HEWLETT hp PACKARD

DATA SYSTEMS NEWSLETTER

Vol 3, No. 14
June 1, 1976

For HP Field Sales Personnel

2108K ANNOUNCED

FIVE TIMES FASTER THAN LSI-11

HP-IB/RTE INTRODUCED
- EXCELLENT AT MAJOR ACCOUNTS

7900/RTE-II REDUCED 10%
- FULL RTE SYSTEM NOW $30,000

FOURTEEN OEM's SIGNED IN APRIL
- MOMENTUM BUILDS

GTE-SYLVANIA STANDARDIZES ON 21MX
- ISSUES "PRODUCT STANDARDIZATION"

WEYERHAEUSER CHOOSES 9611A
- HP WINS OVER DEC

BELL LABS CHOOSES HP-IB
- VAN-MOUNTED TESTING SYSTEM

NASDA CHOOSES HP
- JAPANESE "NASA" BUYS 9600's

DAMES & MOORE NEW OEM
- ENVIRONMENTAL POLLUTION MONITORING

In This Issue...

Sales Successes

THE 9611A WINS AT WEYERHAEUSER

By: Dave Hendrix

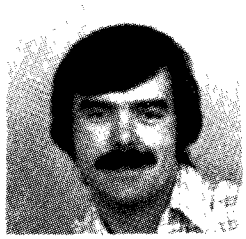
Industrial ruggedness, ease of instrument interfacing and microprogramming were all reasons why the HP 9611A Industrial Measurement System won over DEC at the Weyerhaeuser Corporation in Long View, Washington.

Weyerhaeuser's applications are many but all deal with the testing of various woodpaper products. Automating their data collection and control of various tests for stress, shear, compression, ignitability, amount of smoke generated, rate of heat release, etc. are all immediate requirements of the system. All tests are specified around the American Society for Testing and Materials (ASTM). Simplicity of interfacing their instrumentation and the industrial ruggedness of the 9611A were key points to Weyerhaeuser in accomplishing the above requirements.

Added to their immediate use of the system was their concern for the system's use in the future. Weyerhaeuser has plans for designing their own test equipment oriented around the use of microprocessors. The state-of-the-art design of the 21MX highlighted by the microprogramming capability convinced Weyerhaeuser that the 9611A had all the capability required for their present as well as their future requirements.

In talking with *Dick McClelland*, the F.E. to the Weyerhaeuser account, he also said that our support capability, S.E. assistance and the training available, added credit to the sale. Congratulations for a job well done. I believe this earns *Dick* the Woodchuck Badge of the Month.

P.S. We now have a good pro-HP reference account in Weyerhaeuser. This may be the door opener you need to talk to Weyerhaeuser in your area. Use it to your advantage. Call me for more information.



Dick McClelland

NASDA GOES HP

By: Dave Hancock

The Japanese National Space Development Agency (equivalent to our NASA) has chosen HP to supply real-time systems for their satellite communications complex. Project N-PLAN, now underway, will launch six satellites for testing, ionosphere survey, stationary communications and stationary weather. The first two satellites have already been launched — KIKU, named after a Japanese national flower, for engineering test, and UME, named after a Japanese tree that blooms in early spring, used for Ionosphere Survey.

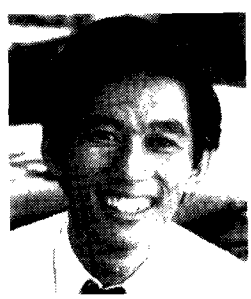
FE *Kazuo Okada* was most successful in selling HP against major competition from NEC, TOSHIBA and MITSUBISHI ELECTRIC — using plain old good selling techniques. *Okada*-San utilized the resources of YHP at all levels in exposing the key personnel at NASDA to our products and our support teams. The first two 9640 systems were sold and installed last year at the Tanegashima Island Station, which contains the rocket launching systems and TSUKUBA Space Center.

Based upon NASDA's success with the first two systems — ease of operation and overall system reliability — *Okada*-San eventually received orders for ELEVEN more systems, a total order of over $1,500,000. Now that's account growth!

Of the eleven follow-on systems:

2 for the overall data management systems
3 for the Katsuura Station
1 for the Tanegashima Island Masuda Station
1 for the Okinawa Station as Telemeter Data Transmission Command Generator
3 for the Tsukuba Space Center as Tracking Control Center
1 in the USA for software development by GE (sold by *Gene Ackerman*, KOP)

The entire complex is to be in operation and linked together by March '77. All of the various stations will be connected for transmission to the Tsukuba Space Center. Congratulations to *Okada*-San and the YHP sales team for this prominent HP success.



Kazuo Okada

9603A TO CONTROL PAINT JOB ON SPACE SHUTTLE

By: Carlos Avila

Over tough competition from a DEC OEM, *Tom Wade* in Houston has won an order from Martin Marietta for a 9603A system valued at $97K. The 32K RTE-II system will be installed at the NASA Michoud Assembly Facility in New Orleans.

The 9603A will control the application of thermal protection coatings to the external tanks used in the space shuttle. The large tanks (100 ft long, 27 ft in diameter) will be mounted on turntables inside large cylindrical concrete cells (spray booths). Spraying equipment will be mounted on elevators.

The coatings will be applied in barber pole fashion. The 9603A will control the turntable rotation, elevator vertical travel, and other motions and functions of the spraying equipment in order to get the right thickness of coating on different areas of the tank.

The 9603A will control the spraying equipment by using a map-following technique. A Real Time position map will be generated for each spraying operation. The position map provides the required location of each element in the spray booth at intervals of 1 second. Once a second the 9603A will read data from position encoders on the turntable, elevators, and spray equipment. These values will then be compared with the position map for the next second. The 9603A will then issue the necessary rate commands to force the spray equipment to follow the map.

A true closed-loop operation!

Tom Wade

VAN MOUNTED 9603A/HP-IB

By: Bob Blake

Tom Montella has made a significant 9603A/HP-IB End User sale to Bell Telephone Labs, Whippany. This $65K 9603A will be used to drive approximately $40K of HP instrumentation under RTE-C.

The Mobile Telephone Group at Bell Labs will van mount this equipment in ruggedized, shock-mounted racks and cruise the Chicago area making measurements calculated to analyze and test the operation of Mobile Telephone Base Stations. In normal use, Mobile Telephone subscribers move through a service area and are "passed off" from Base Station to Base Station. These field trials empirically similate the algorithm and gather data for Base Station operations. Please note, all this equipment is working while the van is in motion. The customer is modifying HP-IB driver to work in the RTE-C environment.

This sale demonstrates the power and capabilities of the HP-IB. It allows your customer to enjoy the benefits of *HP's full measurement capabilities.*

OEM Successes

OEM's CONTINUE TO CHOOSE HP

By: Stu Kagan

OEM business is booming! During the month of April we signed 14 new OEM/COMBO agreements. This number includes new accounts and customers that had previously purchased OEM products from us before.

If you guys keep it up, we might just have to split divisions again. That's the kind of problems we'd like to have. You're doing a great job at SELLING OEM's. On behalf of all of DSD — THANKS!

The new contracts are:

Company	Field Engineer	Applications
Smith, Dennis & Gaylord	Gary Leight/NSR	On-time reservations sys.
Neoterics, Inc.	Bob Payne/MSR	Small business appls.
Canadian Marconi	Frank Novak/CSR	Industrial, Scientific, Data Comm.
Magnavox	Joe Sigismonti/NSR	Navigation, Marine & Military systems
Quantor	Ron Westergren/NSR	Microfilm reformatting
California Time Sharing	Bob Ulery/NSR	Business accnt. systems
Ultra-Safe	Jack Oliphant/SSR	Small business pkg.
Vanderbilt University	Steve Mackenzie/SSR	Development of mathematical model for A.F.
Computers for Mktg Corp	Dave Kalman/NSR	Surveying data base system
TRW	Len Souza/NSR	Scientific & engineering appl.
Science Applications, Inc.	Terry Pelfrey/SSR	Business, industrial, data comm.
Radix Corporation	Gary Cole/NSR	Data entry system
Applied Theory Associates	Dan Kerns/NSR	Business, industrial, data comm.
T&T Technology	Terry Trogstad/MSR	Medical applications

OEM SALES ARE MONEY MAKERS

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

ENVIRONMENTAL POLLUTION MONITORING

By: Bill Burger

Ron Tarkowski of MWW/Skokie recently signed an OEM agreement with Dames and Moore of Parkridge, Illinois, a consulting firm in the environmental and applied earth sciences. Dames and Moore is headquartered in the LA area and has 25 offices throughout the US.

Their first system order is for an RTE-C system to be front-ended with an environmental sampling device for pollution monitoring. It will be used in the Chicago area to monitor a Commonwealth Edison coal fed electrical power plant.

The system acquires pollution data, processes the data and forwards it via ASCII serial communications (12531D) to a central computer for data storage and report generation. In addition, it copies the acquired data on a local 2644A minidata cartridge for data backup. This linkup to the RTE-C is accomplished using a modified DVR 05.

Congratulations, *Ron*, on signing another OEM and contributing to a cleaner Chicagoland environment!

Remember — SELL OEM!

Product News

RTE-III SOURCE AT LAST

By: Bill Burger

RTE-III Source is now available. It will be on the June 1, 1976 price list as 92822A, for $6000. Remember RTE-III Source and our other source products are non-discountable. Batch-Spool Monitor (BSM) is not included with RTE-III source because it is written in SPL-2100, an unreleased product.

4K MEMORY STACKS FOR 2100A

By: LeRoy Nelson

We have discontinued the credit for return of a 4K stack when an 8K core stack is purchased.

We also have a limited number of used 4K core stacks available at a reduced price of only $600 each. These are available on a first-come, first-served basis. See: Availability Schedule.

Remember: You can only have one 4K stack in the 2100, and it must be the top 4K.

Also, if your memory configuration is greater than 16K, the loader can only be protected in the top locations of 16K, 24K or 32K. The extra 4K stack can be used for 20K or 28K with the loader unprotected.

STOP THE PRESS!! PRICES REDUCED 10% ON RTE II/7900 IN SYSTEMS

By: Van Diehl

NOW you can have the fantastic MURB (Multi-User Real-Time BASIC) support package — option A25 of 9640A — for the low, low $14,200 (who can beat us?).

COMPARE:

Was:		**Now:**	
9640A	$15,800	9640A	$15,800
#A13 7900/RTE-II	$13,100	#A25	$14,200
#Y13 BSM	$ 1,000		Incl.
#Y15 MURB	$ 1,000		Incl.
#P12 16K	$ 2,100		Incl.
	$33,000		$30,000

And MURB comes with HPIB support described in our new edition of the Real-Time BASIC brochure — literature no: #5952-1687, *dated 4/76.* A unique capability in industry!

Order it today (and many of them)!

Order Processing Corner

GETTING GOOD DELIVERY — ASAP IS BEST

By: Dick Love

A recent Newsletter discussed our method of booking and prioritizing orders. The main message, *ASAP for "date required"*, will give the earliest possible delivery for your customer. Once an order is booked and acknowledged, its ship date will slip only if production slips, or DX/DO rated orders with earlier dates are received or "Must Ship" crisis orders (a small percentage) are booked. If there is a production slippage, *all* orders slip together — they keep their relative position. Be careful of "Must Ships" — they need many approvals and are truly last resorts.

Another way of looking at it is that ASAP orders will move forward on the books for better delivery than originally acknowledged if slots open up from cancellations or extra production. Do Not Ship Before (DNSB) orders will never move ahead of their DNSB date, but they can slip at the same rate as ASAPs. Also, a DNSB order will not be booked to a date earlier than current availability.

In summary then:

1. There are no advantages to a DNSB priority unless your customer *really* doesn't want delivery for X weeks.

2. There are *no* disadvantages to the *ASAP priority* and very real potential advantages to your customer in *better delivery* and to HP in *flexibility* to maintain steady shipments when cancellations occur.

Sales Aids

HP-IB IS INTRODUCED

By: Joe Schoendorf

As the North American Sales Force is now aware, the HP-IB computer interface subsystem was successfully introduced in a two-week period from May 10 through May 25. This product is a fully supported 21MX computer subsystem working under RTE-II, RTE-III and the DCS. Please carefully read the sales training manual supplied with the product. Today we are the only company in the world who manufactures instruments, calculators, and computers that meet the HP-IB IEEE 4881975 specifications. The next six months should enable us to enjoy an unparalleled position in the industry with respect to this capability. After that point, we can reasonably expect a large number of competitive product offers.

Let's make HP-IB as "universally accepted as Coke." Good selling!

HP 2100 NEWS FROM BRAZIL'S SOUTH — A RJE PACKAGE FOR THE BURROUGH'S B-6700

By: Paulo Altmayer Goncalves/Van Diehl

The news comes from Porto Alegre, the capital of the State of Rio Grande do Sul, the southernmost state in Brazil. Rio Grande do Sul is a state very much like California in climate. It borders Uruguay and Argentina and it produces good wines, leather and a lot of the Brazilian shoes sold in the USA. It also has a growing steel and petrochemical industry.

The software was developed by a user as a thesis for his M.Sc. The thesis, "RJE Software for Interconnection of HP 2100 and Burroughs B-6700" consisted of the implementation of a system that allows the use of the HP 2100's as a remote job entry terminal for the Burroughs B-6700 computer. The software is compatible with HP-DOS and with the RJE terminal control software of Burroughs. The thesis, by *Mr. Carlos Arthur Lang Barbosa*, was the result of work done in the Computer Sciences Department, Engineering School of the University of Rio Grande do Sul.

GTE/SYLVANIA

By: Bob Blake

Pat Tucciarone's Communications Sales Team calls on GTE Corporate Headquarters in Stamford, Connecticut. *Pat* and *Ken Volet* have made some recent significant progress towards an objective which will help all of us. GTE has surveyed the market and issued a "Product Standardization Bulletin" selecting HP as a preferred minicomputer vendor (DEC is only other). This bulletin was issued as a result of a "Materials Information Request," MIR # SC 21-76 dated April 14, 1976.

During the last visit there were general discussions on a COMBO Agreement to be signed by Corporate Headquarters. We can all pitch in and help *Pat* to promote this objective, which will be a great selling tool for each F.E. calling on GTE/Sylvania accounts (including Canada and rest of the world). This help is to immediately tell *Pat* of any current or past (within last year) sales activity at a local GTE/Sylvania account which would contribute towards establishing an appropriate quantity commitment. GTE Corporate recommended meetings with high level people at GTEDS (Tampa), Automatic Electric (Northlake), GTE Service/Sylvania (Stamford), GTE Lenkurt (San Carlos & Canada). *Pat* was given names of appropriate people at these locations and will be more than happy to share them with you upon request. If you feel factory resources will help you in this activity, please let us know who and/or what you want and we'll work on it.

Do yourself a favor, call, write or TWX details to *Pat* at HP/Paramus!

DC COMPUTER/CALCULATOR ROAD SHOW

By: Bob Blake

Will Workman and *Tal Hughes* combined resources to take the action to major government labs in the Baltimore/Washington area. An action packed distributed systems demo was scheduled for a challenging ten stops in ten days tour that earned *John Harris*, Rockville S.A., the reputation of being a "smoother mover".

The twin attraction of two powerful HP solutions lured major buying influences at each of the following stops:

April	2	NSA
	5	Naval Ship R&D Center/Annapolis
	6	NSRDC
	7	NASA/Greenbolt
	8	Ft. Belvoir/Va
	9	Geological Survey
	12	Naval Air Test Station/Patuxent River
	13	Naval Research Lab/DC
	14	Naval Surface Weapons Center
	15	Aberdeen Proving Grounds

The government audience of Program Managers, Scientists, and Engineering Managers was treated to the dazzling spectrum of HP computational power available from CSG and CPG. DSD equipment demonstrated was a 9640A configured in the Sales Office running under RTE-II using the HP 93598A, ISA Demo Panel (Data Systems News Vol. 2, No. 20, Pg. 12) and CPU as an RTE-B satellite. A full range of calculator products, ranging from hand-held to desk-top, was demonstrated.

With an average attendance of 100 per day, a peak crowd of 150 to 160 at NASA, visibility within the account at high levels for HP's seasoned Distributed Systems capability and accomplishment of all other objectives, *Will* tells me that he's declared this an annual affair.

COMMUNICATIONS SALES DISTRICT

By: Bob Blake

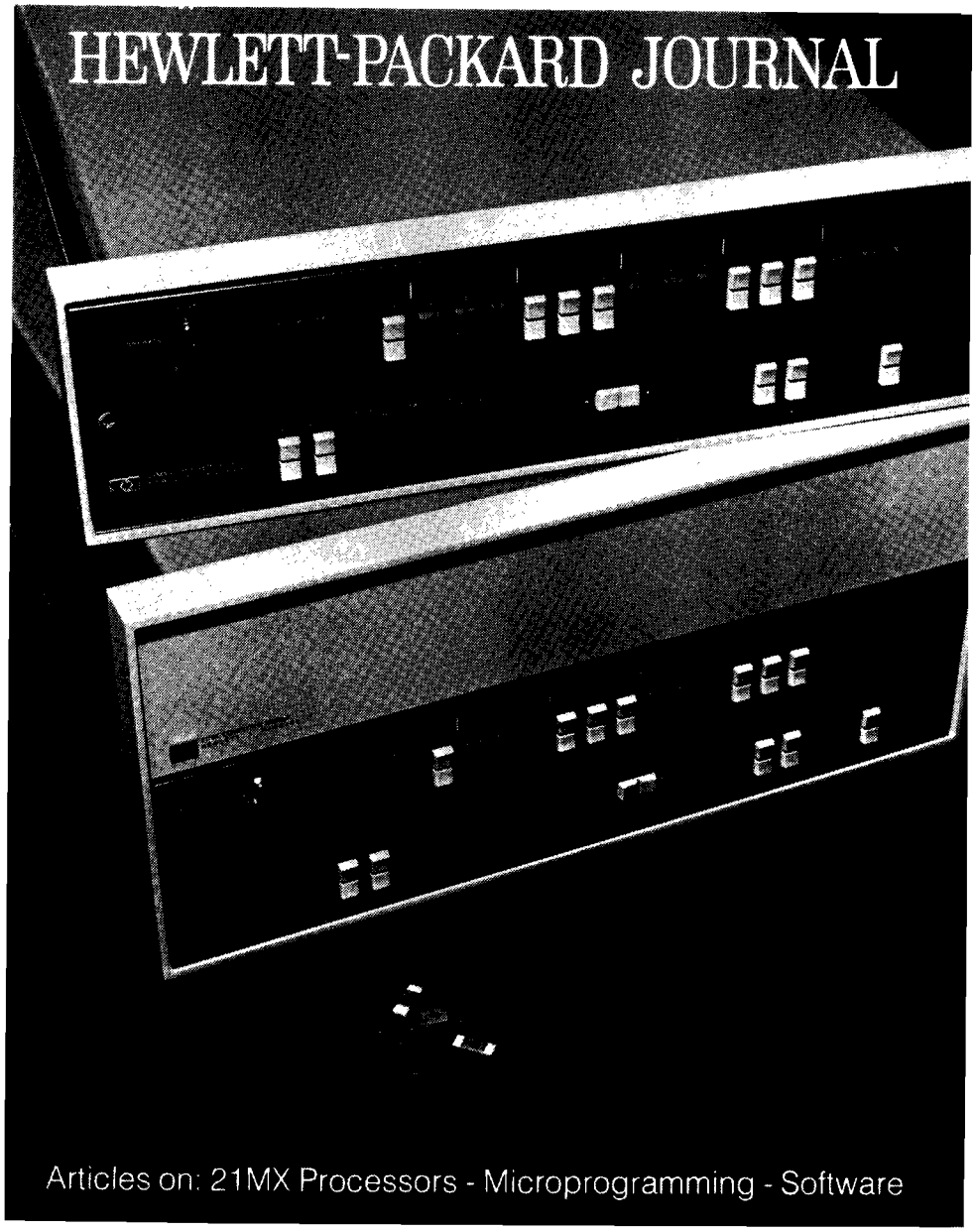
Pat Tucciarone's Sales Team covers the major telecommunications accounts in the New York City area. These include such accounts as Bell Telephone Labs (several locations split among *Tom Montella* and *Paul Miller*), RCA Global (*Paul Miller*), Western Electric (*Pat Tucciarone*), NY Telephone Co. (*Ken Volet*), Telesciences (*Ken Volet*), GTE Corporate Headquarters (*Ken Volet*), etc. The team enjoys the Staff support of *Tom Papson* and strong Analyst support from *Steve Feo* (2000 Access and 3000) and *Russ Bradford* (moved over from calculators to 96MX). Everyone on the team and a flock of fans at Data Systems Division respects the touch of professionalism that *Jackie Dente* gives to Order Administration and telephone contacts with very demanding customers.

The Communications Sales Team turned in a record 300% of quota performance in April which eclipsed their previous over-quota performance in each month of this year. If you have an opportunity with an account covered by *Pat's* team, call them — they can make the difference.

YOU ASKED FOR IT — NOW IT'S READY!!! NEW HP JOURNAL COMPENDIUM TO HELP YOU SELL 21MX, MICROPROGRAMMING, AND SOFTWARE

By: Bob Brannon

In response to your requests, we've now gotten a compendium of the best HP Journal articles on the 21MX, microprogramming, and software into print. (See photo.) Your own personal copy is on its way. To get additional copies to help you sell 21MX, ask the HP Sales Literature Depot in Palo Alto for the HP Journal compendium, literature request number 5952-9929.



Competition

DEC 11/34 SUMMARY

By: Dave Carver

DEC's answer to the 21MX is a revised version of their 11/35 processor. Their objective in developing the new 11/34 was cost reduction, caused in part by your success selling the 21MX. DEC has achieved the reduction by utilizing later technology (including semiconductor memory) and by bundling in features that were optional on the 11/35. The 11/34 includes parity, EAU, and memory management/protect as standard features on two boards; a comparably equipped 11/35 costs about 30% more and requires nine boards.

What DEC has given up to achieve this cost reduction is performance. The instruction execution times for the 11/34 are 20 to 40% *slower* than the 11/35. While the 11/34 may use either core or MOS memory, it is interesting to note that MOS memory speeds are slower than core. The 21MX should not suffer in benchmarks against the 11/34. Although "Factory Run" benchmark may use the floating point, it is not offered for sale on the 11/34 May '76 Price List. We hear that it will not be introduced until 1977.

Other standard features of the 11/34 include ROM loaders, microprogrammed diagnostics that reportedly test 90% of all CPU functions and 128K of memory, and something called a "virtual console." The virtual console is a micro-routine that allows a terminal to perform the same function as a full front panel. A full front panel is available as an option.

DEC has improved their packaging density with the 11/34. It will be available in either 5 inch, 10 inch, or 21 inch chassis. Memory capacity is roughly 28K, 60K, and 124K, respectively, depending on the number of I/O slots required. DEC is finally getting close to the 21MX in mainframe capacity; we still have the edge with 128K in 12 inches.

Operating system support includes RT-11, RSX-11S, and RSX-11M. Note that floating point routines must run in software at present.

DEC also has packaged the 11/34 into a "DISComputer" called the 11T34. It includes 32K of memory, a DECwriter, and two of their RK05 disc drives for total disc storage of 5 Mbytes. The 11T34 is priced at $30,900. A similar MX/65 goes for $26,900 (not including a terminal), and has the 11T34 beat in CPU *and* disc performance as well as disc capacity. Our MX/65 is in its strongest position ever, with 7905 problems ironed out, good racking solutions for OEM's, excellent availability, DOS support, and a great new sales tool in *Mike Manley's* benchmark (see Data Systems Newsletter, May 1). And don't forget the improved performance of our new Fortran libraries. We have the lead in systems computers and DISComputers. Lets run with it!

Below is the 11/34 price list.

Model	Description	Price	Monthly Maintenance
11/34 DC	5-1/4 inch chassis, 16K MOS memory	$ 9,290	73
LC	5-1/4 inch chassis, 32K MOS	11,790	109
HC	5-1/4 inch, 16K Core	9,290	62
MC	5-1/4 inch, 32K Core	11,790	87
DH	10-1/4 inch, 16K MOS	10,490	77
LH	10-1/4 inch, 32K MOS	12,990	113
HH	10-1/4 inch, 16K Core	10,490	66
MH	10-1/4 inch, 32K Core	12,990	91
MS11-FP	8K MOS Memory	1,700	22
MS11-JP	16K MOS Memory	3,100	36
MS11-CP	8K Core Memory	2,000	22
MS11-DP	16K Core Memory	3,100	25
DL11-W	Line interface/frequency clock	700	—
K411-LB	Programmer's front panel	600	—
H755-A	MOS Battery Backup	500	—
11T34-BB	32K Core CPU, 2 RK-05A, DECwriter	30,900	241

DATA TERMINALS NEWSLETTER

Division News

"CONSIDER THE ONESY-TWOSY SALES"

by: Carl Flock

I plead with each of you, consider the onesy-twosy sale of 264X's. "What?" Yes, I ask — I PLEAD with you to consider the onesy-twosy sales.

"But," you say, "I don't have time to mess around with selling one or two terminals." My friends (and others), the facts show that you and I can't afford NOT to spend time selling terminals onesy-twosy. Here is what we have found after 1-1/2 years of selling terminals:

1) The onesy-twosy sale is really, usually a sale of 3 terminals the first year $12,000);

2) The onesy-twosy sale has lead to most of the "Big Deal" — five or greater sales ($20,000+);

3) The onesy-twosy sale has, in some situations, led to the "40+" sales ($160,000+);

4) The attempt at a onesy-twosy sale has sold large HP systems — (i.e., HP 3000's, etc.) ($300,000+);

5) For many people, the terminal is all they see or want to see of their computer system. Day after day they see nothing but HP on their terminal until HP becomes not only a terminal but, in fact, the system.

Why do I plead with you? We have spent hundreds of thousands of dollars on ads to generate thousands upon thousands of leads. And how have these leads normally been used — to fill 258 trash cans! How much time does it take to make a 5-minute qualifying phone call? Would you spend one hour a week (12 calls) qualifying Data Terminal leads? How much time does it take for an office to have a 2-hour demo once a week, or once a month, for qualified onesy-twosy prospects? Will you dedicate a Staff Engineer and/or a Field Engineer for two hours a week or month to demo terminals?

"OK, OK — I'd take the time to sell terminals, but I still can't because I'd have to support them" Friends, never has a product been so well documented. Never before has a training course been supplied free with every terminal (2644). Never has your factory sales support been so knowledgeable. If you will only qualify the application and sell standard products, the support is minimal. Selling futures or far-out applications of the terminal to the "40+" accounts is dangerous, but to onesy-twosy accounts it's a disaster!

Here is what I personally promise you about support. If you sell or rent onesy-twosy terminals as standard products to standard applications and don't have the local support for that sale, I personally will help support the customer! If the problem is too complex for you, have the customer call me or have me call the customer!

In This Issue...

"THE ONESY-TWOSY SALESPERSON OF THE YEAR CONTEST"

by: Rich Ferguson

NOW HEAR THIS! NOW HEAR THIS!

Data Terminals Division challenges all of you to become the Onesy-Twosy Salesperson of the Year! This is DTD's first annual Onesy-Twosy Salesperson of the Year Contest. An outstanding prize will be awarded to the salesperson who has the most separate onesy-twosy terminal sales based on those orders received by Data Terminals Divison from June 1 through August 31.

If you want to enter, fill out the attached coupon with the appropriate information indicating to whom and when your sales were made. This data will be verified by Data Terminals' contest judges and the results tabulated by "Prize-Wodderhaus, Inc."

I'll bet you are all wondering what the prize is. Well, ... I'll give you a hint. It's not an all expense paid trip to the factory. It is something that a deserving salesperson will cherish forever! In case of a tie, appropriate adjustments may be made. In any event, the decision of the judges is final. The winner will be loudly announced in the September 15 edition of the newsletter.

Data Terminals Division appreciates all of your efforts; now let's see who is the most aggressive salesperson out there!

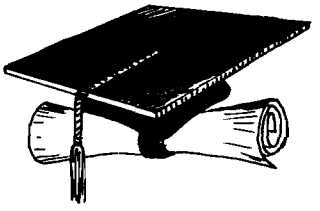
Salesperson: _____

Customer	Sales Order No.	Date Transm.	Qty (1 or 2)

ale $ucce$$e$

THIS MONTH'S DTD HONOR ROLL

by Rich Ferguson



DTD HONOR ROLL

SALESPERSON	CUSTOMER	No. of Units
Doug McArthur	Furman University	6
Jack Clark	Southern Missionary College	5
Bill Hitchcock	Hughes Aircraft	6
Dave Miller	Taylor Produce & Storage Co.	7
Mike Naughton	Eli Lilly & Co.	6
Felix Balmaz	Ft. Meade, Md.	24
Jack Lazenga	Westinghouse	5
Jack Lazenga	Dept. of Public Instruction	6
John Malone	MSTI	41
Dale Sutton	Franklin Institute Rockville	6
Bill Payne	General Computer Corp.	10
Ange Colucci	Becton, Dickinson & Co.	8
Marya Daniels	Manhattan College	7
John Arserio	Western Elec.	5

Congratulations to those top performers who have made this month's Data Terminals Division Honor Roll. For those salespersons who are new to this illustrious list, they will be receiving their very own Bicentennial Pen. For those of you who are not new to this list, you already have yours; for those of you who are neither of the above, we can help you; for those of you who are all of the above, you are obviously Bionic and have your reward! Thanks again for your support!

Product News

STILL THE MOST ASKED QUESTION!

by Dwayne Murray

Most product questions we receive on a daily basis are centered around how to interface the 2644 tapes to a computer system. The following article is reprinted because of this demand! It gives details on use of the 2644 with HP systems but is applicable to any other computer.

HOW DO I USE THE TAPE CARTRIDGES WITH A COMPUTER?

The 2644 Mini DataStation incorporates all the features of the 2640 plus some additional ones which make it extremely attractive as a data entry terminal, time-share terminal, or system console. The addition of two tape units as an integral

part of the 2644 permits off-line storage of 110 kilobytes per tape cartridge. The tape units can be controlled by a computer program via escape sequences or directly from the keyboard.

The versatility of the 2644 is demonstrated by resuming operations off-line should the computer system go "down". Your input data can be stored on the tape cartridge off-line. Then, when the system comes "up", data stored on the tape cartridges then can be entered into the computer system. Also, you can reduce computer connect time by entering data initially off-line, then loading the data into the computer from the tape cartridge.

DATA ENTRY

To enter data from a tape cartridge into a computer system, simply press the READ key. (The computer system must issue a DC1 to enable transmission of each record.)

For example, suppose you are using the Text Editor for the *HP 3000*, and you want to create a text file for the data you have on the tape cartridge. You have responded "add" to the "/" prompt. The Editor responds with line number 1. Now all you have to do is press READ. The data contained on the tape cartridge appears on the display following each line number and is sent simultaneously to the computer system. When end-of-data is reached, the reading of data stops and then you can type // to indicate end of data to the system. (You can embed the Editor commands on the tape cartridge to reduce your interaction with the system. Actually, you could embed *all* MPE and Editor commands from log-on to log-off; however you must anticipate the system prompts to prevent data being read as commands and vice versa.)

EXAMPLE: (You may try this if you like.)

1. Record the following on tape cartridge off-line, line-by-line:

   <CR>

   HELLO DWAYNE.HARDPUB;TERM=10
   (Use your own log-on sequence in this case.)
   EDITOR
   ADD
   (ADD YOUR OWN TEXT HERE, LINE-BY-LINE)
   //
   KEEP <FILE NAME>
   END
   YES
   BYE

2. Put your 2644 on-line to your computer system, and make sure that the AUTO LF key is up. Insert the tape cartridge into the left (or right) tape slot, press the GOLD key and select FROM: L. TAPE (or R. TAPE),TO: DISPLAY, and press READ. Your tape cartridge will log on, select the Editor, enter your text into the work file, store the file, and log off.

A word of caution: Using a *number* of terminals at full speed in this way could cause problems in operating your HP 3000 System.

Entering BASIC programs into the *2000 Access* system from the tape cartridge can be accomplished by the same method — however, you must enter the TAPE command from the terminal keyboard prior to pressing READ key. This changes the *2000 Access* Systems handshake protocol so that the DC1 (X-ON's) are sent to the terminal. (The terminal requires DC1's to send data to the computer system.)

For example, suppose that you want to enter your program from a tape cartridge, and store it in a file.

EXAMPLE:

1. Record your program on the tape cartridge line-by line:

   10 FILES MSTR, BUFF
   20 DIM A$(255), B$(60), C$(5)
   30 IF END#1 then 300

   ETC.

2. Put your 2644 on-line to your *2000 Access* system, make sure that the AUTO LF key is down, and log on. Insert the tape cartridge into the left (or right) tape slot, press the GOLD key, select FROM: L. TAPE (or R. TAPE), TO: DISPLAY, enter the TAPE command, and press READ. Your program will be entered into the system line-by-line. You need only to enter commands to name your program, create the files used by your program, and save it.

DATA RETRIEVAL

Data retrieval from a computer system directly to a tape cartridge can be accomplished by simply pressing RECORD.

For example, suppose you are using the *HP 3000* Text Editor, and you want to store a text file on your tape cartridge. You have the file copied into the work area and are ready to respond the "/" prompt with LIST ALL or LIST QALL.

1. Assign devices by pressing GOLD, FROM: DISPLAY, TO: R. TAPE.

2. Insert your tape cartridge into the right tape slot.

3. Type LIST ALL OR LIST QALL, then press RETURN. (Be prepared to press RECORD immediately after pressing RETURN to avoid missing data.) The data will not be displayed on the display, therefore, the only indication you will have that the data is being recorded is the blinking green indicator to the left of the tape slot. When the blinking stops, the end of the file has been reached.

For retrieving data from the *2000 Access* system, the same method is used, (simply pressing the RECORD key after entering the LIST command). Recording data from PRINT statements in an executing program can be accomplished by having your program prompt you to press RECORD immediately after pressing RETURN to the prompt. The program segment required to accomplish this could be:

```
90 PRINT "PRESS 'RECORD' AFTER PRESSING
   'RETURN' "
100 READ #1;A$      Read the first record you want
                    to record
110 PRINT A$        Print the record on the tape
                    cartridge
120 GOTO 100        Read the next record
```

CONTROLLING BY ESCAPE SEQUENCES

Controlling the tape units by escape sequences on the 2000 Access and HP 3000 systems is a simple process also. The escape codes required are found in the 2644A Owner's Manual (HP part no. 02644-90001). A typical program segment for a *data entry* from the left tape cartridge is as follows:

```
INPUT
    10 FILES DATA
    20 DIM A$(80)
    30 PRINT "27"&p1s0R"      <Read a record from the
                               tape cartridge>
    40 LINPUT A$              <Transfer the record to the
                               computer>
    50 IF A$="30 THEN 80      <Check the file mark on
                               tape>
    60 PRINT #1;A$;END        <Write the record into a
                               file>
    70 GOTO 30                <Read next record>
    80 END                    Note: Decimal 27 ("27) is
                                    equivalent to ASCII
                                    code for ESCape.
                                    Decimal 30 ("30) is
                                    equivalent to ASCII
                                    code for RS (Record
                                    Separator).
```

A typical program segment for a *data retrieval* to a tape cartridge is as follows:

```
OUTPUT
    10 FILES DATA
    20 DIM A$[80]
    30 READ #1;A$             <Read a record from the
                               file>
    40 PRINT                  <Write the record on the tape
       "27"&p2dW"=A$          cartridge>
    50 GOTO 30                <Read next record>
```

More sophisticated programs can be coded to control the tape units using other escape sequences. You can code such things as:

1. Rewinding
2. Space n records
3. Space n files
4. Locate end-of-data mark
5. Condition tape
6. Record file mark
7. Record end-of-data mark
8. Test cartridge tape unit
9. Skip n records immediately without recording end-of-data mark
10. Transmit next record
11. Retransmit last record only
12. Send byte count before sending next record
13. Send byte count before sending next record read
14. Copying records, files, or all data from one device to another.

Instructions for the above coding as well as other features of the 2644 can be found in the 2644A Mini DataStation Owner's Manual, part no. 02644-90001.

115 VAC 400 Hz

by: Eric Grandjean

You 400 Hertz fans will be glad to hear that the 2640-44 Terminals are working at 400 cycles power. Talking about fans, please keep in mind that only the 2640A without I/O extender does not have any.

All others; namely, the 2640A with I/O extender, the 2640C and the 2644A's have a fan which must be replaced by a 400 Hz version. DTD will be glad to quote you a special to take care of that small detail.

NOTE: 400 Hz operation is not included in our Warranty Statement, and therefore, may void it. Please contact factory if you have any questions.

"PARITYECTOMY"

by: Eric Grandjean

If a problem of receive parity checking prevents a terminal from operating on a non-HP system, don't worry about it. We have a method to disable the parity error line even though the terminal will still be capable of sending even or odd parity. For details, please send us a TWX. This method requires that we do a little surgery on one of our boards, and that's why we are not really too anxious to publish details. Future designs will provide complete flexibility.

Sales Aids

"ONESY-TWOSY QUICK DELIVERY PROGRAM"

by: Rich Ferguson

To show how important we feel the onesy-twosy sale is to the success of not only our division but your sales efforts as well, Data Terminals Division is instituting a quick delivery program that will speed the terminals to the customer in much faster time than our standard availability would allow. We think this will aid immeasurably to your success in those competitive situations where quick response with the state-of-the-art product can land the sale.

After May 1, orders for one or two terminals with appropriate special instructions on the order (this can be a 2640 and a 44) will receive a 3-week availability ARO. The order must be for quantity 1 or 2 only. An order for 3 terminals will receive standard availability. Because of the quick response, no APO's will be accepted for orders under this program. Existing orders in-house will continue with the acknowledge date that has previously been given. This goes to show that Data Terminals really delivers! If you have any questions, call *Fran Codispoti* at DTD Order Processing.

SPECIALS, SPECIALS!

by: Eric Grandjean

A reminder that we are always ready to respond to your requests for specials. The cost of specials, of course, decreases with the quantity of terminals; i.e., for pricing reasons, special ROM's are usually purchased in quantities of 100 at a time from vendors. We can, therefore, pass the savings on to you, and that is the main reason we would like to avoid quoting specials for quantities less than 50.

Please submit your requests for specials to the Sales Development representative responsible for your area. We hope that from time-to-time we will be able to publish a list of "standard specials." Price for standard specials will have to be requested each time, since our quotations are valid only for one month.

Service News

2640A INSTALLATION MANUAL REVISED

by: Ed Churka

The new and better 2640A Installation and Service Manual is now available. Order part number 02640-90012, May 1976 Printing. The May, 1976 printing covers more accessories and replaces earlier manual trouble spots.

DATA SYSTEMS NEWSLETTER

Address inquiries and comments to: Joey McHugh – Editor
Sales Development – Building 42L
HEWLETT - PACKARD DATA SYSTEMS
11000 Wolfe Road, Cupertino, California 95014 U.S.A.
Garrett Prescott – Art Editor Joe Schoendorf – Technical Editor