COMPUTER SYSTEMS NEWSLETTER

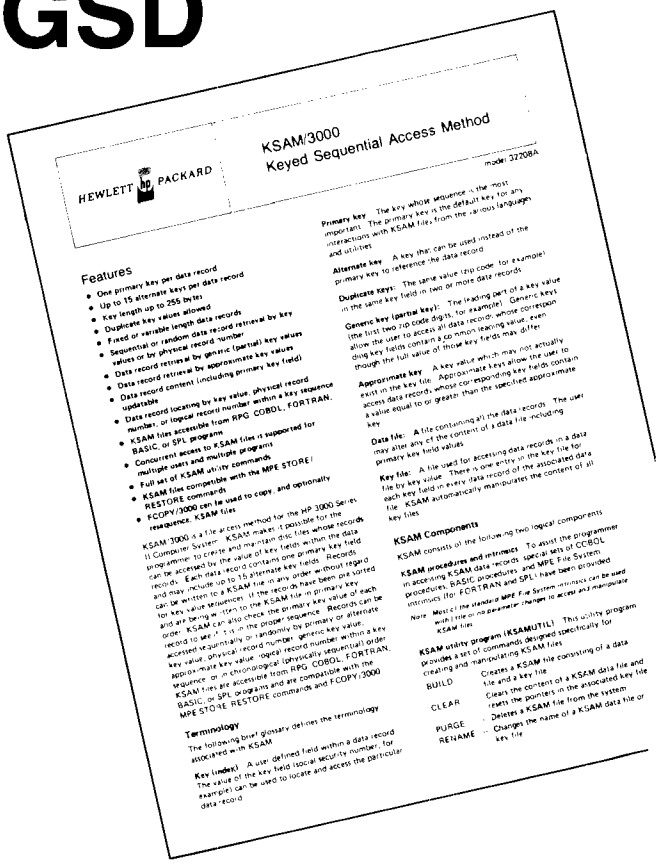
For HP Field Sales Personnel

HEWLETT PACKARD

Vol. 2, No. 6
Feb. 1, 1977

Announcing

KSAM/3000 Software from GSD



HEWLETT PACKARD

KSAM/3000
Keyed Sequential Access Method

model 32208A

Features

- One primary key per data record
- Up to 15 alternate keys per data record
- Key length up to 255 bytes
- Duplicate key values allowed
- Fixed or variable length data records
- Sequential or random data record retrieval by key values or by physical record number
- Data record retrieval by generic (partial) key values
- Data record retrieval by approximate key values
- Data record content (including primary key field) updatable
- Data record locating by key value, physical record number, or logical record number within a key sequence
- KSAM files accessible from RPG, COBOL, FORTRAN, BASIC, or SPL programs
- Concurrent access to KSAM files is supported for multiple users and multiple programs
- Full set of KSAM utility commands
- KSAM files compatible with the MPE STORE/RESTORE commands
- FCOPY/3000 can be used to copy, and optionally resequence, KSAM files

KSAM/3000 is a file access method for the HP 3000 Series II Computer System. KSAM makes it possible for the programmer to create and maintain disc files whose records can be accessed by the value of key fields within the data records. Each data record contains one primary key field and may include up to 15 alternate key fields. Records can be written to a KSAM file in any order without regard for key value sequence. If the records have been pre-sorted and are being written to the KSAM file in primary key sequence, KSAM can also check the primary key value of each record to see if it is in the proper sequence. Records can be accessed sequentially or randomly by primary or alternate key value, physical record number, or within a key sequence, or in chronological (physically sequential) order. KSAM files are accessible from RPG, COBOL, FORTRAN, BASIC, or SPL programs and are compatible with the MPE STORE/RESTORE commands and FCOPY/3000.

Terminology

The following brief glossary defines the terminology associated with KSAM.

Key (index): A user defined field within a data record. The value of the key field (social security number, for example) can be used to locate and access the particular data record.

Primary key: The key whose sequence is the most important. The primary key is the default key for any interactions with KSAM files from the various languages and utilities.

Alternate key: A key that can be used instead of the primary key to reference the data record.

Duplicate keys: The same value (zip code, for example) in the same key field in two or more data records.

Generic key (partial key): The leading part of a key value (the first two zip code digits, for example). Generic keys allow the user to access all data records whose corresponding key fields contain a common leading value, even though the full value of those key fields may differ.

Approximate key: A key value which may not actually exist in the key file. Approximate keys allow the user to access data records whose corresponding key fields contain a value equal to or greater than the specified approximate key.

Data file: A file containing all the data records. The user may alter any of the content of a data file including key fields.

Key file: A file used for accessing data records in a data file by key value. There is one entry in the key file for each key field in every data record of the associated data file. KSAM automatically manipulates the content of all key files.

KSAM Components

KSAM consists of the following two logical components:

KSAM procedures and intrinsics: To assist the programmer in accessing KSAM data records and MPE File System files, procedures (for FORTRAN and SPL) have been provided. Intrinsics (for FORTRAN and SPL) have been provided.

Note: Most of the standard MPE File System intrinsics can be used with files of no parameter changes to access and manipulate KSAM files.

KSAM utility program (KSAMUTIL): This utility program provides a set of commands designed specifically for creating and manipulating KSAM files.

BUILD	Creates a KSAM data file and a key file
CLEAR	Clears the content of a KSAM data file and resets the pointers in the associated key file
PURGE	Deletes a KSAM file from the system
RENAME	Changes the name of a KSAM data file or key file

IMAGE Software Places HP On DATAPRO Honor Roll

GSD Introduces KSAM/3000 .....Page 13

GSD Offers Special Discount on Systems With ISS Drives .....Page 15

HP's IMAGE Named to 1976 DATAPRO Honor Roll .....Page 16

In This Issue...

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

BOISE DIVISION NEWS

Division News

Price Reduction on Terminets!

By: Larry Andrews/Boise

Effective February 1st the prices of the 2762A and 2762B are being reduced. The new prices are $3950 for the 2762A, and $5650 for the 2762B, which are reductions of 20% and 14% respectively.

The prices of all options will remain unchanged. These new prices should make our terminal line much more competitive, resulting in more system orders as well as more terminal orders.

HP Provides the Total Solution

By: John Whitesell/Boise

One of *Doug Mc Arthur*'s major customers in North Carolina has ordered the first line printer containing the OMR drum. Their HP 12975A 300 lpm printer contains the newly-designed drum with the slug-character for pre-printing OMR card forms. This drum also contains OCR-B characters, which appear virtually the same as the characters on the standard drums, but can be read by OCR-B devices.

This customer will be using the slug character to pre-print variable data on card-forms used to conduct employee surveys. The employee marks his responses on the card using an ordinary pencil, and the cards are then read into the computer system using the HP 7260 optical mark reader.

For more information on this new capability, I suggest you read *John Freeman's* accompanying article, and *Bernard Guidon's* article in tne Grenoble Division section of this issue.

HP once again comes through with a convenient, accurate, cost-effective, total solution. Congratulations, *Doug!*

Product News

Printer Enhancements

By: John Freeman/Boise

All drum printers now offer two FONT styles. The standard FONT uses Data Products Corp. (DPC) standard character set and is USASCII standard (option-001 is the 96 character). Also available at no extra cost is an OCR-B FONT (which looks very similar to the PPC FONT) and an OMR "slug" character which replaces the backslash (\) on the DPC drum. Option –002 will get the 64-character drum at no extra charge and option –003 gets the 96-character for the same price as the option –001.

These new options provide an alternative to card punching through the use of the 7260 OMR reader and also flexibility for the user to even use OCR (optical character reader) devices. Continuous-form card stock can have information printed across the top of the card and OMR marks (the slug character) can be printed where punches normally exist. These slug marks can be read through an OMR reader to reference a "Suspense File" entry in a data base which contains the information normally punched on a card (and more because the data base is not limited to 80 columns of data).

The backslash character is only used as control character on a terminal and typically is not printed; so the user has not lost anything by using the OCR-B/OMR drum.

This should enhance the interactive capability of the HP 3000 by using the 7260 as a "Turn-Around-Document" processor in an on-line environment. If you need help in bidding this improved data processing over a punched card user, please call your Boise Sales Development contact.

Special Character Sets

By: Steve Richardson/Boise

Like all specials, foreign character sets are general y built after we receive a firm order. However, in the case of our drum line printers, we do not build them ourselves. These products are built by Data Products Corporation. This means we have less control over the lead times in obtaining these special drums.

Typically it takes 18 weeks ARO to get a special character set drum. Please contact us for delivery on any quote. We will try our best to help reduce this time; however, when talking special character sets with your customer, it is best to keep in mind the lead time for the special drum.

DISC MEMORY NEWS

Division News

New Division Organization

By: Dick Hackborn/DMD

Disc Memory Division has established a criterion of excellence in our products and our personnel. I'm happy to say our new divisional organization meets the above standard. In line with this, we have named three new managers for key functional positions:

Don Harris — Senior Personnel Administrator
Ray Cookingham — Division Controller
Ken Jochim — Division Quality Assurance Manager

Don has been at HP Loveland facility for about two and one half years handling a wide range of personnel activities from wage and salary administration to professional employment. Prior to joining HP, *Don* had eleven years of experience in personnel administration in such diversified areas as the Peace Corps and the Poverty Program. The start up of a new division depends heavily on the Personnel group for screening, hiring and training new employees and I feel confident to have *Don* handling this for us.

Ray Cookingham has been at the Santa Rosa Division for three and one-half years where he was most recently Cost Accounting Manager and was previously the General Accounting Supervisor. Prior to joining HP, *Ray* was a CPA at Price Waterhouse & Co.

Ray will be handling the essential task of getting our DMD accounting operation started in Boise. *Ray* will be working closely with *John Russell*, *Lee Pekary* and *Will Carleton* to coordinate the handling of accounting during the transition period from DSD to DMD.

Ken Jochim will provide a crucial link in our ability to achieve our goal of product excellence. *Ken* has been with the Santa Clara Division for eight years where he was most recently the Engineering Manager for the DSA product line. *Ken's* broad technical background and his excellent management capabilities make him a key person in helping DMD to meet the division objectives in reliability engineering, product safety and quality assurance.

We are fortunate to have three such capable people in these key management positions. I am sure you'll join with me in wishing them success in their new assignments.

Disc Memory Marketing Expands

By: Bob Hoke/DMD

The DMD Marketing organization has some new faces. Joining us are:

Garrett Prescott — Graphics
Marlyn Milliren — Repro Typing
Dick Byhre — Product Management

Garrett comes to us from DSD where he was the former Art Editor of the CS Newsletter. *Garrett's* talent will add a great depth to the Technical Pubs group managed by *Ray Ahrens*.

Marlyn is also joining *Ray's* group. *Marlyn* was the supervisor of Repro typing group in DSD and will *be* the group in DMD.

Dick, I'm sure you've met. *Dick* was formerly the Sales Manager for Data Terminals and most recently was on a special project in Product Management for DTD. *Dick's* wide range of experience will significantly expand our marketing capabilities.

I'm sure you'll join with me in welcoming these three super people to DMD.

P.S. Long woolies are "standard issue" to new DMD employees.

Product News

Disc Trade-up Program Ended

By: Bob Hoke/DMD

As of the 31st of December the Disc trade-up program ended. Those who took advantage of this program will be receiving their 7905A shortly. I would like to encourage you to have your customer return their 7900A as quickly as possible. We will be contacting each of the customers and notifying them of a 30-day return period.

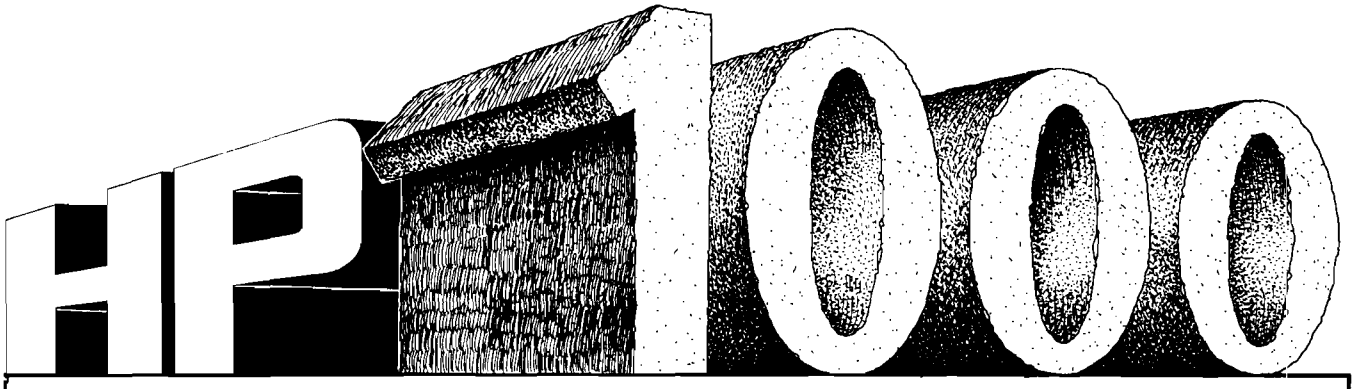
Good Selling.

Product Change

By: Bob Hoke/DMD

The 2942SA cabinet product has been changed. The Options 001 and 016 have been incorporated into the Standard and the Option 015 respectively.

DATA SYSTEMS NEWS



PERSPECTIVE

Analog Instrumentation: What's Available

By: Dave Hendrix/DSD and Dave Hannebrink/DSD

In continuing with our HP 1000 perspective with respect to instrumentation we would like to begin by talking about where HP has traditionally fit for the past few years, then describe exactly what we have to offer. We will show you exactly what we have via a comparison matrix of each category of instrument beginning with our analog capabilities.

First, it is necessary to set the stage as to where the HP 1000 fits in the measurement and control environment. Historically, our product line emphasized penetrating the measurement and control market places in industry and laboratory areas. We have designed our HP 1000 products around price/performance criteria. The Measurement and Control (M&C) products were designed for medium speed applications in industry and laboratories.

HP's instrumentation products complement CSG's M&C line with high accuracy, high resolution and lower speed measurement and control products. The following paragraphs will bring the HP 1000 analog capabilities together, painting a total picture to make it easier for you to grasp what is available.

Sensor Based Computer System I/O

Monitoring, automating, and controlling a real-time, physical process requires a computer system to handle both analog and digital I/O.

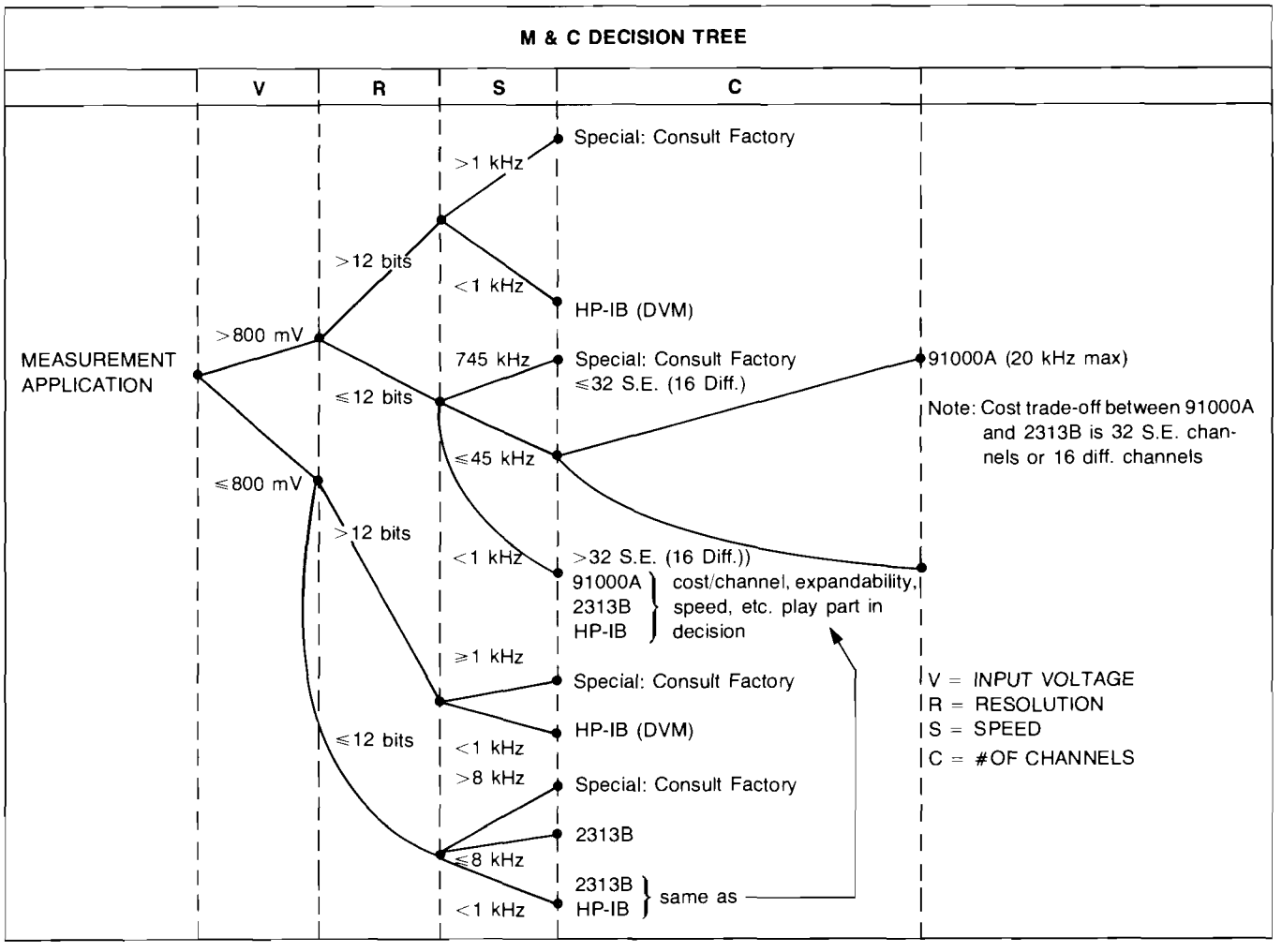
Analog inputs come from transducers such as strain gauges, pressure and force tranducers, position sensors, etc. Analog outputs are used as stimuli for actuators like valves, motors, etc. In short, analog I/O is used to communicate with devices characterized by continuously variable physical quantities.

Digital inputs include contact devices, limit switches, on/off switches, and pulse inputs. Digital outputs usually turn things on or off, i.e., they energize relays, light lights, sound alarms, etc. Digital I/O is used to communicate with devices whose status can be described by a discrete state.

Although our M&C products interface directly to many transducers and control elements, your main concern will be with "what kind of signal" (voltage, current, accuracy and resolution requirements) is presented and accepted by these products. Also you want to know how many I/O channels the system is expected to handle as well as the speed with which they must be processed.

CSG offers a choice of HP 1000 measurement and control solutions. Depending upon customers' analog I/O needs, we can offer the medium speed 2313B analog I/O subsystem or the 91000 ADC card. High accuracy with high speed analog I/O is accomplished by using CSG's special systems capability where HP integrates customer furnished M&C equipment to the HP 1000. Also available for high accuracy, low speed analog I/O capability are HP-IB solutions using DVM's and scanners for the do-it-yourself customer.

The following decision tree can be used to roughly determine which of these capabilities would best suit the customer's requirements. It's not a hard and fast selection technique but it should provide a place to begin putting together an HP solution. Remember, always ask the customer to explain his performance requirements because he may specify 100 KHz/14 bits as "State of the Art" but may not necessarily require such a performance with respect to the application.



Analog I/O: 2313B Analog I/O Subsystem, 91000A CPU Plug-in ADC

The computer itself speaks only "digitaleze," i.e., analog I/O requires a conversion step. Logically enough, this step is called analog to digital conversion (ADC) for inputting and digital to analog conversion (DAC) for outputting. ADC's aren't needed full time for each analog input. They're also expensive. Fortunately, we're able to share a single ADC among several inputs by switching the input channels individually to the ADC. The switching effort is called multiplexing and the switching hardware is called a multiplexer (MUX). Since the analog signals are changing, a sampled value must be held at the ADC input long enough for conversion to a digital word before the next sample is taken. This is done by a sample and hold (S&H) amplifier.

The 2313B is the fundamental analog I/O subsystem used with the HP 1000 systems. The 2313B subsystem includes a microcircuit interface to the HP 1000 (i.e., only one 21MXE I/O channel is used), a power supply, ADC, and an S&H amplifier. The basic version of the 2313B provides room for two plug-in I/O cards; with expander hardware, this can be increased to 33 cards.

The 91000A on the other hand is an inexpensive method of satisfying high-level ADC requirements for a small number of input channels. It includes the ADC, S&H amp, and MUX circuitry on a single CPU plug-in card (one CPU I/O slot per 91000). It also uses the same software as the 2313B.

No one else in the industry up to now can provide the full spectrum of analog I/O capabilities in one box. The matrix (Exhibit A) offers a fingertip reference to the analog hardware compatible with the HP 1000. With this you should be able to decipher most customer's requirements requiring a 2313B or 91000A solution.

NEXT ISSUE: Digital I/O, HP-IB, Specials, System's Approach

EXHIBIT A: ANALOG HARDWARE OPTIONS (General Description)

Product[1]	Description	I/O Range[2]	#Channels[3]	Speed[4]	Resolution[5]	Typical Applications
12751A (91110A)	High Level Mux	+10.24V to −10.24V	16 Diff 32 S. E.	45 kHz	12 Bits	Position Transducers (LVDT and Potentiometer) Pressure Transducers
12760A (91112A)	Low Level Mux Relay	±10 mV to ±200 mV Programmable	16 Diff	150 Channels/Sec (Same Input Range) 50 Samples/Sec for a Given Channel	12 bits	Strain Gauges Thermocouples (Grounded) High Common Mode Voltage
12761A (91111A)	Low Level Mux Solid State	±10 mV to ±800 mV Programmable	16 Diff	8000 Channels/ Sec (Same Input Range) 50 Samples/Sec for a Given Channel	12 Bits	Same as 12761A But Used Where High Common Mode Voltages Are Not Expected
91224A	Current Mux Solid State	2.5 mA to 200 mA Programmable	16	Same as 12761A	12 bits	Process Transducers Using 2 Wire Live Zero Control Current Approach. ISA Standard 4-20 mA
91225A	Current Mux Relay	2.5 mA to 200 mA	16	Same as 12760A	12 Bits	Process Transducers Using 2 Wire Live Zero Control Current Approach. ISA Standard 4-20 mA
12757A (91113A)	Dual 12-Bit DAC	+10.24V to −10.24V 0 to 20 mA	2	15K Conversions/ Sec	5 mV	Just to Make Sure You're Paying Attention, This an Output Card Used to Actuate Valves, Positioning Devices, etc.
12755A	Programmable Pacer	N.A. (not applicable)	N.A.	N.A.	N.A.	Paces Input Sampling. Used for Signal Reconstruction Where Accurate Timing Between Samples is Important.
12759A	Last Address Detector	N.A.	N.A.	N.A.	N.A.	Resets to First Channel in Sequential Mode Operation[6] Thereby Reducing Computer Overhead
91000	Plug in A/D Interface	+10.24 to −10.24V	8 Diff 16 S.E.	20 kHz	12 Bits	The 91000 Plugs Into One I/O Slot in the CPU, i.e., a 2313B is Not Needed. This Offers a Low Price A/D Solution.

Footnotes

1. Note some cards have two product numbers; the parenthetical numbers are used when ordering add-on cards to the 91063A digital subsystem. Note all cards, (with the exception of the 91000) are used with the 2313B subsystem.
2. Signal level not including Common Mode Voltage
3. Diff: differential, S.E.: single ended
4. Hardware design limit; subject to system configuration and utilization.
5. As can be seen, the 2313 is a 12-bit device. Additional resolution requires a Specials Group Quote.
6. As opposed to block mode or single channel mode. See data sheet, Notes 2 thru 5 will be covered in a future Nitty Gritty article, which you can read for extra credit.

Additions and Corrections — 7-Track MTS Special

By: Dave Hannebrink/DSD

The January 10th edition of the Newsletter incorrectly stated that the 12971A Diagnostic required output to 2 SIO supported devices. Actually it requires output to only 1 SIO device. Also, the disc back-up utilities, (DSAVE and DRSTR), are not operable with the 7-track mag tape drive.

Product News

Memory Reliability Experience Applied to CPU Components

By: Bob Frankenberg/DSD

Components for 21MX M- and E-Series processors are now receiving a rigorous burn-in and testing shake-down similar to the tough tests we've been performing on 4K RAM memories. *Willie Austin*, DSD Production Engineer, has led a program started last March to increase CPU board reliability and decrease production costs by pre-stressing and testing integrated circuits. This program is now in place and being used on virtually all parts loaded on 21MX Computer Series processors. Results to date have been very encouraging with a dramatic decrease in "in house" failures.

Previously most parts were pre-tested but not stressed. With this new program, however, all IC's are tested at 80°C, gross leak tested, temperature cycled, burned in at 125°C and retested to see that they still meet HP's tough specifications.

Our experience with 4K RAM memory chips has shown that pre-stressing will also dramatically reduce field failures of 21MX CPU boards. In addition to reduced production costs and increased reliability, pre-stressing also helps avoid production interruptions caused by faulty parts. In fact, it has already averted a major production interruption by identifying a heat sensitive lot of IC's used in M-Series computers. Future plans call for expansion to include other products in the 21MX product line in DSD's continuing effort to further increase product reliability.

IMAGE/Mag Tape

By: Mark Fowle/DSD

Apparently there is still doubt as to whether or not a mag tape is required to use IMAGE. Let's see if we can clear that up!

As you are aware, the IMAGE data base management package allows the defining of a data base structure with a file called the "schema" as well as allowing for the loading of the data base itself. (all this information, of course is stored in disc files.)

As yet I have made no mention of the mag tape. Its function is as follows:

1. To provide backup for the files on the disc.
2. To allow for unloading data base information to a mag tape unit and reloading it into a different data base structure. (See DBULD, DBLOD, DBSTR, DBRST pages 5-8 to 5-14 of IMAGE manual 92063-90001).

To answer the original question: Yes, IMAGE will work without a mag tape unit but with the following restrictions:

1. The only available backup will be the new disc backup utility provided with RTE-II/IIIB which provides copying capability from disc to disc (7900, 7905). Backup will not be possible with the IMAGE mag tape oriented routines.

2. Since DBULD, DBLOD, DBSTR, DBRST will not be usable, you will lose the flexibility of data base alteration that these commands allowed with a mag tape, a possible inconvenience to the customer. Hence we extend a strong recommendation that your systems include a mag tape unit, though do not show it as "required equipment" on the data sheets.

Good selling a great HP IMAGE!

12920B MUX Prerequisite

By: Frank Jackson DSD

Please be aware that the 12920B 16-channel MUX requires the use of a privileged interrupt card (12620A or 12936A) when using RTE software.

If your customer is ordering an add-on MUX or a new system, please make certain that your customer realizes that privileged control card is necessary and that his order is placed correctly.

Error on E-Series Data Sheet

By: Bob Frankenberg/DSD

In the Software section of the E-Series Data Sheet it says "...RTE systems, available in disc and main memory resident versions ...". This was an error on our part. As you all know, there are currently no main memory versions of RTE supported on the E-Series. I hope it has not caused you problems. It will be corrected soon.

Starship *Communicator* Explores the HP-IB Frontier

By: Dave Hannebrink/DSD

The November-December issue of the Computer Systems *Communicator* included the first of a series of articles under the heading "HP-IB Trekie". The articles will deal with various performance considerations and how they affect typical HP-IB applications. The topics to be covered are:

First Issue.	HP-Cable Parameters & Device Load Considerations

Next Issue:	Bus Topology & Handshake Analysis (Don't Miss This One)
Next Issue + 1:	Open Collector Delay Considerations
Next Issue + 2:	Powered-Off Device Considerations
Next Issue + 3:	Data Settling Times & DAV Glitch
Next Issue + :	Summary

These articles should prove a valuable information source for customers, CEs, and SEs. Also, FEs aware of the series' contents will have another reference when customers start asking for HP-IB performance data. All in a l, a good way to turn *Communicator* readers on to HP-IB or vice versa.

We thank Captain *Kirk* and Mr. *Spock* for inspiring this interterrestial Bus ride.

Sales Aids

A New Tool for OEM Sellers

By: Chuck Wain/DSD

We have just received a long-awaited listing of OEM and System houses from International Data Corporation (IDC). In between eating turkey and watching football we were sorting the data and getting it out to the field. Each Regional and Area Sales Manager has been sent copies of the IDC listings for their territory. The listings include much valuable sales information such as:

Company name and address

Contact person in the company

CPU and peripherals purchased — manufacturer and quantity

Company's application and market

'75 & '76 Sales $$

You can imagine the potential uses for this data: mailing lists, seminar invitation lists, and telephone contacts are just a few.

Each FE should be receiving the data for his/her territory soon. If you don't, contact your RSM, ASM or DSD OEM Sales Development engineer. Additionally, we will obtain a mag tape with a complete set of the data shortly (a prospect data base anyone?).

Good OEM selling in '77.

New DSD Pocket Guide Update

By: Ted Proske/DSD

If you're a computer systems RSM, ASM, DM, FE, SE, or Staff Engineer outside of Japan, you soon will be receiving a January 1977 Data Systems Pocket Guide update package. For the great majority of you who already have the DSD Pocket Guide six-ring binder, simply replace all the pages of the DSD section with this new update package. A few of you may be new people who haven't yet gotten a binder. If you are in that category, please XEROX the address label on the plastic wrap of your update package and send it to *Sylvia Cohen* here at DSD; she will send you a binder and a set of dividers.

For *Hewlett-Packard people* other than RSMs, ASMs, DMs, FEs, SEs, or Staff Engineers, DSD Pocket Guide binders with index tabs may be purchased in lots of 10 at $50 per lot; the latest DSD update package can also be purchased in lots of 10 at $30 per lot. Your order should be sent on an IOS, giving your account and location, to *Sylvia Cohen* here at Data Systems. Nothing less than lots of 10 will be supplied.

Note: Under no circumstances is the DSD Pocket Guide or any of its update packages to be given to non-HP people. Our handout price information is provided on configuration guides.

Order Processing

Used Equipment at Super Savings

By: Judy Coleman/DSD

The following used equipment is available at great savings and all units carry a full 90-day warranty.

QTY	PRODUCT	DESCRIPTION	PRICE
2	2100A-016-888	Computer 16K Memory	$12000.00
2	2100A-008-888	Computer 8K Memory	10000.00
75	12998A-888	8K Memory Module	350.00
2	12960A-888	Cartridge disc Subsys.	8800.00
1	6940B-888	Multiprogrammer	1360.00
1	6941B-888	Multiprogrammer Extender	880.00

Please contact *Judy Coleman* (408) 257-7000 EXT-3367 for availability and transmitting instructions.

DATA TERMINALS NEWS

Division News

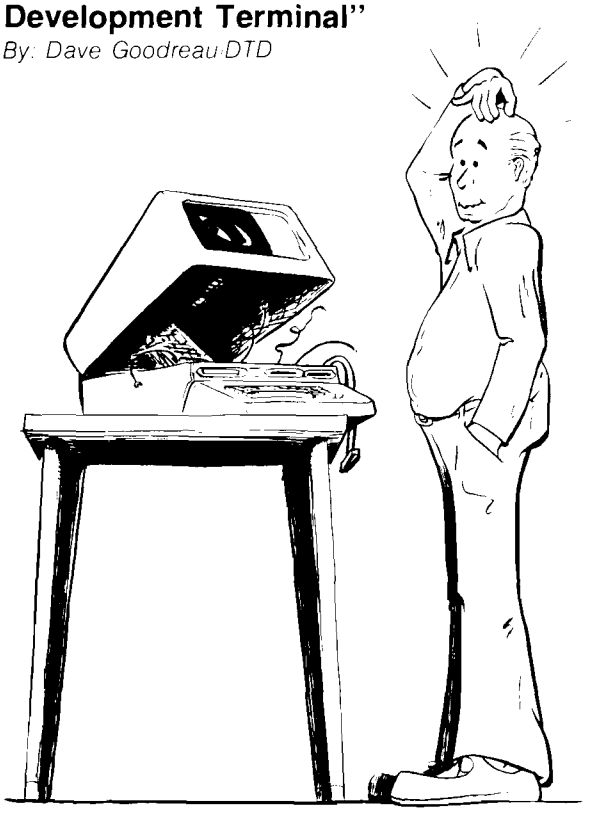
No More — 2640A or 2644A

By: Carl Flock/DTD

The 2640A and 2644A are gone. They are obsolete and have been removed from the February 1, 1977 price list. Of course, the 2640B and 2645A have replaced them with better price/performance and all the new features you have asked for.

13294A* — "How to Use the 13290A Development Terminal"

By: Dave Goodreau/DTD



The 13294A* customer training course will be offered again March 14th through 18th. This one-week training course covers both software and hardware features of the 2645A. Special emphasis will be placed on software modules and heavy emphasis on lab work using the 13250A*. This course is designed and required for all 13290A* Development Terminal customers.

Prerequisites for taking the course are:

- Familiarity with all 2645A features
- Working knowledge of 8080 Assembly Language
- Strong background in digital electronics and assembly
- Language programming techniques

The course size is limited, so have your customers sign up now!

*NOTE: 13290A/13294A is available in the U.S. and Canada only.

Product News

Remote Control of Auto Data Logging Mode

By: Tom Anderson/DTD

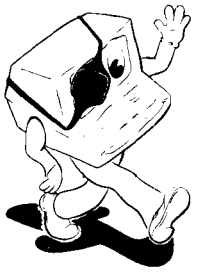
Control of Auto Data Logging (or Edit Mode) is technically only possible from the keyboard (GREEN EDIT) on the 2645A Display Station. However, it is possible to use the loader sequence to trick the 2645A into thinking that the key sequence has been executed. ESC & 34567aE will toggle the state of Edit (or Auto Data Logging) Mode. ESC &c 34600aE with turn Edit (or Auto Data Logging) Mode off.

TOGGLE	ESC &c 34567aE
OFF	ESC &c 34600aE
ON	ESC &c 34600aE ESC &c 34567aE

In future versions of the 2645A, this sequence may change, so it should be considered an unsupported feature.

"Why You Should Sell Option 001"

By: Eric Grandjean/DTD



Well Known Fact:

Without option 001, you cannot display lower case characters.

Less Well Known Fact:

Without option 001, you cannot display control characters in display functions mode.

Even Less Well Known Facts:

With *OR* without option 001, our terminals will handle, generate and respond to both upper *AND* lower case codes!

Proof Test: On 2644/45 *WITHOUT* Option 001:

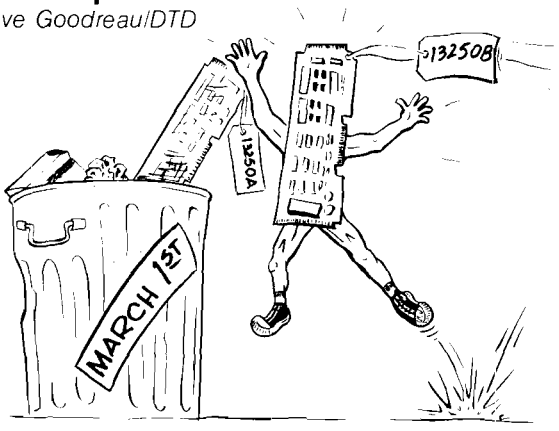
- Type one line of upper case characters
- Type one line of lower case characters (Caps lock key up)
- Both lines are displayed in upper case
- Record on cartridge
- Play back on unit *WITH* option 001

Surprised? If you are, think about your customers!

The potential operational problems which may result from not having full 128-character display control codes included may not be worth the One Hundred Dollar savings.

13250B Replaces 13250A

By: Dave Goodreau/DTD



As of March 1st, the 13250B will replace the 13250A on the Corporate Price List. That means the HEART system will no longer accept a 13250A order.

The 13250B has all the super features of the 13250A plus several more.

- Provides for monitoring the Data Set Ready Line (CC).
- Provides for Baud Rate Selection (CH).

These features were added to expand our data communications capability.

Data Communications Self-Test

By: Eric Grandjean/DTD

One of the outstanding features of the 2640 family of terminals is its self-test. *ONE KEY DOES IT ALL!*

On the 2645A and 2641A you can go one step further, and test your communications up to, and including the modem cable if you wish!

Each 2645A and 2641A is furnished with a data comm. test hood. If you suspect a communications problem, just follow the procedure below with Remote key down:

STEP 1.

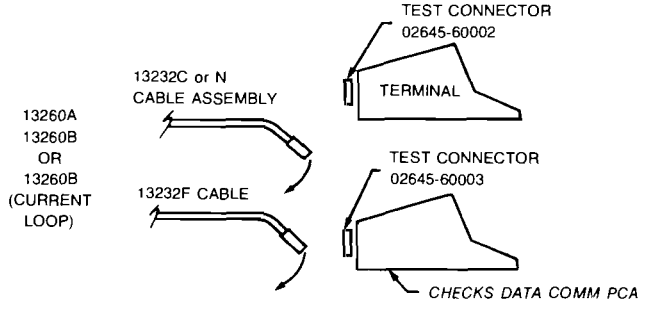
a. Ensure power is off, and disconnect cable data communications PCA.

b. Connect PCA Test Connector part no. 02645-60002, to data communications PCA. (If operating in current loop, use test connector part no. 02645-60003 to connect to 13260B Data Communications PCA.)

c. Turn on power.

d. Press Remote (Key Down), and press GREEN, ENTER.

e. Refer to data comm self-test flowcharts for diagnosing possible error messages.



STEP 2.

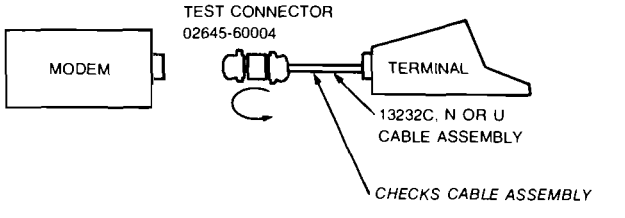
a. Turn off power, and connect 13232C or N Cable Assembly to 13260A,B,C, or D data communications PCA. (If operating in current loop, connect 13232F cable to 13260B data communications PCA.)

b. Connect RS232 Test Connector, part no. 02645-60004, to RS232 connector on 13232C or N cable.

c. Turn power on.

d. Press Remote (Key Down)and press GREEN, ENTER.

e. Refer to data comm self-test flowcharts for diagnosing possible error messages.



After a few seconds, a message will appear on the screen:

BASIC DATA COMM
SELF TEST OK.

If you get an error message, refer to the self-test flow charts on page 7-49 to 7-52 of your 2645A Reference Manual. Simple? You bet! This is another of many outstanding features we offer on our terminals which our competitors do not have.

P.S. #1 - Please correct Table 7-15 in your Reference Manuals.
P.S. #2 - The Comm Self-Test is not supported on 2640A-B types or 2644A.

13232A and 13232N Cables

By: Eric Grandjean/DTD

We have recently received a number of queries concerning differences between the 13232A and 13232N cables.

The new 13232N cable is more universal than the 13232A. It has additional RS232C timing and control lines, in particular, the "Data Rate Selector" (CH) line.

The figure below gives you a complete and accurate wiring description of the 13232N cable.

In bold lines only, you have the wiring of the 13232A cable.

Figure 7-21 in the installation section of the 2645A Reference Manual contains a number of typo errors. Please make the necessary corrections or insert a copy of this article in your manual for future reference

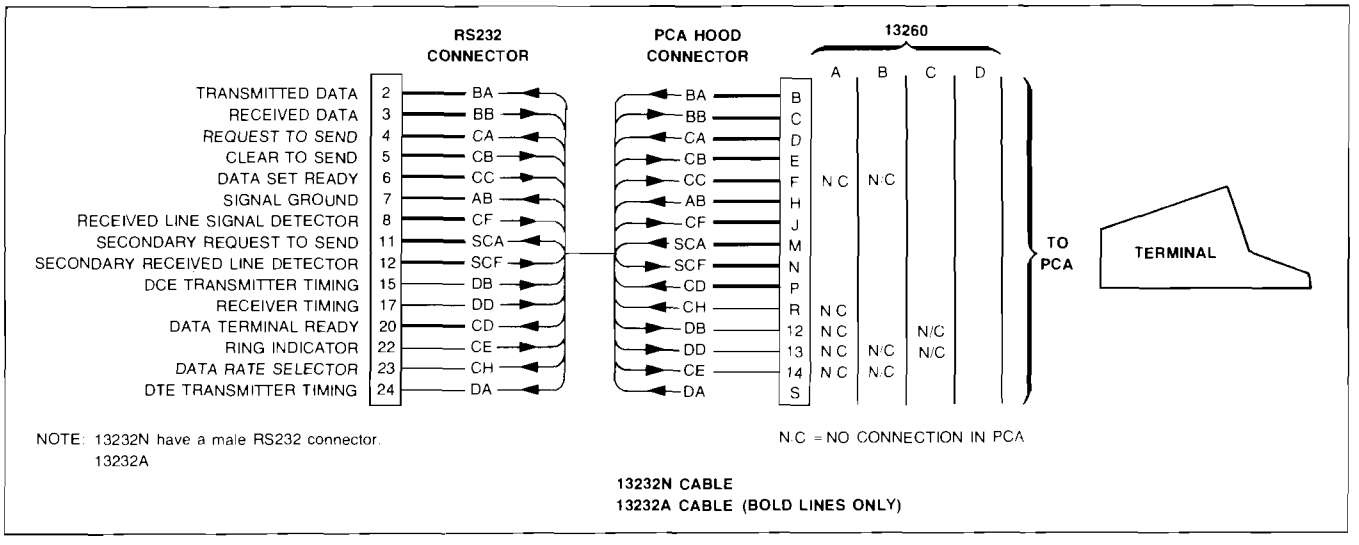


Figure 7-21. Point-to-Point Communications Cabling

NOTE: The 13232A is no longer shown on our Data Sheets, but it is still available from the Corporate Price List.

13232M Cable Versus 13232N

By: Eric Grandjean/DTD

The only difference between the 13232N and the 13232M is pin assignment of "Secondary Request to Send" (SCA) in the RS232C modem connector.

13232N	Pin 11	(RS232A)
13232M	Pin 19	(RS232C - CCITT V24)

NOTE: U.S. RS232C Modems take SCA on either pin 11 or 19.

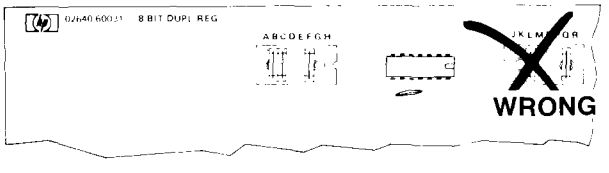
Service News

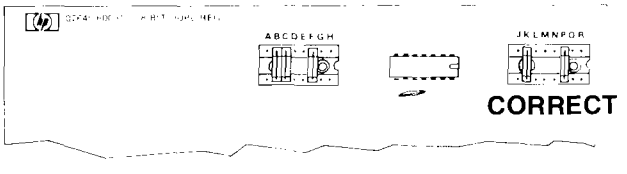
2645A Manual Error

By: Ed Churka DTD

Reference Manual Error on *HP 9866* and *HP 9871* Interface Module.

On page 7-12 of the 2645A Reference Manual (02645-90005), figure 7-12 is incorrect. See below for the correct jumper positions.





GENERAL SYSTEMS NEWS

Product News

Introducing KSAM/3000

By: Rich Edwards/GSD

What is KSAM/3000?

The KSAM/3000 (Keyed Sequential Access Method) software is an extension to the HP 3000 Series II file system which has all of the file system capabilities and in addition makes it possible for the programmer to create and maintain disc files whose records can be accessed by the value of key fields within the data records. By combining the power of keyed file access with high access speed, KSAM becomes an important tool in applications where these factors, rather than data base flexibility, are required. Each data record contains one primary key field and may include up to 15 alternate key fields. Records can be written to a KSAM file in any order without regard for key value sequences. If the records have been pre-sorted and are being written to the KSAM file in primary key order, KSAM can also check the primary key value of each record to see if it is in the primary sequence. Records can be accessed sequentially or randomly by primary or alternate key value, physical record number, generic key value, approximate key value, logical record number within a key sequence, or in chronological (physically sequential) order. KSAM files are accessible from RPG, COBOL, FORTRAN, BASIC, or SPL programs and are compatible with the MPE STORE/RESTORE commands, FCOPY/3000, and SORT/3000. KSAMUTIL provides additional utility functions such as BUILD, PURGE, VERIFY, RENAME, etc.

Price, Availability, and Ordering Information.

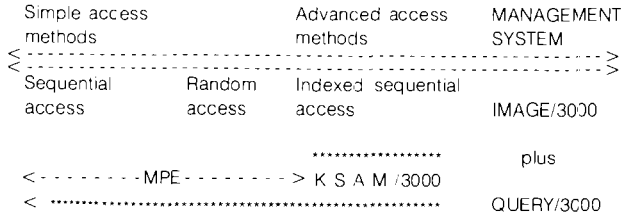
KSAM/3000 was officially introduced on January 24, 1976 to the public through press releases from HP. KSAM/3000 is ordered as a line item (part number 32208A) with a price of $2,500. Orders may be placed after January 24; the software and manual will be available for delivery about March 1, 1977 from GSD.

File Conversion from ISAM Made Easy!

What is the market for KSAM/3000? The market for the 3000 Series II is the market for KSAM/3000! You will find that the indexed sequential access method (ISAM) is used extensively in commercial data processing; e.g., virtually all IBM System/3 users have ISAM files and many IBM System/370 users have VSAM (Virtual Storage Access Method, the IBM large system ISAM) files. ANSI '74 COBOL requires an indexed sequential module. Most commercial prospects for the HP 3000 have "grown up" in data processing with ISAM processing of their data files. NOW ON THE 3000 SERIES II YOU CAN OFFER THEM A COMPARABLE and VERY COMPETITIVE CAPABILITY. Don't forget that the Series II is now fully equipped to meet your prospect's entire data management needs — KSAM + FCOPY + MPE STORE/RESTORE as well as IMAGE + QUERY enhancing a truly outstanding file system STANDARD with MPE II !!!

Why is GSD Introducing KSAM?

KSAM/3000 completes the data management spectrum of capabilities available on the HP 3000 Series II:



RSAM Users can Convert Easily.

As mentioned above, ISAM is very extensively used in commercial data processing. The contributed program R'ISAM (RSAM) was a stop-gap attempt to provide ISAM capability (one key or index, only; no FCOPY/3000 compatibility) to HP 3000 customers. With the release of KSAM/3000, current Series II RSAM users may replace RSAM by purchasing KSAM/3000 as a line item. Please note that a computer program to convert RSAM files to KSAM files is included as part of the KSAM/3000 product. Please refer to your Field Training Manual (in your hands in the next few weeks) for further details of the RSAM to KSAM upgrade. On HP 3000 CX (and earlier) models, RSAM will become a supported product in the near future, as KSAM/3000 CANNOT be used.

KSAM/3000 is a Flexible Application Tool

Both you and your prospects should view KSAM as another data management tool that can benefit him in managing and processing his organization's data. Just as the HP 3000 allows an applications programmer to program in the language of his choice (RPG, COBOL, BASIC, FORTRAN, APL, or SPL) — BEST SUITED *TO* THE APPLICATION — it *also allows the systems analyst to pick the form of data and* file organization BEST SUITED *FOR* THE APPLICATION. The Field Training Manual has a section to explain the differences in file systems and data base management systems and help you point out the advantages and drawbacks of each to your prospects. Your System Engineer *is receiving extensive training on* KSAM and is already familiar with IMAGE/QUERY; together you should be able to demonstrate to the customer that the HP 3000 Series II is unmatched in its data management capabilities and can meet any of his needs!

What's the Competition?

When selling KSAM 3000 with the 3000 Series II you should consider competitive offerings in the total data management arena, not solely KSAM competition. You are offering a prospect the broadest range of data management capabilities that are vendor developed by any minicomputer manufacturer! Chapter 5 of the Field Training Manual reviews the position of the HP 3000 Series II versus its competitors. In a nutshell, KSAM/3000 (representing only the 3000's indexed files) is extremely competitive with such offerings as IBM's ISAM on the System/3 and VSAM on System/370; Data General's INFOS; DEC's RMS-11 (11/45 and 11/70, only); and many others!

HP 3000 Series II Data Management Summary

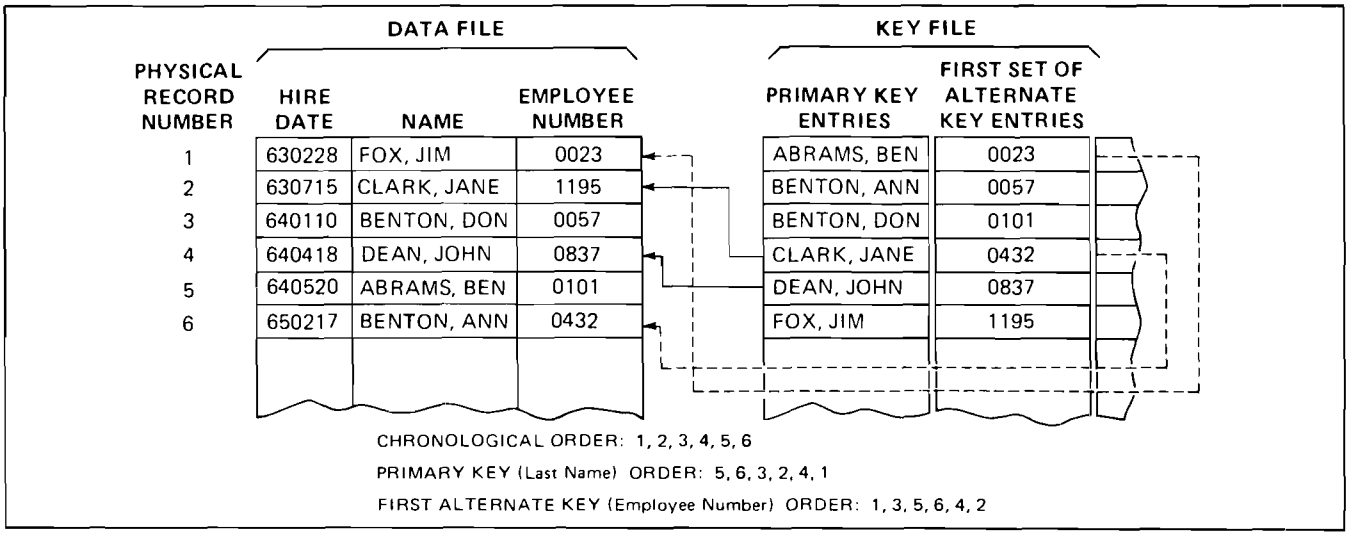
The accompanying table illustrates differences between the MPE II file system, R'ISAM (not available on the Series II after February 1977),KSAM/3000 and IMAGE/3000. Some customer benefits to note about KSAM include:

- Variable length records are permitted. This can save valuable space if you have large files requiring random access by key value. [IMAGE/3000 allows only fixed length records.]
- The smallest field size is a byte, allowing further savings in file space over IMAGE which requires even WORD boundaries for all data items (fields).
- The key file is automatically and dynamically updated so that retrievals can take place concurrently with additions to the file.
- Up to 16 keys may be used. In RPG installations this can eliminate sorts and programs reprocessing a file after a sort. All languages benefit by having multiple keys to use for retrieval of records.
- A KSAM file can be created and filled by one language and accessed by another — use RPG, COBOL, BASIC, FORTRAN, or SPL. The KSAM files are completely language independent.
- Generic (partial) key retrieval and approximate key retrieval are supported; IMAGE does not allow them
- While the key file disc space is allocated at creation, the data file disc space is allocated dynamically as the file expands and contracts. In IMAGE ALL disc space for all data sets is allocated at creation.

	MPE Files	R'ISAM*	KSAM	IMAGE/QUERY
ACCESS METHODS				
Sequential	Yes	Yes	Yes	(Serial)
Random by Record Number	Yes	Yes	Yes	(Direct)
Random by Key Value	No	Yes	Yes	(Calculated)
Generic Key Match	No	No	Yes	No
Approximate Key Match	No	No	Yes	No
Indexed Sequential	No	Yes	Yes	No
Duplicate Keys	No	No	Yes	(Chain)
NUMBER OF KEYS	None	1	1-16	0-16
DYNAMIC LOCKING	Yes	No	Yes	Yes
MAINTENANCE	MPE	RSAMUTIL	KSAMUTIL	Data Base Utility Subsystem
KEY SEQUENCE UPDATED	X	At Close	Immediate	Immediate
FIXED LENGTH RECORDS	Yes	Yes	Yes	Yes
VARIABLE LENGTH RECORDS	Yes	No	Yes	No
SMALLEST RECORD	Byte	Byte	Byte	WORD
IMMEDIATE DISC SPACE ALLOCATION FOR FULL FILE	No	Yes	No	Yes
LANGUAGES SUPPORTED				
RPG	Yes	Yes	Yes	Yes
COBOL	Yes	Yes	Yes	Yes
BASIC	Yes	No	Yes	Yes
FORTRAN	Yes	Yes	Yes	Yes
APL	Yes	No	No	No
SPL	Yes	Yes	Yes	Yes
INQUIRY LANGUAGE	No	No	(Use FCOPY)	QUERY
COMPATIBLE WITH SORT/3000	Yes	No	Yes	No
COMPATIBLE WITH FCOPY	Yes	No	Yes	(Use DBUNLOAD)
SMALLEST RETRIEVAL UNIT	Record	Record	Record	Field (Data Item)
SHARED ACCESS	Yes	No	Yes	Yes

*Not supported on the HP 3000 Series II after February 1977.

Table 1. HP 3000 Series II Data Management



Simplified KSAM/3000 File Structure

EXTRA

GSD Offers Special Discount on Systems With ISS Disc Drives!!!

By: Don Barkley/GSD

Effective January 11, 1977, the General Systems Division is offering a special discount on all systems that have ISS disc drives. On any order which is on the books or is placed by February 28, 1977, we will offer a special $6,000 discount off the system price for each and every ISS drive that is included on the system order. That means for a standard Model 7 or 9, the customer price would be $138,000 and $178,000 respectively. If the customer orders an Opt. 144 or 146 with the system, he will receive another $6,000 ($18K total) and $12,000 ($24K total) discount respectively. To look at it another way, the customer can get a 188mb system for $4,000 more than he would have paid for a standard 94mb Model 7 or 9. This discount is applied in addition to any other discount he might have received due to an HP purchase agreement or GSA contract.

The only requirement that the customer must meet in order to be eligible for this special discount is that GSD can ship at its convenience (customer may not specify delivery date). All shipments will be made before April 15, 1977.

If you have any questions, please call your Sales Development Engineer. Here's to bigger, larger sales for you!

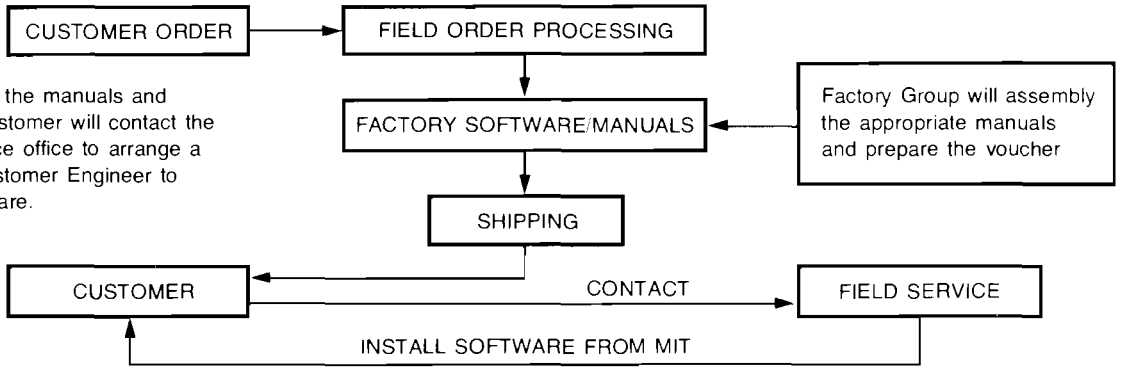
Order Processing

HP 3000 Add-On Software's New Installation Procedure

By: John Page/GSD

To economically and efficiently distribute add-on software to our customers, we are implementing a system by which the customer will receive the manuals and a voucher, which authorizes installation, upon purchasing an add-on software product. Installation of the software product is performed by the account responsible Customer Engineer from the latest Master Installation Tape (MIT). This new procedure will speed the processing of customer orders and reduce the handling and shipping costs for add-on software. The Product Maintenance Tapes (which contain fixes at the source level) will still exist and may be obtained via a special order.

This is how it works:



NOTE: Upon receipt of the manuals and voucher, the customer will contact the HP Sales/Service office to arrange a time for the Customer Engineer to install the software.

However, keep in mind the two exceptions to this procedure: Student Info System (SIS) 32900A and Student Assign System (SAS) 32901A. These two products require license agreements and are not distributed via the Master Installation Tape (MIT). These products will have a Magnetic Tape sent when filling a customer's order. Orders for these two products will follow the same flow as shown above.

Publications

IMAGE Named to 1976 DATAPRO Honor Roll

By: Dennis Rieger/GSD

Datapro Research Corporation has sent a plaque to *Bill Hewlett* which names the Hewlett-Packard Company as a member of the 1976 Datapro Software Honor Roll.

This plaque reflects the excellent ratings in the key categories of overall satisfaction earned by our data base management system, IMAGE, in Datapro's fourth annual survey of proprietary software users.

This year's Honor Roll members were determined by what Datapro is condifent is the largest survey of software users *ever conducted. A questionnaire mailed to* 30,000 data processing executives asked them to summarize their experience with specific software packages. Responses were received from 5,202 users, and they rated a total of 1,446 different packages. Of these IMAGE was ranked among the top 38 software packages that earned an average user rating of *excellent* in overall satisfaction and met certain other qualifying criteria to be named to the 1976 Datapro Software Honor Roll.

Because Datapro felt this special tribute from our most important audience--our users --should be commemorated in kind, they have sent a handsome walnut plaque to the president of HP, *Bill Hewlett*.

Also, we were pleased to learn that in addition to appearing in the December supplement to Datapro's information service, DATAPRO 70, the results of this year's survey are once again being prominently featured in the December issue of DATAMATION *magazine*, with whom Datapro collaborated on the survey.

How the packages were rated.

In brief, the users were asked to rate the software packages they were using as "excellent," "good," "fair," or "poor" in each of seven subjective categories: overall satisfaction, throughput efficiency, ease of installation, ease of use, documentation, vendor technical support, and training (if applicable). They then converted the collective user ratings for each package into a weighted average rating for each category. Further rating details can be obtained by refering to the December issue of DATAMATION magazine.

Table 1 below summarizes the only four data base management systems to qualify: Cullinane's IDMS, Hewlett-Packard's IMAGE and Cincom's TOTAL, which all earned places on the Honor Roll, and Burroughs' DMS-II, (which only achieved Honorable Mention due to the limited number of users).

Vendor and Package Name	No. of User Ratings Received	Weighted Average User Ratings							Advantages Cited by Users				Disadvantages Cited by Users							Perform as Advertised?			Require Modification?		
		Overall satisfaction	Throughput/efficiency	Ease of installation	Ease of use	Documentation	Vendor technical support	Training	Flexible	Inflexible	Saves system resources	Saves human resources	Inexpensive	Costly	Complex	Slow	Uses excessive resources	Lacks key capabilities	Compatibility problems	Immediately	Eventually	Never	No	Yes, by vendor	Yes, by user
Burroughs Corp.																									
Accounts Payable	5	3.0	2.8	2.8	2.8	2.2	2.0	2.0	2	2	0	2	1	0	0	0	0	2	2	2	2	1	0	2	4
BHAS	6	2.8	2.8	3.0	4.0	2.8	3.0	2.8	4	0	2	4	0	0	1	1	0	0	0	2	3	1	0	0	5
COBOL	3	3.7	3.3	3.7	3.7	3.0	3.0	3.0	0	1	0	1	0	0	0	0	0	0	0	2	1	0	3	0	0
DMS-II	5	3.8	4.0	3.6	3.6	2.8	3.0	3.2	5	0	4	5	0	0	0	0	0	0	2	4	0	0	5	0	0
Cincom Systems, Inc.																									
Environ/1	18	3.1	3.1	3.2	3.1	2.3	2.5	2.5	9	2	7	13	2	3	3	4	0	5	2	9	5	4	11	4	4
TOTAL	113	3.5	3.1	3.4	3.4	2.8	3.0	2.8	78	13	42	79	5	23	3	15	8	18	4	76	27	4	91	13	4
Cullinane Corp.																									
CULPRIT	7	3.6	2.7	3.9	3.3	2.6	3.1	2.9	5	1	2	7	0	1	1	1	0	0	2	6	1	0	4	3	0
IDMS	17	3.8	3.3	3.4	3.6	3.0	3.6	3.5	14	2	7	15	0	1	2	1	0	0	1	14	3	0	11	5	0
Hewlett-Packard Co.																									
DOS	3	3.0	3.0	3.3	2.3	2.3	2.0	2.0	0	3	1	0	1	0	0	1	1	3	0	1	2	0	1	0	2
IMAGE	11	3.6	3.3	3.7	3.2	2.8	2.9	2.7	6	3	1	7	2	0	0	1	0	3	1	11	0	0	10	1	0
RTE-II	7	2.6	2.6	2.3	2.7	2.9	2.6	2.4	3	0	0	3	1	0	3	0	0	2	1	3	2	2	4	2	1

TABLE 1* User Ratings of Proprietary Software

What does this mean to HP?

Because the Honor Roll is not a commercially controlled competition, but rather a reflection of the opinions of virtually the entire software user universe, Datapro endorses the promotion and publicity of IMAGE's achievements and willingly lends their name to appropriate advertisements or press announcements by Honor Roll members. Mention of our membership in the reports, exhibits, newsletters, etc., is generally acceptable to Datapro Research Corporation. We intend to use this option.

*Reprinted from DATAPRO 70, copyright 1976, with permission of Datapro Research Corporation, Delran, New Jersey.

APL Seminars

By: Jean Danver/GSD

One of the major APL Service Bureaus, Scientific Time Sharing Corporation (STSC) has been running a major ad campaign to convince prospects to attend some of their seminars on APL.

One of these seminars is a free two hour "APL Executive Briefing" which is an excellent pitch on APL, well worth hearing from a sales training point of view.

It will also give you some insight into STSC, an organization which competes with us from time to time.

The phone numbers to call for a reservation, the dates, and cities are listed below:

CITY	DATE	PHONE NO.
Boston	Feb. 24	(617) 267-6864
Chicago	April 12 June 8	(312) 297-2220
Dallas	March 29	(817) 461-8411
Denver	April 14	(914) 428-6910
Detroit	March 10	(914) 428-6910
Hartford	Feb. 23	(203) 549-0107
Houston	March 30	(713) 691-6319
Los Angeles	March 2 May 5	(213) 340-4611
Minneapolis	April 13	(914) 428-6910
New York City	March 22, 24 June 10	(212) 751-9305
Orange County	March 1 May 4	(805) 648-7968

Philadelphia	May 13	(215) 564-3980
Pittsburgh	March 9	(412) 372-6013
Rochester	April 6	(914) 428-6910
San Diego	May 3	(914) 428-6910
San Francisco	March 3, 4 May 6	(415) 326-8300
Washington D. C.	March 15 May 17 June 14, 21	(301) 986-1750
White Plains N.Y.	March 8 June 23	(914) 428-6910

Reservations can also be obtained by writing

Seminar Coordinator
Scientific Time Sharing Corporation
7 Holland Avenue
White Plains, New York 10603

Used ISS Controller for Sale

By: Mike Chonle/NSR

I have a customer who has an extra ISS Controller which they cannot use any longer because the 3000 Series II supports only one ISS Controller. It is complete and for sale at a good price . . .$4-5K. What's included is as follows:

30202A Controller/Interface
30330A Power Control Unit
30331A Disc Junction Panel

This might be of interest to your 7905 disc-based 3000 customers who want to add more disc storage at a cheaper price (the controller costs about $12K new). This controller coupled with a new or *used* ISS disc represents a good deal!

Please call me at (408) 249-7000 if you have any interest in this controller.

HP GRENOBLE NEWS

Product News

Applications for "Turn Around Documents"

By: Bernard Guidon/Boise

Here are some typical applications for Turn Around Documents. Your customers have some more they want to discuss with you.

Manufacturing

- Time Card Reporting:

  Forms are printed with employee's names and week number, they then mark the hours they completed.

- Parts Pull Request:

  Forms are printed with quantity and type of components to be "pulled" from stores and given to production. Stores personnel mark on the card the quantity actually pulled.

Computer Museum

Education:

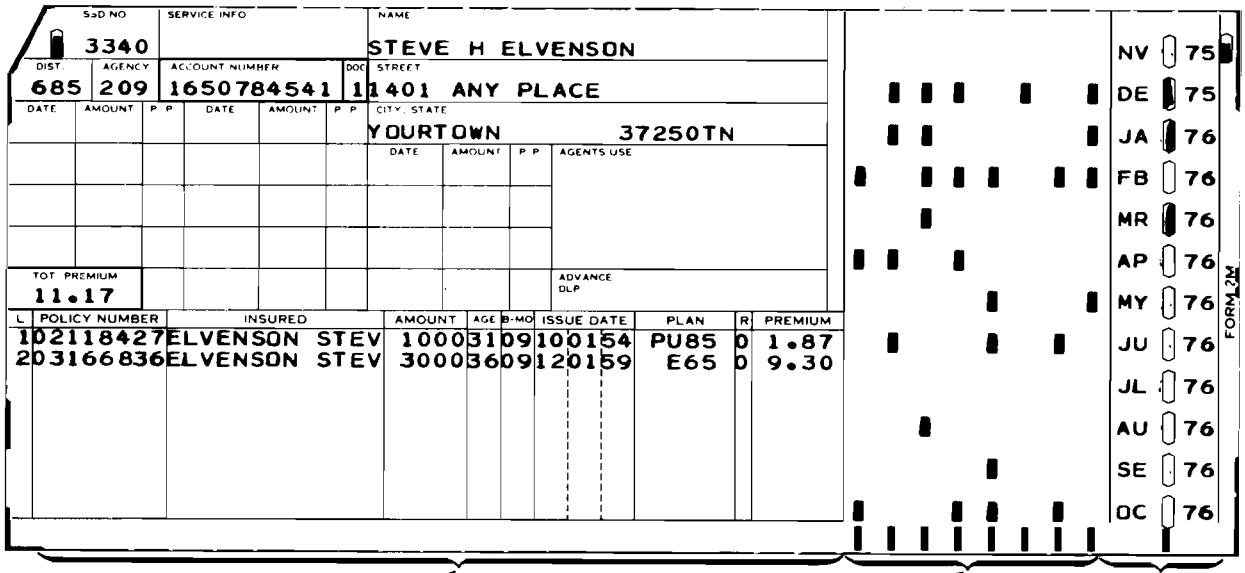
- Student tests:

  Forms are printed with student name and description of test; student marks selection of responses and is automatically graded.

Commerce:

Refer to application note 202-03 (HP Part No. 5952-9406). This describes how National Life uses turn around documents and hundreds (yes, hundreds) of HP optical mark readers. We have used an example of their cards to show you what a "Turn Around Document" looks like. We are preparing more information to help your customer design his cards, but in the meantime sell HP OMR's.

Typical Form for Turn Around Document



ALPHANUMERIC FIELD

The Line Printer prints alphanumeric characters for use by the operator. Such characters specify the transactions to be made. The alphanumeric field does *NOT* have clock marks.

FIXED DATA FIELD

Often a binary code to refer the transaction for use by the computer. Need clock marks to make the SLUG characters readable by the OMR.

VARIABLE DATA FIELD

field where the transaction will be recorded right at the source with single pencil marks. Need clock marks to make the data readable by the OMR.

New Options on Boise Line Printers to Sell More Optical Mark Readers

By: Bernard Guidon/Boise

In a previous issue of the Newsletter (October 1, 1976), we introduced you to TURN AROUND DOCUMENTS. This is the capability of preparing optical forms, under software control, on HP system line printers. Such printed documents are then readable by the 7260A or 7261A Optical Mark Readers.

In cooperation with Boise Division, we have developed new options for the 2613A, 2617A and 2618A drum line printers, to make available a SLUG character (■black rectangular character).

Such character will print out reliable dark marks in the data locations of optical forms, so that no overprint is necessary anymore. The SLUG character is available on both 64 and 96-character sets as shown in Table 1 as option 002 and 003 respectively, at *NO ADDITIONAL CHARGE*.

Table 1

Drum Printer Options

Options	2613A	2617A	2618A	Description
STD	—	—	—	Standard USASCII 64-character set
001	$ 1675	$ 1675	$ 1900	Standard USASCII 96-character set
002	—	—	—	OCR-B with SLUG character 64-character set
003	$ 1675	$ 1675	$ 1900	OCR-B with SLUG character 96-character set

Slug and OCR/B at no Additional Cost

Follow-On Business a Cinch

By: Georges Ouin/HPG

Remember to recommend to your customer that he order the no-charge option of a drum with the slug character whenever he orders a line printer subsystem. Then you will have given yourself more possibilities to sell Optical Mark Readers. As the user grows, so will his applications. Sooner or later he will have a data collection problem which "Turn Around Documents" will solve. Then, you can make that easy sale of one or more HP Optical Mark Readers.

HP Systems Even More Powerful

By: Peter Stuart HPG

A turn around document is a very efficient way of generating questions or instructions by computer and subsequently getting a response back from the recipient of the document.

The one document serves for both the question and the response, eliminating tedious cross-referencing and possibilities for errors. Now, with the new drum options for HP printers and HP optical mark readers, you can print documents which can be read by humans and machines.

For example, your customer could print shipping notes which are subsequently read by an HP 7260 Optical Mark Reader located in the dispatch department, when the goods are actually shipped. HP "Turn Around Documents" offer much more room for printing than a conventional Card Punch Printer, so remember to do yourself a favor and mention our capability next time you make a call.

Real Customer Benefits

By: Alic Rakhmanoff/HPG

Data collection based on turn around documents offers real benefits to the user.

1. The cost of equipment is lower because he probably already has a line printer while card punch/printers are expensive.
2. There are less errors because the same document is used for question and replay.
3. It is more friendly because people have a hard copy record of the data entry transaction.

Optical Forms can be customized to fit specific applications using a variety of patterns and colors. Continuous stock of blank forms perforated in a format easily handled by the HP 7260 can be readily purchased. With these benefits and everything made easy, you can see that HP OMR's and HP Printers help you sell more systems.

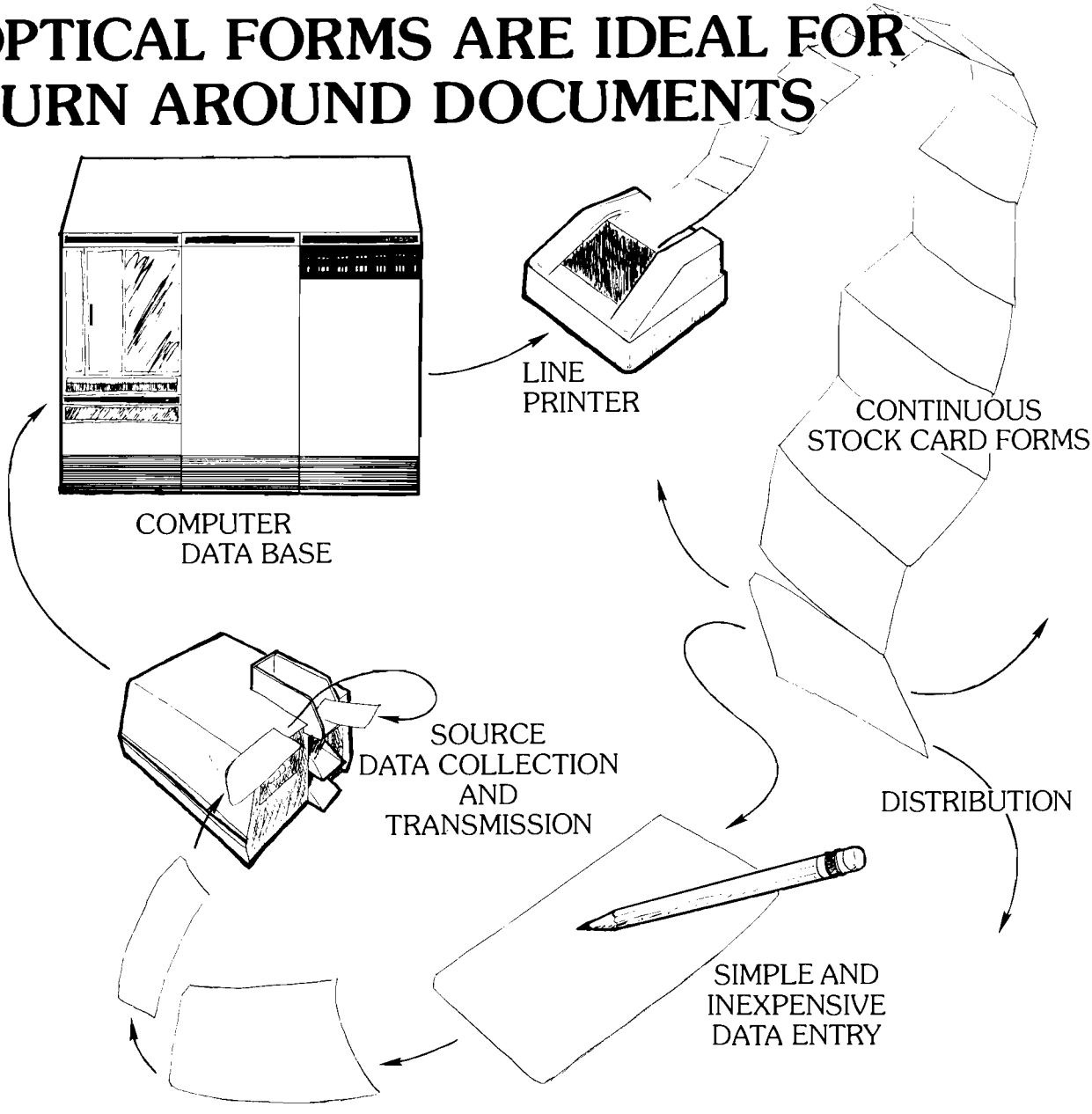
Introducing the Turn Around Document

- Increase Attractiveness of HP Systems in Manufacturing Market
- Increase Volume of Sales by Adding Numerous Peripherals

BENEFITS:

- Data Collection is done right at the source
- Source document IS the Data Entry
- No expensive punch equipment
- Easy to use: simple pencil marks
- Optical forms can be tailored to fit the particular application
- Optical forms can be physically attached to the item to which it applies
- Input is fast and reliable through the 7260A
- No computer resources are needed for data preparation
- Cost effectiveness

OPTICAL FORMS ARE IDEAL FOR TURN AROUND DOCUMENTS



New Applications

Educational BASIC Cards Sells OMR's

By: Bernard Guidon Boise

Another School Board is taking full advantage of the 7260A optical mark readers on ACCESS systems. They have about 10 7260A's installed in schools located throughout a metropolitan area, communicating to a central ACCESS system. Each school is teaching a class of Introduction to Computer Science, with 16 year-old students programming BASIC at home using the Educational BASIC cards specially designed for easy marking. Then, the next morning they load their programs using the 7260A and run them through via the LOAD command. Simple TTY's are used as terminals.

The readers, (also used to prepare the master timetable of the schools), are very valuable to the school board, and each year new 7260A's are installed, expanding the operation to a new school.

This school board is a valuable customer reference. Please contact me at Boise if you need further information on this super application

Another 7260A on Another 3000

By: Bernard Guidon Boise

Another University is using a mini RJE station with 9866, 2460 and 7260 to ease the students' test grading, elections and student course reservations. The 2640 CRT is used to both log-on with a password allowing only authorized personnel to make use of the system, and to interactively communicate with the user and guide him through the steps of inputting his cards.

The test grading application grades up to 150 questions per student. Three cards are used for such an application, with 50 answers per card. The student course reservation provides the capability through easy-to-fill optical forms to request courses for the next quarter.

This university is very happy with the 7260A's and will make a valuable customer reference. Please contact me at Boise if you want to make use of this reference.

Increase your system sales with a 7260A!

Grenoble Application

By: Bernard Guidon/Boise

The 3070A has proved attractive to the competition. . . .

A large US computer manufacturing company is using 3070A's in their own manufacturing plant for production line testing. This particular plant manufactures switches and IC chips qualifying for light and clean environment in which the 3070A proves to be especially attractive. The 3070A is used to enter numeric data including the serial number and test numbers for referencing the unit being tested. . .in summary, a typical QA application in which the 3070A is used best

The multi-drop capability of the 3070A means a lot of hardware and cable savings for the manufacturing plant while offering the priceless capability of *easy expansion and growth.*

A perfect example of the marketplace for 3070's and therefore an easy sale.

Sales Aids

European Distributed Systems

By: Alic Rakhmanoff/HPG

When selling an HP 1000, keep in mind that if there is a need for a Distributed System Network you will probably get the deal with HP Distributed Systems.

We have sent to all European DSM's a list of some RTE Distributed Systems which contains 40 centrals and 66 satellites with customers' names, town and FE to contact, listed by country.

If you want to use those references, ask your DSM for that list and call the appropriate FE.

Distributed Systems is a selling tool for winners!!

CS GROUP NEWS

Field Shows 80% Performance on "System Type" Coding on First Month

By: Sherry Harvey/CSG

If you were analyzing the sales of HP's computer products, you can imagine how beneficial it would be to have data not only on the individual products, but on what systems various peripherals were being sold and to what extent $!

As we continue product specialization in the field and participate in a sophisticated computer system business, these types of data become increasingly important to both factory and sales force. The "System Type" codes which provide this valuable information should be written by the sales rep on every order and quote (12th digit of the HP quote number) prior to typing or coding. Do not expect Order Processing to guess at the code for your order, as only *you* really know your customer.

Performance

In November, when "System Type" codes were first implemented, about 20% of the CSG orders entered were missing system type codes. There were fewer omissions in December. The following chart shows the percentages of the total errors contributed by each area:

	NSR	MSR	SSR	ESR	CSR	HPSA	ICON
NOV	10%	14%	8%	15%	3%	39%	11%
DEC	10%	13%	9%	15%	4%	36%	13%

Easy To Do

The code you must write on each order comes from three simple categories:

If your order is a —

3000-based system, peripheral or add-on	Code 3
21XX-based system, peripheral or add-on	Code 1
Anything else	Code 0

Or, more specifically:

System Type	Definition
Code 1	All 21XX-based systems such as HP 2000 Systems, 1000, 9600, 8500, 9500, RTE, MTRS, etc. *And all peripherals or add-ons ordered for these systems.*
Code 3	All 3000-based systems *and all peripherals or add-ons ordered for these systems.*
Code 0 (zero)	This is primarily for OEM's who buy stand alone items or components. For example: 2108, 2112, 2113, 2125, etc. computers and accessories 7900 and 7905 discs 7970B and 7970E mag tapes 2607, 2613, 2617, 2618 line printers 2640, 2644, 2645, 2641, 3070, 3071 terminals Card readers, Plotters, etc. OEM's who buy "systems" such as 3000's, 9640's, 2000's, 1000's etc. or peripheral add-ons to their "systems" should be coded with a 1 or a 3 depending on the system.

Your Course of Action

Simply write the system type code on each quote or order and tell OP what the code should be when they ask you about call-in orders.

The November error report sorted by sales representative has been sent to all Regional Sales Managers. Presently, HEART generates only a warning message for missing codes. We have not yet implemented the error message which will reject the order for missing codes.

We really appreciate your continued cooperation in providing this simple, yet essential, information. 80% complete data is good, but it still leaves a 20% chance of being wrong, which we are sure you will agree is unacceptable.

CSG Purchase Agreement Customers

By: Ampy Soriano/CSG

Below are additions to the current list of CSG purchase agreement customers we have on file.

CUSTOMER NAME	EFFECTIVE DATE	AGREEMENT TYPE				AGREEMENT NO.	SALES REGION				
		OEM	COMBO	VEU	TERM		NSR	ESR	SSR	MSR	HPCL
ABC Digital Electronics	Dec. 21, 1976	X				CS-295		X			
Ag Systems Associates	Dec. 29, 1976	X				-305		X			
Applied Theory Associates	Jan. 4, 1977	X				-311	X				
Calnek Price & Associates	Dec. 10, 1976	X				-289					X
Commodity Research Institute	Nov. 29, 1976	X				-292	X				
Digital Systems Services	Dec. 2, 1976	X				-287	X				
E-Systems	Dec. 21, 1976		X*			-293			X		
Eli-Kedar	Dec. 27, 1976	X				-301		X			
Exploration Logging	Dec. 29, 1976		X*			-309	X				
Geometric Data	Dec. 27, 1976		X			-302		X			
Gunther's Bldg. Center Ltd	Dec. 10, 1976				X	-297					X
Interactive Systems	Dec. 23, 1976	X				-300				X	
Lycor, Inc.	Dec. 23, 1976	X				-299				X	
Marketing Services, Inc.	Jan. 4, 1977	X				-312	X				
NPD Research	Jan. 4, 1977		X			-307		X			
Precision Monolithics	Dec. 13, 1976				X	-304	X				
Raytheon Company	Dec. 20, 1976		X*			-291		X			
Ruben Nava DBA Image Data Sys	Jan 3, 1977	X				-294		X			
Sanders Associates	Dec. 22, 1976	X				-296		X			
Scientific Atlanta	Jan. 4, 1977	X				-315			X		
Scoho Enterprises	Jan. 4, 1977	X				-314				X	
Shaker Research	Dec. 17, 1976	X				-306		X			
State of Iowa	Jan. 4, 1977				X	-313				X	
Technical Analysis	Dec. 20, 1976	X				-288			X		

*Multi-Release

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