval system
C-69 Realtor Data Network Speeds Home Trading	<i>Communications News</i>	12-78	HP 1000	PRC Realty Systems	On-line real estate information systems
C-179 Computer Helps Monitor Employee Health Programs	<i>Facilities Engineering</i>	12-7-78	HP 1000	ASARCO	Database for analysis of employee health tests
C-183 Computer Supports Foundry	<i>Production</i>	12-78	HP 3000	Fick Foundry	Shop floor control and shipping system
C-182 Microwave System design and testing	<i>Quality</i>	12-78	HP 1000	RCA Labs	Distributed network testing microwave systems
C-69 Realtors Aided in Matching Property, Buyers	<i>Computerworld</i>	2-5-79	HP 1000	PRC Realty Systems	On-line real estate information systems
C-140 Mini Network tests manufacturing heart pacemakers	<i>Minicomputer News</i>	2-1-79	HP 1000	Medtronic	Automatic testing of heart pacemakers DS/1000 network
C-142 Firm's Return on Mini Investment Tops 100%	<i>Computerworld</i>	1-29-79	HP 3000	Environmental Elements	On-line purchasing and receiving system
C-160 Transaction Processing that pays for itself	<i>Modern Office Procedures</i>	1-79	HP 3000	Commercial Office Products	Sales order processing, invoicing and inventory updating on-line
— Laboratory System Improves traffic, quality control	<i>Computer Decisions</i>	12-78	HP 1000	Wamer Laboratories	Lab testing of fuels, water, plant effluents, stack emissions and construction materials

HP Computer Museum
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For research and education purposes only.

Another Great I/A Class

By: Bob Lindsay/CSG



Standing (Left-to-right): *Jeff Burns/Englewood, Ray Wiggins/Englewood, Joe Kail/Dayton, Len Lopenzina/Paramus, Stu Yellen/Santa Clara, Ed Savarese/San Diego, Dennis Haar/DSD, Priscilla Hartline/Fullerton, Jeff Graham/Winnersh, Jim Porter/Edmonton, Larry Sanford/DSD, Gary Lee/Airport, Russ Edwards/Kansas City, Eric Neilsen/Fullerton.*

Seated (Left-to-right): *Joe Vavricka/Lexington, Jeff Kulvekoski/Milwaukee.*

Not shown: *Horacio Grossmann/Argentina, Jim McGregor/Airport.*

Here they are — another great group — the graduates of CSG Industry Applications Class No. 24. (January 29–February 8th, 1979).

During the first week of their two-week program in Cupertino they distinguished themselves in the Lifeboat exercise and gave especially good presentations in the wrap-up of their Philby cases.

Monday evening of their second week included a cocktail party in the Cupertino cafeteria along with the attendees of CSG Overview Class No. 27, followed by a Graduation Dinner at Michael's Restaurant. *Dick Anderson* of DSD gave the after-dinner address to the graduating class.

**WATCH OUT COMPETITION,
HERE THEY COME!**

INFORMATION CHANGE NOTIFICATION

Please update my CSG Internal Distribution and Directory listing as follows:

Type of Change: Add Modify Delete

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