

EINGEGANGEN

16. FEB. 1978

REINHARDT, HELMUT
FRANKFURT
HPSA


COMPUTER SYSTEMS NEWSLETTER

For HP Field Sales Personnel

HEWLETT  PACKARD

Vol. 3, No. 7
Feb. 15, 1978

GSD Announces MRJE/3000 and CIS/3000



MRJE/3000
Multileaving Remote Job Entry Software

The HP 3000 Series II Multileaving Remote Job Entry (MRJE/3000) software allows users to submit jobs to and retrieve output from a host computer, operating under either a HASP II or JES2 job entry system.

Features

- Full function HASP II or JES2 work station emulation
- Runs in full HP 3000 multiprogramming environment
- Flexible, easy to use commands for job submission and status inquiry
- Accessible from both interactive terminals and traditional batch devices
- Job input from any peripheral device or file
- Job output to any peripheral device or file
- Available to multiple users simultaneously
- Complete interactive HASP II or JES2 work station control support
- Supports an operator console, as well as up to 7 printers, 7 card readers, and 7 card punches
- Supports multiple hosts and/or multiple lines to a single host

Automatic job routing

An additional feature of MRJE/3000 routing capability, which allows you to route jobs to any peripheral device or file when you submit jobs from the host. If no output destination is specified, the default output is routed to the MRJE manager.

User requirements


Users of MRJE/3000 software must have Job Control and the HASP II or JES2 job entry system.

System requirements

MRJE/3000 operates on HP 3000 Series II systems equipped with 3000SA Synchronizer. The customer must provide the hardware and software described in the MRJE/3000 Configuration Manual.

Installation

MRJE/3000 is available in two configurations: HP 3000 Series II and HP 3000 Series I. The HP 3000 Series II configuration is recommended for most users. The HP 3000 Series I configuration is available for users who require a lower cost solution.



CIS/3000 College Information System

model 32902A

Hewlett-Packard's College Information System (CIS/3000) is an application software package which provides for the creation and maintenance of student records, registration and grade reporting.

Student related data includes admissions, academic and demographic information and is associated with the schools in which the student is enrolled. A history of classes taken by a student may be maintained in the data base for any length of time.

Recent on-line admissions data is on-line and is specific for each school and used within an institution. It may also be purged at the discretion of the school.

Features

- Integrated student/course data base
- Data base maintenance, registration and grade reporting
- Interactive and batch operation for all modules
- Pre-designed forms on CRT terminals for data entry
- Multiple school capability
- User-defined grade calculations by school
- Flexibility for user-defined data
- Transaction logging

CIS/3000 operates in both batch and interactive modes, using formatted screens for on-line data entry. The software is designed for use with HP 3000 computer systems and is written in COBOL using IMAGE, the Hewlett-Packard data base management system.

Data base

CIS/3000 includes an IMAGE data base which specifies 200 items of school, course and student data. Some data items are predetermined, many others are left for you to specify. The predetermined items are those suggested by the National Center for Higher Education Management Systems and published in the NCHEMS Data Element Dictionary. The structure of the data base is analogous to the organization of an educational institution (e.g. disciplines within departments, departments within schools or campuses), schools within a university or district. Thus, it is readily adaptable to various types of institutions.

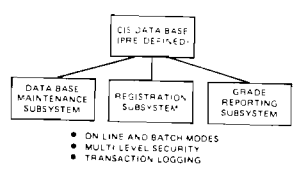
Registration

CIS/3000 supports both batch and on-line registration. Unlike on-line maintenance and on-line grade reporting which require HP 2640 series CRT terminals, any terminal supported on the HP 3000 may be used for on-line registration. The system allows you to build a complete student schedule, add and drop courses and specify audits, repeats and the number of units for variable unit courses. The student is then automatically notified of time conflicts and closed classes. During registration the registrar may monitor the process and make appropriate adjustments, such as increase seating capacities, open new sections or cancel courses. Up-to-date student schedules, class lists and closed course lists are available at any time during the registration process.

Grade reporting

Each school in the data base has a user-defined grading scheme. Describe on value and disposition of grades are entered into the system upon installation. At grade reporting time, you may enter grades by batch mode or interactively using a formatted screen. CIS calculates the grades based upon the user-specified rules and automatically updates all cumulative units, grade points and GPA, student level and academic status. Grade verification lists, grade reports and transcript labels are then produced by the system. The same module processes missing (late) grades and may be used for grade changes.

CIS/3000 COMPONENTS



HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

In This Issue...

BOISE NEWS

Sales Aids

- New HP Terminals Brochure Available J. Whitesell/BOISE [3]
- Four-Color Ad Reprints Available S. Richardson/BOISE [3]
- Double Your Pleasure with the 2631A G. Atkins/BOISE [3]

Order Processing

- Multiple Interfaces for the 2630 Family G. Atkins/BOISE [4]
- Used Equipment Sale S. Davis/BOISE [4]

DSD NEWS

Division News

- 8500 Microwave Systems News R. Kenton/DSD [5]
- DSD Sales Development J. Schoendorf/DSD [5]

Competition

- DEC's PDP-11/34C: Cache as Cache Can? S. Coit/DSD [8]

New Applications

- HP 1000 in the Real Estate Business B. Manak/DSD [9]

Product News

- Obsolescence of HP 2911A Crossbar Scanner E. Isacson/DSD [9]
- Deadline for 2911A Crossbar Scanner Orders E. Isacson/DSD [10]
- Update on How to Order Tektronic "Plot-10" Graphics Software for HP 1000 Systems M. Scott/DSD [10]

Sales Aids

- Pick A Card, Any Card: Interface Card Selection D. Hannebrink & B. Kaiser/DSD [10]

DTD NEWS

Sales Aids

- Our New Family of Data Terminals Brochure is Here! E. Grandjean/DTD [14]
- "A Smart Terminal Doubles Your Pleasure" C. Flock/DTD [15]
- Advanced Application Note #1 "Reserving Display Memory for User-Defined Applications" S. Daoust/DTD [16]
- Softkey Application #17 Block Mode Break Recovery M. Wechsler/MSR [18]
- Softkey Application Note #18 Enter Followed by a Carriage Return W. Brubaker/DTD [18]

Product News

- Tape Utilization on 264X Terminals S. Daoust /DTD [19]
- Why Can't I Connect My 264X Terminal To a Standard TV Monitor? M. Tarens/DTD [19]
- TEK Compatibility Mode Notes B. Swift/DTD [20]

Order Processing

- "A 2649 Configured As a 2645 or 2648" T. Haney/DTD [20]

Competition

- When Is a Circle Not a Circle? R. Ferguson/DTD [21]

GSD NEWS

Product News

- MRJE/3000 — Multileaving Debuts on the Series II R. Scott/GSD [22]
- Announcing CIS/3000! T. Pohlman/GSD [23]
- Vadic Works with Series I R. Hunt/GSD [26]
- Multipoint — A Big Competitive Advantage For the HP 2026 D. Baumann/GSD [27]

Sales Aids

- The One Computer for the One-Computer Family R. Hunt/GSD [28]
- Technical Writer's Survival Kit I. Birkwood/GSD [29]
- Series I-Series II Together in New Price/Configuration Guide R. Ramsey/GSD [29]

Order Processing

- Want to Get Your Model 6 in Less Than 8 Weeks? S. Bradley/GSD [29]
- Ordering a 60 Hz Isolation Transformer for Advanced Shipment F. Gibbons & R. Johnson/GSD [29]

General News

- After a Thousand It's Easy! J. Epps/GSD [30]
- Great First Quarter for the Education Market T. Pohlman/GSD [30]

New Applications

- Even Charity Needs a Computer J. Jacobson/GSD [31]
- Canada Leads the Way in HP 2026 Sales D. Baumann/GSD [31]

HPG NEWS

Product News

- New Colors for 2640-Series Terminals From Grenoble C. Graff/HPG [32]
- 3070A Connection Boxes A. Rakhmanoff/BOISE [32]

Competition

- DEC Introduces System with Mark Sense Cards for Use in Education P. Stuart/HPG [32]

Sales Aids

- Grenoble Products A. Rakhmanoff/BOISE [32]
- 7260A Commercial Pocket Guide A. Rakhmanoff/BOISE [33]
- OMR, OCR, OTR? A. Rakhmanoff/BOISE [33]

CSG NEWS

San Diego Division

- HP 7221A "Hardwired" to HP 3000 T. Tremble/SDD [34]

Corporate Sales Financing

- Why Do Customers Lease? R. Bannerman/CSF [35]
- Some Typical Customer Questions R. Bannerman/CSF [35]
- HP Sales Financing Organization R. Bannerman/CSF [36]

CSG News

- CSG Color Plan: Systems and Peripherals C. Cheng/GSD & M. Harrigan/BOISE, M. Scott/DSD, S. Germain/DMD, J. Freeman/BOISE [36]
- Distribute the Word C. Scheifele/CSG [38]

Do You Have Customers Who Are Not Receiving Software Support Services Updates?

- S. Harvey/CSG [39]

Corporate Training and Management Division

New Videotape Information

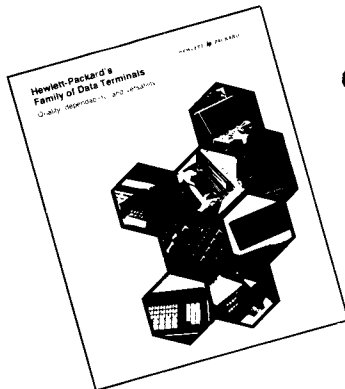
- New Videotapes from Corporate Training C. Ernst/Corp. [40]

BOISE DIVISION NEWS

Sales Aids

New HP Terminals Brochure Available

By: John Whitesell/Boise



We now have a single brochure which describes all of HP's major terminals offerings, including the 2631A printers and 2635A printing terminals, the CRT family, the optical mark reader and the 3071A data entry terminal.

All the above products have RS232C interfaces available so they can be connected not only to the 21MX and HP 3000, but also to many non-HP computers; therefore this brochure should be useful to the Terminals and OEM Salespeople as well as both the commercial and technical systems salespeople.

Our primary objective in developing this 8-page, color brochure is to promote the fact that HP now has a broad (and growing) range of high-performance terminals, and to provide sufficient information so most readers can determine which product will best meet their needs.

We have printed two separate price sheets (P/N 5953-2000 for DTD products, P/N 5952-9429 for Boise and Grenoble products) listing U.S. prices for all options and major accessories. These price sheets are designed to be compatible with the brochure and can be inserted in the brochure if desired.

HPSA and YHP will soon have available several different local language translations of the brochure. European and YHP sales people should contact *Francis Marc/Grenoble* and *Hideki Gushima/YHP*, respectively, for further details.

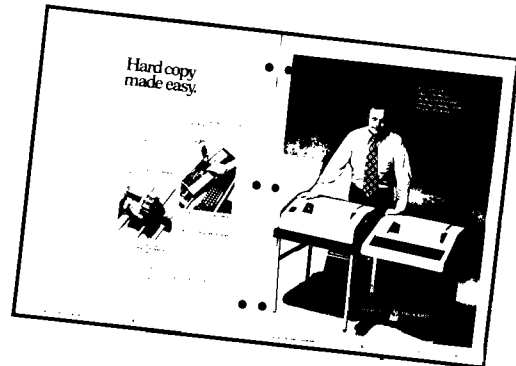
The result of a combined effort involving Boise, DTD, and Grenoble Divisions, each brochure also contains a tear-out inquiry mailer card for those people who want additional information on any of these products.

Bulk quantities of the brochure (P/N 5952-9989) are now being sent to the sales offices through the Corporate Literature Distribution Center.

GOOD SELLING!

Four-Color Ad Reprints Available

By: Steve Richardson/Boise



Reprints of the four-color ad (Hard Copy Made Easy) which recently appeared in a number of industry publications are now available from Boise Division.

These make excellent material for direct mail pieces or to distribute at seminars, etc. They are lighter than the color brochures (thus saving postal costs) and cost less too, yet will still have high impact on prospective customers.

If you want these ad reprints, contact your Boise Sales Development Team.

GOOD SELLING!

Double Your Pleasure with the 2631A

By: Gary Atkins/Boise

The 2631A serial printer has a list price which is less than half that of a 2607A line printer. In addition, the 2631A has a greater MTBF, operates much more quietly, and handles special forms much better than the 2607A.

The 2631A will provide a higher level of customer satisfaction unless the particular application requires the paper tape VFC of the 2607A or the printing of 132 characters of data at 200 lines per minute.

In a typical application, the 2607A will print 500 pages and the 2631A 400 pages and in an 8 hour period.

Remember, your customers will normally be happier with a 2631A than with a 2607A, and the cost of ownership will be cut at least in half.

Order Processing

Multiple Interfaces for the 2630 Family

By: Gary Atkins/Boise

A problem has come up in Order Processing due to multiple interfaces being ordered on 2631's and 2635's. These orders cannot be accepted since the products are priced with one interface. If additional interfaces are desired, then order the extra interface as a 26095A (see Dec. 15 issue of the *CS Newsletter*) with the appropriate option. For example, if a 2631A with an 8-bit TTL interface and an RS232C (with

202-type modem control) interface were required, the following would be ordered:

2631A option 041
26095A option 044

Used Equipment Sale

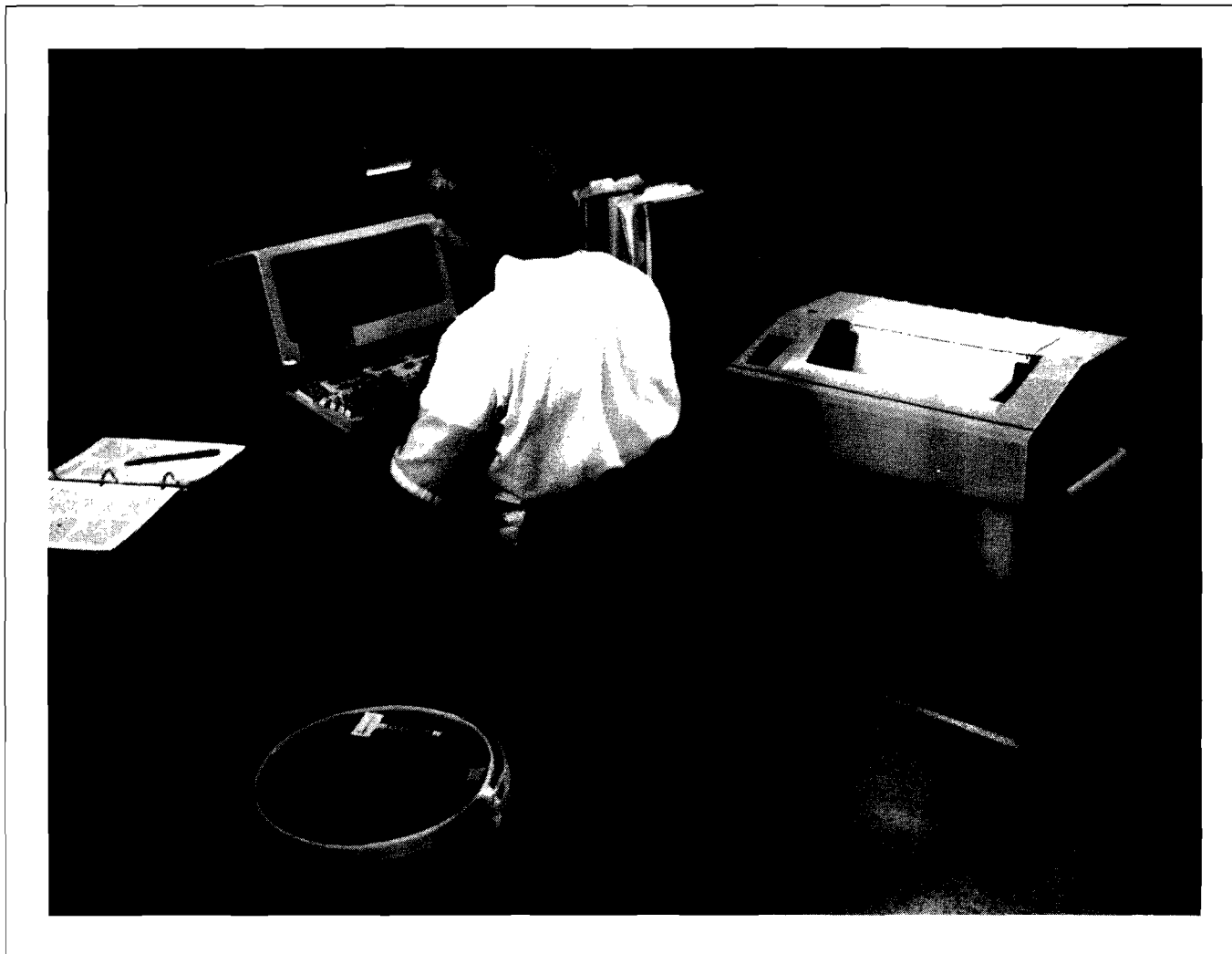
By: Steve Davis/Boise

Here is your chance to save some \$\$\$ for your customers! Boise has a few items of used equipment available at significant savings:

Product	Options	Serial Number	Sale Price
13182A	001/888	(1 available)	\$ 4,925
13193A	STD/888	(2 available)	195
13196A	001/888	(1 available)	390
7970E	165/020/888	1631A-02810	6,835

All quotes should be made "subject to prior sale". Before transmitting your order, contact Boise Division Order Processing to insure that the unit you desire is available.

Each order should specify the serial number of the unit and should also specify option 888 (designating used equipment).



DATA SYSTEMS NEWS

Division News

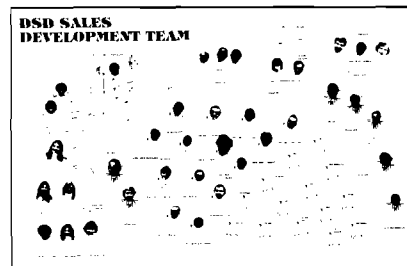
8500 Microwave Systems News

By: *Ralph Kenton/DSD*

- Next Users' Group Meeting is scheduled for March 20 & 21, 1978, Santa Clara Division Auditorium. ARFTG (Automatic Radio Frequency Techniques Group) will house its visitors at the Santa Clara Marriott. HP participating divisions include: Santa Clara, Data Systems, Stanford Park, and Santa Rosa. *Al Seely* has agreed to handle a question and answer session regarding the future of this product line and HP will present several papers and HP-IB systems. Be sure to advise all of your 8580 and 8542 customers of this important meeting, and invite their presentations.
- 8542C and 8580C Ordering Information dated October 1977 was distributed several weeks ago to all of you. For extra copies, call Data Systems Sales Development. These systems no longer use the Dicom Cassette unit, and will be considerably more reliable as a result. BMMC will be approximately \$1,800 less per year, and the disc operating system, now bundled into the standard package, will offer significant performance advantages as well. A paper tape photoreader is incorporated as an input device, and is used for computer and disc diagnostics. Best of all, the bundled TODS III disc system now costs less than the TODS II disc did as an option in the earlier systems.
- TODS III/7900A upgrade kits will be announced in March, 1978 at a very attractive price. Our plan is to update all possible 8542B's and 8580B's to disc operating systems, to eliminate the age-old problems we have had with the cassettes. Price will be approximately \$20K, so begin sales work now on cassette system customers.
- Delivery on 8500 systems is stretching out well beyond six months and runs closer to nine months for 8580C's with preselectors. Help your customers plan accordingly, and be sure to check with factory Sales Development before quoting any dates.
- We will be presenting another round of programming and maintenance courses beginning in February, 1978, and will follow with selected repeat courses in April, 1978. A few openings are available. Contact *Pam Navarro*, Bldg. 42U, x2815 for details and reservations.

DSD Sales Development

By: *Joe Schoendorf/DSD*



What is this you say a rogue's gallery? The NFL All-Star team? No, but close. These are the DSD Sales Development people behind those voices you frequently talk to on the telephone.

The groups that handle most of the field's questions and are the manpower for our customer visits: END-USER, OEM and AUTOMATIC TEST SYSTEMS. ATS recently joined us from AMD. We've given the region(s) these people handle to make things a little clearer.

Compiling worldwide order figures, sales forecasts (which help determine delivery), and contracts is our SALES ADMINISTRATION group. These are the people who help us track the heartbeat of our company.

The ATS CONTRACTS group (previously with AMD) handle the administration of our ATS contracts and negotiation of major Government proposals.

Developing and implementing the training of Neophytes is the responsibility of our TRAINING group.

Our discoverers, researching new, innovative methods of influencing and intriguing future OEM customers with HP's Data Systems products is the OEM DEVELOPMENT team.

And last but not least, the SECRETARIAL SUPPORT TEAM. These are the gals that make the show run smoothly.

Well, there you have it. Sales Development's great gallery of rogues.

Sorry, no orders for 8 x 10 glossies of our (now) famous Sales Development personalities will be accepted for dart board purposes.

P.S. We'll be sending you an additional copy of our organization chart so you won't have to dismantle your *Computer Systems Newsletter*.

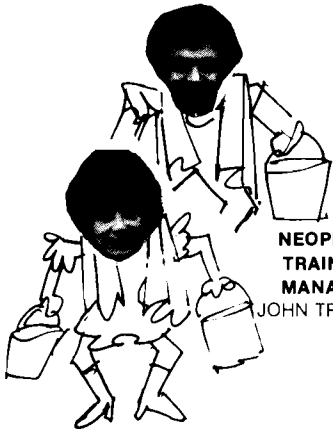
DSD SALES DEVELOPMENT TEAM

SALES DEVELOPMENT MANAGER
JOE SCHOENDORF



BILL FALLON

NEOPHYTE TRAINING MANAGER
JOHN TRUDEAU



NEOPHYTE TRAINING
ROSELIE TOBES



**JOE SCHOENDORF/
OEM DEVELOPMENT GROUP**
SHERRY FRYHLING



OEM/STATISTICS GROUPS
CRIS FOSTER



AUTOMATIC TEST SYSTEM GROUP
CINDY MARTINEZ

ATS MIDWEST/ICON
LARRY SANFORD



END-USER MANAGER
DON ROWE



MIDWEST-EAST
BILL KAISER



OEM SOUTHERN
MIKE COHN



OEM SPECIAL PROJECTS
STAN RATCLIFFE



END-USER NEELY
RICK HELD

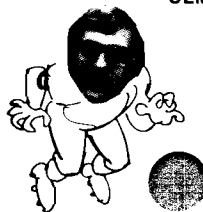
ATS ARMY/NAVY
ANDY MILLS



OEM EASTERN/INT'L.
FRANK JACKSON



END-USER SOUTHERN
JIM GRUNEISEN



CONTRACTS GROUP
JOYCE LOUDEN



END-USER GROUP
SANDY BETTENCOURT



TRAINING GROUP
GINNY PYLE



SECRETARIES

SCORE BOARD	
DS	PDP
1000	11

PRESS BOX

OEM DEVELOPMENT

MANAGER
 JIM ANDERSON CARLOS AVILA DENNIS HAAR

SCOUTS

CONTRACTS

MANAGER
 DICK LANDES STEVE SANDLIN

SCORE KEEPERS

SALES ADMINISTRATION

MANAGER
 DOUG HANSON GEORGE FERNANDEZ

OEM NEELY NORTH
 BILL MANAK

ATS AIRFORCE
 DAVE KLINE

ATS MANAGER
 GREG GILLEN

END-USER EASTERN
 DAVE HANNEBRINK

END-USER EASTERN
 BOB BLAKE

OEM NEELY SOUTH
 MARK BESWETHERICK

ATS EAST/SOUTH
 DICK CREPEAU

END-USER
ICON/CANADA
 DAVE BUNCH

DEC

IBM

MICRODATA

ATS NEELY
 HARRY HAAYER

WEST-EAST
 BURGER

DATA GENERAL

INTERDATA

DEC

UNIVAC

PRIME

IBM

INTER-DATA

DATA GENERAL

MICRODATA

ATS MICROWAVE
 RALPH KENTON

DSD Sales Development
JOE SCHOENDORF—SALES DEVELOPMENT MANAGER Ext. 2165
Sherry Fryhling—Secretary Ext. 2873

OEM

	Ext.
<i>Stu Kagan—Manager</i>	3227
<i>Mark Beswetherick—Neely South</i>	3355
<i>Bill Burger—Midwest-east</i>	2645
<i>Mike Cohn—Southern</i>	2810
<i>Frank Jackson—Eastern</i>	2643
<i>Bill Manak—Neely</i>	2516
<i>Stan Ratcliffe</i>	2964
<i>Cris Foster—Secretary</i>	2904

End User

	Ext.
<i>Don Rowe—Manager</i>	2552
<i>Bob Blake—Eastern</i>	2512
<i>Dave Bunch—ICON/Canada</i>	2072
<i>Jim Gruneisen—Southern</i>	2151
<i>Dave Hannebrink—Eastern</i>	3122
<i>Rick Held—Neely</i>	2316
<i>Bill Kaiser—Midwest-east</i>	2514
<i>Sandy Bettencourt—Secretary</i>	2585

Training

	Ext.
<i>John Trudeau—Manager</i>	2056
<i>Roselie Tobes</i>	2188
<i>Ginny Pyle—Secretary</i>	3181

Automatic Test Systems (ATS)

	Ext.
<i>Greg Gillen—Manager</i>	2026
<i>Dick Crepeau—East/South</i>	2032
<i>Harry Haayer—Neely</i>	2418
<i>Ralph Kenton—Microwave</i>	3117
<i>Dave Kline—Airforce</i>	2160
<i>Andy Mills—Army/Navy</i>	2177
<i>Larry Sanford—Midwest/ICON</i>	2241
<i>Cindy Martinez—Secretary</i>	2108

OEM Development

	Ext.
<i>Carlos Avila—Manager</i>	2816
<i>Jim Anderson</i>	2308
<i>Dennis Haar</i>	3134
<i>Sherry Fryhling—Secretary</i>	2873

Sales Administration

	Ext.
<i>Doug Hanson—Manager</i>	3138
<i>George Fernandez</i>	2110
<i>Cris Foster—Secretary</i>	2904

Contracts

	Ext.
<i>Dick Landes—Manager</i>	2282
<i>Bill Fallon</i>	2382
<i>Steve Sandlin</i>	2346
<i>Joyce Loudon—Secretary</i>	2670

Competition

**DEC's PDP-11/34C:
Cache as Cache Can?**

By: Steve Coit/DSD

Last month, DEC announced a cache memory system for the PDP-11/34. For \$3,900, 11/34 users can expect an increase in performance of up to 60 percent, DEC claims. Does the 11/34 cache system present any serious competitive threat to our HP 1000 product line?

No. And the evidence is clear.

"Once Again, What's Cache Memory?"

A cache memory is a block of very high speed memory which is logically located between the CPU and main memory. Since program memory references frequently read and write to the same local address area of memory, a cache permits that local area to be copied into high speed memory so that local references take very little time.

When the CPU makes a memory reference outside the area copied into the cache, the cache is written back into main memory and the new memory "neighborhood" is brought into the cache.

... Cache-22

Cache memory is a neat idea, but there are problems. If programs make many widely distributed memory references, cache swapping overhead can slow the machine down dramatically. Machine performance depends to a great degree on how software is written.

Also, cache is expensive: more-hardware, extra memory, and more maintenance.

11/34 Cache vs. 21MX-E

Since the 21MX E-series is two to three times faster than the 11/34 without cache memory, a 60 percent improvement in processing speed still leaves the 11/34 behind the E-series. A \$3,900 investment in cache still leaves 11/34 users at one-half to two-thirds E-series performance.

In addition, HP offers high speed 350 nS semiconductor memory for the E-series which does *not* require special cache hardware. does *not* depend on special programming

conventions, and which does *not* increase service costs. Recognize also that first deliveries of 11/34 cache memory are scheduled for June 1978; E-series performance is here today.

And most important, the 21MX E-series performance has a lower price tag. A PDP-11/34C with expanded memory, 64 Kbytes and cache memory is priced at \$18,900. An equivalently configured 21MX E-series computer with 64 Kbytes of high speed memory lists for \$11,750. The 11/34C costs 61 percent more than the E-series!

Cache memory may be an option for an OEM customer who has 11/34's. A few words about HP price/performance might get him really interested in what HP has to offer!

New Applications

HP 1000 in the Real Estate Business

By: Bill Manak/DSD

Our hats are off to that certain technical sales rep, who most recently joined HP's ranks, for opening the doors to a potentially high-volume new OEM account. This particular OEM will use multi-terminal HP 1000 Systems and IMAGE/1000 to develop real estate title policies.

A suburban title company's clerk using a 2645 CRT, searches for relevant title paragraphs located in an IMAGE data base and applies these paragraphs to a worksheet upon recovery. The worksheet once complete, is printed on a 2635 line printer and the printout is given to a title officer. The title officer resolves all bans and judgments against the property under consideration and sends the title back to the clerk. The clerk then changes the property's vesting and prints out the final title policy in a standard form, again using the 2635. The information is then backed up on an IBM 360 data base via RJE/1000, located in a downtown central office.

The net effect is an improvement in the title company-escrow process. HP beat out its closest competitor by \$18,000. Another example of HP's edge in price/performance. Congratulations to our young rep and may you have continued success in securing future new OEM accounts.

Product News

Obsolescence of HP 2911A Crossbar Scanner

By: Eric Isacson/DSD

It has become necessary to discontinue the 2911A Crossbar Scanner, a key component in many of the 9500, 9550 and 9200 series Automatic Test Systems which we have supplied over the past ten years. Only a limited supply of

these components remains. We need to know your requirements for spares and new systems so that we may allocate the remaining parts on an equitable basis.

The 2911A has also been identified as options N05, N06, N07, N15, and 076 in 9500B and 9500D systems and is part of all 9510D systems. It is a component in many systems bearing 92XX series model numbers.

The 2911A is being obsoleted because the manufacturer of the crossbar switch assemblies, Cunningham Corporation, has discontinued production. We have been unable to find a direct replacement for all applications, especially those requiring the very low and very high voltage characteristics of the 2911A. For new automatic test systems, our 94120A Measurement Scanner Card and 9412A Modular Switch Mainframe is a satisfactory and preferred substitute of the 2911A. However, major modifications are typically required to substitute them for 2911A's in installed systems.

Before Cunningham Corporation discontinued production, we purchased a supply of crossbar switches which we believed would be sufficient to meet all anticipated requirements. Now that supply is dwindling and we need to allocate it to specific uses.

In order to stretch the supply of 2911A parts as far as possible, we have designed relay replacements for a small crossbar assembly (P-bar) in particularly short supply. The specifications for 2911A's containing this assembly are the same except for the following:

	Standard 2911A	2911A with Reed Relay Assembly
Configuration option tested	023	A23
Crosstalk (HP 3320B source ~5V across 50Ω; HP 3403C measuring device, 1000Ω input Z)		
1 KHz	> -70 dB	-70 dB
10 KHz	-67 dB	-57 dB
100 KHz	-48 dB	-37 dB
500 KHz	-30 dB	-29 dB
Thermal Offset	10 μV (typ.)	15 μV (typ.)
Signal Path Resistance	≈0.3Ω	≈0.5Ω

Substantially, all remaining 2911A's will incorporate this assembly in place of the P-bar. Please, therefore, indicate in your letter if 2911A's with the Reed Relay Assembly substitutions will be acceptable.

Please review your requirements both for 2911A spares and for new systems using the 2911A. The latter should be limited to additional copies of systems previously supplied since the 94120A and 9412A will be used in new system configurations. *Please advise me by letter or TWX not later than March 15, 1978, of how many 2911A's you will require for spares, and for new systems.* Please include the model number and configuration option for new systems, and the desired delivery schedule for both spares and new systems.

Upon receipt of your requirements, we will compare the aggregate requirements of all customers with our supply and will advise you by April 15, 1978 of our capability to supply your requirements. You will then have until June 15, 1978 to place orders with us. 2911A's tentatively allocated to you but not ordered by June 1, 1978 will be allocated to other customers.

Deadline for 2911A Crossbar Scanner Orders

By: Eric Isacson/DSD

The 2911A Crossbar Scanner has long been a popular component in the HP 9500 and related automatic test systems. Unfortunately, the manufacturer of its switching assemblies has discontinued production. *The 2911A is therefore no longer available in new system configurations.*

We have a limited supply of 2911A parts remaining. In order to meet our support obligations, we have reserved them for customers who already have systems with 2911A's. We are now in the process of allocating them. We therefore need to know precisely how many 2911A's present users will need in the future. We can consider only two kinds of need: additional copies of systems we have previously supplied, and spares for such systems. We hope our supply will be sufficient to fill all such needs but cannot guarantee it.

Each district manager has received a TWX detailing the 2911A allocation process. Briefly, we need to know all requirements for spares and duplicate systems by March 15. We will advise you by April 15 of our ability to fill them. Your customers will then have until June 15 to place orders with us. *We cannot consider needs for 2911A's unless we know of them by March 15.*

We have searched but been unable to find a suitable replacement for the 2911A switch assemblies. For new system configurations we recommend the 94120A Measurement Scanner Card in the 9412A Modular Switch.

Please consult your district manager for additional information.

Update on How to Order Tektronix "Plot-10" Graphics Software for HP 1000 Systems

By: Mike Scott/DSD

An article in the July 15, 1977 (Volume 2, Number 17) CS Newsletter by Van Diehl had an error in step 2 of how to order Tektronix Plot-10 software on the HP 1000 driving the 2648A Graphics Terminal. Your customer must order 4010A01 (\$750) with Option 001 (NC) Plot-10 Terminal Control System. The differences are that Option 1 (paper tape media rather than IBM cards) for 4010A01 is required and the sales price for 4010A01 is \$750 rather than \$650.

Refer to the earlier CS Newsletter article for further information.

Sales Aids

Pick A Card, Any Card: Interface Card Selection

By: Dave Hannebrink and Bill Kaiser/DSD

"I'd like to interface a (digital voltmeter, RS-232 compatible terminal, Sony-of-my-Owny, Buick Hydramatic) to my 21XX. Can I do it using a (microcircuit, HP-IB, buffered asynchronous, bingo) card and the (RTE, contributed, RSX-11D, Grand Prix) driver?"—Variations on a theme—"... but when she went there the cupboard was bare..."—Mother Goose. "I think a newsletter article covering interface card selection should be written."
—The Pride of El Paso

Our customers manage to interface the 21XX product line to a myriad of peripheral devices. The sophisticated long-time HP customers are capable of choosing the right interface for their particular application with little or no assistance from either field or factory. The experienced computer users who are new to HP's computer line will require a little guidance and product familiarization; however, once given this information, their interface card selection should be relatively straightforward. Finally, we'd like to communicate our capabilities to the less experienced computer users in order to avoid problems frequently encountered when computer interfacing is attempted for the first or second time.

There are several purposes in writing these two "Interface Card Selection" articles. We'd like to acquaint our newer people and review for the veterans the key characteristics and capabilities of all the Interface Cards found in Sections 8 through 11 of the 21MX Hardware Data Book. Included here will be technical specs, applications information, software support, etc. presented concisely enough for quick review purposes.

We also want to cover some interfacing terminology so you'll feel a bit more fluent in the jargon. Finally, we'll summarize the documentation available to you and the customer to help in the selection process. In the end you should feel more comfortable in assisting a customer in meeting his particular interfacing needs.

The first article will cover the cards included in the "General Purpose I/O Interfaces," "Measurement and Control Interfaces," and "Graphics Interfaces," sections of the 21MX Hardware Data Book. The second article will be devoted to "Data Communications" interfaces.

PART I: General Purpose I/O, Measurement and Control, and Graphics Interface Selection

A. General Discussion

The cards (also called PCA's—printed Circuit Assemblies) covered in this article have been designed to meet 1) general purpose, 2) measurement and control, and 3) graphics, interfacing needs. They can be characterized as applicable in short distance (500 feet or less) requirements where data is retained and transferred in byte (8 bits) or word (16 bits) formats using parallel (8, 16, or more) data lines. This is contrasted to typical datacommunications

requirements that often (but not always) require long distance (thousands of feet, or even miles using modems) data transmission and transfer data in a stream of serial bits. The three-way categorization for these cards is based on their intended applications areas (see applications column in table). However, in the case of the HP-IB interface (59310B), the measurement and control designation is historical; we'll soon come to think of it as a truly general purpose interface.

In addition to sharing this distance/data format characterization, all these cards include the necessary control and interrupt (also called control and flag) logic that allows data transfer requests to be made. A request can be made either by the computer or the peripheral device; the successful reply from the responding device is likewise handled by this logic. The point to be made is this: the user should first concern himself with defining the characteristics of his I/O device (e.g., data format, transfer speed, how much "programmability" is possible with the device, etc.) and decide which card best matches the requirements. Once a card has been chosen, the card's control and interrupt logic insures that the appropriate data transfer into or out of the computer can be made.

What characterizes these I/O devices? They may be inputting data to the computer (voltmeters, tape readers, etc.); they may be receiving programming data from the computer (X-Y plotter, printers, etc.). Or they may be involved in both types of data transfers, i.e., the computer may program the device to do a certain function; the device then carries out the request and returns data to the computer (a programmable multimeter, another computer, a customer-designed microprocessor-based control system, etc.) Many of the cards, especially in the measurement and control and graphics categories, are clearly used in either an input mode or an output mode, not both. As such these cards usually serve well-defined specialized functions (TV interface, A/D converter, etc.). Hence for these specific applications card selection is usually easy.

The next thing to look at is the format of the data to be transferred. If we're interfacing with analog devices, the data must leave the card in analog form (D/A converter). Likewise, it will be input to the card in analog form and it must be converted to "digitalize" for the computer (A/D converter). If significant analog subsystem interfacing is to be done, check the application against the "Measurement and Control Specifier" to assist in the selection process. If the number of inputs and/or outputs is small, one of the listed cards may do the job.

In most cases, data transfer will occur to and from the device in digital form. For instance a device may transmit data on sixteen parallel lines. These sixteen lines could represent sixteen independent events (e.g., sensing sixteen contact closures that detect overflow conditions in sixteen chemical vats). All sixteen may be needed for the digital representation of a single integer number. Two ASCII characters of eight bits may be transferred on these sixteen lines. Or, the sixteen lines could represent four binary-coded-decimal (BCD) digits (four bits each) used on the display panel of an instrument. Peripheral devices communicate using these types of data formats. So, this is the next step in the selection process: choose a card that

can handle the data format of the peripheral device. Again, for obvious reasons, some selections will be quite simple, e.g. BCD-type instrumentation matches very well with the 40-Bit Output Register (12556B) and the Data Source Interface (12604B); IEEE-488 standard devices use the HP-IB (59310B) interface.

Some of the general purpose cards employ two I/O registers (temporary storage on the card that eliminates the need for the computer and/or the peripheral device to hold data on the I/O lines until the other accepts it). Why two registers? Often one register contains the programming information for the device (take a resistance measurement, position the head on track 3, sector 1) while the data (measurement value, what's on the disc) is returned in the other buffer. Furthermore, additional registers (e.g. status registers are used, for instance, to detect a loss of power at the peripheral device) are available on some cards.

What next? The electrical signal magnitudes, or logic levels, of the digital "1's" and "0's" that can be transferred to/from a device must be considered. For many devices, transistor-transistor logic (TTL) is used. Voltage-wise the TTL "1" state occurs when the signal lies between 0 and +.5V; the "0" state occurs when the signal lies between +2.4V and +5V. This logic sense is said to be ground true, positive false. On some TTL cards, options permit reversing the logic sense, i.e. positive true, ground false. Other cards have much higher logic levels, i.e. an "0" may require 8V to 12V of signal. Higher logic levels permit better noise immunity; the data lines are less likely to change due to unwanted signals. This is particularly important in long cable runs (500 ft) where grounding problems are a source of noise. Hence, although TTL logic permits higher speed data transfer than do the higher logic level interfaces, cable runs should be kept to less than fifty (50) feet. In any case, for a given card, a simple thought should be kept in mind; the longer the cable run from the device to the computer, the slower the data transfer. Transfer rates shown in the tables refer to short cable runs that are less than the maximum cable distances allowed by the interface. The best way to insure data integrity over long distances is to use the Dual Channel Universal I/F Card (12930A) which features differential line driver and receiver circuits. The user, however, must include similar circuitry in his device to use this card.

If, after all this head scratching, the proper interface card match still doesn't exist, the customer may elect to design his own PCA. Have him consult the 21MX-E Series Computer Technical Reference Handbook (I/O Interfacing Guide) for tips on using the HP Breadboard Interface Kit (12620A) to achieve this end. If he's a real go-getter he may even be ripe for the Advanced Interfacing Techniques section which discusses microprogrammed I/O.

How about software? Some of the cards have RTE drivers already written and can be used off-the-shelf. Most of the "general purpose" cards do not; being "general purpose" implies we have little idea on how a user might use the card. Hence, a "general purpose driver" would certainly incur more software overhead than a user would like to tolerate. For these cards, the user must write his own drivers (in Assembler code). With the proper experience or training (the new Driver Writing Course) this need not be a significant inconvenience. You might also check LOCUS for specific contributed drivers.

That brings up one more source of help: the DSD Specials Engineering Group has developed several hardware/software interfaces for specific (HP and non-HP) peripheral devices. Consult DSD Sales Development with your requirements.

Finally, there's a couple more details to cover before closing. Consult the DSD Product Compatibility Guide to help you assess the feasibility of the proposed card. Hardware incompatibilities usually mean we haven't tested (and in all likelihood, won't test) the card with CPU in question. The customer's usually on his own here. Software wise, incompatibility usually refer to a diagnostic media incompatibility and/or the lack of a specific RTE driver. Be sure to read the footnotes in the Guide. If questions still persist, call DSD Sales Development.

Also, make sure the customer is aware of his system's power supply current availability. Different cards impose different loads on the computer's supply—several cards with high current consumption might create an overload condition.

And don't forget cabling. In most "general purpose" card kits, no cable is supplied. A connector for the card is

provided—the customer must fabricate his own cable in accordance to his specific device needs. The 21MX Technical Data Book lists what's included with all cards.

Now you're off and running. Remember, point the customer in the right direction; the ultimate card choice is his. To keep yourself informed of the latest interfacing information and your customers caught up on their leisure reading, we recommend the following interfacing references:

References

1. 21MX E-Series Technical Reference Manual (5950-3765)
2. 21MX E-Series Operating and Reference Manual (02109-90014)
3. 21MX Computer Hardware Data Book (5953-0860 (22))
4. DSD Product Compatibility Guide (5953-0889 (22))
5. PCA Installation Manuals (Consult Ref. 3 for part numbers of individual cards)
6. RTE Driver Writing Course (Given at Eastern and Western Technical Centers)
7. Measurement and Control Specifier (5953-5530)
8. HP-IB Performance Evaluation (Appl. Note 201-4)
9. LOCUS Catalog (22000-90099)

Table 1A: General Purpose Interfaces

Card & Name	Applications	Relevant Technical Specifications	Compatibility and Support	Comments
12551B Relay Output Register	Controls power supplies, annunciator panels, etc.	Provides 16 floating contact closures for switching high voltages (100V. Peak)	21MX-M, E RTE-B only no cable	Opt. 001 gives computer ability to read back relay status.
12554A 16 Bit Duplex Register	Provides two way information flow between computer and device, e.g., computer issues programming information to device, device returns data to computer.	Two 16 bit I/O registers logic states "1": 0 to +.5V "0": +8V to +12V Approximate max data transfer: 100K words/sec with DMA typical cable run: 50'-250'	21MX-M, E RTE-B only no cable	Option 001 reverses logic sense
12566B Microcircuit Interface Card	Same as 12554A except adds 1) Pulse mode capability 2) can accept ungated (no flag line) data	Two 16 bit I/O registers logic states: "1": 0 to +.5V "0": 2.4V to 5V Approximate max data transfer: 250K words/sec with DMA Typical cable run: <50'	21MX-M, E RTE-B only 15' cable kit	Option 001: pulse mode Option 002: reverses logic sense
12597A 8 Bit Duplex Register	Same as 12554A 2748B/2895A paper tape subsystem uses 12597A	Same as 12554A but with 8 bit registers	21MX-M, E punched tape subsystem driver only. No cables other than for 2748B/2895A	Option 001: reverses logic sense. Options 002/003 add 2748B/2895A cables.
12620A I/O Breadboard Card	Do-it-yourself interfacing. RTE privileged interrupt fence.	Standard flag and interrupt logic included. 49 available I/C receptacles	21MX-M, E No software support if used as breadboard. RTE support as priv. int. card.	Easy scope probe connection.
12930A Dual Channel Universal Interface Card	Similar to 12554B, 12566B especially good in noisy environments.	Two 16 bit data registers and two 6 bit command/status registers. Differential logic permits interfacing to 500'. Approximate max data transfer: 500K words/sec with DMA.	21MX-M, E RTE-B only 25' cable kit std.	Requires similar differential logic at device end. Options 001/002 provide TTL logic. Option 003 provides reader/punch cable.

Table 1B: Measurement and Control Interfaces

Card & Name	Applications	Relevant Technical Specifications	Compatibility and Support	Comments
12555B Dual 8-Bit D/A Converter	Converts digital computer signals to analog voltages used by oscilloscopes, X-Y plotters, and similar devices.	Provides 2 channels of 8-bit digital-to-analog conversion (0 to 10V) \pm 100 mV. Accuracy should provide 100K to 200K conversions/sec with DMA.	21MX-M only Not tested on 21MX-E RTE-B only no cable	Blanking and erase signals available for scope interface. Fastest-screen update for storage scopes. Will provide low-to-medium resolution (i.e., 256 x 256 grid) point plotting for X-Y plotters.
12566B 40-Bit Output Register	Used to program the input lines of non-HP-IB instrumentation used in 5326, 5327 counter subsystems. Control panel indicator.	Provides 40 bits (10 BCD digits) output plus one control bit. Output logic states: "1": +12V "0": 0V	21MX-M, E No RTE-M support (see compatibility matrix) RTE DVR 54 (in 92066A measurement & control package) No cable.	Not recommended for TTL-compatible devices. Option 001 provides digital recorder cable. Option 002 reverses logic sense. Choice of ASCII or binary modes.
12604B Data Source Interface Card	Used to transfer outputs from non-HP-IB instrumentation to computer. Used in 5326, 5327, counter subsystems.	Provides 32 bit (8 BCD) input path to 21XX. Includes trigger signal to external device. Accommodates logic levels from +100V to -100 V.	21MX-M, E No RTE-M support (see compatibility matrix) RTE DVR 40 (in 92066A measurement & control package) no cable.	Choice of Control formats (see 21MX hardware data book) no storage register on card—data must be retained on lines until input to computer. Opts. 001, 002, 003, & 005 provide cables to standard HP instrumentation.
59310B HP-IB Interface Card	Allows connection of HP-IB compatible instruments & devices to 21MX computers.	IEEE standard 488-1975 up to 14 devices can be connected. Up to 4 59310B's per RTE computer system. Max cable length is 20 meters. See 21MX hardware data book for further specs.	2105—RTE-M & BCS 2108 through 2113- RTE-M, RTE-II, RTE-III, BCS.	Need we say more?
91000A A/D Converter Interface Card	High-level analog inputs \leq 16 channels.	\pm 10.24V full-scale, interface & control logic, sample & hold, ADC, input MUX included. 16 single-ended or 8 differential inputs, 12-bit resolution, including sign. LSB = 5 mv max. Sample rate = 20 K channels/second. See 21MX hardware data book for further specs.	21MX-M, E RTE-B, RTE-C, RTE-II, RTE-III, BCS	Software compatible with 2313B analog I/O subsystem.

Table 1C: Graphics Interfaces

Card & Name	Applications	Relevant Technical Specifications	Compatibility and Support	Comments
12560A Digital Plotter Interface	Interfaces Calcomp plotters model 565, 563 to 21MX computer family.	Designed specifically for Calcomp plotters.	21MX-M, E RTE C/II/III, BCS only DVR 10 12' cable	DVR10 requires 3700 bytes of memory.
91200B TV Interface	Will drive American, European or industrial monitor TV standards, often used to provide dramatic man/machine interfacing.	Drives up to 5 standard monitors via cable up to 500'. Can update at 300K pts./sec or 100 char-sec using DMA	21MX-M, E (see compatibility matrix) RTE DVA 13 25' cable with option 001/003	B&W monitors require 91200B w/opt. 001. Color monitors require (3) 91200B and (1) Opt. 003. Option 010, 011, or 015 must be ordered.

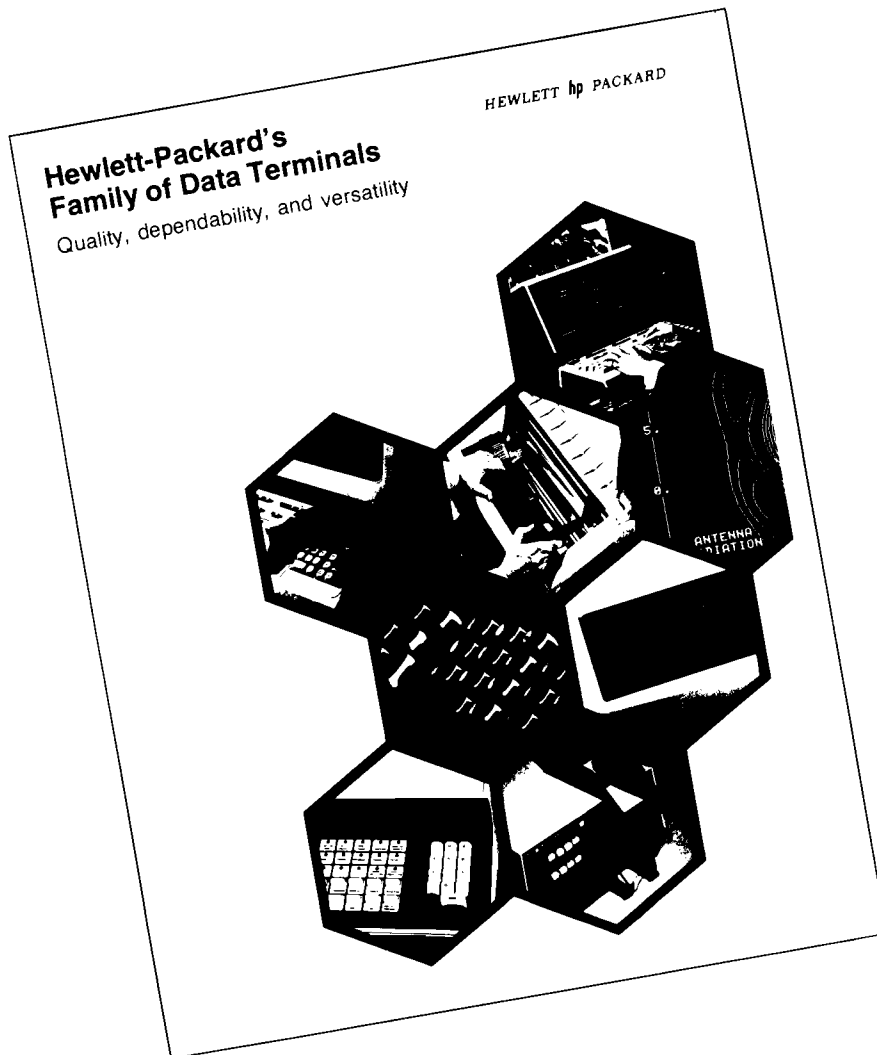
DATA TERMINALS NEWS

Sales Aids

Our New Family of Data Terminals Brochure Is Here!

By: Eric Grandjean/DTD

This brand new color brochure is now available. (See article by *John Whitesell* in the Boise section of this issue of the *Newsletter*.) Please order 5952-9989 (42) from your respective literature distribution centers.



"A Smart Terminal Doubles System Pleasure"

By: Carl Flock/DTD

The interaction of computer and "dumb" terminal on a character-by-character basis can put a substantial load on a computer system. The following example demonstrates how *Marvin Kootz* of the Fairfax County Public Schools doubled the terminal handling capability of his 2000 Access system. This was accomplished by using the off-line block and editing capability of the 264X terminals.

A program called "INPUT" is now available (2000 Access BASIC) that allows BASIC programs to be typed off-line, utilizing the edit features of the 2640B and 2645A terminals. To do this, an ASCII file will be opened in Library Space (2-10 blocks will be used depending on available space.)

After going off-line and typing your program (remote key up), you go back on-line (remote key down) and hit RETURN. INPUT will then read the terminal's memory and print to the ASCII file only lines beginning with statement numbers. INPUT prompts you with instructions for the entire procedure. Below is a sample run of the program with off-line entry of user's program.

DTD appreciates *Jim Banisch* (HP-Rockville) for his creative sales effort in suggesting this solution to *Mr. Kootz*. Especially, we want to thank *Jim* for letting us know about the application and providing documentation that we can pass on. If you wish a complete free copy of the documentation, please send a blank cartridge with your request for the "Fairfax County Public Schools Off-Line Entry Application" to *Carl Flock* at DTD Sales Development. (Offer good for sixty days only!) Send in your unique terminal application so we can let others know about them.

```
get-input
run
INPUT
```

TYPE IN FILE NAME

?jim

FILE JIM HAS ROOM FOR APPROXIMATELY 120 LINES.

WHEN MEMORY LIGHT BLINKS, TERMINAL MEMORY IS FULL! WHEN THIS HAPPENS, STOP TYPING STATEMENTS. PRESS MEMORY LOCK KEY, THEN REMOTE & RETURN KEYS.

ARE YOU READY TO BEGIN YOUR PROGRAM INPUT ?

?yes

TO TYPE IN YOUR PROGRAM OFF-LINE, PRESS THE REMOTE KEY. TO SEND PROGRAM, POSITION CURSOR AFTER END OF TEXT, PRESS THE REMOTE KEY, THEN THE RETURN KEY.

```
10 for i=1 to 10 } -- REMOTE KEY UP
20 print i       }
30 next i        } USERS PROGRAM TYPED IN
40 end           }
                } -- REMOTE KEY DOWN, PRESS RETURN KEY
```

YOUR PROGRAM HAS BEEN STORED IN FILE JIM
TYPE 'SCR' FOLLOWED BY 'LOAD-JIM' TO CONVERT TO A PROGRAM.
TYPE 'PUR-JIM' FOLLOWED BY 'NAM-XXXXX' FOLLOWED BY 'SAV'.

```
DONE
scr
load-jim
pur-jim
nam-jim
sav
run
JIM
```

```
1
2
3
4
5
6
7
8
9
10
```

DONE

-

Advanced Application Note # 1 "Reserving Display Memory for User-Defined Applications"

By: Serge Daoust/DTD

In order to provide applications examples and to familiarize you with the 13290B assembler/debugger terminal, DTD will be running a series of articles under the general title of "advanced application notes."

In this first article, we will look at a program that allocates display memory in which you can store and execute user-defined programs.

The following procedure should be followed when assembling and debugging a program using the 13290B terminal.

- STEP 1. Locate a 264XX (or a 13290B) with cassette tape.
- STEP 2. Type in your program (source code) and edit your source code if necessary.
- STEP 3. Copy your source code onto a cartridge.
- STEP 4. Locate a 13290B terminal if you haven't done so already.
- STEP 5. Insert the "assembler/debugger" cartridge in the left drive and load the software in the terminal. This is done by pressing the READ key followed by the f2 key. When you get a > prompt, type in L and press the return key.
- STEP 6. Remove the "Assembler/debugger" cartridge and insert your source code cartridge in the left drive and a blank unprotected cartridge in the right drive (this cartridge will contain the object code).
- STEP 7. You are now ready to assemble your program. By giving an appropriate set of commands (specifically: IN return AS return IN return PR Y return AS return*), the source code will be assembled and the object code will be copied to the right cartridge. A listing of both the source and object code will be copied to the printer if you have specified "PR Y return" in the above set of commands.
- STEP 8. Remove both cartridges.
- STEP 9. Insert the object code cartridge in the left drive.
- STEP 10. Type the following commands: DB return L return.* * Your program is now loaded in the terminal.

A copy of the listing of the program to allocate display memory for user define programs follows (pay special attention to the comments).

*INitialize return ASsembler return INitialize return PRinter Yes return ASsemble return

**DeBugger return Load return

```

=====
ITEM      LOC      OBJECT CODE  SOURCE STATEMENTS                                PAGE    1
=====
1         FE00      0 0 0          ORG      1770000
2         CFFF      . . .          BFSPACE EQU    0CFFFH
3         FF8D      . . .          BUFBN   EQU    0FF8DH
4         FF8B      . . .          BUFEND  EQU    0FF8BH
5         FFAA      . . .          DSPBN   EQU    0FFAAH
6         FFA8      . . .          DSPEND  EQU    0FFA8H
7         FBFF      . . .          DSPLIN  EQU    0FBFFH
8         495      . . .          ESCEND  EQU    495H
9         4B0      . . .          FNDRAM  EQU    4B0H
10        17A      . . .          INITIA  EQU    17AH
11        B0      . . .          LWBUF   EQU    0B0H
12        D0      . . .          LWDSP   EQU    0D0H
13        FF54      . . .          SCNCHT  EQU    0FF54H
14        9168      . . .          SCHVEC  EQU    9168H
15        FE00      . . .          ;
16        FE00      . . .          ; THIS PROGRAM ALLOCATES
17        FE00      . . .          ; DISPLAY MEMORY FOR USER
18        FE00      . . .          ; PROGRAMS IN 2645A.
19        FE00      . . .          ;
20        FE00      CD 95 4        CALL    ESCEND ; TERMINATE LOADER ESCAPE
21        FE03      . . .          ; SEQUENCE.
22        FE03      . . .          ;
23        FE03      . . .          ; LOCATE NON-DISPLAY SPACE
24        FE03      . . .          ;
=====

```

ITEM	LOC	OBJECT CODE	SOURCE STATEMENTS	PAGE	2
25	FE03	21 FF CF	LXI H,BFSPCE ;SET UPPER BOUNDARY		
26	FE06	22 8B FF	SHLD BUFEND ; ADDRESS OF NON-DISPLAY		
27	FE09	. . .	; BUFFER AREA.		
28	FE09	6 B0 .	MVI B,LWBUF ;SET B TO MSB OF LOWER		
29	FE0B	CD B0 4	CALL FNDRAM ; LIMIT.		
30	FE0E	22 8D FF	SHLD BUFBN ;STORE BUFFER START		
31	FE11	. . .	; ADDRESS		
32	FE11	. . .	; ;		
33	FE11	. . .	;LOCATE DISPLAY SPACE		
34	FE11	. . .	; ;		
35	FE11	21 FF FB	LXI H,DSPLIM ;SET UPPER BOUNDARY		
36	FE14	22 A8 FF	SHLD DSPEND ; ADDRESS OF DISPLAY AREA.		
37	FE17	6 D0 .	MVI B,LWDSP ;SET B TO MSB OF LOWER		
38	FE19	CD B0 4	CALL FNDRAM ; LIMIT.		
39	FE1C	22 AA FF	SHLD DSPBGN ;STORE DISPLAY START		
40	FE1F	. . .	; ADDRESS.		
41	FE1F	. . .	; ;		
42	FE1F	3E C3 .	MVI A,0C3H ;SET UP SCHVEC TO RETURN		
43	FE21	32 68 91	STA SCHVEC ; TO USER PROGRAM AFTER		
44	FE24	21 32 FE	LXI H,ENTRPT ; INITIALISATION AND		
45	FE27	22 69 91	SHLD SCHVEC+1 ; ALLOCATION OF DISPLAY		
46	FE2A	21 54 FF	LXI H,SCHCNT ; MEMORY IS COMPLETED.		
47	FE2D	36 0 .	MVI M,0H		
48	FE2F	C3 7A 1	JMP INITIA ;JUMP TO INITIALISATION		
49	FE32	. . .	; ROUTINE.		
50	FE32	. . .	ENTRPT EQU \$;RE-ENTRY POINT.		
51	FE32	2A 0 F0	LHLD 170000B ;ALLOCATE APPROXIMATIVELY		
52	FE35	22 40 F3	SHLD 171500B ; 450 BYTES OF RAM MEMORY		
53	FE38	. . .	; FOR USER APPLICATION		
54	FE38	. . .	; PROGRAMS FROM THE BOTTOM		
55	FE38	. . .	; OF THE FIRST 4K BYTES		
56	FE38	. . .	; OF DISPLAY MEMORY.		
57	FE38	3E C9 .	MVI A,0C9H ;SET UP SCHVEC TO REMAIN		
58	FE3A	32 68 91	STA SCHVEC ; IN WLOOP (MAIN CODE).		
59	FE3D	C3 95 4	JMP ESCEND ;RETURN TO WLOOP THRU THE		
60	FE40	. . .	; ESCEND ROUTINE.		
61	FE40	. . .	; ;		
62	FE40	. . .	;NOTE: USER PROGRAM MUST		
63	FE40	. . .	; ORIGINATE AT		
64	FE40	. . .	; 170082B IN DISPLAY		
65	FE40	. . .	; MEMORY.		
66	FE40	. . .	; ;		
67	FE40	. . .	END		

SYMBOL	ADDRESS	REFERENCED ON LINES:	PAGE	3
BFSPCE	CFFF	2, 25		
BUFBN	FF8D	3, 30		
BUFEND	FF8B	4, 26		
DSPBGN	FFAA	5, 39		
DSPEND	FFA8	6, 36		
DSPLIM	FBFF	7, 35		
ENTRPT	FE32	50, 44		
ESCEND	495	8, 20, 59		
FNDRAM	4B0	9, 29, 38		
INITIA	17A	10, 48		
LWBUF	B0	11, 28		
LWDSP	D0	12, 37		
SCHCNT	FF54	13, 46		
SCHVEC	9168	14, 43, 45, 58		
END OF PASS 2		0 ERRORS, MEMORY USED TO	228,	14 SYMBOLS



You can now dump to tape the hexadecimal memory locations FE00 to FE38 in loader format.¹ This tape can now be used to load the program in any 2645A terminal. The loader format code of the program listed above follows. This code can now be loaded in any 2645A starting at octal memory position 177000 which corresponds to the beginning of the 80 bytes message buffer area of the 2645A.

THIS PROGRAM ALLOCATES DISPLAY MEMORY FOR USER PROGRAM IN 2645A

```

t&c177000a315d225d004d041d377d317d042d213d377d006d260d315d260d004d042d215d377d0
41d377d373d042d250d377d006d320d315d260d004d042d252d377d076d303d062d150d221d0410d
62d376d042d151d221d041d124d377d066d000d303d172d001d052d000d360d042d100d363d0763d
11d062d150d221d303d225d004d

```

The following escape sequence loads the softkey f1 with the proper loader sequence to execute the program we have just loaded.

```

t&f1k1a011L&c177000aE

```

By pressing f1, you will locate the non-display space in memory, clear and re-link the display memory, re-initialize the softkeys, initialize the printer if one is present, initialize flags and range table address and allocate approximately 450 bytes of RAM memory for user-defined programs. (i.e. you lose 450 bytes of visual display memory.)

In our next article, we will give an example that runs in display memory.

P.S.: You may find these articles a good reference to give to a prospective OEM for an insight into our 264X series of terminals.

¹You can not dump this program to tape in loader format since you have destroyed the I/O variables area. In the next *Newsletter*, I will explain how this happened and outline a technique to circumvent the problem in this particular example. However, the procedure outline works in most circumstances.

Softkey Application #17 Block Mode Break Recovery

By: Mark Wechsler/MSR

EDITOR'S NOTE: In response to our article requesting applications from the field, here's one from MARK WECHSLER of our Pittsburgh office:

Here are some softkey codes you may want to pass along. This sequence is being used as break recovery for use in block mode on the HP 3000. I found that when users inexperienced with the terminal use the HP 2645A in block mode, protected format, they frequently depress the TRANSMIT/BREAK key rather than the ENTER key. As you can imagine, the necessary recovery responses will reap havoc with the screen unless properly executed. A user could in no way recover without destroying the screen and

the information he has entered into the terminal. The following softkey sequence eliminates the recovery problem and maintains the data already entered into the terminal:

- f5 L — E_c&k0B — block mode off, E_c&a60r0C — cursor below form,
E_cX — format mode off,
E_c&c177417a366dd10D — execute f7
- f6 L — E_c&a60R0C — reposition cursor,
E_cJ — clear screen,
E_c&k1B on block mode,
E_cW — on format
- f7 L — CR LF E_c&dF — AFTER SYSTEM RESPONSE 'READ PENDING' PRESS f6
E_c&@ CR LF E_c&c177417a367dd10D
- f8 N — RESUME CRLF

Softkey Application Note #18 Enter Followed by a Carriage Return

By: Wendi Brubaker/DTD

So your computer requires a carriage return as a terminator to a block transfer. What's a salesperson to do? If your customer wants to have the terminal in line mode, there is no problem, but what if there is a need for page mode? Don't despair—softkeys have come to the rescue again! The following sequences will send a carriage return after the ENTER operation is completed. In block mode strapped for page, the transmission will be terminated by a record separator and a carriage return. (This key acts as if G & H switches are open.)

2645 Softkey

```

t&c177120a76d373d41d370d377d246d167d315d73d23d76d15d315d301d27d311dd177120aE

```

2648 Softkey

```

t&c177120a76d373d41d370d377d246d167d315d166d24d76d15d315d42d31d311dd177120aE

```

Just push the softkey instead of the ENTER and you will be home free!

Keep up the good work! DTD loves to tackle those non-HP computers.

Product News

Tape Utilization on 264X Terminals

By: Serge Daoust/DTD

A note of caution on our cartridge storage capability. Our cartridges contain approximately 110,000 bytes of user data when:

1. there is only one file recorded on the tape
2. that file takes up all of the available tape, and
3. the records in that file are all 256 bytes long.

However, the format of the encoded data on the tape (which includes inter-record gaps and end-of-file marks for example) decreases the number of user data bytes that can be recorded on a cartridge.

The following overhead should be accounted for when recording to cartridge.

RECORDS: Records are variable in length and contain 12 bytes of overhead data and from 1 to 256 bytes of user data. Furthermore, when recording data using format mode, every record (or line of display containing at least one unprotected field) requires 2 bytes of overhead data and every field in the record requires 2 bytes of overhead data.

INTER-RECORD GAP: IRG take up 0.805 inches minimum, 0.905 inches maximum, 0.88 inches nominal of tape.

FILE MARKS: File marks use up 3.235 inches minimum, 3.635 inches maximum of tape.

END OF VALID DATA MARK: EOVS data mark is made up of a file mark followed by a gap of 11 ± 0.5 inches.

For example: Suppose you want to record the 92 bytes of user data entered on a formatted screen containing 20 unprotected fields. The unprotected fields are contained on 12 lines of display.

The number of inches of tape required to record the user data off that formatted screen is:

1. User data 1×92 bytes = 92 bytes
- Record overhead 12×12 bytes = 144 bytes
- Record overhead for using format mode 12×2 bytes = 24 bytes
- Field overhead for using format mode 20×2 bytes = 40 bytes
- Total number of bytes ... = 300 bytes

Number of bits
 per form $300 \text{ bytes} \times 8 \text{ bits per byte} = 2400 \text{ bits}$
 Number of inches of
 tape required $2400 \text{ bits}/800\text{BPI} = 3 \text{ inches}$

2. An inter-record gap is written at the end of each line containing at least one unprotected field. This takes up roughly 11 inches of tape ($12 \text{ lines} \times 0.88 \text{ inches}$).
3. An end-of-file mark is written at the end of all the recorded data for that screen. This takes up roughly 3.5 inches of tape.

The number of inches of tape required to record the content of the unprotected fields off one of these forms is:
 $3 + 11 + 3.5 = 17.5 \text{ inches}$.

Since a cartridge has a minimum of 1680 inches of tape (calculated from the load point to the early warning mark for end of tape), you could record approximately 96 screens of unprotected fields off one of these forms.

A quick way to find out the number of inches of tape remaining in a cartridge is to press the "GREEN" key followed by the space bar key.

Don't despair! All this overhead provides a major benefit to the user; i.e., high reliability and interchangeability of cartridges between terminals.

Why Can't I Connect My 264X Terminal To a Standard TV Monitor?

By: Michael Tarens/DTD

This is a question that has been coming up periodically from the field. The data sheet on the Video Output Interface (13254A) specifies that the terminal can be connected to a Conrac Television Monitor and by omission indicates that it cannot be connected to a standard monitor. This is true and there are a number of reasons that make it so.

The physical problems are readily noted:

	Std. Monitor	264X Specifications
Horizontal Scan Rate	15,750 Hz	22,500 Hz
Vertical Retrace Time	1300 μ secs	<600 μ secs
Interlaced Composite Video Level	RS170	
Non-Interlaced Composite Video Level		Not-RS170
Number of Horizontal Refresh Lines	262.5	375

These are the major differences which make the interfacing of the 264X to a standard monitor impossible without substantial modification. The terminals are designed for high resolution, character crispness and display stability. In order to achieve this, the above 264X specifications were built into the terminals. If the terminals were able to display on a

standard T.V. monitor the characters would lose their clarity. This is primarily due to the fact that the resolution of the terminal is 2 to 3 times better and the vertical retrace time is twice as fast. Also, since there are more horizontal lines (375 vs. 262.5) on the terminal, some data would be lost in going to a standard monitor. Thus, the factors that provide us with a superior product are also the factors that inhibit our interfacing with a standard display monitor. To modify our terminals would require extensive firmware and hardware changes which would impair the quality of our product.

In order to maintain the quality of the display, a monitor satisfying the external peripheral requirements was selected (Conrac QQA Series). The display has high resolution and complements our data terminal display. Although it is more expensive than a standard monitor, the advantages it offers should more than compensate for the additional cost.

So—convince your customers on quality!

TEK Compatibility Mode Notes

By: Bill Swift/DTD

When you're demonstrating to your customers that the 2648A will work in a compatibility mode with graphics software, you will probably want to show how to shift between scaled and unscaled modes. You have two choices. You can open the terminal and physically set the P and Q switches on the Keyboard Interface PCA. This is awkward at best and many customers are not anxious to fool around with the terminal's innards. The other alternative is to set the P and Q switches from the keyboard. One problem: If you don't physically open one of these straps, you will not allocate the 2K comm buffer. We need this buffer to allow the terminal to keep up with the incoming data. We suggest that prior to your demo, you open both the P and Q straps on the Keyboard Interface PCA. This allocates the data comm buffer. Then, change the straps from the keyboard to select scaled, unscaled, or normal modes of operation. One further caution: If you're operating in compatibility mode, the terminal will not recognize the escape sequence to set straps. You must first press the STOP key to take you out of graphics mode. Then the terminal will execute the escape sequence and take you back to the graphics mode you select.



"A 2649 Configured As a 2645 or 2648"

By: Tim Haney/DTD

There have been numerous inquiries requesting clarification on the proper options to be ordered with a 2649 to configure it as a 2645A or 2648A. Well, try this:

Standard 2645A Without Cartridge Tape Units

Product/Option		
2649A	Terminal, base configuration	\$2150
100	Upper Case Display ROM	100
200	2645A Keyboard and Interface	575
400	24K ROM PCA	140
545	2645A Main and Keyboard Firmware	250
802	2-Wide Top Plane	25
13260A	Standard Async PC (includes ROM)	160
13234A	4K RAM Memory	300
		<hr/>
		\$3700 \$3700

2645A With Cartridge Tape Units

Same as above but add:		
007	Dual Cartridge Tapes	\$1430
751	Device Support Firmware	170
		<hr/>
		\$1600
		<hr/>
		\$5300

It should be obvious to the casual reader that the above standard configuration cost \$200 more than the standard 2645A. But the 2649A is our only OEM product and the OEM discount schedule is applicable.

Don't forget, if you add options such as Display Enhancements, etc., that require connection through the top plane, you must also order the proper top plane to interconnect the additional PCA.

Standard 2648A Without Cartridge Tape

Product/Option		
2649A	Terminal, base configuration	\$2150
100	Upper Case ROM	100
101	Lower	100
202	2648A Keyboard and Interface	575
400	24K ROM (Requires 2 boards)	140ea
480	Graphics Dsp CNTL and Memory	1475
548	2648A Main and Keyboard Firmware	550
804	4-wide Top Plane	35
13260A	Std Async. Data Comm	
Opt 003	and ROM	160
13297A	8K RAM	500
		<hr/>
		\$5925 \$5925

2648A With Cartridge Tape Units

007	Dual Cartridge Tape	1430
752	2648A Device Support Firmware	170
		<hr/>
		\$1600 \$1600
		<hr/>
		\$7525

Again, we note that this configuration costs \$425 more than the equivalent 2648A. The reason for this is the added overhead involved in scheduling, configuring and testing these "special" terminals. Obviously, the problem is reduced when we have an OEM contract since the material planning process is simplified.

Competition

When Is a Circle Not a Circle?

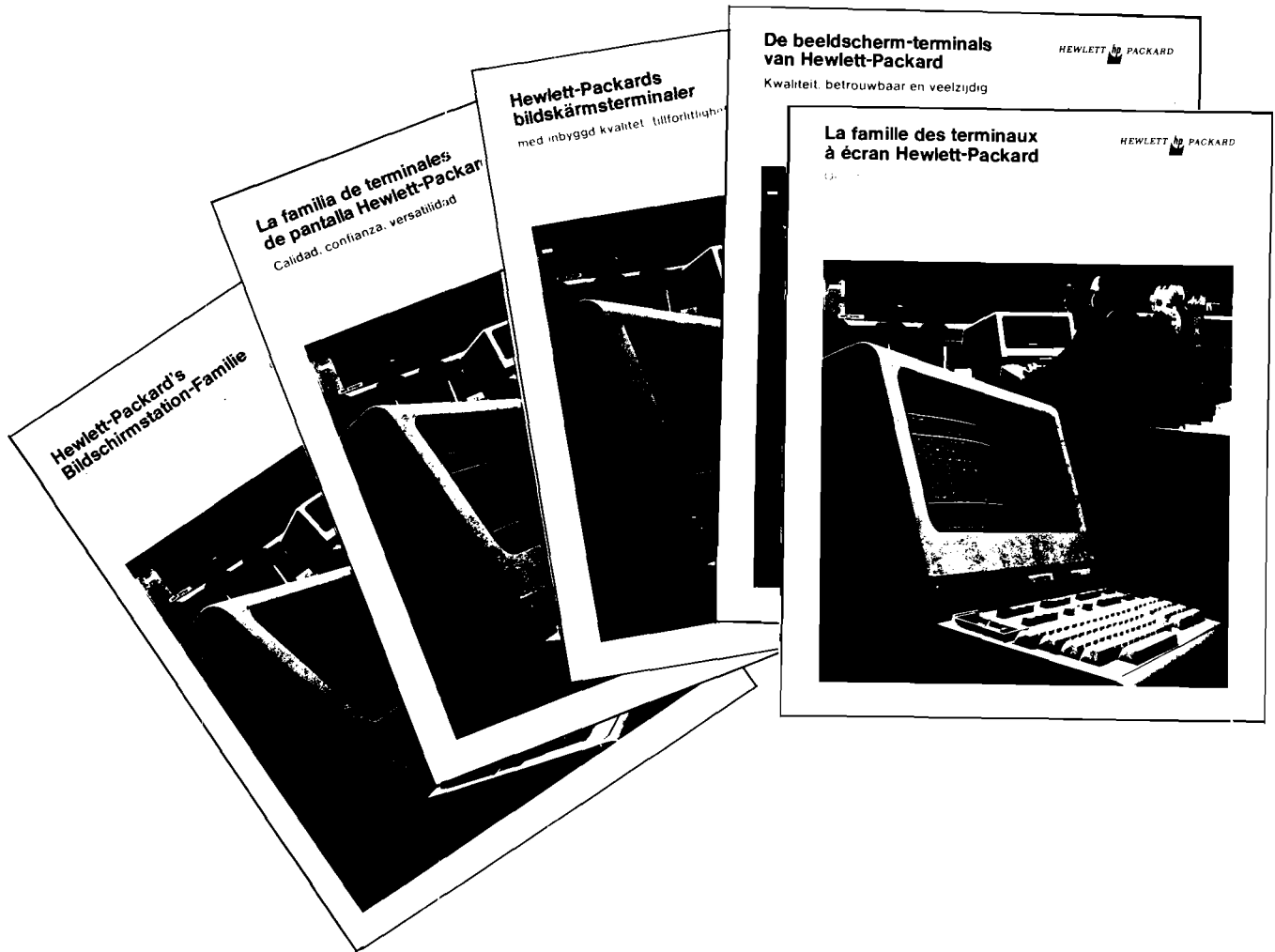
By: Rich Ferguson/DTD

As you know, Tektronics has recently introduced a raster scan graphics terminal, Model 4025. It uses Model 4631 hardcopy unit for copying the contents of the screen.

So, . . . when is a circle not a circle? It's when you want to get a hard copy of a circle from the screen of a TEK 4025. "It doesn't make sense" you say? Well, this is what happens:

Because of an aspect ratio incompatibility in the Y-axis between the 4025 terminal and the 4631 hardcopy unit, to get a circle on the hardcopy unit, TEK must distort the picture on the CRT by a factor of 7/8ths. Yes, that's right! TEK has a command called SHRINK that factors Y-axis data by 7/8ths. When the parameters for a circle are transmitted to the 4025 terminal, the terminal distorts the circle into an oval so that when you copy those screen contents to the 4631 hardcopy unit, it goes back to a circle.

So, when is a circle not a circle? It's when you want to get hard copy from a Model 4025. This procedure is not required, as you know, with the 2648.



GENERAL SYSTEMS NEWS

Product News

MRJE/3000 — Multileaving Debuts on the Series II

By: Richard Scott/GSD



"MULTILEAVING FRIENDS"

MRJE/3000 is a reality—IBM compatible HASP workstation capability for the Series II! Complementing RJE/3000 (IBM 2780/3780 emulation), MRJE/3000 extends multileaving remote job entry into the full multiprogramming environment of the HP 3000.

It enables HP 3000 users to submit jobs to and retrieve job output from IBM 360/370-compatible host systems which utilize HASP II (version 3.1 or 4.0) or JES job entry subsystems. Up to seven job input streams, seven print streams, seven punch streams and one interactive HASP or JES console stream can be interleaved on the same communications line! A single HP 3000 with MRJE/3000 installed can simultaneously communicate with multiple IBM 360/370-compatible hosts at up to 9600 bits per second per line. Multiple lines can also be connected between one HP 3000 workstation and a single host. Each simultaneous line uses a single HP 30055A Synchronous Single Line Controller.

For maximum productivity, any or all HP 3000 terminals can be concurrently used for job submission by utilizing input spooling files. Because of transparent default parameters, the new user will find MRJE/3000 commands easy to understand yet the experienced programmer is provided with full power and flexibility. Jobs can be submitted from any HP 3000 file or input device with output directed (by the user not the IBM host!) to one or more output devices or files. The user has the ability to cancel his job or display its status at any time because all jobs are tagged with a unique 3000 resident number in addition to the standard job name. It is also possible to monitor host activity since MRJE/3000

recognizes and transmits HASP and JES console commands. Any HP 3000 terminal may be used in the HASP or JES interactive console mode.

Remote Job Entry with DS/3000

The remote job entry requirements of an entire network of HP 3000 Series II sites may be met by one or more MRJE/3000 lines from a single system! With DS/3000, both local and remote HP 3000 users can be serviced simultaneously when utilizing the MRJE/3000 workstation emulator. As an interface to the large corporate mainframe, MRJE/3000 is the perfect capstone for the well designed HPDSN network.

Using MRJE/3000 to Sell the Series II—Two Examples

Do you have a potential customer who processes large volumes of critical data using an outside, time sharing host and who is interested in accomplishing more of his processing in-house? If you do, then MRJE/3000 can provide your customer with an easy transition path from dedicated RJE workstations to an internal, general purpose HP 3000 Series II.

Do you know of a prospect with a large, in-house IBM-compatible mainframe and many remote job entry stations who wants to inexpensively expand his capabilities and would like to move into distributed processing but doesn't know how? Well, MRJE/3000 provides a sensible and efficient implementation bridge to DS/3000. While the customer is developing or converting his application software, his near-term processing needs can be met by accessing his IBM host via MRJE/3000. Batch files can be passed to one 3000 site from another 3000 site using DS/3000 and subsequently entered into the host via MRJE/3000.

These are only two examples of many situations where having MRJE/3000 can result in both single and multiple system orders. As you can see, MRJE/3000 can be a real sales lever!

Price, System Requirements, and Availability

The initial fee for MRJE/3000, Model Number 32192A, is \$2000, the monthly maintenance fee is \$75, and the prepaid purchase option is \$1350. It operates with any HP 3000 Series II computer system equipped with a minimum of 192 Kbytes of memory and an HP 30055A Synchronous Single Line Controller. Product availability is four weeks beginning in February for the US and Canada. For Europe and ICON areas, availability is four weeks beginning in April. These availabilities are dependent upon the completion of HP support training for each area.

Announcing CIS/3000!

By: Taylor Pohlman/GSD

At last, GSD announces the College Information System for the HP 3000 Series I and II! After more than two years of Lab development and field testing, a significant new product for the dynamic College and University market is now available from GSD. Here are some excerpts from the CIS/3000 Technical Summary to describe the product:

SYSTEM OVERVIEW

The Hewlett-Packard College Information System (CIS/3000) is a comprehensive administrative application designed specifically for colleges and universities.

A central data base provides storage for a large and varied amount of institution and student data. The categories of data selected for inclusion in the data base meet a wide variety of needs for community colleges, private institutions and universities.

A registration subsystem offers capabilities for registering students, producing student schedules, and creating and closing courses as necessary.

A grade reporting subsystem provides the means to record student grades, produce grade reports and transcript labels, and adjust the student's cumulative course unit and grade information.

Once students are entered to the CIS data base, user-defined reports may be generated to obtain data regarding students' admission status, academic status, and so forth. A flexible security scheme is provided, allowing you to grant or deny access to various parts of the data base.

SYSTEM FEATURES

CIS offers a number of significant features, including:

- Choice of Interactive and/or Batch operation of all three CIS subsystems: data base maintenance, registration, and grade reporting. Batch and interactive operations may be run concurrently.
- Edit Files defined by you to control and edit the data entered to the CIS data base.
- A multi-level security system to grant or deny access to various parts of the data base. For instance, a password may be assigned that allows the user to register students in the Law School only; another password may allow a user to update student's records for admissions data only, and so forth.
- Formatted displays on CRT terminals to make data entry fast and simple.

- Transaction logging to keep track of all data entered to the system and facilitate reloading of data in case of system failure.
- Immediate reporting of conditions affecting interactive registration, including time conflicts, and whether classes are open or closed.
- Grade schemes defined by you to allow the grade reporting scheme applicable to your institution.
- Automatic updating of student level (freshman to sophomore, etc.).
- A reporting of academic status for each student in terms of cumulative GPA and units completed.

WHO USES CIS/3000

In a typical environment, the users of the CIS system are:

The Administration of the College or University, who:

- make policy decisions regarding the entire implementation of CIS.

The Data Processing Department, who:

- implement the conversion to CIS.
- oversee and maintain system integrity.
- implement the CIS security scheme.
- implement transaction logging.
- supervise the overall operation on a daily basis.
- perform batch processing as required.

The Admissions Office and Registrar's Office, who:

- use terminals to enter data base information.
- perform registration of students.
- record grades.
- obtain reports (student's schedules, closed course lists, grade reports, etc.)

Figure 1-1 is an overview of the CIS system, showing the relationship of the subsystems to the CIS data base.

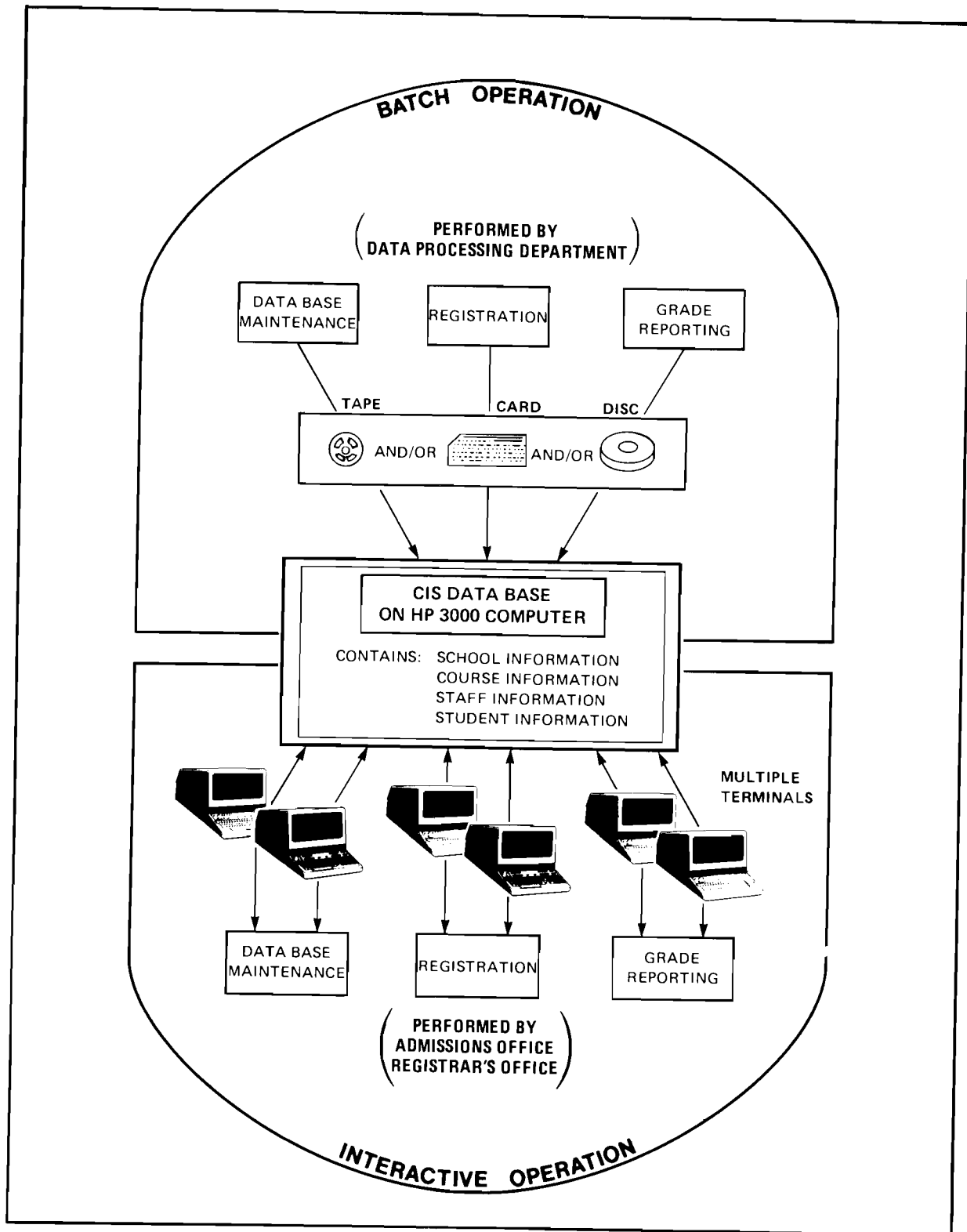
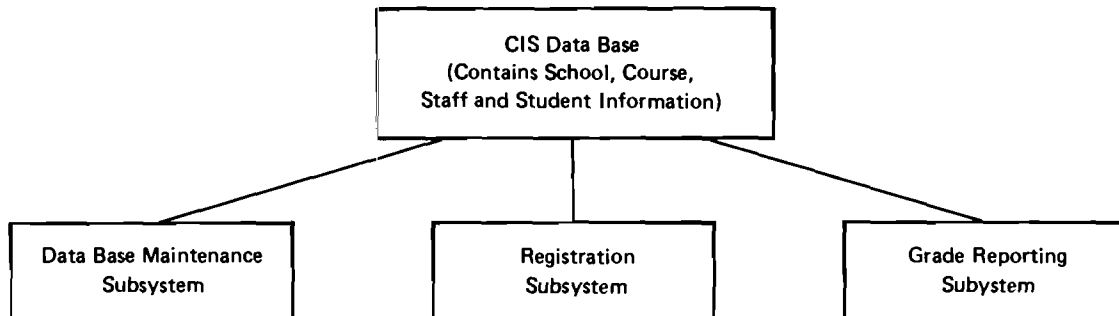


Figure 1-1 CIS Overview

SYSTEM COMPONENTS



Data Base Maintenance Subsystem

Using the maintenance subsystem you can define and create an entry for each school within your institution, describe each course offered during a term, and maintain academic and biographical information on each student attending your institution.

The maintenance subsystem offers a number of valuable features, including:

- a choice of batch or interactive data entry
- up to 200 predefined data items
- the ability to edit input data
- selective security features to grant or deny access to parts of the data base
- restart capability for entering batch data
- system back-up in the form of transaction logging

Registration

Using the registration subsystem you can enroll students in a course section, taking advantage of the following features of CIS:

- a choice of batch or interactive data entry
- registration through multiple terminals
- completion of registration in one terminal session

- processing of adds and drops
- indication of time conflicts as they occur
- indication of closed courses when they are filled
- creating or closing courses as needed during registration
- producing student schedules, class lists, and closed course lists

Grade Reporting

Using the grade reporting subsystem you can report student grades and update grade related information in the data base. Some of the features of grade reporting are:

- a choice of batch or interactive data entry
- the ability to define up to 36 separate grades in the grading schemes for each school
- grade reporting through multiple terminals
- reporting midterm or final grades
- automatic update of cumulative grades
- determination of student level in terms of units completed
- determination of academic status in terms of GPA and units completed
- producing grade verification lists, grade reports, and grade transcript labels

Sales Aids

In addition to the Field Training Manual information and the supplementary sales notes which are already available, there are four key sales tools for CIS/3000:

1. The CIS/3000 Technical Summary (5953-0527) is a 19-page overview of the product with notes on database contents and subsystem operations. It is essentially management-oriented but will serve as a first pass for the college DP staff.
2. The CIS/3000 Slide Pitch and Script (available from District offices or GSD Education Marketing) is a summary of the product's features which will make a short, management-oriented presentation for CIS/3000 and its capabilities.
3. The CIS/3000 Sales Training Video and "Marketplace-Education" video (available from GSD Education Marketing) is a summary of the Education market's special characteristics and a brief summary of how CIS/3000 fits in the higher education management framework.
4. Demo Capability is included with each CIS/3000 product tape and consists of a demo database for product verification. Call GSD Sales Development for more information on demos. In addition to demos, Regional Product Specialists are already trained for the Eastern, Southern, Midwest and Neely sales regions. These SE's have received the product tape and other in-depth product information. Contact GSD Sales Development for details.

Literature Summary

CIS/3000 Data Sheet	5953-0545
CIS/3000 Technical Summary	5953-0527
CIS/3000 Reference Manual	32902-90003
CIS/3000 Technical Manual	32902-90005
CIS/3000 Sales Training Video Tape	
Computer Solutions for Higher Education Brochure (strong mention of CIS capability)	5953-0523

Other Marketing Activities:

- Direct Mail —all college /university presidents and DP managers of schools over 500 students (approximately 2800 schools).
- Trade Shows and Conferences —presentation by *Seattle University* at American Association of Collegiate Registrars and Admissions Officers—4/78.

Miscellaneous

The following activities are planned: Press Release; Users' Group (3000 and Educational) Newsletter New Product Announcement and article by CIS user; coverage at Users' Group meetings (both Education and 3000). An educational administrative subgroup of the 3000 Users' Group will be explored.

Pricing Considerations and Notes

1. A prepaid price of \$11K has been selected for the following reasons:
 - a. CIS/3000 is a more extensive product than HP's other educational applications on the 3000 (SIS at \$9000), and therefore should be priced higher. Specifically, this breaks down as follows:
 - \$5000 initial (32902A)
 - \$3600 prepaid fee (option 002)
 - \$2400 12 months × \$200/month (22823-014)
 - b. Inputs from customers and the field, and reactions to Aries pricing indicate that there might be a psychological barrier at \$15K, but that the market will bear something close to that.
 - c. CIS will be unbundled—charges for training, support and phone-in service will bring the price to \$15.5K. This includes on-site training (22824A @ \$4500) and 15 months of full support.
2. Although we expect most customers to go with the prepaid option (it is clear that most will not need or want 48 months of full support), it is possible to pay the \$5000 initial price and get full support at \$200/month (BMMC is \$60/month).
3. Some attention has been given to CIS/3000 as a lever for system sales. The large-university-dedicated-system-for-the-registrar segment will provide a direct means of measurement, but the "total solution" systems are difficult to measure. It is interesting to note that in three of the first five installations, the sale was made on the basis of the CIS package. Impact on 264X sales should also be relatively easy to account for. Call GSD Sales Development for information about existing sites which are running CIS/3000. CIS is a great opportunity to reference sell!

GOOD SELLING!!

Vadic Works with Series I

By: Ross Hunt:GSD

Due to an oversight in the original Series I Price Configuration Guide it appears that Bell 103 and Bell 202C modems are the only types of modem that are supported on the Series I. This can be a significant problem for those customers who require 1200 baud modem support, since 202C modems are no longer in production and are not readily available. However, you will notice in the new Series I and Series II combination Price Configuration Guide that this error has been corrected. Both Vadic 300 and Vadic 3400 modems are fully supported. The 3400 offers the advantage over the 202C of being a full-duplex modem and does not require the additional expense for option 110, which saves your customer \$1240.

Now that's the good news. The bad news is that one of our Series I customers found a bug with 202C modems. It seems that an intermittent signal can be generated by the 202C that causes the Series I to break from a subsystem (such as the

Editor) and return to MPE. Bell has acknowledged the bug, but since the 202C is not a current product they are reluctant to expend any new engineering effort. We know that many of your customers desire a Bell solution and we are currently working with Bell testing other modems. However, until we can fully test and support another Bell modem the Vadic 3400 will remain the modem for those customers who require 1200 baud transmission.

Multipoint—A Big Competitive Advantage for the HP 2026

By: Dick Baumann/GSD

Something that we tend to take for granted on the HP 2026 system is the fact that it has multipoint terminal support. Do you know any 2026 competitors that can handle multi-dropped terminals? We don't! Whether it be Four Phase, Datapoint, or the several minicomputer manufacturers that we've run up against, we haven't found one yet.

Under what conditions can multipoint be an advantage for us? If you have a prospect with several remote locations (at long distances from the central site), and there's a constant need at these locations to access data files . . . for inquiry

purposes or to check data being entered against those files, you may have a 2026 sale! In this case, we'd propose a central 2026 with 2645 terminals multidropped on leased lines. Our competitors would have to go with one of two possible solutions:

1. Duplicating the data files at each remote location. This will undoubtedly involve some kind of a system at each location and a lot more money than our solution.
2. Many long distance leased lines from the central site (one to each remote location). Typically this will be less money than solution #1 (assuming the competition can attach that many lines to its central system), but will still be more expensive than HP's solution.

It's the old story of the HP 2026 and communications cost savings, but with a new twist this time! Usually we talk about savings possible with HP 2026 to 2026 communications, because of the extra special data compression routines and reverse channel line protocol. Now we're talking about savings on the other side, 2645 to 2026.



Sales Aids

The One Computer for the One-Computer Company

By: Ross Hunt/GSD

Above is the headline of our latest HP 3000 ad, which features a picture of the HP 3000 Series I. For those few of you that have not had the opportunity to sell or install one yet, it's the thing to the right of the optional line printer. Although the advertisement promotes the 3000 family, it could not be more appropriate for where we are selling the vast majority of our Series I systems (and considering the last couple of months, that's quite a few computers).

Not only is the Series I the computer for the one-computer company, in most cases it is their first or second in-house computer. The following is a profile of the Series I successful installations and how they were sold:

Typical Customer

1. **SOFTWARE OEM:** In over 70% of the Series I sales to date a software OEM has been involved, providing software packages, conversion services or custom software. Because of the Series I's attractive price they can add their software with the system and still be close to that magic \$100,000 figure. Also, the Series I is now being added to the list of systems that qualify for 25% discount to software OEM's who purchase a system for their own software development or for demonstration purposes.
2. **SMALL COMPANY:** Less than \$20 million in gross sales and in many cases less than \$10 million, also small colleges and school districts.
3. **FIRST or SECOND-TIME COMPUTER OWNER:** Users moving from small batch systems such as S/3 model 10's and Burroughs 1700's or customers moving from Service Bureaus. Series II Service Bureaus have turned OEM and sold Series I's to their customers. People using a computer and utilizing the services of a software OEM to make the conversion to an on-line, terminal intensive, data-management system.

4. **EIGHT or LESS TERMINALS:** All our performance tests and our customer references show this is the real strength area in price/performance for the Series I. The typical customer to date has ordered 4 to 6 terminals with his system.
5. **COBOL or RPG:** Over half of our orders to date have required COBOL, RPG or both. Considering the number of OEM's who are under the old contract and have the right to copy software for their customers, I feel the actual use of these commercial languages on a Series I is even higher.
6. **HP DATA MANAGEMENT SOFTWARE:** Again as with the Series II, HP's data management software IMAGE/QUERY 3000 and INDEX/3000 have been major contributing factors in us getting the business.

The Series I has been a very appealing system because it provides an excellent entry level system into the HP 3000 family and at \$75,000, has an excellent price/performance ratio. However, in most commercial data processing environments a system that will just do the job today is insufficient. Commercial data processing is a growth oriented business, especially in small companies. With our recently introduced upgrade products we have a real HP strength, making the 3000 one of the broadest compatible product lines in the small computer industry. The successful Series I sales people emphasize that you do not just sell a Series I, you sell a Series I and a plan to buy an upgrade in the future. Since the premium paid by a customer who purchases a Series I and then upgrades is minimal (when compared to purchasing a Series II initially), they have found that their uses for the \$35,000 saved makes up for the extra cost and gives them added flexibility.

The Series I is a system that fills your customers' needs today and provides a growth path that allows them to expand as their business dictates.

Technical Writer's Survival Kit

By: Ilene Birkwood/GSD

The Technical Manual Writer's Survival Kit, which will be of interest to OEM's and to customers responsible for documenting their own applications programs, was first produced for a documentation seminar given at the 1977 International HP 3000 Users' Group Conference in September at Issaquah, Washington.

The booklet describes the process of writing a manual. It does not go into sentence structure or any of the finer points of the English language, but simply provides step-by-step instructions on how to write a technical manual, from the moment a decision is made to write a manual until the time that it is printed.



The booklet, which is well designed and attractively illustrated, can be a valuable promotional tool:

- It is helpful to a customer facing the problem of writing a manual for the first time.
- It is just one more example of the help we are willing to give to the HP 3000 Users' Group.

Copies can be obtained from the Literature Distribution Center in Palo Alto. Publication No: 5953-0541.

Series I—Series II Together in New Price/Configuration Guide

By: Rudann Ramsey/GSD



Complete information on both the Series I and Series II computer systems is now available in a single Price/Configuration Guide (5953-0538) recently forwarded to your office. The new Guide also contains information on the Model 6 Memory Expansion Upgrade, the new Series I and Pre-Series II Upgrade Kit, and Distributed Systems/3000 software.

For countries not authorized to sell the Series I, a separate Configuration Guide is being prepared containing only Series II information. This version is currently being printed and should be distributed very soon.

Thank you all very much for your cooperation during the preparation of the new book. I know the shortage of literature was a great inconvenience.

Order Processing

Want to Get Your Model 6 In Less Than 8 Weeks?

By: Sharon Bradley/GSD



GSD's Order Administration group is currently listing a 2 * 8 (two "star" eight) week availability on the 3000 Series II Model 6. The reason for this is that there are a limited number of open slots close in on our shipping schedule that allow us to ship a Model 6 as early as two weeks after receipt of a firm order. If you have a situation that can benefit from a shipment in earlier than eight weeks, we would like to pass on a tip that will help us get that Model 6 out sooner: Avoid additional line items on the order that call for greater than your desired system availability: Order those items on a separate section if it's possible to add those after the system is installed. (A 10 week availability for an add-on line item can push the whole order out to 10 weeks.)

This one point can have a large impact on our ability to ship a Model 6 in less than 8 weeks. We hope to soon have those open shipping slots filled, and considering availability of add-ons to a new Model 6 order really can help.

Ordering a 60 Hz Isolation Transformer for Advanced Shipment

By: Fred Gibbons/Ray Johnson/GSD

Since July 1st all Series II Model 6 and 8's have included a 60 Hz Isolation Transformer as part of the base system at NO EXTRA CHARGE. From our experience customers are preferring advance shipment of the transformer and typically require it two weeks ahead of the system.

There has, however, been some confusion regarding how to arrange this advanced shipment. The following information should help:

For those customers who request that the isolation transformer arrive ahead of the system, it must be broken out from the coordinated shipment of the system. This is accomplished by deleting the transformer from the system (i.e., ordering option 050) and ordering the 60 Hz transformer as a line item (Product #30320A) at \$2100 (OEM discount if applicable) on a separate section of the

order. In the shipment date portion of the transformer order, you should specify "Ship 2 weeks ahead of system" (or however many weeks the customer requests). This will assure your customer of early delivery. Hope this helps and good selling.

General News

After a Thousand It's Easy!

By: Jerry Epps/GSD

In January, GSD reached an important milestone—the 1000th HP 3000 Series II was shipped and installed. The lucky customer was General Mills. *Paul Ely* and *Jerry Peterson* traveled to Minneapolis on Monday, January 16 and presented the system to *Gary Specker* at General Mills headquarters in a special ceremony. A permanent commemorative plaque was placed on the system by *Paul* during the presentation.



Janis Andrews ties a bow on the 1000th Series II aided by *Sharon Bradley*, *Jim Correia*, *Gary Gouveia*, *Tom Morin*, *Helen Martinez*, *Gene Terrell*, *Ray Seijas*, *Glen Nakamura*, *George Cullison*, and *Dan Robertson*.

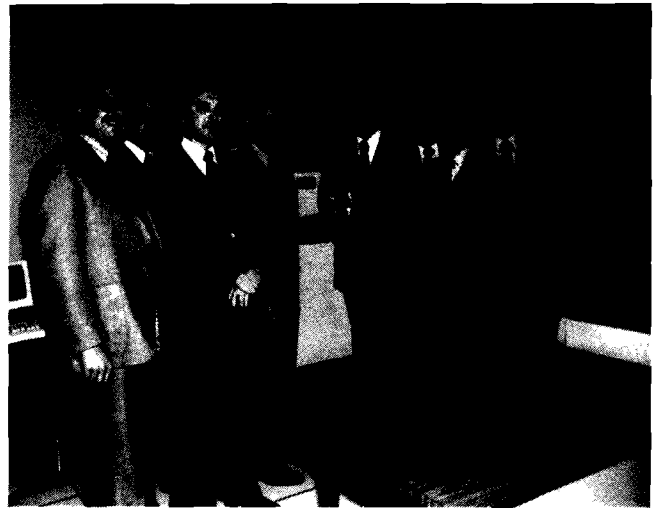


Giving a cheer for the 1000th Series II are *Andy Danver*, *Bob Shebesta*, *Jerry Epps*, *Sharon Bradley*, *Dan Robertson*, *Taylor Pohlman*, *Bea Cornejo*, *Regina Fanelli*, *Nancy Valby*, *Janis Andrews*, *Bill Davis*, *Carolyn Morris*, *Gary Stump*, *Greg Norton*, and *Rich Phillips*.

The system was shipped from GSD on Thursday, January 12, and arrived at General Mills late Friday. Customer Engineers *Jim Baruch* and *Jack Piper* did an outstanding job of installing it over the weekend in order to have it operating in time for the ceremony.

General Mills has installed five HP 3000's, and more are on order. System applications include order entry, procurement, inventory control, scheduling, and general business management in a distributed data processing configuration.

During the regular GSD Monday morning coffee break, Sales Development Engineer *Janis Andrews*, who worked with salesman *Dave Polley* and District Manager *Tom Rappath* to make the delivery a success, introduced many of the GSD inside personnel instrumental in building and shipping the system. The Sales Development team served special cake and cupcakes to all GSD personnel. The theme for the celebration was "After a thousand it's easy."



From left to right: *Jerry Peterson*; *Bob Stringer*, Regional Sales Manager; *Tom Rappath*, DM St. Paul; *Paul Ely*; *Gary Specker*, Director of Systems and Data Processing for General Mills; *Darwin John*, General Mills; *Dean Skjonsby*, General Mills; *Dave Polley*, HP Sales Representative; and *Dave Graves*, General Mills.

Great First Quarter for the Education Market

By: Taylor Pohlman/GSD

There doesn't seem to be any stopping the Education Market growth for GSD products! After a great FY'77 performance when sales were up 100% over FY'76 and almost all activity shifted to the HP 3000 product line, FY'78 looks even stronger. The tremendous effort made in building a base for Education sales really paid off in First Quarter '78. GSD showed double the amount of sales in First quarter '78 as compared to First Quarter '77. That's a great start for a really active market year! In fact, in the last six months, Education sales exceeded twice the previous year's figures (December '77 was over three times December '76).

With four state college network bids coming up in '78 and incremental and reference business from the '77 base, there's a great chance to exceed our 50% growth projection for education sales in FY'78.

We now have reference accounts for nearly every conceivable education application. Don't hesitate to call your sales development person or me for reference info to help you with that Education sale.

WE'RE HERE TO HELP!!

New Applications

Even Charity Needs a Computer

By: Jon Jacobson/GSD

The HP 3000 Series I and the third-party OEM have made a very happy marriage. The \$75K HP 3000 and HP's OEM policy keep racking-up Series I sales. The Series I is generating a lot of enthusiasm with first time users where the third party is supporting their technical needs.

In the past we've written Series I application stories from travel bureaus to chicken farmers. Now we have another example of a Series I in a unique university application.

A major university was in dire need of a method to track contributions to the university in the form of gifts. They entered into an agreement with a software house in the area to develop a gift processing system on an HP 3000 Series I.

The Series I offered the university the ability for one-time entry of gift information into an IMAGE data base. Using COBOL and DEL to support this effort, the software house has been able to develop a highly flexible system that does not require technical support.

The university is currently entering gift information into six HP 2640's with plans to go to 14 terminals in the near future. The gift processing system, upon receiving a donation, automatically acknowledges the donor. The use of IMAGE

allows the university accurate tracking of the monies for funding and general accounting purposes, ultimately providing the university with a means for funding research so that they can have a more effective base for soliciting funds in the future.

Since most universities depend heavily upon donations to help defer the cost of tuition, while still expanding educational opportunities, the software house plans to market this package and the HP 3000 with it. This is yet another example of how third parties and the Series I can work for you.

Canada Leads the Way in HP 2026 Sales

By: Dick Baumann/GSD

A major Canadian electrical equipment distributor recently completed its ordering for a six system network of HP 2026's. Five regional locations across Canada will communicate with a central 2026 at headquarters. Each regional 2026 will keep updated product, customer and order files on disc. As an order is placed, customer status is checked against the customer file; product prices, descriptions and discounts are retrieved from the product file and open order records generated appropriately. At the same time, inventory files are updated and back orders created as needed.

Another customer will eventually order 20 or more systems (again for order processing applications) in a network that will span Canada. A third customer will begin with one system used for RJE to a large host system. Once the system is installed, they'll explore adding data entry applications and more 2026 systems.

Selling the 2026 in Canada (as is true anywhere outside the U.S.A.) is even more of a competitive struggle because of higher prices. But the 2026's capabilities, backed by HP's service and support strength, makes it a winner!

HP GRENOBLE NEWS

Product News

New Colors for 2640-Series Terminals From Grenoble

By: Christian Graff/HPG

Starting February 1st all terminals ordered from Grenoble will be shipped with the new colors which conform to corporate standards. If your customers still want the old color to match the color of their present equipment when ordering 2640B/N/S, 2645A/S, 13260B/C/D, (Data Communication Kit) or 13236B (Cartridge Tape Upgrade Kit) don't forget to order opt 018.

To summarize, on all above equipment no option will mean new color, option 018 will mean old color for all orders placed after February 1st, 1978.

3070A Connection Boxes

By: Alic Rakhmanoff/Boise

You have probably noticed that Boise does not supply any more 92901A connection boxes for HP 3070A. For U.S. and Canada you must order them as consumables from CSD (Computer Service Division) for \$30.00 (package of 5 boxes) with 4 to 6 weeks delivery.

Remember that additional connection boxes and serial link cable are free for consignment units.

Europe and ICON can order 92901A from HP Grenoble at the same price.

Multidrop, noise-immune serial link cable with flexible connection boxes is a key selling argument for 3070A data capture terminals with HP-IB connection.

Competition

DEC Introduces System with Mark Sense Cards for Use in Education

By: Peter Stuart/HPG

DEC has just introduced a system they call MSB-II (Mark Sense Batch II) which uses an Optical Mark Reader to permit students to enter programs in BASIC or FORTRAN IV. It is built up from a PDP II/04 with 32 Kbyte dual floppys, 180 character/second printer, a DECwriter console and a CM5-IJK Optical Mark Sense reader.

The cost is a great big \$21,460 for the minimum system. For one school this could be an attractive proposition but consider the costs for equipping multiple schools in a district with this capability.

The HP alternative of a central HP 3000 system and multiple HP 7260/2635 low-cost RJE stations would be much lower cost and offer students far greater program facilities.

Make sure your customers are aware of the alternatives before they buy the DEC MSB-II.

Sales Aids

Grenoble Products

By: Alic Rakhmanoff/Boise

What can you expect from Boise (for U.S. and Canada) or Grenoble (for Europe and ICON) to support your sales or product line 69?

Demo Minicartridges

	Reference
7260A Optical Mark Reader	
With HP 2000 and Basic cards (9320-2051):	R10
Basic Programming	
With HP 3000 and PL69 test cards: Grading	R11
Program	
7260A and 2645 stand alone: 7260A Auto	R12
Sale	

Demo Minicartridges (Continued)**3070A/3071A Data Entry Terminals**

3070A with HP 2000: Job Vouchering	E10
3071A with HP 3000: Incoming Inspection	E11
3070A with HP 1000: HP-IB Devices (3455, 6940, 9825, etc.)	E12
3070A Utilities	E13
Incoming Inspection	E14
3071A and 2645 stand alone: 3071A Auto Sale	E15

NOTE: All demos are available in 2645 mini-cartridge format and will be sent in return for a blank cartridge.

Pictures

35 mm slide and glossy black picture of 7260A/7261A and 3070A/3071A are available at no charge for customer presentation.

Customer Presentations

A complete set of 40 overhead slides is available for customer presentation of HP 7260A or HP 3070A/3071A. Paper copies of these slides are free. A binder containing the set of slides is available for \$50.00. This binder can be borrowed, at no cost, for one presentation.

Field Training Manual (HP Private)

A field training manual is available on HP 7260A and HP 3070A/3071A including market definition and analysis on competition.

Commercial Pocket Guide (HP Private)

A HP 7260A Optical Mark Reader Commercial Pocket Guide with all sales information is available.

Reference List

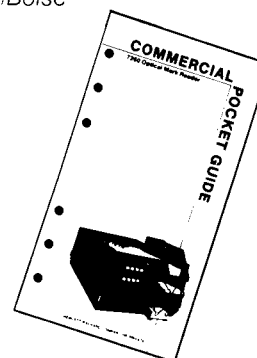
A reference list for HP 7260A and HP 3070A/3071A with customer names and applications can be obtained. This is sorted by application and by sales office enabling you to give some references with same applications as your customer.

Also, available reference list containing references of HP 7260A link to non-HP computers (Burrough, CDC, DEC, Honeywell, IBM, Univac and etc.).

If you need other support material, let us know and we will be happy to help.

7260A Commercial Pocket Guide

By: Alic Rakhmanoff/Boise



By now you must have received your personal copy of the HP 7260A Optical Mark Reader Commercial Pocket Guide. If not, send me a telex (if you are in U.S. or Canada) or to Francis Marc (for Europe/ICON) and we will be happy to send you a copy of this pocket guide.

It contains all useful information for a successful sale: product specifications, factory base price, literature, demos, market definition, references and competition.

SELL OPTICAL MARK READERS!**OMR, OCR, OTR?**

By: Alic Rakhmanoff/Boise

Some people are confused by the meaning of OMR, OCR and OTR.

OMR OPTICAL MARK READER

OMR reader can read marked cards. Hewlett-Packard has two OMR's—HP 7260A and HP 7261A which can read pencil marks, printed marks and punched holes.

OCR OPTICAL CHARACTER RECOGNITION

OCR reader can read characters printed by a line printer having OCR character font (i.e., characters on the bottom of bank checks). Hewlett-Packard does not manufacture OCR readers. Companies such as Scan-Data, Recognition Equipment, National Computer Systems, etc. offer OCR readers. The HP 2613A, 2617A, and 2618A line printers when ordered with options 002 or 003 can print OCR-B font.

OTR ODD TOUGH RASCAL!

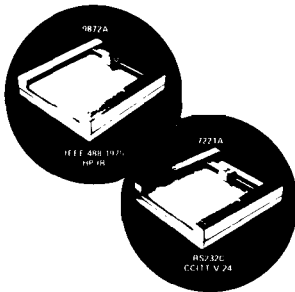
This is unknown at Hewlett-Packard!

CS GROUP NEWS

SAN DIEGO DIVISION

HP 7221A "Hardwired" to HP 3000

By: Tom Tremble/SDD

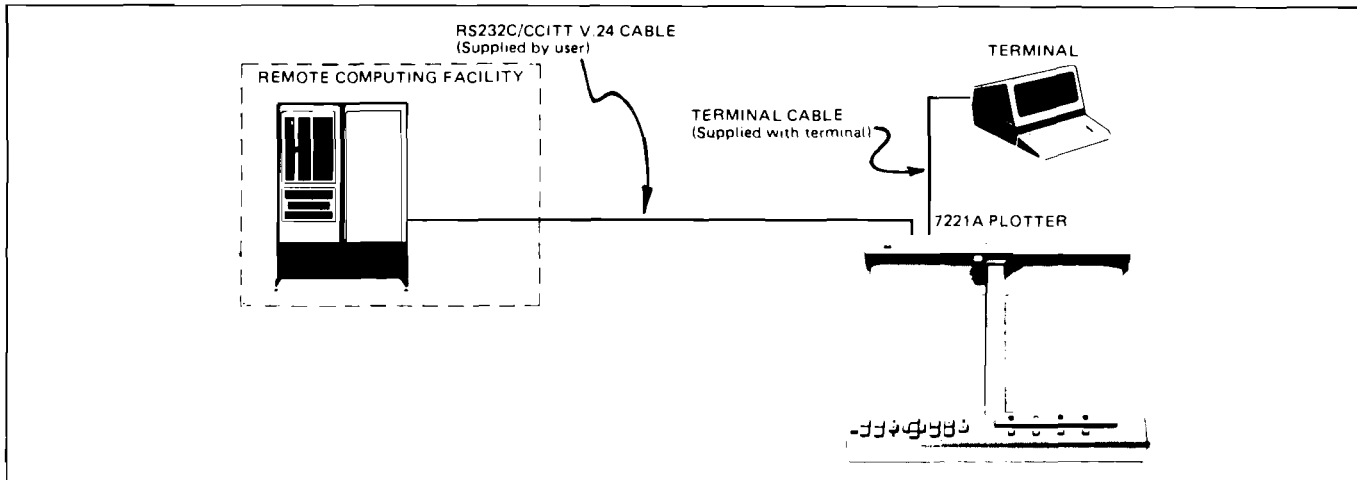


The 7221A graphics plotter may be used with HP 3000 systems through any of several interface methods. For remote access and some hardwired installations, the communication port may be configured as MODEM port. In this case, at least pins 2 through 8 and pin 20 of the RS232C interface must be connected between the plotter and computer. (Others may also be connected but are not used by the plotter.) Caution must be used when configuring a hardwired TERMINAL as a MODEM port. If the carrier is lost the system will "hang-up" the port as it would a phone line. MPE, however, may initiate error recovery routines on the

line when an intermittent carrier is detected (line broken and re-established quickly). This may cause a loss of the port plus cycle stealing. The port may be configured as a terminal port if the same interface lines are used.

Many customers have asked questions regarding installation of 7221A plotters with HP 3000 systems using a "three-wire interface." This type of connection is very common in hardwired installations. Only the received data, transmitted data, and signal common lines of the normal RS232C interface are used in these installations. The 7221A was designed to work with a MODEM and thus requires that proper RS232C control line protocol be established before normal terminal/computer communication can occur. This situation may be corrected by jumpering pin 4 to pin 5 and pin 6 to pin 20 at the plotter's MODEM connector. These pins should not be connected to the computer nor jumpered at the computer end. The port must be configured as a TERMINAL port (normal configuration for a 3-wire interface).

Connecting the plotter to a 2640 series terminal via a printer interface is possible, but not recommended. This method is somewhat cumbersome to use when frequent terminal usage is interspersed with plotter usage. Instead, the terminal's communication interface should be connected to the plotter's TERMINAL connector and the computer or MODEM to the MODEM connector. The plotter's expandable data buffer may be filled and the plotter turned logically off periodically for terminal communication. The plotter will continue to operate with any data in its buffer.



When interspersing plot data with large amounts of terminal data, consideration should be given to the size of the program's plot data buffer and the 3000 system's terminal tank buffer (normally 760 bytes). Attempts to transmit data blocks larger than 760 bytes can result in problems.

It is also possible to connect the 7221A as an HP 3000 system peripheral device available to several users. Such connections require operator action and privileged mode operation and can lead to problems if not handled with

extreme care. In view of this, such connections are not supported in any way and are not recommended.

Software support is provided by the HP PLOT/21 graphics package available from SDD. The package is provided in FORTRAN source form on 9 track magnetic tape with user and installation manuals. To obtain the package, order 72021A and specify the configuration option desired: Option 001 for 800 BPI tape, Option 002 for 1600 BPI tape. The price is a very reasonable \$50.

CORPORATE SALES FINANCING

Why Do Customers Lease?

By: Ron Bannerman/CSF

The advantages and disadvantages of HP Sales Financing plans are contrasted in the following table. Two other options available to the customer—cash purchase and a bank loan—are also included for comparison.

	HP Sales Financing			Other	
	Lease	Cond. Sale	Full Service/ Short Term Lease	Cash Purchase	Bank Loan
Offers:					
Hedge Against Inflation	Yes	Yes	Yes	No	Yes
Protection Against Obsolescence	Yes	No	Yes	No	No
Expensing of Full Payments	Yes	No	Yes	No	No
Conservation of Working Capital	Yes	Yes	Yes	No	Yes
Investment Tax Credit	Yes	Yes	Yes	Yes	Yes
Simplified Bookkeeping	Yes	No	Yes	No	No
Eliminates:					
Equipment Capitalization	Yes	No	Yes	No	No
Use of Current Lines of Credit	Yes	Yes	Yes	Yes	No
Immediate Large Cash Outlay	Yes	Yes	Yes	No	No
Collateral Requirements	Yes	Yes	Yes	Yes	No
Downpayment	Yes	Yes	Yes	Yes	No
Budgetary Constraints	Yes	Yes	Yes	No	No

Some Typical Customer Questions

By: Ron Bannerman/CSF

- Q. When may I cancel?
- A. Most HP financing plans are non-cancellable. The exceptions are leases to state and local governments and agencies which are allowed to cancel if fiscal funding is terminated. In addition, the Full Service/Short Term lease for 263X and 264X terminals, is cancellable monthly after 6, 12 or 18 month fixed terms.

Does your customer have a particular financing requirement? If so, let your HP Sales Financing organization solve the customer's financing problem.

- Q. Why would I not want a cancellable lease or rental?
- A. Cancellable leases, and especially rentals, are more expensive. Non-cancellable leases are an inexpensive way for a customer to pay for the use of a system over the system's life. Also, non-cancellable leases provide the customer with large equity build-up—with much greater rental credit toward purchase.

- Q. What if I want additional equipment?
- A. Equipment may be added to existing financing agreements. Most often the end of the term of the "add-on" can be made to coincide with the end of the term of the original equipment.

HP Sales Financing Organization

By: Ron Bannermani/CSF

HP Sales Financing capability varies from country to country. Most of my articles in the *CS Newsletter* are directed toward the U.S. and Canadian salesperson.

Questions? Remember your Sales Finance Manager.

Neely Sales Region	<i>Ed Brown</i>	(No. Hollywood)
Midwest Sales Region	<i>Ron Dopke</i>	(Rolling Meadows)
Eastern Sales Region	<i>John LaRocca</i>	(Rockville)
Southern Sales Region	<i>Tom Mahaffey</i>	(Atlanta)

Canada	<i>Gary Cooper</i>	(Toronto)
--------	--------------------	-----------

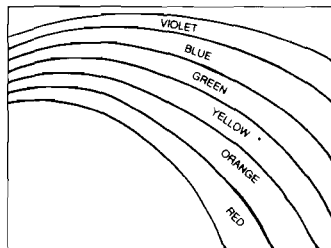
Europe	<i>Peter Schreve</i>	(Geneva)
--------	----------------------	----------

ICON	<i>Bob Stanton</i>	(Palo Alto)
------	--------------------	-------------

CSG News

CSG Color Plan: Systems and Peripherals

By: Chosen Cheng/GSD and
 Mike Harrigan/Boise,
 Mike Scott/DSD,
 Steve Germain/DMD,
 John Freeman/BOISE



The visual impact of HP 1000, HP 3000, and HP 2026 systems adds to your customer's overall impression of HP quality and product value. The Computer Systems Group has adopted a color plan using colors that provide an additional dimension of warmth to the system's appearance.

The pearl gray color of the 7920 disc has been adopted as the primary color for system cabinets, tape drives, discs and terminals. The accent color for front panels and air grills will be cocoa black.

After February 1, 1978 HP 1000, HP 3000 Series II and HP 2026 system shipments will be in the new color scheme. HP 3000 Series I systems will remain in the old colors.

For a six month transition period peripherals in the old colors of mint gray and olive black will be available as no-charge options.

So, orders for additional discs, tape drives, and terminals should specify appropriate color options.

Here are answers to some questions you might have:

Q: Are the colors significantly different?

A: No. Pearl gray and cocoa black are very similar to mint gray and olive black, but are warmer and richer colors. A slight difference may be noticeable for a tape drive rack-mounted to a cabinet, or for side-by-side cabinets or discs.

Q: How do I order?

A: To get the new colors order the standard product numbers for systems, discs, and terminals. For HP 3000 mag tape subsystems specify options (-310, -311, -314). For HP 1000 mag tape subsystems specify option -051.

To get peripherals in the old colors order products with options: terminals (option -018), HP 3000 mag tape subsystems (options -300, -301, -304), 7900 and 7905 discs (option -911, ordered as a special). For HP 1000 mag tape subsystems the standard product number is the old color.

Note that after February 1, systems will be available only in the new colors, and systems cabinets will have date codes of 1800 or greater.

Q: What about line printers?

A: Line printers will be available in the new pearl gray color by April 1, 1978. Since the line printer is usually located apart from the rest of the system, color matching should not be a problem.

Q: What about upgrade products?

A: HP 3000—The Model 6 to Model 8 upgrade 30408A will be in the new colors as of February 1. To specify the old colors, contact Sales Development to order as a special.

The pre-Series II to Series II upgrades will continue to be shipped in the old colors.

Q: What about orders for systems or peripherals already transmitted and acknowledged?

A: If the authorized ship date is after February 1, 1978 a change order to specify the desired color option may be necessary. The standard product numbers for systems, 7900 and 7905 discs and terminals will automatically default to the new colors. If you have ordered additional mag tape subsystems to get the new colors it will be necessary to retransmit the order specifying options (-310, -311, -314) for HP 3000 systems and option -051 for HP 1000 systems.

The transition to the new colors should be smooth and should meet your needs and the needs of your customers. Let us know if we can be of help.

For systems and peripherals to be shipped after February 1, 1978 here is how to order the desired color options:

	Product	Old Colors	New Colors
DSD HP 1000	upright, 7900 based	N/A=NOT AVAILABLE	2170A
	upright, 7905 based	N/A	2171A
	desk, 7905 based	N/A	2172A
	model 20	N/A	2173A
	model 21	N/A	2174A
GSD HP 3000	model 6	N/A	32416A
	model 8	N/A	32418A
HP 2026 UPGRADES	Series I	32420A	N/A
	COMSYS	N/A	19702A
	model 6 to model 8	30408A-911, special	30408A
	pre SII to SII	30306A	N/A
BOISE	HP 3000 mag tape subsystems	30409C	N/A
		7970B-300	7970B-310
7970B-304		7970B-314	
7970E-300		7970E-310	
7970E-301		7970E-311	
HP 1000 mag tape subsystems	7970E-304	7970E-314	
	12970A	12970A-051	
	12971A	12971A-051	
	12972A	12972A-051	
	12973A	12973A-051	
DMD	discs	special	7900A
		special	7905A
		N/A	7920A
DTD	all 264X CRT's all 132XXX products 93983A product	264XX-18	264XX
		132XXX-18	132XXX
		93983A-18	93983A
GSD OTHER	paper tape reader/punch & subsystem	30104A	N/A
		30105A	N/A
	card reader/punch card reader	30119A	N/A
		N/A	30106A

Contact your Sales Development representative for assistance.

Distribute The Word

By: Carol Scheifele/CSG

The February 27th issue of *Computerworld* is a special on distributed processing—Imagine the readers' reaction when they turn to a two-page ad, HP customer application stories and a *Computer Advances* issue which also focus on that topic. The eight-page *Computer Advances* describes HP-DSN, DS/1000, and DS/3000's unique contribution to Project Prelude. Plus, there are even two pages of our DS customer comments strongly supporting the concept and our products.

Already the *Datamation* appearance and the direct mail program have generated leads. The "Contact Me's" are immediately forwarded to the field. Many of these hot leads just sit out there and smolder—why not take advantage of this great sales tool?

Also, if you're organizing a seminar or a direct mail campaign, just complete this handy coupon for ample copies of this issue of *Computer Advances*.



MAIL TO: *Vic Kirmes*
Literature Distribution Center
Bldg. 9B, Palo Alto

- PLEASE RUSH ME _____ COPIES OF JANUARY "COMPUTER ADVANCES" (ON DISTRIBUTED PROCESSING) - VOL. 3, NO. 1 - 5953-3026
- PLEASE SEND _____ COPIES OF OTHER PAST ISSUES: _____

NAME: _____ HP SALES _____
_____ OFFICE _____

Do You Have Customers Who Are Not Receiving Software Support Services Updates?

By: Sherry Harvey/CSG

If any of your customers are not receiving the software updates, manual updates or subscription items that they should be getting, it is likely they are on the SOFTWARE SUPPORT DATA BASE, (maintained by Computer Service Division in Sunnyvale), but often with absent or incorrect mailing data. If you are aware of a problem of this type with any of your customers, you can take immediate action in one of the following ways:


1. Send NAME, ADDRESS, and ATTENTION: XXXXXXXX information specifying where and to whom the customer wants printed update material sent. Include

your name and sales office *and one or more* of the following:

- a. System serial number.
- b. Service contract number.
- c. Software or System Sales order number.

These data will allow us to link the mailing information to the database.

2. Use the convenient "SOURCE SHEET" form available from either CE Service Contract Administration or the SEO in your area. (See example)
3. After you have done one of the above and you still have some problems or questions on the Software Support Database, you may call the Software Support Database Coordinator, (408) 735-1550, extension 2671 at Computer Service Division, Sunnyvale, CA.



Computer Systems Group

SOFTWARE SUPPORT DATA BASE

SOURCE SHEET

Purpose Of Form (Details on Back)

The purpose of this form is to initiate the distribution of Software and Documentation updating materials to customers who have purchased either:

1. Software Updating Services (SSS/BMMC) through the field CE organization.
2. Software Support Service through the field SE organization.

TRANSMITTAL KEY

Repair Office	Service Contract #	Issue #	Selling Office	Order #
2601	2035	1	2601	20739

CE CONTRACT # 2601-2035-1

FOR: SSS/BMMC or Full Support SE SOFTWARE SUPPORT SALES ORDER # 260120739

CUSTOMER #

Reg	Area	Base	CD	System Serial #
2601	09	539		1703A01870

CUSTOMER MAILING ADDRESS

Attention Of: Gene Fehr

Company Name: Cohen Furniture Co.

Dept/Div/Bldg/Suite #: 336 S. W. Adams St

Street/P.O. Box: Peoria, Ill

City, State: Peoria, Ill

Country: USA Zip: 61602

DISTRIBUTION INSTRUCTIONS:

Domestic USA Updating Information (Except MIT Tapes) Will Always be Sent to Customers. Internationally, Updating information Will be Sent to Nearest HP Office For Forwarding If Customs Declarations Are Necessary. Some Information Will be Sent Directly to Customers.

Responsible CE: John Neteray

Supporting HP Office Entity Code: CE 2601 SE 2660

Cust P.O. #/Govt Cont #:

Magtape Density (3000 Sys Only) 800 BPI 1600 BPI

SUPPORT PRODUCTS

Product/Option	Qty	Expiration Date (mm/yy)
3211A	1	1/74
32208A		
32104A		
32213C		
32206A		
32235A		
32418A	1	1/79

Coverage will be initiated upon receipt of this source sheet. Timely return is essential.

Submitted By: *[Signature]*
 CE SE JOHN DOE (Print Name)
 Office 2601 Date 12/19/77

Return Completed Form To: Software Subscription Service
 Hewlett-Packard
 Computer Service Division
 974 E. Arques Ave (Bldg 70)
 Sunnyvale, Ca 94086 U.S.A.

5055-3245
 Order from CSD
 Date 11/15/77

Figure 4-4 Source Sheet
-11-



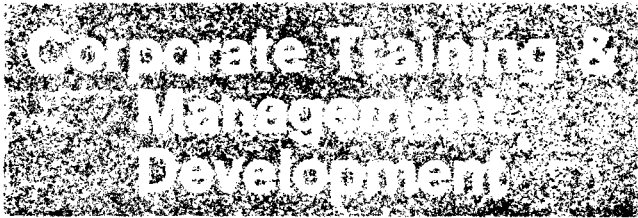
ONE OR MORE IS REQUIRED

WHERE CUSTOMER WANTS PRINTED UPDATE AND SUBSCRIPTION MATERIAL SENT

= SUPPORTING SEO

YOUR NAME AND OFFICE

RETURN TO CSD



NEW VIDEOTAPE INFORMATION

New Videotapes from Corporate Training

By: Chuck Ernst/Corp.

Title: HP 2240 MEASUREMENT AND CONTROL PROCESSOR (COLOR)
Audience: Computer Systems and Instrument Sales Force sales and service personnel.

Purpose: To provide sales and service information for the 2240A.

Content: This is a videotape copy of a sound-slide program. It describes the functions of the HP 2240A Measurement and Control Processor, and its extender, the HP 2241A. The program also covers the product's service features and its support plan.

Time: 24 minutes.

Part Number: 90756Z

Date Released: February 1978

How To Order: Transmit a HEART (COCHISE) 12 order to Video Products, Division 0700, Palo Alto. Order 90756Z for a videocassette. This program is not for sale to customers.



HEWLETT-PACKARD COMPUTER SYSTEMS GROUP
11000 Wolfe Road; Cupertino, California 95014 USA

Bob Lindsey/CS Group - Editor

Address content inquiries to:

LILLIAN BLANKINSHIP/BOISE - Editor
BARBARA SHAPEL/DMD - Editor
SANDY BETTENCOURT/DSD - Editor
SONI HOGAN/DTD - Editor
APRIL KILPATRICK/GSD - Editor
CATHERINE CLAY/HPG - Editor

JOHN WHITESELL/BOISE - Technical Editor
BOB HOKE/DMD - Technical Editor
JOE SCHOENDORF/DSD - Technical Editor
CARL FLOCK/DTD - Technical Editor
CAROLYN MORRIS/GSD - Technical Editor
PIERRE ARDICHVILI/HPG - Technical Editor