

data systems newsletter

For HP Field Sales Personnel

FRANKFURT
REINHARDT HELMUT

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DIVISION NEWS

WHAT SHOULD WE DO ABOUT THE DATA SYSTEMS NEWSLETTER

by Joe Schoendorf

From my discussions with many of you, it appears we have a very well-read document in this newsletter. Obviously the question arises — "should we have two new newsletters?" now that we have two new divisions. Are there any suggestions for change in the format — should we have three sections — one for each division, or continue as we do now with all three divisions lumped as one. How else can the Data Systems, General Systems, and Data Terminal Newsletter be improved? What shall we call it? If you have inputs, please drop me a line . . . SOON!

HEWLETT  PACKARD

96XX OEM ARTICLE CLARIFICATION

by Hugh Amick

In our last Data Systems Newsletter, October 10, Vol. 2, No. 25, we hailed *Deme Clainos* for signing Straza Division of AMETEK as a 96XX OEM. Not so! Straza is definitely an OEM, but *Deme* signed them to a *COMBO AGREEMENT* and their first release was an end-user 9640A for use as a development system. The other two systems were identical 9640A's ordered "by the parts" as OEM components. This use of the *COMBO AGREEMENT* is not as expensive as it may seem and buys a lot of "piece of mind" for your customer as well as allowing him to capitalize the system.

Since the 96XX systems are priced lower than "by the parts," the difference between end-user and OEM is not the full 15% initial OEM discount. For example, the difference for Straza was less than \$1K. *Deme* effectively used the Combo Agreement to sell Straza a solid, HP integrated and supported development system, leaving the door wide open for other in-house end-user systems.

Sell COMBO!

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Company Private

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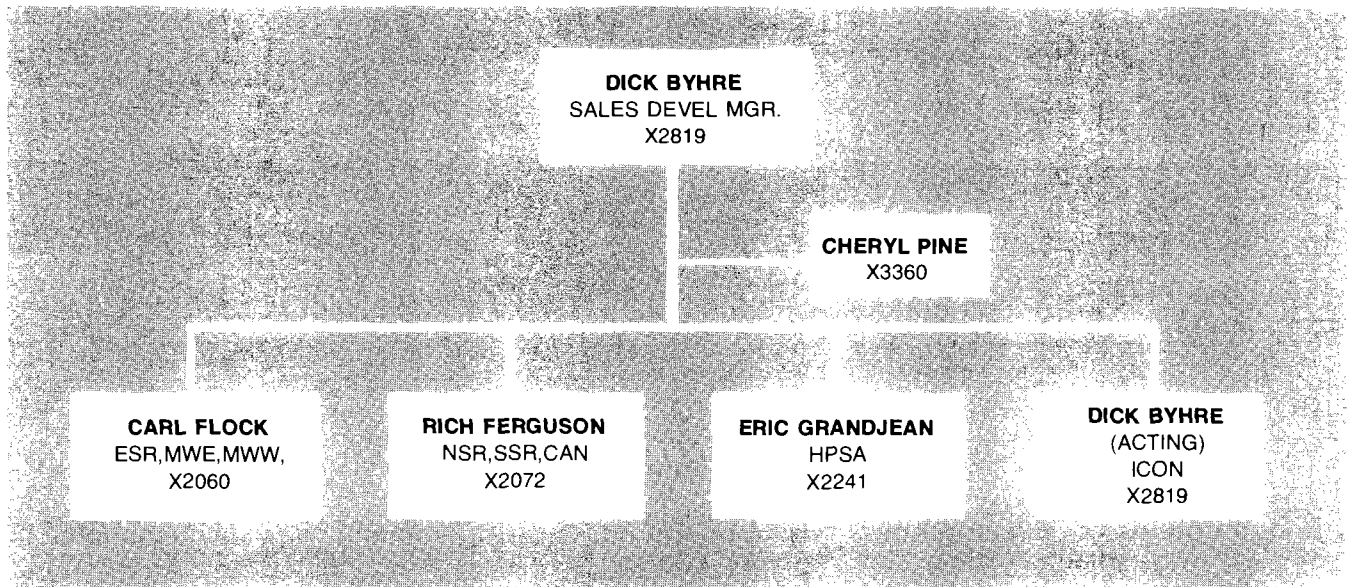
DATA TERMINALS DIVISION SALES DEVELOPMENT TEAM

by Dick Byhre

As November rapidly approaches, DTD Sales Development Team is formed and on-board.

Carl, Eric and Rich have been with HP for several years and bring with them experience from Product Management, Sales Development, and Service. We are on-line now and dedicated to bringing you the finest factory sales support in HP.

Join the winner; Sell terminals!



SALES ENGINEERS' CORNER

ANOTHER 3000 FOR MONTREAL

by Bob Ingols

Our third 3000 sale of the year for Montreal sales office was made by *Michel Girard*. It's an 1130 upgrade for Cosigma, a civil engineering consultant.

It's noteworthy that HP has sold several systems to civil engineering companies and they all belong to CEPA, Civil Engineering Programming Association.

If you know of any members in your area you should contact them.

We have several benefits to offer: the 1130 Conversion Guide plus COGO and STRESS (contributed programs needed by most civil engineers). Besides running FORTRAN successfully, we ran a COBOL benchmark.

Their applications include:

1. Timesharing services for their parent company (Payroll).
2. Civil Engineer consulting services.
3. On-line data entry for time sheets.
4. Critical path analysis.
5. Reports.
6. Cal Comp Plotter routines.

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PRODUCT NEWS

21MX — 4K EXPANSION

by LeRoy Nelson

Have you received requests from customers to expand 4K 21MX Processor Systems? If so, here is a suggestion. Steer him towards adding an 8K Module. This will give him a 12K system with his original 4K module as the second module of the system.

The most important reason for this approach is that the 4K module can only be addressed as Module 0, 2, 4 and you cannot have two of these in the same processor.

When he adds an 8K module, the addressing jumpers are set to module 0 and 1 and the 4K module is set for 2, to provide for concurrent addressing.

Remember — you can have only *one* 4K module in a processor.

30107A SWAN SONG

by Ed North

Most of our 3000CX customers say adios to their large card decks and the need for a fast card reader. Demand for the 1200 cpm card reader subsystem has been very low since it was introduced into the product line several years ago. To help the new General Systems Division trim down to fighting weight we have decided to obsolete the 30107A 1200 cpm card reader subsystem from the 3000CX product line. It will be removed from the Corporate Price List on November 1.

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HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

NEW SOURCE DATA ENTRY PACKAGE FOR 2000 ACCESS

by Dan Jorgenson



Source Data Entry on 2000 Access

Are you looking for an easy way to format the screen of the 2640 and check for errors on each data input field?

Are you looking for a source data entry package for the 2000 Access System? If you are:

SDE/2000, is the answer you've been looking for!

What is SDE/2000?

Source Data Entry, SDE/2000 (HP 20243A), is a software package written in BASIC, designed to use the capabilities of the HP 2000 Access System and HP 2640 terminals to effectively distribute data entry, editing, and forms generation to the location of the data source.

Super Features!

- Provides on-line forms generation, data entry and error checking.
- *No programming knowledge* is required to generate screen forms to perform data entry.
- Permits multi-screen, multi-page forms.
- Provides comprehensive set of error-checks, range checks, logical functions, and table look-ups.
- Utilizes HP 2640 display enhancements and *page mode operation*.
- Utilizes 2000 Access file system.
- Allows interface with user-written programs.

Availability:

- On the November 1, 1975 CPL
- Available December, 1975
- Price \$1000.00



WHAT IS SOURCE DATA ENTRY?

Source data entry systems capture data at its source, and convert it from human readable form into a form that can be interpreted by a computer. The broad definition of these systems includes such devices as ten key-pads, badge readers, OCR, MICR and *keyboard terminals in a non-keypunch replacement environment*.

The source data entry environment for keyboard terminals (2640's) sharing a processor (2000 Access) is characterized by the following:

- *Terminal is the user's area* i.e. at the source of the data, and the *terminal operator has knowledge about the data* being entered and the application it serves.
- *Page mode terminal operation*, with local editing capability.
- Screen forms are meaningful representation of source documents that reduce the need for source documents.
- Screen forms may be created or modified by non-EDP personnel.
- Data entry application includes on-line error-checking, local file management and data retrieval.

SDE/2000 fits this environment and is consistent with the trend of distributed processing. It makes an ideal front-end for local and RJE applications.

SELL SOURCE DATA ENTRY RATHER THAN KEYPUNCH REPLACEMENT

Key-to-disc systems offered by such vendors as Inforex, Entrex, Data 100, and CMC upgrade the capability of *centralized* keypunch operations. Because of the trend to *decentralization*, the present versions of these systems face a limited future. The environment for these systems exhibit the following characteristics which are compared to the characteristics of SDE/2000:

KEYPUNCH CHARACTERISTICS	SDE/2000 CHARACTERISTICS
Keystations (CRT's) are located at the site of batch computer system.	SDE/2000 terminals can be located in terminal users work area.
Keypunches have IBM 029 keypunch keyboards.	2640 has a multitask keyboard.
Keystations generally operate hard-wired, \geq 2400 baud, character mode.	SDE/2000 operates in page mode, at 1200 baud.
Key operators are not familiar with the data they're entering or the computer application the data serves.	SDE/2000 users generate the data entered and are familiar with the data entry application.
Data entry software is an out-growth of keypunch procedures involving error-checking, verification, batch totals, key-stroke counts, etc.	SDE/2000 has 17 powerful error-checking/editing functions. Since it is geared to source data entry, it doesn't have verification, batch totals and key strokes counts. However, the customer can add user-written modules to perform these tasks. SDE/2000 Reference Manual goes into detail about how the user can write BASIC programs that access SDE/2000 files and code.

(Continued on page 4)

SOURCE DATA ENTRY PACKAGE FOR 2000 ACCESS -
(Continued from page 3)

If your customer is planning an application with the above keypunch characteristics, the customer is not talking source data entry and not a hot prospect for SDE/2000.

On-the-other-hand, if your customer answers the following questions 1 and 2 "no" and 3, 4, and 5 "yes", you have an excellent prospect for SDE/2000:

1. Are you replacing keypunch equipment in your central keypunch operation?
2. Is it important to you that you have an IBM 029 keyboard on your terminal?
3. Do you like the page mode form of data entry?
4. Do you plan to decentralize data entry to work areas that generate the data?
5. Do you plan to integrate SDE/2000 with other local processing applications?

MORE ABOUT ERROR-CHECKING/EDITING FUNCTIONS:

The following error-checking/editing functions are available in SDE/2000 to check unprotected input fields. Up to 5 functions may be applied to each input field.

FIELD CHECKS

Alphanumeric
Alphabetic
Numeric
Range
Right justify zero fill
Modulo 11 verify

LOGICAL FUNCTIONS

Store, set, and test status of field check.
Logical AND
Logical OR

TABLE FUNCTIONS

Table search
Replace screen data with table data
Dynamically select name of next screen.

UTILITY FUNCTIONS

Modulo 11 create check digit
Field duplication on repeated screens
Screen hold/reject
Transfer contents of current field to next screen.

2640 TERMINAL REQUIREMENTS:

SDE/2000 requires each 2640A CRT to have the following minimum configuration:

- 2640A CRT terminal unit.
- 2640A-001 128 character set.
- 13231A display enhancement.
- 13234A terminal memory module (4K-bytes)

2000 ACCESS SYSTEM REQUIREMENTS:

SDE/2000 will operate on any HP 2000 Access System in block mode at 1200 baud, dial up or hardwired.

DOCUMENTATION:

HP 20243-90001 SDE/2000 Reference Manual
HP 5952-5566 Data Sheet

ORDER INFORMATION:

- HP 20243A — Source Data Entry, SDE/2000, supplied on 800 bpi, 9-track magnetic tape, includes manual \$1000
- Option 100 Replace 800 bpi with 1600 bpi, 9-track magnetic tape. N/C

COPYRIGHT:

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ROM BOOTSTRAP FOR DISTRIBUTED SYSTEMS SATELLITES?

by Dave Borton

HEY! Who let the word out that I will provide bootleg SCE/1 ROM's for satellite computers so your customer can save a paper tape reader? Someone must have, because non-paper tape satellite computers are finding their way into customer's hands. And when those satellites are 21MX's with their volatile memory including the protected areas, they become almost unusable without a paper tape reader (or an SCE/1 ROM bootstrap). Of course, we recognize the importance of that ROM. But, SCE/1 is undergoing some design changes for the next revision of Distributed Systems so any ROM's provided now would need changing in the future. So keep selling satellite computers with paper tape readers as described in the Distributed Systems ordering information (5952-1669). Also, we will get the existing SCE/1 put into a ROM that is orderable as a part number for do-it-yourselfers. Watch for more information.



7905's NEED SELECTOR CHANNEL

by Dave Sanders

Please remember that the data rate of the 7905 requires that it be interfaced to the 3000 via a selector channel. Therefore, any orders for a 3000-based 7905A subsystem (30129A) should also include a selector channel (30030A) unless the customer's machine already contains one.



21MX POWER FAIL

by LeRoy Nelson

Did you know that the power fail recovery system battery for the 2112A (12991A) has twice the Ampere-hour capacity of the similar unit for the 2108A? The extra capacity is needed to support 64K of memory in the larger processor.

When you configure an order for a 2112A, please include this higher capacity unit as its mounting panel fits the back of the larger box.

In short, the rules are:

- 2112A — 12991A
- 2108A } — 12944A
- 2105A }



9611 OPTION PRICES SLASHED UP TO 52%, COMPETITIVE WITH NEW DEC SUBSYSTEM!!!

by Peter Palm

Twenty-two 9611A/R measurement plug-in cards with screw terminations have been reduced in price due to manufacturing cost reductions and 6940B plug-in price reductions. In addition, review and experience on 9611A/R basic monthly maintenance charges has allowed us to reduce BMMC charges by over 70% on most signal conditioned inputs and outputs.

To make things even more competitive, we've added the 6940B isolated DC input card with terminations as an option for those customers who don't need the 250V common mode protection (\$440 for 12 channels). As Table 1 shows, the new 9611 measurement plug-in prices are only 4% higher

than DEC's new ICS (Industrial Control System) measurement plug-ins. The inputs and outputs selected in Table 1 represent the I/O mix experienced in past HP industrial systems. For pricing details check your new 9600MX configuration guide which was distributed to the field Nov. 1, 1975.

When packaged as a 32K, disc based, foreground/background development system, the 9611A compares with a DEC 11/40 RSX-11M based system as follows:

HP 9611A NEW PRICE		DEC ICS NEW PRICE	
9611A	\$29,900	N 1143-MA	\$45,825
-A03 (RTE-II)	\$14,000	W/32K, 5M Byte	— — —
-P11(2) 32K	\$ 3,000	ICS/ADC	\$ 1,700
MEASUREMENT	\$14,180	MEASUREMENT	\$13,640
	\$61,080		\$61,165

TABLE 1

	9611A FY75 Price	9611A FY76 Price	DEC ICS	Ave. Points Per System (74/75)
Low Level SS Analog Input	\$ 4500 (48)	\$ 4320 (48)	\$ 5100	50
Low Level Relay Input	2000 (16)	2000 (16)	1700	14
High Level Analog Input	925 (16)	960 (16)	1700	12
Digital Input (DC)	5550 (72)	2640 (72)	1950 (80)	74
Event Sense (DC)	2380 (24)	1780 (24)	850 (32)	21
Digital Out (Relay)	1720 (38)	1350 (36)	1390 (32)	33
D/A Converter Out	1250 (2)	1130 (2)	950 (4)	2
	\$18,325	\$14,180	\$13,640	207 Points

←4%→



UPPER/LOWER CASE CHARACTER SET UPGRADE

by Rich Ferguson

You can upgrade a 2640 or 2644 from a standard 64 character upper case ROMAN character set to the 128 upper/lower character set in the field. The part number you need to order is 1816-0413. This is the plug-in ROM that implements the upper/lower case characters. It is available from the Corporate part Center for \$100. So, if your customer, after having ordered the standard terminal, finds that he wants the upper/lower case capability, this is what he needs to order. It is advised that a CE install it in the terminal. If your customer is technically competent, however, he could install it himself by plugging in the ROM in the control store board and making the appropriate strapping changes as outlined in the service and installation manual.

Thanks for selling terminals!



MINI CARTRIDGES FOR THE MINI DATASTATION

by Tom Anderson

In order to simplify the ordering of Mini Cartridges for the 2644A, we've added option 013.

2644A/013 5 Mini Cartridges \$90 (non-discountable)

This way a 2644A buyer can be assured of receiving extra cartridges with the Mini DataStation. Subsequent requirements for Mini Cartridges will be filled by Customer Parts Center.

	Price	Qty
9162-0061 Mini Cartridge	\$18 ea	1-9
	15 ea	10-99
	12.50 ea	100+

This option will be on the Corporate Price List December 1 but because it's released we can accept orders now.

Note: Terminal options may only be ordered with a terminal.

2644A orders are rolling in so order now to get good delivery.

KEEP SELLING



59310A/HP-INTERFACE BUS

by Charles Dixon/Earl Kieser

This is the second article (in a series of 3) which deals with 59310A hardware and computer interface protocol and is intended to give a detailed overview of the layout and HP-IB/Computer Interface of the 59310A.

The first article dealt with the basic HP-IB concepts (DSN Newsletter Vol. 2 #22 Aug. 22, 1975) and the last article in this series will deal with a direct application of the HP-IB 59310A. Due to the nature of the material covered in this article you may find it difficult reading, therefore, please accept our apologies before hand. We will try to do better next time.

The purpose of the 59310A is to interface the 2100/21MX series computer to the HP Interface Bus (HP-IB). This requires translation of the computer back-plane CTL logic levels to TTL logic levels used by the HP-IB. The HP-IB Interface Bus uses 8-bit words which require conversion of the computer 16-bit word to two 8-bit words. The interface card performs four major functions; computer control word processing, bus data output, computer data input, and status information to the computer. The four functions are controlled by the control signals applied from the computer through to the control logic. (Figure 1).

CONTROL WORD PROCESSING

The computer control word, (16-bit word) which is applied to the control logic of the 59310A, determines the operating mode of the 59310A. When control word processing is initiated by the Control Logic, the Bus Data Converter Logic and the Computer Data Converter Logic are inhibited. The Control Logic, in conjunction with the computer control word output, determines if the bus input/output card is either a listener or talker; the state of the ASCII Logic; and the logic state of the flag outputs to the computer.

DATA BUS OUTPUT

The 59310A applies data to the bus lines when the computer DATA converter logic is enabled by the control logic. The computer data converter logic stores the 16-bit word and, after the handshake sequence is completed, transfers eight bits to the (HP-IB) data lines. The output of the computer data converter logic is continuously monitored by the ASCII logic. If the ASCII logic is enabled by the control logic and the data output is a special ASCII character, the appropriate ASCII command output is activated.

STATUS INFORMATION INPUT

The last major function of the Bus Input Card is the outputting of card status information to the computer. The Bus

(Continued on page 7)

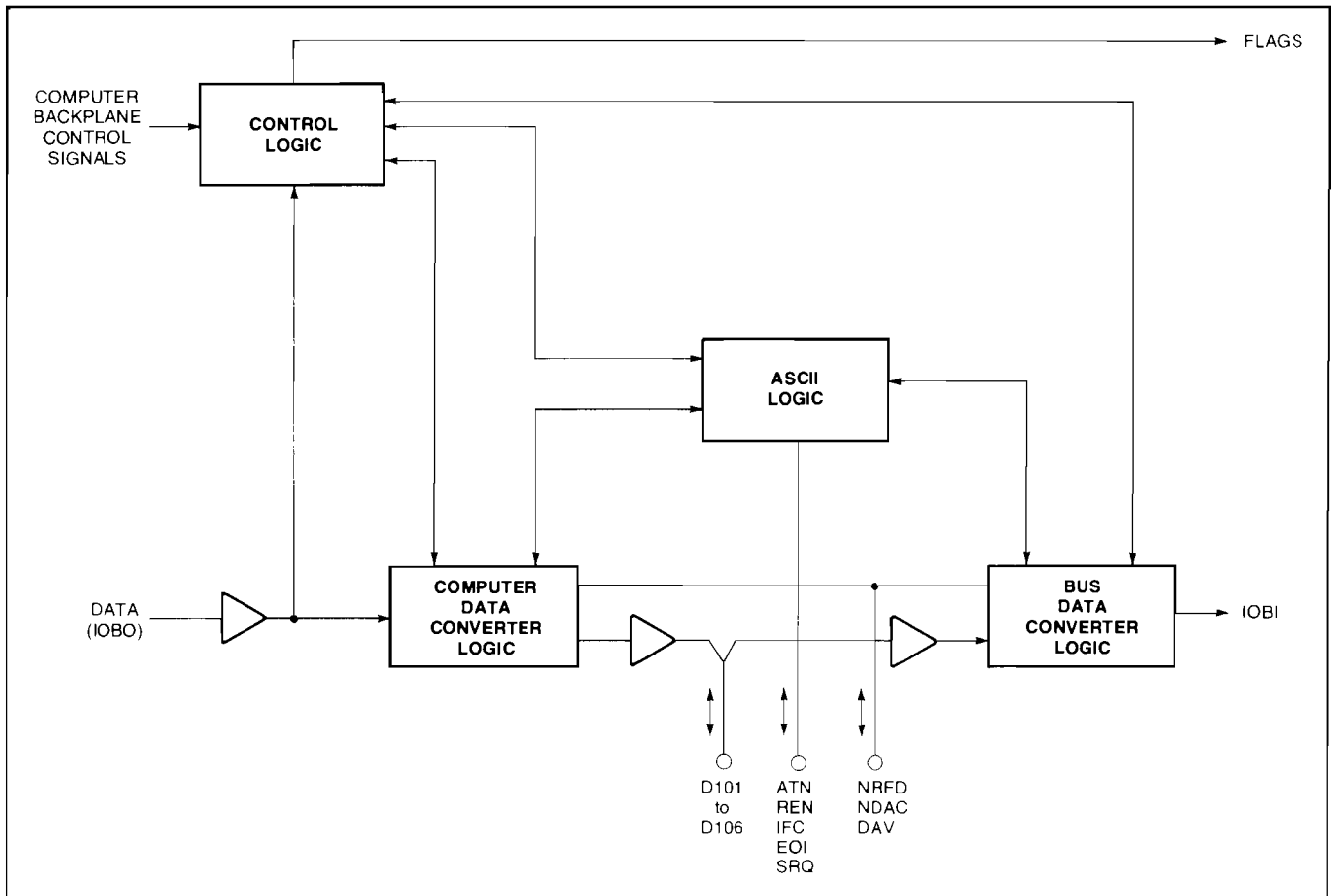


Fig. 1 Simplified Block Diagram

59310A/HP—INTERFACE BUS - (Continued from page 6)

DATA Converter Logic applies status information to the computer when the Control Logic inhibits the data output and enables the status word output. The status word output is used by the computer to monitor card operation to determine which flag caused an interrupt to determine the state of the input/output handshake cycle; and to determine the state of the ASCII commands.

PRODUCT INFORMATION

The following instruments are HP-IB Compatible and can be interfaced to the 21MX computer via the 59310A.* Interfacing is the customer's responsibility.

- | | | |
|---|--------------------------|--------------------------------|
| 3320, 3330, 8660 Synthesizer, Signal Generators | } HEWLETT-PACKARD | |
| 5312, 5340, 5341, 5345 Frequency Counters | | |
| 436 Power Meter, 8620 Sweep Oscillator | | |
| 3490 Digital Multimeter, 3495 Scanner | | |
| 5150 Thermal Printer, 8016 Word Generator | | |
| 59310-9 Accessory Instruments | | |
| 59401 Bus Analyzer | | |
| 76A Automatic 1MHz Bridge | | Boonton, Elect. Corp. |
| 801, 802 Frequency Synthesizers | | Dana Exact |
| 6010A Synthesizer Signal Generator | | Fluke Manufacturing Co. |
| MC 3440, 2,3,6 Quad Transceivers | | Motorola |
| P2467 Printer, PM2460 Scanner | | N.V. Philips |
| PCL Card Reader | | Rohde & Schwarz |
| 780 Pulse Analyzer | | Systron-Donner |
| 152, 158, 159 Waveform Generators | | Wavetek |
| DVM, Counter | Dana | |
| Flexible Disc 488 | Process Dynamics | |

*For 59310 ordering information, refer to Data Systems Newsletter [May 2, '75 Volume 2].



A PROFIT IMPROVEMENT PLAN OR HOW TO REDUCE THE NUMBER OF 9600/9700 OPTIONS AND STILL ENJOY ORDERING SYSTEMS

by Dave Borton

Another step has been taken to improve our Group and Divisional profit levels. This step consists of removing most non-Data System Division peripherals as options to 9600/9700 systems. Those peripherals will still be orderable, of course, by ordering them as line items. This helps profit levels by eliminating double handling of peripherals: one handling by the original manufacturing division and another handling by Data Systems Division. "But Wait," you exclaim! "How will my customer get those peripherals shipped at the same time as the system?" Easy! In order to have coordinated shipments, just code the NO Partial Box on the order with "CS". We will take it from there.

Fiscal year 1976 budgets and quotas have been established based on this step. Therefore, to be consistent with the

divisions' budgets and the field's quotas, this step will be implemented starting November 1. The November 1 Corporate Price List will have peripheral options removed for all 9600 and 9700 systems. The Configuration Guide is being reprinted to reflect these changes too.

Two very important exceptions will continue to be *magnetic tape* and *system console* options to systems. Mag tape options will be kept for the time being due to the requirement that they be racked into cabinets. This can be contrasted with line printers, plotters, and card readers that have complete enclosures. Terminals for system consoles will be kept for the time being due to their importance for factory integration of the systems. So, as you can see, our profits will improve and your ordering gets easier. For example, now the 12987A line printer is always a 12987A line printer and not option R60 or was it R65? Or Z273?



PERIPHERAL PRICE CHANGES

by Dave Borton

Two peripherals which are included as options to systems have had their prices increased as of November 1. They are the 2895B/12926A/9600 option Q05 Paper Tape Punch and the 12970A/9600 option Q42 and Q43 800 bpi 9 track Mag Tape. The paper tape punch is being increased due to a price increase by our supplier, Facit.

The mag tape options on the 9600 Systems are being increased to track Boise Divisions 12970A increase. DOS System mag tape options will be changed on January 1. The actual dollar changes are:

	BEFORE 1 NOV.	AFTER 1 NOV.
2895B PAPER TAPE PUNCH	2575	3350
12926A PUNCH SUBSYSTEM	3090	3750
9600-Q05 PUNCH SUBSYSTEM	3090	3750
9600-Q42 MAG TAPE MASTER	8900	9500
9600-Q43 MAG TAPE SLAVE	6850	7450

Both of these increases reflect cost increases of mechanical equipment that we all know continue to climb. Thankfully, the costs of semiconductors and electronics continue to decline, which helps us keep system costs as low as possible.

Distributed Systems is another technology developed to minimize the impact of peripheral cost increases. The peripherals may then be shared between the various computers in a network. Therefore, in spite of these increases, you will find that we remain competitive in the marketplace. Our technologies will continue to keep us there!



2640A STRETCHING THE SPECS? CAREFUL . . .

by Ed Churka

The 2640A I.D.T. has a cable length specification of 15 meters (approximately 50 feet) for hard-wire connections.

15 Meters is the maximum guaranteed length for RS232C specification as well.

Many users of RS232C and 2640A have connected extension cables well over the length specified with reasonably good results. Data Terminal Division of Hewlett-Packard will not guarantee any operation over 15 meters (50 feet).

Cross-talk between the lengthy lines seems to be the major problem found at typically 30.5 meters (100 feet).

If one were forced into using extension cables over 15 meters, disconnecting the pins listed below may improve performance.

Disconnection is done on the hooded side of the 13232A (old option 005 cable) and the 13232C (old option 006 cable).

Pin K X8 — out-clock

Pin L X16 — out-clock

Pin N SB Secondary Receive Data

Pin N, SB Secondary Receive Data, need not be disconnected if it is being used by a modem or a computer.

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SALES AIDS

21MX — I/O

by LeRoy Nelson

There is a very important feature built into the 12979A I/O Extender for the 21MX Series that you may not be aware of. The feature is called Programmable Base Select Code. With this feature, you can move any select code address from the mainframe I/O slots to the first slot of the Extender.

Example: A 2108A system with 12 I/O cards and a 12979A extender — two of these cards are 12978A Writable Control Store. To make most efficient use of both units, move all the I/O cards except the WCS to the extender and set the first slot in the extender to address 11.

*** SE's NOTE ***

In arranging the cards this way, it makes better use of the extender power supply and leaves some CPU power available for other accessories.

You also do not lose the use of the mainframe select codes, they are only moved to a different physical location.

HEWLETT  PACKARD

9600 CUSTOMER PRESENTATIONS — A BIG SUCCESS!!

by Peter Palm



Sixteen copies of the 9600 presentation slides have been ordered and delivered to HP offices in the last month. For only \$12-40 a set you, too, can be opening new doors to upper management with color slides and background script. Enthusiastic field reports indicate the four slide pitches allow professional presentations at all key levels. Order the pitches below by sending your account billing number to DSD, 9600 PRODUCT MANAGEMENT. Get a head start on the biggest product line quota for 1976!

The slide pitches are:

- Set #1.** "HP — The Measurement/Computation Company" \$20.00. HP products and the use of RTE/2000/3000 Systems for automating HP's own manufacturing facilities. 34, 35mm Color slides and audio cassette.
- Set #2.** "9600 Systems and You — Partners in Productivity" \$16.00. Overview of 9600 Systems, examples of each one, and why manufacturing customers buy them. 28, 35mm Color slides.
- Set #3.** "How to Improve Manufacturing Efficiency and Quality with Computerized Systems". 94, 35mm Color slides (\$48.00) 100 Overhead slides (\$1.50 each).

This set is the 9600 Launch Tour set that traveled through the field for 6 weeks last spring. Very successful as a full-day seminar or stripped down for narrower topics.
- Set #4.** "RTE-III Technical Presentation" 58, 35mm (\$28.00) or overhead slides. Both history & detail of RTE-III features & benefits.

To help you in your selection, review the slide copy for your 9600 literature package mailed to you in June. Slide duplication takes about 2 weeks.

HEWLETT  PACKARD

BOB FRANKENBERG NAMED ARCHITECTURE GURU OF "MINI" ASSOCIATION

by David Carver

Bob Frankenberg, head of 21MX minicomputer development at Data Systems Division, has been named to an important post in a new professional association, the Minicomputer Industry National Interchange (MINI). The association's objectives are to provide exchange of information between manufacturers and users, to provide a forum for discussion of new ideas and concepts, and to provide assistance to present and potential users of minicomputers.

Bob's job will be to head up a special subgroup concerned with minicomputer architecture. His group will be made up of prominent R & D people from mini manufacturers and users. They will solicit professional papers and tutorial presentations on architecture developments in the industry, and review them for presentation to the rest of the association via its newsletter, seminars, tutorials, etc.

The formation of MINI will do a lot for advancing our industry, and Bob's selection to a key post in the association is a real indication both of his position in the profession and HP's standing in the industry.

Congratulations, Bob!



QUALIFYING 2000 ACCESS PROSPECTS

by Dan Jorgenson

The following information reviews qualification criteria for 2000 Access prospects. This information is particularly useful when selling an Access System as a satellite system to IBM and CDC hosts.

High Probability Profile

Prospective companies which have computer sites that have the following characteristics:

1. Each host computer site has the capability to communicate with a 2000 Access System via IBM HASP Workstation or CDC UT 200 remote batch terminal. This capability may be *actual* i.e. the computer(s) at the site support these remote batch terminals now or *potential* i.e. computer(s) at the site have the necessary operating system to support RJE.

2. IBM Sites

- IBM 360/40 and above operating under OS with HASP II or ASP.
- IBM 370/145 and above operating under OS with HASP II, ASP, JES1/RES, JES2, or JES3. However, don't neglect large 145's operating under DOS with greater than 250 K-bytes of memory. They may be prime for an upgrade to OS.

3. CDC Sites

- CDC 3000, 6000, CYBER 70 and CYBER 170 series systems operating under MASTER, SCOPE, KRONOS, or NOS.

4. More Qualifying Information

- See System Engineering Quicknotes 219, 220, and 221 for more information on qualifying IBM and CDC host computers.

5. Authority to Purchase

- Since the selection criteria above includes the larger IBM and CDC systems, these computer sites generally contain the EDP organization that has the authority to make a purchase decision.

6. Upgrading Remote Batch Terminal Sites

Computer sites containing IBM 360/20's functioning as a HASP workstation, and CDC 200 User Terminals are prospects, too. However, they tend to be in decentralized locations that may not have the authority to buy, but strong recommendation powers.

Customer List Available for Access Seminars!

As an aid to your selling and seminar activities, a database of 11,000 U.S. and Canadian IBM 360/370, and CDC sites has been purchased from International Data Corporation (IDC). Approximately 3000 sites within this data base meet the characteristics of items 1, 2, and 3 of the above profile. This database now in its eleventh year of compilation provides detailed information on approximately 70% of U.S. and Canadian computer installations.

The data base, complete with a name/address of a person to contact, comes on mag tape and on handy 5" x 7" cards. Both the *cards* and *tape* as well as *mailing labels* are being distributed to the 2000 Access field seminar coordinators. Contact *Don Lund*, GSD sales development engineer, for more information on the 2000 Access Fall series of launch seminars.

Direct Mail Campaign for More Sales Leads!

You'll be receiving a copy of the new 2000 Access Flyer that is being sent to EDP Managers of approximately 11,000 U.S. and Canadian IBM 360/370 and CDC computer installations. This mailer is based on the names and companies in IDC database made available to you for your local Access seminars.

As a result, people in the database will receive the Access flyer followed by an invitation to a local seminar on the Access System . . . the "ole one and two" to help you get more and better leads for Access!



ON-SITE RTE DEMOS

by Paul Miller - ESR

Have you had trouble getting your customers into the office to see an RTE II demo? Yes, well why not bring the system to them via a terminal and an acoustical coupler.

1. Bring a terminal into your customer and dial up your RTE system. This system should include RTE with the Batch-Spool-Monitor, the multi-terminal-monitor, a Bell 103A modem with auto-answer, auto-disconnect and 12531D card.
2. The demo should demonstrate how easy it is to do program development. Use the features that are found on a large system — the interactive editor, batch-spool monitor, and the languages, (BASIC, FORTRAN, ALGOL).
3. Take advantage of the moment by asking if there are more people in the department who would be interested in seeing the system. This enables you to reach more people than you would ordinarily get to come to your office.

The proof of the technique were two 9640 systems bought by BTL and a 9640 bought by Otis Elevator Research.

HEWLETT  PACKARD

WHEN TO USE REMOTE MEASUREMENT (BASED ON CABLE COSTS ALONE)

by Peter Palm

The graph in figure 2 shows the tradeoffs/savings achieved by using a remote measurement station or a satellite computer for measurement instead of running all cables back to a central measurement system (9603A). Beldon twisted pair bundles with an overall shield were assumed. Cost of cableway, cable hanger installation, etc., were assumed to be the same for a single remote cable or 1-8 bundles of cables (this is probably overly conservative). In addition to these cable-only costs, customers will have to pay \$10-\$20 per foot for cable raceways and hangers.

MEASUREMENT CABLE COSTS

	# of Points (differential twisted pair)					
	2	16	32	64	108	216
BELDON CABLE #	3723	9319	9319	9327(2) 9315(1)	9327	9327
# BUNDLES	1	1	2	3	4	8
PRICE/FT 1K' ROLL	\$.092	\$.486	\$.927	\$1.72	\$2.64	\$5.28
LESS REMOTE CABLE	—	-.092	-.092	-.092	-.092	-.092
TOTAL PRICE/FT	\$.092	\$.394	\$.880	\$1.63	\$2.55	\$5.19

FIGURE 1

WHEN TO USE REMOTE MEASUREMENT (BASED ON CABLE COSTS ALONE)

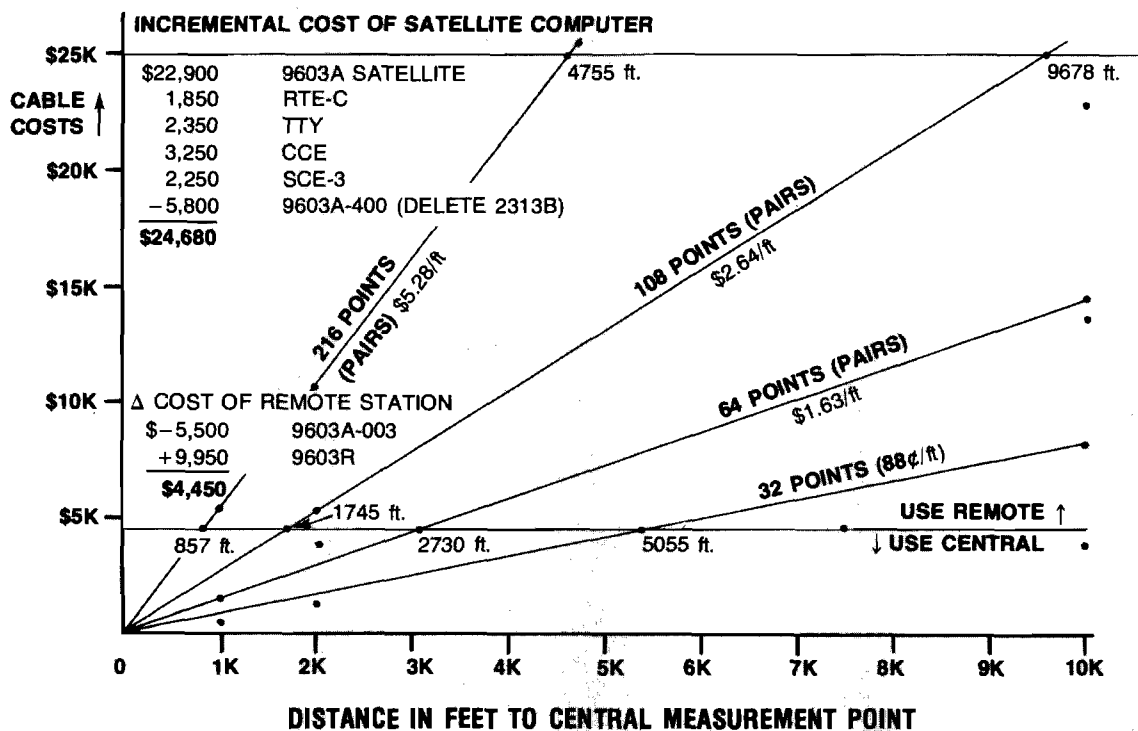


FIGURE 2

FIELD 50/60 Hz CONVERSION

by Rich Ferguson

The 2640 and 2644 can be switched between 50 Hz and 60 Hz quite easily in the field. This is handy if your customer needs to ship a terminal to a foreign country requiring 50 Hz after systems integration in the U.S. To change the terminal from 115V 60 Hz operation to 230V, 50 Hz, you need to do two things:

First, change the crystal on the display timing board to the appropriate type.

Secondly, change the voltage selector switch in the power supply to 230V.

The part numbers for the 50 and 60 Hz crystals are as follows:

50 Hz	0410-0646
60 Hz	0410-0647

The crystals can be ordered through the Corporate Parts Center in Mountain View, or PCE in Boeblingen, Germany.

Conversely it is just as easy to switch from 50 Hz, 230V to 60 Hz, 115V operation.

Thanks for selling terminals.



COMPUTER CONTROLLED CARTRIDGES

by Rich Ferguson

One of the unique features of the 2644 Mini DataStation is that the dual mini-cartridges can be controlled by computer in addition to the keyboard.

Such things as tape rewind, specifying source and destination devices for information transfer, writing file marks, skipping records or files and finding specific files on either cartridge are very easy to do.

For example, a data entry clerk need only plug in the mini-cartridge to add to or read information from that cartridge. The application's program could handle all tape motion activities greatly simplifying the use of the terminal.

Like most terminal functions in the 2640, an escape sequence is used to control all cartridge activities in the 2644. A generalized escape sequence is used where the parameters are changed to perform all the different functions possible. Some examples are:

ESC & p 1u 0C	Rewind left tape
ESC & p 1u 3C	Locate end of valid data mark on left tape
ESC & p 1u 5C	Write file mark on left tape
ESC & p 1D	Set up left tape as destination device

The above examples constitute a sequence which could be used to append information to files already on a mini-cartridge in the left tape unit.

In general device codes are: (S, D, U)

- 1 = left tape
- 2 = right tape
- 3 = display
- 4 = printer

Where: S = Source device
D = Destination device
U = Device code

Also, the control codes are: ("C" Codes)

- 0 = Rewind
- 1 = Space "p" records
- 2 = Space "p" files
- 3 = Locate end of valid data mark
- 4 = Condition tape
- 5 = Record file mark
- 6 = Record end of valid data mark
- 7 = Test tape
- 8 = Skip "p" files immediately without recording end of valid data mark

"p" In the above is a plus or minus number (for relative addressing) or an unsigned integer for absolute addressing.

The generalized escape sequence can be used in applications programs or utility programs to perform whatever functions are needed to accomplish the users tasks. Because of this the 2644 Mini DataStation can be controlled to custom fit each users own environment.

In terms of competition nobody else has a fully integrated dual cartridge capability with the file handling power of the 2644. Hazeltine offers an optional dual cassette unit in a separate box, but it isn't integrated and has no file or record commands. The Dataspeed 40 offers a single tape unit which isn't integrated and has a limited instruction set.

In terms of stand-alone tape units (without CRT terminal) Techtran offers the model 8400 series which is a dual cassette drive. However, it has very limited file and record tape commands and no high speed search.

The Sykes 3000 is a dual cassette unit similar in power to the 2644. High Speed search is an option. Standard price is about \$3200 in single unit quantities. But remember, again this is the tape unit only, no CRT terminal attached.

In terms of a cost effective solution for intelligent terminals with local mass storage capability, the 2644A is a super winner. For a more complete discussion of the generalized escape sequence, refer to the 2644 owner's manual. And as always, if you need further assistance contact Sales Development.

Thanks for selling terminals!



REFURBISHED SYSTEMS

by *Hugh Amick*

Bob Stephenson, Cupertino, handles the refurbished equipment inventory for Data Systems and on occasion can quote systems containing refurbished equipment at a discount. However, *Bob must* be contacted before the quote for equipment availability and the exact discount on the configuration. *Bob* can't always provide you with a complete refurbished system, but you might check with him before a particularly dollar-sensitive quote. Remember, all refurbished equipment carries a full 90-day warranty and a partial equipment list is published in each availability schedule under *Data Systems Notes*.

HEWLETT  PACKARD

OUTSTANDING WESCON RESPONSE TO 2644A MINI DATASTATION

by *Bob Bowden*



The new 2644A Mini DataStation was on view to the record 31,300 who attended this year's Wescon in San Francisco. The response was outstanding — several hundred leads were generated, and many who saw the 2644A demonstrated described it as the most exciting new product introduced at Wescon.

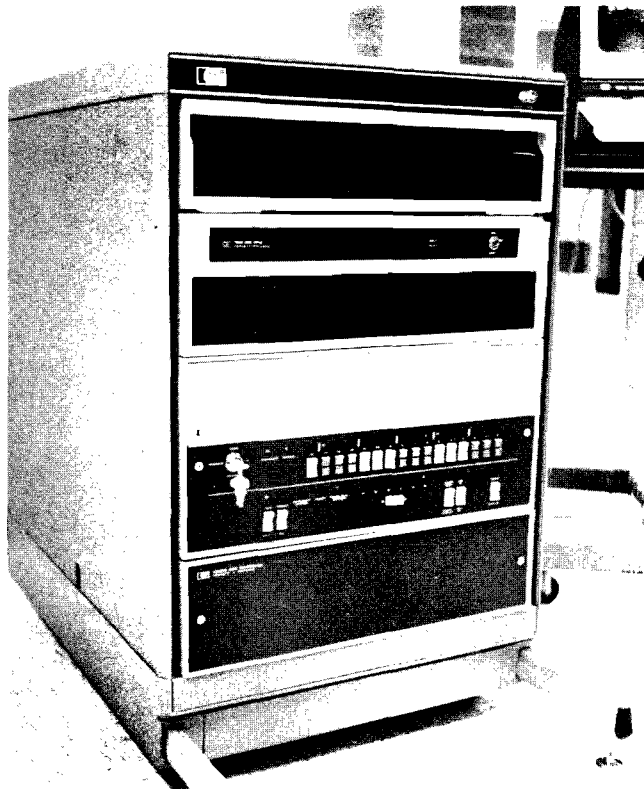
The HP booth was filled throughout the show with potential customers observing the 2644A's use of Mini Cartridge mass storage in a demonstration of the terminal's powerful stand-alone capabilities. The 2644A was seen as a significant addition to the 2640 family of data terminals.

The 2644A has been included in the October 1 Corporate Price List and the first customer shipments have already begun. So, increase your sales success — with the 2644A Mini DataStation!

HEWLETT  PACKARD

HP SHOWS DISCOMPUTER AT INVITATIONAL COMPUTER CONFERENCE

by *Doug Hanson*



The Invitational Computer Conference is a series of eight regional one-day product seminars and product displays aimed at the OEM. Invitations are sent out by the participating companies to their OEM customers or prospective customers.

Ted McCarthy (Lexington DM) elected to participate in the first 1975/76 conference on Sept 30 in Newton, Mass. In addition to showing the MX/65 DISComputer and the 2644A terminal, we also conducted a one-hour technical presentation entitled "New Concepts in DISComputer Technology." According to *Ted*, the exposure we got was well worth the \$650 fee. The registration list showed over 500 individuals from various companies attended the conference.

Al Schallop will be participating in the next conference on Oct 21 in Cherry Hill, *Ralph Mele* is scheduled for Oct 23 in Long Island, and *Stan Drayus* will be attending the Nov 20 show in Palo Alto.

HEWLETT  PACKARD

CALL FOR COMPETITIVE INFORMATION

by *Stu Kagan*

Believe it or not, you people out there are the best source of timely perturbations that our competitors are offering. It's important that you pass the information on so that the rest of the field can share in the knowledge as to where we stand in a particular situation. Please direct these inputs to your Regional Sales Development Engineer. Thanks for your help!

HEWLETT  PACKARD

CUSTOMER TRAINING

GENERAL SYSTEMS DIVISION COURSE SCHEDULE NOV. 1975 — APR. 1976

by John Price

TRAINING CENTER LOCATION

		Data Systems Cupertino	General Systems Santa Clara	Eastern Training Center Rockville
22962A 3000 COMMERCIAL/ BUSINESS USER	5 days	11/3/75 12/1/75	1-5/76 2-23/76 4-5/76 4-19/76	12-1/75 1-19/76 2-2/76 3-22/76 4-5/76
22963A 3000 SCIENTIFIC/ ENGINEERING USER	5 days	12-8/75	1-26/76 3-15/76	11-17/75 1-5/76 3-8/76 4-19/76
22964A 3000 SYSTEM MANAGEMENT	3 days	11-10/75 12-15/75	1-12/76 2-2/76 3-1/76 3-22/76 4-12/76	11-24/75 12-8/75 1-12/76 1-26/76 2-9/76 3-15/76 3-29/76 4-12/76 4-26/76
22956A 3000 IMAGE	5 days	11-17/75	1-19/76 3-8/76	12-15/75 2-23/76
22973A 2000/ACCESS DATA ENTRY, FILE MANAGEMENT and RJE	5 days	11-3/75 12-1/75	2-2/76 3-22/76	2-23/76
22974A MINICOMPUTERS IN MANUFACTURING SEMINAR	2 days	11-24/75	2-5/76 3-25/76	
22975A SYSTEM 3 CONVERSION SEMINAR	2 days	11-13/75	1-15/76 3-4/76 4-29/76	12-11/75

HEWLETT  PACKARD

CUSTOMER ENGINEERING CORNER

HIT BUGS IN THE POCKETBOOK

by Curt Gowan

[You may be interested in this item from *Support Update* . . .]

DSD Product Assurance is striving to get better information on the software and systems portions of our warranty expense. In order to do this, we need your help:

1. When a problem is isolated to a specific software module — driver, compiler, operating system — put the product number of that module in the "Repaired Unit Product No." field on the Repair Order. In other words: do not use the number of the hardware system if you can be more specific.
2. When there is a subsystem/compatibility/integration problem, put the hardware system or subsystem product number in the "Repaired Unit Product No." field — even if it is the same as the number in the "Mainframe or System No." field. In other words: do not use the product number of the specific instrument or peripheral if the call was really to resolve a system-related problem.

By carefully breaking out the software and systems problems on your repair orders, you make deficiencies in these areas visible to the factory in dollars-and-cents terms — thus providing vital feedback which leads to increased profitability for us all.

HEWLETT  PACKARD

APPLICATIONS

HYLSA STEEL — PUEBLA, MEXICO

by Dave Hancock

Hylsa Steel, a major steel manufacturer in Puebla, Mexico, is currently expanding their computer control applications using HP Distributed Systems. Hylsa started with an HP 9640A central processor in February of 1975 doing application development and initial testing of control functions.

Now, eight months later, they are installing the second phase of their project, consisting of five 9611R Remote Industrial control stations and three computer controlled satellite stations, all connected to and guided by the 9640A central system.

Hylsa primarily manufactures various types of steel rod and operates a rolling mill to transform the steel rod into end-products. The HP Distributed System is used to monitor and control various functions at the Puebla mill such as:

1. Automatic scaling of ore and base ingredient inputs to the large melt stations.
2. Feed-back from a computer controlled mass-spectrometer used to analyze melt samples during the melt cycle.
3. Control and data acquisition from the distribution stage where the melt produce is converted into steel rod.

(Continued on page 14)

HYLSA STEEL – PUEBLA, MEXICO -

(Continued from page 13)

4. Monitor and control of energy consumption at all major power users (melts, etc.) to provide even energy consumption and avoid costly peak requirements.

For justification, the control of power load factors ALONE will pay for the distributed system WITHIN ONE YEAR. Other future benefits are in the area of more efficient use of base materials, improved yield and improved or more stable product quality.

For more information, contact *Gabino Perez*, HP Monterrey, Mexico, regarding his very successful and growing HP Distributed Systems for the steel industry.



EDUCATIONAL NEWS

AUGUST TALLY

by *Pat Danzer-Ramirez*

The educational sales tally for August is in — and it certainly looks like the heat didn't slow down our HP Field Engineers. Sales are listed below, half of which are new customers (Marked with an asterisk). Congratulations to all the Field and Systems Engineers involved!

Customer	Field Engineer	Systems Engineer	Equipment
*Douglas College B.C., Canada	Don Thomson	—	2000E
*Union University Jackson, TX	Stan Segal	Dave McClellan	2000 Access EPS/2000, CIS/2000
*College of Mainland Texas City, TX	Gary Stump	Dave McClellan Steve McKenzie	3000 IDF, IMF 6-2640's
Macomb Cnty ISD Mt. Clemens, MI	Barry Pehoski	Rick Walsh Gary Davis	2000 Access
Michigan State Univ. E. Lansing, MI	Barry Pehoski	Rick Walsh Gary Davis	2108
*Texas Technical University Lubbock, TX	Dave Head	Rick Griffin	2000 Access IMF, IDF, CWF, Graphics
Beverly Hills Schools Beverly Hills, CA	Bob Ulery	Frank Vaickus	2000 Access Upgrade EBA/2000 IMF, IDF
Contra Costa College San Pablo, CA	Mike Chonle	—	9-2640's
Virginia Polytechnic Blacksburg, VA	Doug McArthur	Tom Ballew	6-RJE's
*Brigham Young University Laie, HI	Al Nonnenberg	Mike Young	2000 Access
*Purdue University Lafayette, IN	Mike Naughton	Bob Karasek	10-2640's
Wichita Public Schools Wichita, KS	Al Wood	Don Heaton	2000 Access Upgrade 6-2640's
Prince George's County Upper Marlboro, MD	Jim Banisch	—	2000 Access 2000 Access Upgrade
*Auburn University Auburn, AL	Frank Bowden	—	2000 Access

OPPORTUNITY RINGS!

by *Chris Doerr*

This year's Educational Users Group Meetings are being planned with a new person in mind: you! We think a good users meeting will be a very effective sales tool, so we are making sure each meeting offers something to potential as well as existing users. We encourage you to bring your prospects to these meetings — talking with dedicated and enthusiastic users can only be a positive experience for potential customers. It might be just the thing to tip the scales in our favor.



The first meeting of the year will be held in Ottawa, Canada from 8-12 a.m. on Thursday, November 20. The meeting will start with breakfast at the Holiday Inn — Ottawa Center, and continue with two concurrent sessions of 5 speakers each. Topics include:

Session I

- The Use of the 2000F in Teaching Business Administration
- Cincinnati Instructional Management System
- Factors Inhibiting the Instructional Use of Computers in Public Schools
- Machine Language Simulator for the Kenback-I Computer
- Potpourri of K-12 Computer Uses in Minneapolis Public Schools

Session II

- Using INQUIR as a Classroom Tool (Social Studies)
- Random Numbers in Arithmetic CAI
- CMI Applications in Physical Sciences
- Simulation of INTEL 4040 Microprocessor
- Economical Printing of Special Purpose Cards & Use of Card Readers for Surveys

Cost for both breakfast and the sessions is \$5 (\$2 for sessions only). Reservations can be made by calling or writing

Chris Doerr
Hewlett-Packard
 11000 Wolfe Rd
 Cupertino, CA 95014
 (408) 257-7000 ext 2052

Other meetings tentatively scheduled include:

Show	Date	Location
ADCIS	January	Santa Barbara, CA
NCTM	April	Atlanta, GA
AACRAO	April	Washington, D.C.
AEDS	May	Phoenix, AZ
CCUC	June	Binghampton, N.Y.



**data
systems
newsletter**
For HP Field Sales Personnel

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John Kobis — Art Director * Joe Schoendorf — Technical Editor