

# COMPUTER NEWS

INNOVATIONS IN DATA SYSTEMS

JULY/AUGUST 1974

Volume 1 • Number 4

## A 'MINI' MESSAGE FROM YOUR EDITOR. . .



*New "Computer News" Editor Linda Schefter.*

Welcome to Hewlett-Packard's fourth "Computer News" edition — and my first! I'm *Linda Schefter* and recently joined the HP family as editor of this newsletter. I'm excited about our products and hope you will be, too. With the changeover, we skipped our April/May edition, but filled this issue with lots of HP news we want to share with all of you.

## MAKE WAY FOR REMOTE PROCESSING Programmable Controller Joins HP's 3000 Lineup

Another addition to the HP 3000 family? Now HP introduces a Programmable Controller to the 3000 line, offering you another advantage to the system's capabilities — remote processing.

The HP 30300A Programmable Controller lends more control and I/O capability to the 3000. The I/O system, interfaces, drivers, software, and interrupt structure of the HP 2100 are added to the 3000, giving it all the powerful 2100 advantages.

You can obtain 11 I/O channels for peripherals. Or, add an HP 2155A I/O Extender, which in-

*All prices quoted in this Newsletter are domestic U.S.A. prices only.*

creases the number of channels to 31. Memory can also be expanded to 32K.

The 30300A is accessed through the file system of the 3000 Multiprogramming Executive (MPE) and can be located up to 250 feet away.

User-written programs can monitor and control the application program executing the Controller, thanks to the supplied software. Data transfer between the Controller and 3000, besides Controller operation, works through 3000 and 2100 application programs. HP terminals can access an application program, provide terminal control of the controller, and direct input and output.

Programs loaded by the Controller can be stored as 3000 files in absolute binary format, and can be down-loaded from the 3000 to the Controller. The absolute binary code is automatically loaded into the 2100 and executed. The link between 3000 application programs and the Controller is immediately established and ready for data transfer or command information flow.

*Contact your local sales representative for details.*



*HP's new 21MX series for OEM's. Say good-bye to dead end computers. Call HP today. . . if you haven't already!*

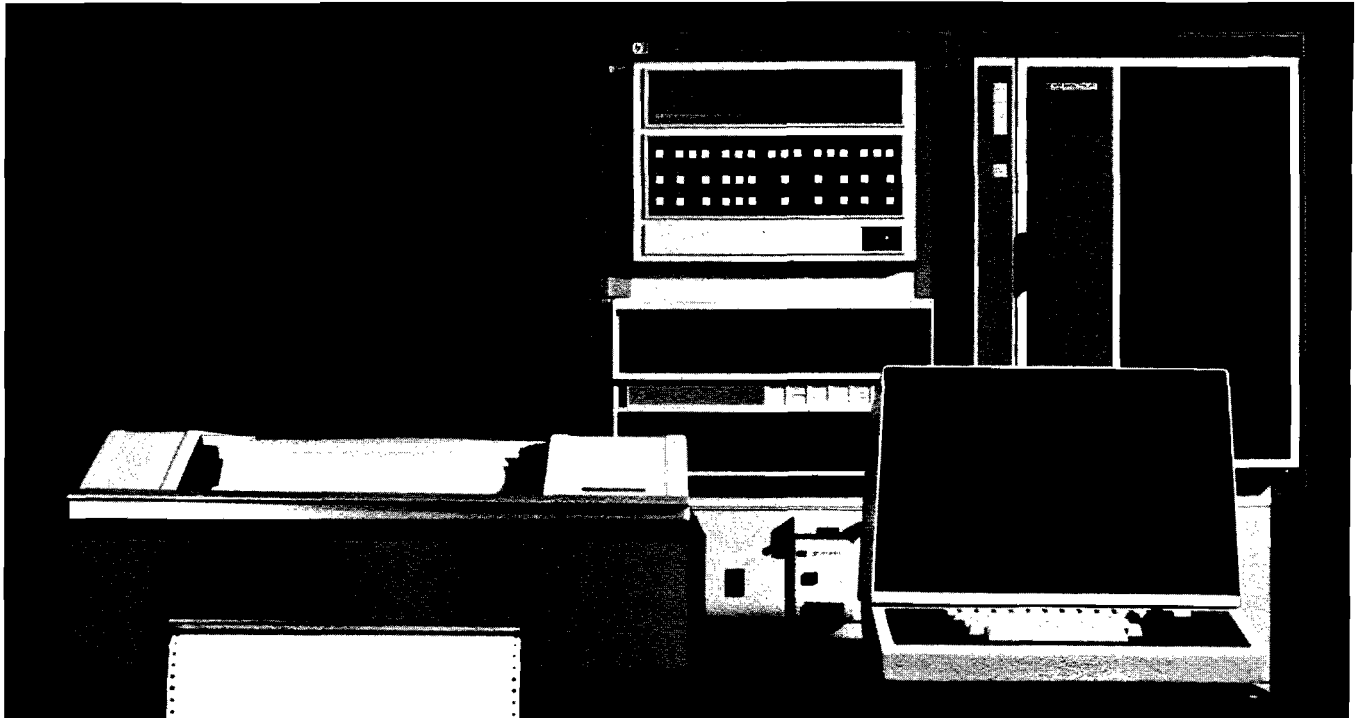
## ONE SYSTEM WORKING FOR ANOTHER 2000/E's+2000/F+3000=Efficiency

If you visit a Fairfax County, Virginia, public school, you'll see how an entire school system employs two HP 2000/E's, an HP 2000/F, and

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HEWLETT  PACKARD

## CHICAGO SETS SCENE FOR SCIENTIFIC/250 DEBUT



*This Scientific/250 System worked for NCC visitors in Chicago, May 6-9, to help them choose restaurants based on location, price, and cuisine.*

HP launched more new equipment at the National Computer Conference in Chicago, May 6-9, which attracted some 25,000 attendants. We introduced the Scientific/250 System for data management, displaying a four-terminal system. If you didn't make the conference, new brochures, spec sheets, and price lists for the S/250 are available from your sales engineer.

Designed for scientific applications in engineering, laboratory, and research projects, the new Scientific/250 system incorporates a 48K byte CPU, a 4.9M byte disc (expandable to 94M bytes), a 2000 lpm line printer, a 1,600 bpi magnetic tape drive, a paper tape reader, and a CRT — all for \$59,950.

The Scientific/250 minicomputer system features hardware floating point arithmetic, a FORTRAN processor, and extended arithmetic instructions. The IMAGE/2000 software builds independent files of information and links related data into a common data base. A multiple terminal option allows up to 32 users to concurrently enter and retrieve data and generate reports from the same data base. Besides the single user operating mode, RJE to IBM 360/370 computer, timeshare, and network modes are also available.

A key NCC demonstration showed powerful computation through microprogramming by solving four simultaneous equations, first with the Fast

FORTTRAN Processor and then without. The Fast FORTRAN proved to be 12 times faster. We also illustrated multiterminal data base management by inquiry and selection from a Chicago restaurant data base accessed via IMAGE/TCS. Participants in this demonstration selectively examined Chicago-area restaurants for location, price range, credit card offerings, and cuisine. This proved a lot of fun for both gourmets and just plain hungry passers-by! (QUERY'S use and power was exhibited, using the same data base.) And, a computerized message center was another service HP offered to its NCC patrons.

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### ONE SYSTEM WORKING FOR ANOTHER

(Continued from page 1)

an HP 3000, to efficiently get work done. The systems service Math, Science, and Computer Science department requirements. Other jobs include handling the county's Computer Aided Instruction system, a film reservation service, the data base management of the Student Information System (SIS/3000), and the Business Education Department's computing needs. (SIS/3000 is one of HP's new Terminal-Oriented Administrative Data Systems — TOADS — described in another article on page 3.) The systems utilize two magnetic tape drives, 80M bytes of on-line disc storage, and 80 interactive terminals, all working to keep the Fairfax County School System expedient.

## ON-LINE DATA BASE MANAGEMENT HIGHLIGHTS RTE SYSTEMS

If you want fast CPU-CPU communications, you can now link HP's Real Time Executive Systems to DOS/IMAGE/TCS Systems with a high-speed serial interface, the 12889A. With the new RTE driver for the 12889A, the link is supported under both DOS and RTE operating systems. This hard-wired CPU-CPU connection for up to 2000 ft. is fast, with transfer speeds four times faster than the effective disc speeds. Line protocol is a subset of the popularly-used Bisync, providing message error-checking and message retry features for error-proof operation. The driver, DVR 67, for DOS-III (24341-16001) takes 750 words of main memory; DVR 67 for RTE (24341-16002) takes approximately 780 words of main memory.

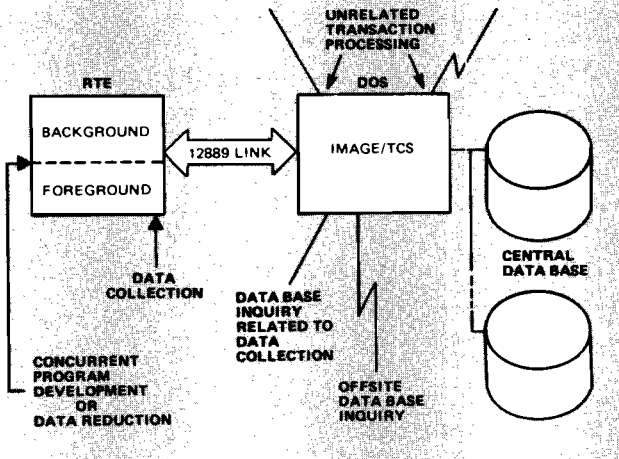


Diagram shows the multiprogramming RTE, which can be used for real-time data collection with simultaneous program development and/or data reduction.

This is a real first! Users can now have two of the best minicomputer-based operating systems, Hewlett-Packard's DOS and RTE, complement each other's strengths. As Figure (1) shows, the multiprogramming RTE can be used for real-time data collection with simultaneous program development and/or data reduction. Using the 12889A link, data is quickly transferred to the central IMAGE data base kept on the DOS. The Disc Operating System through IMAGE/TCS then makes it easy for programmers to create applications which access and update the data base. This allows multiple users to quickly and effectively obtain a variety of information about the business operations. In addition, various non-related applications such as parts-inventory or parts-ordering can be running under DOS at the same time. Up to 40 terminals, hardwired or connected through telephone lines, may be attached to DOS.

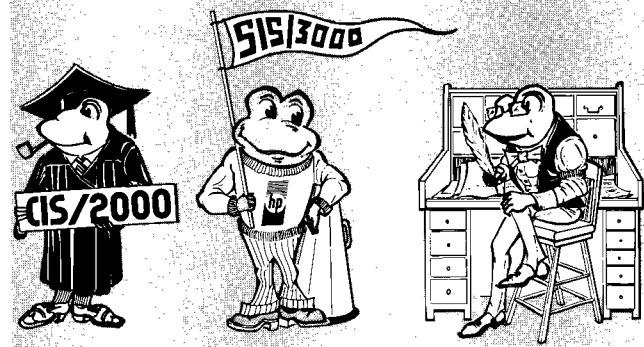
Currently available literature includes:

HP 12889A Driver Reference 1:2889-90007 Manual

HP 12889A Operating and Service Manual 12889-90001  
 HP 12889A Data Sheet 5952-4502

Each 12889A, requiring one I/O slot in your 2100, complete with a 10-foot cable and connector, is priced at \$750. For linking your RTE/DOS system to DOS/RTE systems, contact your local HP Sales Engineer.

## HP TOADS KEEP SCHOOLS HOPPING



### TOADS

Hop to it! Terminal-Oriented Administrative Data Systems (TOADS) keeps one jump ahead in easing the job of elementary and secondary schools, as well as small colleges. Administrative and student record-keeping tasks and instructional operations can now be performed simultaneously to TOADS on the same 2000/F Time-shared System. These operations are achieved by CIS/2000, SIS/3000, and ADMIN/2000/F, three of the separate packages that comprise TOADS.

### CIS/2000

Besides on-line student registration and grade reporting, College Information Systems, CIS/2000, permits on-line monitoring of the entire registration process. The system allows you to open and close classes, adjust class size, and list class loads.

Fully interactive, the system informs the user when time conflicts occur; when classes are full; when classes are closed; the number of hours the student is attempting; when, where, and at what times all classes meet. Printouts of students' schedules are provided. Students may even register by phoning a central terminal operator at the college.

At grade time the instructors input class grades on terminals. Transcript labels and report cards are printed by CIS/2000.

CIS/2000 will be available soon for \$7500.

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## HP TOADS KEEP SCHOOLS HOPPING

(Continued from page 3)

### SIS/3000

Student Information System, SIS/3000, provides three record-keeping functions as follows:

- The family data base supplies quick access to the students' profiles, their family profiles, and related information.
- Grades are recorded and report cards printed.
- Attendance records are maintained.

With the SIS/3000 integrated files, a change of information can be entered in one subsystem and it is automatically transferred to other subsystems.

*SIS/3000 will be available in September for \$7500.*

### ADMIN/2000F

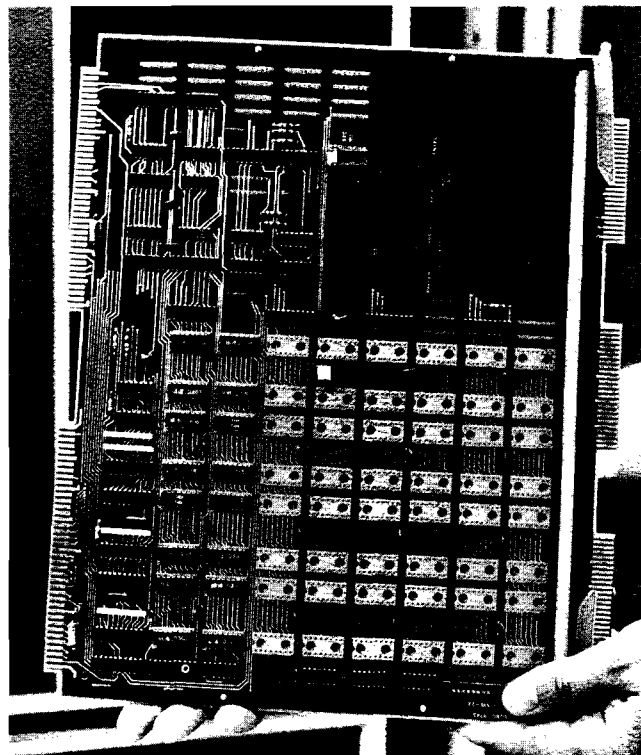
TOADS' Administration program, ADMIN/2000, has two main functions: accounting and payroll. The accounting package handles all expenditures, purchase orders, invoices, and other financial data. The payroll package provides all necessary documentation for meeting a payroll of up to 1000 employees. This software package costs \$8000, and will be available in November.

All three packages can be ordered today from your HP sales engineer.



### RTE DISC OPTION SAVES YOU MONEY

If you're in the market for low-cost, large disc storage, take note. Scientific/310 option 213 expands the 5M byte S/310 to 20M bytes for only \$17,000! S/310 option 213 consists of three 7900 disc drives, two 2860 cabinets, and associated cables. This price is effective only if ordered with the purchase of the S/310 computer system and can be ordered after July 1. Call your local HP Sales office for details.



*Our HP 30011A Extended Instruction Set (Long Floating Point).*

### 3000 FLOATING POINT OFFERS FAST EXECUTION

Want to improve your HP 3000 execution time by a factor of 7 to 15? You can now do it with new, long floating point microcode. Called the HP 30011A Extended Instruction Set, long floating point consists of a single plug-in circuit board containing a set of long (48 bits) floating point routines stored in bipolar, read-only memory.

The set provides floating point addition, subtraction, multiplication, division, negation, and comparison at the speed of microcode. Those subroutines are callable from all languages usable on the 3000.

The 30011A sells for \$2250, including installation in your computer facility.

### CWF REFERENCE MANUALS, ANYONE?

You can now obtain the reference manual for the new CAI software Course Writing Facility (HP 24383A). Order manual part number 24383-90001 from your HP Sales office.

CWF is an emulation of the IBM program product Coursewriter III, Version 3. It operates in conjunction with the HP Instructional Management Facility and under the operation system Time-shared BASIC 2000/Level F.

## MINNESOTA SCHOOL LAUNCHES CWF SOFTWARE USE

Meet HP's first CWF software package customer — St. John's University of Collegeville, Minnesota.

St. John's, a liberal arts school, has a strong science program, according to Professor *James Peters*, Data Center director. They purchased CWF to permit them to readily acquire existing science courseware, and to enable faculty members to author their own CAI lessons.

St. John's has an extensive premedical program, while St. Benedict's College in nearby St. Joseph, Minnesota, has a strong prenursing program. Both schools participate in a cooperative venture in which students take courses on either campus. The overall Health Sciences curriculum includes courses like anatomy, biology, chemistry, dietetics, and pharmacology. It is the availability of existing courseware written elsewhere in IBM Coursewriter III which makes CWF especially attractive to the school.

Another reason for acquiring CWF relates to the school's recent thrust toward in-house CAI development. Professor *Peters* brings five years of computer-based learning experience to the school's new Learning Resource Center. Several professionals from the center will also assist the faculty in authoring CAI lessons.

## PILOT LANGUAGE: SIMPLE TO MASTER, EASY TO OBTAIN

PILOT 73 is still flying high in '74!

Early in 1973 a group from Standard Research Institute and Peoples' Computer Company agreed on a standardization of several author languages for Computer Assisted Instruction. They called this PILOT 73. PILOT is an implementation of PILOT 73 for use on HP 2000/E or HP 2000/F Timeshared BASIC Systems.

PILOT's syntax is relatively simple, making it easy for busy teachers to quickly master it. Equally important, the construction of PILOT language lends itself to dialogue programming.

PILOT, an interface language, is implemented in BASIC for HP Timeshared Systems. Thus, it can be used simultaneously with BASIC on these systems.

Although PILOT has more limited capabilities than BASIC, PILOT can be learned more easily and is more effective in performance for CAI.

PILOT is available in the HP Contributed Library. Or, you can order paper tapes from your local sales office under the following numbers:

2000/E - 36637A  
2000/F - 36756A

## TIMESHARING NEWS

### NEW HP 2000 BASIC LIBRARY in June '74

You can now obtain all of the documentation for the Timeshared BASIC/2000 Contributed Library, reprinted and available in these four new volumes:

#### Volume I — Timeshared BASIC/2000 Program Documentation HP 36000-91001

(100) Data Handling  
(200) Testing, Debugging, and Programming Aids

#### Volume II — Timeshared BASIC/2000 Program Documentation HP 36000-91002

(300) Math and Numerical Analysis  
(400) Probability and Statistics  
(500) Scientific and Engineering Applications

#### Volume III — Timeshared BASIC/2000 Program Documentation HP 36000-91003

(600) Management Sciences and Operations Research  
(700) Business and Manufacturing Applications

#### Volume IV — Timeshared BASIC/2000 Program Documentation HP 36000-91004

(800) Education

Continued on page 8

To order the PILOT Reference Manual, you can use the order blank below or add it to any other order for Curriculum Project materials. As with any order for these materials payment must be included for orders under \$25.00.

Mail to: Computer Curriculum Project  
Hewlett-Packard Company  
333 Logue Avenue  
Mountain View, CA 94040

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Number	Name	Price	Qty.	Total
5951-5660	PILOT Reference Manual	\$6.50		
		\$4.88		
		Qty. of		
		10 or		
		more		

Tax Exempt Institution  State & Local Taxes \_\_\_\_\_  
Total \_\_\_\_\_

**HP Computer Museum**  
**[www.hpmuseum.net](http://www.hpmuseum.net)**

**For research and education purposes only.**



**HP 3000 Model 100**





## **TIMESHARING NEWS — (Continued from page 5)**

If you call NAME, all programs are arranged alphabetically, so you can easily locate programs and update handbooks.

A fifth volume describing our educational games is being prepared and will be available at the end of the summer.

Contact your local HP sales office for ordering information on contributed software.

Programs are available individually on paper tape, or, collectively, on mag tape.

Order numbers for 2000C'/F mag tapes are:

**HP BASIC Contributed Software \*HP 36000-10001**  
(100, 200)

**HP BASIC Contributed Software \*HP 36000-10002**  
(300, 400, 500)

**HP BASIC Contributed Software \*HP 36000-10003**  
(600, 700)

**HP BASIC Contributed Software \*HP 36000-10004**  
(800)

**HP BASIC Contributed Software \*HP 36000-10005**  
(900 GAMES)

\*800 BPI. (1600 BPI mag tapes are also available under separate order number.)

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## **INTERESTED IN SOFTWARE?**

### **2000 Contributed Software**

We want you to have a list of recently contributed software. You can order programs by name and number from your local HP sales office. (Note: Contributed programs are reviewed by Contributed Library personnel; however, they are not supported by Hewlett-Packard.) If you have any comments or contributions, write to:

**Hewlett-Packard Co.  
2000 Contributed Library  
11000 Wolfe Rd.  
Cupertino, CA 95014**

#### **HP 2000F BASIC for DOS-M/DOS-III HP 22608 (\$100)**

Features string variables, user program disc storage and retrieval, user data files, line printer support, high-speed paper tape input and output of programs, and program chaining. Includes the provision for retrieving BASIC programs from 2000F Time-Shared system dump tapes. Requires at least 24K and floating point hardware. Contributor: *Jon Selden*, HP Data Systems Division.

#### **IBM OS Cross Assembler for HP 2100 Computer HP 22594 (\$60)**

Assembles HP 2100 assembly language programs in an IBM Operating System and produces binary output identical to that produced by HP assemblers. Supports literals, floating point numerics, and the EAU and floating point instruction sets. Written in 360 assembly language. Contributor: *William Decker*, University of Iowa Computer Center.

#### **IBM OS Cross Microassembler for HP 2100 Computer HP 22659 (\$60)**

Assembles HP 2100 microprograms in an IBM Operating System and produces identical listings and binary output to that produced by the HP counterparts. Written in PL/1. Contributor: *William Decker*, University of Iowa Computer Center.

#### **IBM 1130 FORTRAN TO HP 2100 FORTRAN Translator HP 22625 (\$30)**

Facilitates the translation of IBM 1130 FORTRAN programs to HP 2100 FORTRAN programs. Handles disc I/O, extended precision, COMMON processing, and segmentation. Written in SNOBOL language (requires the contributed SNOBOL compiler for DOS/DOS-M, HP 22327). Contributor: *Pierre Senant*, HP, Orsay, France.

#### **Patch-Merge Absolute Binary Tapes HP 22647 (\$20)**

Provides a means of adding absolute records onto an existing absolute binary tape. Designed specifically for use with 2000 series time-share system tapes. Contributor: *Grant Munsey*, HP Data Systems Division.

#### **2000E Time-Shared BASIC Patch Utility HP 22645 (\$20)**

Implements patches to the 2000E system by means of a simple conversational interaction with the user. Contributor: *Al Pare/Peter Brickey*, HP Data Systems.

#### **Upper/Lower Case Character Generator for HP 7210 Plotter HP 22582 (\$40)**

Provides the capability to plot characters in upper or lower case, and floating point numbers in F format on the HP 7210 Plotter. Operates under BCS, MTS, DOS, DOS-M, RTE, and RTE-C. Contributor: *Petar Vrkljan*, HP, Zurich, Switzerland.

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## INTERESTED IN SOFTWARE? (Continued from page 8)

### RET Debug with Trace HP 22600 (\$30)

Provides programming aids which include: printing selected areas of memory, modifying contents of memory, tracing portions of programs during execution, starting execution at any point in a program, and instruction and operand break points. Contributor: *James Reed*, Hughes Aircraft Company.

### RTE Magnetic Tape File Manager HP 22612 (\$20)

Enables the use of magnetic tape for program storage recall, at the source or binary level, by program name. Contributor: *Robert Baskin*, Xynetics, Inc.



## HP BRINGS YOU NEW COMPUTER SYSTEMS MANUALS

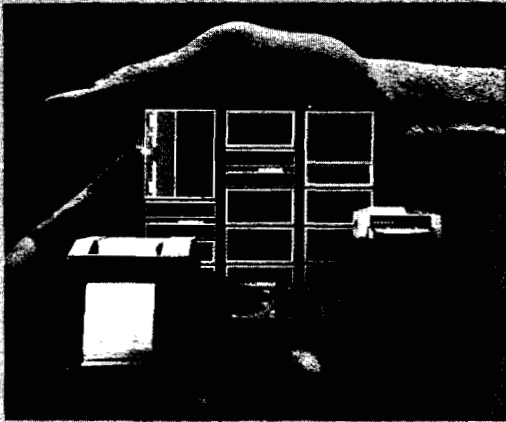
PART NUMBER	TITLE	NEW OR REVISED	ISSUING DIVISION	PRICE
13192-90002	13192A and 13193A Write Test and Read Test Accessories. Computer Accessory Kit, Manual	New	DSD	\$20.00
30011-90009	Stand-Alone HP 30011A Extended-Precision Floating Point Diagnostic Manual of Diagnostic Procedures	New	DSD	10.00
30030-90001	30030A Selector Channel. Installation and Maintenance Manual	New	DSD	35.00
30300-90002	HP 30300A Programmable Controller System Reference Manual	New	DSD	12.00
30050-90010	Stand-Alone HP 30050A/51A Universal Interface Diagnostic. Manual of Diagnostic Procedures	New	DSD	10.00
12618-90001	12618A Synchronous Data Set (Transmit and Receive) Interface Kit. Interface Kit and Subsystem Manual	Revised	DSD	2.50
30115-90003	On-Line HP 30115A Magnetic Tape Test Manual of Diagnostic Procedures Manual	Revised	DSD	3.00
30226-90007	I/O Detailed Diagram Set Plotter Interface PCA. Diagrams Manual	New	DSD	5.00
03000-90038	HP 3000 Multiprogramming Executive System Manager Supervisor Capabilities	Supplement	DSD	N/C
03000-90005	HP 3000 Multiprogramming Executive Operating System	Supplement	DSD	N/C
02100-90003	2100A Computer-Diagrams Manual	Revised	DSD	8.00

## HP BRINGS YOU NEW COMPUTER SYSTEMS MANUALS (Continued)

PART NUMBER	TITLE	NEW OR REVISED	ISSUING DIVISION	PRICE
02120-90001	2120B Disc Operating System	New	DSD	N/C
02121-90001	2121A Extended Disc Operating System	New	DSD	N/C
02660-90001	2660A Disc Drive	New	DSD	N/C
02895-90008	2895B Tape Punch	Revised	DSD	5.00
07900-90002	7900A Disc Drive	New	DSD	N/C
12615-90001	12615A Memory Expansion Accessory Kit	Revised	DSD	2.50
13192-90002	13192A/13193A Write Test and Read Test Accessories	New	DSD	N/C
36250 Opt. D00	HP Basic Program Library Contributed Program for 2000C/F, FINDIT.	Revised	DSD	5.00
02313-93001	HP 2313B Subsystem Operating and Service Manual, Volume 1	New	AMD	35.00
02313-93002	HP 2313B Subsystem Operating and Service Manual, Volume 2	New	AMD	12.50
02575-90001-1	Change Notice for HP 2575A Coupler/Controller	Revised	AMD	N/C
12752-93001-2	Change Notice for HP 12752B Control Card	Revised	AMD	N/C
12753-93001-1	Change Notice for HP 12753B Analog-to-Digital Converter	Revised	AMD	N/C
12760-93001-1	Change Notice for HP 12760A Low-Level Multiplexer	Revised	AMD	N/C
13215-90003	13215A Disc Power Supply	Supplement	DSD	N/C
02100-90184	2100 Microprogramming Training Manual	Revised	DSD	10.00
02607-90003	2607A Line Printer Service Manual	Revised	DSD	60.00
02607-90005	2607A Line Printer Operator's Manual	Revised	DSD	5.00
02883-90003	2883A/2884A, 2885A Disc Files/Power Sequencer	Supplement	DSD	N/C
30102-90003	On-Line HP 30102A Disc File Diagnostic	New	DSD	10.00
30110-90003	On-Line HP 30110A Cartridge Disc Diagnostic	New	DSD	10.00
30120-90006	On-Line HP 30120A Console/Terminal Diagnostic	New	DSD	10.00
12751-90001-1	Change Notice 1 for HP 12751A High-Level Multiplexer	Revised	AMD	N/C
12757-90001-1	Change Notice 1 for HP 12757A Dual 12-Bit D-to-A Converter	Revised	AMD	N/C
12759-90001-1	Change Notice 1 for HP 12759A Last Address Detector	Revised	AMD	N/C
12809-90005-1	Change Notice 1 for HP 12809B Time Share Interface Kit	Revised	AMD	N/C
12812-90001-1	Change Notice 1 for HP 12812A Incremental Magnetic Tape Interface Kit	Revised	AMD	N/C
02607-90003	2607A Line Printer Service Manual	Supplement	DSD	N/C
02883-90003	2883A/2884A, 2885A Disc Files/Power Sequencer	Supplement	DSD	N/C
07900-90002	7900A Disc Drive	Supplement	DSD	N/C
07901-90003	7901A Disc Drive	Supplement	DSD	N/C
07970-90383	7970B/7970C Digital Magnetic Tape Units	Supplement	DSD	N/C
07970-90765	7970E Digital Magnetic Tape Unit	Supplement	DSD	N/C
12566-90015	12566B Microcircuit Interface Kit	Supplement	DSD	N/C
13181-90000	13181A Digital Magnetic Tape Unit Interface Kit	Supplement	DSD	N/C
13185-90000	13185A Microfilmer Interface Kit	Supplement	DSD	N/C
30001-90003	30001A Control Processor Unit Input/Output Processor	Revised	DSD	\$15.00
5951-3038	02100-60053 Power Supply	Supplement	DSD	N/C
5951-3038	02100-60053 Power Supply	Revised	DSD	5.00
09500-93198	Revision E Supplement for TOADS Operator's Programming Manual	New/ Revised	AMD	5.00
12755-90001-1	Change Notice 1 for HP 12755A Programmable Pacer	Revised	AMD	N/C

## HP BRINGS YOU NEW COMPUTER SYSTEMS MANUALS (Continued)

PART NUMBER	TITLE	NEW OR REVISED	ISSUING DIVISION	PRICE
29102-93001-1	Change Notice 1 for HP Real Time BASIC Software System	Revised	AMD	N/C
29101-93001-2	Change Notice 2 for HP Real Time BASIC Software System	Revised	AMD	N/C
91000-93001	HP 91000A Subsystem Service Manual	New	AMD	5.00
91000-93003	HP 91000A Operating and Programming Manual	New	AMD	3.50
12761-93001-1	Change Notice 1 for HP 12761A Solid State Low-Level Multiplexer for HP 12768A Based Subsystems	Revised	AMD	N/C
12750-93001-1	Change Notice 1 for HP 12750B Sample and Hold Amplifier	Revised	AMD	N/C
12750-93001-2	Change Notice 2 for HP 12750B Sample and Hold Amplifier	Revised	AMD	N/C
12760-93001-1	Change Notice 1 for HP 12760A Relay Low-Level Multiplexer for HP 12768A Based Subsystems	Revised	AMD	N/C
08542-90162	HP 8542B Automatic Network Analyzer System, Volumes 1 and 2	New	AMD	52.50
92409-93001	Utility Library Subroutines for HP 7210A X-Y Plotter	New	AMD	2.50
30352-90001	30350A Auxiliary Control Panel and 30350A H/W Maintenance Panel	Revised	DSD	3.00
03000-90107	HP 3000 Cross Loader for HP 2100 Computers	New	DSD	11.00
5951-5660	HP Computer Curriculum Pilot Reference Manual	New	DSD	6.50
13192-90002	13192A and 13193A Write Test and Read Test Accessories	New	DSD	20.00
30032-90004	30032B Asynchronous Terminal Controller	New	DSD	35.00
03000-90047	HP 3000 Cross Assembler for HP 2100 Computers	New	DSD	17.00
02155-90002	2155A Input/Output Extender	Supplement	DSD	N/C
02767-90002	2767A Line Printer	Revised	DSD	15.00
30350-90001	30350A Auxiliary Control Panel	Revised	DSD	5.00
02000-90077	2000 System Support Log	Supplement	DSD	N/C
02860-90001	2860B/C/D/E Cabinets	Supplement	DSD	N/C
02100-90002	2100A Computer Installation and Maintenance Manual	Supplement	DSD	N/C
02100-90004	2100A Illustrated Parts Breakdown Manual	Supplement	DSD	N/C
02100-90166	2100S Illustrated Parts Breakdown Manual	Supplement	DSD	N/C
02100-90164	2100S Diagrams Manual	Supplement	DSD	N/C
02100-90162	2100S Installation and Maintenance Manual	Supplement	DSD	N/C
02100-90003	2100A Computer Diagrams Manual	Supplement	DSD	N/C
5951-3038	02100-60053 Power Supply	Supplement	DSD	N/C
12880-90001	12880A Keyboard-Display Terminal Interface Kit	Supplement	DSD	N/C
25117-60499C	RTE 7-Track 7970 Driver DVR 24		AMD	4/2/74
25154-60008B	7970 9-Track Dump/Verify Program		AMD	3/5/74
29100-60032B	91701A/B Distributed System Generator TC3GN		AMD	4/9/74
29102-60001B	RTE-B Library		AMD	4/3/74
29103-60119B	91701A/B Distributed System Generator BCSGN		AMD	4/9/74
29029-60001C	RTE Multiple-Device System Control Driver DVR00		AMD	4/5/74
29102-60001C	RTE-B Library		AMD	4/5/74
25117-60499D	RTE 7-Track 7970 Driver DVR 24		AMD	5/6/74
29102-60029A	RTE-B (BASIC) Subroutine to HP 12604B DSI Card		AMD	5/7/74
92409-60001A	RTE Utility Library Subroutines for HP 7210A X-Y Plotter, Programming, and Operating manual		AMD	5/17/74



**This \$129,500\* timesharing system  
gives you better BASIC than  
any other minicomputer system.  
With batch at the same time.**

HP's 3000 Model 100 lets you do more with BASIC than ever before. You can intermix integer, real, long precision and complex numbers. Share resources with any kind of peripheral. Call subroutines compiled in FORTRAN, COBOL, and our Systems Programming Language.

In batch you get complete multi-language capability concurrently. And a file system identical to the one used from terminals.

This innovation works for a living.

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