

data systems newsletter

For HP Field Sales Personnel

HEWLETT  PACKARD

FRANKFURT

REINHARDT HELMUT

Volume 2
No. 11
March 28
1975

DIVISION NEWS

2640A TERMINAL ON GSA!

by Ed Smith

Your Government customer can now order his 2640 Terminal the easy way — through GSA. Many salesmen already have customers anxiously awaiting this news. Any salesman with a Government account can use this tool to break his quota wide open.

The contract number is GS-09S-35076, FSC Group 58, Part II, class 5815. Special item 14-38 is the 2640A Terminal and Options 001, 005, 006, and 010. Prices are current list price, with discount of five percent quantities one through five, and ten percent quantities six through five, and ten percent quantities six through twenty-five. Special item 14-41 includes 13231A with option 001, and 13240A. Prices are current list, with two percent discount in quantities one through fifty.

Unique terms and conditions are FOB destination in the 48 States and a one-year bench warranty in lieu of the commercial ninety-day on-site warranty.

A catalog that is promotional in layout and containing full specs on the 2640 — as well as the pertinent GSA information — is in preparation. It will be distributed by the end of March.

BOISE ADDS SALES MANAGEMENT

by Bill Murphy/Boise

I am pleased to announce that *John Whitesell* will be joining the Boise Division as Sales Manager. *John* brings with him two years of related HP experience, with his most recent assignment being Midwest and Canada Regional Sales Development Manager in Cupertino. *John* will be moving to Boise in late March and will be on board to fully assume his new responsibility by April 1.

Sales Management is a new function at Boise and the addition of *John* will signal the "arrival" of Boise Marketing as a

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All prices quoted in this Newsletter
are domestic USA prices only

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Company Private

BOISE ADDS SALES MANAGEMENT - (Continued from page 1)

full function Marketing Department. Together with Sales Management, we now have Product Management (*John Hill*), Order Administration (*Chuck Uffers*) as well as Product Support and Publications (*Gary Ferguson*).

We'd like to thank *Ted Doyle* and his Sales Development Team at Cupertino for their efforts in supporting Boise products during the start-up of our Division. With *John's* arrival, Boise can now assume full responsibility for the total support of our products. As such, as of April 1, please direct all inquiries regarding Division 46 products directly to Boise.

I'm sure I speak for *John* and all the members of the Boise Marketing Team when I say that it is our intention to provide you with the highest level of support possible in an effort to make your selling job more productive and profitable. We are eagerly looking forward to the opportunity to work with you.

Boise will come through.



REFERENCE SELLING

by Ronnie Covington, Intra-Corporate Salesman



There are currently eight 3000 systems installed and four on order through the various HP Divisions. They are:

INSTALLED

- Corporate Materials
- Bay Area EDP
- HP Intercon
- Loveland
- Waltham
- HP Labs
- Data Systems (2)

ON ORDER

- HP Associates
- Boise
- Singapore
- Brazil
- Australia

Most of these installations are still in the early conversion stages and are not comfortable enough with the system to be used as a reference for their particular application.

As these accounts mature in their knowledge and use of the 3000, the specific application and key contact of each will be forwarded to the field. Do not contact until you receive these names.



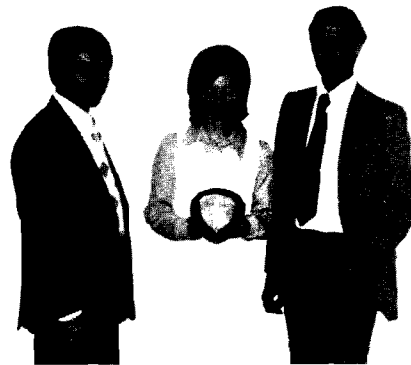
SALESMAN'S CORNER

BEST 9600 SALES TEAM FOR SOUTHERN SALES REGION (i.e. The Winning Team at Shell)

by Joe Schoendorf

Colleen Capps holds the trophy signifying the excellent job done by the Houston team selling 9600 last year. *Colleen* is secretary to *Ron Guyote* (left), the Team Leader, and *Frank Letts* (right) Systems Engineer.

Congratulations to all of you for proving that the team approach works best!!

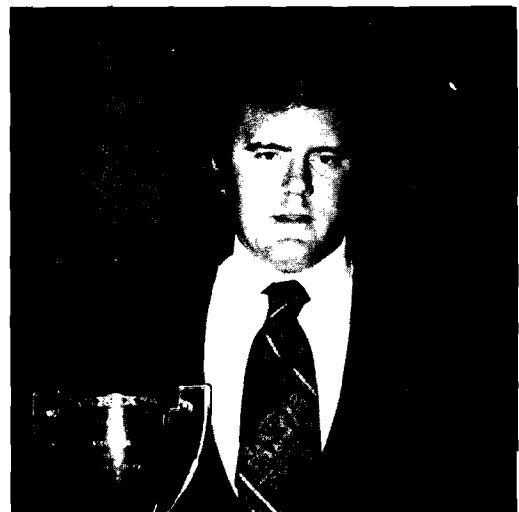


Left to Right: Ron Guyote, Colleen Capps, Frank Letts



BEST IN THE SOUTH

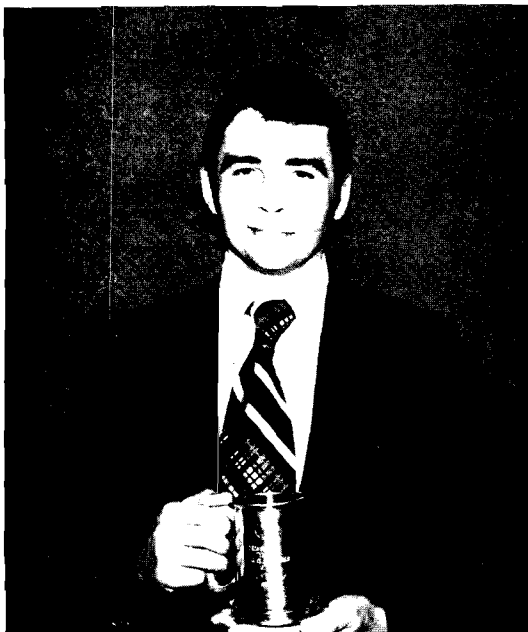
by Joe Schoendorf



Dave Head

Dave Head, HP Richardson, has won the "Best Salesman" award for the second straight year in Southern Sales Region. *Dave* has only been with HP for two years. Among his suc-

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Jack Oliphant

cesses last year were CAMSCO, an OEM for laser cloth cutters, and Frito-Lay for potato chip weighing and production control. Dave is off to his fastest start yet for his third year. Thank you, Dave. Keep it up!

Jack Oliphant, also from Richardson was First Runner-Up for his outstanding performance in Southern Sales Region in 1974. Among Jack's successes last year was E-Systems — an OEM. Thank you, Jack, for the good work!

HEWLETT-PACKARD

WE SALUTE OUR SYSTEMS ENGINEERS!

by Jack Jung/Neely Sales

I think the following indicates the appreciation all of us have for our Systems Engineers. The letter below exemplifies the excellence that Mark Solle from our Fullerton Sales Office, has demonstrated as a Systems Engineer. Mark and all our Systems Engineers are very key people to our success in Computer Systems. Our thanks to all of you!

HEWLETT-PACKARD

Mr. Phil Scalzo
HEWLETT-PACKARD
3939 Landershim Blvd.
North Hollywood, California

Dear Phil:

Most of the people we come in contact with from day to day tend to take pride in their work and try to do a good job. I am afraid that I have become so accustomed to good performance that I fail to give it the recognition it deserves. However, once in awhile I come across someone who is so outstanding that I just have to find a way to give special recognition for outstanding ability and performance.



Mark Solle has been helping us get our distributed production test system into operation. Together we have been through several difficult situations, and Mark's superior technical skill and ability have helped very much to smooth those rough spots, but Mark has gone far beyond that.

When we were getting started, we didn't have a disk and getting our user programs generated working exclusively with paper tape was getting to be a chore. Mark spent his own time, working at home, to rewrite the Mag Tape System software for RTE-C so that we could use an old model 2020 Mag Tape unit that we were able to pick up as surplus equipment.

On another occasion, he came by on Sunday to drop off a tape we needed. It is this kind of extra effort that has prompted me to write this letter.

Over the years I have come to expect Hewlett-Packard people to be a cut above average, but Mark is truly outstanding. You are very fortunate to have this fine young man on your staff.

Sincerely yours,

THE BENDIX CORPORATION
Electrodynamics Division

E. B. Pontoppidan
Staff Engineer

CONGRATULATIONS TO JOE PIFKO

by Rich Ferguson

Joe is this year's First Runner-Up for Salesman of the Year award. Joe's sterling performance comes in his second year as a Neely salesman. Working for Jack Jung out of the North Hollywood sales office, Joe signed up a new OEM one and a half years ago. The company is Electromask and has grown to be in the top ten for Data Systems. Electromask manufactures a complete line of IC production equipment including photo mask generators and photo repeaters.



Joe didn't stop there. After signing Electromask, he proceeded to sign Litton Systems Inc. up on an OEM agreement for their field test equipment product line. In addition to this, Teledyne, another volume customer, will be signed this month.

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CONGRATULATIONS TO JOE PIFKO - (Continued from page 3)

Joe joined Neely Sales after spending several years with AMD. There he worked in their Sales Development team gaining valuable experience in 9600, 9500 and 9700 systems. Congratulations again to Joe, a shining example of a factory guy who makes good.

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PRODUCT NEWS

9600MX SYSTEM FOOTNOTES

by Sherry Harvey

NEW PRICE LIST

Updated versions of 9640, 9700, 9602, 9603, 9604 and 9611 price lists will be available soon which reflect a number of recent price changes to system options.

Although base system prices remain unchanged, memory option prices are down, while cabinet options are up. Options relating to New Jersey Division components are up slightly reflecting New Jersey price increases. Options relating to the 2313B and its plug-in have been adjusted in both directions to reflect recent changes in our costs. While the impact of these changes depends on the configuration, the net effect in most cases is downward. All changes are effective March 1, except memory option changes, which were effective February 17.

LINE PRINTER SUBSYSTEMS

The new line printer subsystems from Boise do not have standard 9600MX option numbers. They must be ordered as line items by their subsystem numbers:

12975A (300 Lpm) option 422 (RTE)
or
option 423 (BCS)
12983A (1250 Lpm) option 422 (RTE)
or
option 423 (BCS)

depending on the 9600MX operating system you are ordering (either RTE or BCS). These products will be shipped to the customer directly from Boise, they will not be integrated at an HP factory.

NEW 9640 BROCHURES

The 9640 Real-Time Multiprogramming and Computational Systems Brochure has been printed and should be in your sales office now.

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QUESTION: WHAT ARE MANUAL NUMBERS AND PRICES ON SOFTWARE MANUALS?

by Peter Palm

Answer:

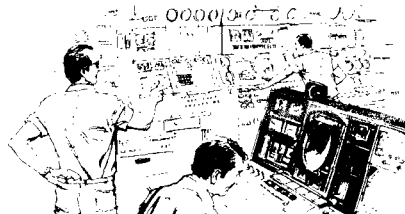
RTE-II	Real Time Executive (disk)	92001-93001	\$10.00
RTE-C	Memory Real Time Executive (memory)	29101-93001	\$ 2.70
RTE-B	Real Time Basic (memory)	29102-93001	\$10.00
BSM	BATCH/Spool Monitor (file manager)	92002-93001	\$10.00
SCE/1	Satellite Control Executive/1 (Boot Loader)	91700-93003	\$ 2.75
SCE/3	Satellite Control Executive/3 (BCS)	91703-93001	\$15.00
SCE/4	Satellite Control Executive/4 (RTE-B)	91704-93001	\$10.00
SCE/5	Satellite Control Executive/5 (RTE-C)	91705-93001	\$15.00
CCE		91700-93001	\$20.00

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RECENT CLOSES

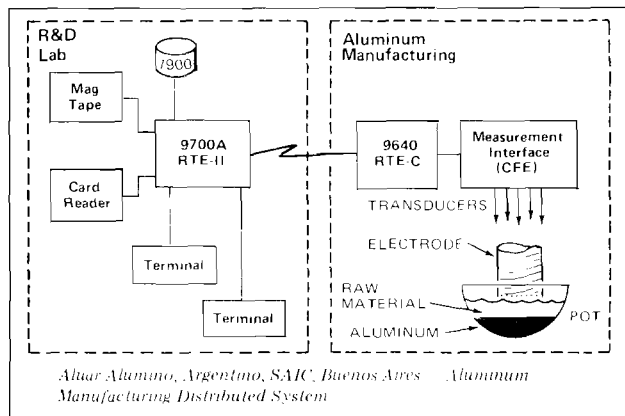
H.P. DISTRIBUTED SYSTEM GETS INTO ALUMINUM MANUFACTURING

by Bob Brannon



Congratulations to Malcolm Kerr and the guys in Argentina. Luis Brennan and Antonio Ramirez. Another H.P. Distributed System will soon be going into a heavy manufacturing industry. Aluar Aluminio of Argentina is one of South America's leading manufacturers of aluminum. In the spring of '75 they will be going on-line with a Distributed System that contains a full blown 9700A D.S. Central with one RTE-C satellite.

The total system will be used by both the R&D Lab and the manufacturing engineers. In the R&D Lab, they'll be using the central system background area to do research in the areas of: pollution control, electro-chemistry, magnetic fields, and aluminum pot design. The 9600 RTE-C satellite will be on-line monitoring and controlling the manufacturing



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HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

HP DISTRIBUTED SYSTEMS INTO ALUMINUM MFG.

(Continued from page 4)

of aluminum. The process takes place in huge pots where the aluminum ore raw material is electrolytically reduced by large carbon electrodes immersed directly into the material. The total system will eventually monitor and control over 400 pots.

The H.P. Distributed System was selected for several good reasons, some of the main ones being:

1. The D.S. functions are *real* and the Aluar engineers could start coding in D.S. FORTRAN immediately,
2. The RTE-C satellite allowed the central to be both master or slave (one of the new features in the December enhancements to Distributed Systems), and
3. The new RTE-II had both *background and foreground* swapping.

Aluar was previously "DEC country" and the new D.S. plus RTE-II wedged in to be the giant-killer. Aluar tells us that they expect to be adding satellites into several other functional areas.

This system joins our growing penetration of D.S. into the manufacturing markets: Hylsa, Mexico — steel; Esso, Spain — chemicals; Frito-Lay — potato chips; Shell Oil — oil pumping; NCR — terminals; Eastman Kodak, etc.

Sell D.S. -- WE ARE THE BEST!

HEWLETT  PACKARD

WESTINGHOUSE SIGNS CONTRACT

by Joe Schoendorf

Bruce McKee, HP Cleveland, assumed the role of Team Leader in bringing the Westinghouse contract in. We have a signed contract for 25 points. A lot of coordination was involved as deals were involved in Iowa, North Carolina, Maryland as well as Pittsburgh. The multiple-release point clause was key in the close. We now have a standard amendment offering it.



*Bruce McKee, HP Cleveland
Sales Office*

Congratulations, Bruce, for a job well done. And thanks to the other districts -- Al Semmelroth, Dennis McGinn and Ralph Mele for your contributions.

"Alfred E. Neuman signs one for the Gipper"

HEWLETT  PACKARD

SALES AIDS

DEC ANNOUNCES THE PDP 11/70

by Steve Tritto

The PDP 11/70 CPU announced by DEC. is a CPU with superior performance over the PDP 11/45. IAS (Interactive Applications System) is a new operating system with many characteristics similar to MPE but not initially available.

The 11/70 must use DEC's current clumsy operating system arrangement — you mix and match from a set of 3 for different purposes.

Architecturally, they have gone to a dual bus design like the HP 3000CX and are apparently conceding the shortcomings of their much heralded Unibus.

Their strategy is to emulate the 3000CX by going toward multiple language, multi-access, multiprogramming systems. On the languages, they are still short on RPG and full BASIC compiler — both of which strongly benefit the user in terms of ease of use and system performance.

The performance capabilities under their new operating system are a big question mark — on features, system performance, and reliability. (We took a long time to evolve to MPE-C.) Although initial deliveries of the PDP 11/70 are quoted for July, IAS will not be available until Nov, 1975. At that time it will not include extended addressability, needed to support systems with greater than 256KB of memory.

The omission of data base management is a serious one particularly since their inclusion of COBOL and stated objectives of broadening their applications to include manufacturing applications would be enhanced by data base management, and since 60% of your best prospects have asked for it.

We have a proven and superior product; deliverable today!

Key points raised in their press release and other collected information follow:

POINT PDP 11/70

COUNTERPOINT HP 3000CX

- New Operating system — IAS "supports 16 terminals and permits simultaneous execution of COBOL, BASIC FORTRAN IV PLUS, and DEC's Macro Assembler".

- Delivery date for IAS is presently targeted for November 1975. The initial release (priced at +\$7800) will not include extended addressability. This means that although the PDP 11/70 can be expanded to 2 MB of memory, IAS will not directly address more than 256 KB, until some unstated future time.

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- DEC's strategy will be to sell PDP 11/70's using RSTS-E or RSX-11D now, then upgrade to IAS for near MPE-like capabilities.
- RSTS/E is a **BASIC** Timeshare System, so the user requiring the multi-lingual capabilities (select the language that best suits the application) does not get those capabilities. Nor does he get others noted below, RSTS/E is targeted to include extended addressability in Mar. 76.
- RSX-11D will support real-time and batch operations and handle FORTRAN, BASIC & COBOL. However this operating system does not provide general timesharing. RSX-11D will be the first operating system to include the extended addressability of the PDP 11/70-targeted for Sept. 1975.

Note that if a user should be attracted to go in that direction, that his conversion to IAS will be prolonged even further than Nov. 1975.

- The primary selling point of the PDP 11/70 will be the capabilities (however unknown and untested) of a large main memory system (greater than 256KB) running under IAS.
- This type of system is a great big fuzzy. No dates no prices, no 1975 availability, no performance data, but they do offer a lot of "interim steps" that can keep IAS extended away indefinitely.

QUESTIONS TO ASK

- Can they demo IAS?
- Can they benchmark multi-lingual timeshare terminals concurrently?
- (New operating systems for interactive terminal systems need thorough testing).
- Does IAS have spooling?
- Does IAS have Power-fail-Auto-restart?
- What are its multiprogramming features?
- How does their file system compare to ours?
- Do they have a microcoded instruction set?

OMISSIONS TO NOTE

- Still no **BASIC** full compiler — therefore slower execution of BASIC programs.
 - No RPG — a defacto industry standard.
 - No Data Base Management capabilities — note that 60% of the 3000CX prospects on our 90 day forecast have indicated a serious interest in data base management, — thus reflecting the needs and trends of your prospective customers.
 - No sharable code — less efficiency
 - No virtual memory — programmer concerned with memory limitations.
 - No 2780/3780 Emulation
 - Under RSTS/E the 11/70 can support "timesharing and concurrent batch COBOL but can accommodate 63 users nearly double the capacity of previous RSTS/E systems".
 - Whenever maximum member terminal users are quoted, the reference applies to pure BASIC timeshare not timesharing and batch COBOL, so be sure to realize the capabilities quoted are separate.
- (NOTE: This must be a misprint. RSTS/E is a pure BASIC timeshare system. The reference might be to RSX-11D.)
- Both systems can theoretically "accommodate" 63 users. However, performance would be so dubious that it would be impractical to consider running this number concurrently for any meaningful application on either system. Note that we have never tested the HP 3000 beyond 32 terminals.
 - The 11/70 is in the mode of DEC systems that require different operating systems for different capabilities. They often fail to mention the need to bring the system down &

(Continued on page 7)

DEC ANNOUNCES THE PDP 11/70 - (Continued from page 6)

switch operating systems in order to go from one mode to another; i.e., BASIC Timeshare only; timeshare — batch; timeshare — batch — real-time. The latter under their unknown IAS operating system.

- System prices will range from \$54,000 to \$200,000
- A quote from DEC "IAS is for users requiring multi function, multi language capability on a system in the \$100K to \$300K price range." HP 3000CX System prices range from \$99,000 to \$203,500.

- A "small 11/70 including CPU, Memory Management Unit with cache memory, 128K bytes Core, Program loader, Clock, LA 36 terminal and 5 MB's of disc storage will cost \$72,650"
- Check our 3000CX Model 50, similarly configured at \$99,500 but with some notable additions *includes*:

NOTE: (1) This configuration includes no tape subsystem, MPX or asynchronous controller.

(2) The IAS Operating System will cost an additional \$7800.

- The CPU features "a basic execution time of 300 nanoseconds while the memory system has an effective cycle time of less than 400 nanoseconds".
- The HP 3000 CPU has an execution time of 175 nanoseconds while the core memory with interleaving has an effective cycle time of 500 nanoseconds.
- We know that this information is usually meaningless when trying to determine what system performance will be in a given application. For example, for an application with high I/O transfers, a feature like I/O Spooling becomes much more significant in affecting system performance than internal execution speeds.
- Another example is our full BASIC compiler being 10 times faster than their incremental compiler, for those type applications.

- 32 bit data paths are added
- The additional "data path" will to link memory to controllers, swapping discs, and tape drives.
- The additional "data path" will augment the famous "Unibus" by relieving the data transfer traffic between memory and mass storage devices.

DEC now affirms the bus design feature of the HP 3000. We have always stated that our I/O and Central Data Bus design were better than the Unibus. The benefit being less system degradation during concurrent I/O and memory data transfers.

Have Pride in leadership!

NOTE: The 32 bit data paths will probably increase throughput over 11/45 by increasing peripheral data transfer speeds. But remember, it is still a 16 bit machine with 16 bit registers.



As we get more product information we will pass it on. Often, the best source is the HP Sales Force. So please keep us informed of what you learn.



2000 CONTRIBUTED LIBRARY

by Brenda J. Mapp

Recently released contributed programs include:

1. **DOS-III Utility, 22677A**

KBLOT is a modified version of the program OVRLY (HP 22554A, DOS-M/DOS-III Utilities). It enables a user to load the communications processor (front-end) of a Time Share BASIC system with an absolute DOS disc file.

The hardware requirements include a minimum DOS-III configuration, front-end processor, HP processor interconnect kit — Part 12875, and a line printer and interface kit.

Contributed by *Ken Macy* of HP/Data Systems. Option K01. source paper tape and documentation, is priced at \$20.00

2. **Sleep/Hibernate Analysis Program, (SHAN), 22626A**

The Sleep/Hibernate Analysis (SHAN) program is designed to examine user files on magnetic tapes produced by the 2000F system.

(Continued on page 8)

2000 CONTRIBUTED LIBRARY - (Continued from page 7)

As SHAN processes the tape, it lists each user file on the line printer together with any associated errors. Only the first ten or eleven errors detected in a given file are listed individually. All errors are included in the error count which is also printed for each user file for which errors have been detected.

Program file names are also listed.

Hardware requirements for SHAN are: magnetic tape drive compatible with drive used by the 2000F in producing the tape(s) to be tested; console terminal; and line printer. This program operates in a *DOS-M* environment.

Contributed by *Grant Shaw* of HP/Data Systems. Option K01, source paper tape and documentation, is priced at \$20.00.

3. **Sleep/Hibernate Analysis Program, (SHAN)II, 22681-***51**

This program was also contributed by *Grant Shaw*. It performs the same function as the above mentioned program, HP 22626A, but it operates under *BCS*.

Hardware requirements are the same as SHAN's.

The order number is. 22681-18951, source paper tape and documentation, priced at \$30.00

4. **RTE Disc File Sort (DSORT), 22681-***25**

DSORT is an external subroutine designed to sort large files on disc in optimum time. Input to DSORT can be from disc, paper tape, magnetic tape, or cards; and the maximum input record length must be less than or equal to 64 words. An option is available to write the sorted output file over the input file. Files are sorted in ascending order on only one field.

DSORT links to a core sort subroutine, QSORT, to sort segments of the input file, and performs two-way merges on the sorted segments. QSORT is included in this package and is also available separately as HP 22644A, RTE QUICK CORE SORT (QSORT).

The only hardware requirements are a minimum RTE system with a disc or VRC drum. DSORT is callable from assembly language.

Contributed by *Barbara Bowers* of HP/Data Systems.

Ordering numbers are:

22681-18925, source paper tape and documentation, priced at \$40.00

22681-10925, 800 BPI Mag Tape and documentation, priced at \$35.00

22681-11925, 1600 BPI Mag Tape and documentation, priced at \$35.00

22644A, Option K01, source paper tape and documentation prices at \$20.00

CORRECTION: Comprehensive Achievement Monitoring (CAM) referenced in Data systems Newsletter Volume 2, No. 2, November 15, 1974 is NOW available from software distribution. CAM's ordering numbers are:

22681-10910, 800 BPI mag tape and documentation, priced at \$60.00

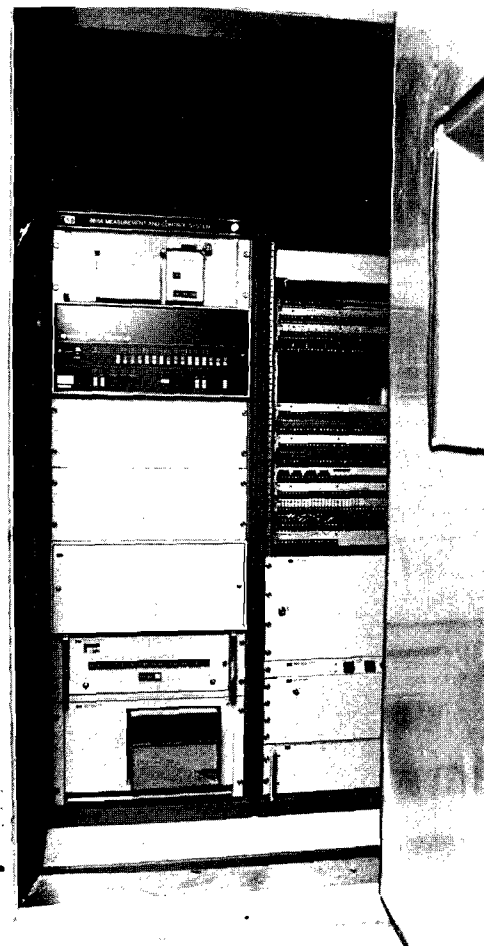
22681-11910, 1600 BPI mag tape and documentation, priced at \$60.00

HEWLETT  PACKARD

9600MX ENVIRONMENTAL TESTING MORE WARM FEELINGS FOR YOUR CUSTOMER!

by *Peter Palm*

Some vendors environmental test cards Some vendors environmental test subsystems HP TESTS COMPLETE MEASUREMENT AND CONTROL SYSTEMS!!



This HP 9611A Industrial Measurement & Control system recently passed environmental testing in Cupertino including temperature cycling from 0°C to 40°C, humidity testing from 0% to 80% at 35°C, noncondensing, and EMI (electromagnetic interference) tests. Your 9611 is tough for tough environments.

HEWLETT  PACKARD

YES, VIRGINIA, WE ARE COMPETITIVE

by Sherry Harvey

The following charts show how the 9640 Real Time Multiprogramming system favorably compares to similar systems from Modcomp, DEC and Data General.

These are "apples and apples" comparisons for systems providing similar capabilities. Very often, however, in actual sales situations the competition will "low ball" with a less capable system. When this happens, emphasize the following points:

- A. Memory protect and parity are *vital* in real-time system applications.
- B. Convince the customer that he *needs* hardware floating point for fast calculations and efficient throughput.
- C. Convince him that he needs multiple user program development in the background to get his operation "On the air" in a hurry.
- D. Bring it to his attention that the initial purchase price is not the only thing to consider. His overall "Cost of Ownership" is the vital factor. (Notice HP's *lower* Basic Monthly Maintenance Charge in all cases!)

Sell those 9640's!

DATA GENERAL COMPETITIVE PRICE ANALYSIS

ECLIPSE S/200	PRICE	BMMC	HP 9640	PRICE	BMMC
16K Computer	\$22,300	\$202.00	16K 9640A	\$16,800	\$128.00
Power Fail	Included			Included	
Hardware Mult/Div.	Included			Included	
DMA	Included			Included	
Automatic Program Load	Included			Included	
Memory Parity Checking	Included			Included	
Console	Included		Opt. R00	2,350	58.00
Paper Tape Reader, I/F (400 cps)	2,200	11.00		Included	
Floating Point	5,000	40.00		Included	
Memory Protect	3,500	20.00		Included	
Crystal Clock, I/F	600	5.00		Included	
Cabinet	950	N/C		Included	
Installation (on-site SYSGEN)	300			Included	
5 Mbyte disc, I/F	16,200	57.00	Opt. A13	13,100	109.00
	\$51,050	\$335.00		\$32,250	\$295.00

"MEDIUM SCALE RDOS"

"MEDIUM SCALE RDOS"	PRICE	BMMC	HP 9640	PRICE	BMMC
Nova 2/10	\$27,350	\$257.00	9640A 16K	\$16,800	\$128.00
32K Core	Included		(2) Option P11 (32K)	3,000	
2.4 Mbyte disc	Included			Included	
Paper Tape Reader	Included			Included	
Cabinet	Included			Included	
Teletype Console	Included		Opt. R00	2,350	58.00
Automatic Program Load	400	2.00		Included	
Powerfail/restart	400	1.00		Included	
Hardware Mult/Div.	1,600	13.00		Included	
Floating Point	4,000	32.00		Included	
Crystal Clock	400	3.00		Included	
Add 2.4 Mbytes Disc	5,000	50.00	Opt. A13	13,100	109.00
Memory Parity Checking	not available!			Included	
Hardware Memory Protect	not available!			Included	
	\$39,150	\$358.00		\$35,250	\$295.00

(Continued on page 10)

**MODCOMP COMPETITIVE PRICE ANALYSIS
MULTIPROGRAMMING SYSTEM -- MEMORY BASED**

	MODCOMP 11/201 MAX III*		HP 9640	
	PRICE	BMMC	PRICE	BMMC
REAL TIME COMPUTER				
32K Words, EAU, ROM Boot Power Fail/Restart, TBG Memory Parity Floating Point Processor	\$16,500	\$127.50	\$16,800 (16K)	\$128.00
	4,000	20.00		
Paper Tape Reader/Software	2,000	12.00		
Console Device ASR-33	1,900	76.00	(R00) 2,350	58.00
Cabinet	950	N/C		
FOREGROUND/BACKGROUND SW				
RTE-C			(A02) 1,850	
Five Days Training	300		400	
	\$25,650	\$215.50	\$21,400	\$186.00

MULTIPROGRAMMING SYSTEM -- DISC BASED

	MODCOMP 11/221 MAX III*		HP 9640	
	PRICE	BMMC	PRICE	BMMC
REAL TIME COMPUTER				
16K Words, EAU, Power Fail/Restart, DMA, TBG ROM Boot, Cabinet Floating Point Processor Parity Memory Memory Protect Paper Tape Reader/Software Console Device ASR-33	(32K)** \$30,000	\$260.00	\$16,800	\$128.00
	4,000	20.00		
	2,000	12.00		
	950	N/C		
FOREGROUND/BACKGROUND SW				
5 MByte Disc, and Cab			(A13) 13,100	109.00
Ten Days Training	600		800	
	\$39,450	\$368.00	\$33,050	\$295.00

* Nov. 74 Announcement

** MAX III requires 24K to operate, but the \$30,000 system price which includes 32K is cheaper than a 24K "sum of the boxes" alternative.

RSX-11M COMPETITIVE ANALYSIS

	11/40 — BASED RSX-11M	HP 9640 RTE
N1142-MX Including:	\$41,800	9640A with Opt. A13 \$29,900
32K memory, memory management, 5 Mbyte disc, clock Autoloader	not parity memory!	
Extended Arithmetic	1,940	Included
Floating Point	1,400	Included
DEC Writer	Included	Opt. R10 (Terminet) 5,325
Training	Included	92711A 800
Paper Tape Reader (required for diagnostics)	2,400	Included
	\$47,540	\$36,025

(Continued on page 11)

YES, VIRGINIA, WE ARE COMPETITIVE - (Continued from page 10)

11/10 — BASED RSX-11M		HP 9640A RTE	
Industrial 11-B including: 16K CPU, 2.4 Mbytes, dual cassette, clock.	\$24,000	9640A plus Opt. A13 2.4 Mbytes more disc as compared with cassette.	\$29,900
Add 8K (required for background operation)	4,400	Not required	
Extended Arithmetic	1,940		Included
DEC writer	Included	Opt. R10 (terminet)	5,325
RSX-11M software (includes training)	3,000	92711B (training)	800
	\$33,340*		\$36,025

*Note: There is *No* memory parity, *No* memory protect! *No* Floating Point on the 11/10

*Expandable only to 28K

*Can't upgrade to RSX-11D without replacing CPU!

DEC RT-11 COMPETITIVE ANALYSIS

	PRICE	BMMC	HP 9640A	
			PRICE	BMMC
PDP-11E05 (16K)	\$24,000	\$269.00	\$16,800	\$128.00
Includes Power/Fail/Restart Line frequency clock, cabinet, Bootstrap loader, Dual DEC cassette and 2.5 MByte disc		Option A13 (gives 2.5 MByte more disc compared to cassette)	13,100	109.00
Console (30 cps)	Included	Option R10 (Terminet)	5,325	33.00
EAU	1,940	11.00	Included	
Multiply/Divide	1,400	11.00	Included	
Floating Point	5,290	45.00	Included	
Memory Management	2,480	21.00	Included	
RT-11 Software	750	— —	Included	
RT-11 FORTRAN	700	— —	Included	
	\$36,560	\$357.00	\$35,225	\$270.00

DEC 11/45 COMPETITIVE ANALYSIS

	PRICE	BMMC	PRICE	BMMC
11/45-NH	\$67,370	\$438.00	9640A with Opt. A13	\$29,900 \$237.00
11/45 with 48K* parity memory, memory management, 5 Mbyte disc, and line frequency clock				
Floating Point Processor	5,290	45.00		
30 cps DEC writer (72 columns)	Included		Opt. R10 (Terminet)	5,325 33.00
Paper Tape Reader (for diagnostics)	2,400	22.00	Included	
RSX-11D Software (includes BSM & Training)	Included		Opt. Y13 (BSM)	1,000
			92711A (training)	800
	\$75,060	\$505.00	\$37,025	\$270.00

*48K minimum is required for efficient use of RSX-11D

"WHY I BOUGHT AN HP 3000"

by John Whitesell

"I'm using the HP 3000 to replace both my IBM 1130 and 360/20, and I expect the 3000 to provide at least two to three times the performance of both previous systems combined, at no increase in price," said *Bill Burggrabe* matter-of-factly to over 60 prospects at a recent HP 3000 seminar in Chicago.

Mr. Burggrabe is Corporate Data Processing Manager of Nooter Corporation in St. Louis, where we just recently installed a large HP 3000 system. He briefly described his application and system configuration, then held a lengthy question and answer period.

The audience was visibly impressed with his thorough evaluation (almost two years), even-handed appraisal of our competition, and pleasant experiences in installing the system and going on-line.

To put the icing on the cake, *Al Semmelroth* mentioned, in thanking *Bill Burggrabe* for speaking to the group, that *Bill* was until a few weeks ago, the president of the national IBM 1130 Users Group!

Organized by *Al Semmelroth*, *Ralph Manies* and *Marc Matoza* as part of the 3000 launch team program, *Marc* and *Ralph* rounded out the seminar with effective product presentations, followed by three special afternoon sessions: Industrial, chaired by *Marc Matoza*; Scientific, chaired by *Conrad lungerich*; and Educational, chaired by *Paul Myhre*.

Special kudos to *Al Semmelroth* and his people, *John Malone*, *Jack Lazenga* and *Bill Yasdick*. Also to *Ron Tarkowski*, *Gary Polcyn*, *Don Porter*, *Paul Wittman*, *onrad lungerich*, *Lloyd Kusak*, cheerful *Sue Williams*, vivacious *Valerie Hill* and *Sandi sunshine Baranski*!

HEWLETT  PACKARD

BASIC CONTRIBUTED LIBRARY

by Ginny Loyola

The Games Book is Here!!

... Titled "*What To Do After You Hit Return*" or *PCC's First Book of Computer Games*, a joint publication with Hewlett-Packard.

The preface, written by *Bob Kahn*, Director of Computer Education at Lawrence Hall of Science describes it nicely ...

"The educational use of both games and computers has been the subject of some controversy in recent years. Games traditionally have been regarded merely as pastimes or diversions ...

... Today, however, educators are discovering that game playing is an important learning process ...

... it is destined to become one of *those* books -- it is conspicuous -- one of those books that is too big to fit on the shelf, so you find it lying about on a table; it is eclectic -- one of those new, soft-cover, newsprint catalogs that is crammed to the margins with interesting tidbits and graphics; it is a curiosity -- one of those books you feel compelled to pick up, just to see what is inside; and most important, it is an educational resource -- one of those books that will help you find, obtain, or "get into" new materials for the enrichment of learning."

All of the games illustrated in the book are in the Contributed Library. Get your copy now!

Customers in the U.S. can order from CSC via Direct Mail by sending check or money order to HP, Mail Order Department, P.O. Drawer #20, Mountain View, CA 94043. Direct mail orders must include \$1.50 handling charge.

HP 36000-91005 "What To Do After You Hit Return" — \$6.95

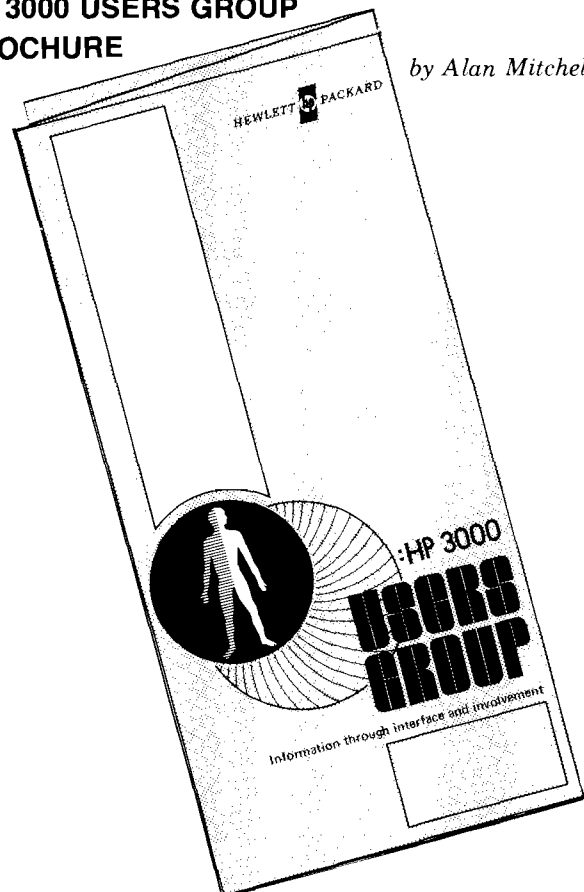
HP 36000-10005 Mag Tape (2000F Dump Tape) of Games (800 BPI) — \$25.00

HP 36000-11005 Mag Tape (2000F Dump Tape) of Games (1600 BPI) — \$25.00

HEWLETT  PACKARD

HP 3000 USERS GROUP BROCHURE

by Alan Mitchell



The HP 3000 Users Group Brochure is available and your personal copy is being mailed to you. This brochure describes the functions of the Users Group and the potential advantages of joining. To obtain more copies simply detach

(Continued on page 13)

HP 3000 USER'S GROUP BROCHURE - (Continued from page 12)

and return the reply cards, writing in any appropriate place the number of copies you wish to have for your present and potential HP 3000 customers. Also, feel free to use this card to ask any questions or obtain more information about the group.

This is a good sales tool which will provide quick answers to questions your prospects may have about the Users Group.

In addition, it provides you with a list of potential references that your prospects might call to find out how a real 3000 installation works (remember to check with the local HP Sales Engineer before calling). Each of the listed Users Group Directors are customers themselves and are actively involved in using the HP 3000 to solve their problems. By their participation in the Users Group, they are committed to helping the 3000 User community achieve success.

HEWLETT-PACKARD

COMPUTERWORLD REPORT ON ANDERSON COLLEGE

by Steve Tritto

COMPUTERWORLD (February 26 1975, p. S/17) has completed an objective report on the use of 3000 IMAGE at Anderson College. Good coverage, good article, good reference!

UPDATED SYSTEM GIVES ON-LINE DATA BASE TO USERS

ANDERSON, Ind. — "We've been redesigning most of our systems so our users can have access to the computer from terminals in their own offices," said Anderson College's systems programmer, Tom McLaughlin explaining why the college was moved from a batch-oriented IBM 1620 to a Hewlett-Packard (HP) 3000.

The shift has been a clear success although there were a few early rough spots since Anderson was a "beta test site" for HP's Image data base management system.

Prof. Tom Harbron, director of the college computer center, saw the difference between now and 1965, when the 1620 was installed: "[Then] I had to go around to the administrative officers to sell them on the idea that the computer could do the job better and easier than the way they were doing it.

"They'd listen but end up with 'We'll think about it.' Now, with this [HP] machine, we have the opposite problem. I have to bolt the door to keep them from breaking it down."

McLaughlin is currently the only programmer setting up transaction-orientation routines for the registrar, the business office and the other administrative users.

"We've done just about everything we projected for this system," Harbron said, "but I've got a bigger backlog of projects than when I started. It just doesn't quit."

Effective Blend

The Image software provides the college with an effective blend of interactive data entry, inquiry and retrieval and batch processing of jobs with substantial output.

The data base approach supports a pooling of common information which works very well in the campus situation where many students (who are, therefore, of interest to the registrar) are working their way through college as Anderson employees (which interests the business office).

Users key in a password and then student's Social Security number to reach his file, then name the operation they wish to perform. Image, and McLaughlin's routines, check the password-function combination to ensure the user is authorized to perform the operation.

That approach means there is no restriction on which terminals can be used for particular tasks. If a unit in the registrar's office is unavailable, one in the business office can be used without any problem.

On the other hand, data that is "proprietary" to one of the offices and is inappropriate for others to see, including students who also use the system, is protected.

In operation, Image and Anderson's techniques of using its capabilities produce some interesting results. After the interactive data entry, for example, the user can initiate a batch processing run from the terminal.

Regularly scheduled batch runs, however, are handled at night, even if no one is in the computer center. McLaughlin wrote a "program that says to the job scheduler, 'put the system to sleep till such-and-such a time.' We set the time for midnight, then put this ahead of all the batch runs."

"The system wakes up at midnight and goes to work, spooling all output to disk."

There are about 1,800 students at the college and registration was under way

as *Computerworld* was talking to Harbron. It took about 30 seconds to register each student.

Batch runs later will create class rosters and all the supporting paperwork to put the spring term together.

The students themselves get a crack at computing during some of their courses and in any given term about 400 of them work with Anderson's HP 2000E or the 3000. The college has a general rule that the 2000E should be used for anything it can handle and everything else goes on the 3000.

At Anderson, administrative jobs have the highest priority during daytime prime hours. This could have created problems for the students, the professor noted, if a compute-bound job dominated the CPU.

There were some of those, he said, but even so it wasn't unusual to have three or four students and a dozen users over-all all running at the same time. And the students were still getting "fairly decent response time," he added.

Anderson elected to go to HP and a mixed time-sharing/batch capability when the 1620 just couldn't handle the load anymore.

"We'd done a lot of things to prop it up over the years," Harbron said, but more than that, McLaughlin thought, the professor saw time-sharing as a way to stop buck-passing.

As long as user departments have the responsibility of entering data and initiating the batch runs, they can't blame the computer center for their problems, he said.

Year Late

Image was about a year late reaching Anderson, but Harbron doesn't hold that against HP.

(Continued on page 14)

"They hadn't actually announced it or sold it or anything like that. It's just that it was delayed from scheduled delivery date" and, even though the college was only a test site for the system, "we'd made plans based on the earlier date," the professor said.

Now Harbron is "reasonably satisfied. It's doing a real good job for us." He

added that HP had made some changes in the system design at the college's request.

The only real serious problem Image had, he said, was one that is common to many data base management systems — control of concurrent updating requests.

HP handled that "very simply," by lock-

ing the root file and keeping everyone else out while the change was being made. But the overhead associated with that was "more than it needed to be" and Anderson suggested some changes.

HP implemented the changes "and that cut the overhead about in half," Harbron said with obvious satisfaction.

HEWLETT  PACKARD

RTE'S ON GSA

by Jim Schmidt

Because the 9601 B, C and E are on Class 66 of the Federal Supply Services schedule of GSA, all government agencies are instructed to buy these systems (if they fill their needs) without going out for competitive bid. They can buy them from you almost immediately.

If you do not have the necessary information to supply your government agencies on the price or other ordering details of these systems, your sales support engineer can give it to you immediately.

As you know, the 9601B is a BASIC language RTE, the 9601C is the core based version and the 9601E is the disc based version. "C" and "E" require the user to write his application programs in assembly language, Fortran or Algol rather than in the BASIC language used for the "B".

DEC and HP are the only companies supplying our type of equipment which have their systems on this FSS schedule.

There are two major schedules that effect us on GSA, and ADP (Automatic Data Processing) and the FSS (Federal Supply Services). We are presently only on the FSS. We have submitted an ADP schedule but it is not yet approved.

The ADP schedule requires a competitive bid for equipment even though you are listed. The FSS does not. So the ADP portion will never be as effective as the FSS. Essentially all the ADP will accomplish is to establish our discount rates, our support commitments and our terms and conditions of sale.

Use the FSS whenever you can and please contact the factory if you have any questions concerning its use.

HEWLETT  PACKARD

EDUCATIONAL NEWS

HOW TO MAKE EASY MONEY IN EDUCATION *Universities*

by Jean Danver

This is the 2nd in a series of articles discussing procedures to help you make "easy money in education". It assumes that you have responsibility for a variety of products and customers in a specific geographic area.

This week the focus is on the typical university. Most of us have attended such institutions, so we know a little bit about them. They are divided into schools such as the School of Arts and Sciences, or Medicine or Business or Engineering. These Schools are usually divided into departments. For example, the Arts and Sciences School has departments of mathematics, history, political science, computer science, etc. This typical university structure is similar in many ways to the R&D Labs which the previous members of the EPG sales force are so familiar with.

There are a number of potential buyers of computing equipment in Universities. They can be found in the:

Computer Center Professional Schools

- Engineering
- Business
- Medical

Watching over the computer purchases of these people is almost always a:

- Computer Committee

This committee could be a rubber stamping agency, an advice agency, a policy board or a vendor selector.

Now, the secret to getting in on the computer procurements is to find out about them in the beginning. The computer buyers can tell you. Since you do not want to run around the university every day talking to these people, it makes a lot of sense to get them to call you.

This means investing some time to find out who they are. Since educators love to talk, this does not present much of a problem.

Call up the school and ask to talk to the director of the

(Continued on page 15)

HOW TO MAKE MONEY IN EDUCATION - (Continued from page 14)

computer center. Besides becoming friends (on many campuses this person wields power in every computer purchase) find out who is on the computer committee, where other computers are located on campus and who is in charge of them and who else on campus buys computers. You just got yourself a mailing list.

It also pays to call up the Engineering School, Business School, Medical School, Computer Science department and Physics department. Ask for the department head. This person will be glad to tell you who is interested in computers. That will give you more names for your mailing list.

Three or four times a year mail all of these people something. And next time you are making a call in the area, go in to see that computer center director. By keeping everyone informed about HP and staying friendly with that computer center director you'll be called in to the beginning of every computer sale.

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ARIES AGREEMENT



by Don Jacobson

By this time all Field Engineers should have received a copy of the description of the HP-ARIES Agreement. From the response so far, there are several points which should be clarified and emphasized. They are:

1. The Agreement calls for 10 days of training from ARIES; it does not call for the modification of the software. ARIES does offer to provide modifications and maintenance agreements for the modified software, but on a separate time and materials contract and not as part of the training.
2. ARIES personnel have offered to provide bid specifications, or write up bid responses for any bid involving either POBAS or PERPAS. If you are in a situation where this may help you, give us a call and we will make the necessary arrangements for you to have this assistance.
3. For those sales situations which call for consortiums, you should be aware of another service ARIES Corpora-

tion offers. ARIES' Washington office specializes in projects with Federal, State and local governments. Their legal staff is trained and experienced in setting up consortiums. So keep this service in mind, should the situation arise where it may apply.

4. All requests for information, literature including bidding or ordering procedure, should be directed to *Don Jacobson*, Educational Products Group at Cupertino. Please do not contact ARIES directly for miscellaneous information or literature.

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EDUCATIONAL APPLICATIONS SERVICE CONTRACTS

by Marilyn Branthwaite/Al Wagner

The maintenance services available for *educational applications* have been re-evaluated and consequently revised. The subscription service will no longer be offered to customers—primarily because the activity on most of this software is expected to be low and the cost of maintaining the subscription service would be significant. However, the prices of the regular maintenance contracts have been lowered.

If, during the recent major update of IMF, IDF and MATH your customers signed a subscription service or regular maintenance contract, we will accept these contracts as we receive them. If your customers have not yet signed contracts, please advise them of the above changes.

The following still holds:

Customers are required to provide access to their system via a 103M Data Set or compatible modem before they sign a service contract.

The new maintenance service prices are listed below.

PRODUCT NUMBER	DESCRIPTION	B.M.M.C.
20004A	IMF/IDF	\$10
20004B	IMF/CWF	\$15
20004C	IMF/MATH	\$10
20004D	IMF/IDF/CWF/MATH	\$25
20004E	IMF/IDF/MATH/GRAPHICS	\$25
20308A	IMF	\$5
20309A	IDF	\$5
20310A	MATH	\$5
20311A	GRAPHICS	\$10
20350A	ADMIN/2000	\$20
20352A	EBA/2000	\$10
20353A	EPS/2000	\$10
24383A	CWF	\$10
24384A	CIS/2000	\$10

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SYSTEMS ENGINEERING NEWS

RTE-II BSM CUSTOMER TRAINING



by John Trudeau

Four days of customer upgrade training on RTE-II/BSM will be offered at Cupertino during each of the following weeks:

March 24

April 28

June 02

An identical course has been scheduled in Rockville the week of May 20. The course is intended strictly for experienced RTE-I users who require training on the new RTE-II capabilities. (i.e. they have purchased 92001A Optn. 004/005 RTE-I to RTE-II software upgrade packages). The first two days will include training on the RTE operating system; the second two days are reserved for Batch and Spool. A customer who wants to attend only the first two days, may do so.

Total price for the course is \$320., or \$160. for the first two days only. Among the topics to be covered, are:

RTE — changes to operator commands and EXEC calls.
— new commands and EXEC calls
— changes in tables and lists
— discussions of new features (e.g. class I/O, Resource numbers, etc.)
— multi-terminal operation
— system generation

BATCH — new commands and calls
— concepts and use of "Globals"
— features of Batch processing

SPOOL — concepts and use of spooling
— operator commands and calls
— relation to Batch and RTE
— implementation in user's environment

Order course #22961A through the training center registrar:

Linda Benson
Jean Mitchell

Cupertino
Rockville

Please indicate the number of days (2 or 4) your customer will attend.

HEWLETT-PACKARD

TRAINING NEWS

DATA SYSTEMS DIVISION CUSTOMER TRAINING POLICIES AND PROCEDURES



by Tom Lowell Frank Jackson

1. POLICY

A. Customer Training

Effective January 1, 1975 all Data Systems training courses are unbundled, and customers must place a purchase order for training prior to attending the class.

9600 and 9700 system training courses previously bundled will be honored for orders placed prior to December 31, 1974 or for quotations made prior to that date.

Promotional courses will be charged to the sales office and discipline offering the course to the customer and will be billed at full price.

B. Customer "on site" Training

On site training will be conducted with the approval of the Training Manager. The cost of "on site" courses \$2500/week and following expenses as appropriate:

- 1) Round trip air fare — coach or 1st class as dictated by current travel policy.
- 2) Instructor per diem expenses. (Estimate \$60/day under normal conditions)
- 3) \$50/student in excess of 10 students per class.

(Continued on page 17)

CUSTOMER TRAINING POLICIES AND PROCEDURES - (Continued from page 16)

4) Equipment rental charges at 0.1% of list price for each day of training.

5) Equipment freight charges if any.

C. HP Personnel

Software classes and Field dedicated maintenance courses only, on a space available basis.

1) HP Field C.E./S.E. — Free

2) D.S.D. personnel attending scheduled class — I/C Bill 50%

3) Other HP Division personnel attending scheduled class — I/C Bill 50%

2. REGISTRATION PROCEDURE

A. The normal process for registration in a class is to submit a Training Registration Request to the appropriate Training Center.

B. Registration requests will be confirmed in writing to the customer after receipt of a sales order indicating course purchased or in the case of bundled training a check that complimentary training is approved.

C. G.S.A. complimentary training requests must be accompanied by a copy of the systems sales order indicating the G.S.A. contract number.

D. Phone reservations must be confirmed with complete registration information within 10 days or the student will automatically be dropped from the class.

E. Should the class be filled alternate methods of satisfying the request will be suggested to the Field Engineer by the Training Manager.

3. CANCELLATIONS

A. If, after enrolling in a training course a student wishes to cancel or enroll in a later course it is requested that the appropriate training registrar be notified promptly and at least 10 days prior to the start of the course.

B. Hewlett-Packard reserves the right to cancel a scheduled course if insufficient registrations are received 10 days prior to the course starting date.

4. ORDERING PROCESSING PROCEDURE

Training follows the normal HP order processing procedure. Before the customer is entitled to attend a class a

sales order must be transmitted to division 22 (Data Systems). This applies irrespective to where the training is held in the U.S.A.

5. CONFIRMATION OF REGISTRATION

A. An acceptable registration will be confirmed in writing to the customer indicating course description, date, starting time, length, and motel reservations if requested. A copy of this letter is also sent to the local field engineer for his information.

B. Included in the package to the customer is a map of the local area, and motel brochure (if applicable and available).

C. Customers attending courses should contact the motel directly if they anticipate late arrival.

6. CLASS PROCEDURE

A. Every effort will be made to satisfy customer requests while he is visiting Hewlett-Packard. The course instructor must meet class requirements first and special requests will be handled out of normal class time or by other personnel.

B. Courses are divided into classroom instruction and lab "hands-on experience". The amount of lab time is dependant on the particular class.

C. Phone calls for students attending courses will be taken by the receptionist and a message left for him, except in emergencies when he will be called out of the classroom.



HEWLETT-PACKARD

POTPOURRI

NEW REGIONAL HEADQUARTERS

by Jim Elliott

The new Eastern Sales region facility recently celebrated flag raising ceremonies which symbolized the completion of the facility dedication process. Officially opening in December of 1974 the to leveled structure boasts complete

(Continued on page 18)

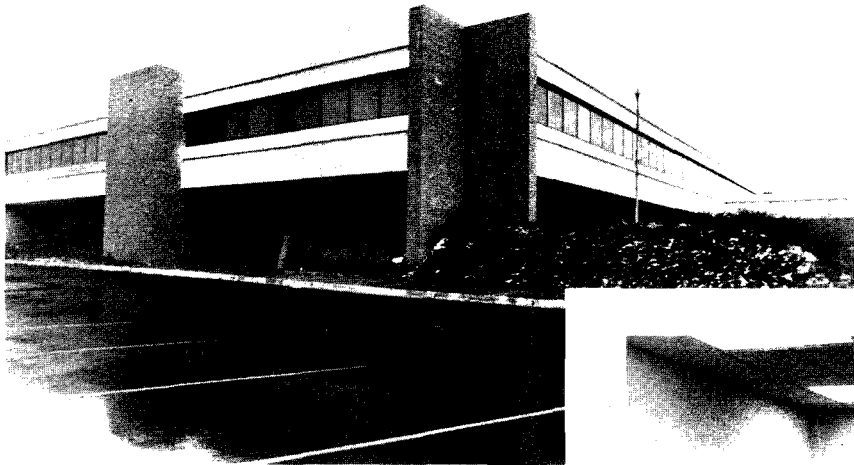
NEW REGIONAL HEADQUARTERS - (Continued from page 17)

customer and field sales training facilities, self sustaining administrative offices, a complete cafeteria and a mini garage for servicing the areas fleet of vehicles. The building comprised of over 50,000 square feet of floor space, is organized with the upper level dedicated to administration and the lower level to the support functions. The building, though

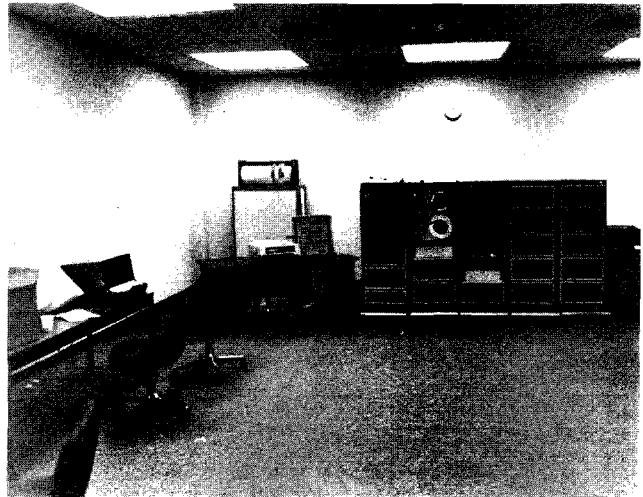
completely staffed, still has about 25% capacity available for the future growth needs of both the administrative and support functions.

From either an external or internal vantage point, the building seems designed for friendliness. There is ease of access to any area of choice without interference to other non-related functions. To illustrate the following photos will be used to describe the regional environment.

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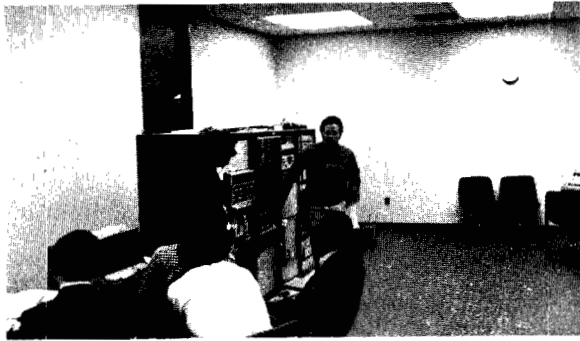
1: This is an external view looking northwest at the front of the building. Three quarters of the area outside is reserved for parking. Note that the only windows on the lower level are on the east side. This is the location for the cafeteria.



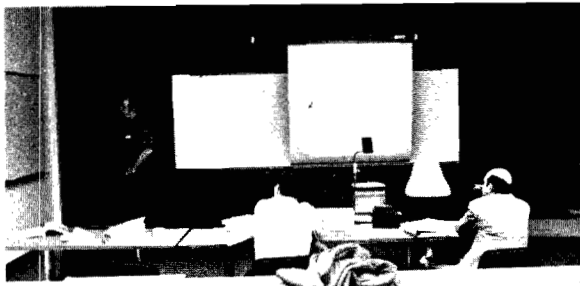
3: This is a view of the Rockville 3000 Data Center. The system is available for both field and customer use. This system is similar to a 3000-model 2000CX with two extra tape drives and a 600 LPM printer.



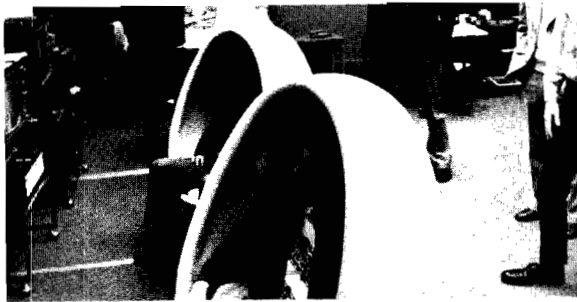
2: Upon entering the new facility you are greeted by *Diane Bollman* in the well lit lobby. Making a u-turn to the left around the couch takes you upstairs to the administrative offices. Going directly to the door on the left takes you to the data center; if going straight ahead to the door in the right of the photo you enter the hallway off of which are classrooms; and making a right turn after entering the lobby takes you to the audio-visual center.



4: Here we find a customer class in session on a 2000 based system. A complete line of our 2000 based products are available to configure any 2000 based system for hands-on time.



5: This is a rack-high view of one of the many lecture rooms available for instruction on any of our products. Additionally there are lab rooms with appropriate hardware associated with the lecture room to complement the class sessions. The layout is quite similar to the format used at Data Systems Cupertino.



6: This is a unique room at "Region" (the nickname for the facility). This room sports three acoustically efficient chairs that are "wired for sound". One simply loads the appropriate video tape on the unit opposite his chair, be seated and you're off to futuristic programmed learning.



7: This is the view of the main floor for administrative services. Located around the periphery of this area are the administrative offices for the Regional Managers. To the right hand side of this area are the offices for personnel, accounting, contracts and other functions that would be associated with regional support.



8, 9, and 10: These are views of some of the high level conferences that regularly occur at "Region".

CAD-CAM SHOW A SUCCESS

by John Whitesell

He was represented at the third annual Computer-Aided-Design Computer-Aided-Manufacturing (CAD-CAM) Show February 11-13 in Chicago.

Organized and implemented by the Midwestern Sales Region Computer Systems sales force, with some help from the

factory, the HP exhibit attracted a select group of key representatives from manufacturing firms throughout the country.

The HP exhibit emphasized our Distributed Systems and our OEM products, in particular the 2640 and 21MX.

Congratulations especially to *Phil Conway* and his people for putting on a great exhibit!

HEWLETT  PACKARD

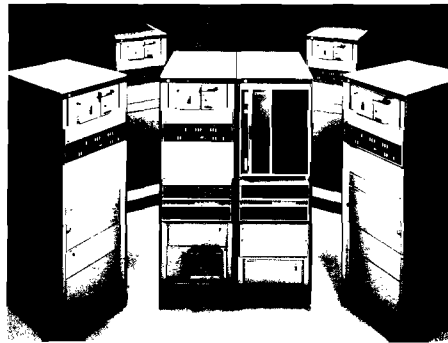
9600/9700MX AD CAMPAIGN LAUNCHED

by Peter Palm

Helping you schedule your priorities, this ad represents the first of a series of 9600/9700 ads that will appear in CON-

TROL ENGINEERING, INSTRUMENTATION & CONTROL SYSTEMS, DATAMATION and ELECTRONIC NEWS. Application ads are also running in BUSINESS WEEK.

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Increase productivity with distributed computers. Over 50 companies do it with HP systems.

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satellite, simple software program to make your system real. We'll help you put it together.

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Appeared in February in CONTROL ENGINEERING, INSTRUMENTATION & CONTROL SYSTEMS

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