HEWLETT hp PACKARD

DATA SYSTEMS NEWSLETTER

Vol. 3 No. 7
Feb. 15, 1976

For HP Field Sales Personnel

FEBRUARY SUCCESSES

LARGEST 9602 SHIPPED FROM DSD
- *Research on Ferrous Alloys*

GULTON INDUSTRIES — New RTE OEM
- *Monitors Gas Flow*

9600 IN ANTARTICA
- *A Real Time Research Tool*

MAJOR DEC USER SWITCHES
- *UPJOHN Uses RTE-III to Weigh Rats*

WESTINGHOUSE GOES DISTRIBUTED
- *A Big 9500 User Puts it All Together*

PRATT AND WHITNEY ADDS ANOTHER RTE
- *2000 Channels Aid Fuel Cell Research*

RTE II TO MAXWELL LABS — Another OEM
- *Fine Tunes Gas Precipator for Environmental Control*

COMPUTER SCIENCE CORP. — Another RTE OEM
- *Writing Own Data Base Package*

Company Private

In This Issue...

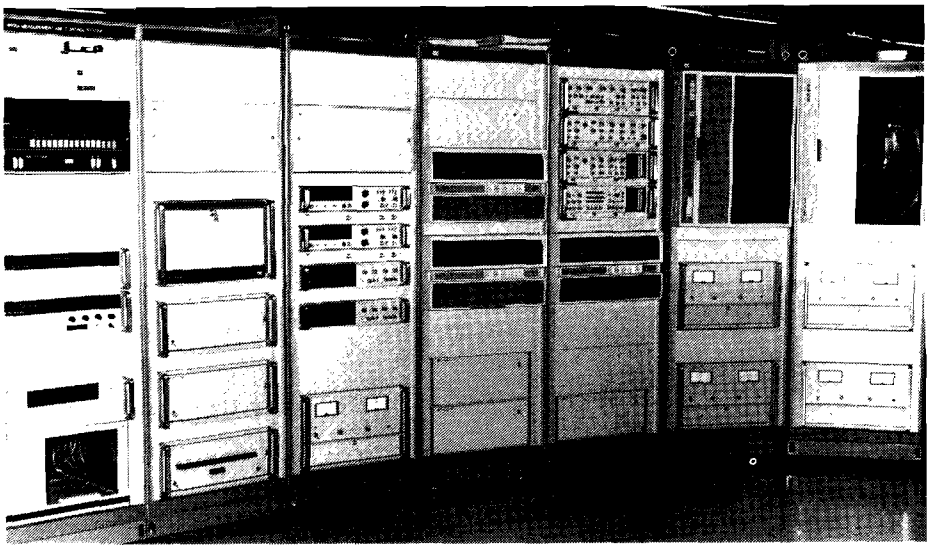
HEWLETT hp PACKARD

ale $ucce$$e$

LARGEST 9602 SHIPPED FROM DSD

By: Dave Hancock

After a good deal of inter-divisional instrument procurement, DSD was able to integrate, test and ship the largest 9602-9603 combination ever built at Cupertino. The customer, BARDIN CENTRAL INSTITUTE FOR SCIENTIFIC RESEARCH FOR FERROUS METALLURGY, whose name is as long as the product they're buying, is taking delivery of ten bays full of HP equipment (count em, ten). The two systems, a seven-bay 9602 and a three-bay 9603, are being shipped to "BARDIN" located in Moscow, USSR.



Here's seven of the ten bays for BARDIN CENTRAL INSTITUTE.

These seven individuals in the picture (accompanied by seven unseen ulcers) are: (left to right) Kurt Baumgartner – CE from Vienna, Roy Rogers – racking and cabling, Bill Chelonis – integration specialist, Bill Johnson – Systems Integration Mgr, Alecia Flores – order processing, Trudy Roberts – interdivisional purchasing, and Doug Morton – Systems Schedule. It took a lot of coordinated effort and those seven, among others, made it happen. HP's thanks to all.

The application consists of control of experiments and the analysis of resultant data for physical properties of ferrous metals. The studies include research of magnetic and electrical properties of ferrous alloys at various temperatures — along with the changes in these properties due to aging and fatigue. The total sales value for these two RTE systems is in excess of $600,000 including supplies.

Special mention must be made not only to the sales team, *Bob Creager* and *Frank Cole*, (who sold the beast), but to the manufacturing talent that accomplished an unequaled feat. With a system this large, errors and change-orders become a way of life. We even flew *Kurt Baumgartner* from Vienna to assist in the four-week integration cycle. Now *Kurt* gets to visit Moscow for three months to install and re-check-out the systems.

Great job! Sell RTE for BIG jobs.

HEWLETT hp PACKARD

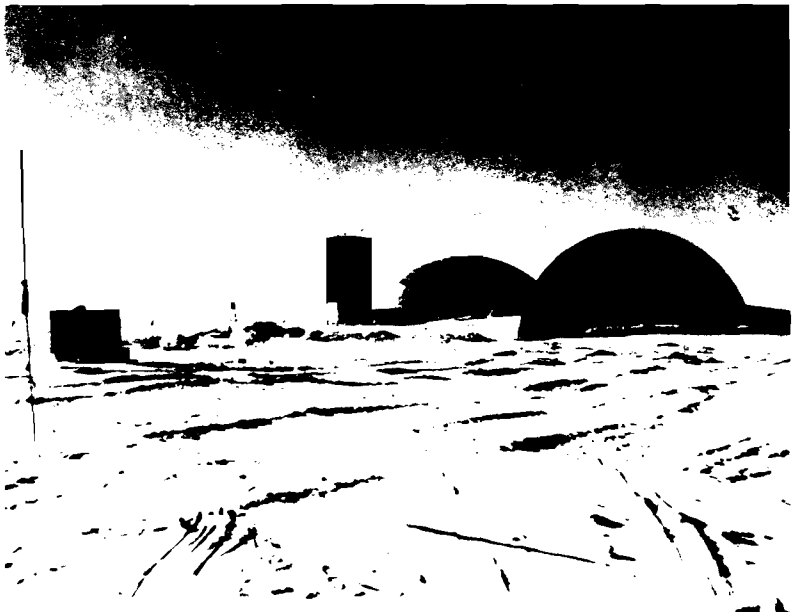
9600 IN ANTARCTICA

By: Van Diehl

Often the "sweat and tears" put in to get a tough order is not apparent. This is the case with the 9600 systems for the Antarctica. *Dick Burkhart*, Neely-Santa Clara Field Engineer, was the champion for this sale to the National Science Foundation. It was a very long and hard battle. The specs were tough and there was a tough competition against DEC.

The article reprinted below from the HP Peninsulan, January '76, describes the system in more detail:

HP computers (9600) go to south pole



The domed Amundsen-Scott Antarctic station, which has recently been refurbished, houses some 20 scientists and a great deal of equipment. The recent addition of two Hewlett-Packard minicomputer systems is helping researchers by controlling experiments, collecting and logging data, and processing it in real time.

Computer Museum

At probably the world's cleanest, coldest and most uniformly desolate spot, only yards from the southernmost spot on earth in Antarctica, UC-Davis scientists have set up shop with some HP computer equipment to study (of all things) air pollution and heat circulation trends.

Thirty-five crates containing the dismantled parts of two identical Hewlett-Packard computer systems plus spare parts were shipped 9,000 miles from the Davis campus for these studies of the global environment. Because the polar area is inaccessible for six months each winter, they must be highly reliable.

The UC scientists are studying the flow of heat energy into and out of the polar cap. According to assistant professor John J. Carroll, the vast difference between equatorial and polar temperatures is the main reason for the mass movements of air within the atmosphere. By taking measurements over a period of several years, scientists will be better equipped to make long-range predictions of global weather trends.

One theory being studied proposes that dust particles being dispersed into the atmosphere throughout the world may be having the effect of extending the temperate zones beyond their current latitudes.

Saucer-shaped radiation detectors and other instruments sense air and snow temperature, wind speed and direction, dew point, humidity, and heat flux. These sensors are all connected to a nearby Hewlett-Packard coupler controller which acts as an interface between the indoor processing system and the outside equipment. The coupler-controller continually scans the instruments, conditions the signals, and transmits them to the Hewlett-Packard 9600 Series Data Acquisition and Processing System.

The speed of the computer, according to Dr. Carroll, was an important consideration in its selection. "Significant fluctuations in the environment occur very rapidly here and a fast computer is necessary," he explains.

Pollution at the poles

A second experiment is based on the fact that the South Pole is one of the world's cleanest places – free of local pollution. In fact, aerosol spray cans, which could cause local air pollution, are banned at the station to avoid interfering with the experiment. A device called a polarimeter, on a 50-foot tower, is sensitive to particles only slightly larger than molecular size.

By periodically measuring pollution levels here, researchers believe they will have a more concrete idea of whether the global situation is worsening, and how fast.

The Amundsen-Scott station, where the experiments are being conducted, is one of three American stations on the continent of Antarctica, which is the size of the U.S. and Mexico combined. A thirty-year international treaty signed in 1962 prohibits anything but scientific activity. After 1992, it's unclear just what the activities of man on the continent will be.

Selection of the HP computer system was the result of a National Science Foundation study performed by Michael Sites, a Stanford scientist. "Hewlett-Packard is one company that makes both the electronics equipment we needed and the computer equipment," says Sites. "This simplifies maintenance and assures compatibility."

In their report to the National Science Foundation, Davis scientists pointed out that HP computers have proven their reliability and dependability, and have been used under severe environmental conditions. They also said that HP has a responsive field service organization and offers proven software.

Now then – who would like to make the first service call?

HEWLETT PACKARD

CONGRATULATIONS TO DAVE MILLER

By: John Streeter

Early last month, DSD received a significant order from Upjohn Pharmaceuticals. They ordered from *Dave Miller*, FE-Kalamazoo, their first HP Computer System, a 9603A with RTE III. The system will be used to weigh rats, that's right, rats! These rats are used to determine if new drugs will possibly cause cancer. The FDA recently initiated more stringent regulations on the manufacturers and this order to HP is a result.

Dave Miller

Dave was successful in competing against DEC. He showed HP dedication to the end-user, and RTE is *the* real time operating system. Sounds trite, but according to the Upjohn V.P., our sales effort plus *price* is really what caused them to switch. It can be done!!

HEWLETT PACKARD

WESTINGHOUSE SPACE & DEFENSE

By: Bob Blake

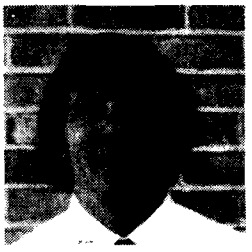
Felix Balmaz, Rockville, MD., has helped Westinghouse to take the first step towards automating their facility under a distributed system. Step one is a 9640A with RTE III and a currently owned TODS.

There is a very aggressive plan behind this first order which will be implemented as management confidence level allows. Persuasive sales leadership at this account is establishing a growth pattern proven successful at other blue chip accounts such as Goodyear, Firestone, Bendix, TRW, Boeing, Chevron, Shell, etc.

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

Help your customer take the first step today — with the leader in distributed systems, he has a low cost solution to today's problem with a defined growth path to larger problems.



Felix Balmaz

HEWLETT PACKARD

2000 CHANNEL A-D SYSTEM

By: Frank Jackson

Congratulations to *Jerry Mason* of the New Haven, Conn. office on his 2000 channel 2320 subsystem with a 9602 system added for Pratt & Whitney.

This is another purchase for Pratt & Whitney's on-going research into fuel cell technology. Using the RTE III operating system's 10,000 fuel endurance tests on the fuel cells is no problem in addition to on-line management information and error correcting systems.

Excellent support and service by *Moe Cote*, S.E., *Bill Ernest* and *Joe Lingle*, C.E.'s, since this program began with a 2116 system contributed enormously in making this sale possible. Another example of an outstanding team effort.

HEWLETT PACKARD

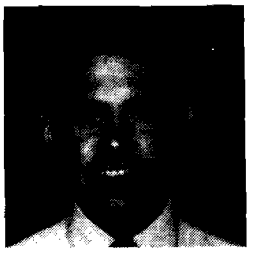
OEM CORNER

COMPUTER SCIENCES CORPORATION

By: Bob Blake

Lou Castagnola, Rockville, MD., continues his fast start into the new year with a $60K-plus first order from CSC (Computer Sciences Corp) on an OEM Agreement. CSC bought HP because the DISCOMPUTER is a best buy, RTE III is a best buy and HP is first in support.

This order is a 9640A ordered as a components and is important because CSC is a software-smart customer. They are better than 75% complete on a DATA BASE applications module for RTE III.



Lou Castagnola

HEWLETT PACKARD

ANOTHER OEM — WESTERN WOO AT ITS BEST

By: Dave Hendrix

Stormin' *Norman Matlock*/HP Albuquerque has done it again! He has roped and hog tied Gulton Industries as a new OEM and we're darn proud of it.

Gulton Ind. and HP decided to cross paths with an initial OEM order of $100K consisting of all the associated parts to allow them to build their own RTE system. Gulton Ind. will be selling their system to Northern Ill. Gas Company in order to monitor and control the daily gas flow to allow optimization in the handling of the gas. A typical days' flow is approximately 2 billion ft^3 of gas.

Norm Matlock

Three Yahoo's for *Norm*!

HEWLETT PACKARD

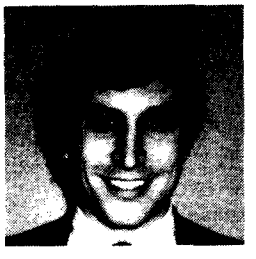
RTE SYSTEM HELPS POLLUTION

By: Frank Jackson

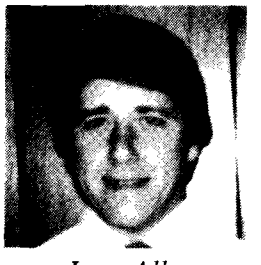
Jerry Tartaglia, Lexington, is doing his bit for the environment by selling an RTE II system to Maxwell Labs, Massachusetts. This system will be used to develop and fine-tune a gas precipitator for removing pollutants from smoke stacks.

As Maxwell Labs is headquartered in California, *Jerry Allen* of the San Diego office was enlisted to assist in getting the OEM agreement signed. Future follow-on systems are expected as the smoke clears!!!

Congratulations *Jerry* and *Jerry*.



Jerry Tartaglia



Jerry Allen

HEWLETT PACKARD

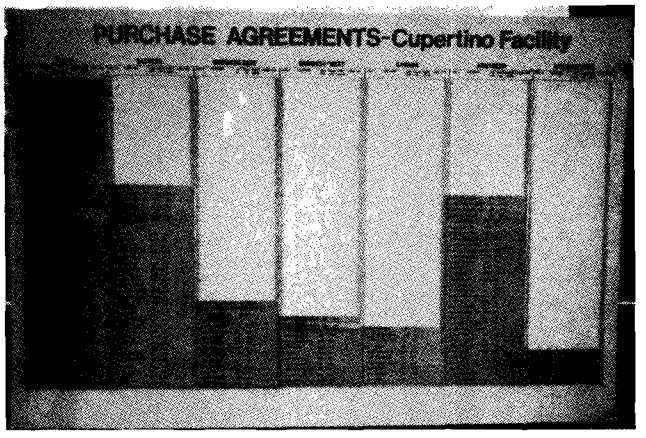
DSD NEEDS BIGGER OEM BOARD

By: Stu Kagan

Thanks to *Bill Richion*, we're going to need a larger active OEM account board — we just don't have any more room.

In fact, the new contracts for January haven't been added yet — not one of the twenty of 'em!

Sell OEM, sell DISCOMPUTERS!



Hats off to guys that brought them in! An now for youse one's that didn't — **SELL OEM!!**

HEWLETT PACKARD

Product News

9640 CORRECTION TO FEBRUARY C.P.L.

By: Dave Hancock

The description for what equipment is included in Basic 9640A is misleading. A missing line causes the wording to imply that Option A15 is included. Not so. One (and only one) of A00-A02, A04, A06 or A09-A15 operating systems options must be specified, as well as a system console.

In addition, if your microfiche is unreadable in the area of A13 to A15 as my copy was, refer to the 9600 Systems Price/ Configuration Guide for correct info until we get the fiche squared away.

As a reminder, if for some valid reason you wish to omit a console, you must order Option 444 at an International Base Price of $400 to cover factory integration and test.

We stand corrected.

HEWLETT PACKARD

NEW PRODUCT ANNOUNCEMENT

— New Disc ROM Loader (12992B) product announced use with the 7905 Disc. —

By: Bill Senske

There will be a new Disc ROM loader available for use when booting the 21MX from the 7905 Disc Drive. The 12992*B* is the Disc ROM Loader for use with the 12962 subsystem (7905's). The 12992*A* is usable only with the 7900, 7901 and 2883 disc drives.* In the past many customers & F.E.'s were led to believe that the 12992A was compatible with the 7905. By some design fluke it was compatible until the most recent production change on the 7905. This change has modified the disc interface in such a way that adequate intelligence to determine which drive type is installed cannot be fit into the loader ROM with the boot loader program. Therefore we had to create a new product, the 12992B, Disc ROM loader.

All customer orders for 7905 configurations transmitted prior to 1 April will be shipped a 12992B gratis with their new version 7905 interface. After 1 April to receive a 12992B the customer will have to order it. This policy has no affect on an order for a 12992A. They will also receive it and be billed for it.

In short:

1. Anyone ordering a 12992A will get it and can boot 12960, 12961, and 12965 subsystems with it.

2. Anyone who has been shipped, ordered and/or who does order a 7905 for a 21MX system before 1 April will eventually receive a free 12992B (Irrespective of whether or not he has ordered it).

3. After 1 April a customer who wants to boot from a 7905 drive will have to order a 12992B (price $100 USA).

Normally a customer will always boot from the same drive, so after 1 April, he will not typically want to order both the 12992A & 12992B. In fact if he does want the capability to boot both types of drives he should probably buy only the 12992A (see note below). This is a complex topic so we will understand if you have a question for your DSD Sales Development guy.

*NOTE: The 12992A can be used to boot a 7905 by following these steps:

ROM-BOOTSTRAP LOADER (12992A)

In all systems with 7905 disc interface 13037-60003 Rev. D. Datecode 1605 or greater, the procedure for booting up using the 12992A is:

Prior to pressing IBL set S register

Bits	13	12
Data	0	1

Also set

Bits	2	1	0
Top	0	0	0
Middle	0	0	1
Fixed	0	1	0

to indicate which 7905 disc surface you are booting from. Press store. Press preset & IBL. Then select T, reset bit 13 to 0 and press store & run.

HEWLETT PACKARD

THE 21MX I/O EXTENDER

(12979 Opt. 010 Disappeared???)

By: Bill Senske

The difference between an I/O EXTENDER (12979) and a second I/O Extender (12979-Opt 010) used to be that a second I/O Extender had a 3 connector flat cable instead of a 2 connector flat cable. In order to simplify OP procedures we just eliminate the opt 010 and added the 3 connector cable to the standard. If you find the new cable is too long for a 1 extender system just cut off one of the cable lengths with a

sharp set of scissors. (Note: Visually inspect to see that the scissors didn't create any shorts by wiping the fine copper wire across the plastic barrier. If so, clear the short.) This change should make all our jobs easier.

HEWLETT hp PACKARD

RACK ONLY ORDERS --

By: Dave Hendrix

The following policy represents the current (Feb. 3, 1976) operating procedure for how *Rack Only Orders* are handled at DSD. This policy is not new, it has been in effect for many months. While you may hear many rumors about impending changes any official change will be communicated in this column. If and until then this is our policy.

I want to clarify the definition of "rack only" orders for you so we all know what to expect from DSD when your order ships. "Rack only" to the factory means just that, no integration is performed *at all*, no cabling into the computer, no testing or diagnostics is done other than those normally run on instruments as they are built on the particular instrument line. Manufacturing simply takes the subsystems ordered and racks them within the specifications of the cabinet ordered, I/O cards are shipped as accessories.

If there are no special instructions accompanying the order, HP will rack as they see fit. We will entertain any racking desires of the customer as long as they provide a racking diagram and do not over-extend the specifications of the cabinets or any other racking limitations that there may be (power regulations, etc.).

If special racking requests are made, there will be a special charge (contact Sales Development) and DSD reserves the right to evaluate the configuration to determine if any violations have been made. These violations, if any, will be fed back to the customer with our recommendations of changes. You can see the necessity of any special racking diagrams to be in our hands as close to the date of order as possible. These evaluations take engineering effort and require time. If any customer-furnished documentation is required as spelled out on the order and is not received, the manufacturing process is held up possibly effecting ship date of the order.

Remember, "rack only" orders are not considered systems, *integration* is not performed at the factory (diagnostics are not even run) and *installation* as a system in the field is not performed.

HEWLETT hp PACKARD

Sales Aids

HEARD AROUND THE COFFEE POT

By: Joe Schoendorf

During a recent visit by one of our most senior sales engineers, he remarked that one of our toughest 21MX OEM's had told him — "*You know the 21MX reliability is getting better.*" No horns yet, but from here it sure seems a lot better than last fall — take a look at your recent installations — better? We like good news too! Let us know.

Ben Holmes recently had the opportunity to review our first CPU installation — a 2116A sold to Woods Hole Oceanographic Institute and installed in Jan. '67 — over nine years ago. Scrape the salt off and it runs like the champ it is. A local *WAG* remarked — "*sure don't build them like that anymore*" — maybe, but considering what's in one now, we think they're better — watch for major P.R. story on this installation!!

HEWLETT hp PACKARD

DO NOT MISS THE MURB ARTICLE IN "THE JOURNAL"

By: Van Diehl

An excellent article . . .
Don't miss *Jim Schultz's* excellent article in January '76 issue of HP Journal, on Multi-User Real Time BASIC.

Jim Schultz is the Project Manager for RTE-B and MURB. He did an excellent work in describing the operation of our new disc-based Real-Time BASIC.

If you do not have a copy, you can contact *Anne LoPresti*, Palo Alto, Bldg. 19L (X3853) and she can forward copies to you.

HEWLETT hp PACKARD

DOS TO RTE UPGRADE MADE EASIER

By: John Streeter

In line with DSD development of RTE as *the* operating system of the future, a new marketing tool is now available.

Current DOS users will be given partial credit for their DOS purchase towards buying RTE II or RTE III. An $800 credit is available via special option #300 to the 92001A or 92060A packages. Please reference original DOS order being upgraded.

To illustrate:	92001A (RTE II)	$4000
	−Y13 (BSM)	1000
	−300 (special)	−800
	TOTAL UPGRADE	$4200
	92060A (RTE III)	$6000
	−300 (special)	−800
	TOTAL UPGRADE	$5200

REMEMBER — Drivers must be ordered separately from the Parts Price List.

HEWLETT hp PACKARD

HP DISCS — TOUGH ENVIRONMENT APPLICATIONS

By: Bob Daniel

Thanks for the help — keep it coming!
Recently I sent out a request for examples of the application of HP disc drives in difficult environments. We are already looking into some of the responses for an in-depth P/R report where it appears appropriate.

In the meantime, I'm sure you would like to have a summary of those situations which might be helpful to you in selling your next disc customer.

In addition to a brief application description, I have identified the field contact you should check with before contacting the customer.

There have been several reports published in the past related to independent disc evaluations. These are also listed.
Response from our overseas friends has been good and we'll publish a list of those applications in a following Newsletter.
Meantime, let's hear from you on any new and unique 7905 installations.

CUSTOMER	APPLICATION	TYPE OF ENVIRONMENT	CONTACT	LOCATION
American Smelting and Refining Tucson, Arizona	Copper Mining — 9601E System installed 6/75. For closed loop process control of primary and secondary crushers in copper ore ball mill. (7900A)	Fine dust and strong low frequency vibration	*Chris Boschen*	Phoenix
Bedford Institute of Oceanography Dartmouth, Nova Scotia	Oceanographic Research. Programming testing and data reduction done at sea. 4 DOS, RTE systems. Installed 1973.	Oceanborne	*Sherif Alaily*	Montreal
Federal Highway Admin. Washington, DC	Road testing, measuring road parameters such as smoothness and curvature. HP 9600 System with 7900A disc, RTE-II. Installed 12/74	Truck	*Bob Bolcik*	Rockville
Jones and Laughlin Steel Co. Aliquippa, Pa.	Steel manufacturer. An HP 9600E with RTE-II. 6 terminals installed 7/75 in the plant. Analyzes data from chemical steel sampling instruments and talks to terminals in furnace pulpits and DP center.	Room is air-conditioned, but atmosphere still contains much iron dust.	*Jim VanSlambrook*	Pittsburgh
U. of California at San Diego San Diego, Calif.	Oceanographic Research. HP-CPU and 7905A looks very good.	Oceanborne. Typical roll, pitch, vibration and atmospheric conditions.	*Jerry Allen*	San Diego
U. of Utah — College of Mines, Metallurgy and Fuels Salt Lake City, Utah	Basic Metals Research. An HP 9600E with 7900A disc. Located adjacent to an ore processing facility. Installed since mid 1973.	Dirty	*Gary Cole*	Salt Lake City
Reports Already Published				
Woods Hole Oceanographic Instit. Woods Hole, Mass.	Report on Shipboard Evaluation of a moving head disc memory unit. By K. R. Peal, Dated 9/72. (an HP 7900A) Technical Memorandum WH01-3-72	Oceanborne — Evaluation	*Bob Daniel* (for copies)	Cupertino
NASA Goddard Space Flight Center Greenbelt, Maryland	In-flight test report on 7900A drive and other HP equipment. Written up in Data System Bulletin, Nov. 1, 1972. Copies available in Cupertino. Report written by Rick Ellinger and Ted Proske. NASA is now using this equipment in airborne atmospheric and celestial research (Real-time data acquisition and reduction)	Tested in flight for: Power failure. 10,000 ft. air pressure. Tight rolling turns, dives, weightlessness, vibration, shock.	*Bob Payne* (For current status) or *Bob Daniel* (For report copy)	Neely Santa Clara Cupertino

International News

SOUTH AMERICAN CONTINGENT ATTEND NEOPHYTE TRAINING

By: Carlos Avila

Attending the January session of Neophyte training are three of our FE's from south of the border. Pictured above left to right are: *Paulo Jose Chamoun*, Sao Paulo, Brazil; *Paulo Goncalvos*, Porte Alegre, Brazil; and *Gustavo Fernandez*, Caracas, Venezuela.

Paulo Chamoun joined HP in September after previously working for the Sao Paulo Subway system where he was involved with a computerized train control system provided by Westinghouse. Prior to that *Paulo* was employed by Honeywell Bull as a system support analyst for H600 series.

Paulo Goncalves came to HP in August after previously working for PROCERGS, a state-owned data-processing center where he developed teleprocessing software for the Burroughs 6700.

Gustavo Fernandez has been with HP since September, 1974 as an SE and only recently decided to take the plunge and assume the role of an FE. Previous to joining HP, *Gustavo* worked for OPSIS, an electric operating company, where he developed and implemented software for the 2100 such as load flow and statistical analysis programs.

Left to right are: Paulo Jose Chamoun, Sao Paulo, Brazil; Paulo Goncalvos, Porte Alegre, Brazil; and Gustavo Fernandez, Caracas, Venezuela.

Training News

TRAINING NEWS FLASH

By: Tom Lowe

Commencing May 1st the Real Time Measurement & Control training course (22965A) will take on a new look.

The new course, RTE II/III (22965B) will be a 10-day course and will cover the RTE II/III operating system, Batch Spool Monitor, and File Manager only.

Note: Measurement and Control Subsystems (course 22968) will not be covered in this 10 day course, but will be offered as a separate 2 day module. Also, effective May 1st will be a 3 day multi-user Real Time Basic course (22979A).

The price for all of the above courses will remain at $100 per student day.

HEWLETT hp PACKARD

Competition

DEC LSI-11

By: Dave Bunch

Help your customer understand certain operating characteristics in the DEC LSI-11. The LSI-11 has two interrupt lines — one is non-vectored and used for a clock, the other is vectored and can be used for several devices. The two interrupt lines *can't* be selectively disabled, which means that the clock is lost when the interrupt system is off.

The LSI-11 bus is relatively slow because of handshaking requirements and because data and addresses are multiplexed on the Bus.

The DEC's supplied parallel interface has essentially no interrupt capability.

Also, there is a potential for software compatibility with other PDP-11's because of having to rewrite interrupt handling routines.

HEWLETT hp PACKARD

DATA TERMINALS NEWSLETTER

IBM 360/370 SYSTEMS COMPATIBILITY NOTE FOR 2640/2644

By: Bob Bowden

WATCH OUT BIG BROTHER!

A new System Compatibility Note for use of the 2640/2644 on IBM systems has recently been distributed to the field from DTD. This Note is intended to share current understanding of the IBM market for the 2640/2644; and is meant to be used as a general reference in selling to IBM sites. It contains:

- Sales overview of the 2640/2644 on IBM. Including characteristics of key IBM prospects, competitive feature strengths/drawbacks, and major hardware/software interfacing considerations.
- Representative case studies of 2640/2644's currently used on IBM systems. Including site configuration, interfacing considerations, level of implementation difficulty, and a detailed example of the IBM support generation process for 2640/2644 terminals.
- IBM background information and terms. Including information on where our terminals fit into IBM configurations; communications controllers; software support referring to operating systems, access methods and applications programs; as well as the market size and key characteristics of IBM's major systems.

HEWLETT hp PACKARD

DATA SYSTEMS NEWSLETTER

Address inquiries and comments to: Joey McHugh — Editor
Sales Development — Building 40
HEWLETT - PACKARD DATA SYSTEMS
11000 Wolfe Road, Cupertino, California 95014 U.S.A.
Garrett Prescott — Art Editor Joe Schoendorf — Technical Editor