

DATA SYSTEMS NEWSLETTER

HEWLETT  PACKARD

Vol. 3, No. 8
Mar 1, 1976

For HP Field Sales Personnel



Cashing in on OEM!

Ed Wilson Flies Away
With PIPER Orders!



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*Company
Private*

Union Pacific Railroad
on Track With HP!

Sale\$ Succe\$\$\$e\$

A.C.'s BEEN WORKIN' ON THE RAILROAD

By: Hugh Amick

An old song, but a \$weet one. A.C. Wood (FE-Kansas City) has closed and transmitted a \$50K 9603A system order for Union Pacific Railroad. The 9603A with 7900A will be installed in a rolling test lab used to measure and evaluate engine performance, braking, heat transfer, road bed characteristics, etc. Union Pacific certainly wasn't "railroaded" into a vendor choice decision. A.C. and U.P. set up a 400 mile trial run from Omaha to North Platt, Nebraska with a 2108A, 7900A disc, and 2640A. The system wasn't coddled either, stacking tests, 6 mph coupling bumps, 5 G shock pulse, and no disc errors! This is at least the fourth such railroad application for 9600's that we know of.

Good selling A.C.! Looking forward to helping you keep Union Pacific on the right track!



A.C. Wood

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H.P. FLIES WITH PIPER!

By: Doug Hanson

Piper Aircraft's Lakeland, Florida Division has ordered a RTE-C System to be installed in their new turbo-prop aircraft to be built in the Sunshine State.

The system will monitor 118 analog channels of various data, perform limit checks, and then log it on mag tape to be analyzed after the flight.

By using this method, Piper expects to gain FAA Flight Certification much faster than by using the old manual techniques.

The \$65K system is scheduled for delivery in early April, and Piper already has plans for two additional systems.

Congratulations to Ed Wilson, Orlando, for winning out over tough competition from DEC and Data General.



Ed Wilson

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OEM CORNER

ANNOUNCING — THE OEM NEWSLETTER

By: Stu Kagan

Did you ever wish that the factory would automatically keep your OEM customer informed of new products, contract changes, and other goodies pertinent to the OEM? Have you ever spent a considerable amount of time and effort trying to convince a potential OEM that HP is sincerely interested in him and his business?

Well then, worry no more! Beginning in mid-March, the monthly DSD OEM Newsletter will be sent to all OEM customers, field engineers, and sales offices (bulk). Feel free to use these bulk mailings as pre-sales tools in closing those new accounts.

However, we can't do it alone. We need your inputs as to the kind of articles that YOU need to help your customers best. Please direct them to me by phone, mail, or carrier pigeon. In addition, a list of key contacts at each OEM's location is being compiled so that the proper people receive a copy of the newsletter. You can assist us by promptly filling out and returning the questionnaires sent out in late February.

We're excited about helping you with your OEM's — both large and small. The newsletter should be an excellent method of providing our customers with improved and timely information. Let's hear from you as to the kind of things that they want to hear, and **SELL OEM!**

HEWLETT PACKARD

SYNERGISTIC CORPORATION

By: Bill Burger

Hats off to Rick Zagorski/King of Prussia for signing up a new OEM — Synergistics Corp for 10 functional units. Their initial plans call for six 21MX systems and one 3000 Model 50CX. Synergistics is a systems house specializing in commercial turn-key systems. They are looking forward to closing their first accounts with HP gear in the near future.

Key reasons for selecting HP over DEC, Varian and Data General included: our one-vendor solution, vendor integrity, and extensive international support.

Congratulations Rick, and we'll be looking forward to seeing those orders start rolling in. **Sell OEM!**



Rick Zagorski

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OEMs ARE PRODUCING

By: *Stu Kagan*

Ken Ferguson's guys aren't letting any grass grow under their feet. With only the first quarter of the fiscal year behind them, *Jack Oliphant* and *Dave Head* have turned in well over a million dollars of OEM orders. Needless to say, it couldn't have happened without the help of *Bob Funk* (SE) and *Ashton Lafargue* (Staff).

That's just fantastic! Let's see if the crew in Richardson can come up with another 3 million in OEM bucks before the year's out. But who wants to be 250% of quota?

Congratulations you guys!



Jack Oliphant



Dave Head



Bob Funk



Ashton Lafargue

It pays to sell OEM!!

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Product News

VERSATEC INTERFACE

By: *Dave Bunch*

Several questions have reached us on the compatibility of our systems with Versatec plotter/printers.

In answer to these inquiries, a Versatec Unit, controller and software, is available to HP 21XX DOS, RTE II and RTE III systems. This software/controller unit is supported by Versatec, not HP, and they *claim* many successful installations. The Unit does not currently hardware support the DCPC feature.

The HP competitive edge in a Versatec involved sale is that with our version of the controller Versatec charges \$300 less than that for controllers to our competitors.

This further illustrates in real terms HP *ease of interface*.

DSD CURRENT LITERATURE LIST

By: *Ted Proske*



It's been a long wait, since April 1975, but we've finally updated the Data Systems Current Literature List, which follows. All new items are listed in bold type. Revised items have their date in bold type. Also, some items like the OEM Computer Products brochure are listed in more than one place, reflecting the diverse product coverage they provide. We plan to publish the latest current literature list in the Newsletter every time there are more than five new or revised items. The list is also being published separately, as literature request number 5952-1680, which will be distributed to literature clerks and will also be available through the literature depot.

DSD CURRENT LITERATURE LIST

STOCK NO.	MODEL NO.		DESCRIPTION	PUB. DATE
5952- 21MX COMPUTER				
4580	21MX	BR	OEM Computer Products	5/75
5553	21MX	PL	OEM/End User Computer Products Prices	7/75
4579	21MX	BR	HP 21MX Computer Series	5/75
4683	21MX	DB	HP 21MX Processors	11/75
5513	21MX	SS	HP 21MX DISComputers	1/76
4529	2123A	SS	2123A OEM Disc-Based System	10/73
2100 COMPUTER				
4580	2100	BR	OEM Computer Products	5/75
5553	2100	PL	OEM/End User Computer Products Prices	7/75
4683	2100A	DB	HP 21MX Processors	11/75
DISCS AND DISC SUBSYSTEMS				
4580	7900A & 7901A	BR	OEM Computer Products	5/75
5553	2100	PL	OEM/End User Computer Products Prices	7/75
5434	7900A	DS	Model 7900A Disc Drive	3/72
5446	7900A & 7901A	IG	Model 7900A and 7901A Disc Drives Interface Guide	7/73
4689	12960A	SS	12960A Cartridge Disc Subsystem (4.9M byte)	2/75
5512	12962A	SS	12962A Cartridge Disc Subsystem (14.7M byte)	3/75
4398	12965A	DS	12965A Disc File Subsystem (23M byte)	5/73
4687	DISCU/15	IG	OEM Interfacing Guide for DISCU/15	8/75
PUNCHED TAPE I/O SUBSYSTEMS				
4616	12925A	SS	12925A High-Speed Punched Tape Reader Subsystem	9/74
4617	12926A	SS	12926A Tape Punch Subsystem	8/74
4344	12927A	DS	12927A High Speed Tape Punch Subsystem	5/73
INSTRUMENTATION SUBSYSTEMS				
1681	2313B	SS	2313B Analog I/O Subsystem	3/75
1624	2320A	SS	2320A IDVM Analog-Digital Subsystem	3/75
1625	2323A	SS	2323A IDVM Analog-Digital Subsystem	3/75
1677	91063A	SS	91063A Digital I/O Subsystem	3/75
5952- 2100 SERIES INTERFACE KITS				
4648	12539C	SS	12539C Time Base Generator	11/74
4367	12551B	DS	12551B 16-Bit Relay Register	11/70
4320	12554A/12597A	DS	Duplex Registers	10/72
5509	12555B	SS	12555B Digital-to-Analog Converter	2/75
1606	12556B	SS	12556B 40-Bit (output) Register	2/75
5510	12566B	SS	12566B Microcircuit Interface	3/75
1507	12604B	SS	12604B Data Source Interface	2/75

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

STOCK NO.	MODEL NO.	DESCRIPTION	PUB. DATE
5529	12587B/ 12618A/ 12589A/ 12531C/D	DS Data Communications Interfaces	4/75
4476	12930A	DS 12930A Universal Interface	10/70
1668	91200B	T/BR 91200B TV Interface Kit	1/76

M200 SERIES INFORMATION MANAGEMENT SYSTEMS

4527	24307A	SS 24307A DOS-III System	4/74
4642	24342A	SS 24342B Terminal Control System	10/74
4530	24376B	SS 24376B IMAGE/2000	5/74
4535	24380A	SS 24380A HP RJE Processor	1/74
4637	24386A	SS 24386A ON TOP Processor	12/74
4570	M230	AB Developing and Implementing an Order Entry Application	4/74
4571	M260	AB Implementing and Using a Data Base	4/74
4633	12889A	AB Multiprocessor Configurations – Hardwired Serial Interface	8/74

9600 SERIES MEASUREMENT, COMPUTATION, AND NETWORKING SYSTEMS

1651	9600	BR 9600 Systems and Networks	6/75
1652	9600	DB 9600 Technical Data	11/75
1653	9600	PL 9600 Price/Configuration Guide	11/75
1645	91700	BR Distributed Systems	8/75
1657	9602A	DS 9602A Scientific Measurement and Control System	11/74
1659	9603A/04A	DS 9603A/04A Scientific Measurement and Control System	11/74
1661	9611A	DS 9611A Industrial Measurement and Control System	11/74
4657	9640A	BR 9640A Real-Time Multiprogramming and Computational System	1/75
1663	9700A	DS 9700A Distributed Systems Central	11/74
1655	9603R	SS 9603R Remote Scientific Measurement and Control Station	4/75
1656	9611R	SS 9611R Remote Industrial Measurement and Control Station	4/75
1687	2300B & 92101A	BR Real-Time BASIC (Memory-Based and Disc-Based) Systems	1/76
1694	2300C & 92001A	BR RTE-C and RTE-II Real-Time Executive Systems	7/75
1641	92002A	DS 92002A Batch-Spool Monitor	9/74
1689	92060A	BR Real-Time Executive III	2/76
4568	20855A	SS 20855A BCS/2000 Software	6/74

5952- CABINETS

1626	29400B	SS 29400B Cabinets	11/75
4541	2860	SS 2860B,C,D,E Cabinets	4/74
4609	2860	PL Cabinet Pricing	6/74

APPLICATION NOTES

4404	2120A	Inventory Control (AN145-2)	10/71
4405	2100A	Textile Processing (AN145-3)	11/71
4410	2100A	Automotive Production (AN145-8)	4/72
4412	2100A	Satellite Navigation (AN145-10)	6/72
4418	2120A	Garment Manufacturing (AN145-16)	1/73
4420	2120A	Weather Forecasting (AN145-18)	2/73
4421	2120A	Financial Analysis (AN145-19)	5/73
4422	2100A	Wholesale Distribution (AN145-20)	5/73
4604	2100A	Data Entry and Communications (AN145-25)	5/74
1590	9600	Closed Loop Production Testing (AN135-4)	4/71
1597	9600	Data Acquisition and Analysis at Sea (AN135-7)	6/71
1621	9600	Sugar Refinery Process Control (AN135-14)	1/72
1693	9600	Communications Satellite Launch and Attitude Control (AN135-13)	9/73
1696	9600E	Production Testing (AN135-22)	9/73
1697	9600E	Spacecraft (Satellite) Testing (AN135-24)	10/73

REFERENCE LITERATURE

5951-3028		2100 Computer Microprogramming Guide	11/71
5950-9226		HP 2100 Program Catalog	8/73
5951-4431		Microprogramming Reference Booklet	9/72

Literature Identifying Abbreviations

AB	= Application Brief
BR	= Brochure
DB	= Data Book
DS	= Data Sheet (older format)
IG	= Interfacing Guide
PL	= Price List or Price/Configuration Guide
SS	= Spec Sheet (current data sheet format)
T/BR	= Technical Brochure

NOTE: Items new since last Data Systems Division Current Literature List are all in bold type. Items revised are identified by publication dates in bold type.

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CORRECTION

There is an error in the 9600 Configuration Guide. The maintenance prices for AXX options containing the 12962A subsystem are in error. The microfiche prices, however, are correct. We will update the configuring guide as soon as current supply runs out.

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7905A IN NON-HP CABINETS

By: Vijay Kapoor

Some of you have asked for guidelines on racking 7905's in non-HP cabinets. Eventually we plan to have such racking considerations available as a published document. In the interim please contact me for primary design guidelines for racking 7905's in non-HP cabinets. Basically these guidelines address the direction and volume of airflow and temperature specs to assure interchangeability. (Just polish your diagram drawing skills before you receive instructions over the phone.)

In the meantime, despite our recent problems of racking it, the 7905 is fulfilling its promise of being a solid product. Field Warranty data continues to point the 7905 toward a reliability reputation no less than the legendary 7900. Also, next time you are in snowy Cupertino, be sure to come by and watch Tom Ashburn and his manufacturing wizzards turn out discs and controllers like a smooth machine.

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CREDIT FOR 4K STACK ELIMINATED 1 MAY 1976

By: LeRoy Nelson

Effective May 1 the Corporate Price List will be changed to eliminate credit for 4K memory modules. This reflects a reduced demand for 4K stacks from HP. Since the credit for return of a 4K core module is being discontinued you will always want to expand from 4K to 12K words of memory by using the 12885A-002.

All orders for 12885A 8K memory expansion placed before May 1 will be eligible for the 4K credit as it exists today; after that date, the credit will no longer be issued.

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TERMINALS AS 96XX CONSOLES

By: *Hugh Amick*

To reiterate our position on 96XX consoles, an "R" option must be ordered with the system or option #444 specified to delete the system console. Option #444 at \$400 covers our cost of pulling a terminal out of our inventory, integrating the system, then placing the terminal back in our inventory and shipping the system without a console. The 2644A is flatly *NOT* supported as the system console in 96XX systems. However, the 2644A can be used as a terminal with the 12966A and the newly released DVR-05 (DVR-05-92001-16027, DVR-05 Manual-92001-90015).

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Sales Aids

GETTING RELIABILITY DATA TO MAKE A SALE

By: *Vijay Kapoor*

Questions such as "How do I convince my prospect that our disc is tough enough for his application?" or "My prospect is asking for MTBF data on the I/O extender. What do I tell him?" are frequently asked by you. There are two aspects to getting product reliability data and using it to make a sale.

(1) *Getting cold facts on product MTBF and MTTR*

As you know, we do not generally publish MTBF figures in our product literature, and there are good reasons for it. Natural laws dictate that MTBF improves continuously with the accumulation of product operating time. Also, simplified statements like "4000 hours MTBF" without accompanying notes and assumptions have a chance of misrepresenting the product or to be so conservative as to hinder your sales effort rather than help it.

But this doesn't mean that MTBF/MTTR figures are not available to you or to your prospects. We will be glad to respond to individual requests. Those of you who have previously asked for MTBF figures know how useful it is to have *Jim Gillette's* (QA Dept.) format for specific MTBF/MTTR data (both expected as well as actual data are included). So whether you want individual subsystem MTBF's or to tell someone how these relate as a system, call your local Sales Development contact. He would be able to obtain the detailed and up-to-date product reliability information through the appropriate product manager. For those customers that want to discuss the detailed background to the reliability data, Sales Development can have *Jim Gillette* contact your customer's reliability engineers directly.

(2) *Building prospect's confidence*

MTBF's may help but may not be enough to make your prospects' mind up about the general suitability of our products for his unique environment. Of course nothing

is as important as your persuasive sales skills, but the next best thing is usually customer referral. That's where we need your help to help you back. We hope you found the new MX ad on Magnavox (this OEM asked us to be tough) or the article by *Bob Daniel* on the tough uses of HP Discs (Vol. 3, No. 7) useful. Keep up the information flow and we hope we can provide that key reference that will help you close.

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Competition

HONEYWELL "LEVEL 6" MINI-COMPUTERS

By: *Dave Carver*

Honeywell has ventured back into the minicomputer business with the introduction of the "Level 6" series of minicomputers. There are three models in the series: 6/06, 6/34 and 6/36. All three apparently share the same architecture.

The 6/06 is targeted as a low-priced extension to Honeywell's older System 700 computers. The 6/06 runs with System 700 software, but is not I/O compatible. To achieve "I/O compatibility," the 6/06 user must buy an interface to an I/O extender which houses System 700 peripheral controllers. The 6/06 appears to be targeted exclusively towards present System 700 users.

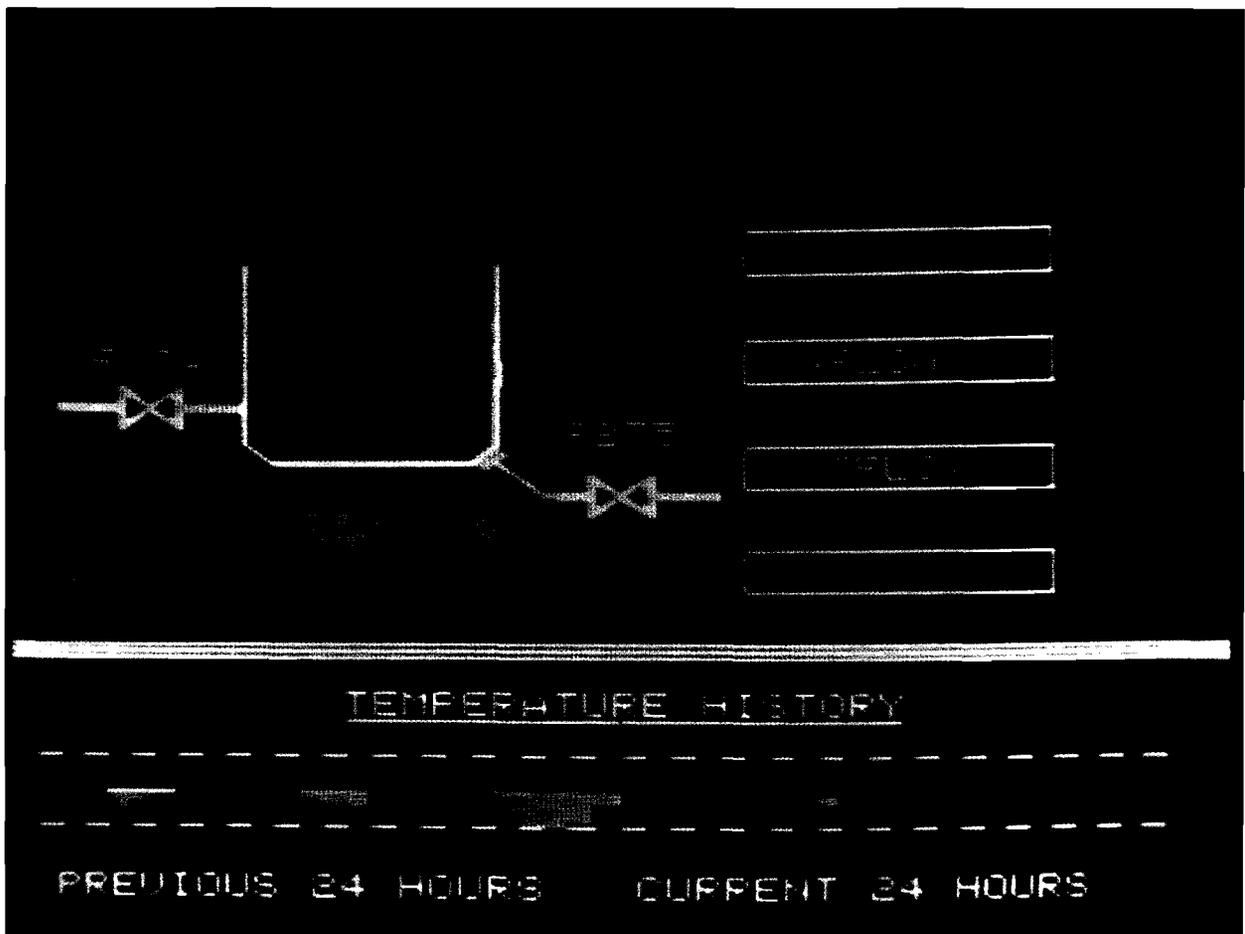
The 6/34 and 6/36 are aimed at the general-purpose minicomputer market, and are the two models you're most likely to see in competitive situations. The 6/34 is the stripped-down version, with minimum front panel.

CPU ARCHITECTURE

The 6/34 and 6/36 are 16-bit machines with an architecture very similar to other general purpose minicomputers. There is one central bus (the "Megabus") that appears similar to DEC's UNIBUS. Honeywell says (correctly) that the bandwidth is three Megawords per second, but don't confuse this spec with the actual DMA rate, which is only 500K words per second. Hardware registers include two accumulators (like the 21MX and NOVA machines), index registers a stack pointer for stack instructions, and the usual complement of status registers, program counters, etc. The interrupt scheme is multilevel vectored, like the 21MX, and provides 64 priority levels. Standard features include a ROM bootstrap loader, real-time clock, and firmware diagnostics.

MEMORY AND MEMORY ADDRESSING

The 6/34 and 6/36 minis use semiconductor memory with byte parity standard. Six-bit error correction is available as an option. Up to four 8K word modules can be "piggy-backed" on a PC board, so that up to 32K words can be installed and use up only one mainframe slot. There is a battery backup system available which is similar to our Power Fail Recovery System.



NEW, LOWER PRICED TV INTERFACE KIT!

By Pete Palm

The 91200A interfaced to low cost (\$500) and large screen (19-25") commercial TV monitors!!

The 91200A generated large and multiple size characters!

The 91200A provided vector and area graphics!!

NOW THE 91200B GIVES YOU ALL THIS IN LIVING COLOR!!

NOW THE 91200B GIVES YOU THIS FOR 13% LESS!!

Large screen displays like these can now be easily created with three 91200B cards, the new 3-hood color connector assembly, and the enhanced TV library software.

After six months of experience with the 91200A card we found that once customers saw their displays presented in color they quickly justified the cost of the 3 cards (one for each primary color) and the new color connector.

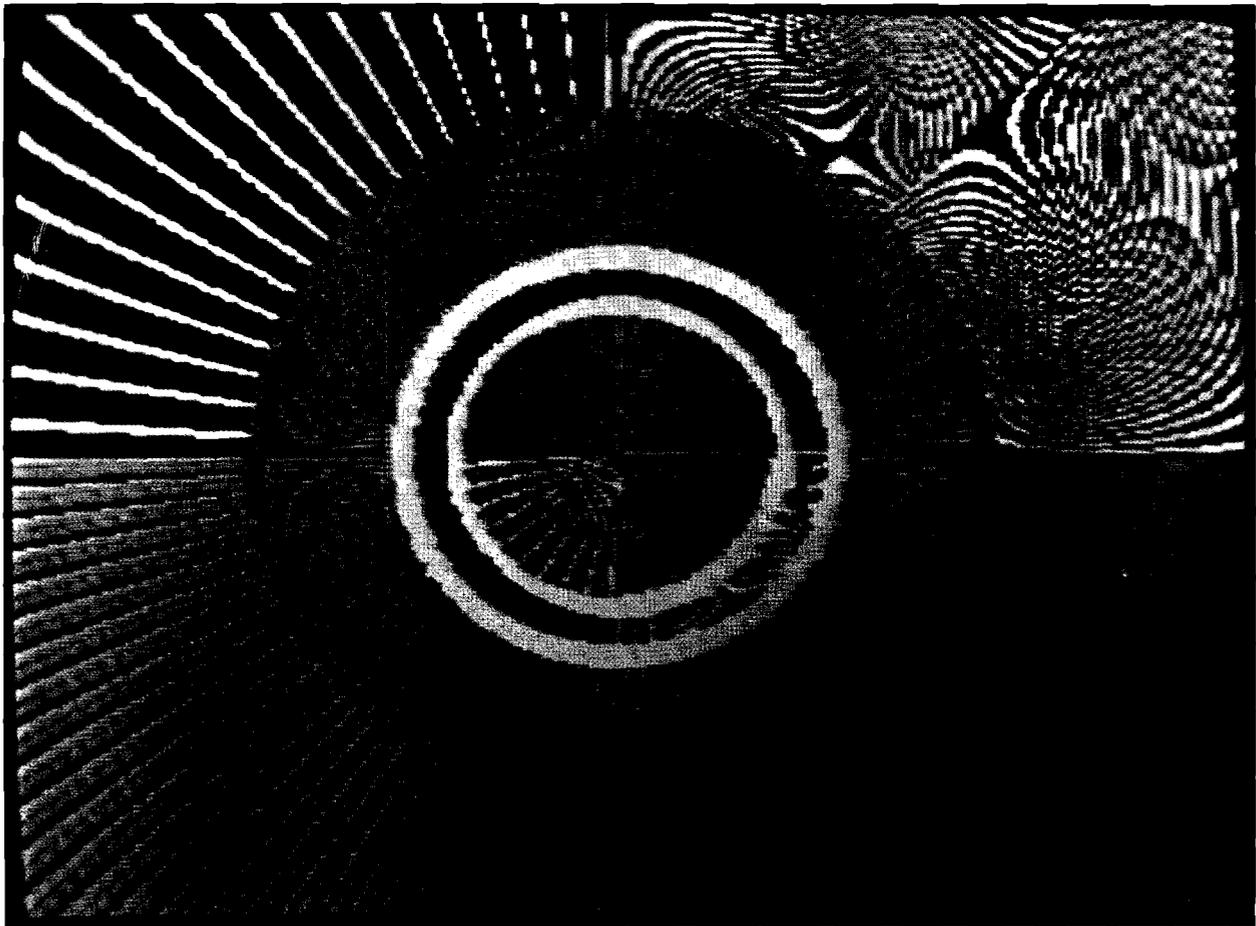
EASIER PROGRAMMING

And to make it easier for them, we made hardware modifications to the 91200 card and software enhancements to the RTE driver to provide a *single* FORTRAN, BASIC or assembly language call to program 2 or 3 cards for gray scale of color. This eliminates separate library or exec calls to multiple cards. No library or driver support for color was previously available with the 91200A.

LOWER PRICE

In addition, lower cost components and cabling have allowed us to reduce the price of the 91200B to \$2600 (U.S.A) for the single 21MX plug-in I/O card, hooded connector and diagnostic. A single hooded connector with 25 foot coaxial cable for black and white TV operation is priced at an additional \$100 (Option 001). The three-hooded connector with associated cables for color or gray scale is priced at \$350 (Option 003).

The user also selects one of three interchangeable crystals which assure synchronization of scan rates for European Standard TV (256 x 256, 50 Hz), American Standard TV (256 x 240, 60 Hz), and non-standard, high-resolution (256 x 256, 60 Hz) modes. These crystals (Options 015, 010, 011 respectively) are "no charge" options.



GRAPHICS LIBRARY

RTE software allows the user to generate variable sized characters, vectors and illuminated areas as well as to erase and update any portion of the picture without having to reenter the entire displayed information. This TV library, an RTE driver, a verification routine and associated user manuals are provided for memory-based RTE-B and RTE-C operating systems and disc-based RTE-II and RTE-III operating systems. All this software is provided free of charge on paper tape as Option 422.

MODERN LSI TECHNOLOGY

Up to 65,536 individually addressable points (in a 256 x 256 dot matrix) are refreshed from the card's 4K RAM memory storage. As a result, no CPU time is needed to refresh the display and CPU memory dedicated to display storage can be reduced. With the HP 91200B TV Interface Kit, as many as five TV monitors can be connected in series and located up to 500 meters (1640 feet) from the computer. Multiple TV card synchronization and video mixing is provided via a 48-pin edge connector. Industry-standard synchronization also enables the user to mix card-generated video with studio or factory video signals to create split-screen effects and composite TV pictures.

NEW LITERATURE

91200B promotional materials include, a 4-color data sheet, a color video memo illustrating demo displays, and a field training memo including existing applications, suggested customer-supplied monitors, competition, available factory demonstrations, and a block diagram of a possible light-pen attachment. This material and the videomemo are being distributed to the field via your sales development contacts or the next new product tour.

NOW AVAILABLE

The 91200B is manufacturing released and will appear on the March 1, 1976 Corporate Price List. It is discountable on the HP OEM and HP enduser agreements and the GSA ADP schedule. First shipments will occur in March, 1976 and availability is 12 weeks. Option R87 on 96XX and 9700A systems has been updated to include the 91200B. R87 includes 91200B-001, 010, 011, 015, 422 for \$2700. No 96XX option will be provided for 3-card color.

THINK Where could your OEM's use this display?

THINK Where could customers use:

- large graphical displays?
- multidimensional presentations?
- multi-location status displays?

THINK Where would this help close a 9600 system order?

THINK You too can be a TV star! One of mine!

The memory addressing scheme is page-oriented around a 1,024 word page size, much like the 21MX. Memory may be addressed to the byte, word, or multiword level. Addressing modes include single word, indexed, and multilevel indirect. Honeywell advertises an addressing capacity of 16 million bytes, based on the fact that the Megabus address width is 24 bits; they do *NOT* yet have any memory management hardware, however, and the capability is useless until the hardware is available. Maximum memory available now is 32K for the 6/34, and 64K for the 6/36.

INSTRUCTION SET

We don't have many details on the Level 6 instruction repertoire as yet. They have 100 basic instructions, and the capability of the set is probably equivalent to the 21MX base set. Level 6 minis do have stack instructions and double precision integer arithmetic, which the MX doesn't have; our floating point instructions should give us an edge in the arithmetic area since Honeywell has none.

PERFORMANCE

We estimate the Level 6 is roughly equivalent to the 21MX in instruction execution speed. Their DMA rate, at 500K words/sec, is slower than the 617K words/sec rate of the 21MX.

PERIPHERALS

Level 6 minis are available with printers, card readers, floppy discs, and CRT's, as well as cartridge disc drives. Up to four low-speed peripheral controllers can be accommodated on a single board. The cartridge disc controller requires one slot, and interfaces up to four 10M byte disc drives with a transfer rate of 312.5K bytes/sec.

For data communications, Honeywell has packaged a microprocessor-based controller upon which up to four "communications pacs" can be piggy-backed, similar to their memory packaging scheme. One controller can accommodate up to four pacs of two lines each. It's not clear what is available today, but Honeywell plans to offer pacs that can control synchronous and asynchronous lines. The maximum throughput of the controller is 160,000 bits per second. Honeywell states that the controller has 4K bytes of RAM storage, of which 3K bytes are available for user-written routines.

SOFTWARE

The only software initially available for the 6/34 and 6/36 is a system called "level 6 GCOS/BES1," a floppy-based multi-tasking executive with program development capability. BES1 supports a FORTRAN compiler and a communications macro assembler. A cartridge disc based system with some real time capability has been announced but won't ship until July.

PRICES

CPU WITH*	6/34	6/36
8K	3990	5600
16K	5680	7200
32K	9060	10400
64K	—	16800

*includes parity, multiply/divide, real time clock, ROM leader

ADD-ON MEMORY (8K)	\$1690
BATTERY BACKUP	\$ 500

SUMMARY

The Level 6 minis appear to have excellent hardware and packaging features. Honeywell has followed trends set by HP and others by their use of semiconductor memory, modular packaging, and "systems features" orientation. They are even making noise about user microprogrammability.

A word of caution — even Honeywell admits that some features that appear in their recent ads are *not* available yet. The 21MX Series offers proven features such as Dynamic Mapping, floating point, and EAU which make it very competitive with the 6/34 and 6/36.

Nonetheless, Honeywell will become an excellent competitor in the OEM business. Their use of stack instructions, absence of floating point instructions, limited DMA rate, and instruction speed seem to target the Level 6 more at real time and data communications applications. Available software and peripheral support are limited at this time, so that we should be able to win where these considerations are key.

HEWLETT-PACKARD

International News

INTERNATIONAL ORDERS

By: *Dave Hancock*

On many occasions, orders for Data Systems equipment from HPSA, Canada or HPIC have restrictions that require a "must ship" date. Restrictions such as Letters-of-Credit, License Expiration windows and/or Import Ship windows have either start-end dates or final dates. Violation of these dates most commonly result in the availability of the funds going immediately to zero or the import permit becoming invalid.

In either case; the order is lost or the customer has to reapply for the LOC or License, which can take anywhere from two to six months. Both require cancelling and re-ordering the system. Many times, Cupertino is not even aware of these re-

strictions until a month before scheduled ship date when a TWX arrives from the sales office saying we must ship in two weeks or else . . . all is lost (due to a date violation).

To avoid this emergency in the future — be sure to utilize the special instruction section of the order form to delineate any form of ship-date requirements and the penalty for non-compliance.

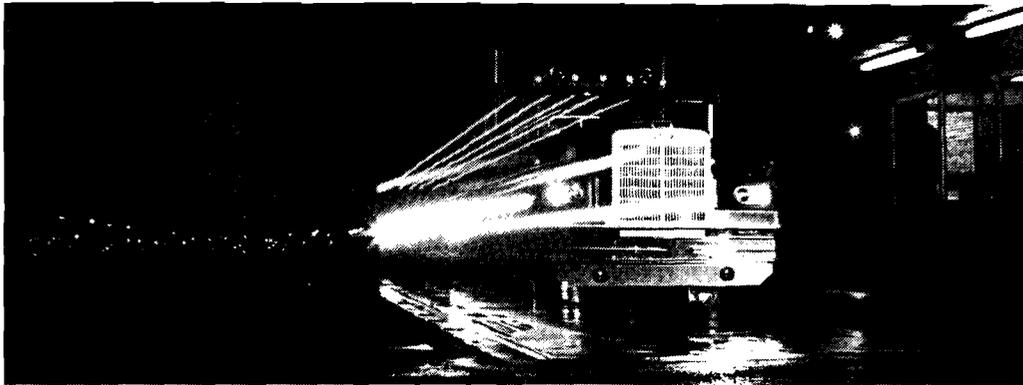
Specifically cover required date — whether it be ship date

from Cupertino, date of arrival at border (customs) or date of installation. The box marked required date only applies to date of shipment from Cupertino to ICON. Also, cover your needs — to be sure — by a TWX to your Sales Development contact.

Given enough notice, we can take steps at the factory to ensure shipment within the required window dates but be sure we are notified. We'll follow on it from there.

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YOU CAN'T MAKE MONEY ON IT UNTIL IT'S GONE.



When the problem is getting the goods out, a Hewlett-Packard 9600MX Measurement and Control System can make the critical difference.

Kaiser Steel had a problem. No more than 150 truck loads could be checked out of the plant each shift. Trucks would sometimes be backed up at the weighing station.

Not anymore. A Hewlett-Packard 9600MX Measurement and Control System has increased throughput substantially.



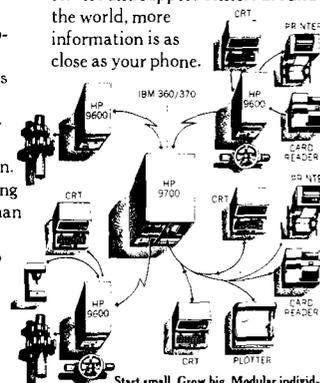
Two men can handle the job, even during peak traffic. The HP minicomputer handles all truck logging functions and automatically calculates and verifies correct load weights. Most trucks can be cleared in a little over twenty seconds. Hard copy summaries of the day's activity are available at the touch of a button.

Easy interface to their existing weighing equipment and the human engineering of the Hewlett-Packard terminal contributed to Kaiser Steel's success in getting more product out of the plant quickly.

Putting the system in was both simple and quick. Equipment was installed in a day and operational in just two weeks.

Perhaps the Hewlett-Packard 9600MX Measurement and Control System can provide equally simple solutions to your problems. Wherever your

responsibilities lie, plant monitoring or control, Q.C., testing or research, don't buy any minicomputer until you've talked to a Hewlett-Packard representative. With 172 sales, service and support centers around the world, more information is as close as your phone.



Start small. Grow big. Modular individual units can be joined to create plant-wide systems. Link upwards to a central HP 3000 or IBM 360/370. Simply. Without wasted costs.

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Sales and service from 172 offices in 65 countries.
1501 Page Mill Road, Palo Alto, Ca 94304

226C3

DATA SYSTEMS NEWSLETTER

DATA TERMINALS NEWSLETTER

DTD FIELD LIBRARY REVISITED

By: Eric Grandjean

We are very fortunate! Our field library index can *still* be listed on one page, and here it is, complete.

The literature depot of Amstelveen in Holland and/or the Corporate Literature Distribution Center in Palo Alto are handling all 5952-XXXX "free" publications. For prompt service, please continue ordering directly from the literature centers. They are the specialists and can give you much faster service.

MANUAL	LIST PRICE	PART NO.	MICROFICHE
2640A Flier		5952-4656 (22)	
2640 Spec Sheet		5952-4666 (22)F*	
13248A 2640A Terminal Service Kit Spec Sheet		5952-5545 (22)	
13246A Printer Subsystem Spec Sheet		5952-5551	
2644A Brochure		5952-5557 (22)	
2644A Spec Sheet		5952-5560 (42)F*	
2640A/2644A Field Training Manual		5952-5565	
2644A Reference Card		5952-9950	
2640C Cyrillic Terminal		5952-9952 (42)F*	
13250A Asynchronous Data Comm/Serial Printer Interface Spec Sheet		5952-9953 (42)F*	
13231A Display Enhancements Spec Sheet		5952-9954 (42)F*	
13245A Character Set Generation Kit Spec Sheet		5952-9955 (42)F*	
2640A Owner's Manual	\$3.00	02640-90011	
2640A Service Manual	\$5.00	02640-90012	-90014
2644A Owner's Manual	\$5.00	02644-90001	
2644A Service Manual	\$6.50	02644-90002	-90003
2640A Application Note, Character Generation	\$7.50	13245-90001	
2640C Operating & Maintenance Supplement, Cyrillic		02640-90037	-90048
2640A Customer Videotape (B&W)		90358	
2644A Customer Videotape (Color) Ine Van Sabben, BBN		90541	
2644A Demo Tape (Distributed with each Demo unit)		D.T.D.	
2644A Auto Salesman (order from Sales Development)		D.T.D.	
2644A "USER INSTRUCTION TAPE"		02640-90008	
2644A Poster "GATEWAY TO NEW HORIZONS" (Order from DTD Sales Dev.)		D.T.D.	
HP Journal (June, 1975) (2640A)		P.A.	

*F — Foreign, without prices
D — Domestic, with prices

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Good Selling!!

QUESTIONS CONCERNING THE 2640 SERIES TERMINALS; PART IV

By: *Jim Elliott*

- Q. DO WE OR DON'T WE HAVE CURRENT LOOP CAPABILITY WITH 2640 SERIES TERMINALS?
- A. In the 1 February 76, Vol. 3, No. 6 issue of the Data Terminals Newsletter, question 3 in Part I says we don't have current loop capability. Please note that we now have current loop capability with the new 13250A Asynchronous DataComm/Serial Printer interface. For clarification the following two articles reprinted from Vol. 3, No. 3 of 15 December 75 issue should help.

NEW 13250A ASYNCHRONOUS DATA COMMUNICATION/SERIAL PRINTER INTERFACE NOW AVAILABLE FOR 2640 SERIES TERMINALS

by *Jim Elliott - DTD*

The 13250A interface expands the capability of the 2640 series terminals by offering two uniquely new capabilities.

First, use it as a communications interface. The features you get are:

- Standard baud rates between 110 - 2400
- Custom baud rates between 37.5 - 2400 within a 1% tolerance
- 20Ma DC current loop communications capability
- RS232C communications capability
- Switch-selectable parity
- Transmit/receive handshake capability
- Split speed transmit/receive capability

It can be ordered with the terminal as a 2640/44 option 020 at the price of \$100. Ordered this way it will delete the standard interface in the terminal.

Second, use the 13250A as a Serial Printer Interface. Now all those low-cost serial printers out there with an RS232C interface can listen to the good stuff 2640 series terminals are saying. The features you get are:

- Switch-selectable speeds from 10-240 cps
- Uses standard RS232C Interface (male or female connection)
- Operates with printers requiring handshake or fill character protocol
- Switch-selectable number of stop bits.

All 2640A terminals having option-015 with serial prefix number less than 1551A and all standard 2640A terminals with serial prefix number less than 1610A will require the 2640A Firmware Upgrade Kit (Part #02640-60117, price \$150.00) in order to use the 13250A as a serial printer interface.

The 13250A is now available for consignment purchase. Standard product availability is eight weeks ARO. Price is \$200 FOB Cupertino

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2640A FIRMWARE UPGRADE KIT BRINGS SERIAL PRINTER CAPABILITY TO 2640A TERMINALS

by *Jim Elliott - DTD*

Now your 2640A customers can upgrade their 2640A terminals to accommodate the serial printers that have RS232C interfaces. Once the kit has been installed, the user need only purchase the 13250A interface plus cable and the terminal is ready to go. Field installation can be performed by the knowledgeable customer or by qualified HP field personnel.

All 2640A terminals having option-015 with serial prefix number less than 1551A and all standard 2640A terminals with serial prefix number less than 1610A will require this kit (part no. 02640-60117) in order to use the 13250A as a serial printer interface. And with over 3000 — 2640A's out there, that's a lot of add-on/upgrade sales potential. It's also priced right — only \$150.00.

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- Q. HOW DO I GET THAT "NEAT" 2644A INTRODUCTORY FOLDER? I WOULD LIKE TO USE IT FOR KEY-CUSTOMER PRESENTATIONS

A. The introductory folder, part no. 5952-5555, is ordered by simply dropping me a line and specifying how many you desire. Because of the limited number left, all requests will be handled on a first-come, first-served basis until the supply is exhausted. Please coordinate individual orders through the District Manager of your region.

- Q. WHY DOES THE 12587B INTERFACE APPEAR IN TABLES A & B OF THE NEWSLETTER ARTICLE SINCE THE INTERFACE DOESN'T WORK AND THE CABLE IS UNRELEASED?

A. People are still asking if the 12587B will work with the terminal. At the original printing of Part I of the series, an ongoing project was authorized to make the necessary changes to allow use of this interface. This project has since been dropped.

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2644: "HELPS YOU SELL IT"

By: *Rich Ferguson*

Another sales aid has just been distributed to our field sales force by Data Terminals/Marketing. It is a tape cartridge that will completely demonstrate a 2644 all under control of the cartridge. It shows all the key features and benefits of this fine product not only by saying them, but by performing them completely without operator assistance.

Sell Terminals!!

I call the tape the "Automatic Salesman". Don't worry, I don't want to replace any of you. . . just make your job easier.

By pressing the keys outlined on the cartridge, the tape will do a complete demo then rewind itself and start all over again. It will run continuously, demonstrating and rewinding, until it is stopped by an operator. This unattended operation makes this tape ideal for trade shows and large gatherings of all types.

In addition, for individual demo's, you can just press the read

key and the tape will advance one file at a time, stopping for appropriate comments.

I urge you to try it out and see for yourselves what a 2644 can really do. . . it's impressive!

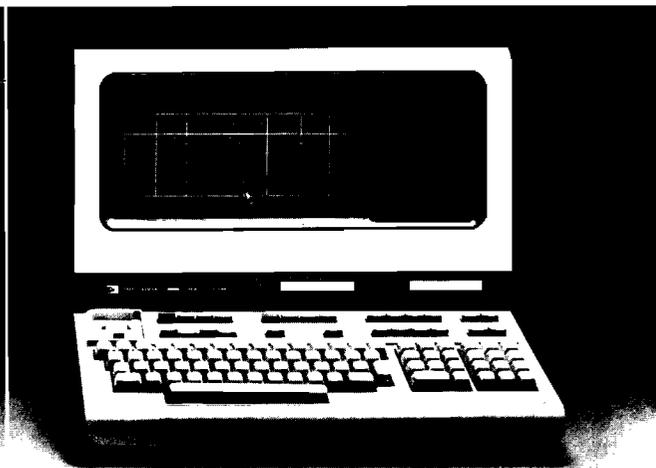
To get a copy of this tape, talk with your District Sales Manager or Regional Sales Manager. An original tape with accessories was sent to them and is available for your use.

Thanks for selling terminals!

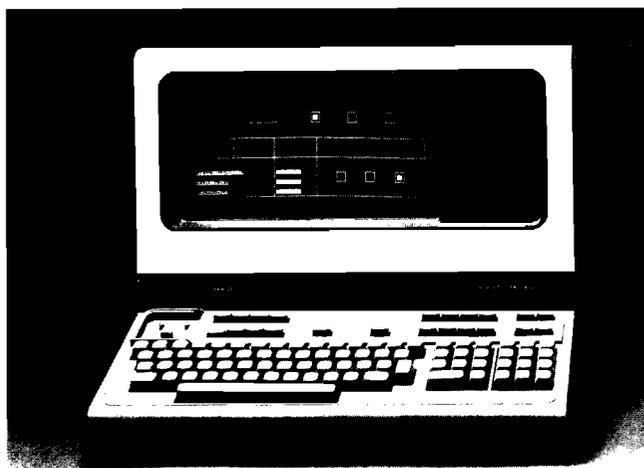
HEWLETT  PACKARD



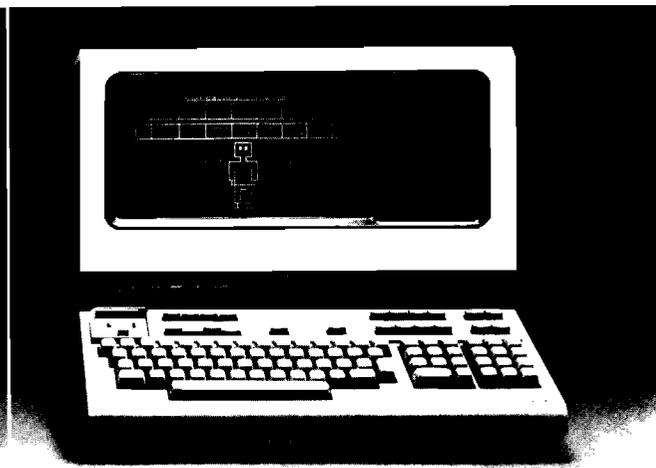
HP 2640A—with economical simplified keyboard



HP 2644A—incorporates twin cartridge integrated mass storage



HP 2640A—includes modular design, self test and many other standard features



HP 2640C—Cyrillic terminal displays Russian characters

FORM FITTING.

**DATA
TERMINALS
NEWSLETTER**

Address inquiries and comments to: **Joey McHugh — Editor**

Sales Development — Building 40

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