REINHARDT, HELMUT
RANKFURT
PSA

COMPUTER SYSTEMS NEWSLETTER

For HP Field Sales Personnel

HEWLETT *hp* PACKARD

Vol. 3, No. 10
April 1, 1978

DISTRIBUTED PROCESSING PAYLOAD Ready to be Rocketted to your Office

CARE PACKAGE

PRELUDE DS/3000

PROJECT

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

DSD Announces HP-ATS .... Page 6
Distributed Processing Payload Ready
to be Rocketted to Your Office .. Page 20

In This Issue...

BOISE DIVISION NEWS

Product News

2635A Display Functions — Escaping Sequences
By: Steve Richardson/Boise

The 2635A will transmit escape sequences to the CPU even when you are not in Display Functions mode. This happens when you use the escape key on the 2635A or the other keys which set tabs, clear tabs, or turn Display Functions on or off. For example, if you set a tab while on line to a CPU, ESC 1 will be transmitted to the CPU even if you are not in Display Functions mode.

To avoid transmitting escape sequences to the CPU, you can simply take the 2635A off line when you wish to set or clear tabs, or enter or exit the display functions mode. This is a relatively minor inconvenience and should not happen often.

We suggest you discuss this escape sequence approach with your prospect before taking an order to verify that this situation will be acceptable.

2630 Family Warranty
By: Steve Richardson/Boise

In the unlikely event your customer should have any problem with his 2631A/2635A in the first few months, you may get some questions on the warranty coverage.

The entire machine, including the print head, but excluding the ribbon, is covered by HP's standard 90 day warranty. The ribbon is covered by HP's standard consumables warranty which is 30 days on all manufacturing defects.

Once the customer has his 2631A or 2635A and then purchases spare print heads and ribbons from Computer Service Division, these parts will be covered by the consumables warranty, 30 days on manufacturing defects.

Order Processing

O. P. Department Update
By: Sallie Bertram/Boise

Due primarily to the 2631/35 and the resultant avalanche of orders, Order Processing has grown again. Consequently, we've reallocated some of the product responsibilities. The following outline of our organization will bring you up-to-date on who's doing what. Based on our track record for cross-training, it should be good for a couple of months anyway.

BOISE ORDER PROCESSING

(L to R) Standing: *Karen Nichols, Steve Bailey, Karen Bonadiman, Greg Miller;* Seated: *Jeanné Kalben, Cindy Taylor, Alma Hall.*

Marj Kondo	(Ext. 2237)	Contracts Admin/Statistics
Rich Suyehira	(Ext. 2342)	COSMIC Systems Administration
Karen Nichols	(Ext. 2404)	O. P. Supervisor
Steve Bailey	(Ext. 2268)	Order Coordinator (2635A)
Karen Bonadiman	(Ext. 2232)	Order Coordinator (2607A/13A/17A/18A Printers)
Alma Hall	(Ext. 2238)	Order Coordinator (12925A, 3070/1A, 7260/1A – All Grenoble)
Jeanné Kalben	(Ext. 2634)	Order Coordinator (7970B)
Greg Miller	(Ext. 2240)	Order Coordinator (7970C/E)
Cindy Taylor	(Ext. 2243)	Order Coordinator (2631A)

O. P.'s NEWEST MEMBERS
(L to R) *Jeanné Kalben, Greg Miller* and *Cindy Taylor.*

Of the six Order Coordinators, three are relatively new to Order Processing, and I'd like to introduce them to you. *Greg Miller* took the plunge last November, transferring from the Shipping Department, and has not had a second since then to reflect on the wisdom of his choice. To his credit, he adapted quickly and is doing a fine job. *Cindy Taylor* joined O. P. in January, replacing *Steve Durtschi* who left HP to resume his college studies. *Cindy* has been with HP-Boise nearly three years. Her experience has been in Personnel as a wonderfully cheerful switchboard operator and recep-

tionist/secretary. We're very pleased she joined our group and I'm sure you'll find her delightful to work with. Our newest member, *Jeanné Kalben,* has been with HP only a short time, but is already displaying all the HP enthusiasm we pride ourselves on. She transferred into O. P. from the 2607A Cable Area in March. We believe she will prove an asset to O. P. in record time.

THE REST OF ORDER ADMINISTRATION
(L to R) *Marj Kondo, Rich Suyehira, Karen Nichols, Sallie Bertram*

In two years we have had 100% growth. It's been touch-and-go at times, but it has always been exciting. As far as I can see (roughly two inches), we will maintain our current size for several months.

COMPUTER SERVICE NEWS

Division News

Fick Foundry Finds Us Fine
By: Olen Morain/CSD

CONGRATULATIONS! KUDOS! Good numbers go to *Tom Winker, Jack Hymer, Al Hertling* and the behind the scenes support staff of the Neely Bellevue office. Looks like they've figured out what "Red Alert" means and can really do it. Just read the following letter:

FICK FOUNDRY CO.
1005 EAST E STREET TACOMA, WASH. 98421

Phone (206) 572-8294
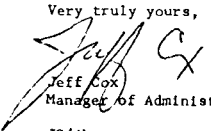Telex 32-7476

February 8, 1978

Jim Kemp, Regional District Mgr.
Hewlett-Packard Corporation
3939 Lankershim
North Hollywood, California 91604

Dear Mr. Kemp:

As anyone who has worked around computing machinery knows, they are going to fail hard at least once and, according to Murphy's Law, at the most inconvenient time. Knowing this, I took the considerable risk of recommending leaving IBM as a "safe" solution and my management took the same risk in choosing to trust my judgement over strong protests from the prior vendor. Our year with Hewlett-Packard has been enjoyable with many good associations and the comfort of having a really good product. Even so, one never knows how the new guys are going to handle the really tough one.

Last week, one drive failed hard right in the middle of month-end, and we had our chance to watch Hewlett-Packard perform in crisis mode. Tom Winker of the Bellevue office marshalled his forces and sent us two of his brightest and best - Jack Hymer and Al Hertling. While Tom was lining up a spare drive for contingency, Al and Jack spent three days unravelling crushed wires, a bad board and dirty rails trying to find an intermittent problem. Their cheerful and cooperative attitude during the effort helped us immensely in keeping our staff calm through the crisis and in reassuring management that the problem was being handled, while their technical skills unravelled a difficult problem in the minimum possible time.

I am writing to you because I feel performance at this level should be brought to the attention of H-P management. As a business customer, knowing we have people like Tom, Jack and Al and an organization like H.P. available to us is a source of satisfaction. Of all the choices that can be currently made of data-processing machinery, we feel more than ever that we have made one of the correct ones.

Very truly yours,

Jeff Cox
Manager of Administration

JC/jk

That's one guys and gals: let's keep it going.

DATA SYSTEMS NEWS

HP-ATS—A New Instrumentation System Concept
By: Greg Gillen/DSD

During the month of February, DSD conducted a domestic New Product Training Tour for the CSG technical sales force and the Instrument sales force on a new system concept called HP-ATS. Aside from being the first joint SF01/SF02 New Product Tour since the "old days", HP-ATS represents the first system offering designed to encourage 01/02 Team Selling as a means of bringing the best talents of HP to bear on solving our customers' automatic measurement problems.

Simply stated, HP-ATS consists of a series of HP products and services which can be ordered from HP in several stages of completion (or "integration"). If a fully completed HP-ATS is ordered from HP, the customer receives a "customized" automatic test system for less than most competitors can sell an off-the-shelf solution with the same capabilities.

Drawing on HP's broad line of HP-IB instrumentation, HP-ATS currently has over fifty standard instrumentation functions to offer—and the list is growing! This long list of instrumentation coupled with the power and flexibility of the HP 1000 system makes HP-ATS a tough concept to beat (by in-house system builders as well as commercial competitors).

And it's priced right! A rough rule-of-thumb for pricing a fully integrated HP-ATS is to take the list price of the catalog items (HP 1000, peripherals, instruments, etc.) and add from twenty-five to thirty-five percent (eight to ten percent of which is clearly identifiable hardware such as rack cabinets) for integration.

We know this price will beat most competitors with similar capabilities and it should also elicit "pause for thought" from the managers of the in-house system groups of large manufacturing companies.

If you missed the New Product Training Tour and wish to receive an HP-ATS Field Binder please contact me at DSD.

The binder includes, among other items, an HP-ATS Field Training Manual which answers many customer-generated questions and an example of a completed HP-ATS Configuration Guide. Based on several dozen comments and completed Configuration Guides, the HP-ATS appears to be a clean way for the 01/02 team to field-configure a customized automatic test system.

DSD OEM's Unveiled!!
By: Jim Anderson/DSD

Looking for an HP 1000 OEM who measures factory production in kilo-widgets per fortnight then correlates the result with the amount of coffee consumed?

The all new *HP Data Systems Guide to OEM's and Systems Houses* may have the answer! Indexed by industry, application, and company name, this HP internal document provides brief descriptions of scores of HP 1000 OEM applications. Like its predecessor (the *HP Guide to OEM Customers*), this new guide is sure to give you a deeper understanding of the capabilities of our HP 1000 OEM's.
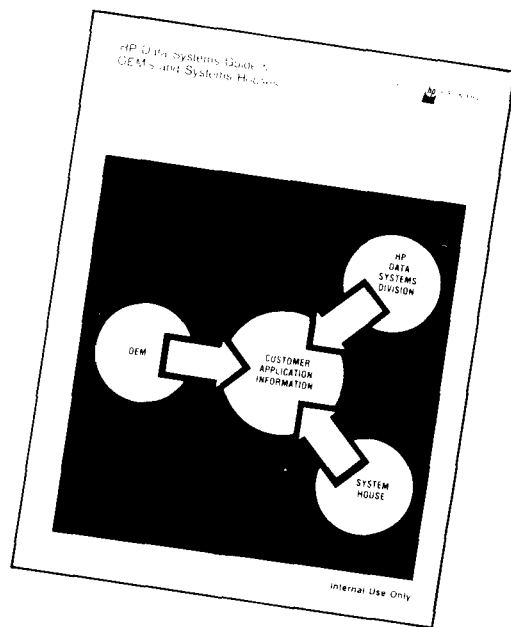
Since the new guide is a product of an IMAGE/1000 database it is easy both to maintain and to update. Present plans call for new copies to be issued semi-annually to the field—But its success depends on you!!

Check your copy of the guide to be sure it includes descriptions of activities carried out by OEM's in your district. Of special interest is a new section on program development tools. With your help, this section will grow into a forum through which OEM's may inform you as well as each other of cross-licensable software.

Be sure to fill out a form at the back of the guide for OEM applications which are missing or new ones as you sign them on.

Look for your copy to be available with the April NPT Tour!!

DS/1000—A Guide for New Users
By: Bill Stevens/DSD

Suppose the HP 1000 systems have been delivered and have been initialized for DS/1000 network connections by the customer's Network Manager. Now it's time to familiarize members of the programming staff with the capabilities of DS, but they're a bit apprehensive. What should you suggest? Or, perhaps you have a sales prospect who would like to sit at a DS/1000 network node and get firsthand experience before recommending a purchase. How can you get him started?

You've now got the answer! It's a new reference manual: *DS/1000: A Guide for New Users*. It's a comprehensive but simple roadmap that starts the terminal user with the system prompt (*) at the *local* node and guides the user through the creation of a FORTRAN source program file on a *remote* node; through its editing, compilation, loading and finally through its execution.

The FORTRAN program is simple and only 14 lines long. It does a FORTRAN Write and then Read to a terminal on a remote DS/1000 node. It's an easy-to-use yet powerful example program.

In addition, the Guide shows how to develop a simple FORTRAN program on an HP 3000 from a terminal on the HP 1000, how to run the HP 1000 node initialization program as well as a number of other valuable "how to's".

The *DS/1000: A Guide for New Users* brochure has Part No. 91740-90015 and is shipped with every 91740A/B DS/1000 product. It is also obtainable by part number via HEART Orders to Division 22.

GOOD SELLING!

SOS Sells Our Strengths
By: Dave Hannebrink/DSD

A highlight of many DSD factory visits (see *Bill Kaiser's* article in this issue of the *CS Newsletter*) is a walk through our Large Scale Integration (LSI) facility. Once just a development lab, the area has now grown into a full-scale manufacturing entity. Under the direction of *Larry Lopp*, the group manufactures LSI components using HP's Silicon-on-Sapphire (SOS) process and also conducts on-going development of next-generation SOS techniques. We currently use SOS microprocessors and memories in various DSD, DTD, and Boise products; future products throughout CSG will feel the impact of SOS.

The fact that we have the in-house LSI expertise to develop new products and processes affords us a technological advantage unmatched by our competition. We can innovate using state-of-the-art LSI technology (rather than merely react to the current product offerings of the semiconductor vendors) when designing our products. To share this HP technology with visiting customers, we've built a set of 36" × 48" plexiglass panels depicting the SOS story in three parts.

Left Panel
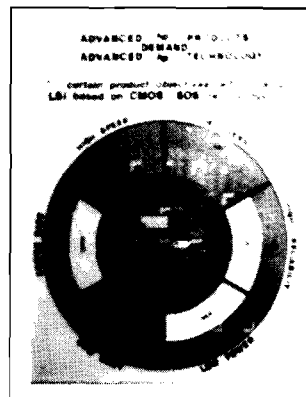
On the left, the panel aids a factory tour guide in explaining why we chose an SOS process and how it satisfies CSG's product design objectives. The center panel is a collage of

Center
Panel
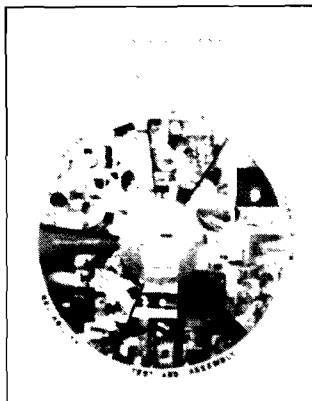
photographs taken around the facility; it graphically describes how SOS components are manufactured and, just as importantly, impresses the viewer with the investment (people and equipment) needed to realize a productive LSI process. HP obviously has the financial stability and technical expertise to make such an investment. Finally, the third panel displays current SOS components via the 2240A

Right
Panel
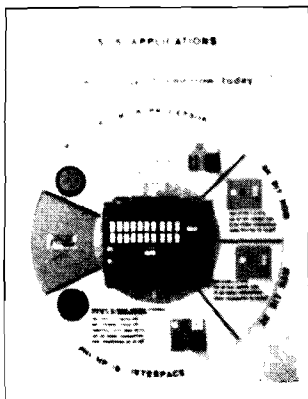
Measurement and Control Processor. It drives home the point that we do indeed build products with SOS components and provides a departure point from which to speak of our commitment to SOS and its future design implications.

Identical sets of these displays were shipped to Grenoble and YHP in December. They bring a "little of DSD" overseas and should aid in further enhancing the factory visits programs in those very key places.

We'll mount the panels on the walls of the plush new DSD demo center. They'll provide a professional presentation tool that can be used to Sell Our Strengths with SOS.

Videotapes To Increase
Market Penetration
By: Stan Ratcliffe/DSD

Due to the increasing complexity of our industry and DSD products, it is becoming more imperative to keep field personnel fully aware of Sales and Technical Support information. This information is available in the form of videotapes. Currently there are approximately 50 such

support tapes available for the field use. The tapes range in topic from technical information on the 21MX Computer Series and Distributed Systems to Manufacturing Control, shop floor design and many, many more field supportive topics. The available topics are very valuable to the field sales personnel in helping you to better understand your customer's needs. A list of available videotapes for DSD can be sent to you by contacting *Ms. Cris Bonetti.* Her location is Division 0700, Bldg. 18, Palo Alto.

If ordering a particular videotape, please use an IOS at $30.00 per tape.

Hewlett-Packard Journal
Features HP-DSN
By: Bill Stevens/DSD
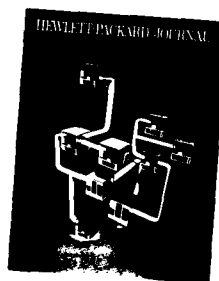
The entire March issue of the *HP Journal* is devoted to HP Distributed Systems Network products recently introduced, HP-DSN design objectives and HP's participation in the Project Prelude satellite communications experiment. The articles are written by Lab Project and Section Managers and provide an excellent insight into the structure and capabilities of HP-DSN products for your customer's future DS Network Managers. The articles included are:

- **The Hewlett-Packard Distributed System Network**
  HP-DSN is a set of Distributed Systems products and a set of design objectives that provide a framework for interconnecting HP computer systems to form a network.

- **Distributed Systems/3000**
  DS/3000 makes it possible for the user of an HP 3000 computer system to communicate with remote HP 3000, HP 1000, and HP 2026 computer systems.

- **Distributed Systems/1000**
  DS/1000 makes it possible to interconnect HP 1000 computer systems in virtually any configuration to integrate instrumentation, computation, and operations management tasks, and to link these systems with HP 3000 Series II systems for distributed data processing.

- **Data Entry and Communications Systems Have Network Capabilities.**
  HP 2026 systems are designed for high-performance data entry, local file inquiry, and data communications with each other and the HP 3000.

- **Experimenting with Satellite-Linked Computer Networks**
  Project Prelude is an advanced computer communications experiment involving several companies, a satellite, and HP 3000 Series II computer systems.

The *Journal* has been sent in bulk to your sales office. I think you will find it invaluable.

Your Most Powerful Selling Tool

By: Bill Kaiser/DSD

What is your most powerful selling tool as a field sales engineer? Why, a customer visit to the factory, of course! Old-timers in the field recognize the value of these visits—in clinching a big sale, ironing out a service problem, getting an update on technology, etc. Newcomers may not be aware of the great positive potential that exists in a trip to the factory.

A lot can be accomplished on such a visit. The kinds of things that your customer can learn are:

What kind of company is HP? A factory visit will give him a good feeling about HP's size, strength, and stability. By meeting people who work here, your customer can begin to understand our philosophy and our way of doing business—the HP way.

How do we build our products? An effective factory tour and thorough presentations will show your customer how we strive to build-in quality and reliability in our products and how we use product assurance to monitor those features.

How do we use computers internally? In the lab, in training, and in manufacturing, your customer will see HP computers in action helping us run our business. These applications in which we use computers may prove to be of specific interest to your customer.

The following guidelines can help everyone—field *and* factory—in setting up a smooth, successful, impressive visit.

First and foremost on your list should be *leadtime*! If at all possible, you should try to give your Sales Development contact at least three weeks' notice of an upcoming visit. This should give him enough time to line up all of the necessary factory resources. Keep in mind that if you will require higher level management to meet with your customers, then the leadtime should be as long as possible—our managers invariably have very full schedules, and the sooner they know about a visit, the better. Also keep in mind that our managers are critical resources—exercise good judgment before you request their time. Chances are, they'll be more than willing to help out!

The very best way to document and plan your visit is by using the "California Visit and Schedule Worksheet" recently distributed to the sales offices. This worksheet is a tremendous help to us at the factory, and will help you, too. On the "California Visit" side of the page you should fill in various information such as company name, visit date, your name and office, OEM or End-User, company size, etc. Now this may seem to be very basic information, but you'd be surprised how frequently it gets omitted. Other important tidbits are the division host and the overall visit coordinator. Designating a coordinator for a multiple-division visit prevents parallel efforts, which can be disastrous. More vital facts:

1. **Visitors' names, titles, and computer experience.** Knowing this allows us to custom-tailor the visit to your customer's relative position in his company and to his technical expertise.
2. **Visit objectives.** Why are you bringing them out? What do you (and they) hope to accomplish? What information or impression do you want them to go away with?
3. **Sales situation.** Are we in a "hard-close" situation where you need a heavy hitter? Has there been a problem with this account? Or are they strictly on a fact-finding trip?

On the "Schedule" side of the worksheet, you can get down to details. Tell us when you're arriving and where you're staying in case we need to get in touch. Very important—indicate what *specific* topics your customer wants to talk about. If you don't see a certain topic on the sheet, put it down!

Now for a tentative agenda. Arrange the discussion topics the way you think is appropriate. A few hints are in order here. First of all, a review of the agenda with the customer should happen early in the visit day. That way, if he changed his mind on the plane on the way out and didn't tell you, we can reallocate and rearrange on the fly. Also—customers often welcome the chance to make a presentation to *us* early in the visit, outlining their organization and/or their particular computer application. These presentations are not a necessity, but they are extremely informative and give your customer a chance to make *his* pitch.

A working lunch (i.e., in the factory) usually works well and allows more flexibility in the schedule—if speakers are running late, the time can be made up at lunch. And a factory tour after lunch helps keep everyone awake!

Your Sales Development Engineer will be happy to help you with the agenda, but please make a first pass at one before you call him.

A few odds-and-ends to help make the visit perfect: Has the customer ever been here before? Would a demo of the shake table and a tour of the environmental area be appropriate? How about other demos? What division will they be visiting next? What division will they be coming from? Will we be taking them to dinner?

We can't emphasize enough the use of the "California Visit and Schedule Worksheet". It doesn't take long to fill out and its value is enormous. By Xeroxing it and attaching it to an agenda, your Sales Development Engineer can provide the key players for the visit with all of the vital facts and background they'll need to be effective. In addition, by filling one out, it will help *you* focus on the purpose and details of the trip.

To reiterate—a customer visit to the factory can really be a powerful tool if done properly. The benefits can be both tangible and intangible—your customer will get the concrete information he needs and a comfortable feeling in dealing with HP. Feel free to give us a call to help you set one up.

GOOD SELLING!

A sample "California Visit and Schedule Worksheet". Call Sales Development if you haven't received a copy of one.

Competition

DECNET (Version 2) Introduced

By: Bill Stevens/DSD

Coming from behind a questionable reputation for network reliability, DEC has reintroduced DECNET to the marketplace. *Computerworld* ran "DEC Links Incompatible Systems . . .", while *Electronic News* references its previous article describing how last September, DECNET crashed 17 times in one day prior to a Walgreen's Drug Store press conference. (DS/1000 is proven and working in a large number of network nodes today).

DEC modified its Network Service Protocol (NSP), Data Access Protocol (DAP) and their DDCMP line protocol to "prevent network overloads", to allow greater throughput and to allow support of new systems in DECNET. The latest press release is not specific on the throughput improvement with Version 2; a Version 1 DECNET system was very limited as explained in the *DS/1000 Field Training Manual Vol. II.*

DEC has added new systems to DECNET. In particular, a DECNET-VAX product has been announced for VAX-11/780 computers running the VMS operating system. It is *not* available now, but is promised with first customer shipments of VAX/VMS slated for January, 1979. DECNET-VAX software is expected to cost $2700.

DEC also announced DECNET support for LSI-11 microcomputers operating under RT-11 and RSX-11 operating systems. However, at this time, there is no announced LSI-11 compatible communications interface

hardware specifically designed for network links. The most likely candidate is a four channel, asynchronous, interrupt-per-character interface capable of 38.4 Kbps operation.

DECNET-RT for PDP-11 computers operating under the RT-11 operating system and DECNET/E for use on PDP-11/34 to 11/70 computers operating under RSTS/E are also new. They are both expected to cost $2700 per system.

DEC has added dynamic reconfiguration of communications lines—"the ability to switch lines without interruption of service". It is unclear at this point whether this means switching by a terminal user, a user program or by DECNET software. (In DS/1000 an alternate link can be set up very simply by running the interactive nodal initialization program.)

Overall, however, DECNET features do not appear to be significantly expanded. They include program-to-program communication, sequential remote file access and file transfer. New interactive remote command processing/virtual terminal and remote FORTRAN Read/Write capabilities were not announced. (DS/1000 has these capabilities now.)

DEC's press release goes to great lengths to say that DECNET communications are point-to-point. They do not have the store-and-forward communications capabilities of a generalized nodal network like DS/1000. Therefore, as DEC networks grow, customers must change their application programs and write new ones for intervening systems. In DS/1000, programs are truly transportable, even to HP 1000 nodes not directly connected; and, therefore, a customer's software investment is preserved.

DS/1000 is forging ahead on the basis of solid, state-of-the-art networking technology that is eminently useable in customer applications today. Are we keeping it a secret? NO!! The March 6th issue of *Computerworld* has a special report on Distributed Processing. Pages S/11 through S/20 contain a full color reprint of the *HP Computer Advances* issue on Distributed Processing featuring DS/1000 and Project Prelude. Pages S/8 and 9 have the HP global communications ad that is titled "How can you tell if Distributed Processing will work for you? Look at the job it's done for us". Page S/8 contains a story of how Farah Manufacturing uses 4 HP 1000's and an HP 3000 linked in a network (via one of the HP 1000's acting as a programmable controller) for manufacturing control. On page S/3 another application story describes how DS/3000 is being used at Spalding (as in sporting goods). And, you can expect more advertising and application story support for HP-DSN in the future.

GOOD SELLING!

HP 1000 Show in Venezuela
By: Van Diehl/DSD

Our Caracas Sales Office has put on an impressive show of computers and calculators.

The show was organized by the U.S. Department of Commerce and included data processing equipment from DEC, DG, Wang, NCR, etc.

The HP 1000 was certainly the star of the show. It showed an IMAGE/1000 DBM demo. An interesting note was that the building did not have any air conditioning and the temperature was in the 100's. Most of the other companies' equipment was switched off because of that. In fact, IBM, Burroughs and others withdrew from the exhibit because of that factor.
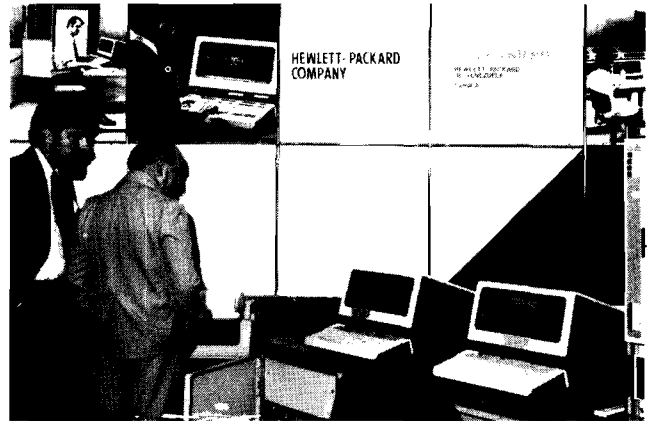
Shown below is Helenio Arque, CSG Regional Sales Manager, talking to the Venezuelan Chamber of Commerce president and two U.S. Embassy assessors.

Left to right: Assessors from the U.S. Embassy, *Presidente Fedecámaras*, Helenio Arque.

New Applications

Field and Factory Combine for Technical Application Sale
By: Stan Ratcliffe/DSD

In a process that started three years ago, HP recently secured several orders for System 1000's interfacing with HP 9825 calculators in a Southern California hospital. The customer purchased HP over our competitors due to the efforts of our Applications Marketing group to generate an application note pertinent to the problems encountered by the potential customer. It was evident that the customer needed very technical support in developing an interface between 9825's and HP 1000's. Both local SE support and Applications Marketing rose to the occasion to help satisfy a customer need and to give that extra effort to compliment the salesman's persistent efforts.

The total effect has been that the application note generated has assisted in other sales and the customer in Southern California is making a total commitment to HP technology.

Congratulations to the Neely South Technical Sales Rep and the Applications Marketing group for a job well done in combining forces to close that order.

DATA TERMINALS NEWS

Division News

DTD's Foreign Connections
By: Bill Swift/DTD

For some time now, we've been telling you that half of the terminals that DTD sells are NOT used on HP computers. HP first started manufacturing its own terminals so that we would not have to depend on other vendors to supply terminals for our systems. Our biggest customers are still DSD and GSD, but we can measure the success of our terminals by their overall acceptance in the marketplace. Our terminals are currently operating on virtually all computers that support Teletype compatible terminals. The key feature here is flexibility. In addition to the DC1/DC2 protocol used by HP systems, the terminals also have the flexibility necessary to satisfy the needs of most foreign computers. This one fact is important to your sales effort because it opens the door to selling terminals in accounts where you have not been successful in selling computers.

Everyone who uses computers has a need for terminals. A good rule of thumb is that your customer will probably replace at least 10% of his terminals every year. He will also be purchasing additional terminals to fill new requirements. The opportunity exists to sell HP terminals at every account you call on. In fact, many customers who originally bought only our terminals have later bought our computers also. The terminal has been a real door-opener to some major accounts. Selling terminals is also a good way to generate those commission checks while you're working on large system orders.

DTD is currently working on a new application brief which describes how to connect our terminals to foreign computers. In addition to a generalized discussion on interfacing the terminal, we'll also have detailed descriptions on successful connections to a wide range of CPU's. We're in the process of collecting this information now, and we can use your help. We would like to get any information you have on interfacing to foreign CPU's. Sample forms have already been mailed to you. As we receive your information, we'll also be including it in the *CS Newsletter*.

Use the form on the following page—you and we need the information!

Hewlett-Packard's Bildschirmstation-Familie

La familia de terminales de pantalla Hewlett-Packard

De beeldscherm-terminals van Hewlett-Packard

La famille des terminaux a ecran Hewlett-Packard

Hewlett-Packards bildskärmsterminaler
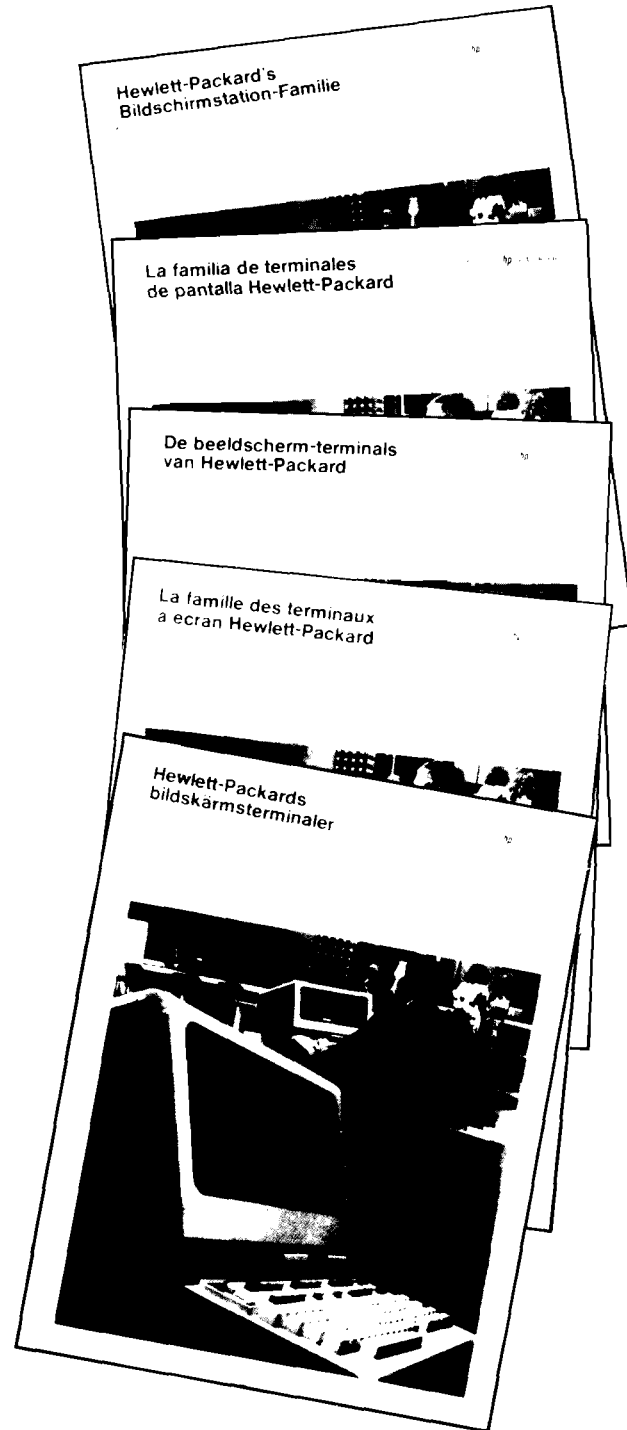
DTD "Foreign Connection" Survey

DATE:_____

ENGINEER   _____

OFFICE   _____

CUSTOMER   _____

<u>CPU</u>

		<u>DATACOMM</u>	
Manufacturer/Model	_____	Hardwired/Remote	_____
Memory Size	_____	Modem/Data Set/Coupler	_____
Operating System/Level	_____	Modem Options/Settings	_____
Comm. Software	_____	Half/Full Duplex	_____
Application Software	_____	Sync/Async	_____
Datacomm Front-end Equip.	_____		
Interface Card Type	_____		
Communications Protocol	_____		
Terminal Log-on type	_____		

<u>TERMINAL</u>

Model	_____	Keyboard Switches:	
Options	_____	Baud Rate	_____
Interface Card	_____	Parity	_____
Current Loop	_____	Half/Full Duplex	_____
Cable	_____	Latch keys	_____
Character/Block/Polled	_____		

Internal Switches:

1. Keyboard Interface PCA (open switches only)

    _____

2. Datacomm PCA (closed switches only)

    _____

<u>COMMENTS</u>   (Special modifications to cable, software, etc.)

<u>CUSTOMER APPLICATION</u>

DTD Sales Development Lineup

By: Carl Flock/DTD

Carl Flock	Manager	Eric Grandjean	ICON, CSR
Randy Norris	NSR-Northern California	Francis Marc (at Grenoble)	HPSA - Manager
		Richard Franklin (at Grenoble)	UK, Netherlands, Belgium, Denmark
Wendi Brubaker	NSR-L.A.		
Mike Tarens	NSR - Other	Maurice Poizat (at Grenoble)	Germany, Spain
Martin Gonzalez	MSR-W, MSR-E	Christian Graff (at Grenoble)	Italy, Sweden, Norway, Finland, Switzerland
Serge Daoust	SSR		
Bill Swift	ERS-Central		
Tim Haney	ESR-North/South	Hideki Gushima (at YHP)	Japan

Peripheral Show in Japan

By: Hideki Gushima/YHP

A trade show entitled "FY'78 OFFICE COMPUTER AND PHERIPHERAL SHOW" was held at Osaka International Trade Center from February 22–24. We introduced 2640 series terminals including the 2640B, 2645A, 2648A, and our domestic use terminal — the 2645K. We also exhibited the 2631A Printers and 7221A Plotter.

This show is the only show exhibiting data products held in the Osaka area. Osaka is the second largest city in Japan. There were 27 companies represented at the show and it was YHP's first experience in participating in this exhibit.

As you can see by the photo, our booth was crowded with visitors every day. We estimate that we identified five new OEM's and volume end users at this show. A total of 45,000 visitors came to see the exhibit.

14

Product News

Terminal Dependent Options Update

By: Eric Grandjean/DTD

A number of terminal options are model-dependent. They are all listed in the current Corporate Price List.

Below is a synopsis of terminal-dependent options with corresponding ROM part numbers, and locations on supporting Printed Circuit Assemblies (PCA).

Communication Interface		13260A (Opt) (STD)	13260B (Opt) (2640X Opt 020)	13260C (Opt)	13260D (Opt)
2640B 2640C 2640N 2640S		PCA 02640-60086	02640-60089 (13250A) 02640-60143 (13250B)	N/A	N/A
2641A		PCA 02640-60086	02640-60143	02640-60105	02640-60107
2645A 2645R 2645S		ROM 1818-0213 (STD)	1818-0213 (STD)	1818-0434 (STD) 1818-0433 (001) 1818-0435	1818-0434 (STD) 1818-0433 (001) 1818-0435
2645K		PCA 02640-60086	02640-60143	SAME	SAME
		ROM 1818-0371 (004)	1818-0371 (004)		
2648A		PCA 02640-60086	02640-60143	SAME	SAME
		ROM 1818-0411 (003)	1818-0411 (003)		
ROM Location		PCA 02640-60192 20	02640-60192 20	02640-60192 20 20 22	02640-60192 20 20 22

Please note three new multipoint communication ROM's in latest 2645 and 2648A series production. 1818-0434, 1818-0433, 1818-0435 are now replacing ROM's 1818-0214, 1818-0261, 1818-0288, respectively, as shown in a previous article (see the February 1 issue of the *CS Newsletter*). Original and new ROM's should not be mixed during repairs.

Strapping Those 8K RAM Boards

By: Tim Haney/DTD

There are five straps on the 13297A WCS/RAM card (P/N 02640-60118) which must be properly installed for correct operation of the WCS/RAM. The straps are 8K, 16K, 32K, RAM ENAB and GO SLOW. For all intents and purposes, the GO SLOW strap should always be in. The memory addressing straps are configured the same as the standard 4K RAM cards. That is — add up all blank (i.e., positions without straps) locations; the total is equal to the cards' starting address.

For example:

8K xxxx	8K	8K xxxx
16K	16K	16K xxxx
32K	32K xxxx	32K xxxx

The left column is strapped to start at 48K.
The middle column is strapped to start at 24K.
The right column is strapped to start at zero K.

The remaining strap "RAM ENABLE" may cause confusion. The purpose of this strap is to make the WCS/RAM look like a WRITE-only memory. By this, we mean that the processor can put data into the RAM, but cannot read data out. You might ask why we would ever want to do this. The answer is that when RAM resides in concurrent memory space as ROM, we need to be able to read from RAM or ROM, but not both! Remember that both the WCS (RAM) and the memory control (ROM) talk to the processor over the top plane. Since ROM is always "read" only, the "write" problem is taken care of. When the processor wants to write data, it must go to RAM. If no RAM is there, you will simply lose your data. But when the processor wants to read data, it should know where the data is coming from. It can determine this by knowing whether or not the ROM is enabled or disabled. The processor controls this by hardware which, in turn, is controlled by firmware.

This is probably starting to get a little confusing, since if the RAM ENABLE strap is in (i.e., the WCS is write only) and the ROM is disabled, then where is the processor going to get its data! This is where the tricky strapping solves our problem because it turns our that *IF* the ROM is *DISABLED* and *IF* the RAM ENABLE strap is in, then the WCS card becomes

READ/WRITE RAM. However, *IF* the ROM is *ENABLED* and the RAM ENABLE strap is in, then the WCS card becomes a WRITE ONLY RAM. The "gotcha" comes when the RAM ENABLE strap is out because then the WCS card is always READ/WRITE RAM, regardless of whether or not the ROM is enabled or disabled. What all this means is that if the WCS is strapped in concurrent memory with ROM, then the RAM ENABLE strap must be in and there must be some firmware which controls the ROM enable/disable lines. If the WCS board is strapped to a start address higher than the terminal ROM, then the RAM ENABLE strap must be out. **(Editor's Note: Got that all OK . . . . ?)**

WCS "RAM ENABLE" OUT = READ/WRITE ALWAYS

WCS "RAM ENABLE" IN = WRITE ONLY IF ROM ENABLED

= READ/WRITE IF ROM DISABLED

One more point — the WCS card cannot be used for display memory. This is because it is directly accessed by the processor over the top plane BUS. Display memory is required to be accessed over the BOTTOM PLANE ONLY.

Registration Terminal Application — Graphics Softkey Application Note #4
By: Eric Grandjean/DTD

Here is a 2648A application which may be useful to you, especially for open houses and your local shows. It was developed specifically for the Computer Caravan, presently touring the U.S.A.

It registers visitors' names, addresses and requests for documentation on cartridge, with appropriate safeguards against erasing or overwriting previously entered records. The registration process is pleasant to watch and at the same time it demonstrates some of the many features of the 2648A.

It is believed to be foolproof as far as its operation is concerned, thanks to a modification of the keyboard consisting in locking unused keys and masking the keyboard overlay, except for one essential RECORD key, itself function key 5.

The application also includes a part which can be used to automatically print gummed labels for mailing purposes and for office records. As you will see below, the whole thing is implemented in softkeys, chained together, which is a clear demonstration of the power available in the 2648A.

To run the registration program, just load the application from the left drive cartridge and install a blank cartridge in the right drive. After REWIND, an end of data should be written on the blank cartridge by pressing f8. From then on, everything is automatic.

The printing operation requires a 2631A. After loading the application and placing the 2631A on line with the 2648A (or a 2645A), press f8 key to print one record, or f7 to print continuously. A copy of each record will appear on the formatted screen as it is printed.

```
NAME
                _____
TITLE

COMPANY

ADDRESS

CITY                    |        -        |
                        ZIP CODE
PHONE #  (    )        -     |
```

```
             WELCOME
HEWLETT PACKARD COMPUTER
           CARAVAN
```

```
        VISITOR REGISTRATION
```

```
I AM AN END USER  |    I AM AN OEM  |   PLEASE MAIL ME ADDITIONAL INFORMATION

HP 3000 COMPUTER SYSTEMS       1 |          HP 1000 COMPUTER FAMILY        2

HP 2630 FAMILY PRINTERS        3 |          HP 2640 SERIES DATA TERMINALS  4

                PLEASE CONTACT ME IMMEDIATELY !         |
```

```
After you fill-in this form, press RECORD key to record your registration...
```

Useless to say, but I will say it nevertheless — it would not be too difficult to modify this application to suit your particular needs or the needs of your customer.

```
   HI! YOUR REGISTRATION IS COMPLETE      PRESS THE RECORD KEY

                                               OR ELSE....

                                                   R
                                                   E
                                                   T
                                                   U
                                                   R
                                                   N
```

Mail me a cartridge to get the complete application.

GOOD SELLING!

```
CR N
¬
f1 L
⅄⅃p-1p2u2C⅄h⅄⅃p3s2dF⅄⅃p2u6C⅄⅃p-2p2u2C⅋⅄•dbⅼ40,200oS⅄•m3m2q3ATHANK YOU!⅄⅃f4E
f2 L
⅄•m5q2M⅄•1THANKS AGAIN!⅄⅄•dcL⅄⅋⅄⅋⅄W⅄⅄•d4i4i5i5i6i6i7i7i8i9i10i11i12I⅄⅃f6E
f3 L
⅄•dⅼ280,200osL⅄•m2m2q3A⅄⅃p2s3dB⅄•d1T⅄⅋⅄⅋⅄⅋⅄•dⅼ070,70oS⅄•1Your registration⅄⅃f7E
f4 L
⅄•pa270,180,635,180 635,180,635,217,635,217,270,217,270,217,270,180Z⅄⅃f3E
f5 L
⅄•ddⅼ140,200osfb3iG⅄•m3m5q3A⅄•1STAND BY!⅄⅄•dC⅄⅋⅄•ddl1igtacE⅄•dF⅄⅃p2u3C⅄⅃f1E
f6 L
⅄•d13i14i14i15i2ia1ia1I⅄•deT⅄•m2A⅄•pa373,204,408,221,408,187,373,204Z⅄h⅄J⅋
f7 L
 has now been recorded⅄⅄⅋⅄⅋⅄⅋⅄⅋⅄•d1dⅼ150,070os3ibG⅄⅃f2E
f8 L
⅄⅃p2u6C
```

PRINT PROGRAM INSTRUCTIONS

1) INSTALL PAPER AND/OR SELF STICKING LABELS IN 2631 PRINTER (ON-LINE,6LPI)

2) INSTALL DATA CARTRIDGE IN LEFT DRIVE (WAIT FOR REWIND COMPLETE)

3) `AUTO LINE FEED KEY` MUST BE UP TO AVOID DOUBLE SPACE

4) TO PRINT ONE REGISTRATION PRESS `f8` (EI:TO CHECK PAPER ALIGNMENT)

5) FOR CONTINUOUS PRINT PRESS `f7`. YOU CAN STOP IT BY PRESSING RESET ONCE
   (DATA TAPE WILL REWIND)

THIS MESSAGE WILL STAY ON SCREEN

```
XXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXX  XX XXXXX          (XXX)XXX-XXXX E=X■O=X■I=X■G=X■D=X■B=X■D=X■CALL=XX
```

```
CR N
¬
f1 L
⅄[                       ⅄]⅄⅄[                    ⅄]⅄⅄⅃c177417a361dd10D
f2 L
⅄[                       ⅄]⅄⅄[                    ⅄]⅄⅄⅃c177417a362dd10D
f3 L
⅄[          ⅄] ⅄[ ⅄] ⅄[      ⅄]⅄⅃a31c+0Y(⅄[    ⅄])⅄⅃c177417a363dd10D
f4 L
⅄[    ⅄]-⅄[     ⅄] E=⅄[ ⅄]■O=⅄[ ⅄]■I=⅄[ ⅄]■G=⅄[ ⅄]■D=⅄[ ⅄]■⅄⅃c177417a364dd10D
f5 L
Б=⅄[ ⅄]■D=⅄[ ⅄]■CALL=⅄[ ⅄]⅄[ ⅄]⅄W
f6 L
⅄H⅄J⅄⅃c177417a360dd10D
f7 L
⅄W⅄H⅄J⅄⅃p1s3dF⅄X⅄h⅄⅃p3s4dF⅄⅃c177417a366dd10D
f8 L
⅄W⅄H⅄J⅄⅃p1s3dF⅄X⅄h⅄⅃p3s4dF_
```

FORT COLLINS NEWS

Introduction to Fort Collins Division
By: Mike Chonle/FCD

Since *Doug Chance* announced our "annexation" to CSG in the last issue of the *CS Newsletter*. Fort Collins Division (FCD) would like to give you a few more facts about where we are and what we do.

FCD is located in Colorado — Ski Country U.S.A. We're in North-Central Colorado 65 miles North of Denver and 45 miles Southwest of Cheyenne, Wyoming. Our city, with an elevation of 5,004 feet, butts up against the foothills of the Rocky Mountains. Estimated population this year is 77,000. Fort Collins has a pleasant four-season climate. The annual precipitation is 14.9 inches. The mean temperature for January is 26.1°F, July is 69.4°F, and October is 49.6°F. The relative humidity is low. Average days of sunshine per year are 145 clear days, 151 partly cloudy and 69 days are definitely cloudy.

Fort Collins is within two and one-half hours of all major ski resorts in Colorado and lakes and streams abound in the surrounding National Forests for sports-minded people of all kinds. A wide variety of cultural activities are available through the local University as well as in Denver, 65 miles away.

Now that you know what a great area we live in let us tell you about FCD itself. In November 1975, we were the "gleam-in-the-eye" that happened! A spin-off from Calculator Products Division (CPD) in Loveland, Colorado, we were named Division "X" and moved into the basement of CPD. *Tom Kelley* headed operations with *Jack Anderson, Rex James* and *Alex Sozonoff* as Manufacturing Manager, R&D Manager and Marketing Manager respectively. Along about February, 1976, two significant events took place . . . we were given the name "Fort Collins Division" and . . . we announced our first product called the HP 98030A Business Information Management System (complete with application software for the accounting needs of small businesses). We derived our name as a result of moving into temporary facilities in Fort Collins, Colorado, just 15 miles North of CPD in Loveland, Colorado. While in our 40,000 square feet warehouse, we announced the HP 9896A Financial Information and Control System (complete with application software for the accounting needs of small businesses). This was in January 1977 and is the current product in addition to the HP 98030A which we market and support today.

April 1978 marks our next improtant milestone. FCD moves to its new permanent facilities in Fort Collins on a 160-acre site. The building will give us a little more room for our 200+ employees with its 160,000 square feet of floor space.

All of us from FCD are happy to join CSG and look forward to building new relationships with each of its divisions and the excellent sales team representing its products.

HAVE A ROCKY MOUNTAIN HIGH!

GENERAL SYSTEMS NEWS

## Distributed Processing Payload Ready to be Rocketted to Your Office

By: Larry Hartge/GSD

An Out-of-this-World Distributed Data Processing CARE Package can soon be on its way to your district office. The prestige of Project Prelude can now reach each and every prospective customer around the world!

This CARE package is loaded with classy promotional material:

- Vivid 4-color annotated 35mm slide presentation that tells the entire Project Prelude story—from the lift-off of the rocket through the usage of HP's state-of-the-art products in the demonstrations.

- HP's Distributed Systems Network is also presented in brilliant color, along with DS/3000—more annotated 35mm slides.

- Twenty beautiful Promotional Placards for placement on demo 264X terminals.

- "Project Prelude—Communications of the 80's" brochure is enclosed (you will soon be able to purchase these in bulk—watch the *CS Newsletter*).

- The striking new "Distributed Processing Solutions for Business and Industry" brochure that we've just completed—hot off the press.

- Copies of prestigious press coverage that we've received.

- The latest *HP Journal* that is devoted entirely to Distributed Processing—from HP-DSN to Project Prelude (see article in this issue on how to order in bulk).

Project Prelude tells the story—HP's Distributed Systems really are unique contributions to meet tomorrow's data processing needs today. With this truly "out-of-this-world" CARE package you can now "beam" this message to every prospective customer!

OUT OF THIS WORLD DISTRIBUTED DATA PROCESSING CARE PACKAGE
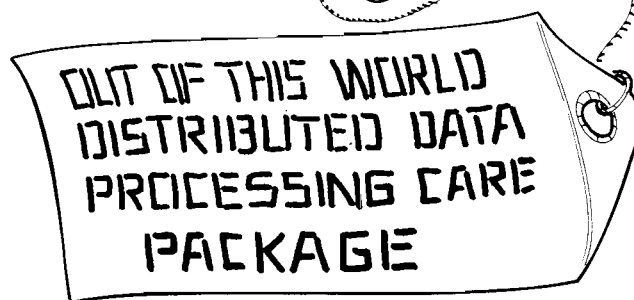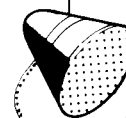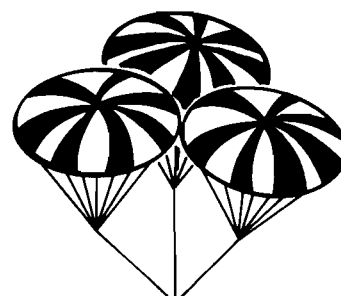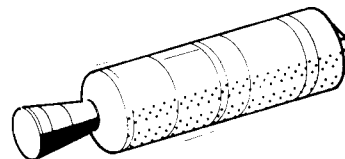
Try it—you'll like it! Supplies are limited to one copy per district office. Check with your DM to see if he has ordered his copy. If not, have him phone or TWX *Bea Cornejo* in GSD Sales Development at (408) 249-7020 X2777. Use it for two weeks—if you're not as impressed as we think your customers will be, then send it back. Otherwise simply send *Bea* an IOS or HEART order for Part No. 32190-90006 Prelude CARE Package at a price of $60.

Sales Literature—New and Not-So-New
By: Rudann Ramsey/GSD

Several pieces of sales literature have recently appeared on your literature rack. Some of them document new software packages and pricing policies; others are reprints or revisions of documents which have been out of print for some time.

Two new data sheets, documenting the CIS/3000 (5953-0545) and MRJE/3000 (5953-0544) software packages, have been distributed to all U.S. and Canadian sales offices.

A Computer Systems Price List (5953-0547) displays the March 1, 1978 price reductions on all three HP 3000 systems. Designed to supplement the pricing section of the domestic Price/Configuration Guide, it should be placed next to the Guide on the literature shelves in all U.S. sales offices.

A Guide for a Successful Relationship (5953-3000) is a new brochure distributed worldwide which explains the three-way sales relationship involving HP, a software supplier, and a customer. Written to the customer, the brochure describes the roles and responsibilities of each of the parties. It also affirms HP's commitment to working in a three-way relationship and describes how a customer can benefit from using a software supplier.

The Customer Support Services brochure (5953-0514) has been updated and reprinted, and we are in the process of filling your back orders. Important changes included in the brochure are a clarification of what the system installation service covers (pg. 4), a statement concerning warranty of our products (pg. 6), an update on our phone-in consulting service (pg. 8), and a restatement of the on-site software service offered by Hewlett-Packard (pg. 8).

The HP 2026 brochure has been reprinted and should now be restocked in your office. The Price/Configuration Guide containing only Series II data (5953-0539) has been distributed to all countries not authorized to sell Series I systems.

If supplies of these pieces of literature are not in your office now, they will be shortly. Additional copies can be ordered from *Edna Rodriguez* in the Corporate Literature Depot, Building 9B, Palo Alto.

HP 3000 Contributed Library—Volume III
By: Ralph Manies/GSD

Volume III of the HP 3000 Contributed Library can now be ordered from CSD:

|	
36995-10903	Volume III Package (tape plus manuals), 800 bpi
36995-11903	Volume III Package, 1600 bpi
36995-10003	Volume III, Tape Only, 800 bpi
36995-11003	Volume III, Tape Only, 1600 bpi
36995-90903	Volume III, Extended Documentation
36995-90003	Volume III, Manual

Volume III contains 111 programs from the HP 2000 Contributed Library that were converted to the HP 3000 (by the *University of Dallas*), updated STRESS and Lafayette Interactive Statistical Analysis (LISA) programs; a Job Planning system . . . and more.

Remember, users can obtain all three volumes of the Library by joining the Users' Group as a site member. (Site membership currently costs $100.00.)

The Users' Group got a little behind in reproducing tapes, and delivery was a little longer than normal; however, corrective steps have been taken. Future delivery of the Library should be 2-3 weeks *after receipt of membership dues* by the Users' Group.

Dedicated to Distributed Systems
By: Larry Hartge/GSD
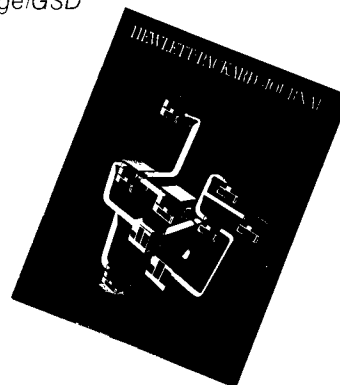
The entire March issue of the *HP Journal* is devoted to distributed systems networking—from network objectives to product capabilities and implementation, to satellite-linked computer networks (Project Prelude). If you had any problems describing all of this to your customers—your problems are gone.

This thirty-two page document, in the traditional *HP Journal* style, shows the reader how HP 1000's, 2026's and 3000's communicate in networks and what the networks are capable of doing. A super insight into the sophistication of these networking products is provided.

Increase your distributed systems knowledge by reviewing the copies your office receives. If you need bulk quantities of this document for seminars, etc., simply complete the handy coupon below.

```
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 Name: _____
 HP Sales Office _____
```

The HP 3000—A Terminal Case?

By: Greg Norton/GSD

No, we're not trying to give you any bad news about the HP 3000—quite the contrary! There is an error in the 3000 Price/Configuration Guide, though, that could smoke your customer's Asynchronous MUX unless you're aware of it.

Page 91 of the Price/Configuration Guide calls for a 13232N cable when connecting a 264X to the HP 3000, but as explained in *Rich Ferguson's* article in the February 1st issue of the *CS Newsletter*, this can cause a great deal of damage to the MUX.

So . . . what cable should you order to attach the terminals to the HP 3000? If you can live with terminals (or modems) connected up to 15 feet (or 4.6m) away from the system, the 13232A is the correct cable. But if you have to connect to something even further away—read on.

GSD makes three cables that can be used, depending on the specific application. Keep in mind that modems and the async MUX on the HP 3000 have *female* RS-232C connectors on them, while the 13232A has a *male* RS-232C connector.

The cables and their salient features are summarized below:

30062B This cable is 25 feet (7.6m) long, with a male RS-232C connector on each end. Its sole purpose in life is to go from the HP 3000 Asynchronous Multiplexer Junction Panel to either a Bell 103- or 202-type modem. It *cannot* be used for a hard-wired connection, or for a modem-terminal hookup either. For 50 feet of cable. (15.2m), order option 001.

30062C This is a 25 foot (7.6m) cable with a male connector on one end and a female on the other. All 25 pins are connected straight through, so this cable can be used anytime a cable you have needs to be a little bit longer. Option 001 increases the length to 50 feet (15.2m) and option 002 goes to 100 feet (30.4m).

30062D This cable is the "console cable" that is included with the system console on the Series II. It is a 25 foot long (7.6m) extender cable that has one male and one female RS-232C connector with three wires (Send, Receive, and Common) in it. This cable can be used for hardwired connections *only*.

This information should help eliminate the confusion generated by the Price/Configuration Guide, and should keep your customer from paying any expensive (and unnecessary!) MUX repair bills!
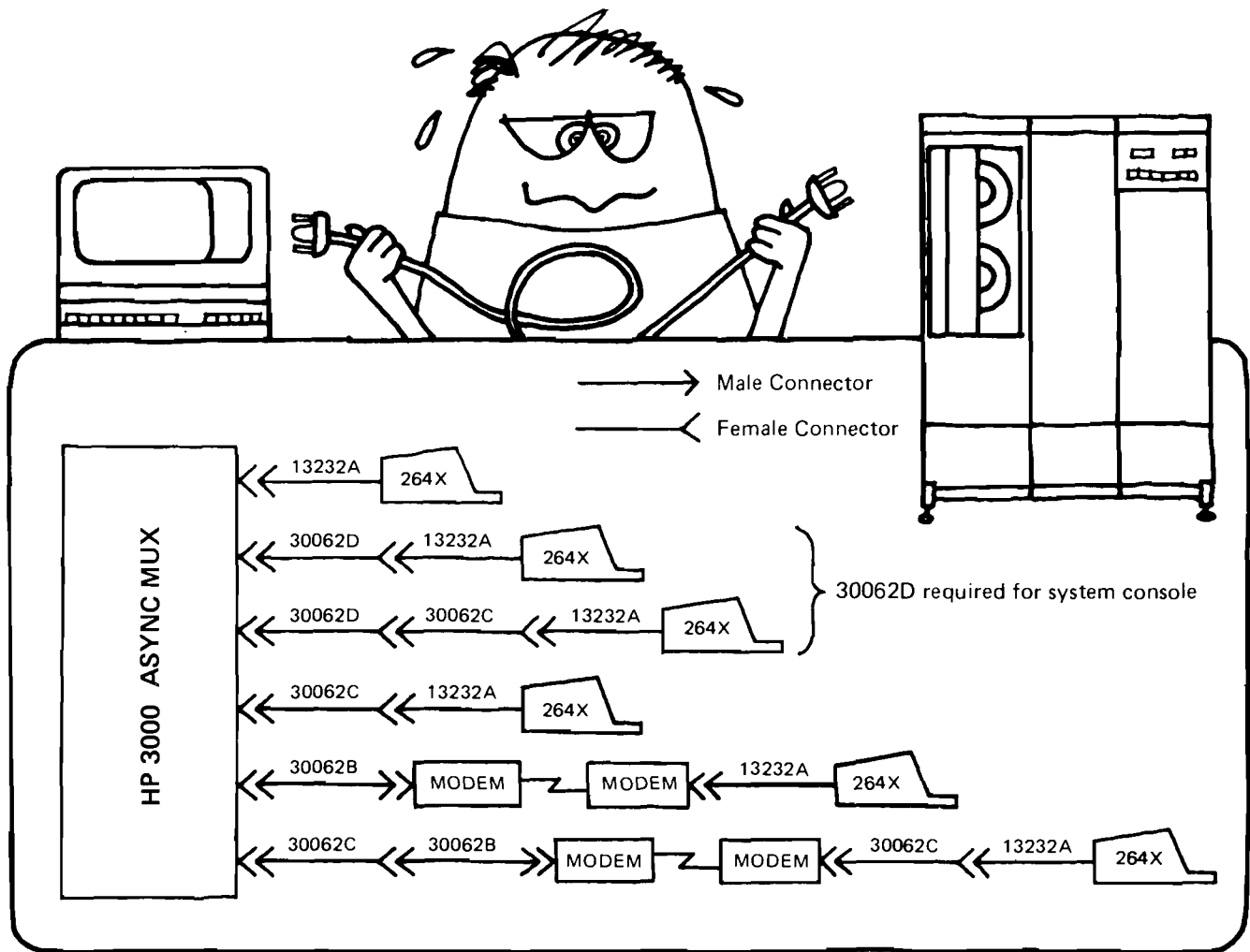
What Should I Recommend for Remote Sites—The HP 3000 or the HP 2026?

By: Dick Baumann/GSD

This question is one which seems to be asked often by our field sales people. It's very closely related to another frequently asked question . . . where does the HP 2026 fit in GSD's product line?

Suppose we have the situation where the customer needs a system to do all (or most) of the following at remote sites:

- Data entry with sophisticated "editing" of the data. The data may be checked against Master Data Files (e.g., checking against a parts file to make sure the part number entered is the correct one), or information from the Master File records may be used to complete the transaction. There may also be some "light" processing of the data (sorting, reformatting, simple report printing, etc.)
- Maintaining data files at the remote sites for inquiry applications.
- Transmitting data to a central computer for further processing.
- Remote Job Entry (RJE) to an IBM host system.

There are a number of factors that should be carefully considered before you recommend the HP 2026 or the HP 3000. In covering them, you should get a much clearer idea of where the HP 2026 "fits". Some of these were covered in the original HP 2026 Field Training Manual, and I've added a few of my own.

1. COST. How much money does the prospect want to spend? An HP 2026 will cost less than a comparably equipped HP 3000.
2. PROGRAMMING LANGUAGES. DEAL is the HP 2026's only language. It's more powerful than most people think, but we shouldn't claim that it's equivalent to COBOL, FORTRAN, etc. If a "traditional" programming language is required, that points you to the HP 3000.
3. SOPHISTICATED PROCESSING. The HP 2026 is great for "light" processing, but not so great for "number crunching", very complex logic, or producing analytical reports. The HP 2026 has double precision integer arithmetic, not decimal or floating point.

4. DATA BASE MANAGEMENT SYSTEM. The HP 2026 has a KSAM-like file structure with one primary key and up to 10 secondary keys (see my article on pp. 22-23 of the March 1, 1978 issue of the *CS Newsletter*). It does not offer an IMAGE-like database management system like the HP 3000.
5. FUTURE NEEDS. If the customer will require programming languages, sophisticated processing, or a DBMS at his remote site in the foreseeable future, it may be best to steer him toward the HP 3000 now and avoid future conversion problems . . . even though the HP 2026 looks like the best answer for today's needs.
6. BULK DATA COMMUNICATIONS NEEDS. If there are many geographically dispersed sites in the network, with large volumes of data to be transmitted to a central site, remote HP 2026's communicating to a central HP 2026 is a very good solution. Dial-up transmission with the HP 2026's reverse channel protocol can maximize throughput and thereby minimize line costs.
7. IMPLEMENTATION. If the time required to get the data entry/retrieval/communications applications "on the air" must be absolutely minimized, the HP 2026 with DEAL is probably the best bet. "Programming" can typically be completed in 10% to 20% of the time it takes using a standard compiler. There's no need to learn or generate operating systems either. From this standpoint, the system is almost "turnkey"; the software is the same regardless of hardware configuration. It is easily downloaded from a central site as new remote sites are brought up.
8. EASE OF OPERATION. If the customer does not want to invest in trained computer personnel in his remote locations, this suggests the HP 2026. Typically, existing clerical people are trained to operate the system and the data entry terminals.
9. RESPONSE TIME. The HP 2026 is a specialized system for a certain class of applications. Data entry and file retrieval are optimized to provide the fastest possible terminal response time. The "operating system" is small and streamlined, minimizing overhead. Also, the 21MX-E is a very fast CPU. It's difficult to beat the HP 2026 in this category.

Remember, we're comparing the HP 3000 and HP 2026 for a customer's *Remote Site* requirements. Don't be confused about the intent of these comparisons. The HP 2026 is meant to be *complementary* to a larger central site processing system, like the HP 3000 or an IBM system. It's not meant to be a lower-cost competitor for the HP 3000's business, or an HP 3000 "substitute". It isn't a general purpose system and it would be very difficult to envision the HP 2026 as fulfilling all of the EDP requirements of even a small business.

To sum up, the need (now or in the foreseeable future) for general purpose data processing capabilities, conventional programming languages, or a database management system should direct your thinking toward the HP 3000. If these aren't requirements and there is a lot of data to be transmitted in batches to a central site, easy implementation and operation are desired, and fast data entry and retrieval are "musts", then that should bring the HP 2026 into your mind.

New Applications

An HP 3000 Market Opportunity in Newspapers
By: Barry Klaas/GSD

Over the last two years, a growing number of HP sales representatives have found newspapers an exciting and expanding sales opportunity for HP 3000's. The HP 3000 has the capabilities most newspapers need to handle their administrative data processing needs. We have the best on-line database management system for their dollar. The key application is circulation.

Circulation is the primary application because a newspaper must have control over the key item that is the basis of its advertising revenue. Once a circulation database is established, advertising revenue can be increased by selling selective demographic advertising (e.g., by income of the subscriber and specific geographic area).

Newspaper chains dominate the industry and offer you multiple system VEU possibilities. Individual papers offer equally good opportunities. The largest newspaper chain that has bought HP 3000's has over 140 newspapers associated with it. Another large chain has already installed thirteen HP 3000's with more planned.

Start planning your first sales call now. GSD Sales Development can supply you with pertinent information to help you be successful; for example, if you tell us the name of the paper you'd like to call on, we can tell you the chain affiliation, the names and titles of the people to call, and the data processing equipment installed. We also have references to current accounts and OEM's.

Give us a call. We can help.

Competition

DECSYSTEM/2020 Competitive Summary
Gwen Miller/GSD

The newest entry into the field of HP 3000 Series II competitors is the DECSYSTEM/2020, announced March 1 for delivery in July. It features a 36-bit architecture, a full complement of software, and upward compatibility with the rest of the DEC-20 line. At the press announcement, DEC identified the HP 3000 and the low end IBM 370 machines as the major competition for a target market of "commercial, educational, government, engineering, and service bureau applications" (*Computerworld*, March 6). Briefly, the 2020 looks as follows:

	DECSYSTEM/2020	HP 3000 Series II
Memory Size	512Kb–2Mb; 512 word cache	128Kb–512Kb
Operating System	TOPS-20; can also run TOPS-10	MPE
Processor Cycle Time	300 nS	175 nS
Word Size	36 bits	16 bits
Software Available	FORTRAN, COBOL, BASIC, APL, ALGOL, CPL (PL/1 subset), DBMS/IQL, DECNET	FORTRAN, COBOL, BASIC, RPG, APL, SPL, IMAGE/QUERY, DS/3000
Max. No. of Terminals	24	64
Max. Disc Capacity	1520Mb	400Mb
Comparable Configurations and Prices	512Kb MOS Memory 67Mb Disc 120Kb/sec tape 8 terminal ports DECwriter II console Operating software $150,000	512Kb MOS Memory (Model 6) 50Mb 72Kb/sec tape 16 terminal ports 2640 CRT console Operating software $125,100

Performance

In translating the specs into performance, the 2020 is in the same range as the Series II. In many respects DEC may have a slight advantage in effective CPU speed, but response time on a Series II with 12-16 users in a typical lab mix should be about the same as the same mix for 8-15 users under TOPS-20 (TOPS-10 is faster but more restrictive). Benchmarks show the 2020 to be somewhat faster than the old KA10 processor on the DECSYSTEM/1040.

The 36-bit architecture offers some advantages but some drawbacks as well. Some extra precision is gained (although MPE offers 64-bit double-precision floating point) and more memory is addressable directly. However, character manipulation is slow due to indirect byte addressing and could severely degrade performance in a heavy COBOL environment. The 36-bit approach is hardly state-of-the-art; IBM abandoned it after the 7094 was replaced by 360's in 1964.

Position in DEC's Product Line

The 2020 is fully compatible with the four other systems in the DEC-20 line, with upgrades achieved with a CPU replacement. This means, however, it is not compatible with the PDP-11 line or the VAX/11-780. Only the BASIC-PLUS 2 compiler is transportable. This will be a drawback for DEC-20 owners who may be pushed toward VAX as the focus for DEC's software development. DECNET is available for communications with the 11 and 20 line and with IBM—but rumor has it that even DEC internally acknowledges DS as "the one to beat" in distributed processing.

In summary, the DECSYSTEM/2020 is formidable but certainly not unbeatable. As you enter competitive situations against the 2020, please notify Sales Development or Product Marketing so we can keep everyone in the field up-to-date.

DECSYSTEM/2020 Features:

PRO	CON
Upward compatibility of rest of DEC-20 line	Incompatible with PDP-11 line
Full line of stable software	Unclear relationship to VAX-11/780 DECNET
Max 2Mb memory	The 2020 entry system is 20% more expensive than the comparable Series II. The 3000 line has a much lower entry cost with "The $64,000 Answer".
Big discs, fast tapes	
May be faster than HP 3000 Series II in some situations	Slow character manipulation
	Fewer terminals supported

General News

Computer Museum

Computer Caravan is on the March
By: Rudann Ramsey/GSD

Once again this year GSD will be participating with the other CSG divisions in the *Computer Caravan EXPO '78* show. Designed to appeal to the OEM's and software suppliers, our exhibit will feature the HP 3000 interactive business systems. The Series I system on display (The $64,000 Answer) will run a three-part demo highlighting the diversity of our programming languages on-line program development and our database management capability. We will also present a half-hour seminar on Wednesday afternoon in each of the nine Caravan cities describing how a software supplier can benefit from a third party relationship with HP.

The Caravan will appear in:

Los Angeles	March 21–23		St. Louis	April 25–27
San Francisco	March 28–30		Chicago	May 2–4
Houston	April 11–13		New York	May 9–11
Atlanta	April 18–20		Detroit	May 23–25
	Boston	May 30–June 1		

All sales offices involved in the show should have received tickets, a show flyer. and an exhibit guide from CSG and an invitation letter, reply card, and literature for the seminar from GSD. The letter and reply card are provided so that you can do your own seminar mailing and invite the software suppliers in your area. If any of these materials haven't reached you, contact *Alden Erickson* at CSG (408) 257-7000 ext. 3046 or *Rudann Ramsey* at GSD (408) 249-7020 ext. 2770.

We hope that the Computer Caravan display. demo, and seminar will give you an opportunity to attract potential OEM and software supplier customers with the capabilities and ease of use of the HP 3000 and the benefits which they will gain in a third party relationship with HP.

SEE YOU AT THE CARAVAN!

More Sales Development Assistance for Neely South
By: Ed North/GSD

I'd like to take this opportunity to introduce to you *Virginia Colwell*. *Virginia* recently joined Sales Development following an educational leave of absence where she was continuing her education in computer science at *San Jose State*

University. Prior to her leave of absence, *Virginia* was a member of the GSD SE team supporting the HP 3000 commercial software products.

Virginia and I are jointly supporting Neely South at this time. On April 1. we will be splitting support of that region such that *Virginia* will support those of you in Fullerton and San Diego, and I will support Airport, Arizona and New Mexico (including El Paso).

Meanwhile, we will both be supporting all of you with twice the high quality. on-line support you've grown to expect from GSD!

HP GRENOBLE NEWS

Sales Aids

Paper Stock and Card Design for Optical Mark Readers
By: Alic Rakhmanoff/Boise

When your customer needs to print cards or fan fold forms, we can give you names, addresses and phone numbers of major U.S. printers who can do this in your city.

Give me a call in Boise, and I will be happy to provide you with the needed information.

Also, if your customer needs some standard 80-column tab cards to run tests prior to definite installation, you can order these from HP by ordering part 9320-2072 for 80-column clock-after-data cards at $16.00 (box of 2000 cards), or part 9320-2074 for 40-column clock-after-data cards at the same price.


Wider Hopper for OMR
By: Alic Rakhmanoff/Boise

The Option 007 of the HP 7260A/7261A gives you a wider input hopper which will accept cards bursted from continuous line printer stationery (fan-fold forms) with

MACHINE PERFORATION / BAD

PAPER PERFORATION / GOOD
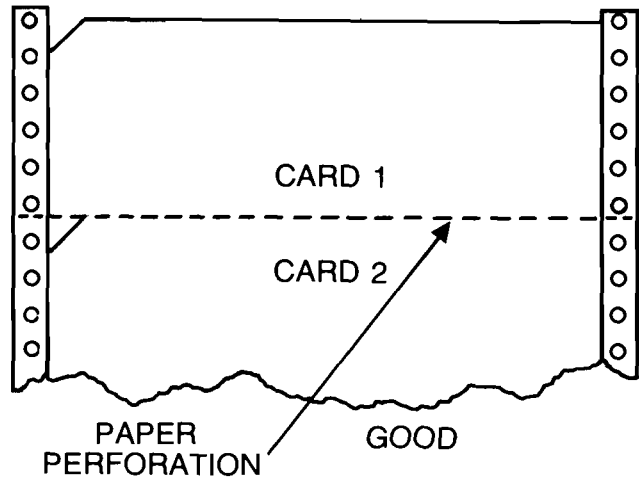
"machine perforation". This will suppress possible pick fails which may occur when these cards are used with a standard hopper. Most of the time, a standard input hopper can be used instead of a "paper perforation" (continuous perforation) or die-cut continuous card is used instead of a "machine perforation" (or "press perforation"). For example, HP Divisions using fan-fold forms with paper perforation for stock-control have a standard input hopper which performs an excellent job.
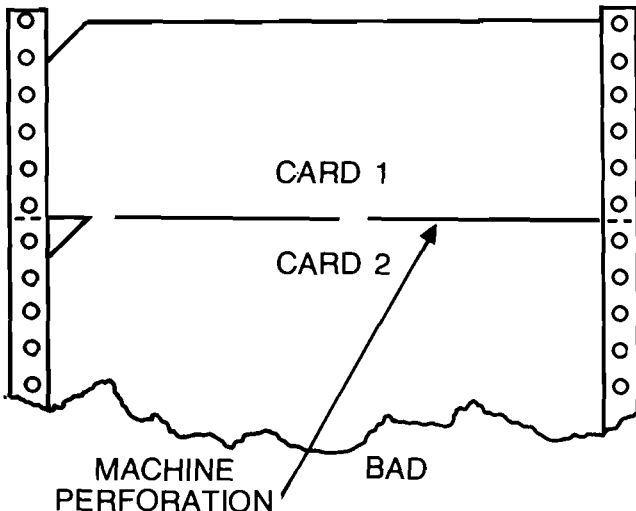
CS GROUP NEWS

Reflections on Computer Advances

By: Carol Scheifele CSG

Have you figured out how we created the Kaleidoscopic effect on the cover of the latest Computer Advances? It's all done with mirrors—hopefully no reflection on the products described in this issue—KSAM/3000, IMAGE, and QUERY.

Beyond product descriptions, a one page special article discussing MPE and IMAGE's role in data security and integrity addresses the concern many of your prospects voice for security of their data. And, as our customers tell it best, Cook County Jails and Farah Manufacturing Co. (men and boy's clothing) were featured.

Appearances:

March—*Datamation*
March 27— *Computerworld*

Direct Mails hit the post office the week of March 6th.

Those accompanying reply cards returned with a "Contact Me" are considered to be hot leads. COMGRAMS with prospect information is TWX'd immediately to your RSM's. Ask for them with your follow up, they could become sales.

Organizing a new seminar or direct mail campaign? Just complete this handy coupon for ample copies of the latest "Computer Advances".

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