HEWLETT hp PACKARD

data systems newsletter

For HP Field Sales Personnel

Volume 2
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May 2
1975

SALESMAN'S CORNER

"IF WE DON'T GET THAT ORDER, I'LL EAT MY HAT!"

by Jim Schmidt

"If we don't get that order I'll eat my hat!" Sound familiar? One of our 3000 sales situations looked so locked, even cautious *Hugh Amick* was heard to utter - the famous phrase - that's caused more psychic indigestion than a bachelor party or a Richion friendly exchange of mortgages.

Hugh's friends, a kindly lot, took pity on his plight and enlisted some culinary art to make *Hugh's* plight a little easier to digest. If you don't recognize *Hugh* on one of your next trips to Data Systems Sales Support, he's the Jolly Green Giant in the Neely group. *Doctor Hackborn* (not medical, but available) said *Hugh* should recover if he can stay away from prophet phrases for a couple of weeks.

Another computer company, whose initials I won't mention *lest they be sued again, was blessed with this order.* It seems we didn't get below the surface deep enough to see the degree of account control that our friendly honorable competitor enjoyed.

There must be a message in this hatband somewhere.

HEWLETT PACKARD

All prices quoted in this Newsletter are domestic USA prices only

In This Issue . . .

RAYTHEON COMPANY - MISSILE SYSTEMS DIVISION LOWELL, MASSACHUSETTS

by John Arserio

One of ESR Lexington's prime accounts, Raytheon Missile Systems Division in Lowell, Massachusetts has finally gone all out in factory automation. Under the guiding hand of *John Arserio*, the FE covering the account for the last 18 months, and with assistance from SE's *Manny Perry* and *Mo Cote* for technical support, Raytheon has embarked on an RTE/DS system for automating the Advanced Sparrow Missile test line. RTE systems will be used at each level of missile assembly

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Company Private

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RAYTHEON CO. – (Continued from page 1)

checkout, from cordwood modules through target seeker module automatic test. Four RTE systems, along with four BCS systems, form the nucleus of the automatic test line for the Sparrow Missile.

An additional RTE system will be used for an AUR (All Up Round) test station which is used for missile acceptance by the Navy. A Distributed System link is being used to a separate computer as a mobile calibration cart for insuring performance of all test systems.

The RTE computer network is the latest in a family of test stations that started six years ago with a *single HP 2115A computer.*

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RTE COUNTS COINS FOR TELEPHONE COMPANY

by Jim Eckford

An unusual and interesting application of an RTE system is being put to use by the Illinois Bell Telephone Company. The RTE system is used basically as an accounting system in the Coin Services Division of the Company. It is being programmed by Programming Methods, Inc. which is a software systems house and was bid as a joint proposal with Hewlett-Packard. The reason an RTE system was selected is that eventually it will be upgraded to accept its coin-counting information by wiring directly into a number of coin-counting machines. It will process the accounting information on a real-time basis and eliminate the necessity for a large number of IBM keypunch machines. The RTE system consists of a 2108 computer, 32K of memory, 2 - 7900 discs, 2 line printers, 2 - 2640 CRT's and a 7970E tape drive. The competition was DEC. They were simply "outsold". The sales and coordination efforts between IBT, PMI and HP were managed by *Don Porter,* Field Engineer, and *Lloyd Kusak,* Systems Engineer of the Skokie office. Congratulations to both for a job well done.

Don Porter
Field Engineer
Skokie

Lloyd Kusak
Systems Engineer
Skokie

HEWLETT PACKARD

DATA SYSTEMS NEWS SUCCESS STORY.

3000 SALE TO NPD

by Bob Blake

Ange Colucci closed a HP 3000CX100 to a most interesting account in March. National Purchase Diary, Inc. issues diaries to housewives who receive an award for entering location, store, price of each purchase made. This data is key-punched onto tape and marketing dichotomy reports are generated for NPD's customers using IMAGE/3000.

Ange kept his cool when DEC got wind of the sale and stepped in with a lot of claims and promises. These seemed to vanish when the customer wisely visited Maynard prior to purchase. *Sharad Heda's* demonstration using the Rockville 3000 contrasted sharply with DEC's credibility. When last seen, *Ange* was working towards a close on another hot prospect.

HEWLETT PACKARD

PRODUCT NEWS

INFOS IS ECLIPSED BY IMAGE/3000

by Steve Tritto

With their current rate of full page advertising Data General is surely going to create significant interest in their INFOS data management system; it carries the major thrust of their Eclipse C-300 system. While their campaign is very aggressive, there is much more smoke than fire. So let's examine the C-300 generally and INFOS specifically.

Item 1.

"not a true data base management system"

INFOS is a file system not a true data base management system.

Where it fails to measure up is with the absence of a *data description facility (schema)* that sets data base management systems apart from file managers. Infos does manage the storage and retrieval of whole records but cannot locate specific fields within a record as you can in true DBMS systems.

To do that with INFOS the application programmer would have to construct a routine to define where specific fields should be located and how to access them later on. This feature is a normal part of the schema function in IMAGE/3000 making it transparent to the user, and providing him with a very valuable capability. The result is additional capability and greater friendliness on the part of IMAGE 3000.

(Continued on page 3)

INFOS IS ECLIPSED BY IMAGE/3000 – (Continued from page 2)

Item 2.

"data security"

Whenever evaluating data base systems, you must also examine the operating system. Features included or excluded in data management are often indicative in the inherent strengths and weaknesses of the control software.

For example, a very sensitive feature subject to much scrutiny is data security. This point is of particular concern because the concept of DBMS is to provide a "common" data base to many application programs except where information is considered, confidential.

Under MPE-C we have three levels of security - account group, and user. Within IMAGE/3000 we have additional security at the data base, data set and data item levels.

Meanwhile D/G has been surprisingly quiet on the data security features of INFOS. Particularly so, while they have been spending so much money to announce some rather meaningless buzzwords. I would press that point strongly.

Item 3.

"limited language access"

The next consideration is the languages that can be host to the data base. The Eclipse C-300 is limited to FORTRAN and RPG UNDER MRDOS, while 3000/IMAGE is accessible to FORTRAN, RPG, BASIC, COBOL and SPL. By the way, their BASIC language is very slow especially compared to HP 3000 BASIC

Item 4.

"no inquiry facility"

The absence of a QUERY like inquiry facility is another shortcoming of the INFOS "AADBMS" (Almost a Data Base Management System). QUERY 3000 is another friendly touch, making the accessing, editing, debugging and updating of the data base a simple task for the user.

The user who wants one under INFOS has to write his own, a formidable task, to say the least.

Item 5.

"fully inverted files - another user handicap"

The INFOS file management system advertises full data base inversion. A close look reveals that this presents another handicap to the user.

Fully inverted means the file system uses many data directories for locating records. The amount of data moved around is minimal and the result is very fast retrieval of searched records.

But these directories consume a lot of space and are very difficult to maintain.

They also require continuous editing that is cumbersome and time consuming for the user.

On the other hand IMAGE 3000 uses a partially inverted system. Simply put, it is the combined use of directories and direct data handling. The result is the optimum balance between fast information retrieval, ease of maintaining the system, and user convenience.

Item 6.

"about the 'Whetstone' Benchmark' "

We are all aware that Data General is getting a lot of mileage from their Eclipse "Whetstone Benchmark". It did beat an IBM 370/155, Xerox Sigma 9 and 5, Univac 1108 and a HP 3000. The benchmark programs were ideal for Eclipse; i.e., execution of sequential instructions, no externally generated interrupts, and absolute minimal I/O activity. The programs made optimum use of their fast FORTRAN processor and cache memory scheme. If that's all the user requires, perhaps Eclipse is his best buy, so long as that program is representative of the majority of his tasks.

But when you consider that 70% of general EDP costs are for applications software development, most users want the value provided by a proven multiprogramming operating system, advanced file system, true data base management, and system utilities offered by the HP 3000CX. The choice of languages available also enhances the "safe buy" aspect of our system. They make it more versatile and thus more likely to be used by multi departments and people for a variety of applications - A tool that everybody can use!, A system that can contribute additional capabilities while lowering overall costs.

Finally, I'd like to quote *Edgar Geithner**, a D/G spokesman who made two profound statements.

1. "In no way should it be considered that this (Whetstone Benchmark) represents a comparison between Eclipse and Nova" (or anything else).
2. *Edgar* later explained that his warning was meant for someone who would use the benchmark as the only comparison between machines. "Although we consider this to be a fair one (of course), there is much more to buying a mini computer than how a machine performs on one benchmark".

Thanks Edgar, thats exactly the point!

**Modern Data Magazine, Feb 1975, P.34 "THE WHETSTONE BENCHMARK"*

59310A HP-IB COMPUTER INTERFACE CARD

by Charles Dixon

If you read the April 7th issue of Computerworld or attended the New York IEEE show you would be aware that the 59310A HP-IB computer interface card was one of the highlights of the HP-IB systems display. With the plug-in card, any of the company's 2100 or 21MX minicomputers may be hardwire-interfaced to instruments that are programmable via the HP Interface Bus. The HP-IB is Hewlett-Packard's implementation of IEEE Standard 488-1975, "Digital Interface for Programmable Instrumentation." It was also the model for the recommendation of programmable instrumentation to be circulated for balloting this year among member nations of the IEC (International Electro-technical Commission).

Data Systems now has marketing and R&D responsibility for the card and present plans are to significantly increase the factory support level for the 59310A. Final review of the Reference Manual is almost complete and a users manual should be completed within the next two months. A DOS Driver for the card will be placed in the Contributed Library and a supported RTE Driver is being written for the card.

The price of the card is $1,545 for the 59310A package which includes the following:

(1) Interface Card
(2) Preliminary Manual
(3) Software
    BCS Drivers*
    Diagnostic
    Utility Subroutines

*The basic card will support the DMA and Non-DMA version of the BCS Software.

Present plans are to formally re-introduce the 59310A on the June Product Tour, since the card has been marketed by Santa Clara and AMD for the past two years. Please refer to the HP-IB Brochure (5952-0023) for the current list of HP programmable instruments that are HP-IB compatible.

If you require additional information on the 59310A before the June Product Tour, please call or write. HEWLETT PACKARD

9600MX TERMINAL UPDATE

by Peter Palm

Answers to frequent questions on the new HP terminals for the 9600MX systems follow.

2640 CRT Hardwired Interface

Option R90 (60HZ), R91 (50HZ) includes:

2640 CRT	$3,450.00
2640A-006 RS232C Cable (Female Connector)	
12880A Interface Card (Male Connector)	
Factory Integration in System	
Field Installation with System	
RTE Driver (DVR00)	

This $3,450.00 price is $50 more than the component prices of 2640A-006, 12880A to cover the factory integration of the 2640A into the 9600MX System, field installation & test, and RTE 2640 driver software.

Note: A 9600MX System order will *not* be accepted without a system console. . .i.e., R90/R91 (2640), R00/R01 (TTY), R10/R68/R40/R70 (Terminet), R15/R17 (2615).

What 2640 Software is Supported?

Character Mode software *only* is supported on RTE. No BCS driver has been tested or is supported.

The following 2640A programmable functions are supported by DVR00:

1. Cursor control, including positioning
2. Tab functions
3. Display enhancements
4. Protected fields

The functions listed below are *not* supported by DVR00:

1. Cursor sense
2. Terminal status
3. Special function keys (f1-f8)
4. Block Mode

The above are *not* supported because information is sent to the CPU in block transfers.

When using the RTE editor, typing in escape sequences will cause the display to do that function (e.g., typing in "move cursor 25 positions" sequence will display cursor 25 positions removed).

Which 2640A Options are Supported?

Option 001 - 128 Roman character set. Not fully supported. Lower case character RTE command inputs to DVR00 will cause unexpected results. On output DVR00 will handle all 128 characters.

Option 005 - 103/202 Modem cable. Supported. The 103 full duplex modem version of the 2640, 2640-005, 12531D-002 has been tested and does work with RTE in character mode. RTE does *not* support the 202 modem. Opt. 005 will *not* be offered as a system option but may be ordered as components. Customer must pay field rates for installation, system regeneration, and integration.

Option 006 - RS232 Cable. Supported, and is included standard in 9600MX Option R90 (60HZ) & R91 (50HZ).

Option 010 - Simplified Keyboard. Supported. Will not be a 9600MX option. Order as a component.

(Continued on page 5)

9600MX TERMINAL UPDATE - (Continued from page 4)

Option 015 - 50HZ. Supported. Included with 9600MX - R91.

13231A Display Enchancements
201 Math Set
202 Line Drawing Set
These options use control character sequences to implement and can pass through DVR00 to the 2640A if programmed in. No special RTE calls exist, however. Order as field add-on.

13233A Terminal Memory Module (+2K)
13234A Terminal Memory Module (+4K)
Both these memory products will work with RTE to add more screen storage for programming.

13238A Terminal Duplex Register
−001 HP 9866 Cable (and HP 9866 Printer if purchased)
These options work off-line to the RTE CPU and will allow dump of CRT memory to Printer, via 2640 PRINT button or via RTE output "escape" sequence.

12975A 300 LPM Line Printer

422 RTE Driver. Now Supported in RTE II.
This printer will not be offered as a 9600MX option; only as a subsystem. Price includes installation & RTE system regeneration. Shipment timing to customer site will be coordinated with 9600MX System.

2762B (9600MX Option R40) Terminet Console.
Due to planned obsolescence of 2762A-006 and higher performance of 2762B, a production change has been implemented to replace 2762A versions with 2762B versions.

R40 Was	R40 Is
2762A-006	2762B
118 columns	120 columns
10/15/30 cps	10/30/120 cps
Tractor paper feed	Tractor paper feed
	002
Vertical tab & form feed	Vertical Tab & form feed
Pedestal and racking shelf	(not included)
Horizontal Tab	(not included)
$6460	$6460

2762B-015 (9600MX option R70). Same as R40 above except 50HZ. Add to R40 above:

R70 Was	R70 Is
2762A-007	2762B-002
$6685	-015
	$6685

2762A (9600MX Option R10) Terminet Console.
30 cps, 75 col. 60HZ. Production change has been made to reflect new Boise Product structure.

R10 Was	R10 Is
2762A	2762A
including pedestal	018 pedestal
12531D-001	12531D-001
$5325	$5325

2762A-015 (9600 Option R68) Same as R10 above except 50HZ. Add to R10 Above:

R68 Was	R68 Is
2762A-001	2762A-015
$5525	$5525

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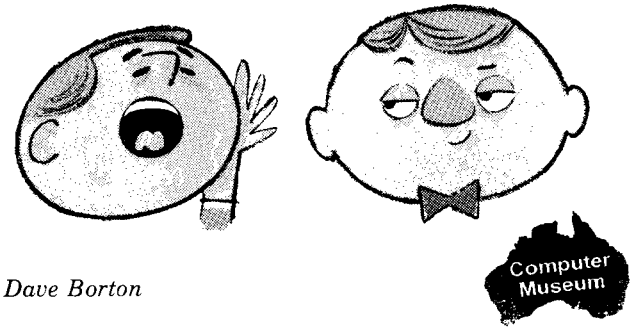
RTE BASED SYSTEMS CAN COMMUNICATE WITH EACH OTHER!



by Dave Borton

You say you are waiting for RTE to RTE? The enhancements to Distributed Systems announced in December already include the ability for RTE-II based systems to communicate with each other! All that's needed is the Central Communications Executive and corresponding hardware in each computer.

They communicate via *program-to-program* techniques. In other words, a user written program in one computer may communicate with another user written program in the other computer. Either program may choose to be the master program with the other program assuming the role of slave. Also, generation of one RTE-II system may be done on another RTE-II system, but the SYSGEN must be done OFF-LINE from other functions. This differs, of course, from the BCS, RTE-B, and RTE-C satellites and performs other functions.

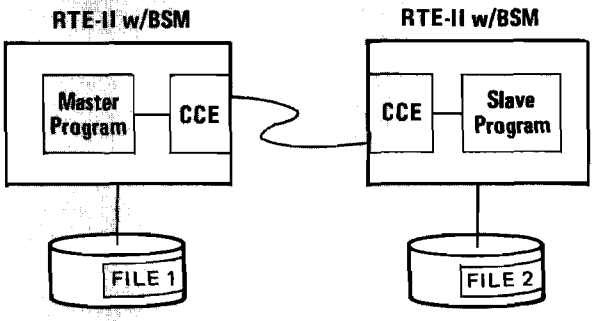
Transferring files between two RTE-II based systems is quite simple for the user to implement using program to program techniques. The following diagram illustrates the method:

(Diagram on page 6)

(Continued on page 6)

RTE BASED SYSTEMS CAN COMMUNICATE WITH EACH OTHER - (Continued from page 5)

FILE TO FILE TRANSFER USING PROGRAM TO PROGRAM



Transfer File 1 to File 2

	USER WRITTEN MASTER PROGRAM	**USER WRITTEN SLAVE PROGRAM**
	SCHEDULE MASTER PROGRAM	
	Open File 1 POPEN Slave program	
		Slave Program Schedule
		GET (Obtains POPEN info)
		Create File 2
		ACEPT (if create was o.k.)
	Read from File 1	
NO	PWRIT	
		GET (obtains PWRIT info)
	transfer complete?	ACEPT (obtains data)
YES		Write to File 2
	PCONT	GET(obtains PCONT info)
		ACEPT
		FINIS
	end	end

So, while even zoomier capabilities for RTE to RTE are being developed, say *YES* to customers who want data transfer capabilities now.

Sell Distributed Systems. Add-on orders are sure to follow. *Distributed System: the System Cash Cow.*

HEWLETT PACKARD

"COMPONENT SALES POLICY"

by David Carver

OEM sales at Data Systems are increasing at a very fast clip. The first four months of fiscal year 1975 showed an increase in OEM sales of 116% over the same period of fiscal 1974. Since we're becoming so successful in this business, it's time to clarify some of our key policies for selling components.

1) Because components customers usually buy with the intent of building a system of their own, HP does *not* automatically provide or charge for Field installation and systems integration for component orders. System integration is unbundled to give the customer the choice of buying just what he needs.

2) If a customer wants his component integrated in the Field, the Customer Engineering organization will provide it at standard hourly rates. However, Customer Engineering cannot give standard time quotes that set a maximum charge for the integration.

3) When a customer replaces a component in an existing system with a new component (e.g., replaces a 2100 with a 21MX), he should not assume that it will be *totally compatible* with previous operating software or any special devices he may have designed. That is, if HP does not perform the system integration prior to shipment, HP does not guarantee the system's performance.

4) Remember that if a customer buys operating system software as a component, and chooses the optional installation clause in the purchase agreement, then the software will be installed (integrated) for the 1% charge.

5) When selling operating system software as a component, be sure to check the operating system data sheet for minimum hardware required and hardware supported.

These policies are necessary to enable HP Data Systems to compete effectively in the components business, and are standard practice in the industry.

Continued Good Selling!

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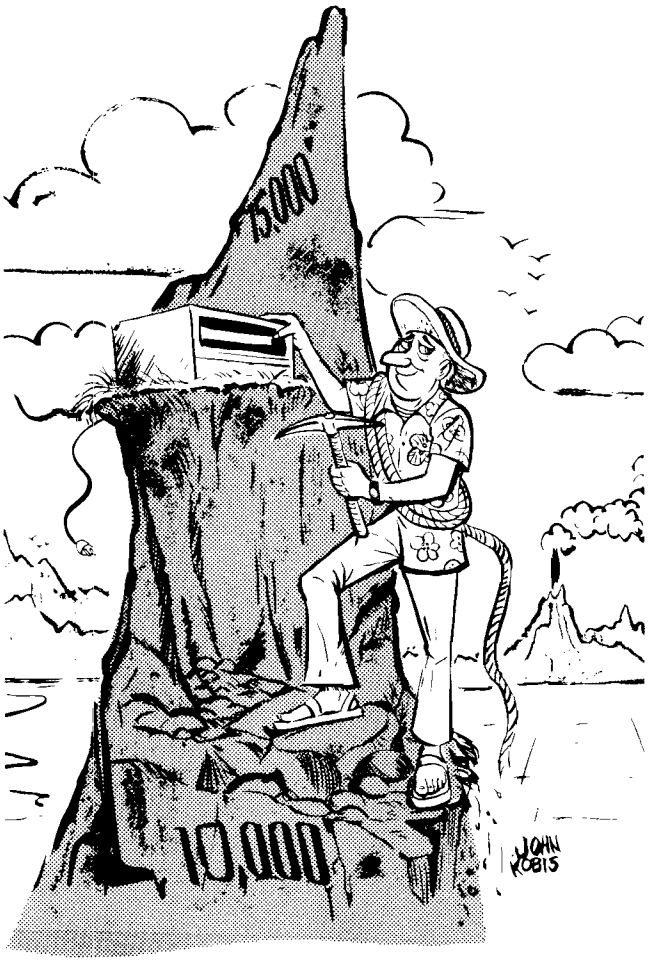
7900 HIGH ALTITUDE CAPABILITY



by Jim Herlinger

CHF, a joint effort to build an observatory between Canada, France and Hawaii, recently asked for bids on several computer systems to operate on the peak of Mauna Kea, an extinct volcano with a maximum altitude of 13,800'.

One of the systems was to be disc-based and it appeared the only alternative was an expensive sealed Head Per Track (HPT) drive. Most moving head disc drives are specified to operate at a maximum altitude of 8,000' and the HP 7900 with its upper limit of 10,000' was the only machine which came close to solving CHF's problems.

CHF needed a moving head drive for the larger data base it provided as well as its much lower cost over a HPT drive. They came to HP to see if there was any way that a 7900 could be modified to run at 15,000'. HP's peripheral engineers were concerned about two areas - possible thermal problems due to operation with less dense air for cooling and the head flying characters with low density air. Hot spots in the drive could possibly cause cartridge interchangeability problems due to mechanical misalignments. The 7900 has never had an interchangeability problem and a lot of cooling air passes through it so the consensus was that it probably had sufficient margin to operate at 15,000 . Head flying data from ASME publications was reviewed and it was determined that head flying was more dependent on boundary layer effects - not absolute air density. Head flying height was insensitive to altitude changes between sea level and 15,000'.

A 7900 was tested at 15,000', 40°C, 50 cycle and it worked without difficulties. The specification has been changed from a maximum operating altitude of *10,000' to 15,000'*, again proving HP's claim that the 7900 moving head disc drive is the most rugged in the industry.

Even if your customer's application doesn't require a system which operates at 15,000', it is important to remember how much broader all the 7900's environmental limits are with respect to the other moving head disc drives in the industry. These wider limits will mean a drive which operates more reliably through all operating conditions.

HEWLETT PACKARD

SALES AIDS

HP 3000CX in CORPORATE MATERIALS SERVICES

by Rick Justice

In February, Corporate Materials Services (CMS) acquired a used HP 3000 from Data Systems Division. The system has 128K of core, an ISS disc drive, four 7900 disc drives, three 7970 tape drives and two line printers. Its main function will be data maintenance for the Corporate Materials Data Base (MDB), which contains information on HP's purchased parts.

The MDB, orginally designed and implemented jointly by BAEDP and CMS, is maintained and accessed on the Corporate IBM S/370 under the TOTAL data base management system, and consists of over 130,000 master records chained to approximately 700,000 structure records via 7 linkage paths. It occupies almost a full 3330 disc pack, and is growing steadily. Because of the chain file management overhead, it had proven expensive both to update and to extract data from the MDB - so much so that much useful data was never made available because it was not cost-justifiable.

Accordingly, CMS designed a system for their HP 3000 whereby the entire MDB could be maintained as a sequential file and, as such, fit very comfortably onto just over two 2400 ft. reels of tape. Updating such a file is very straightforward and relatively inexpensive. A data extraction program was designed using a technique of data selection coupled with a sort to provide a wide variety of reports. The program allows such systems as an HP 2100 to process the tapes. Currently, HP Ltd. is experimenting with the tapes to update their purchased parts file.

When CMS acquired its HP 3000, the advantages of the

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HP 3000CX IN CORPORATE MATERIALS SERVICES - (Continued from page 7)

sequential MDB were greatly magnified. First, the file could be updated on site at significantly reduced costs. Second, reports such as divisionalized value sorts and automated Kardexes,which were prohibitively expensive on the IBM 370, are now cost justifiable. Third, turnaround on special reports has been reduced from days to hours. Fourth, multi-terminal processing has improved programmer efficiency and throughput.

However, since the established MDB update and outputs had to be maintained, it was decided not to wait until the Sequential Update System could be completed before reaping the significant benefits associated with the potential outputs. Therefore, while the MDB is still maintained as a TOTAL Data Base by BAEDP, it is inexpensively converted by CMS to the sequential format on a monthly basis, and brought over to the CMS/HP 300 for processing.

This application on the HP 3000 was of immediate use to Contracts Administration. A file consisting of pertinent contracts information is spun off the Sequential MDB, and this provides contract administrators with information they need, grouped and sorted by whichever fields they select at minimal cost to CMS and with maximum benefit to the Contracts Group. Within the first week of accessing this file on the CMS/HP 3000, they uncovered Purchased Parts not currently under contract, yet prime candidates for Agreement Purchasing to the tune of more than $31,000,000!

They have found hardware reliability excellent on the 3000 and are pleased with the software capabilities. Overall, the system has more than met their expectations and is expected to provide a return on investment in less than 8 months.

HEWLETT PACKARD

NEELY SEMINAR TEAM GETS STANDING OVATION

by Bill Senske

A DATA BASE MANAGEMENT SEMINAR was recently given in Denver and Salt Lake. The seminar was especially well received in Denver - after an all day session the seminar team was given a *standing ovation!* The compliments ranged from "very professional" to "we've been attending many data base management seminars, in fact we've just returned from one on ADABAS, and this seminar was the best we've been to". In addition, there were several requests for copies of the slides. Many of the attendees remained for informal discussions over refreshments until 5:00 PM.

Invitations to this seminar were sent to individuals on the Datamation mailing list in Denver and Salt Lake. The response was high; the attendance at Denver was 58 and at Salt Lake there was a total of 90 attendees for two sessions. The agenda for the seminar in Denver was as follows:

9:00	Introduction to Hewlett-Packard	Terry Anna
9:30	Data Base Management versus "Traditional" File Management (the value of data base management concepts shown in a comparative fashion)	Larry Hartge
10:15	Coffee Break	
10:30	Data Base Management using IMAGE/QUERY (discussion of the power and capabilities of IMAGE/QUERY and its simplicity)	Larry Hartge
11:00	Introduction to the HP 3000 (discussion of the "friendly" 3000, its subsystems and capabilities - N.A.; overview of models, power and prices L. H.)	Norm Alexander Larry Hartge
12:00	Buffet Luncheon	
1:00	Introduction to HP 21MX System (video tape)	Terry Anna
1:15	Management Series Computer Systems - 21MX based (delineation of 2000/3000 capabilities/ differences and discussion of capability and flexibility of "M" series systems)	Terry Anna
2:00	Discussion of Applications (perspective of HP product line with respect to price and capability, perspective of HP's product line within computer industry with respect to capability and turnaround, discussion of a 2100 and 3000 Data Base Management user's application - L.H.; discussion of various 3000 user applications - N.A.; Customer testimonial on good experiences with "M" series system; discussion of "M" series applications - T.A.)	Norm Alexander Terry Anna Larry Hartge

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NEELY SEMINAR TEAM GETS STANDING OVATION -
(Continued from page 8)

2:45	Coffee Break	
3:00	Live demonstration of On-line Order Processing System (M280) using HP 2640's	Terry Anna
3:30	Informal demonstrations of HP 2640/Open Bar	Norm Alexander Terry Anna Larry Hartge

The agenda at the two sessions in Salt Lake was basically the same but was condensed into half-day sessions with no scheduled live demonstrations (only informal 2640 demonstrations and videotape).

HEWLETT PACKARD

NEW DISTRIBUTED SYSTEMS VIDEO TAPE AVAILABLE

by Dave Borton

A new video tape about a Distributed System at the U.S. Department of Interior is now available for use. A copy of this excellent color video tape has been sent to each computer systems sales office - worldwide. If additional copies are desired, they may be ordered from HP Corporate Training (building 18) at 1819 Page Mill Road in Palo Alto. Specify "9700 Application: U.S. Department of Interior" and the catalog number 90360 with suffix C for 1/2 inch Open Reel or suffix D for cassette. The tape runs about 13 minutes.

The video tape shows multiple 9600 systems being used in various labs to test water flow and materials. Tests are accomplished that were previously not possible without computerized systems. The central 9700 system is used for program development, for program and data storage, and for reports.

The satellites are the responsibility of each of the lab managers, and they are lower cost because they can share the resources and peripherals of the central system. Each lab is more efficient because each of the multiple 9600's is independently scheduled eliminating testing conflicts.

Kudos go to *Ron Murdock* and *Diane Gonzales* for an excellent job on this video tape. Through their efforts, our customers can better visualize the use of our systems.

HEWLETT PACKARD

EDUCATIONAL NEWS

SCHOOL BUYS THIRD 2000F

by P. Danzer-Ramirez

OTIS, the Oregon Total Information System, Eugene, Oregon, just ordered it's third H.P. 2000F computer system. This consortium provides computer facilities for over 70 school districts and education agencies, serving over 150,000 students.

The system, which will be installed this summer, will be dedicated exclusively to Chemawa Indian School, the newest user agency of OTIS.

Chemawa is an accredited secondary school primarily for dropouts and students expelled from other schools. It is administered under the Bureau of Indian Affairs, located in Salem, with students from Oregon, Washington, Idaho and Alaska. Counseling and vocational training are emphasized, and students are given a chance to acquire skills they have missed in the formal educational environment.

Chemawa students have not performed well in reading and language arts examinations. Causes for this include lack of time for sufficient individualized instruction and low student motivation due to past educational experiences. To help students in these basic skills the school has decided to implement a large program in computer assisted instruction (CAI), including adult and elementary reading and language arts, Basic English, and GED (General Education Development) tutorials, and H.P.'s math program.

Congratulations to *Rick Baker,* the Field Engineer and *Lambert Onuma,* the Systems Engineer for providing an atmosphere of faith and trust in H.P. and its products so this important customer once again chose H.P.

HEWLETT PACKARD

EDUCATION MONEY ACTION SPECTRUM

by Jean Danver/Babs Brownyard

The chart on page 10 was designed for the 2000 Access Field Training Manual. But since that document was already too thick, it is produced here. It represents education marketing's opinion about certain types of sales situations commonly found in education. If you are reacting to a bid spec or "in the running" for a sale, our strong recommendation is to follow the chart's advice. If you have complete control of a situation, then you know best.

The chart assumes that the prospect has the specified funds available to spend or finance with HP, that is, terminals, communications, etc. are not included. It also assumes that the customer is looking for equipment for a single location. If requirements are distributed, then HP is almost always in a good position.

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MONEY/ACTION SPECTRUM

THEY HAVE IN THEIR BUDGET:		**$34,000**	**$65,000**	**$100,000**	**$130,000**	**$300,000**	**$400,000**
SELL:							
			2000E	**2000/ACCESS**	**2000/ACCESS**	**2000/ACCESS 9 HP 3000**	**2000/ACCESS ONLY**
ELEMENTARY & SECONDARY DISTRICTS	CALL CALCULATOR FIELD ENGINEER		STARTER SET TO 2000/ ACCESS. AT LEAST 9 TERMINALS OF PROBLEM SOLVING. INSTRUCTION ONLY.	INSTRUCTION OR TOTAL SOLUTION FOR <10K STUDENTS, EBA, EPS, CIS.	ONE OR MORE FOR INSTRUCTION ONLY. 3000 FOR ADMIN ONLY. 2000 OR 3000 IF ADMIN REQUIREMENTS ARE SMALL PUSH 2000, ELSE SELL 3000.	PITCH SEPARATE SYSTEMS FOR ADMIN (3000) AND INSTRUCTION (2000).	PITCH SEPARATE SYSTEMS FOR ADMIN AND INSTRUCTION BUT DON'T BID FOR ADMIN (HOPE FOR IBM OR CDC).
CAI BUDGET ONLY				**$80,000** **ONE OR MORE 2000/ACCESS**			
			2000E	**2000/ACCESS**	**HP 3000 ONLY**		
SMALL & COMMUNITY COLLEGES			SAME AS ABOVE	IF <10K STUDENTS PITCH TOTAL SOLUTION. IF > 10K STUDENTS PITCH INSTRUCTION ONLY PITCH 2000 COMMUNICATION FOR OCCASIONAL NEED FOR LARGER SYSTEM.	PITCH MINI DATA CENTER 2000/ACCESS IF <10K STUDENTS WITH STRONG INSTRUCTIONAL REQUIREMENT.	SAME AS ABOVE	SAME AS ABOVE
LARGE UNIVERSITIES				***2000/ACCESS*** ONE OR MORE FOR INSTRUCTION ONLY, PLUS RJE. **3000** DON'T PITCH EXCEPT FOR VERY SPECIALIZED REQUIREMENTS. **RTE** FOR SPECIFIC RTE REQUIREMENTS. **DOS WITH WCS** FOR ENGINEERING AND COMPUTER SCIENCE MICRO PROGRAMMING APPLICATIONS.		

CUSTOMER'S ENGINEERING NEWS

HP 3000 MPE INTERNALS COURSE FOR CUSTOMERS

by Don Van Pernis

Customer Engineering Training completed its first HP 3000 MPE Internals Course for Customers during the first week in April. This was a condensed version of the two-week MPE Internals Course that was given to the HP CE's and Product Specialists during 1974.

The customer, ESL, Sunnyvale, is involved with various government agencies as their customers. They demand highly sophisticated applications, some of which are image processing (photographic) and display, land usage plottage, etc.. In some of the applications, non-standard HP 3000 I/O devices are used; hence, special drivers are needed. As ESL is writing their own I/O drivers and is attempting to derive maximum benefit from the HP 3000 system, they saw a need for a greater understanding of the internal activities of MPE.

The course, as presented, met the requirements and needs of this customer. This course and similarly customized courses are available for customers who also have the need.

All requests for customer training in this area should be directed to: *Tom Lowe*, Hewlett-Packard, 11000 Wolfe Road, Cupertino 95014, for price quotes and schedules.

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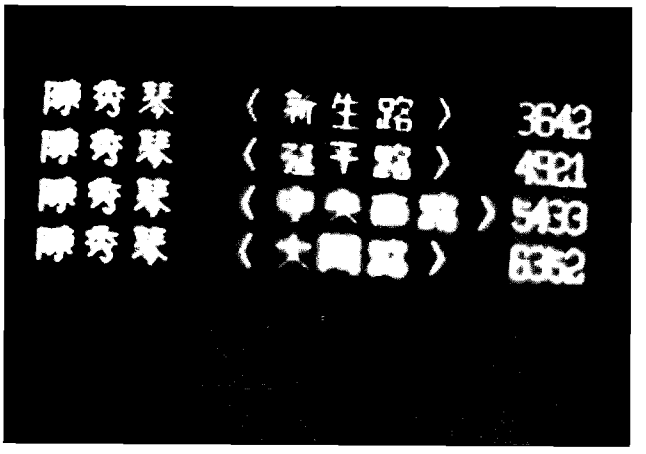
INTERNATIONAL NEWS

"INFORMATION, MAY I HELP YOU?"



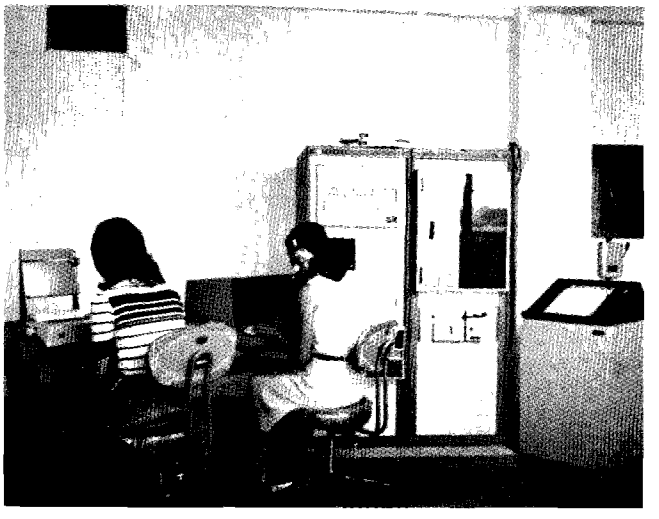
Name, address, phone number –

by Robert Liu, HP Taiwan

Obtaining a telephone number through an information operator outside of the United States is not a simple procedure. In Taipei, Taiwan, the local telephone company has developed a unique procedure to increase service to its subscribers.

Using a modified 2600A CRT keyboard, Chinese symbols are phonetically constructed and then transferred to an in-core table, which translates the phonetics to a displayable Chinese symbol. All the synonyms, addresses, and phone

(Continued on page 12)



Automated Telephone Directory Assistance System Newly Developed by Telecommunication Lab.

"INFORMATION, MAY I HELP YOU"

-(Continued from page 11)

numbers are then retrieved from disc and displayed on a TV monitor. If the requested name is phonetically spelled differently, a new symbol is constructed and the above procedure is initiated again.

Telecommunications Laboratories, a department of the Ministry of Communication, Republic of China, designed and installed the pilot system on a 2121A, 12960A disc, and 2600A CRT within one half year of delivery of equipment.

The operational systems (now being installed) will utilize multiple 2108/2100 computers, four discs, four mag tapes, multiplexers, and 50 video generator cards.

The 2100's will be used to control the Chinese Phonetic Systems keyboards and TC monitors under BCS, while the 2108's will handle disc file transfers under DOS III B connected through the 12889A HSSI cards.

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data systems newsletter
For HP Field Sales Personnel

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