

Issue No. 9

HP Series 100 Communicator

... for users of The Portable, 10012x, and Teacscreen/130 computers

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introducing the Encyclopedia

Worldwide Edition

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Series 100 Newsline

late-breaking news on Series 100 products



The HP 150 family has grown! The Touchscreen PC and the Touchscreen MAX have joined the family of HP personal computers. The Touchscreen machines, which are enhanced versions of the HP 150, offer new ease-of-use features, a 710-Kbyte double-sided floppy-disc drive, and expanded data-communications capabilities via the 3Com local-area network.

Attention MemoMaker users: Be sure to exit properly from MemoMaker by pressing the [Exit MEMOMAKR] key. If you exit from MemoMaker by turning off your HP 150 or your Touchscreen PC, by changing program discs, or by resetting the system, MemoMaker's use of a temporary file on the program disc may overwrite disc data. If this happens, another application on the disc could fail -- requiring you to re-install the application. (For Lotus 1-2-3, you will have to buy a disc-exchange kit. See the Current Information insert in this issue.)

If you were one of the first to receive the new HP Touchscreen personal computer, you may experience a problem loading the operating system from an HP 9122D disc drive or using the HP 9133D flexible disc drive after using EasyConfig. If the original (B.02.02) version of the system master disc and system work discs came with your system, either HP or your dealer will send you new (B.02.03) discs within three weeks. Until then, if the problem occurs, remove the batteries from the back of your HP 150, wait overnight, replace the batteries, and then turn on the machine. Run Device Config, press the [Save Config] softkey, press [Exit Config], and then run EasyConfig. If you have questions or difficulty, please contact your dealer, HP assistance center (800/HPCOACH in the U.S.), or HP sales and service office.

The original version of Lotus 1-2-3 may not run properly on the new HP Touchscreen personal computer when the operating system is configured with the RAM disc, or when the Touchscreen uses the HP 9122 double-sided disc drive. To use the original version of 1-2-3 with the Touchscreen PC, you must use a single-sided disc drive and select "no device" for the RAM disc. However, the new version of Lotus 1-2-3, which is available now, runs properly on both the HP 150 and the Touchscreen PC. A one-disc exchange kit (Part Number 45482-63001) and a two-disc exchange kit (45482-63004) are available. For information on purchasing either of these kits, contact your HP dealer or local HP sales office or see "How to Order" in the Current Information insert in this issue.

continued...

All of the **BPI accounting software packages** are now available for the HP 150: General Accounting (Product Number 45455A), Accounts Receivable (45456A), Accounts Payable (45457A), Payroll (45458A), Inventory Control (45460A), Job Costing (45461A), and Personal Accounting (45459A). Full details in Issue 10 of the Communicator.

Deluxe VisiCalc(R) for the HP 150 includes context-sensitive 'help' information, and screen-labeled command keys. It also uses HP Touch. Other features include consolidation, command files, audit functions, sorting, calendar/date intrinsics, and an expanded row range. The product number is the same as that of the existing VisiCalc package: 45405A.

You can now buy **Graphwriter Basic Set(R)** (Product Number 45484A) for the HP 150. This package lets you create presentation-quality graphics by selecting options from menus. It includes all formats for horizontal or vertical bar, pie, line, and text charts.

Diagraph(TM) (Product Number 45463A) for the HP 150 is a library of 1500 illustrations that lets you create visually interesting flow diagrams, organization tables, and text charts.

HP's Series 100/Graphics (Product Number 45410A) has been improved. In the new version (A.03.00), characters in scattergrams and in pie, bar, and line charts are 50% larger; on-screen and plotter graphics run faster; text charts have a new "box annotation" feature; exponential notation occurs at larger axis values; and the new HP 7550A plotter is supported (all features except 'replot'). The Current Information insert explains how to buy the exchange kit for your software.

Series 100/BASIC (Product Number 45445D) is now available for both the HP 150 and The Portable... **Microsoft's GW(TM)-BASIC** is now available for the HP 150. This popular BASIC interpreter has data-communications capability, a large graphics command set, and a full screen editor. It allows direct access to HP Touch.

MultiMate, the Wang-compatible word-processing program that includes an 80,000-word spelling checker, merged-printing capability, and file-transfer utilities, is available for the new HP Touchscreen and Touchscreen MAX personal computers. Details in Issue 10 of the Communicator.

For information about products mentioned in the Newsline,
or to locate the nearest authorized HP personal computer
dealer, call you local HP sales office. In the U.S., dial
(800) FOR-HPPC (800/367-4772).



The *Series 100 Communicator* is the backbone of HP's support program for Series 100 computers and software. The magazine contains programming techniques, information on software updates, hints on using applications, and corrections for manuals. The *Communicator* also lists known software problems and their solutions, and introduces new members of the Series 100 family.

In this issue, the Encyclopedia pages introduce a new format for certain information about Series 100 products. Instead of organizing this material by type (news and program updates, often-asked questions, bug reports, documentation changes, and training courses), we've arranged it by product, gathering all of the material that pertains to each product under a single heading. This way, you'll find all of the current information about the HP 150 in one place; likewise for The Portable and for popular programs such as dBASE II, Lotus 1-2-3, and WordStar. The Encyclopedia section appears directly after the major articles in this issue, and has its own table of contents. We hope you find it useful.

Subscriptions and Back Issues

In many countries, you can order *Communicator* subscriptions and back issues by telephone. For details, see the "Ordering *Communicator* Subscriptions" and "Ordering Back Issues" sections in the Current Information insert.

Becoming a Contributor

Much of the material in this issue was submitted by users and HP field-support people. If you'd like to contribute an article, program, question, or suggestion, please send it to us at the following address:

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We look forward to sharing your ideas with Series 100 users throughout the world.

Contents

About Applications

PIPPing Files on Your HP 12x	1
From Numbers to Charts on the HP 150: dBASEII to Series 100 Graphics	2
HP 150 Graphics: From the Screen to Your Printer	4
Using Lotus/150 1-2-3 with the 7475A Plotter and B-Size Paper	7
Running Applications from MS-DOS on Your HP 150	8
Word/12x: Rapid Returns	12

System Management

Localizing Your HP 150	13
Using Record Mode on the HP 150	16

Programmers' Potpourri

Escaping in High-Level Languages	19
Access to the Touchscreen via MS-Pascal/150	22
So You Want to Write Programs for the HP 150	26

Product News

Introducing PFS:File and PFS:Report for the HP 150	28
GraphPlan: New Integrated Spreadsheet and Graphics Software	30
New Simulations—and a Chess Game—for the HP 150	33
Challenging New Recreational Software for Series 100 PC Users	34
The Portable: Desktop Capability in a Notebook-Sized Package	35
The Portable: Compatibility with the HP 150	38
Battery-Powered Peripherals for The Portable	40
dBASEII for The Portable...and a New Version for the HP 150	42

Documentation Update

The HP 150 Programmer's Tools	44
The <i>HP 150 Technical Reference Manual</i>	47
Getting Started with the HP 150	49

Encyclopedia

Current Information

The Peripheral Interchange Program (PIP) is one of the most useful features of your HP 12x computer. But sometimes the question arises: How do you use PIP to copy a file when PIP.COM is not present on either the source or target disc and when your system has only dual disc drives?

The answer is to use a separate disc that does contain PIP.COM, and use the procedures in the following example. In the example, PIP.COM is on the first disc, the target is the second disc, and the source file (named "FILETOBE.PIP") is on the third disc.

1. Insert the PIP.COM disc into Drive A: and insert the target disc into Drive B:.
2. Load the operating system and select [EXIT TO CP/M].

Your screen should display—

```
A>
```

3. Type "PIP" and press the Return key.

Your screen should display—

```
A> PIP
*
```

The asterisk is the PIP prompt.

4. Remove the PIP.COM disc and insert the source disc in Drive A: (Leave the target disc in Drive B:.)
5. Type "B: = A:FILETOBE.PIP" and press the Return key.

Your screen should display—

```
A> PIP
*B: = A:FILETOBE.PIP
*
```

"FILETOBE.PIP" has been copied to the target disc.

Note: this general procedure will not succeed if the target disc is used in the same drive that you use for the PIP.COM disc (see the *HP 120/125 Owner's Manual*, page E-8, "***Write to R/O disc error on drive x.").

Our thanks to Pete Roche of PAR Consultants, San Francisco, CA, for contributing this article.

□

Do you want to transfer your numeric information from dBASE II to Series 100 Graphics for the HP 150? The procedure described below lets you create perfect charts based on your database.

In the procedures that follow, the dBASE II database is CLIENTS, the Graphics data file is DGRAPH, and the data disc is in the B: drive.

1. Remember that in dBASE II, you must first USE your database before you can manipulate it in any way. Therefore, enter the command shown below:
.USE CLIENTS
2. CPY this database. Use the following command line to specify that the contents of the file should be delimited with a comma.
.COPY TO DGRAPH.TXT DELIMITED WITH ,
3. Exit dBASE II.
4. Start the Graphics/150 application of your choice (line, bar, or pie chart).
5. Touch the "Get a Chart" label to display the Charts menu.
6. In the Data File Information section, fill in the directory field with the display data file created from the dBASE II database:
Directory B:DGRAPH.TXT
7. Touch the "Transfer Data In" label. An asterisk (*) should appear in the label.
8. Touch the "Data" label to display the Data menu so that you can look at the data.
9. While you are looking at the data, keep the following facts in mind:
 - Each record from the dBASE II database will appear on its own line in the Data Menu.
 - Numbers specified in the dBASE II database, from either a numeric field or a character field, will be transferred into Graphics/150.
 - Graphics/150 is limited to five data items per record. The first character string that Graphics 150 finds fills in the label portion of the Data menu. If a numeric field is left blank, dBASE II fills it in with a zero. If a character field is left blank or is filled in with alphabets, dBASE II fills it in with spaces, and leaves a blank spot at the corresponding location in the Data menu.

- If you are making a pie chart, only one column of data is used. Specify the column of data you want by touching the "Next Column" label until the column you want is selected.
10. When you are satisfied with the data, touch the "Preview" label or the "Plot" label and prepare to plot.
 11. If you want to save the new chart and data after plotting, touch the "Save" label to display the Save menu.
 12. Specify a new file name and the directory for the chart.
 13. Touch the "Start Save" label to save the new chart and data. Graphics/150 appends the appropriate extension to the name of the file.

□

One of the most attractive and useful features of your HP 150 is its ability to transmit graphics information to a printer. If you want to copy the graphics display on your 150 to a printer, read on. The following technique works with HP 2674 (the internal thermal printer), 2631G, 2671G, 2932, 2934, and 82906A printers.

1. Configure MS-DOS to communicate with your printer.
 - Start the application Device Config. (This application is stored on your HP 150 System Master disc.)
 - Make sure the PRN "model" field reflects the printer you own. If you are using an HP 2631G or HP 2671G printer, use the model "Other". Make sure the "interface" column specifies the correct interface type (HP-IB, Port 1, or Port 2).
 - When you're satisfied with this configuration screen, touch [Save Config] and [Exit Config].
2. Configure the HP 150 hardware to communicate with your printer.
 - Enter terminal mode from P.A.M. by touching function key 6.
 - Press the [User/System] key on your HP 150 keyboard twice.
 - Press the key labeled "Device Control" (function key 1).
 - Press the key labeled "to Devices" (function key 3).
 - Press the key corresponding to your printer interface type until an asterisk (*) appears in the box. Printer interface types are INTERNAL PRINTER, SERIAL DEVICE, and HP-IB DEVICE. Please note that INTERNAL PRINTER will appear only if one is installed in your HP 150.
 - Press shift and stop (simultaneously) to return to P.A.M.

3. If you have an RS-232 (serial) HP 2932 or HP 2934 printer, you will also need to configure the port to which the printer is connected.
 - Connect your printer to Port 2 on the back of your HP 150.
 - Enter terminal mode from P.A.M. by touching function key 6.
 - Press the User/System key on your HP 150 keyboard twice.
 - Press the key labeled Config Keys (function key 8).
 - Press the key labeled Port 2 Config.
 - Press Save Config to keep this new configuration.
 - Press shift and stop (simultaneously) to return to P.A.M.
4. To send the contents of your HP 150's graphics memory to the printer, the Numeric/Graphics Group must be in Graphics mode. The bottom line of your HP 150 display indicates the status of this portion of your keyboard. If it reads "Grph Pad", the keypad is in Graphics mode. To copy the graphics on your 150 screen, press the key marked Graph Copy (this key is labeled Enter).
5. If you are programming in BASIC, and if the Numeric/Graphics Group is in Numeric mode, you can change these keys to Graphics mode.
 - Press the control key (CTRL) and the minus (–) key on the keypad simultaneously. The label at the bottom of your screen should change from "Num Pad" to "Grph Pad".
 - Then press [Graph Copy] to copy the graphics display to your printer.
6. If you are using HP Series 100 Graphics, use the following procedure.
 - Press [Plot] to display the Plot screen.
 - Make sure the Medium is set to "screen". This will send your chart to the 150 screen.
 - Press the key labeled "Start Plotting".
 - Once the plot is complete, press the [Graph Copy] key on your keyboard.
 - When plotting is done, press [Return] to return to the Plot screen.

7. If you are using Picture Perfect, use the following procedure.
 - Plot your chart to the screen.
 - Press the key labeled "User Aids".
 - Press the key labeled "Print Utility".
 - Press the key labeled "Print Graphics".
8. If the error message "Illegal or no destination device. Press return to clear." appears when using the Graph Copy key, follow the procedure outlined below:
 - Enter terminal mode from PAM by touching function key 6.
 - Press the User/System key on your HP 150 keyboard twice.
 - Press the key labeled "Device Control" (function key 1).
 - Press the key labeled "to Devices" (function key 3).
 - Press the escape key (ESC) followed by &p4D on your HP 150 keyboard. Do not insert any spaces between the escape and the other characters, or between any of the characters in the command string. Make sure you use upper and lower case exactly as it appears here. The asterisk (*) should move to the box labeled [SERIAL DEVICE].
 - Touch [SERIAL DEVICE]. The asterisk should disappear.
 - Touch the key corresponding to your printer interface type. An asterisk (*) should appear in the box.

□

Using the normal Printgraph application of Lotus/150 1-2-3 to produce charts and graphs on 11-by-17-inch paper can sometimes be confusing. But the menu steps shown below make it easy to get the results you want. The best way to use this procedure is via the "Manual" option of the "Size" command (instead of the "Full" or "Half" option).

From Printgraph:

- Select "Options"
- Select "Size"
- Select "Manual"
- Enter "Width" and "Height"
(as shown below)
- Enter "Rotation" ("0")
- Select "Quit"
- Select "Quit"
- Select "Quit"
- Select "Configure"
- Select "Graphics Device"
- Specify the 7475A plotter with A3 paper
- Press the space bar
- Press "Return"
- Select "Quit"
- Select "Page Size"
- Set dimensions (as indicated under **PAGE SIZE** below)
- Select "Quit"
- Select "Quit"

The plot menu should look like the sample shown below:

SELECT OPTIONS GO CONFIGURE ALIGN PAGE QUIT				MENU
SELECT	COLORS	SIZE MANUAL	DIRECTORIES	
CAM _PIE	GRID: BLACK	LEFT MARGIN: .500	PICTURES	
	A: BLACK	RIGHT MARGIN: .250	B:\	
	B: BLACK	WIDTH: 16.000	FONTS	
	C: BLACK	HEIGHT: 10.000	A:\	
	D: BLACK	ROTATION: 0.000		
	E: BLACK			
	F: BLACK		GRAPHICS DEVICE	
	G: BLACK		HP 7475A-A3	
	H: BLACK		2ND SERIAL (110)	
	FONTS	MODES	PAGE SIZE	
	1: BLOCK1	EJECT: NO	LENGTH: 11.000	
	2: BLOCK1	PAUSE: NO	WIDTH: 17.000	

This menu arrangement will result in proper plotting on B-size (A3) 11x17-inch paper.

□

The Personal Applications Manager (P.A.M.) of your HP 150 provides comprehensive and easy-to-use menus for access to the most commonly used HP 150 functions and applications. Nevertheless, sometimes you may want to run applications directly from the operating system, without using P.A.M., in order to gain access to the 60 Kbytes of memory that P.A.M. otherwise occupies.

**The Price of
Abandoning P.A.M.**

Before deciding to run your application via the MS-DOS command prompt instead of through P.A.M., you should consider the two important consequences of not using P.A.M.

First, because P.A.M. provides the only means of access to the terminal mode of your HP 150, you will not be able to use this mode while P.A.M. is not in memory. (However, it's unlikely that you would want or need to use terminal mode while running an application.)

Second, when P.A.M. is absent, its File Manager utility (which gives you access to your directory and to your files from within an application) is also gone. Therefore, you won't be able to use this utility while running an application via the MS-DOS command prompt.

**Finding the Right
Command**

To run an application from MS-DOS, you must first find the command that runs the application. This command, which is stored on the Master Disc for the application, is located in a file whose name has the extension ".IN\$". You can use the MS-DOS TYPE command to read the contents of this file. You can also use P.A.M.'s File Manager utility to "browse" through the contents of the .IN\$ file. The rest of this article explains how to use File Manager to locate the command you need in order to run your application from MS-DOS. (You would look for the same information if you were using the TYPE command of MS-DOS.)

**Step by Step to the
.IN\$ File**

1. Insert the system disc into Drive A and turn on your HP 150. This procedure automatically loads P.A.M. into the memory of your system.
2. Insert into Drive A: the disc containing the application you want to run.
3. Press function key f4, or touch the [REREAD DISCS] function-key label on the screen. The name of the application will appear on the screen.

4. Press function key f5, or touch the [FILE MANAGER] function-key label. The File Manager utility will display the directory for the disc in Drive A:. This directory is a list of the files for your application.
5. Press function key f5, or touch the [BROWSE FILE] function-key label. The message "SELECT OR TYPE THE FILE TO BROWSE" will appear at the top of the screen.
6. Type or touch the name of the file that has the extension ".IN\$".

Let's assume that you want to run HP CALCULATOR. The file on the master disc for this application has the following name:

CALCTOR.IN\$

7. Touch or press function key f1 [START BROWSE]. The following listing for the file CALCTOR.IN\$ will appear on the screen:

```
HP Calculator
G.05.00
RUN.EXE
CALCTOR;LIB=SYSLIB.PAS
199936
CALCTOR
CALTOR.MSG
•
•
•
```

8. Note the third and fourth lines in this listing:

```
RUN.EXE
CALCTOR;LIB=SYSLIB.PAS
```

The third line is the file-name of the program that P.A.M. loads when you select this application through P.A.M. This file-name has the extension ".EXE", which indicates that the file was compiled via the MS-LINK utility. (A file that was written in MS-DOS machine language would have the extension ".COM".)

The fourth line is the command that is passed to the main program (the one whose name appears on the third line) when program execution begins.

**Which File—
.EXE or .COM?**

If, as in this case, the name of the program on the third line has the .EXE extension, it is easy to determine the right command to run your application from MS-DOS: simply drop the .EXE extension, and append the information that appears in the fourth line. Thus, in our example, the command that runs the HP CALCULATOR application from MS-DOS is:

```
RUN CALCTOR;LIB=SYSLIB.PAS
```

If the name of the program on the third line has the .COM extension, the procedure is even simpler. For example, consider the following .IN\$ file for the HP MULTIPLAN application:

```
Multiplan  
A.01.10  
MP.COM  
[blank line]  
142260  
MP.COM  
MP.COM  
.  
.  
.
```

Because the fourth line of this listing is empty, you need only drop the .COM extension from the name of the program on the third line. Thus, for this example, the command that runs the HP MULTIPLAN application from MS-DOS is just:

```
MP
```

After you have determined the proper command, as described above, return to File Manager and to P.A.M. At this point, you have a choice: either reload the operating system without P.A.M., or press the [MSDOS COMMANDS] function key. (For information about reloading the operating system without P.A.M., refer to Chapter 8 or Chapter 19 of the *HP 150 MS-DOS User's Guide*.) In either case, when the MS-DOS prompt (A>) appears, enter the command for the application you want to run.

Applicability

The procedures described above are standard for the HP 150. They will work for any HP 150 application, or for any other application for which an installation file (one with the .IN\$ extension) has been created.

More information about using MS-DOS commands on your HP 150, along with explanations of graphics and an introduction to the touchscreen, appears in the *HP 150 MS-DOS User's Guide*. This manual is one of the HP 150 Programmer's Tools. The set of tools is Product Number 45624A. You can order it from your HP Personal Computer Dealer or from your HP Sales and Service Office, or refer to the "How to Order" section in the Current Information section elsewhere in this issue.

□

Here is a procedure that comes in very handy when you need to return the cursor to the left margin—fast—in Word/12x.

Your computer should be in EDIT mode. Then all you do is hold down the CTRL key while you tap the "S" key **twice**. The cursor should jump to the left margin. This action is especially useful when you are editing or when you are tightening up copy by using the soft-hyphen key and want the cursor to be located at the beginning of a line of text.

Why does this procedure work? "CTRL S" is a Word/12x editing command that was not assigned to a function key. But the command is still "hot" from the keyboard, and is simple to execute. It actually "toggles" the cursor— first to the right edge of the screen, and then to the left edge. These two consecutive actions happen so fast that they appear to be one procedure.

Our thanks to Robert Belden of Robert A. Belden and Associates, San Diego, CA, for contributing this article.

□

What should you do if you want to use your HP 150 in another country, or if you want to use it the way someone in another country might? This article explains how to go about "localizing" your HP 150 for use in countries and with languages other than your own.

The HP 150's central processing unit (CPU) can be connected to many different system components, chief among which are the keyboard and disc drives. Therefore, in order to turn an HP 150 intended for use in your country into an HP 150 for use elsewhere in the world, the first thing you should do is order the HP "PC Kit" (product number 45612A—), which contains the keyboard for the desired geographical area, several discs, and translated documentation.

The discs contain the MS™-DOS operating system (in several languages other than English), the Personal Applications Manager (P.A.M.), the utilities, and a demonstration program. The operating system and P.A.M. have been modified with regard to information (such as currency and date formats) that varies in different countries or regions. The documentation that has been translated into languages other than English includes the support guide, the licensing agreement, a glossary of MS-DOS terms, and a graphics overlay for the HP 150's keyboard. The PC Kit is available on special order through your local HP Sales Office. The table in this article lists the proper product numbers for the various versions of the kit.

Thanks to a recent revision of the read-only memory (ROM) in the HP 150, all of the HP 150's manufactured for use in the United States or elsewhere can be connected to any of the various keyboards that are now available. Although the HP 150's configuration menu remains essentially the same, its language-selection field now includes options for all of the available keyboards.

Although the ROM was revised early in 1984, it may still be necessary to update the ROM chips in your HP 150. If your HP 150's serial prefix is 2403A or higher, the ROM chips in your HP 150 do not need to be updated. However, if your HP 150's serial prefix is lower than 2403A, you should contact your authorized HP Personal Computer dealer or HP Field Repair Center to arrange to have the ROM chips updated. (The cost of the update is \$180 plus labor.)

If you would like the messages and other information displayed on the HP 150's screen to appear in a language other than English, you should buy the HP 150 Language Accessory Board (Product Number 45635A). This board is also available with various amounts of memory built in: 128K (Product Number 45636A), and 256K (Product Number 45637A). Each of these boards contains all of the languages that are currently available. You select the one you want to use by setting a switch on the board itself.

About Product Numbers

The "international" HP 150's have the same product numbers as the U.S. HP 150: 45610A, 45650A, 45655A, and 45660A. The following table lists typical international areas in which the HP 150's can be used, the different languages in which the keyboards are available, and the suffix you should add to the product number to order each type of HP 150. For example, if you wanted to order an HP 150 with the French-language keyboard for use in Canada, you would add the suffix "C" and order Product Number 45650AC. Or if you wanted to order an HP 150 with a 15-Mbyte fixed-disc drive and the Norwegian keyboard, you would specify Product Number 45660AN.

Typical Areas of Use	Language of Keyboard	Product-Number Suffix
Canada	French	C
Germany, Austria, <i>et al.</i>	German	D
Spain	Spanish	E
France, Switzerland, Belgium, <i>et al.</i>	French	F
The Netherlands, Belgium, <i>et al.</i>	Dutch	H
The United States	English*	K
Canada	English	L
Latin America	Spanish	M
Norway	Norwegian	N
Switzerland	French	Q
Switzerland	German	P
Sweden	Swedish	S
The United Kingdom and the British Commonwealth	English	U
The Netherlands, <i>et al.</i>	Dutch**	W
Finland	Finnish	X
Denmark	Danish	Y
Italy	Italian	Z

*U.S. ASCII **AZERTY keyboard

Power Cords

If you intend to use your HP 150 in a country other than your own, you may also need a different power cord. The following chart lists the power cords that are available for the HP 150 for use in certain geographical areas.

Product Number	Area(s)
45901A	Australia
45902A	Europe
45903A	Japan and Taiwan
45910A	The U.K. and Singapore

□

Record Mode is used primarily to re-direct output from a host mainframe program or a local PC application to a peripheral device, such as a printer or plotter. The concept of diverting output is easy to understand. Any text that a program prints normally appears on the screen. However, if you turn on Record Mode (either by pressing a function key or by entering an escape sequence), the program sends its output to the current default destination device instead of to the screen. (See also the chapter on "TO" devices in the *HP 150 Owner's Guide*.)

For example, you could write a program that performs the following tasks:

- 1) Outputs an escape sequence that specifies the destination device.
- 2) Turns on Record Mode.
- 3) Prints a chart of information.

The only problem with such a program is that it leaves Record Mode on after the chart is printed. It would be impossible to define an escape sequence that turns off Record Mode once Record Mode is active, because the escape sequence itself would be sent to the destination device.

However, there is a solution. You can add an option to the escape sequence that you use to turn on Record Mode. This addition specifies a single character in the ASCII character set. This character serves as a termination flag. For example, suppose the escape sequence designates the asterisk ("*^**") as the termination flag. After the chart has been printed, the program needs only to output a single asterisk in order to turn off Record Mode. (You can use any character in the escape sequence; I prefer the tilde ("*^~*"), because it seldom occurs in normal text.)

The escape sequence that turns on Record Mode is a device-control action. Because of the nature of the command, the terminal will want to transmit a status line once Record Mode has been turned off. If the program does not read this status line, the keyboard will lock up. But it is easy to cause the program to accept the status line. The program needs only to perform the following two steps:

- 1) Output a DC1 character, which in effect says "I'm ready to receive"
- 2) Read two characters without echoing them to the screen

The status indicator should be the letter "S" followed by a carriage return. (Any other character indicates a device failure.)

The BASIC program listed below defines the screen display as the current default output device, and sends output to the screen as if the screen were a printer. By changing the output-device code form 3 to 4, 5, or 6, you can cause the program to send its output to an external printer, to the default HP-IB device, or to the HP 150's internal printer, respectively.

NOTE: This example uses block-mode transfers. To ensure proper operation, *both* the G and H settings in the terminal configuration menu *must* be the same (that is, either both NO (the default value) or both YES).

```

10 PRINT CHR$(27);"&p3D";      ' Output
                               device =
                               display
                               screen

20 PRINT CHR$(27);"&p126p20C" ' Turns on
                               record
                               (char #126
                               will turn it
                               off)

30 FOR K = 1 TO 10
40 PRINT "Test line"         ' Outputs
                               your
                               information

50 NEXT K
60 PRINT "";                 ' Terminates
                               record
                               mode by
                               printing
                               char #126

70 PRINT CHR$(17);          ' Tells
                               terminal
                               "I'm ready
                               for a block
                               transfer"

80 STATUS$ = INPUT$(2)      ' Reads
                               status letter
                               and CR
                               from
                               terminal
  
```

```
90 STATUS$ = LEFT$(STATUS$,1) ' Trims off
                                trailing
                                carriage-
                                return
                                character
100 IF STATUS$ = "S" THEN 470
110 PRINT "Device failure..." ' Status
                                showed an
                                error
                                occurred
120 STOP
130 PRINT "Output complete." ' Status
                                showed
                                successful
                                transfer
140 END
```

□

It is conceivably possible to live without escape sequences when you are using the HP 150 (or any other personal computer); but knowing how to use them helps make it much easier to control the functions of your microcomputer. With escape sequences, you can change the fonts on a printer, define function keys, turn on the graphics keypad, turn off the touchscreen, and control the display enhancements (such as inverse video and blinking characters).

Using escape sequences to home the cursor on your screen and then clear the screen is very easy, once you know how to do it. The procedure is a little different for each of the high-level languages considered in this article; but once you have mastered it, you can apply it to produce most of the escape sequences in any language.

FORTRAN/150

This program homes the cursor, clears the screen, moves the cursor to Line 20, and prints characters in inverse video.

```

10 CHARACTER HOMEUP,CLR,ESC
20 DATA HOMEUP/'H'/,CLR/'J'/
30 ESC = CHAR(27)
40 WRITE(*,*) ESC,HOMEUP
50 WRITE(*,*) EXC,CLR
60 WRITE(*,*) ESC,'&a10c20R'
70 WRITE(*,*) ESC,'&dBTHIS IS
   INVERSE',ESC,'&d@'
   END

```

The escape character is a decimal 27.

Pascal

This program homes the cursor and clears the screen.

Program escapade(input,output);

```

TYPE  esc_code      = Packed array[1..2] of char;
VAR   homeup, clr   : esc_code
VALUE homeup[1]    := chr(27);   homeup[2]    := 'H';
      clr[1]        := chr(27);   clr[2]        := 'J';
BEGIN
      writeln(homeup,clr)
END.

```

In Pascal, the intrinsic function for an escape sequence is CHR.

COBOL

In COBOL, the preceding example for using escape sequences to home the cursor and clear the screen is taken care of by the "BLANK SCREEN Clause" that appears in the "SCREEN SECTION" of the "DATA DIVISION" to erase the screen and place the cursor in the home position:

```
01 CLEAR _SCREEN.  
   03 BLANK SCREEN.
```

...

```
DISPLAY CLEAR _SCREEN.  
DISPLAY ( 1, 1) ERASE.
```

Both of the "DISPLAY" statements clear the screen and home the cursor. The first statement transmits the data item "CLEAR _SCREEN" to the screen. The second statement causes the cursor to move to the position specified by the row and column numbers. The "ERASE" option in the second statement clears the screen.

The following program tests escape sequences by checking the font specification.

```
IDENTIFICATION DIVISION.  
PROGRAM-ID.      ESCARGOT.  
                  THIS PROGRAM TESTS AN  
                  ESCAPE SEQUENCE.  
AUTHOR.          MORIMOTO.  
DATE-WRITTEN.    02 SEPTEMBER 1984.  
SECURITY.        NONE  
ENVIRONMENT DIVISION.  
DATA DIVISION.  
WORKING-STORAGE SECTION.  
01 FIELD-DEFINE.  
   03 ESC-CODE   PIC 99 USAGE IS COMP-0  
                  VALUE IS 27.  
   03 CHR-14     PIC 99 USAGE IS COMP-0  
                  VALUE IS 14.  
   03 CHR-15     PIC 99 USAGE IS COMP-0  
                  VALUE IS 15.  
SCREEN SECTION.  
01 CLEAR-SCREEN.  
   03 BLANK SCREEN.  
PROCEDURE DIVISION.  
MAIN.  
   PERFORM BLANKING-SCREEN.  
   DISPLAY ESC-CODE "B" CHR-14 "THIS IS  
   LINE DRAWING".  
   DISPLAY CHR-15 "THIS IS NORMAL".  
   STOP RUN.  
BLANKING-SCREEN.  
   DISPLAY CLEAR-SCREEN.
```

Compiled BASIC

All of the procedures for using escape sequences in interpreted BASIC also work in compiled BASIC, as indicated in the following program segment:

```
10 ESC$ = CHR$(27)
20 HOME.CLEAR$ = ESC$ + "h" + ESC$ + "j"
30 PRINT HOME.CLEAR$;
```

Happy escaping!

□

This article is a foretaste of the technical programming information you'll find in the *HP 150 Programmer's Reference Manual* (along with explanations of how to use escape sequences, how to set up data communications, and how to use the graphics features of your HP 150). You'll derive the greatest benefit from the example in this article if you are familiar with parameter-passing in Pascal.

**Introducing the
AGIOS**

The AGIOS is the alphanumeric/graphics input/output system of the HP 150. It is a programming interface that lets you use the I/O capabilities of the machine. The AGIOS provides the following services:

- A rapid way to write large blocks of text to the screen
 - Access to the HP 150's graphics capabilities
 - Control of the touch-screen
-

Before You Start

You gain access to the AGIOS by writing (or by using pre-written) assembly-language routines that provide an interface between your Pascal program and the AGIOS system calls. To use the AGIOS, you should have a working knowledge of the following items:

- Intel 8088 assembly language
- MS-DOS system calls
- MS-Pascal (especially parameter-passing)
- The HP 150's graphics and touchscreen capabilities
- The AGIOS functions

You should also have access to the following reference material:

- The MS-Pascal reference manual
- The MS-Pascal compiler manual
- The *MS-DOS Programmer's Reference Manual*
- The *HP 150 Programmer's Reference Manual*
- An Intel 8086/8088 assembly-language reference manual

You will also need the following hardware and software:

- The HP 150 personal business computer
- The MS-DOS operating system
- The MS-Pascal compiler and linker
- The MS-8088 assembler
- A text editor or word-processing program (to create source-code files)

All of the above material (except the text editor) is available from HP in two products: MS-Pascal (Product Number 45447A) and the Programmer's Tools (Product Number 45624A).

**A Typical AGIOS
Function: "Homing the
Cursor"**

The Pascal program that appears later in this article shows you how to home the cursor. This operation is a simple one, and you might at first think that the Pascal routine is a very complicated way to do it. But once you're familiar with how the routine works, you can apply its principles to many other display-control tasks.

The Pascal routine calls an external assembly-language routine that performs the following tasks:

- Loads the parameters (the input string and related data) of the operation to be performed into certain memory registers. This information enables execution of the function (which in our example is "home the cursor").
- Calls an MS-DOS system function that causes a software interrupt that enables access to the AGIOS functions. After MS-DOS returns control to the assembly-language routine, the routine checks the error status of the completed AGIOS call and passes control back to the Pascal program.

**Passing AGIOS Input
Information from
Pascal**

To pass the input information to your assembly-language routine, you need to create a buffer. This buffer, which contains all of the necessary input information, should be passed by reference. You must also tell the assembly-language routine how long the buffer is. You do so via the buffer-length field, which is an integer field that is passed by value.

Therefore, you first create a data buffer that contains the code for the AGIOS function call, along with any other information that the function call requires. In this example, the function-call code for "execute two-character sequence" is "016" and the code for homing the cursor is "H".

You set up this buffer as a packed array of CHAR. The value zero is in byte 1, the value 16 is in byte 2, and the character "H" is in byte 3. However, because the 8088 microprocessor addresses the information in a data word in order from high byte to low byte (instead of from low byte to high byte), you must pass this data as shown below:

Contents	16	0	H
Byte	0	+1	+2

Because this data buffer consists of three bytes, you must pass the length "3" to the assembly-language program.

The Pascal Program

The following Pascal program, which uses the principles and procedures discussed above, has the effect of homing the cursor.

Note that unlike standard Pascal, MS-Pascal has the predefined variable type BYTE. The MS-Pascal reference manual describes this type in detail.

```
PROGRAM try_AGIOS (input, output);
  {This program demonstrates the passing of
  input parameters to an assembly-language
  routine. The program homes the cursor.}
  {define an AGIOS data buffer type}
  type buffer = RECORD
    low_byte : BYTE;
    high_byte : BYTE;
    char_code : CHAR
  END;
  {declare assembly-language routine as
  external; pass the data by reference and
  the length by value. Pick up the AGIOS
  error status as an integer result of the
  function (0 = no error).}
  FUNCTION AGIOS (VAR parms : buffer;
    length : INTEGER)
    : INTEGER; EXTERN;
  {declare variables}
  VAR; homeup : buffer;
    ret : INTEGER;
```

```
BEGIN
    {load the AGIOS input values into the
    buffer}
    homeup.low_byte := 16;
    homeup.high_byte := 0;
    homeup.char_code := 'H';
    {execute AGIOS homeup function and
    get error status}
    ret := AGIOS (homeup,3);
    {write return status; zero is no error}
    WRITELN ('return status: ',error)
END.
```

For More Information

This procedure may seem like a cumbersome way to move the cursor, but you can use the steps listed in it to perform other, more complex AGIOS functions (such as defining an area on the touchscreen, shifting the touchscreen area, or writing text to the touchscreen).

Full information about this interface appears in the *HP 150 Programmer's Reference Manual*. To obtain a copy of this manual, order the HP 150 Programmer's Tools (Product Number 45624A) from your HP Personal Computer Dealer or from your HP Sales and Service Office. See also the "How to Order" section in the Current Information Insert in this issue.

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So You Want to Write Programs for the HP 150... Marc Burch

If you are a software developer, or if your services include custom programming, you might be interested in joining the HP 150 Independent Software Vendor (ISV) Program. The HP 150 personal business computer—the first generally available machine to include touchscreen technology—is gaining wide acceptance in the PC marketplace. If you would like to develop applications for the HP 150, then the ISV program is for you.

The independent software vendors are essential to the expansion and diversification of software for the HP 150. ISVs provide programs in many important areas; in return, Hewlett-Packard provides market exposure for ISVs' products, through the HP sales force, through dealers, and through users' groups.

Benefits

Members of the 150 ISV group enjoy the following benefits:

- Participation in the growing market for the HP 150, and exposure to HP customers who either use HP 150's or interface them with other computers.
- Promotion through the *HP Software Catalog*, which HP distributes to independent computer dealers, owners of HP 150's, and HP sales representatives. Under this program, each ISV retains responsibility for selling and supporting his or her product, and also retains all sales revenues.
- Commercial exposure via inclusion of the HP software catalog's summary, in selected brochures, advertisements, and promotional campaigns.
- Substantial financial discounts on the purchase of an HP 150 development system, in order to reduce development costs.
- Expedited delivery of an HP 150 development system for qualified ISV's.
- Access to HP 150 software development tools, which can make programming easier and faster, and which can facilitate the conversion of programs to run on the HP 150.
- Technical assistance during software development.
- Association with the HP image—an outstanding reputation for quality and service.

To learn more about the ISV program, or for a copy of the ISV program application, call the HP Personal Software Division direct: (408) 773-6332. If you are located in Europe, please call the Personal Computer Marketing Group at HP's Grenoble Personal Computer Division: (33) 76 25 81 41. If you are located in Canada, please contact Serge Daoust at HP Toronto: (416) 678-9430, extension 333. We look forward to hearing from you and to working with you to develop and maintain successful software.

□

Introducing PFS:File and PFS:Report for the HP 150

Jim Collins

	<p>PFS:File and PFS:Report are now available for the HP 150. PFS:File is an information-management program that works like a paper filing system—without the paper. PFS:Report produces summaries in the form of tables, including numeric calculations, based on the information stored in PFS:File. These two products work together, and are sold as a set.</p>
What These Products Do	<p>PFS:File and PFS:Report were designed primarily for first-time computer users who need a simple yet versatile way to organize and manage files, and to summarize the information in those files.</p> <p>PFS:File lets users record, store, update, and sort data in files. PFS:Report complements PFS:File by creating tabular summaries of the data in the files and by letting users manipulate the data mathematically. Together, PFS:File and PFS:Report form a general filing and reporting system that someone in virtually any industry or profession can use to meet specific needs.</p>
Easy to Learn, Easy to Use	<ul style="list-style-type: none">■ All functions are written in clear, easy-to-understand language.■ A main menu makes task-selection easy.■ The user does not need to define field attributes.■ A data item can occupy more than one line.■ Documentation is clear and well written.■ Illustrations in the manual make learning fast.■ Formatting features in PFS:Report include automatic centering of text, underlining, alignment, and page-numbering.
Versatility	<ul style="list-style-type: none">■ Users can make custom-designed forms.■ Users can easily modify and update forms and data.■ Users can print selected items (for example, mailing labels).
Power	<ul style="list-style-type: none">■ Forms can be very large (1679 characters per field; 3200 fields per record; 1500 records per data base).■ PFS:Report lets users perform mathematical calculations.■ Users can sort and retrieve data in any category or file.■ The program searches to the first item on a form within three seconds.■ Users can search for any combination of items.■ Users can sort data according to key words.

**Support and
Ordering Information**

PFS:File and PFS:Report owners are supported by HP's Phone-In Software Assistance Center. PFS:File and PFS:Report are not sold separately. The PFS:File/PFS:Report package (Product Number 45488A) is available through your authorized HP Personal Computer dealer. (See also the "How to Order" section of the Current Information Insert in this issue.)

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Chang Labs' GraphPlan is an integrated software package that provides the following functions via HP TOUCH:

- High-quality graphics
- A report generator
- A powerful spreadsheet with the ability to prepare financial models

GraphPlan, which is a subset of MicroPlan (also available for the HP 150), is recommended for users who need advanced spreadsheet functions, including statistical and mathematical operations, and for users who work with large and repetitive applications (such as monthly or weekly forecasts). GraphPlan is also attractive to users who must prepare presentation-quality graphs from the data in a spreadsheet, and who need to update the graphs to reflect changes in the data. Although GraphPlan can rank and sort data in ascending, descending, or alphabetical order, it is not the best choice for users who need extensive data-base-management abilities.

**A Closer Look at
Graphics**

GraphPlan lets you compose scattergrams, pie charts, bar charts, and line charts. You can place several graphs on one chart, and stack bar-chart segments either vertically or horizontally. You can explode pie charts, display the segments with different filling patterns, or sort the charts according to segment size. You can also combine line graphs and scattergrams on the same chart.

Unless you specify otherwise, GraphPlan automatically provides legends and tick marks for charts, as well as numerical labels, the date, the time, and logarithmic X-axis and Y-axis labels. The built-in report generator's formatting options include titles, column widths, line-spacing, and number formats.

The graphics portion and the spreadsheet portion of GraphPlan are fully integrated. By pressing a key or by touching the screen, you can obtain a presentation-quality graph of the data in the spreadsheet, either on the screen or on paper. GraphPlan lets you return to the options menu or spreadsheet, change the data, and then return to the graphics portion of the package—without having to load and unload two separate programs.

Math and Statistics

The GraphPlan commands include the following mathematical and statistical operations:

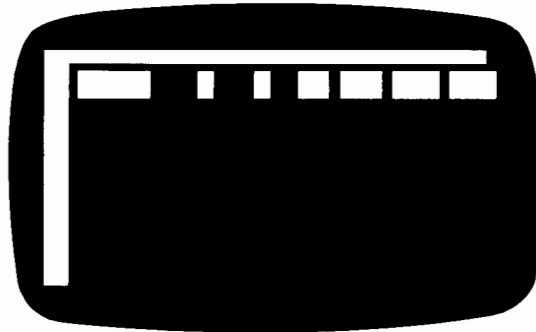
Mathematics: ADD, SUB, MULT, DIV, NEGATE, INVERSE, INTEGER, ROUND, CUMULATE, ABSOLUTE, ADD K, SUB K, MULT K, DIV K, SUM, GET, FLOOR, and CEILING

Statistics: DELTA, % GROWTH, MOVING AVERAGE, SMOOTH, MEAN, SIGMA, VARIANCE, LOG, EXPONENTIAL, POWER, MAX, MIN, COUNT, and TOTAL

Like MicroPlan, GraphPlan uses a row-and-column technique that contains a set of built-in formulas or commands. This way, users can generate a spreadsheet using approximately 70% fewer keystrokes than would be necessary with the more common cell-and-formula spreadsheet technique.

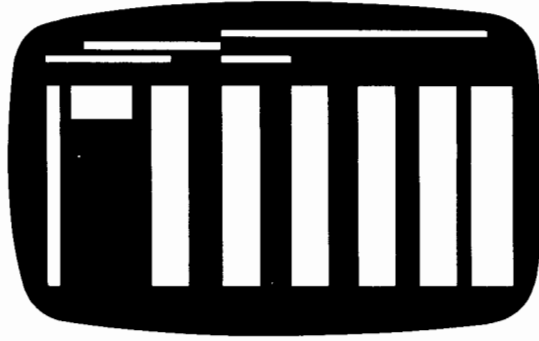
For example, to add the two rows of figures shown in the illustration below, GraphPlan requires that you make five keystrokes (to select the ADD command and to answer the prompts). The same operations with a conventional cell-oriented spreadsheet such as VisiCalc would require approximately 20 keystrokes.

VisiCalc/150



1. Enter formula:
+ C1 + C2 into cell C3
2. Replicate the formula for cells C3 through H3
 - a) /R for Replicate
 - b) C3...C3:D3...H3
 - c) Use "Relative" Reference

**GraphPlan and
MicroPlan**



1. Select the ADD command
2. Respond to prompts for row numbers
Row: 1
Row: 2

**Commands and
Formulas**

GraphPlan's use of commands frees you from much of the burden of generating formulas. You select the commands from the main menu and from related sub-menus that appear on the screen. All of the commands are fully prompting, and are supported by information available through the "Help" command. When you need formulas, you can build them with the help of the "Formulas" command.

Ordering Information

GraphPlan (Product Number 45467A) is supported by HP's Phone-In Software Assistance Centers. It is available through your authorized HP Personal Computer dealer, by telephone from HP, or through your local HP Sales and Service Office.



**New Simulations—
and a Chess Game—for the HP 150**

John LaCava

Two new simulations and a master-level chess game are now available for the HP 150. In addition to providing an opportunity for both learning and entertainment, these products also provide an excellent supportive environment for first-time users of personal computers. All three games make full use of the HP 150's touchscreen, thus eliminating the need to remember commands and key sequences. (For details of "edu-tainment" software released earlier, refer to Issue No. 8 of the *Series 100 Communicator*.)

Baron: The Real Estate Simulation™

Baron is an economic simulation of the real-estate market. The mortgage and property-appreciation rates are based on a complex historical model of this market. Baron gives you 60 months to parlay your starting capital of \$35,000 into a fortune by buying, selling, and developing different kinds of property in response to market forces.

Millionaire: The Stock Market Simulation™

This game is based on an economic simulation of the New York Stock Exchange. The market trends you encounter in the game are based on actual trends, and are part of a complex model of the NYSE. Millionaire allows you 77 weeks to increase your \$10,000 stake by buying and selling securities in response to market trends.

Sargon III

The HP 150 version of Hayden Software's Sargon III computer-chess game lets you move pieces by simply touching the screen. You can play against Sargon or against a friend—or watch as Sargon plays against itself. The game includes 45 chess brain-teasers and 107 actual games played by Capablanca, Fischer, Lasker, and other masters.

To Order These Products

The "How to Order" part of the current Information section in this issue contains complete ordering information for Baron (HP Product Number 92243KA), Millionaire (92243JA), and Sargon (92243MA).

Baron: The Real Estate Simulation™ and Millionaire: The Stock Market Simulation™ are trademarks of Blue Chip Software.

All twelve of Infocom's popular computer adventure games are now available for both the HP 150 and the HP 110 (The Portable).

Infocom's newest release, **Seastalker™**, is an excellent easy introduction to the world of computer adventure games for younger players. The object of Seastalker is to save an undersea research station from disaster while charting a course through the depths aboard an untested submarine.

Deadline™ gives the player 12 hours to solve a clever and baffling mystery. The player must work from a crime report and piece together the myriad clues along the trail that leads to suspects who seem to possess independent personalities.

In **Enchanter™**, the player is a novice magician who must collect spells and secrets during a journey to meet and defeat the forces of darkness. **Sorcerer™** sends the player on a quest through not only space, but through time as well.

At the start of **Infidel™**, the player is marooned in the heart of the desert. The challenge is to locate and gain entry to the lost pyramid, decipher its hieroglyphs, and unravel its mysteries one by one.

Zork® III, the final chapter in the Zork trilogy, is by far the most difficult of the three games. In it, the player's odyssey culminates in a meeting with the Dungeon Master himself.

Zork® I, Zork® II, Planetfall™, Starcross™, Suspended™, and The Witness™, all of which are currently available for the HP 150, are now also available for the HP 110 (The Portable) personal computer.

How to Order

The HP product numbers for these games are listed below. The "How to Order" part of the Current Information section in this issue explains how you can purchase these products.

Deadline	92243VA
Enchanter	92243UA
Infidel	92243WA
Seastalker	92243ZA
Sorcerer	92243YA
Zork III	92243TA

Deadline™, Enchanter™, Infidel™, Planetfall™, Seastalker™, Sorcerer™, Starcross™, Suspended™, and The Witness™ are trademarks of Infocom, Inc. Zork® is a registered trademark of Infocom, Inc.



The Portable: Desktop Capability in a Notebook-Sized Package

Tom Darnall, Marilyn LeMoine,
James Martin



HP has just introduced The Portable (HP 110)—a computer designed to give today's users work-saving productivity tools in a compact package that's no bigger than a three-ring binder.

The Portable is battery-operated, and features an integrated liquid-crystal display, a full-size keyboard, a built-in modem, 384 Kbytes of ROM, 272 Kbytes of RAM, built-in Hewlett-Packard interface-loop and serial (RS-232) connections, and powerful software. It weighs nine pounds.

This product responds to the fact that many users are not stationary. They need a computer they can take down the hall to a colleague's office, across town to a client's office, home for an evening or a weekend, or even across the country on a business trip.

With built-in software, a large amount of memory available to the user, and a fast operating system, The Portable provides the computing performance of many traditional desktop machines.

In addition to the MS™-DOS operating system, The Portable's permanent memory (ROM) contains the following software:

- **Personal Applications Manager (P.A.M.)**
This "shell" provides the main menu on The Portable's display, and shields the user from complex computer syntax.
- **Lotus™ 1-2-3™**
The integrated design of this popular package lets the user switch easily from spreadsheet analysis to information management to graphics, without having to load additional programs or enter additional data.
- **Memomaker**
This subset of WordStar™ is an easy-to-use word-processing program. Its use of The Portable's function keys eliminates the need to learn special command sequences.
- **Memomaker**
This subset of WordStar™ is an easy-to-use word-processing program. Its use of The Portable's function keys eliminates the need to learn special command sequences.
- **Terminal emulation and communications**
When used with The Portable's built-in modem or RS-232 port, this software provides easy communication and file-transfer with other computers.

Each of these built-in programs includes "help" directories that provide instant access to on-screen instructions. Other industry-standard software is also available for The Portable. (For example, see the article on dBASE II™ elsewhere in this issue.)

Lots of Memory	The Portable contains two memory areas. The first (384 Kbytes of ROM) contains the operating system, the built-in software, and the "help" screens. The second (272 Kbytes of non-volatile RAM) is reserved for data storage or additional programs. Part of RAM is used as a high-speed solid-state "electronic disc drive" that stores and retrieves data (such as a spreadsheet or text) more than six times faster than these operations can be done with conventional flexible magnetic discs.
Getting Started	To start using The Portable, just press any key. The P.A.M. program menu appears on the screen, and the user can select the desired program. In less than five seconds, he or she can start writing a memo, change a forecast, make a chart, sort a list, or transfer a data file to another computer.
Communications with Desktop Computers	The Portable-Desktop Link (PDL) is an optional plug-in card that lets The Portable communicate with the HP 150 and other desktop computers. The card fits into an option slot in a desktop computer, and gives the desktop computer the hardware and software necessary to transfer text or spreadsheet data from The Portable to the desktop computer and vice-versa. The PDL also lets The Portable address a printer that is connected to the desktop computer.
Expandability	The Portable system can be expanded with HP's new battery-powered peripherals: the ThinkJet printer, and the HP 9114A double-sided 3½" flexible disc drive.
Software	Software for The Portable is not "condensed" or "boiled-down" versions of software for desktop computers. Instead, it has the same user interface and works the same way as the software for other, larger personal computers. Because of the power of The Portable's CMOS 8086 processor, software programs run at the same speed as on popular desktop computers, and sometimes even faster.

The following software is now available for
The Portable:

Programming Languages

Microsoft BASIC
Microsoft GW BASIC (interpreted)
Microsoft BASIC Compiler
Microsoft Pascal Compiler
Microsoft FORTRAN Compiler
Programmers' Tools

Word Processing

Microsoft Word™
MicroPro WordStar™
MicroPro SpellStar™
MicroPro MailMerge™
MemoMaker (built in)

Spreadsheets

Microsoft Multiplan™
1-2-3 (built in)

Data Management

Ashton-Tate dBase II™
Link Systems DataFax™

Data Communications

Link Systems Data Link™ (VT 100 Emulator)
Term 0 (built in)

Presentation Graphics

Microsoft Chart™

Finance

Personal Account
Dow Jones Market Analyzer
Dow Jones Spreadsheet Link
Personal Tax Plan
Professional Tax Plan



□

The Portable (HP 110) is highly compatible with the HP 150, in terms of both user interactions and software. The computers use the same operating system, MS™-DOS 2.0; their keyboards are similar; and the applications programs available for both of them are either identical or very much alike. The major difference between the HP 150 and The Portable is the latter's lack of a touchscreen—a difference made necessary by weight and battery-power considerations. In any case, both of the computers are high-performance, full-function machines that can run the latest software.

The Keyboard

Within the smaller space available, The Portable's keyboard is as similar as possible to the keyboard of the HP 150. In particular, The Portable's keyboard retains standard key spacing, a short throw, and crisp action, in order to give the user the same touch-typing "feel" of a larger keyboard. In most instances, the key names on The Portable's keyboard are the same as those on the HP 150's keyboard.

The major difference is that The Portable's keyboard does not include a numeric keypad. A less obvious difference is the location of the editing and display-control keys on The Portable's keyboard. Nevertheless, users of the HP 150 should find The Portable's keyboard very familiar and easy to use.

Interfacing

The Portable-Desktop Link card (Product Number 45643A) plugs directly into the backplane slot on the HP 150, giving users of The Portable direct access to the HP 150's disc drives. (The drives act as though they were connected directly to The Portable as Drive C: and Drive D:.)

The Portable can also communicate directly with an HP 150 (or another desktop personal computer) by means of a built-in RS-232-C connector.

Software

The Portable's ROM-based MS-DOS 2.11 operating system is fully compatible with the HP 150's MS-DOS operating system. The Personal Applications Manager (P.A.M.) and MemoMaker work on The Portable in a way fully compatible with their operation on the HP 150 (including the use of the eight function keys, but without the touchscreen). Any data files created with software for The Portable are 100% compatible with their counterparts created with software for the HP 150.

Of course, you can also run industry-standard applications on The Portable. A full range of programs on 3½-inch flexible diskettes will soon be available for The Portable. Compatible versions of software for The Portable and for the HP 150 will be packaged in the same box, recorded on the same diskette. (The exceptions to this rule include large accounting programs and programs that require extensive use of a fixed-disc drive.) In any case, data files are 100% compatible between like packages on either the HP 150 or the IBM PC.

When you run the same application on The Portable and on another MS-DOS machine, the files you create can be used on either The Portable or the other machine. However, hardware differences (such as The Portable's 16-line display, as opposed to the HP 150's 24-line display) and certain low-level operating-system differences can mean that the software is not quite 100% compatible. However, because users most often are concerned that the software they are working with also be available for The Portable, HP has made the conversion procedure as easy as possible. Independent programmers have been enthusiastic in converting applications to run on The Portable.

The Differences

The following chart summarizes the differences between The Portable and the HP 150.

Characteristic	The Portable	The HP 150
Alpha Display Size	16 x 80	27 x 80
Built-In RAM	272 KB	256 to 640 KB
Cursor/Screen Control	HP or ANSI (IBM) escape sequences	HP escape sequences
Graphics Display	128 x 480	390 x 512
Graphics Support	Assembly language	AGIOS
Microprocessor	8086	8088
Clock Rate	5.33 MHz	8.0 MHz
Function Keys	8	12

□

Adding the new HP 9114A double-sided 3½-inch flexible disc drive and the HP ThinkJet printer to The Portable gives you the performance and functionality of a personal computer system in a small, lightweight package that you can carry with you almost anywhere.

**Reliability and High
Storage Capacity in a
Small Package**

The HP 9114A drive accepts media with a formatted capacity of 710 Kbytes, which is equivalent to approximately 175 pages of single-spaced text, 80,000 8-digit numbers, or 3,500 data-base entries (of 200 characters each). Each 3½-inch flexible disc is enclosed in a hard plastic case to prevent damage by dust, fingerprints, or other contaminants. The metal center of the case securely positions the disc for accurate reading and writing.

Circuitry within the drive guards against loss of data due to worn-out discs. When a disc is near the end of its useful life, this "media monitor" causes the drive light to flash, indicating that you should transfer the data to a new disc.

You can also use the HP 9114A with HP Series 40 and Series 70 hand-held calculators. The HP-IL interface lets you work with data or applications that need more speed, storage, reliability, or battery life than an HP digital cassette drive can provide.

If you want to exchange data between the HP 9114A and an IBM PC, you can do so via the HP 82973A HP-IL card for the IBM PC. This card lets you exchange data files (for example, those created with Lotus™ 1-2-3™) between an HP 150, The Portable, and an IBM PC.

The HP 9114A can also read the 270-Kbyte format to transfer data between single-sided and double-sided diskettes, thus enabling communication between HP portable computers and HP desk-top computers.

The HP 9114A is compact and battery-operated. It weighs slightly more than 5½ pounds, and occupies the same area as a sheet of letter paper. When the disc drive is stacked under HP's new battery-operated ThinkJet printer, an entire portable computer system takes up about the same amount of space as an open looseleaf notebook.

**The Quiet Revolution
in Printing**

The HP ThinkJet printer rounds out your portable computer system with features that are not often available in ordinary dot-matrix printers. ThinkJet is quiet (55 dB), fast (150 characters per second), and moderately priced. Three different interfaces are available for it: HP-IB, HP-IL, and Centronics.

Its 11x12-dot matrix provides high-resolution characters in regular, boldface, and underlined type. ThinkJet prints type in the latter two styles in one pass, without any delay for overstriking or underlining. The disposable ThinkJet print-head is a single easy-to-change unit that contains the ink reservoir and the printing mechanism. Each print-head provides about 500 pages of high-quality printing.

Together, these three products—The Portable, the HP 9114A disc drive, and the ThinkJet printer—give you the capabilities and power of a desktop computer in a package the size of a typical briefcase.

To purchase these products, contact your authorized HP Personal Computer dealer, or your HP Sales and Service Office.

□

Users on the go will be pleased to know that dBASE II, the popular microcomputer data-base software package from Ashton-Tate, is now available for The Portable (HP 110). Furthermore, a new version (Version 2.41) of this package has just been released for the HP 150.

**A Powerful
Combination**

All of the functions of dBASE II are completely implemented on The Portable, and take full advantage of The Portable's keyboard, 16-line display, and "electronic disc." Users can now enjoy faster access to commands, and full portability. (However, most users will probably want to use one or more of the optional HP disc drives for data storage.)

Major Enhancements

Version 2.41 of dBASE II is designed to run with either the HP 150 or The Portable. The enhancements in this version are described below.

- **Interactive Tutorial**
Many of the features described in the first section of the dBASE II manual are also part of the new on-disc tutorial. This program requires little knowledge of computers, yet covers a range of topics from file-creation to programming with dBASE II.
- **On-Line Help**
The on-line "help" function makes the program even easier to use. Just press the HELP function key, and a brief description of each command appears on the screen. Instant answers for the perplexed!
- **Function Keys**
Eight basic dBASE II commands are now represented by function keys (and, on the HP 150, by the function-key labels that appear on the touch-sensitive display screen). Thus, instead of typing the name of a command, you need only make a single motion to enter it. The following commands are represented by the function keys: LIST FILES, LIST STRUCTURE, MODIFY STRUCTURE, MODIFY COMMAND, BROWSE, EDIT #, and QUIT.
- **Demo Using HP Touch™**
This working sample program shows how to create fields that are accessible through HP Touch. You can use the dBASE II programming language to gain access to menu options and data-entry fields via HP Touch. If you are developing a custom application, you can design Touch-driven user interfaces to simplify and speed data entry. Your imagination is the only limit!

- **dBASE SORT**
This new utility, which is included on the dBASE II system disc, lets any application be sorted in less time than it took to sort before.
- **Keyboard Customization**
In a major improvement in ease of use, the new version of dBASE II also uses the editing and cursor-control keys of the HP 150 and of The Portable. The keys in question are the INSERT and DELETE keys, and also the "arrow" keys.
- **Inverse Video**
Version 2.41 of dBASE II includes the proper implementation of the inverse-video display option.

How to Order

Version 2.41 of dBASE II (product Number 45468D) for the HP 150 and for The Portable is available from your authorized HP Personal Computer dealer. (See the "How to Order" section of the Current Information Insert in this issue.)

Owners of Version 2.4 of dBASE II (for the HP 150 only) can order an update kit (Product Number 45468-63001) directly from HP's Computer Supplies Organization. For each kit ordered, you must submit an original dBASE II master disc as proof of purchase. (Use your working copy until the new disc arrives.)

□

Hewlett-Packard is proud to announce the availability of several new technical documents and programming aids.

**Programming
Languages: BASIC and
Beyond**

You now have a choice of three versions of BASIC for the HP 150 Touchscreen Personal Computer. First, there is the version with which the HP 150 was introduced: Series 100 BASIC (an interpreted BASIC, compatible with Microsoft BASIC). Now, a cross-reference utility is available for Series 100 BASIC. This utility lists the variables and explains where and how they are used.

Second, compiled BASIC is now available. This version of the language executes programs faster, and uses less memory, than interpreted BASIC. It is also compatible with most of the syntax of interpreted BASIC.

Your third option is GW-BASIC. This interpreted BASIC includes improved graphics and data-communications functions. Among its other capabilities are event-trapping, full-screen editing, sub-directories, and user-definable function keys. One note of caution, however: you should not use GW-BASIC with the BASIC compiler. (The reason is that GW-BASIC uses specific statements and commands instead of escape sequences.)

Several other compiled languages are also available for the HP 150. COBOL, FORTRAN, and Pascal have all been designed for use with the HP 150's MS™-DOS operating system. The compiled FORTRAN is a subset of ANSI Standard V-77 FORTRAN. The Pascal compiler accepts programs written to the ISO standard.

These products are summarized below:

Product	Product Number
Series 100 BASIC	45445A
Compiled BASIC	45446A
GW-BASIC	45450A
BASIC Cross-Reference Utility	92244BA
Compiled Pascal	45447A
Compiled COBOL	45448A
Compiled FORTRAN	45449A

**Technical
Documentation**

HP 150 programmers should find the following new manuals very helpful:

- *The HP 150 MS-DOS User's Guide*
This manual describes the MS-DOS commands, files, directory structure, and utilities. It also contains suggestions for programmers and information about programming the HP 150 as a terminal. The latter two sections describe all of the HP 150's escape sequences, data operations, and status requests (for terminal operations). They also cover control of the keyboard and of graphics features, and explain how to program the touchscreen.
- *The HP 150 Programmer's Tools*
This set of manuals is for advanced programmers who are working in assembly language. The set consists of the following items:
 - The *HP 150 Programmer's Reference Manual*
 - The *Intel iAPX 8088 Reference Manual*and the following Microsoft publications:
 - The *MS-DOS User's Guide*
 - The *MACRO-86 Macro Assembler Manual*
 - The *MS-DOS Programmer's Reference Manual*-A 3½" flexible mini-diskette containing the following utilities: the MACRO-86 assembler, the linker, the library, the debugger, the cross-reference utility, and a line editor, as well as the file-comparison, file-conversion, SORT, and FIND utilities.

The *HP 150 Programmer's Reference Manual* describes the two ways in which a program can control the display and the keyboard. The first method uses escape sequences, and the second method uses the HP 150's alphanumeric and graphics I/O subsystem (AGIOS). Although the AGIOS is a unique feature of the HP 150, this subsystem can perform virtually any task that would otherwise require a BIOS call. The Microsoft documentation is included in this set of manuals because the use of the AGIOS relies heavily on assembly-language calls.

The technical documentation available for the HP 150 is summarized below:

Manual	Product Number
<i>HP 150 MS-DOS User's Guide</i>	45624A
<i>HP 150 Programmer's Tools</i>	45435A
<i>HP 150 Technical Reference Manual</i>	45625A

How to Order

These products are available through your authorized HP Personal Computer dealer. See also the "How to Order" section of the Current Information Insert in this issue.



The *HP 150 Technical Reference Manual* is now available. It provides detailed technical information about the HP 150's hardware, software, and firmware, and is intended for use in the development of hardware and software products that will become part of, or work with, the HP 150. Because this manual is written for advanced engineers, programmers, and software designers, it assumes that the reader is familiar with digital logic and assembly-language programming.

This manual consists of the following sections:

- 1) Introduction
- 2) Hardware Overview (specifications for the HP 150, and a description of each of its subsystems)
- 3) Hardware Subsystems (detailed information about the HP 150's hardware subsystems; design hints)
- 4) Memory and I/O Mapping (information about the memory and I/O bit-mapping of the system processor)
- 5) System Software (information about the operating system, device drivers, MS-DOS function calls, the BIOS, the alphanumeric and graphics I/O subsystem (AGIOS), the configuration, and the disc format)
- 6) System Firmware (a table of jump vectors for firmware entry points)
- 7) Programming the HP 150 (information about escape sequences, MS-DOS calls, the AGIOS, alphanumeric and graphic displays, data communications, the keyboard, the Hewlett-Packard Interface Bus (HP-IB), and accessory-card interfaces)
- 8) AGIOS Function-Call Reference (a list of the function calls used by the alphanumeric and graphics I/O subsystem)

Appendix A: Logic Diagrams

Appendix B: Further Reference Documents

Related Products

Two related manuals are also available: the *HP 150 Programmer's Tools* (Product Number 45435A), and the *HP 150 MS-DOS User's Guide* (Product Number 45624A). The *Programmer's Tools* document the MACRO-86 assembler, the linker, and other utilities. The *MS-DOS User's Guide* contains extensive information about the MS-DOS commands.

Compatibility

Prospective users of this manual should be aware that a hardware or software product designed for a particular version of the HP 150's hardware, software, or firmware may be incompatible with other versions of the HP 150 or with future HP personal computers (including models based on the HP 150).

Support

Because of the specialized nature of the information in this manual, HP provides assistance in the use of this material only through local consultation—either by the hour (Product Number 45686A) or by the day (Product Number 45687A). To order consultation, contact your local HP Sales and Service and ask for the Personal Computer Systems Engineering staff.

How to Order

To purchase the *HP 150 Technical Reference Manual* (Product Number 45625A), contact your authorized HP Personal Computer dealer. See also the "How to Order" section of the Current Information Insert in this issue.



A new supplement to the *HP 150 Owner's Guide* is now available. *Getting Started with your HP 150 Touchscreen Personal Computer* gives step-by-step instructions on how to set up your HP 150 system (including how to connect the various cables) and on how to install application programs on new discs. These steps are summarized in a fold-out flow-chart attached to the front cover of the manual.

You will find *Getting Started...* useful if your system is being moved between groups of users, or if you are training new users. The topics covered in this manual include:

- How to Set Up Your HP 150 System Processor
- Starting the System Processor—The Power-On Self-Test
- Accessory Boards
- HP 9121D and HP 9133V/XV Disc Drives
 - Preparing the Disc Drive for Installation
 - Connecting the Disc Drive to the System Processor
 - Loading the Operating System
 - Running the Demo Disc
 - Formatting a Disc
 - Configuring the Disc Drive
 - Configuring Printers and Plotters
 - Installing Applications
 - Using the Computer Tutor
 - Up and Running
 - Ending a Session

■ Printers and Plotters

You can buy this manual (Product Number 45621-90022) through your authorized HP Personal Computer dealer, or from HP's Computer Supplies Division. (Refer to the "How to Order" section of the Current Information Insert in this issue.)

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Encyclopedia

Encyclopedia

Welcome to the Encyclopedia	E-5
System Hardware, Firmware, and Operating System:	
The Portable	This issue
HP 150 Touchscreen System	This issue
HP 12x System	Issue #8; Insert-19 through -24, -37, -39
Applications (in alphabetical order, giving issue with latest article):	
BASIC Interpreter—for the HP 150 Touchscreen	This issue
BASIC Interpreter—for the HP 12x	Issue #8; Insert-21, -35
Block/Format—for the HP 12x	Issue #8; Insert-24
BPI General Accounting—for the HP 150 Touchscreen	This issue
BPI General Accounting—for the HP 12x	Issue #8; Insert-22, -35
BPI Payroll—for the HP 12x	Issue #8; Insert-35
Computer Tutor—for the HP 150 Touchscreen	This issue
Condor—for the HP 150 Touchscreen	This issue
Condor—for the HP 12x	Issue #8; Insert-22, -36, -42
Context MBA—for the HP 150 Touchscreen	This issue
dBASE II—for the HP 150 Touchscreen	This issue
DSN/Link—for the HP 150 Touchscreen	This issue
DSN/Link—for the HP 12x	Issue #8; Insert-21, -33, -43
Graphics—for the HP 150 Touchscreen	This issue
Graphics—for the HP 12x	Issue #8; Insert-21, -27, -41
Link—for the HP 12x	Issue #8; Insert-33
Lotus 1-2-3—for the Portable	This issue
Lotus 1-2-3—for the HP 150 Touchscreen	This issue
MailMerge (see WordStar)	
MemoMaker—for the Portable	This issue
MemoMaker—for the HP 150 Touchscreen	This issue
Personal Card File—for the HP 150 Touchscreen	This issue
SpellStar (see WordStar)	
Terminal—for the Portable	This issue
VisiCalc—for the HP 150 Touchscreen	This issue
VisiCalc—for the HP 12x	Issue #8; Insert-20, -25, -41
Word/12x—for the HP 12x	Issue #8; Insert-21, -30, -41
WordStar Family—for the HP 150 Touchscreen	This issue



Current Information

Answers to Your Questions	Insert- 1
Your Direct Line to HP	Insert- 2
★Assistance via CompuServe	Insert- 2
Assistance from Your Local Dealer	Insert- 3
Assistance from Your Own Organization	Insert- 3
Software from Third Parties	Insert- 3
★Are You a Third Party Software Developer?	Insert- 3
★Assistance for HP Internal Users	Insert- 4
★User Group	Insert- 5
★HP Software Catalog	Insert- 9
Ordering <i>Communicator</i> Subscriptions	Insert-10
Ordering <i>Communicator</i> Back Issues	Insert-11
Books on Personal Computing	Insert-15
Training Courses	Insert-19
Software Available from HP	Insert- 23
Software Exchange Kits	Insert-31
Supplies and Accessories	Insert-39
How to Order	Insert- 43
Mail Order Form	
Change of Address Form	
★ <i>New Section</i>	



Welcome to the "Encyclopedia" section of the *Communicator*—bringing together all the news you need on each of the software packages and systems that you use.

Coupled with the manuals, your *Communicator* back issues and subscription provide everything you need to make the best use of your personal computer.

What's in the Encyclopedia?

For each major product, there is an Encyclopedia entry containing this information:

- News items about the product.
- Program Updates or Upgrades—how to obtain the new version of the program, if it has been revised. (New items since the last issue are marked with a "New" symbol.)
- Most Frequent Questions—with answers, based on the experience of HP's Phone-In Software Assistance Centers around the world. (New question listings since the last issue are marked with a star.)
- Software Problem Reports—a cumulative list of the major problems which have been reported. If you have a problem, check the "Encyclopedia" entry for the product. (New problem listings since the last issue are marked with a star.)
- Manual Corrections or Updates—a cumulative list of corrections to the manuals for the product. Check the products you use, write in any new corrections since the last issue (marked with a star), and your manuals are up-to-date.
- Related HP Publications—any Quick Reference Guides, textbooks, etc. available from HP for the product. (New items since the last issue are marked with a "New" symbol.)
- *Communicator* Articles—an index of articles in back issues of the *Communicator*.
- Courses—descriptions of courses available from HP for the product. (New items since the last issue are marked with a "New" symbol.)

The Encyclopedia entries are arranged so that you can remove them for insertion in your manuals or a separate binder.

Which Products are Covered?

To make the best use of space, the entire Encyclopedia is not repeated in every issue of the *Communicator*. The Encyclopedia Table of Contents, given at the front of the section, is updated in every *Communicator*... directing you to the issue containing the latest article for each product.

This section covers:

- MS-DOS Operating System for the Portable
- P.A.M. (Personal Application Manager) for the Portable

Refer to the articles in the application section of the "Encyclopedia" for information on the Portable's built-in application programs:

- Lotus 1-2-3... for the Portable
- MemoMaker... for the Portable
- Terminal... for the Portable

Problem Reports

MS-DOS Firmware

★**Problem:** Rapid striking of control-C will sometimes get echoed to the application display.

Workaround: Don't 'hammer' at the keyboard.

★**Problem:** If the display is in graphics mode and either the MENU key is pressed or the escape sequence to put up the menu is sent to the CONSOLE, then the display starts scrolling and the machine must be re-booted (via control-shift-break). This does not happen in Lotus 1-2-3, due to its keyboard handling.

Workaround: For software developers, take control of the MENU key interrupt vector and handle accordingly. For applications users of software incorporating graphics, avoid the use of the MENU key from graphics if the special handling described above is not provided within the application.

★**Problem:** If you have set the time-out (in P.A.M. system configure) to .5 minutes, *and* you have a CONFIG.SYS file that defines the SHELL and COMMAND.COM so that you get the MS-DOS prompt rather than P.A.M., *and* you press control-S or the STOP key, followed by any other key, then the machine goes to sleep within a second. When you turn the machine back on by pressing the contrast key, it turns itself back off again after about one second.

Workaround: Press the RETURN key quickly several times immediately after pressing the contrast key.

P.A.M. Firmware

★**Problem:** P.A.M. may clear the contents of one sector on the electronic disc if program memory is less than 112K, and EDISC is very full, and the system is re-booted. This is indicated by "Data Error Reading Drive A:" The particular file containing that sector may be rendered completely inaccessible from some applications.

Workaround: Set program memory greater than, or equal to, 112K.

★**Problem:** Date does not roll over for timezone + 13h, impacting times on a longitude through eastern Siberia and the Aleutian Islands.

Workaround: Select time zone - 11h.

★**Problem:** The first time a new month is displayed, the old date is overwritten leaving

x/x/19844

in the display.

Workaround: Any newly generated display will clear the extra digit.

★**Problem:** Command names beginning with PRINT, PROMPT, PATH, and SET may not be invoked from P.A.M. Thus a file named PRINTIT.BAT could not be invoked from P.A.M. because it has PRINT at the front which is not legal from P.A.M.

Workaround: Use command names which do not start with the reserved words listed above.

Courses

■ *Getting Started With The Portable*

If you're a novice computer user interested in learning how to use the Portable, this workshop is for you. It includes instruction on P.A.M., MemoMaker, and Terminal, along with an introduction to 1-2-3 and Personal-Desktop Link. You'll get hands-on experience with the computer, the built-in applications, and HP-IL peripherals.

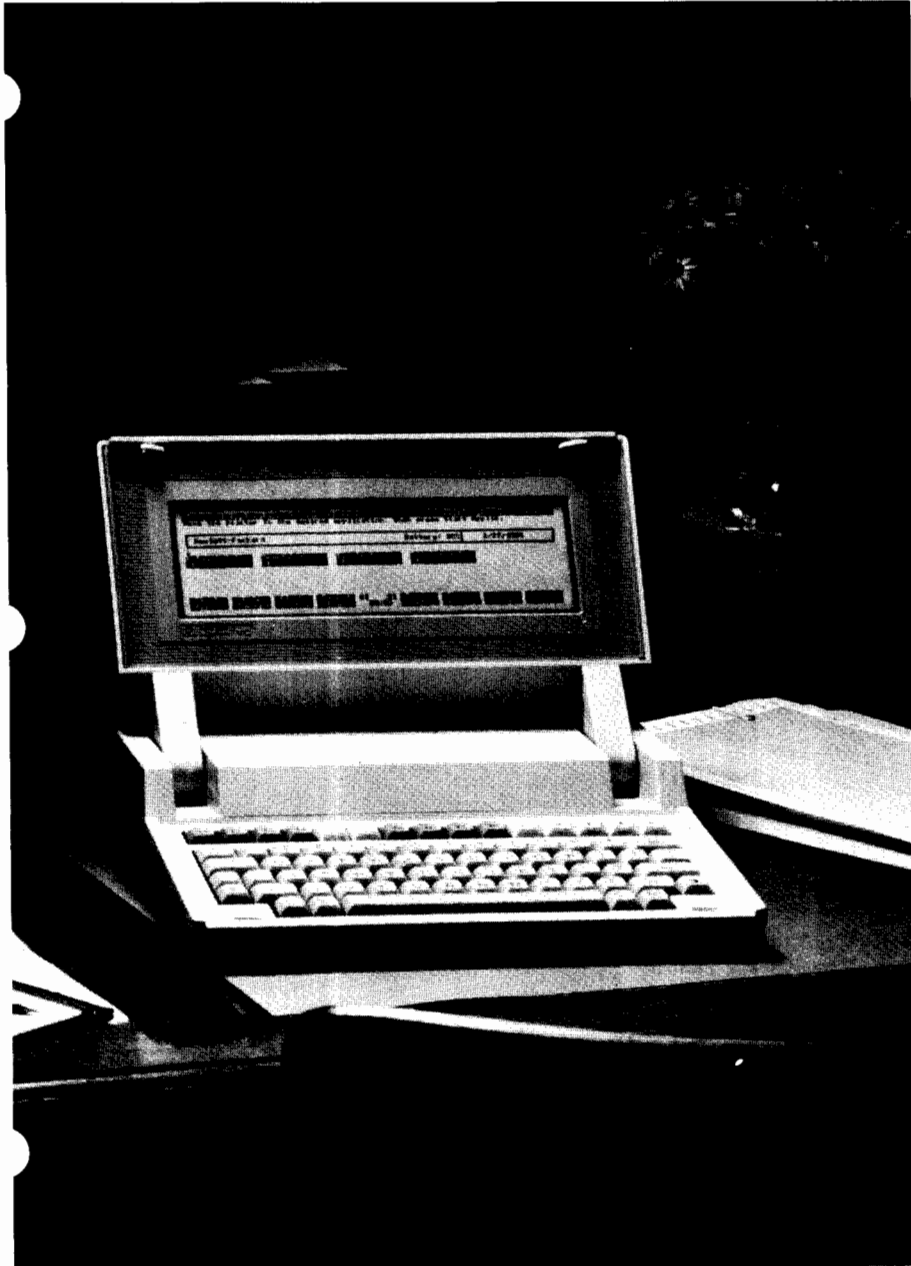
35036C (one day)

Books

Touring Datacomm: A Data Communications Primer

Hewlett-Packard, 1983

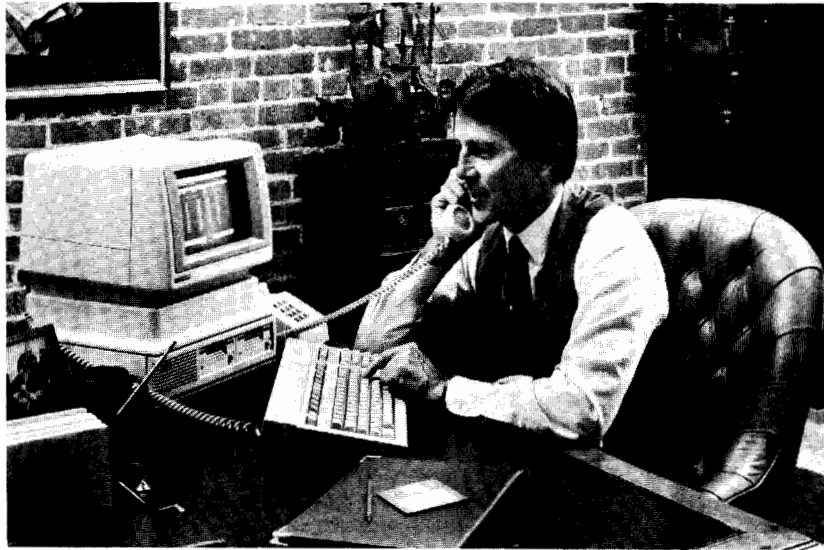
HP Product Number 5957-4622



For information on replacing damaged media,
refer to "Software Exchange Kits" in this issue's
Current Information Insert.

This section covers:

- General
- P.A.M. (Personal Applications Manager)
- Main Memory
- Disc Memory
- Printers
- Plotters
- Program and Data Transfer
- Communications



The following new documentation and programming products are now available from your dealer or through HP. See "How to Order" in the Current Information Insert.



■ **Hewlett-Packard Software Catalog**

Published by John Wiley and Sons, this book describes over 250 of the software products that are currently available for the HP 150. Most of the products are from independent software vendors, so the catalog also includes information on ordering the software, how it is supported, and what training is available from the vendor.

The Catalog (ISBN 0 471 81912-3) is available at your HP dealer—or it may be ordered from the publisher at 800/526-5368 (201/342-6707 in New Jersey). Outside the U.S. write to the publisher at 605 Third Ave., New York, NY, 10158.

HP personnel should order the Catalog as part number 5953-5880 from the PCG Literature Distribution Center, Corvallis—Comsys 3900.

■ **Getting Started with Your HP 150**

This is a supplement to the *HP 150 Owner's Guide*. It gives step-by-step instructions on how to set up a system—including a hard disc, how to install application programs onto new discs, and the installation of HP printers and plotters.

Getting Started with your HP 150 . . . 45621-90022



■ **HP 150 MS-DOS User's Guide**

This manual covers MS™-DOS commands, files, directory structure, utilities, programming considerations, and programming the HP 150 terminal. Included in these sections are descriptions of all the HP 150 escape sequences, keyboard control, graphics control, data operations, status requests as a terminal, and touchscreen programming with examples.

HP 150 MS-DOS User's Guide 45624A



■ **HP 150 Technical Reference Manual**

This manual provides the sophisticated designer, engineer, programmer, and other design enthusiasts with the necessary tools and information to integrate the HP 150 Personal Computer into their design. It provides detailed technical information on the internals of the



HP 150 hardware, firmware, and software. The manual is designed to aid in the development of hardware and software products which will become part of, or work in conjunction with, the HP 150.

This manual assumes that the reader is familiar with digital logic and assembly-language programming. It contains detailed information on: the hardware subsystems; memory and input/output bit mapping; device drivers, MS-DOS calls, AGIOS, BIOS, configuration, and disc format structure; plus programming information on escape sequences, MS-DOS, AGIOS, alphanumeric and graphics displays, datacomm, keyboard, HP-IB, and accessory card interfacing. Also included is an AGIOS Function Call Reference plus logic diagrams.

HP 150 Technical Reference Manual 45625A

■ **HP 150 Programmer's Tools**

This kit is for the advanced programmer who is writing assembler-level software. It includes:

– **HP 150 Programmer's Reference Manual**

Presents the two ways your program can control the display and keyboard: Escape Sequence Programming and AGIOS (Alpha Numeric Graphics Input/Output Subsystem) function calls. AGIOS is unique to the HP 150 and virtually all of the tasks that commonly require BIOS calls can be performed using AGIOS. Since AGIOS normally requires issuing assembly language calls, we have included the additional documentation from MicroSoft and Intel.

– **Series 100/MS-DOS User's Guide**
(from Microsoft®)

– **Series 100/MS-DOS Macro Assembler Manual**
(from Microsoft)

– **Series 100/MS-DOS Programmer's Reference Manual** (from Microsoft)

– **IAPX 88 Book** (from Intel™)

– **Programmer's Tools Disc** . . . with Assembler, Linker, Debugger, File Compare, Sort, Cross Reference, Library, Find, File Conversion Utility and Line Editor.

HP 150 Programmer's Tools 45435A



**Most Frequent
Questions**



★Q. What software is available for the HP 150?

- A. Refer to the "Software Available from HP" section in the Current Information Insert of this Communicator for the many available applications—including games and educational software.

The Hewlett-Packard Software Catalog, published by John Wiley and Sons, describes over 250 of the software products that are currently available for the HP 150. Most of the products are from independent software vendors, so the catalog also includes information on ordering the software, how it is supported, and what training is available from the vendor.

The Catalog (ISBN 0 471 81912-3) is available at your HP dealer—or it may be ordered from the publisher at 800/526-5368 (201/342-6707 in New Jersey). Outside the U.S., write to the publisher at 605 Third Ave., New York, NY, 10158.

★Q. Is the HP 150 available in other languages?

- A. Yes. Refer to this article: "HP 150 Goes Worldwide" in Issue #8 of the Communicator.

Q. Does the screen on the HP 150 show smudges?

- A. The HP 150 screen has been specially coated to resist smudging.

Q. Do you always use your finger to operate the software?

- A. No. The keyboard can do anything that touch does.

★Q. How long do the batteries in the HP 150 last?

- A. About 9 months. When the batteries are discharged, you will find that your system configuration will not be saved nor will your internal clock keep time when the machine is turned off. You can easily replace the batteries yourself. Check Appendix C of your Owner's Guide for further information.

P.A.M.

Q. I recently configured my HP 150. When I load P.A.M., it seems to take approximately one minute to load. Why is it so slow, and is this normal?

A. *With the default disc configuration, this is a normal amount of time. When more discs are logically defined or specified than are physically connected to the HP 150, a longer time to load is caused by device timeout on the non-existent discs. Place a NO DEVICE in the device configuration menu where physical discs do not exist, and P.A.M. will come up more quickly.*

***Q. How do I install my own program into P.A.M.?**

A. *Refer to this article: "Install Your BASIC/150 Application in P.A.M." in Issue #8 of the Communicator.*

Q. How do I install applications into subdirectories?

A. *You can't... P.A.M. will only find applications that are installed in the root directory.*

Main Memory

Q. What is the HP 150's main memory capacity?

A. *640 kB maximum main memory. Not all application programs can utilize all of the available memory.*

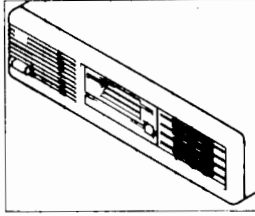
***Q. How much workspace is left over after MS-DOS and P.A.M. are loaded?**

A. *About 140 kB, if you have a 256 kB (minimum) system.*

***Q. Why do I keep running out of memory when I try to run any program?**

A. *It may be caused when you return to P.A.M. from MS-DOS Commands—you should type "EXIT" instead of "PAMCODE". Each time PAMCODE is executed, another copy of P.A.M. gets loaded into memory. EXIT simply executes the P.A.M. code that already resides in memory. For more information refer to Chapter 19 in the HP 150 MS-DOS User's Guide.*

Disc Memory



Q. Why did HP choose 3½ inch discs?

A. To achieve higher quality, reliability, performance and a smaller system footprint.

*Q. How much data can I store on a 3½ inch single-sided disc?

A. About 260 kB, formatted—approximately the same as on a 5¼ inch disc.

Q. How do I format my 9133XV 15 MB disc drive, and how long does it take to format it?

A. The HP 150 Owner's Guide describes the operation of the Disc Formatting Utility on pages 7-5 through 7-9. This utility program is compatible with the 9133 XV disc. It takes approximately 30 minutes to format this 15 MB drive.

Printers

*Q. I can't seem to get my HP printer to work with my HP 150. Any idea what's wrong?

A. Most of the time, the problem can be remedied by doing the following:

Make sure everything is well connected (double check if necessary) and the printer is turned on. The printer and the computer both need to be plugged in and the correct cable used to connect the printer to the HP 150. Make sure the configuration menus in the HP 150 are set correctly and the DIP switches on the printer are correct.

Resources for printer configuration are the HP 150 Owner's Guide, beginning at page 2-41, as well as the MS-DOS configuration information in Appendix A, beginning on page A-23. You may also need to set up your system correctly, which is covered beginning on page 3-19.

The new booklet, Getting Started with Your HP 150, covers installation of HP printers in detail. This manual is orderable as HP part number 45621-90022.

Q. What are the differences between a standard Epson MX-80 printer and the HP 82905A/B or 82906A printers?

A. Hewlett-Packard purchases the Epson MX-80 printer for use in the HP 82905A/B dot matrix printers, and the Epson FX-80 for use in the HP 82906A dot matrix printer. The obsolete HP 82905A used the standard Epson MX-80, including standard firmware. The HP 82905B uses the basic Epson MX-80 printer with HP-modified firmware, and the HP 82906A uses the basic Epson FX-80 printer with HP-modified firmware. Therefore, the standard Epson printers may not work with Series 80 and Series 100 graphics or other application software.

Q. Can I connect my serial 2631B dot matrix printer to my HP 150? Does HP support this type of configuration?

A. Although not fully supported, the serial 2631B can successfully operate with the HP 150. With regards to device configuration, the serial 2631B should be configured identical to the 2932, 2933, or 2934 printers from HP. The cable used to connect the serial 2631B to the HP 150 is the 13242G. Switch settings are as follows:

(RS-232C) 2631B Switch Configuration

S1 on Serial Interface Adapter (Rear Panel)

1	XON/XOF Operation	Open
2	ENQ/ACK Operation	Closed
3	SCA Line	Closed
4	Operation	Closed
5	CD Line	Closed
6	Operation	Closed
7	External CB Signal	Open
8	Auto Modem Disconnect	Closed

Front Panel (Left Switch)

1	Duplex	OFF
2	Parity	OFF
3	Parity	OFF
4		OFF
5	Baud Rate (2400)	OFF
6	Baud Rate (2400)	ON
7	Baud Rate (2400)	OFF
8	Baud Rate (2400)	OFF

Front Panel (Right Switch)

1	Lines Per Inch	OFF
2	Print Pitch	OFF
3	Print Pitch	OFF
4	Perforation Skip	OFF
5	Length	OFF
6	Length	OFF
7	Length	OFF
8	Length	OFF

Q. How can I connect my non-HP printer to my HP 150?

A. *There are two methods to connect the HP 150 to a printer: RS-232 or HP-IB (HP's implementation of IEEE-488). RS-232 and IEEE-488 are industry standards which define only the connector and signal lines. The detailed usage of signal lines varies from vendor to vendor—and the printer control sequences sent via the interface are typically unique to each printer. Hewlett-Packard performed limited operational testing on the following non-HP printers:*

- Diablo 630 API*
- Diablo 620 API*
- NEC 3510*
- NEC 7715*
- Qume 1140*
- C. Itoh F10-40*
- Epson FX-80*
- Epson RX-80*
- Brother HR-15*
- Okidata 92*
- Okidata 2410*
- Mannesmann Tally Spirit 80*

Application briefs on the use of these printers are available from your HP dealer or HP Sales and Service Office. (Note that HP's testing of non-HP printers does not include measurement of radio-frequency emission. You are responsible for any radio/TV or other interference consequences which result from configuration of non-HP printers with the system.)

Plotters

Q. How do I configure my 7470 or 7475 plotter with the HP 150?

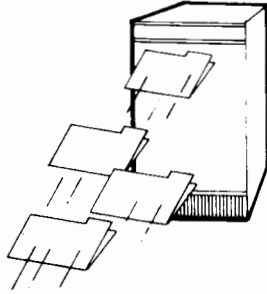
A. *For instructions, refer to the article titled, "Using Plotters with the HP 150" in Issue #8 of the Communicator.*

Program and Data Transfer

***Q. Can I copy HP 120 or HP 125 files over to my HP 150?**

A. *Yes! Use the COPY/BACKUP utility program as outlined in the HP 150 Owner's Guide, pages 7-11 through 7-13. If different size discs are required, the disc units/drives must be properly configured on the HP 150. To convert CP/M® files to MS-DOS files, follow the discussion beginning on page 7-20 of the Owner's Manual. Refer also to this article:*

"Data Compatibility Between HP 12x and HP 150 Applications" in Issue #7 of the Communicator.



Q. Can I take programs from the IBM® PC and run them on the HP 150?

A. The 150, like the PC, runs MS-DOS. In general, software written for the IBM needs some modification to run on the 150. Many industry packages utilize techniques that are not part of the MS-DOS standard; when this has been done, conversion work is needed before the software will operate on either the HP 150 or IBM-PC.

Q. How can you transfer data from the IBM PC?

A. For information, refer to the article titled, "Transferring Data Between a Series 100 Computer and an IBM PC" in Issue #8 of the Communicator.

Communications

Q. Can HP 150s communicate with computers other than the HP 3000?

A. Yes, either as another computer system, in which case you can use DSN/Link, or as a terminal closely emulating the HP 2623. HP's DSN/Link software will not work on another host and may not upload or operate properly. HP supports this software product only when loaded on an HP 3000. The absence of this software defeats the error checking capability of the DSN/Link product.

Q. How do I talk to the datacomm ports on the HP 150?

A. Through the use of files. Com 1 is associated with Port 1, and Com 2 is associated with Port 2, by default. By modifying the Device Configuration, these files can be remapped to Port 1, Port 2 or Remote, if desired.

Q. How do I get two HP 150s to "talk" to each other?

A. In either a hardwired configuration or through the use of modems, HP's DSN/Link package is designed to make communication easy.

Q. When I run the HP 150 Datacommunication Test, I get an error A111. What's wrong?

A. The Datacommunications test is designed to operate correctly with two test connectors on Ports 1 and 2. These test connectors are used by trained service personnel to verify correct port operation. Running the Datacommunications test without these connectors on Ports 1 and 2 provides the A111 error.

***Q. Where can I learn about data communications?**

- A. Order this HP book, *Touring Datacomm: A Data Communications Primer*, HP Product Number 5957-4622.

Software Problem Reports



Sys-Master Version A.01.03

Problem: Redefining the standard MS-DOS prompt to be the default disc drive specification and then selecting a drive configured as No Device in the Device Configuration utility causes the system to enter an error loop:

```
A> PROMPT $P
A:\ n:
Bad unit error reading drive N
Abort, Retry, Ignore?
```

where n is a valid drive specification, although it is configured as No Device within the Device Configuration disc application.

Ensure that this PROMPT specification is given only with disc devices that are configured through the Device Configuration utility. If the current default disc drive is a flexible disc, the disc must be inserted.

Workaround: Hard reset (CTRL Shift Reset) to clear the system.

Problem: Printing large documents to the HP 2602A printer, option 046 (HP-IB interface), may halt after partial printing of the document and display one of the following error messages:

- Abort, Ignore, Retry:
- Disc error writing to device PRN
- Device not available
- Can't print to current printer

Workaround: Contact your dealer or HP Phone-In Software Assistance Center (800-HPCOACH, in the U.S.).

Disc Applications Version A.01.01

Problem: Can't copy a file from a CP/M fixed disc to MS-DOS fixed disc directly using COPY/BACKUP.

Workaround: Copy the CP/M file onto a flexible disc first, then use COPY/BACKUP to copy from the flexible disc onto the fixed disc.
(NOTE: Compressed files can't be copied with COPY/BACKUP.)

HP 150 Firmware ROMs

Problem: When powering on an HP 150 configured with an HP 9121D, one of the following error messages may appear:

- Load OP Sys failed, OP sys device not found
- Load OP Sys failed, OP sys disc not found

These error messages will be followed by the statement: "Press Return to clear"

Workaround: If a unit is experiencing this problem:

- Press the Return key on the keyboard
- Press Shift and Stop simultaneously to access the disc and load the system

A hard reset (CTRL, Shift, and Reset simultaneously) can alternately be used to access the disc and load the operating system.

Problem: When printing to any HP-supported serial or HP-IB printer using the terminal function keys, the following error may appear: "Illegal or No Destination Device"

Workaround: Follow this sequence:

- Hard reset (CTRL Shift Reset).
- From P.A.M. select the Terminal function (f6).
- Ensure that Caps mode is off.
- Touch the Remote function key (f4) to enter local mode. (This removes the asterisk from the Remote function key label.)
- Press the User System key on your keyboard.
- Touch device control (f1).
- Touch "to" devices (f3).
- Type the following keyboard sequence:
ESC & p 4 D ("ESC" means to press the Escape key). The asterisk should appear in the SERIAL DEVICE key label if this has been entered correctly.

This sequence selects the SERIAL DEVICE as your destination device and disables any prior selections that may exist on your HP 150. To select your HP-IB device, touch SERIAL DEVICE (f2) to turn this selection off, and HP-IB DEVICE (f4) to turn the HP-IB device on. Press Shift and Stop simultaneously to return to P.A.M.

If the problem persists, power off the system and remove the battery (located on the rear panel of the HP 150), for a minimum of 1 hour. This will return your HP 150 to its system default configuration values and will eliminate the problem.

Applications can programmatically select the “to” device using escape sequences. This may result in the selection of an invalid destination device unknowingly by the user. Although the above steps correct the problem, there is no way to restrict the use of such escape sequences by applications and therefore no way to ensure that the problem will not reoccur.

Problem: When an HP 82906A printer and an HP 7475A plotter are both connected via the HP-IB interface, logging data to the HP 82906A printer using the terminal function keys may fail and give the following message:

HP-IB Device Error
Press RETURN To Clear

Workaround: Follow this sequence:

- Press the Return key.
- Turn off the power on the HP 7475A plotter.
- Hard reset the HP 150 (CTRL, Shift, and Reset simultaneously).

Problem: When printing HP 3000 Slate documents from the HP 150, underlined text does not print correctly. (The text is printed on the next line directly beneath the underline characters.)

Workaround: Before printing, select “typewriter” as the device type.

Problem: Logging data to the HP 2674A Internal Thermal Printer using COMPRESS PRINT prints only 96 characters.

Workaround: Avoid using COMPRESS PRINT.

Problem: Selection of the HP-IB DEVICE as the printer destination device, using the following escape sequence, does not display an asterisk in the function key label: Esc &p5D

Workaround: No current workaround.

Problem: The calendar function incorrectly increments the date and day of the week when the HP 150 is powered off on the 29th of a month. The date and day of the week are incremented two days upon power on of the system.

Workaround: Keep your HP 150 system unit powered on or check the date each time that you power on your system.

Problem: When logging data to the HP 2674A Internal Thermal Printer using the "LOG BOTTOM" function key, the keyboard will be locked while the printer is active. If a soft reset (Shift and Reset simultaneously) is performed to discontinue printing, the Status Line (line 27) may appear twice on the display.

Workaround: A hard reset (CTRL, Shift, and Reset simultaneously) can be used to clear the duplicate status line from the display.

Problem: Forms defined using the line drawing character set appear with broken vertical lines when printed to the HP 2674A Internal Thermal Printer.

Workaround: No current workaround.

Problem: Changes to fields within the port 1 or port 2 configuration menu for serial device use do not become active after they are saved.

Workaround: A hard reset (CTRL, Shift, and Reset simultaneously) is required to put these new values into effect.

Problem: Attempts to save the port 2 configuration as a FULL DUPLEX MODEM result in the following error message:

Configuration Must Be FULL DUPLEX
HARDWIRED
Press RETURN To Clear

Workaround: Press the Return key. Use the FULL DUPLEX HARDWIRED configuration menu to configure the modem. The additional fields not available in the standard FULL DUPLEX MODEM menu (SRRXmit, SRRInvert, and CS(CB)Xmit) can be set to their off states.

**Manual Corrections
and Updates**

**HP 150 Personal Computer Owner's Guide
First Edition—9/83**

A booklet, *Getting Started with Your HP 150*, is available. This is a supplement of the *HP 150 Owner's Guide*. It gives step-by-step instructions on how to set up a system—including a hard disc, how to install application programs onto new discs, and the installation of HP printers and plotters. This manual is orderable as HP part number 45621-90022.

Page 2-53: The illustration of the switch setting is for an RS-232 cable connection. If you have an HP-IB cable, only switch 3 should be on.

Page 2-83: The illustration of the switches shows them as seen from the front of the 7470A plotter, not from the rear of the plotter as implied.

Page 2-87: The illustration of the switches shows them as seen from the front of the 7475A plotter, not from the rear of the plotter as implied.

Page 8-5: Delete the command "DISKCOPY" and its description. There is no DISKCOPY utility on the HP 150.

Page A-39: In the top configuration menu: replace the value in the Parity field with "Even"; replace the value in the Check Parity field with "Yes"; the value in the EnqAck field need not be "No" as this protocol is not used by these printers.

Page A-39: In the bottom configuration menu, the value in the EnqAck field need not be "No".

Page A-40: Replace the value in the XmitPace field by "None". Replace the value in the DM(CC)Xmit by "Yes". The value in the EnqAck field need not be "No".

HP 150 Terminal User's Guide First Edition—9/83

Page 2-13: In the section on Terminal Control Group keys, the STOP key is omitted. Insert the following text: "**Pausing.** Pressing the STOP key pauses operation of the computer and locks the keyboard except for the STOP key itself. This might be used to 'freeze' the screen display momentarily. To resume normal operation of the computer, press the STOP key a second time. **Terminal-to-PC Switch.** Simultaneously pressing the STOP key and the SHIFT key switches the HP 150 from a terminal to a personal computer."

Page 2-13: In the description of soft reset, replace the first sentence with "Pressing the SHIFT and RESET keys simultaneously results in a 'soft reset'."

Page 2-15: Replace the subheading "User Keys Key" with "User-Defined Function Keys."

Page 2-15: To the last paragraph, add this sentence: "Pressing the SHIFT and USER keys simultaneously activates the function key labels that are associated with the application program which is currently running."

Page 3-6: Near the top of the page, add the label "set time" below function key f7.

Page 3-6: Delete the sentence in the second paragraph that begins, "Since the label for f4 is capitalized..." All of the labels have lower case letters.

Page 3-6: In the second paragraph, second sentence, delete the word "other," and replace the word "Aids" with "User/System."

Page 3-7: In the second paragraph, replace the word "Aids" with "User/System."

Page 3-7: In the service keys description, replace "or for selecting Monitor Mode" with "and Touch Screen Alignment." The HP 150 does not have Monitor Mode.

Page 3-10: Near the top of the page, delete the label "EXPAND PRINT" below function key f5. The HP 150 does not have this mode.

Page 3-11: Delete the section on EXPAND PRINT.

Page 3-18: At the bottom of the page, add the label "accessory config" to function key f6.

Page 3-19: After the terminal configuration function key description, insert another description: "accessory config—this is reserved for future use."

Page 3-24: In Step 10, replace the "AIDS" key with the "USER/SYSTEM" key.

Page 5-2: Near the top of the page, delete the section on Background Inverse. The HP 150 does not have this feature.

Page 5-2: In the paragraph below the row of video enhancement function keys, delete all references to "Background Inverse."

Page 5-9: Fill in the three blank function keys with "EXTEND CHAR."

Page 5-9: In the middle of the second paragraph, replace "SHIFT W" with "SHIFT E."

Page 6-2: In the last paragraph, replace all references to "Shift" with "CTRL."

Page 6-3: In the middle of the page, replace the "SHIFT" key with the "CTRL" key and delete the words "NUM PAD."

Page 7-7: In the last sentence, replace the first "Section ?" with "Section 8" and the second "Section ?" with "Section 9."

Page 9-5: In Step 1, replace the "AUTO LF" key with the "USER/SYSTEM" key.

Page 9-6: In the last sentence, replace "Chapter 7" with "Chapter 2."

Page A-12: At the top of the page, replace "Ec &p <x>D" by Ec &p <a>d d <c>D" and "device 'x' as the destination device" with "devices 'a,' 'b,' and 'c' as the destination devices."

Page A-17: In the middle of the page, replace "<string length>I" with "<string length>L."

Manuals

See the manuals listed under "News" earlier in this section.

HP 150 Personal Computer Owner's Guide
(Contains System Software on
3.5" discs) 45621A
HP 150 Terminal User's
Guide 45623A

**Communicator
Articles**

- "Transferring Files Between the HP 12x
and HP 150" Issue #7
- "Data Compatibility Between HP 12x
and HP 150 Applications" Issue #7
- "HP 150 Goes Worldwide" Issue #8
- "Using Plotters with the HP 150" Issue #8
- "Transferring Data Between a Series 100
Computer and an IBM PC" Issue #8
- "Install Your BASIC/150 Application
in P.A.M." Issue #8

Courses**■ *Introduction to Personal Computers***

For managers and professionals with limited knowledge of personal computers. Content: general personal computer usage including basic computer literacy, lots of hands-on use of VisiCalc, some hands-on use of word processing and graphics; summary of how PCs can work for you.

35119A (1 day)

■ *Getting Started with your HP 150*

This workshop was created especially for beginners—so your first experience with your new computer will be a positive one. You'll learn how to define basic computer terms, start up the system, handle discs properly, prepare new discs, and install application software.

35036A (1 day)

This course, or equivalent knowledge, is a prerequisite for all applications and programming training on the HP 150.

■ *HP 150 Applications: Sharing Information*

Because you may use the same information in different ways, this workshop was created to teach you how to pass information from one software application to another. The following applications are covered: Condor, PCF, MailMerge, MemoMaker, SpellStar, WordStar, HPGraphics, and WordStar.

35037A (½ day)



To order this product, refer to "Software Available from HP" in this issue's Current Information Insert. For information on replacing damaged media, refer to "Software Exchange Kits" in the Current Information Insert.

Most Frequent Questions

***Q. How do I access the serial ports from BASIC?**

- A. Use the following statements:
 1. OPEN "O", #1, "COM1"
 2. PRINT #1, list of data

The logical file names such as COM1 (Port 1) can be found in the Device Configuration Program.

NOTE: Output is buffered. Data will not be sent until the buffer (128 char default) is filled or the file is closed. OPEN was designed for data transfer, not time-critical operations or device control.

***Q. Does BASIC allow you to use all your memory?**

- A. No. After the BASIC interpreter is loaded into memory it allocates a free block of up to 64K bytes for the user workspace. This area will hold the user's file buffers, source code, variables, strings, and stack.

***Q. What are the escape sequences for Device Mapping on the 150?**

- A. Unlike CP/M, MS-DOS does not require selection of a device through the use of device mapping. Devices can be accessed directly by name. You can OPEN "PRN", "LST", or "AUX" and print directly to them. The BASIC LPRINT and LLIST commands automatically send their output to "PRN".

You can also use escape sequences to "log" information to devices recognized by the terminal part of the HP 150. Please refer to the section "Device Control" in your HP 150 Terminal Users Guide.

***Q. Why does the terminal lock up when I try to use the transmit function key option when creating my own Function Keys in BASIC?**

- A. This type of operation requires correct terminal handshaking. See the article "Block Mode Transfers" in Communicator #7.

Manual Corrections	BASIC/150 Manual First Edition—9/83 Pages C-19 through C-21. Headings indicate that the escape sequences are of the form "ESC &"; they should be "ESC*"
Quick Reference Guide	BASIC/150 Quick Reference Guide 45445-90000
Communicator Articles	- "BASIC/150: Block Mode Transfers" . . . Issue #7 - "HP 12x BASIC Compared to HP 150 BASIC" Issue #7 - "Subtle Differences: HP 12x/150 BASIC and Other BASICs" Issue #7 - "Accessing Plotters from BASIC/150" . Issue #8 - "BASIC—How Do You Make RND More Random?" Issue #8 - "Install Your BASIC/150 Application in PAM" Issue #8 - "Decrease BASIC/150 Debugging Time with Cross Reference Utility" Issue #8
Books	BASIC For Home Computers <i>Albrecht, Finkel, and Brown</i> ; Wiley, 1978 HP Product Number 92234D
	Microsoft BASIC <i>Knecht</i> ; Dilithium Press, 1983 HP Product Number 92234E
	The Investor's Computer Handbook <i>Packer</i> ; Hayden Books, 1982 This book gives programs and examples directed toward the stock market—written in Microsoft® BASIC. HP Product Number 92234G



To order this product, refer to "Software Available from HP" in this issue's Current Information Insert. For information on replacing damaged media, refer to "Software Exchange Kits" in the Current Information Insert.

**Most Frequent
Questions**

Q. Does BPI work faster on a Winchester disc drive as opposed to a flexible disc drive?

A. *The Winchester does operate faster (it has a faster access and transfer rate) than a flexible drive; accordingly, the hard disc handles data faster. Also, by having all of the BPI Start-Up and Program discs on the Winchester, you save the additional time it takes to insert and remove flexible discs as you operate the particular package.*

Q. Can I get some more specifications on BPI?

A. *The General Accounting Package has 2000 accounts available for use in General Ledger Accounts, Employees, Vendors, Customers and Payees/Payors. Up to ten departments are available, along with a variety of reports. The demo disc that comes with each BPI package contains information relevant to the particular package. For further specifications, see the current issue of the Software Buying Guide for the HP 150.*

Q. Does BPI incorporate HP Touch in its packages?

A. *Yes, it uses HP touch on the softkeys in many operations.*

**Software Problem
Reports**

**BPI General Accounting/150
Original Version—A.01.00**

Problem: When retrieving a saved printer configuration, "Printer Not Ready" message appears.

Workaround: Don't save printer configuration on the data disc if "Serial (RS232)" is chosen as the printer type using command 6. Use command 6 to configure the printer whenever you want to print from BPI.

Problem: After retrieving a saved printer configuration, the "Print Uppercase Only" value in the configuration menu exceeds expected values of 1 or 2.

Workaround: Don't save printer configuration on the data disc if "Serial (RS232)" is chosen as the printer type using command 6. Use command 6 to configure the printer whenever you want to print from BPI.

Problem: It is not clear how to change the print type from BPI.

Workaround: Using command 6—the printer configuration mode—type in the ASCII codes for the escape sequence required by the printer separated by commas. For example: on an HP 82905B, the escape sequence for compress mode is ESC & k 2 S. In the control characters row of the printer configuration, you would type the corresponding ASCII codes as follows: 27, 38, 107, 50, 83.

Manual Corrections

**BPI General Accounting/150 Manual
First Edition—9/83**

Page E-5: At the bottom of the page, delete the section on creating subdirectories. Version A.01.03 of Sys-Master (of the operating system) does not support installing applications on subdirectories.

For information on replacing damaged media, refer to "Software Exchange Kits" in the current information insert.

Common Questions

***Q. What version of Computer Tutor will work on my system?**

A. *Version 1.2 will run on the HP 9121 dual floppy drive and the HP 9133 Winchester disc drive. Below is a table to help you determine if the version you have will work on your system.*

<i>Version</i>	<i>Drive Model</i>	<i>Comments</i>
1.0	HP 9121D	<i>Only REMOTE MODE function key should have asterisk (*)</i>
1.1	HP 9121D HP 9133	<i>Only if the computer has extra memory (i.e., greater than 256K)</i>
1.2	HP 9121D HP 9133	<i>Follow the instruction sheet included with the Computer Tutor disc. HP 150 does not need to have greater than 256K of memory.</i>

***Q. When I type in my name on the second screen, the computer locks up and I receive the error message "Device full error in file A: Name Dat ... Error Code 1003 PC = 0004 157 etc...."**

A. *Write-protecting the discs causes this problem. Computer Tutor discs should not be write-protected. To solve this problem, push the tab back up to the top of the write-protect hole or place a piece of tape over the hole.*

***Q. When typing in my name, why do the letters appear at the top of the screen instead of at the cursor's location?**

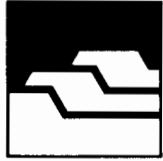
A. *This is a problem with Version 1.0. Before Tutor begins, function keys at the bottom of the screen are momentarily displayed. If any function key besides REMOTE MODE has an asterisk (*) in it, Tutor will not work properly. To remove the asterisk, touch the function key and the asterisk should disappear.*

★Q. I tried to run Computer Tutor Version 1.1 on my HP 9133 Winchester disc drive. Now the system is locked up and I can't get back to the P.A.M. main menu. Why?

- A. Tutor Version 1.1 will only run on the Winchester disc drive if there is more than 256K of memory in your computer. If you have copied it to the fixed drive, you must follow these instructions to reset your computer. You should not attempt to use version 1.1 on your system again. See note at the end of this answer.
1. Turn your system off.
 2. Change the switches on the back of your disc drive so that the floppy drive is set for address zero (up, down, down, down) and the fixed drive is set for address two (up, down, up, down). This will make the floppy drive A and the fixed drive B.
 3. Put your "SYS-MASTER" disc (contains MS-DOS, FORMAT, DEVICE CONFIG) into the floppy drive.
 4. Turn your system back on. If the message, "Load Op/Sys failed, Press return to boot" appears, do a "hard reset." A "hard reset" is done by pressing CTRL, Shift, and Reset simultaneously on the keyboard.
 5. Run FILE MANAGER (function key [F5] on P.A.M. main menu).
 6. Copy the file, CONFIG.SYS, from drive A (floppy) to drive B (fixed). If the message "File Already Exists" appears, copy over the old file.
 7. When copying is complete, exit Copy, then exit File Manager.
 8. Turn the system off.
 9. Remove the SYS-MASTER disc from the floppy drive.
 10. Change the switches on the back of the disc drive to their original positions. Floppy drive should be address two (up, down, up, down) and the fixed drive should be address zero (up, down, down, down). This sets the floppy drive back to drive B and the fixed drive back to drive A.
 11. Turn your system on. The computer should now boot up from the fixed drive, drive A.

NOTE: If you are a Winchester disc drive owner and do not have Version 1.2, you may send your two Tutor discs to the address below in exchange for version 1.2 which will run on your system.

Hewlett-Packard Company
Personal Software Division
3410 Central Expressway
Santa Clara, CA 95051
Attn: Tutor Exchange



To order this product, refer to "Software Available from HP" in this issue's Current Information Insert. For information on replacing damaged media, refer to "Software Exchange Kits" in the Current Information Insert.

Program Update

**Condor/150
Revised Version—A.0.2.11**

If you have version 2.10, order an exchange kit to obtain version 2.11. The new version has been enhanced so that Condor™ 20-3 now runs on a single disc, has a two-screen data entry form, has an expanded record limit (now twice the original size), has up to 18 decimal places in numeric fields, a new INSERT mode during data entry, enhancements to the COMPUTE command, an in-string search capability, and an improved User's and Reference Guide.

Refer to "Software Exchange Kits," in this issue's Current Information Insert, for ordering instructions.

**Most Frequent
Questions**

Q. How do you sort a dataset that takes up more than half of the space available on the disc?

- A. *The following outlines the procedure for a dual disc drive system, but can be slightly modified to work with a fixed disc system:*
- Place the Condor disc in the A drive and a blank formatted disc in the B drive.
 - Start the Condor application and at the A>> prompt, type COPY B: = A:SORT.DBM
 - Replace the Condor disc in the A drive with the disc which contains our dataset.
 - At the A>> prompt, type B: (return)
 - At the B>> prompt, type SORT A:FILENAME BY DATAITEM where FILENAME is the name of your dataset, and DATAITEM is the item you want to sort. Condor will now begin sorting your dataset.

Q. Can Condor and the HP 150 Operating System be placed on the same disc?

- A. *No. This is an error in the Condor manual. After you've created the disc containing only the Condor application, this disc is placed in drive A, and can be started after re-reading your discs from P.A.M.*

★Q. Can a dataset form encompass more than one screen?

A. No, Condor allows only one screen per form per dataset.

Q. What is the purpose of the RESULT dataset, and what can I do if I accidentally destroy this dataset?

A. The RESULT dataset is created by Condor for the purpose of storing intermediate files that are the result of commands such as PROJECT, SELECT, JOIN, etc. If at all possible, the RESULT dataset should never be DESTROYed. If the RESULT dataset is not needed at the present time, simply EMPTY RESULT to gain extra disc space.

If you happen to inadvertently DESTROY the RESULT dataset, you must manually enter it into the DATA DICTIONARY. To do this you must:

1) Type ENTER DATA.DIC at the B>> prompt (or the drive where the RESULT dataset has been DESTROYed).

2) In the area designed for title, type RESULT, then type R\$ in each of the form, definition and data file areas.

★Q. How can I print mailing labels from my Condor dataset using WordStar?

A. To transfer data to WordStar® from Condor, use the following procedure:

Type PROJECT DATABASE BY ITEM1, ITEM2, ITEM3, . . . ITEM32 (up to 32 items) where DATABASE is the name of your dataset and ITEM 1 through ITEM32 are the particular items you need for your mailing list such as name, street, city, state, zipcode, etc.

Type WRITE RESULT NEWFILE [B] to write the results into a file named NEWFILE. It is important to append the [B] to this command.

This creates a file that can be input to MailMerge™ and used against a form for addressing letters, envelopes or labels. The same file can be read into WordStar as a document using the READ A FILE softkey.

This technique does not apply to the international version of WordStar.

Q. Can I use the Condor datasets I've created on my HP 120 or HP125 with the HP 150?

A. Yes. Refer to the HP 150 Owner's Guide, page 7-20; Converting CP/M files to MS-DOS files.

Q. How can I make a copy of my dataset disc?

A. It is good practice to always keep a current copy of your dataset. You can:

1. Use the COPY/BACKUP UTILITY in P.A.M. Refer to the HP 150 Owner's Guide, page 7-10.

2. Use the COPY command in MS-DOS. Refer to the HP 150 Owner's Guide, page 8-4.

3. Use the COPY command in Condor. Refer to the Condor Reference Manual, page 2-14. An example using this last process:

-Place your CONDOR disc in drive A and a blank, formatted disc in drive B.

-At the A>> prompt, type COPY B: =
A:COPY.DBM

-Remove the CONDOR disc from A and replace it with a disc containing your dataset.

-At the A>> prompt, type B:

-At the B>> prompt, type COPY B: =
A:DATABASE where DATABASE is the name of your dataset.

Using the above procedure, all extensions to the dataset are automatically copied as well, e.g., the .DAT, .DEF, .FRM, .RPT, .IDX etc. files, along with the DATA.DIC file.

If you have a fixed disc, and the dataset is larger than your flexible disc, use the COPY/BACKUP UTILITY in P.A.M. Refer to the HP 150 Owner's Guide, page 7-18 for more information.

Q. Are there any Condor Training classes available?

A. Yes—for details refer to the list of courses at the end of this article.

Q. How can I prevent continuous printing over the perforation of the paper?

A. The Condor PRINT command prints all records continuously, and you need to use the TITLE command to perform form feeds on printers that use continuous sheets of paper. (Refer to the Condor Reference Manual, page 2-108). Make sure your PRINT command follows the appropriate TITLE command.

The command TITLE TOP,56 will form feed every 56 lines, which leaves approximately one inch at the bottom of every sheet.

If you want a text title with your output, use the command TITLE TOP, 56 "text" where text is the text of your title. The TITLE command executes from left to right; therefore you will get a form feed to the next sheet and then the text of your title will be printed.

The TITLE command is cleared only by another TITLE command, or by exiting Condor. Therefore the most recent TITLE command will execute with any subsequent PRINT commands.

Q. How can I modify the structure of my dataset after I have it defined?

A. *There are different methods depending on what you're modifying:*

–If you want to cosmetically alter the form or change field names, use the FORMAT command. Refer to the Condor User's Manual, page 9-4. Caution: be sure not to alter the lengths of the fields or the order of the fields when using this command!

–If you only want to change the minimum, maximum and default values, use the UPDATE command on the .DEF file of your dataset. Refer to the Condor User's Manual, page 9-8.

–If you want to add, delete or reorder fields, use the REORG command. Refer to the Condor User's Manual, page 9-16.

The FORMAT, UPDATE and REORG commands can be used on a dataset regardless of whether or not it contains data.

–If you want to change a field type or field length, use the DEFINE command. If your dataset contains data, you must first write the data out to a temporary file, restructure the dataset and then read the data back into the dataset from the temporary file. Refer to the Condor User's Manual, pages 9-18 and 9-19.

Before you make any changes, make sure that your data is compatible with the desired modifications, i.e., if shortening a field the existing data does not exceed the new length, and if you change a field type—from AN to N, for example—the existing data does not contain any alpha characters. If your data is not compatible, you will not be able to successfully read the data into your modified dataset!

Here is an example of how to alter the field type or length. Skip the FORMAT command if only changing a field type. The example uses a dataset named CARDFILE:

- It is suggested that you first make a copy of your dataset using the command COPY TEMP = CARDFILE, which will copy the contents of CARDFILE into a file called TEMP.
- Write out the data to a file named TEMPFILE in Basic format using the command WRITE TEMP TEMPFILE [B] (be sure to add the [B]).
- The command FORMAT TEMP will allow you to change the field length.
- The command DEFINE TEMP will allow you to change the definition specifications. At this point Condor will ask you to choose an option: Re-define? to which you type R. With a file containing data, Condor will prompt Data file is not empty: OK to delete all records (Y/N), to which you answer Yes. Use the carriage return to position the cursor on the field line to be modified. Use the backspace key, not the arrows, to move the cursor.

If changing the field length for a field defined as NAME: ANR,30,0,30," " you can backspace to the first comma, use the space bar and erase everything to the last quote mark. Press return and let the program input the size, minimum, and maximum requirements. This method ensures that the definition will agree with the form.

If changing the field type for a field defined as above: backspace to the field type (ANR) and overstrike with a new field type. Use the space bar to erase everything to the last quote mark. Press return and let the program input the size, minimum and maximum requirements.
- After all modifications are made, use the command READ TEMP TEMPFILE to read the data back into the dataset.
- LIST TEMP to verify the data.
- To rename the dataset, use the COPY CARDFILE = TEMP command. Since the dataset already exists, you will be asked to verify whether or not you want to replace the original. Answer Yes.
- DESTROY TEMP will destroy the TEMP dataset.

-DESTROY TEMPFILE* will destroy the TEMPFILE file.

(Note that this procedure differs slightly from the one given in the Condor User's Manual).

Software Problem Reports

Condor/150 Versions A.02.10 and A.02.11

Problem: Having difficulties in updating data in a form that uses an underscore (—) in a cosmetic border.

Workaround: Redraw the data entry form using the FORMAT command and eliminate the underscores in the border. Safe characters include, but are not limited to, the following: plus sign (+), asterisk (*), hyphen (-), pound sign (#), and exclamation point (!).

Problem: Tabulate and search won't work properly on numeric fields.

Workaround: May be caused by not using the default number of bytes in the database definition phase. Redefine the database using the DEFINE command, and choose the default value when specifying the field size.

Problem: Can't read in data correctly after redefining a database.

Workaround: When redefining a database, first WRITE out the existing data using the [B] option. Whenever you WRITE out data to a file, always use the [B] option of the command unless you intend to read the data into an application that requires another option.

Manual Corrections

Condor/150 User's Manual First Edition—9/83

Page 2-115: Add the following paragraph to the bottom of the page: "When redefining a database, you need to WRITE out the existing data to a file before redefining. Use the [B] option of the WRITE command when saving the existing data."

Page 3-9: Add the following paragraph to the bottom of the page: "Condor allows specification of the field-size immediately following the data type specification. Allow the field-size parameter to be defaulted by Condor."

Quick Reference Guide

Condor/150 Quick Reference Guide 45415-90000

Communicator Articles	-“Transferring IMAGE/3000 Data to a Condor Database”Issue #5 -“Condor Tips” Issue #7 -“Plotting Condor Data with HP Graphics” Issue #8
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Books	Data Base Management Systems: A Guide to Microcomputer Software <i>Krugliniski</i> ; Osborne-McGraw Hill, 1983 A number of packages are examined in detail— including Condor and dBASE II. HP Product Number 92234A
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-
- | | |
|----------------|---|
| Courses | <ul style="list-style-type: none"> ■ <i>Condor/150 20-1</i>
This workshop will introduce you to Condor. After you understand what a database system is you'll learn how to use one by designing a form for entering data, creating a simple dataset, editing information, sorting and creating simple reports, and reorganizing a dataset.
35124B (1 day) ■ <i>Condor/150 20-3</i>
The Condor 20-3 workshop will provide you with in-depth experience using Condor's advanced database management and report writing capabilities including indexing a new or existing dataset, joining unlike datasets, creating, printing and revising reports, and creating and running a help screen and command procedure.
35124C (½ day) ■ <i>Condor/150 20-1 and 20-3</i> can be ordered as a single unit.
35124A (1½ days) |
|----------------|---|

To order this product, refer to "Software Available from HP" in this issue's Current Information Insert. For information on replacing damaged media, refer to "Software Exchange Kits" in the Current Information Insert.

Most Frequent Questions

***Q. What is Context™ MBA™, and what can it do for me?**

A. *The Context MBA is an integrated program that lets you pull the information from a number of sources, analyze it, graph it, store and retrieve it, write about it, and communicate the results to others.*

The Context MBA offers six ways to create and handle data: 1) modeling or spreadsheet, 2) business graphics, 3) database, 4) word processing, 5) forms, 6) communication link with a remote computer.

***Q. Does the HP 150 version of Context MBA utilize the touch capability?**

A. *Yes, using the 8 function keys f1 through f8. The 8 functions are: /E(Edit), > (GOTO), WXY (Draw grf or Expand a cell to entire window), WXN (Clear Grf or de-Expand cell), END, CNTL-C! (Recalc) and ?(Help). The touch capability can also be used for positioning the cursor within a window and moving the cursor to any other window.*

***Q. How many discs are required to run Context MBA on the HP 150?**

A. *Three program discs and one demo disc are included with the HP 150 version of Context MBA. They are labelled MBA1, MBA2, MBA3, and DEMOS.*

Because a backup copy of the MBA3 disc cannot be made, a backup copy is also included in the package.

***Q. Will Context MBA on the HP 150 run in the standard 256 kB memory configuration?**

A. *512 K of memory is recommended for Context MBA to run on the HP 150. Context MBA will run on 256K of memory but will usually operate too slowly for the MBA user's requirements.*

Q. Can I exchange other applications' files with MBA?

- A. No. There isn't a translation utility to translate files into MBA's format or from MBA's format to another application.

With Context MBA you have important functions within a single program, that's why an integrated package is so nice!

***Q. How much workspace is available for data on the HP 150 version of Context MBA if I have the standard 256 kB memory configuration?**

- A. There are two options available for your workspace, which translates to about 110 Pascal blocks of memory in the default configuration, and about 225 Pascal blocks for the maximum possible workspace. A Pascal block is equivalent to 512K bytes.

***Q. How do I install MBA on the Winchester disc drive?**

- A. To install MBA, the hard disc must be reformatted. This will erase any files on the hard disc.

When installing MBA on the Winchester disc drive, follow these steps:

1. Configure the hard disc as E.
2. Backup applications and files currently on the hard disc.
3. Reformat the disc—do not copy the MS-DOS operating system onto the disc.
4. Transfer MBA onto the hard disc, then
5. Reload the previously installed applications back onto the disc.

Once MBA is on the E drive, you can no longer boot-up from the hard disc and must use the floppy to bring up the 150. The operating system and MBA require the same portion of the disc, so MBA transfers on the disc first and locks out the operating system. You can't start up from drive E.

***Q. When the HELP function is used, nothing happens.**

- A. Make sure that disc MBA2 is in the right drive when using HELP.

***Q. Error messages refer to unit numbers that do not apply to the HP 150.**

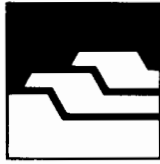
- A. Refer to the Conversion Chart in the HP 150 insert of the Context MBA/150 package. For example, it shows that Unit 5 is equivalent to Drive B.

Communicator Articles —“Introducing Context MBA/150” Issue #8



dBASE II
...for the HP 150 Touchscreen

Gayle Tonkin
Chris Walker



To order this product, refer to "Software Available from HP" in this issue's Current Information Insert. For information on replacing damaged media, refer to "Software Exchange Kits" in the Current Information Insert.

Program Update

dBASE II/150
Revised Version—A.2.41

You can now get an update kit for dBASE II™/150 from HP. Enhancements include:

- an on-disc tutorial*
- dBASE Sort—to improve sorting time*
- dBASE II Commands on soft keys—for ease of use
- cursor/edit keys now implemented on the HP keyboard
- HP Touch demo—shows how to program with HP Touch

*Not available with international versions.

Refer to "Software Exchange Kits," in this issue's Current Information insert, for ordering instructions.

Most Frequent Questions

Q. How do I install dBASE II on the HP 150?

A. For instructions, refer to the article entitled "Installing dBASE II on the HP 150" in issue #8 of the Communicator.

***Q. How do I send escape codes to my printer for dBASE II?**

A. It is possible to send escape codes from your HP 150 to your printer from a program within dBASE II. dBASE II will not accept the ESC key in the escape sequence, so you need to use the decimal value for ESC. The CHR(27) decimal value is equivalent to the ESC key. The escape sequence is sent to the printer using an @,SAY command.

Below is an example which can be used for compressing print on most HP printers:

.MODIFY COMMAND Creates a program
 ESCAPE file called ESCAPE

SET FORMAT TO PRINT Sends @,SAY
@ 0,0 SAY CHR(27) + commands to the
 "&k2S"FORMAT printer

SET FORMAT TO
SCREEN

Press CTRL W To save file
(Ensure your printer
is turned on)

.DO ESCAPE Executes command
file

*The printer can be configured for normal print
size by sending another escape sequence to the
printer similar to the one above substituting
"&k0S" for the "&k2S"*

**Software Problem
Reports**

**dBASE II/150
Original Version—A.2.4**

Problem: Cursor arrow keys appear to work in
edit mode, but modifications made using these
keys are in the wrong place.

Workaround: Use the control characters to move
cursor. Refer to Page 23 of Part B of the dBASE II
User Manual for a list of the control characters.
Fixed in Version 2.41.

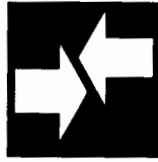
**Communicator
Articles**

–“dBASE II Now Available for the
HP 150” Issue #8
–“Installing dBASE II on the HP 150” . . . Issue #8

Books

**Everyman's Database Primer:
Featuring dBASE II**
Byers; Ashton-Tate, 1982
HP Product Number 92233R

**Data Base Management Systems:
A Guide to Microcomputer Software**
Krugliniski; Osborne-McGraw Hill, 1983
A number of packages are examined in detail—
including Condor and dBASE II.
HP Product Number 92234A



To order this product, refer to "Software Available from HP" in this issue's Current Information Insert. For information on replacing damaged media, refer to "Software Exchange Kits" in the Current Information Insert.

Most Frequent Questions

- *Q. Every time I try to upload Link/100 to my HP 3000 host system, I get the error message "Unable to Install Host Program File." What am I doing wrong?**
- A. You should check for all of the following:
You need to be logged on as MANAGER.SYS in order to load anything into the PUB.SYS account, where the Link/100 program must reside.
Your TERMTYPE must be set at 10. If it's not, set it during your logon procedure, for example:
HELLO MANAGER.SYS; TERM = 10
The terminal configuration for your 150 should reflect a baud rate matching that of your HP 3000 port.
Port configuration of the 150 should have parity set to NONE and DATA Bits set to 8.
- Q. Why do I get the error message "Cannot Find Local File" when I try to install the Format Conversion Utility?**
- A. You should install the DSN/Link and UPLOAD programs on one disc, but do not install the MONITOR program since it will not fit in the remaining space. This should permit you to upload now.
- Q. The messages "Cannot Start HP 3000 Transfer Program. Link/100 must be installed" or "File Inaccessible" or "Wrong Version of Link file" is displayed. What's the problem?**
- A. You must correctly install the latest version of Link/100 on the system. As of this printing, the current version of Link/100 is A.02.00. It is also possible that you did UPLOAD, but not into the PUB.SYS account on the HP 3000.
- Q. Why can't just any RS-232 cable be used to connect two Series 100 computers?**
- A. Any cable with pins 2 & 3 crossed and pin 7 to pin 7 can be used. Crossing pins 2 & 3 connects the transmit pin to the receive pin in both directions. The HP 13242G cable meets these requirements.

**Software Problem
Reports**

DSN/Link/150

Original Version—A.01.01

Problem: If the Upload program is run over a modem, the file is not transferred to the host.

Workaround: If you are using a modem to run the UPLOAD program, you must be logged onto the HP 3000 as TERMTYPE 10. For example:

```
HELLO user.account/password;TERM = 10
```

Problem: When transferring a binary file from an HP 150 to an HP 3000, an error message indicating that lines have been truncated appears at the top of the screen and the file is not transferred.

Workaround: You must change the ASCII/BINARY field to BINARY. It is not sensed automatically.

Problem: If an HP 3000 program file is transferred to an HP 150 and then transferred back to an HP 3000, it no longer has the parameters of a program file and therefore cannot be run.

Workaround: A file equation must be used on the HP 3000 to which the file is transferred and the filename must be back-referenced on the DSN/Link screen.

on the HP 3000:

```
FILE filename;REC = 128,,F,  
BINARY;DISC = ,1,1;CODE = PROG
```

on the DSN/Link screen:

```
*filename [an asterisk before the destination  
filename]
```

Problem: Can't make the Hayes Smartmodem hang up from a command file.

Workaround: Perform the hang-up manually.

Problem: Transferring an ASCII file other than type 0 from the HP 3000 to the HP 150 sometimes doesn't work.

Workaround: Transfer the file as a binary file instead of ASCII. Because DSN/Link does not allow you to override the file type when transferring from the HP 3000, you must BUILD on the HP 3000 an identical file to the one you wish to transfer except specifying it as binary. Use FCOPY to copy from the ASCII file to the HP 150 using DSN/Link. To transfer the file back up to the HP 3000, transfer the file as a binary file. Then BUILD an ASCII file identical to the original ASCII file (remember to specify the correct file code) and use FCOPY to copy from the binary file to the ASCII file you just built.

**Manual Corrections
and Updates**

**DSN/Link/150 Manual
First Edition—9/83**

Page 3-1. Installing the SDTODIF Utility. The files SDTODIF.COM, SDTODIF, CSDTODIF must be on the currently selected drive. It is suggested that you install UPLOAD and DSN/Link on the same disc, and later delete UPLOAD.

★Page 6-4. Logging to a printer: By default, DSN/Link talks to the device PRN. (If you do not have a printer configured as PRN, the logging attempt will produce a printer error message). You can change this by going into File Manager prior to logging and performing a "set printer" function.

Page 9-4. Addition to "Software Requirements". The Series 100/DSN/Monitor program includes RUN.EXE and SYSLIB.PAS, used in uploading Monitor.

Page 9-6. Note in "Setting Up a Password" implies that "Enter Password" comes up automatically after touching Time/Out Exit. The message appears only after you press Return.

Page 9-20. Message in note should read "directory of remote drive X:"

Page B-1. Add missing ampersand (&) in reference to &ASSIGN command.

Page B-2. Under "HP 150 Commands" correct command to read: &CHAIN filename (parameter 1, parameter 2, ... etc)

Quick Reference Guide	DSN/Link/150 Quick Reference Guide	45425-90000
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To order this product, refer to "Software Available from HP" in this issue's Current Information Insert. For information on replacing damaged media, refer to "Software Exchange Kits" in the Current Information Insert.

Program Update

**Graphics/150
Revised Version—A.03.00**

If you have version A.01.01, order this kit to obtain version A.03.00. The new version provides support for the 7550A plotter, increased performance, larger default characters within Pie, Bar, Line, and Scattergrams, and a new box annotation feature within Text Charts. Also included in the kit are additional pages for the manual.

Refer to "Software Exchange Kits," in this issue's Current Information Insert, for ordering instructions.

**Most Frequent
Questions**

Q. How do I transfer data from a VisiCalc file to the Series 100 Graphics on the HP 150?

A. *First you must save the data as follows:*

- Load the desired file into VisiCalc
- Delete all column headers and formats (e.g. \$, etc.). Leave row or column headings which will be used for the X-axis heading.
- Type in the sequence /S#S
- Save the file under a new file name
- Select C for column if X-axis labels are in a column, or R for row if X-axis labels are in a row.
- Exit VisiCalc

To transfer VisiCalc data into Graphics:

- Enter the Graphics application
- Select the Get a Chart function
- Press the Transfer Data In function key until an asterisk (*) is present in the softkey label
- Tab to Data File Directory; and type in the appropriate directory and file name, for example
A: \EXAMPLE.DIF
- Select the Data function key
- Perform the desired graphics functions (Note that the chart definition—Y Min and Max—will not change)

Q. How do I configure my HP 150 to output to an HP-IB plotter?

- A. *In the Device Configuration menu, the PLT DEV should be HP-IB and the ADDRESS should be 5 to represent the address of the plotter (verify that the plotter is set to address 5 as well—see the article titled, "Using Plotters with the HP 150" in Issue #8 of the Communicator for more detailed information).*

Q. How do I configure my HP 150 to output to an RS-232 plotter?

- A. *In the Device Configuration menu, the PLT DEV must be Port 1 or Port 2, depending on which one the cable from the plotter is connected to. Some plotters have switches which must be set correctly to ensure communication between the two devices, as outlined in the HP 150 Owners Manual. (See the article titled, "Using Plotters with the HP 150" in Issue #8 of the Communicator for more detailed information).*

Q. Can I dump the graphics I have on my screen to the internal printer of the HP 150?

- A. *Yes, you can dump graphics directly to the internal printer or to an external 82906A printer. The HP 150 must be appropriately configured for the desired printer (see page 6–7 of the HP 150 Terminal User's Guide), and by pressing the Graph Copy key (the Enter key on the graphics pad) the graphics is dumped to the printer. The 82905A and B printers do not support this graphics dumping capability.*

Q. How can I use my HP 150 to run the HP 3000 graphics programs like DSG/3000 or HPDraw?

- A. *With all but the newest release of the HP 3000 graphics programs, you need to configure your HP 150 to be a 2623 terminal. Make sure you have a valid connection to the HP 3000 and also make sure you have changed the Terminal ID field in the terminal configuration menu to be 2623A instead of 150A. With this configuration, HP-IB plotters are not supported.*

With the newest release (i.e. HPEasyChart A.02.00, HPDSG/3000 A.03.00 and HPDraw A.02.00), the 150A is supported as a terminal. You do not have to change the Terminal ID field; HP-IB plotters are supported on this configuration.

Q. When I'm running the HP 3000 graphics programs, can I plot to a 7470 or 7475 plotter attached to the HP 150?

A. *Yes, but the way you connect the plotter depends on whether you have the latest release of the HP 3000 graphics programs.*

With the newest release (i.e. HPEasyChart A.02.00, HPDSG/3000 A.03.00 and HPDraw A.02.00), you can use HP-IB plotters provided the Terminal ID field is set to 150A). An RS-232 plotter can be used if it is connected in eavesdrop mode between the HP 3000 and the HP 150, using cable number 07470-60090.

Q. Why are the segment names in the Pie Charts program so small when they appear on the preview screen?

A. *The picture of the chart appearing on the screen is approximately 20% the size of the final chart which will be plotted out when finished. The preview screen is designed to let you interact with a rough cut of what the final chart will look like, not to give the final appearance of the chart.*

Quick Reference Guide	Graphics/150 Quick Reference Guide 45410-90000
Communicator Articles	-“Using Graphics to Your Advantage” . Issue #3 -“Using Plotters with the HP 150” Issue #8



This product is built into the Portable.

Problem Reports

Lotus 1-2-3 Firmware

★**Problem:** Legends in Print/Graph run off the page if there are more than two legends. This is common to all implementations of Lotus™ 1-2-3™.

Workaround: Adjust the legends to fit accordingly.

★**Problem:** When programming in macros, if the macro enters an infinite loop, *and* if the first key pressed is not [shift][break], then the system must be re-booted.

Workaround: In this situation, use [shift][break] to terminate the infinite loop.

Courses

■ *Introducing 1-2-3*

This introductory workshop familiarizes you with the features, worksheet, and command structure of 1-2-3. Using hands-on practice, you will learn how to create and format a spreadsheet; save a worksheet and print a report; create and use a database; and create, print, and plot a graph.

45688A (one day)



To order this product, refer to "Software Available from HP" in this issue's Current Information Insert. For information on replacing damaged media, refer to "Software Exchange Kits" in the Current Information Insert.

Most Frequent Questions

Q. How much memory does Lotus™ 1-2-3™ take up? How much memory will I have available on a 256K machine? How many cells can I fill up?

A. *The HP 150 standard memory configuration is 256K. After the operating system, P.A.M. and 1-2-3 are loaded, there is approximately 40K of worksheet space remaining. Filling cells with just numbers allows a user to fill 10,000 cells, whereas using formulae and filling every cell, a user can fill about 2,000 cells.*

***Q. What is the largest number I can store in 1-2-3? How accurately is it stored?**

A. *The largest number that 1-2-3 can store internally is 10^{308} ; smallest number is 10^{-308} . The largest number that can be displayed is 10^{99} . 1-2-3 stores numbers up to 15 digits of precision.*

***Q. Can I use my VisiCalc and dBASE II files with 1-2-3? What other programs will 1-2-3 exchange data with?**

A. *1-2-3 will accept the transfer files from VisiCalc and dBASE II, and from/to dBASE II and any DIF™ (Data Interchange Format) file, 1-2-3 can import and export standard ASCII text files too.*

***Q. Are there any special considerations when I use a plotter with 1-2-3?**

A. *Depending on the type of plotter you intend to connect (see the article, "Using Plotters with the HP 150" in Communicator #8 for detailed information on the 7470 and 7475 plotters), we suggest configuring your plotter to HP system device AUX (address 5 of HP-IB) in the Device Configuration menu. You should also configure your plotter to HP System device PLT:. By doing this you will have one physical device (plotter) linked to two system devices, PLT: and AUX:. 1-2-3 sends graphics output to the AUX, and HP Graphics send output to the PLT device. The plotter will now work fine with 1-2-3 and existing applications.*

***Q. The manual mentions limitations for the length of legends. What are they?**

A. # of legends	Total characters per line
1	19
2	38
3	35
4	29
5	23
6	17

The maximum legend length is 19 characters. If you have spaces at the end of your legend, those count as characters.

***Q. Why do I get a "Disc Error" when trying to bring up Lotus? What should I do to fix this?**

A. *The 1-2-3 system's default directory is B:\. You will receive a disc error upon entering 1-2-3 from PAM if your MS-DOS Device Configuration menu defines your fixed disc as A: and the floppy as something other than B:. 1-2-3 is trying to load from the B:\ drive.*

To alleviate this, change the start up directory in 1-2-3. Issue the /WORKSHEET GLOBAL DEFAULT DIRECTORY commands. Change the directory to the appropriate drive as defined in the MS-DOS configuration menu, then invoke the UPDATE command to make the change permanent.

If you don't want to change the default directory in 1-2-3 to match the MS-DOS Device Configuration menu, then change the Device Configuration menu to match 1-2-3 default directory of B:\.

Manual Corrections

**Lotus 1-2-3 User's Manual
Original Version—Release 1A**

Page 15-14 The first example of control codes used as a printer set-up string turns compress print ON To turn on compress print.
 \027\038\107\048\083 (Escape &k2S)

Communicator Articles

—"Introducing 1-2-3 for the HP 150" Issue #8

Courses

■ *Introducing 1-2-3*

This introductory workshop familiarizes you with the features, worksheet, and command structure of 1-2-3. Using hands-on practice, you will learn how to create and format a spreadsheet; save a worksheet and print a report; create and use a database; and create, print, and plot a graph.

45688A (one day)



This product is built into the Portable.

Problem Reports

MemoMaker Firmware

- ★**Problem:** Single characters can be pasted in column 80. This may result in improper operation, as column 80 is reserved for MemoMaker control.
Workaround: Avoid pasting single characters in column 80.

- ★**Problem:** Long path and/or file names may leave extraneous trailing characters on line 1.
Workaround: Use shorter names, or ignore.

- ★**Problem:** The display is garbled when: MENU is turned off while in help mode *and* not turned back on again before returning from help mode.
Workaround: Make certain the MENU is on when returning from help within MemoMaker.

- ★**Problem:** If there are exactly 25 files and a directory is requested, the user is prompted for "more", but there are no more files to display.
Workaround: Ignore the "more" prompt.

- ★**Problem:** Directory on empty or non-existent drive doesn't give error message.
Workaround: Be aware of this 'non-response' as an indicator that the drive is empty or non-existent.

- ★**Problem:** Keylabels are not updated after error condition in align block.
Workaround: Any subsequent operation will update the labels.

- ★**Problem:** MemoMaker does not initialize the softkey response upon entry. Thus, if another program redefined those keys and P.A.M. does not get control of the computer (i.e. the user enters MemoMaker from MS-DOS), then the function keys will not work properly in MemoMaker.
Workaround: Initiate MemoMaker from P.A.M.

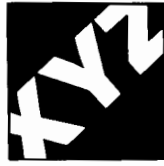
★Problem: If you follow this sequence:

- a) your document is longer than twelve lines,
and
- b) you press [EXTEND][END CURSOR] (right
cursor) to move the cursor to the end of the
document, *and*
- c) press the [Cut Out Block], *and*
- d) move the cursor up until the display scrolls
down at least one or two lines, but not all the
way to line 1, *and*
- e) press [Block OK], *then*

the cursor will be in a wrong place (in the top-left
corner).

If you press the up/down cursor keys, it will
appear that all of the text in the file is gone. If you
start typing while the cursor is in the top left
corner, you can clear the character set that is
currently in LCD memory.

Workaround: Press [EXTEND][HOME CURSOR],
and the rest of the text will return.



To order this product, refer to "Software Available from HP" in this issue's Current Information Insert. For information on replacing damaged media, refer to "Software Exchange Kits" in the Current Information Insert.

Most Frequent Questions

***Q. How do I reformat my text after changing my margins or editing a paragraph?**

- A. *Press the function key Block Keys. Position the cursor at the beginning of a block of text, and press Align Block. The message Use cursor to define a block then select Block OK will appear.*

Move the cursor to the end of the section to be aligned. Once the whole segment is highlighted, press the function key Block OK. The message Select Alignment OK if the new alignment is correct will appear.

Press Alignment OK and the text will be reformatted.

***Q. Can I extend my right margin beyond 80?**

- A. *No, MemoMaker only goes to column 79.*

***Q. How can I get another memo without exiting MemoMaker?**

- A. *In the Print Keys, turn AutoFeed off (no asterisk).*

Press the function key Get Memo. You get the message Do you want to save the current memo as Nameless or the current filename?

If you want to save anything, press the function key Yes, Save. The prompt Enter File Name (or use File Manager) will be displayed. Enter a valid file name of another memo and your new memo will be displayed on the screen.

Q. How do I print the portion of the memo that can be displayed on the screen?

- A. *Make sure your cursor is positioned at the place where you want to begin printing, then press the Print Memo function key. This will print out the contents of the memo to the end of memory.*

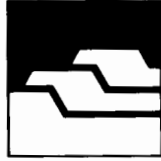
You may selectively print out sections of text by placing .PA commands in your text, and positioning your cursor before the command, such as at the beginning of a paragraph. When you press the Print Memo softkey, only the contents of the memo from the cursor to the .PA command will be printed.

Q. When I bring a MemoMaker file into WordStar, why is the left margin so wide?

A. *WordStar automatically gives you a left margin which is one inch wide. MemoMaker does not. If you were to put in a one inch wide left margin in a MemoMaker document, and bring that memo up in WordStar, the result would be a two-inch-wide left margin. To avoid having to reformat your text every time, put in the dot command. .PO 0 (the number 0) at the top of your WordStar document before printing it out.*

**Quick Reference
Guide**

MemoMaker/150 Quick Reference
Guide 45420-90000



To order this product, refer to "Software Available from HP" in this issue's Current Information Insert. For information on replacing damaged media, refer to "Software Exchange Kits" in the Current Information Insert.

Most Frequent Questions

Q. How many cards can I have in a cardfile, and how many characters can I have on a card?

A. *Provided there is enough disc space available, you can create up to 550 cards in a cardfile, at 1520 characters per card (19 lines by 80 columns). The number of cards per cardfile increases or decreases depending on the amount of disc space available.*

Q. How can I modify my cardfile after I have created the form and entered data into it?

A. *First transfer your current data out of your cardfile, using the Transfer Out function key. Create a new cardfile, using the Show Old Form function key. Modify the fields you wish. Transfer the data back into the new cardfile using the Transfer In function key.*

The above procedure will allow you to:

- Shorten or lengthen your fields.*
- Add additional fields at the bottom of the card.*
- Rename your fields.*
- Add additional descriptive text.*

You cannot delete fields, insert new fields in the middle of the card, or change the order of the fields.

Q. Sometimes, when I press Exit Select I completely exit PCF. Why?

A. *This key (both Touch and the Softkey) is very sensitive. When you press Exit Select, be sure to touch the key very quickly, and do not hold your finger on the key. Key strokes are stacked up ("buffered"), and it is possible to activate Exit PCF if you hold your finger on the key.*

Quick Reference Guide

PCF/150 Quick Reference Guide 45422-90000



This product is built into the Portable.

Problem Reports

Terminal Firmware

- ★**Problem:** Multiple menus may be placed in the display by rapidly pressing the MENU key.
Workaround: don't 'hammer' at the MENU key.

- ★**Problem:** When in 7-bit mode with protocols on, file transfers are limited to 127 blocks.
Workaround: For large files (greater than 127 blocks) change your file type to "8-bit Text."

- ★**Problem:** Pulse-dialing is always done at 20 pulses per second instead of the standard 10 pulses per second.
Workaround: contact your dealer or HP Field Repair Center if a problem phone system is encountered, or use tone-dialing as an alternate.

- ★**Problem:** When a host defines the softkeys via escape sequences, pressing the SYSTEM key while already in system key mode results in loss of all softkey definitions (back to default). Keylabels imply system mode, but the Portable is in user mode, and the host key definitions are lost.
Workaround: Do not press the SYSTEM key while in system key mode.

Manual Corrections

**HP 110 Terminal Emulator User's Manual
First Edition—3/84**

- ★**Page 1-18:** Add the following note: "HANGUP" turns off the serial port in addition to the modem.
- ★**Page 1-18:** Add the following note: Exit to "MAIN" when using the modem causes the modem to hang up the phone.
- ★**Page 1-22:** Add the following clarification: The HP PROMPT mode of file transfer is for 7-bit Text files only. If 8-bit Text is used, the file transfer may halt for no apparent reason.



To order this product, refer to "Software Available from HP" in this issue's Current Information Insert. For information on replacing damaged media, refer to "Software Exchange Kits" in the Current Information Insert.

Most Frequent Questions

Q. Why is it that when I input the number 65.6 it appears on the command line as 65.599999999999?

A. The VisiCalc® program translates the number from the actual value to an internal representation and then back to an alphanumeric representation. Page 1-16 of the VisiCalc Procedure Manual explains the considerations used in displaying and rounding numbers.

Q. When I want to load a spreadsheet from drive B, why does it automatically give me the directory for the A drive?

A. The default drive is always the one you load the VisiCalc program from. To change this, use the File Manager and the VisiCalc Directory keys. In version A.01.03 there is a command /S \ and a pair of softkeys (Load and Store, Choose Dir) to allow a change of the current drive and directory.

Q. How can I get more memory to handle a larger VisiCalc spreadsheet?

A. There are two ways to do this:

- 1. Add additional HP 150 memory. The maximum memory configuration, 640K bytes, is recommended. Additional memory is recommended if your spreadsheet contains more than 1200 cells or has many formulas or labels.*
- 2. Disabling P.A.M. will also allow you to gain more spreadsheet memory (an additional 60K bytes).*



★Q. How do I disable P.A.M.?

A. You need to set up two diskettes, one for the operating system and one for VisiCalc. See the steps below:

-Format a blank disc and name the disc volume, "NO-PAM".

-Copy the HP 150 SYS-MASTER disc programs to the NO-PAM disc (you can use COPY SYSTEM in the Format utility).

-Copy COMMAND.COM from the HP 150 SYS-MASTER disc to the NO-PAM disc.

-Finally, rename file CONFIG.SYS to CONFIG.SAV on the NO-PAM disc.

You should now have the following files on your NO-PAM disc:

CONFIG.SAV	PAMCODE.EXE
PAM.MSG	COMMAND.COM
PAM.BAT	

Now, to set up the VisiCalc disc:

-Format a blank disc and name the disc volume, "VC".

-Install VisiCalc onto the VC disc.

-Delete the tutorial worksheet files (files with extensions of .VC) on the VC disc. This frees plenty of space on the disc for the file you're going to copy in the next step.

-Copy COMMAND.COM from the HP 150 SYS-MASTER Disc to the VC disc.

You should now have the following files on your VisiCalc disc:

VISICALC.RM\$	VCRUN. EXE
VCLIB.PAS	VISICALC.OVL
VISICALC.HLP	VISICALC.MSG
VC.BAT	COMMAND.COM

Now, when you're ready to use VisiCalc, you:

-Insert the NO-PAM disc into drive A, and the VC disc into drive B.

-Hold down the CTRL and SHIFT keyboard keys, then press the RESET key. You are prompted by MS-DOS for the date and time. Next, you see A>.

-Type B:, then RETURN.

-Type VC, then RETURN.

Q. If I have disabled P.A.M., how do I run VisiCalc?

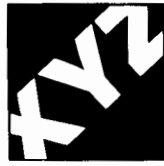
A. It is recommended that you have your MS-DOS prompt be A>, and place your VisiCalc application disc in drive A. Now type VC to begin VisiCalc.

Q. When I reload my spreadsheet from the disc, some of the cells have the word "ERROR" or some portion of the word displayed in them. What can I do to prevent this?

A. The ERROR in the cell is the result of the order in which cell's contents are calculated. The order is based on the formula contained in the cell. If the value for the cell is calculated based on cells not yet calculated or having old values in them, ERROR is displayed in the cell to reflect this fact. This is known as forward referencing, and is explained in the VisiCalc Procedures Manual, page 1-17. Portions of the ERROR message are displayed if the width of the cell is less than 5.

One or several manual recalculations (press the exclamation key—!) may be needed to clear up all ERROR messages in the cells. The permanent solution is to reorganize the worksheet, avoiding all forward references.

Quick Reference Guide	VisiCalc/150 Quick Reference Guide 45405-90000
Communicator Articles	-“Getting VisiCalc to Round Dollar Values to Two Places” Issue #5 -“Comparing VisiCalc and MicroPlan” Issue #7
Books	VisiCalc Programs Made Easy Castlewitz, Osborne-McGraw Hill, 1983 HP Product Number 92233Q
	VisiCalc: Home and Office Companion Castlewitz and Chisausky with Kronberg; Osborne-McGraw Hill, 1982 HP Product Number 92233Z
Courses	■ <i>VisiCalc/150</i> A solid introduction to the elements of a VisiCalc worksheet is provided in this workshop. Participants will learn to create, edit and print worksheets, identify and use 16 commands, activate the function keys, and store and load worksheets. 35125A (1 day)



To order this product, refer to "Software Available from HP" in this issue's Current Information Insert. For information on replacing damaged media, refer to "Software Exchange Kits" in the Current Information Insert.

Program Update

**WordStar/150
Revised Version—3.3B**

You can now get an upgrade kit for WordStar®/150 from HP. This upgrade, which contains version 3.3B of WordStar, significantly improves the performance of previous versions 3.3A and 3.30. Improvements include increased printer speed (10% to 40% faster) and faster program loading, cursor movement, screen responsiveness, and horizontal scrolling.

Additional printer features are also included in the upgrade. Support for the 2674A Internal Printer using perforated paper has been added to the Printer Menu. Enhancements have been added to work with non-HP printers: Okidata printers now have underline capabilities, and the Diablo 630 printer has superscript and subscript enhancements. The software update kit also contains an update for the *WordStar/150 Self-Paced Training Guide*.

Refer to "Software Exchange Kits," in this issue's Current Information Insert, for ordering instructions.

**Most Frequent
Questions**

**Q. How do I change the pitch on my 82906A?
How can I print in compressed mode on my
internal printer?**

A. Insert a Control PA (^PA) in your text to change the pitch on an 82906A. To return to the default pitch, insert a control PN (^PN).

To set your internal printer to compressed mode, insert a Control PA (^PA) in your text; a Control PN (^PN) will return the printer to normal mode.

Q. How do I turn off Microjustification?

A. Insert the dot command .UJ 0 (the number 0) into your document. The dot command to resume microjustification is .UJ 1 (the number 1).

Q. How many words can I add to the SpellStar Supplemental Dictionary?

- A. *There is room on the dictionary disc for approximately 6,000 to 7,000 words. This allows a total of approximately 26,000 words for the combined Main and Supplemental Dictionaries.*

Q. Why does my printer seem to print more slowly when I use WordStar?

- A. *The WordStar program is designed to print at a speed that insures the printer buffer won't overflow. The 3.3B and 3.3A versions of WordStar have been improved to increase printer speed. (Refer to "Program Updates" earlier in this article.) If you have version 3.30 of WordStar, you may increase the speed of only the primary printer with the following:*

-Run WINSTALL. Answer the questions as usual until you reach the INSTALLATION MENU. Instead of answering A, B, C or X, type in a + (plus sign).

-The program will ask for a confirmation, which is done by pressing return. It will then ask for a starting address. Respond with :HAVBSY followed by a return.

-The WINSTALL program will respond that this corresponds to address 7CA. It will ask if this is the response you want. It is, so answer YES.

-The WINSTALL program will display the address, its current value (which should be 00), and will ask for a new value. Type in FF then press return.

-WINSTALL will then ask for a value to put in the next address. Nothing else should be changed, so enter a period (.) followed by a return.

-WINSTALL will now give you a chance to get back to the INSTALLATION MENU by entering an X. Do this now, and make any other changes if desired, then save the changes as usual.

Q. How do I add SpellStar and MailMerge to my WordStar work disc?

- A. *SpellStar™ and MailMerge™ are not installable programs. They are WordStar utilities which are copied onto your WordStar work disc using the following procedure:*
- Place your WordStar work disc in drive A
 - Place the SpellStar or MailMerge disc in drive B
 - Select the function key File Options
 - Select the function key Copy File
 - For SpellStar, copy the files SPELSTAR.OVR and SAMPLE.TXT
 - For MailMerge, copy the file MAILMERG.OVR
 - The SpellStar Dictionary (SPELSTAR.DCT) should be copied to another disc.

Q. When I output from WordStar, why do I get scrambled printout?

- A. *This occurs when WordStar is first run but the printer is not correctly configured. To fix this, you need to run the WINSTALL procedure as outlined in the WordStar Self-Paced Training Manual, Appendix A (Installation Procedures), Page A-9.*

Q. Can subdirectories be accessed through WordStar?

- A. *No. WordStar does not utilize subdirectory capabilities at this time.*

Q. Is there a way to save certain margins and tabs with my WordStar file so that I don't have to figure out which values I used each time and then individually reset them?

- A. *Yes, just create your own ruler:*
First, create a comment line in the file by placing two dots (periods) starting in the first column.
Enter a Control P (^P) and then press Return. The cursor will immediately move to the next line, and a hyphen will appear in the flag column (extreme right hand column of your screen). This hyphen indicates that the line the cursor is on will overprint the line above it.

Starting at the current position (first column of the line below the double dots), enter hyphens (-), exclamation points (!), and pound signs (#) to represent spacing, tabs and margins for the ruler you want.

For example:

```

..
-----!-----!!-----#-----!----->
>
>
>

```

Once you have this ruler line in your file, simply move the cursor anywhere on the sample ruler and type Control OF (^OF). The actual ruler at the top of the WordStar screen will change to reflect the ruler in your file.

To set margins from previous text: If you are not concerned with tabs and have previously entered text material that has the margins you want, you can place the cursor on any line of this text and type Control OF (^OF). The right and left margins will immediately change to match those of the line that the cursor is presently located on. Tabs will remain unchanged.

Software Problem Reports

**WordStar/150
Original Version—3.30**

Problem: When printing on a bidirectional printer, the left margin sometimes disappears.

Workaround: Turn off the bidirectional print (.BP OFF) or change your text line count to an odd number by changing either the margin width or the page length. In a short letter, printing the page with the margin problem separately will produce a correctly printed page. **Fixed in version 3.3B.**

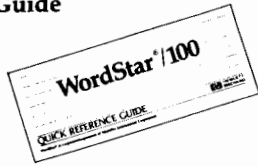
Manual Corrections

**WordStar Installation Guide
First Edition—9/83**

Page 1-2. "Copying Wordstar." Change the file called WSU.COM to WS.COM.

Page 1-3 through and including 1-5. Incorrectly lists the steps for running WINSTALL Program. For the correct procedure, refer to the *Self-Paced Training Manual*, Appendix A ("Installation Procedures").

**Quick Reference
Guide**



WordStar/150 Quick Reference
Guide 45400-90000

-
- Communicator Articles**
- “Two-column Print in WordStar” Issue #5
 - “WordStar Quick Tips and Defaults” . . . Issue #5
 - “WordStar/100 Multiple Column
Print Update” Issue #6
 - “WordStar Microspace Justification” . . . Issue #7
 - “Configuring WordStar/150 for your
Printer” Issue #7

Books

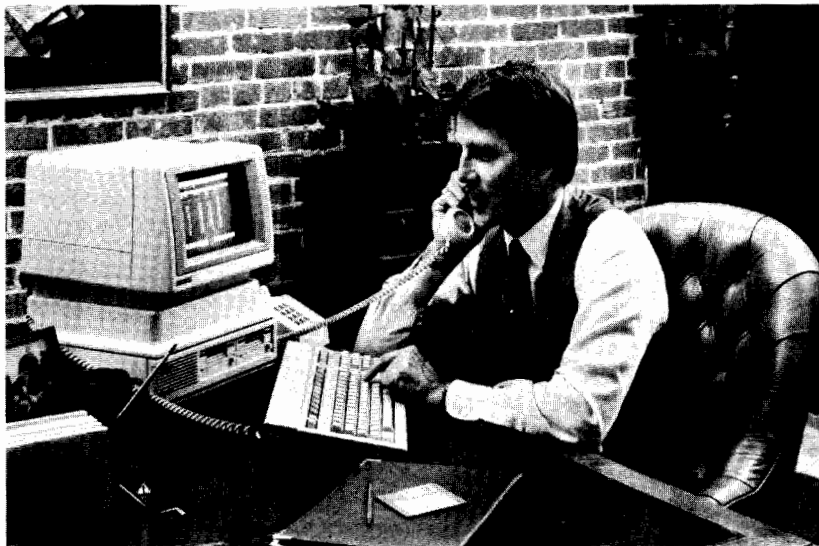
**Writing in the Computer Age: Word Processing
Skills and Style for Every Writer**
Fluegelman and Hewes;
Anchor Press/Doubleday, 1983
HP Product Number 92233N

-
- Courses**
- *WordStar/150*
The WordStar workshop will help you get started with word processing and its many capabilities. By the end of the workshop you will know how to start WordStar, create a new document, and then edit, save and print documents.
35123B (½ day)
 - *MailMerge and SpellStar/150*
As a follow-on to WordStar this workshop shows you how to merge files as well as proof your text using SpellStar’s 20,000 word dictionary. In practice sessions, you will learn how to create a mailing list database and then combine this with text files to print customized letters and memos. The majority of WordStar’s dot commands are explained and illustrated.
35123C (½ day)
 - *WordStar/100 and MailMerge/SpellStar/150 are available as a single unit.*
35123A (1 day)

We stand behind every product we sell—including not only the software developed by Hewlett-Packard but also the industry-standard software packages we provide.

The level of capability provided by advanced personal computer software—together with the rapid evolution of this field—means that you will occasionally have questions which are not answered in the product manuals or in the *Communicator*.

Depending on how your system is purchased and how it is used, the optimum source of assistance may be Hewlett-Packard, your dealer, or your own organization—as given on the next page:



Your Direct Line to Hewlett-Packard



To provide answers to your questions on software distributed by Hewlett-Packard, HP's Phone-In Software Assistance service is available to you at no charge. You call a Phone-In Software Assistance Center in your region or country; a phone-in coordinator determines the type of question and arranges for the appropriate HP support representative to call you. Using a full set of Series 100 software and documentation— together with computer knowledge, problem-solving skills, and access to further assistance via HP's worldwide telecommunications network—the support representative works with you to resolve your question.

For assistance *before* your purchase:

–In the U.S., call 800/FOR-HPPC (800/367-4772)

–In Canada, call 800/387-3867

–In other countries, call your HP Sales and Service Office—ask for "Personal Computer Sales."

For assistance *after* your purchase:

–In Australia, call 008/033-055.

–In Canada, call 1-800/267-6115.

–In the U.K., call 0344-54123

–In the U.S., call 800/HPCOACH (800/472-6224)

–In other countries, call your HP Sales and Service Office—ask for "Personal Computer Phone-In Assistance."

Assistance via CompuServe



HPCOACHLINE, a 24-hour electronic bulletin board on CompuServe, is now available for use by HP personal computer users. In addition to accessing the "Answers to the Most Frequently Asked HP 150 Questions" document in an on-line form, users may post questions to HPCOACH instead of calling the telephone number. HPCOACH personnel monitor the HPCOACHLINE for these questions and respond in the most effective manner, oftentimes posting the answers for other HPCOACHLINE users to view.

To access HPCOACHLINE, you must have an account with CompuServe (you are billed for connect time to CompuServe) and can operate over 300 or 1200 baud modems. HPCOACHLINE is part of a set of services provided to HP users by CompuServe.

The "Standard Plus" class of membership in Interex, the International Association of Hewlett-Packard Computer Users, includes a subscription to CompuServe's Executive Information Service. For details on Interex, refer to the next article—"User Group" in this *Communicator*.

Assistance from Your Local Dealer

If your system is purchased from a dealer or system house, they have worked with you to define your application and configure your system—perhaps selecting software or peripherals not supplied or supported by Hewlett-Packard. Here, your dealer is the best source of assistance—knowing you, your needs, and your configuration well. Of course, your dealer is backed up by special support resources within HP.

Optimized Assistance from Your Own Organization

If yours is a large organization using Series 100 systems in a networking environment, the best software support source may be your central MIS, office automation, or data processing department. They have full knowledge of your organization's overall system: your internally developed programs, your unique operating and networking procedures . . . plus your specific hardware and software configuration. The central support personnel, in turn, can call on special resources within Hewlett-Packard.

Software from Third Parties

Some Series 100 software packages were designed by other companies but are marketed and supported by Hewlett-Packard. There are many other products for the Series 100 which are marketed by independent organizations—referred to as "third parties" or "independent software vendors." Support for these products comes from the software vendor or the dealer who supplied the software.

Are You a Third Party Software Developer?



If you are interested in marketing software you have developed for HP personal computers, participate in the software submissions program. This program enables you to promote your software through the HP Software Catalog. For more information:

- In the U.S., call 408/773-6332.
- In other countries, call your HP Sales and Service Office—ask for "Personal Computer Sales."

**Assistance for
HP Internal Users**



Each HP division or office has an Office Automation Coordinator, usually part of the finance department. Please contact your O.A.C. for personal computer training and assistance.

Get in Touch



To get in touch with HP 150 Touchscreen, HP 120/125, and Portable owners in your area—and worldwide—join Interex, the International Association of Hewlett-Packard Computer Users. Interex is an independent group of HP computer users, with chapters and regional groups in 21 countries.

Start a Local Chapter

Local Interex Personal Computer chapters are now forming—contact Interex headquarters for details on joining or starting a group in your area. Ask for the pamphlet “Starting a Regional User Group.”

Membership



There are two levels of membership available:

- **Standard Membership** includes a subscription to the John Wiley magazine *Professional Computing*; plus a subscription to *Intercom*, the Series 100 newsletter; and one disc from the Interex Contributed Software Library.

Standard Membership:

North America	\$50
Outside North America	\$100

(U.S. Funds)

- **Standard-Plus Membership**, available to users in North America, includes all the Standard Membership services *plus* a subscription to CompuServe’s Executive Information Service.

CompuServe’s electronic communication network allows you to access an on-line Special Interest Group for HP users—which includes a bulletin board, software downloading, online conferencing, the *Intercom* newsletter, and the HPCOACHLINE link to HP’s Personal Software Assistance Center (explained in the previous section.)

Your Standard-Plus Interex Membership gets you started with a CompuServe Executive Information Service account and documentation ... plus 2 hours of daytime connect time on the network; CompuServe bills you directly for additional on-line time. (If you already subscribe to CompuServe, then you have all you need to access the Interex online services.)

Standard Plus Membership:

North America	\$100
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Not available outside North America

How to Join

To join, fill out the form on the next page.

For more information, contact:

Interex Membership Department
Fourth Floor
2570 El Camino Real West
Mountain View, CA 94040
U.S.A.
(Telephone 415/941-9960)

U.K. residents may contact the HP 100 Users
Group in England:

Tim Cullis
HP 100 Users Group
69 Grasmere Gardens
Harrow Weald, Middx.
HA3 7PS England

Are you currently an HP 1000 or HP 3000 Interex member?

No Yes, Membership # _____

Please send more information about Interex's other activities:

HP 1000 HP 3000

I understand that no membership dues will be refunded after the contributed software library disc has been sent from Interex.

Signature _____ Date _____

Send this page with your full payment to:

Interex
Bank File #61054
P.O. Box 60000
San Francisco, CA 94160
U.S.A.



John Wiley and Sons publishes the *Hewlett-Packard Software Catalog*. It describes over 250 of the software products that are currently available for the HP 150. Most of the products are from independent software vendors, so the catalog also includes information on ordering the software, how it is supported, and what training is available from the vendor.

The Catalog (ISBN 0 471 81912-3) is available at your HP dealer—or it may be ordered from the publisher at 800/526-5368 (201/342-6707 in New Jersey). Outside the U.S. write to: John Wiley and Sons, 605 Third Ave., New York, NY, 10158.

HP personnel should order the Catalog as part number 5953-5880 from the PCG Literature Distribution Center, Corvallis—Comsys 3900.

The *Series 100 Communicator* is the heart of the support program for The Portable, the HP 150 Touchscreen, and the HP 12x.

This publication contains articles on how to best use your system—plus each issue includes sections of the “Series 100 Encyclopedia.”

The “Series 100 Encyclopedia” brings together all the current information you need, in addition to the manuals, for each of the software packages that you use. New and revised Encyclopedia articles are sent to you as part of the *Communicator*.

You can order a subscription just as you order supplies and accessories—through your dealer, by using HP’s special telephone orderlines, or through your local HP office. (See the “How To Order” section in this insert for the special HP telephone number for your area.)

- Series 100 *Communicator*—
 - U.S. Edition 45530A
- Series 100 *Communicator*—
 - Canada/Mexico 45530B
- Series 100 *Communicator*—
 - International 45530C

(Subscriptions outside the U.S. are sent by accelerated mail.)

Note: We are unable to start your subscription with an issue which has already been mailed; to complete your set of Communicator issues, order individual copies as described in the next section.

Address Corrections for Communicator Subscribers	Change the information on the mailing label by sending us the Change of Address form which appears at the end of this Current Information Insert. Allow 6 to 8 weeks for the change to take effect.
HP Internal Users	Have your purchasing department enter an I2 order on HP division A5 (CSO).
HP Employees	Check with the Employee Computer Program Coordinator in your personnel or purchasing department for Computer Supplies (CSO) ordering instructions.

Ordering *Communicator* Back Issues



The application information, operational tips, and programming techniques included in the *Communicator* make back issues valuable—to increase your productivity and improve your system knowledge.

To order, refer to the "How to Order" section at the end of this insert.

HP 120 and HP 125

Issues #1 through #6 cover primarily the HP 12x. (8½" x 11" page size.)

Issue #1 includes the following major articles:

- "Single and Multi-line Page Headings with Word"
- "Searching for Enhanced Text in Word"
- "Making Invisible Characters Visible in Word"
- "Directory Scrolling in VisiCalc"
- "Sending Escape and Control Codes to a Printer from VisiCalc"
- "Warning: PASCAL"
- "Things you should Know About Random Access Files"
- "HP 9895 to HP 9135 File Transfer"
- "Electronically Reading a Disc Reference Number"

Communicator Issue #1 5955-3937*

Issue #2 includes the following major articles:

- "Making Graphs from VisiCalc Worksheets"
- "Word and VisiCalc Go Together"
- "Printing Formulas from VisiCalc Worksheets"
- "Printing Multiple Copies From Word"
- "More on Search and Replace in Word"
- "Chaining from One Executable Program File to Another"
- "A BASIC Subroutine Library"
- "Sort and Back Up Operations with Large Data Bases"
- "Using COPY DISC to Back Up Data Files on Drive B"
- "Computing Internal Rate of Return in VisiCalc"

Communicator Issue #2—U.S. 5955-3943*

Communicator Issue #2—Intl. 5955-3947*

Issue #3 includes the following major articles:

- "Disc Formats on the HP Series 100"
- "Non-CP/M Programs—Will They Run?"
- "Long Documents with Series 100/Word"
- "Series 100/Word: Y Table Gymnastics"
- "Using Graphics to Your Advantage"
- "Condor Tips"
- "Adding Your Application Program to the WELCOME Menu"
- "Using Softkeys on Non-HP Systems"
- "Changing Printer Characters"
- "Using The HP 2121 Disc Drive with Your HP 125A"

Communicator Issue #3 5957-6213*

Issue #4 includes the following major articles:

- "International System Summary"
- "Condor News"
- "Comparing BPI and Peachtree Accounting"
- "Printing Mailing Labels from Condor"
- "More on HPMail and the Series 100"
- "File Transfers Using PIP"
- "Accessing a Plotter from BASIC"

Communicator Issue #4—U.S. 5957-6204*

Communicator Issue #4—Intl. 5957-6214*

Issue #5 includes the following major articles:

- "Enhanced Installation Program Available"
- "Video Display Interface for the HP 125"
- "Comparing Condor and dBASE II"
- "Sending Escape Codes to Printers from WordStar and Condor"
- "Interchangeability of Word and WordStar Text"
- "Two-Column Print in WordStar"
- "WordStar Quick Tips and Defaults"
- "Getting VisiCalc to Round Dollar Values to Two Places"
- "Word: Wandering HP 2601A Printer Margins with the Sheet Feeder"
- "DSN/Link: Enhanced File Transfer Capabilities over Link/125"
- "Connecting Two Series 100 Systems for ASCII File Transfer"
- "Transferring IMAGE/3000 Data to a Condor Database"

- “Transferring Data to the HP 2700 Color Graphics Terminal”
 - “Installing the Operating System on Your Fixed Disc”
 - “Using the HP 2631B HP-IB Printer with Series 100”
 - “Programming Challenge—Bypassing WELCOME”
- Communicator Issue #5—U.S. 5957-6205*
 Communicator Issue #5—Intl. 5957-6215*

Issue #6 includes the following major articles:

- “CSC Graphics Available on the Series 100”
 - “New Auto Shutter for 3½ inch Micro Flexible Discs”
 - “Introducing Enhanced DSN/Link”
 - “Microsoft BASIC Compiler”
 - “Using Block/Format on the Series 100”
 - “Correction—Printing Mailing Labels From Condor”
 - “WordStar/100 Multiple Column Print Update”
 - “Remote Access to the HP 125”
 - “Using the 92911A Bar Code Reader on the HP 125”
 - “Configuring the Series 100 for use with the Diablo 630 Printer”
 - “An Alternative to ALPHASORT for Series 100/Word”
- Communicator Issue #6—U.S. 5957-6206*
 Communicator Issue #6—Intl. 5957-6216*

HP 150 Touchscreen and HP 12x

Issues #7 and #8 cover primarily the HP 150 Touchscreen and HP 12x. (5½" x 8½" page size.)

Issue #7 includes the following major articles:

- “Transferring Files Between the HP 12x and HP 150”
 - “Data Compatibility Between HP 12x and HP 150 Applications”
 - “HP 12x: PIP, COPY, and BACKUP”
 - “Comparing VisiCalc and MicroPlan”
 - “WordStar Microspace Justification”
 - “Configuring WordStar/150 for your Printer”
 - “Condor Tips”
 - “Correction: Remote Access to the HP 120/125”
 - “BASIC/150: Block Mode Transfers”
 - “HP 12x BASIC Compared to HP 150 BASIC”
 - “Subtle Difference: HP 12x/150 BASIC and Other BASICS”
- Communicator Issue #7—U.S. 5957-6207*
 Communicator Issue #7—Intl. 5957-6217*

Issue #8 includes the following major articles:

- “HP 150 Goes Worldwide”
- “HP 12x Fixed Disc Support Now Available”
- “Future Plans for the HP 120 and HP 125”
- “Using Plotters with the HP 150”
- “Installing dBASE II on the HP 150”
- “Three-Column Print in Word/12x”
- “Plotting Condor Data with HP Graphics”
- “Transferring Data Between a Series 100 Computer and an IBM PC”
- “Accessing Plotters from BASIC/150”
- “BASIC: How Do You Make RND More Random?”
- “Install Your BASIC/150 Application in PAM”
- “Decrease BASIC/150 Debugging Time with Cross Reference Utility

Communicator Issue #8—Worldwide . 5957-6218*

**Portable, HP 150
Touchscreen, HP 12x**

Issues #9 and onward cover the Portable, HP 150 Touchscreen, and HP 12x. (5½" x 8½" page size.)

Additional copies of this current issue are available:

Communicator Issue #9—Worldwide . 5957-6219*

Binders

Three-ring binders are available to organize your *Communicator* back issues.

8½" x 11" page size; 1½" capacity 5955-3982

5½" x 8½" page size; 1¼" capacity;
with slipcover 5958-0209

**If 10 or more copies of a single Communicator issue are ordered from HP at the same time, the price is discounted by 25%.*



This section lists several personal computer books which we have found helpful.

For ordering information, refer to the "How to Order" section at the end of this Current Information Insert.

Applications

VisiCalc Programs Made Easy

Castlewitz; Osborne-McGraw Hill, 1983

For first-time users of VisiCalc, this step-by-step tutorial uses a series of "hands on" lessons that introduce the program's format and its many commands. In the final section, advanced uses and special tricks are covered that extend the capabilities of VisiCalc programs.

HP Product Number 92233Q

VisiCalc: Home and Office Companion

Castlewitz and Chisausky with Kronberg;
Osborne-McGraw Hill, 1982

A book for both beginners and experts. For the novice, it contains 50 models that can be used immediately for personal and business applications. For the experienced user, it is a source of new ideas and techniques. Arranged by application, the book provides models for loans and investments, advertising and sales, inventory control, personnel, household aids, and more. Each model includes the VisiCalc entry grid, a descriptive narrative, and sample printed report.

HP Product Number 92233Z

Writing in the Computer Age: Word Processing Skills and Style for Every Writer

Fluegelman and Hewes;
Anchor Press/Doubleday, 1983

This book demystifies word processing and explains how it can be the ultimate tool in creating and refining your work. Topics include: hardware and software—what they are and what they do; the mechanics of working on word processors; screen and print formatting; setting up, organizing, and maintaining file systems; techniques for editing and polishing; styles and strategies; and more. This is a generic book on word processing that thoroughly covers the subject without being directed at any one word processor.

HP Product Number 92233N

**Everyman's Database Primer:
Featuring dBASE II**

Byers; Ashton-Tate, 1982

Written for the novice, this book is a tutorial on relational database management systems on a personal computer. It features dBASE II™ as the database management system used to illustrate the main points.

HP Product Number 92233R

**Data Base Management Systems:
A Guide to Microcomputer Software**

Kruglinski; Osborne-McGraw Hill, 1983

This book provides an introduction to data bases on personal computers. It presents information which will enable you to select a data base management system to meet your requirements. A number of packages are examined in detail—including Condor and dBASE II.

HP Product Number 92234A

**HP 12x System
Management**

CP/M User Guide

Hogan; Osborne-McGraw Hill, 1981

Written for all levels of expertise, this book introduces the reader to CP/M's function within a microcomputer system as well as the use of built-in and transient commands, assembly language utilities, high-level languages and applications programs.

HP Product Number 92233Y

Networking

**Touring Datacomm:
A Data Communications Primer**

Hewlett-Packard, 1983

This is an introductory text which guides you through the basic concepts of data communications. It begins with a discussion of simple communications concepts and gradually introduces increasingly more complex topics. Topics include hardware and software; transmission methods and channels; line configurations and interfaces; signal conversion; multiplexing; common carrier services; and networks. Designed for readers with little or no previous knowledge of data communications.

HP Product Number 5957-4622



Computer Networks

Tenanbaum; Prentice-Hall, 1981

This introduction to computer networks emphasizes network architectures and protocols from the physical layer to the application layer, and from local networks to satellite networks. No prior background in computer networks is assumed, though a general familiarity with computer systems and programming is desirable.
HP Product Number 92233V

Programming**BASIC For Home Computers**

Albrecht, Finkel, and Brown; Wiley, 1978

Teach yourself Microsoft™ BASIC with this step-by-step self-teaching guide. (Series 100/BASIC is a version of Microsoft BASIC.) This book is suitable for the novice who has never programmed before. Commands are explained using a short working program and then illustrated in a variety of applications.

HP Product Number 92234D

Microsoft BASIC

Knecht; Dilithium Press, 1983

This book is appropriate for a person who already programs in another version of BASIC or another language and who wants to learn this version of BASIC. This book is not as elementary as *BASIC for Home Computers* and it covers more of the advanced features of Microsoft BASIC.

HP Product Number 92234E

The Investor's Computer Handbook

Packer; Hayden Books, 1982

This book gives programs and examples directed toward the stock market, which are transferable to other types of dynamic markets and portfolios. Types of programs explained: portfolio management and trading, research filing and retrieval, chart generation and portfolio management. The demonstration programs are written in Microsoft BASIC.

HP Product Number 92234G

Training Courses



The Series 100 and its application programs are designed for ease of use and ease of learning. Classroom training courses can help your first-time computer users rapidly build confidence and gain new skills in a supportive environment away from the day-to-day job.

HP-Conducted Introductory Courses

Hewlett-Packard provides Series 100 training courses at HP Customer Training Centers using HP-provided equipment; they can also be taught by HP at your facility using your own systems. To order, call your HP Sales and Service Office.

■ *Introduction to Personal Computers*

For managers and professionals with limited knowledge of personal computers. Content: General personal computer usage including basic computer literacy, lots of hands-on use of VisiCalc[®], hands-on use of word processing and graphics; summary of how PCs can work for you.

35119A (1 day)

■ *Getting Started With the Portable*

If you're a novice computer user interested in learning how to use the HP Portable, this workshop is for you. It includes instruction on P.A.M., MemoMaker, and Terminal, along with an introduction to Lotus[™] 1-2-3[™] and Personal-Desktop Link. You'll get hands-on experience with the computer, the built-in applications, and HP-IL peripherals.

35036C (1 day)

■ *Getting Started with your HP 150*

This workshop was created especially for beginners—so your first experience with your new computer will be a positive one. You'll learn how to define basic computer terms, start up the system, handle discs properly, prepare new discs, and install application software.

35036A (1 day)

This course, or equivalent knowledge, is a prerequisite for all applications and programming training on the HP 150.



■ *HP 12x User Course*

For any user of the HP 120/125. Content: Introduction to the HP 12x and the use of Word/12x; second day covers Graphics/12x, VisiCalc/12x, and DSN/Link/12x.

35042B (2 days)

This course, or equivalent knowledge, is a prerequisite for all applications and programming training on the HP 12x.

**HP-Conducted
Application Courses**

We have structured the curriculum for maximum flexibility. You can attend whatever functional area course you want—spreadsheet analysis, word processing, data base management, or integrated software—without having to go through material you are not interested in. For further efficiency, *WordStar/150* and *Condor/150* are each divided into two modules, allowing you to choose the depth of understanding you wish to attain.

All of these classes stress hands-on work with the HP 150 during class time for maximum effectiveness.

■ *Introducing Lotus 1-2-3*

This introductory workshop familiarizes you with the features, worksheet, and command structure of Lotus 1-2-3. Using hands-on practice, you will learn how to create and format a spreadsheet; save a worksheet and print a report; create and use a database; and create, print, and plot a graph.

45688A (one day)

■ *VisiCalc/150*

A solid introduction to the elements of a VisiCalc worksheet is provided in this workshop. Participants will learn to create, edit and print worksheets, identify and use 16 commands, activate the function keys, and store and load worksheets.

35125A (1 day)

■ *WordStar®/150*

The WordStar® workshop will help you get started with word processing and its many capabilities. By the end of the workshop you will know how to start WordStar, create a new document, and then edit, save and print documents.

35123B (½ day)

■ *MailMerge and SpellStar/150*

As a follow-on to WordStar, this workshop shows you how to merge files with MailMerge™ as well as proof your text using the SpellStar™ 20,000 word dictionary. In practice sessions, you will learn how to create a mailing list database and then combine this with text files to print customized letters and memos. The majority of WordStar's dot commands are explained and illustrated.

35123C (½ day)

■ *WordStar/150 and MailMerge/SpellStar/150 are available as a single unit.*

35123A (1 day)

■ *Condor/150 20-1*

This workshop will introduce you to Condor™—an easy-to-use, yet powerful database management system. After you understand what a database system is you'll learn how to use one by designing a form for entering data, creating a simple dataset, editing information, sorting and creating simple reports, and reorganizing a dataset.

35124B (1 day)

■ *Condor/150 20-3*

The Condor 20-3 workshop will provide you with in-depth experience using Condor's advanced database management and report writing capabilities including indexing a new or existing dataset, joining unlike datasets, creating, printing and revising reports, and creating and running a help screen and command procedure.

35124C (½ day)

■ *Condor/150 20-1 and 20-3 can be ordered as a single unit.*

35124A (1½ days)

■ *HP 150 Applications: Sharing Information*

Because you may use the same information in different ways, this workshop was created to teach you how to pass information from one software application to another. The following applications are covered: Condor, PCF, MailMerge, MemoMaker, SpellStar, WordStar, Graphics, and WordStar.

35037A (½ day)

**HP-Conducted
Programming Courses**

Refer to "Books on Personal Computing", just before this section, for self-study texts on programming.

- HP 12x Programmer training is provided by the *HP 12x Program Development Course*, which covers CP/M®, the specifics of Series 100/BASIC, and the assembly language. This course is designed for those who have programming experience in both BASIC and an assembly language.

34043A (5 days)

**HP Customized
Training**

These courses can be taught at your facility using your own systems—or training to suit your specific needs can be designed and given through HP's Personal Computer Applications Engineering Consulting Service. Contact your HP Sales and Service Office for details.

**Dealer-Conducted
Courses**

Many HP Personal Computer Dealers teach similar courses or arrange for a Hewlett-Packard instructor to teach courses in your area. Contact your dealer for details.



Here are lists of the software packages currently available from HP. There are two tables:

- Portable and HP 150 Touchscreen
- HP 120/125

*Hewlett-Packard
Software Catalog*



For information on software packages supplied by other vendors, refer to the *Hewlett-Packard Software Catalog*.

Published by John Wiley and Sons, this book describes over 250 of the software products that are currently available for the HP 150. Most of the products are from independent software vendors, so the catalog also includes information on ordering the software, how it is supported, and what training is available from the vendor.

The Catalog (ISBN 0 471 81912-3) is available at your HP dealer—or it may be ordered from the publisher at 800/526-5368 (201/342-6707 in New Jersey). Outside the U.S. write to the publisher at 605 Third Ave., New York, NY, 10158.

**Portable and
HP 150 Touchscreen
Software Available
from HP**

Disc size.

This software is provided on 3.5" microfloppy discs.

U.S. software on localized systems.

To determine which U.S. products are recommended for use with localized HP 150 systems, check with your dealer or HP office.

Multinational versions.

For most products that are distributed in several languages, the standard "A" product supports 8-bit operation and the international keyboards. For international products that do not support 8-bit operation directly, we provide a version with a "B" second suffix. For instance, a multinational company which wants to exchange WordStar documents between HP 150s located in the U.S. and the U.K. should order 45400AB.

Name	Product Number	System		Notes*
		Portable	HP 150 Touchscreen	
Word Processing:				
WordStar®	45400A		Touch	
	45400AB U.K. (8-bit)		Touch	3
	45400AD German		Touch	
	45400AF French		Touch	
	45400AH Dutch		Touch	
	45400AN Norwegian		Touch	
	45400AS Swedish		Touch	7
	45400AU (order HB)		Touch	2
	45400AX Finnish		Touch	
	45400AY Danish		Touch	
MailMerge™	45401A		•	
	45401AB U.K. (8-bit)		•	8
	45401AD German		•	
	45401AF French		•	
	45401AH Dutch		•	
	45401AN Norwegian		•	
	45401AS Swedish		•	7
	45401AU (order AB)		•	2
	45401AX Finnish		•	
	45401AY Danish		•	
SpellStar™	45402A		•	
WordStar/ MailMerge/ SpellStar	45404A		Touch	
MemoMaker	45420A	Built-in	Touch	8
	45420AA Afrikaans		Touch	
	45420AD German		Touch	
	45420AE Spanish		Touch	
	45420AF French		Touch	
	45420AH Dutch		Touch	
	45420AN Norwegian		Touch	
	45420AS Swedish		Touch	
	45420AU (order A)		Touch	3
	45420AX Finnish		Touch	
	45420AY Danish		Touch	
	45420AZ Italian		Touch	

*See notes at end of table

Name	Product Number	System		Notes*
		Portable	HP 150 Touchscreen	
Electronic Spreadsheets:				
Microplan™	45465A		Touch	1
Microplan Consol.	45466A		•	1
Multiplan™	45473D	•	Touch	
	45473A International		Touch	
Context MBA™	45481A		Touch	1
Lotus™ 1-2-3™	45482A	Built-in	•	1
VisiCalc®	45405A		Touch	4
	45405AA Afrikaans		Touch	4
	45405AD German		Touch	4
	45405AE Spanish		Touch	4
	45405AF French		Touch	4
	45405AH Dutch		Touch	4
	45405AN Norwegian		Touch	4
	45405AS Swedish		Touch	4
	45405AX Finnish		Touch	4
	45405AY Danish		Touch	4
	45405AZ Italian		Touch	4
Computation and Analysis:				
Financial Calculator	45423A		Touch	
	45423AE Spanish		Touch	
	45423AF French		Touch	
	45423AX Finnish		Touch	
Data Bases:				
Personal Card File	45422A		Touch	8
	45422AA Afrikaans		Touch	
	45422AD German		Touch	
	45422AE Spanish		Touch	
	45422AF French		Touch	
	45422AH Dutch		Touch	
	45422AN Norwegian		Touch	
	45422AS Swedish		Touch	
	45422AU (order A)		Touch	3
	45422AX Finnish		Touch	
	45422AY Danish		Touch	
	45422AZ Italian		Touch	

*See notes at end of table

Name	Product Number	System		Notes*
		Portable	HP 150 Touchscreen	
Condor™ 20-1	45415A		Touch	1
Condor 20-3	45416A		Touch	1
Condor Upgrade	45417A		Touch	1
dBASE II®	45468D	•	•	
	45468A International		•	
	45468AD German		•	5
	45468AF French		•	5
PFS:®File & Report	45488A		Touch	
DataFax™	45408C	•		
Accounting Systems:				
BPI General Accounting	45455A		•	
BPI A/R	45456A		•	
BPI A/P	45457A		•	
BPI Job Cost	45461A		•	
BPI Inv. Control	45460A		•	
BPI Personal Acctng	45459A		•	
Programming:				
BASIC Interpreter	45445D	•	•	
	45445A International		•	
BASIC Compiler	45446D	•	•	
	45446A International		•	
Pascal	45447D	•	•	
	45447A International		•	
COBOL	45448A		•	
FORTRAN	45449A		•	
GW™ BASIC	45450A		•	
Cross Reference Utility	92248BA		•	
Programmer's Tools	45419C	•		

*See notes at end of table



Name	Product Number	System		Notes*
		Portable	HP 150 Touchscreen	
Graphics:				
Picture Perfect™	45462A		Touch	
Diagraph™	45463A		Touch	
S/100 Graphics	45410A		Touch	8
	45410AA Afrikaans		Touch	
	45410AD German		Touch	
	45410AE Spanish		Touch	
	45410AF French		Touch	
	45410AH Dutch		Touch	
	45410AN Norwegian		Touch	
	45410AS Swedish		Touch	
	45410AU (order A)		Touch	
	45410AX Finnish		Touch	
	45410AY Danish		Touch	3
	45410AZ Italian		Touch	
GraphPlan™	45467A		Touch	
GraphWriter®	45484A		Touch	
Communications:				
DSN/Link	45425A		Touch	8
	45425AB U.K. (8-bit)		Touch	
	45425AD German		Touch	
	45425AE Spanish		Touch	
	45425AF French		Touch	
	45425AH Dutch		Touch	
	45425AS Swedish		Touch	
	45425AU (order AB)		Touch	
	45425AX Finnish		Touch	2
	45439A		Touch	
Monitor/IBM PC	45439A			6

*See notes at end of table

Name	Product Number	System		Notes*
		Portable	HP 150 Touchscreen	
Entertainment:				
Adventure: The Original by Crowther and Woods	92243AA		Touch	
BARON: The Real Estate Simulation™	92243KA		Touch	
Cyborg	92243NA		Touch	
Deadline™	92243VA	•	•	
Enchanter™	92243UA	•	•	
Infidel™	92243WA	•	•	
Milky Way Merchant	92243BA		Touch	
MILLIONAIRE: The Stock Market Simulation™	92243JA		Touch	
Planetfall™	92243PA	•	•	
Ricochet™	92243GB		Touch	
SARGON III	92243MA		•	
Starcross™	92243DA	•	•	
Suspended™	92243FA	•	•	
Temple of Apschai™	92243GA		Touch	
Touch Games I	92248AA		Touch	

Name	Product Number	110	150	Notes*
TYCOON: The Commodity Market Simulation™	92243HA		Touch	
Type Attack™	92243EA		Touch	
Winning Deal	92248CA		Touch	
The Witness™	92243QD	•	•	
Zork® I	92243CA	•	•	
Zork® II	92243RA	•	•	
Zork® III	92243TA	•	•	

*See notes at end of table

Notes

- 1—Not available in international languages. Product supports 7-bit ASCII character set.
- 2—Product renumbered. No change to the software. Order with "AB" suffix.
- 3—Product renumbered. No change to the software. Order with "A" suffix.
- 4—Total 512K memory recommended.
- 5—Product is available with international language manuals and screen messages and works with the character set of that language.
- 6—Monitor/IBM PC works with either 45425A, 45425AB, or 45425AU, and also with DSN/Link for the HP 120/125 computers, 45534B. Supplied on a 5.25", IBM-formatted disc. Requires 128K of RAM on the IBM PC.
- 7—Supplied with English reference manual and translated self-paced training manual.
- 8—Recommended for multi-national data exchange between 7-bit and 8-bit systems.

**HP 12x Software
Available from HP**

Although the HP 120 and HP 125 are no longer in production, the complete set of software products is available.

HP 12x Application Software	Product No.†
VisiCalc®/12x	45531B
Graphics/12x	45532B
Word/12x	45533B
DSN/Link/12x	45534B
BASIC/12x	45535A
Programming Package/12x	45536A
Condor™ 20-1/12x**	45550A
Condor 20-2/12x**	45550E
Condor 20-3/12x*	45550H
Condor 20-1 to 20-2/12x Upgrade Kit**	45550K
Condor 20-2 to 20-3/12x UPgrade Kit*	45550N
Condor 20-1 to 20-3/12x Upgrade Kit*	45550P
BPI General Accounting/12x*	45552A
BPI Payroll/12x*	45553A
WordStar®/12x	45560A
SpellStar™/12x*	45561A
MailMerge™/12x*	45562A
Picture Perfect™/12x*	45603A
MicroPlan®/12x*	45670A
MicroPlan Consolidation/12x	45671A

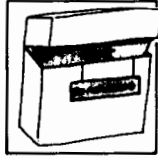
**Standard CP/M
Application Software for
the HP 12x**

Milestone™	45580A
Datebook II™	45581A
Personal Datebook™*	45582A
dBASE II™	45583A
Aardvark Professional Tax Plan	45585A
Aardvark Personal Tax Plan	45586A
Peachtree General Ledger*	45589A
Peachtree Accounts Receivable*	45590A
Peachtree Sales Invoicing*	45591A
Peachtree Inventory Control*	45592A
Peachtree Accounts Payable*	45593A
PeachPay™ Payroll*	45594A

* Not supported on single disc drive system

** Not recommended for use on single disc drive system

† Media option must be specified with product number
(630 for 3.5" disc; 650 for 5.25" Disc)



This section lists the software exchange kits available for the Portable, the HP 120/125, and the HP 150. These kits contain the latest software and any manual updates issued since the original release. Exchange kits are provided at a nominal charge—your original master disc is returned as proof of purchase (you continue operating as usual with your work copy of the software).

Software Exchange Kits are provided for three different purposes:

- **Update.** Software is revised as needed to add new features, to work with new peripherals, or to correct problems. You may update your program and manuals at a nominal cost by ordering the appropriate Software Exchange Kit.

The Encyclopedia article for your product gives details on the capabilities added or problems fixed in the latest version.

- **Upgrade.** When major features are added to a software product, you may order a Software Exchange Kit at a low cost—“trading-in” your older version for one with the latest capabilities and documentation.

The Encyclopedia article for your product gives details on the new features.

- **Media Replacement.** The master-copy/work-copy technique used by the Series 100 is designed to minimize the risk of damage to your master software due to handling or human error. Should this occur, Software Exchange Kits are available at a nominal charge. If the product has been updated since your original purchase, the Exchange Kit contains the latest version plus any manual updates issued since the original release.

Ordering

To order:

- In the U.S., Software Exchange Kits are available through your HP Dealer or they may be ordered by mail from HP's Computer Supplies Distribution Center using the form given later in this magazine.
- Outside the U.S., contact your HP Dealer or HP Sales and Service Office for details.

For each kit ordered, along with your payment submit one corresponding original master disc. This is the disc with the HP software product number and description printed on the label.

Be sure to make working copies before sending your master disc.

To determine the price for a kit, contact your dealer or HP office—or call the HP telephone order number for your country. (See the "How to Order" section later in this Current Information Insert.) Orders submitted without the correct master disc cannot be accepted.

If 20 or more copies of a single Software Exchange Kit are ordered at the same time, the price is discounted by 35%; no other discounts apply to these kits.

Refer to the tables on the next pages for Exchange Kit part numbers.

HP Internal Orders

For HP Internal Orders of Software Exchange Kits, return the original master discs to:

Software Product Marketing, Building 78
or Hewlett-Packard
Attn: Software Product Marketing
P.O. Box 60008
Sunnyvale, CA 94088

Reference your HP Internal Order number on the package.

Products not Listed

Since entertainment software packages are low-priced, there are no corresponding exchange kits. Re-order the original product to replace damaged media.

For information on other products not listed, contact your Phone-In Software Assistance Center (In U.S.—800/HP COACH).

**Portable and HP 150 Touchscreen
Software Exchange Kits**

Product	Version	Order Part Number†	System		Code, Notes
			Portable	HP 150 Touchscreen	
HP 150 Operating System:	*A.01.03	45621-63001		●	B
Sys Master Disc	A.01.03				
P.A.M.	A.01.02				
HPBIOS	A.01.02				
MSDOS	2.01				
MSDOS	2.10				
COMMANDS					
FORMAT	A.01.05				
DEV CONFIG	A.01.00				
Appl Master Disc	A.01.01				
COPY/BACKUP	A.01.05				
INSTALL	A.01.03				
SET UP P.A.M.	A.01.03				
Tutor-A					
Tutor-B					

Product	Version	Order Part Number†	System		Code, Notes
			Portable	HP 150 Touchscreen	
BASIC Interpreter	A.05.28	45445-63002	●	●	A
BASIC Compiler	A.01.00	45446-63002	●	●	A
BPI General Acctg.	A.01.11	45455-63001		●	C
BPI Personal Acctg.	A.01.11	45459-63001		●	C
BPI Accounts Rec.	A.01.11	45456-63001		●	C
COBOL	A.01.00	45448-63001		●	A
Computer Tutor (see HP 150 Operating System)					
Condor 1	*A.02.11	45415-63002		●	A
Condor 3	*A.02.11	45416-63002		●	A,1
Context MBA	A.02.03	45481-63001		●	A
Data Fax	A.01.00	45408-63001	●		A
dBASE II	*A.2.41	45468-63001	●	●	A
Diagraph	A.03.00	45463-63001		●	B
DSN/Link	A.01.01	45425-63001		●	A
Fin. Calc.	n/a	n/a			2
FORTTRAN	A.01.00	45449-63001		●	A

Product	Version	Order Part Number†	System		Code, Notes
			Portable	HP 150 Touchscreen	
Graphics Bar Disc Pie Disc Line Disc Text Disc Examples Disc	*A.03.00	45410-63001		●	C
GraphPlan	1.00.T2	45467-63001		●	A
GraphWriter	A.01.00	45484-63001		●	C
GW BASIC	A.01.00	45450-63001		●	A
Lotus 1-2-3:					
System Disc	1.A	45482-63001		●	A
Printgraph/Util	1.A	45482-63002		●	B
Tutorial 1&2	1.A	45482-63003		●	B
MailMerge	A.03.30	45401-63001		●	A
MemoMaker	A.02.01	45420-63001		●	A
MicroPlan	4.04.T2	45465-63001		●	A
MicroPlan Consol.	4.04.T2	45466-63001		●	A
MultiPlan	A.01.10	45473-63001		●	A
Pascal	A.01.00	45447-63001		●	A
PCF	*A.02.01	45422-63001		●	A
Picture Perfect	A.03.00	45462-63001		●	B
PFS: File & Report	A.2.41	45488-63001		●	B
Prog. Tools/110	A.01.00	45419-63001	●		A
Prog. Tools/150	A.01.00	45435-63001		●	A
SpellStar	A.03.30	45402-63001		●	A
VisiCalc	*A.01.04	45405-63001		●	A
WordStar	*A.03.3B	45400-63001		●	A

See notes on next page.

Notes

*Revised since original release

†For each kit ordered, along with your payment submit one corresponding original master disc. This is the disc with the HP software product number and description printed on the label. Be sure to make working copies before sending your master disc.

To determine the price for a kit, contact your dealer or HP office—or call the HP telephone order number for your country. (See the “How to Order” section later in this Current Information Insert.) Orders submitted without the correct master disc cannot be accepted. If 20 or more copies of a single Software Update or Upgrade Kit are ordered at the same time, the price is discounted by 35%; no other discounts apply to these kits. If 5.25" Disc is required, please note this on your order. Otherwise 3.5" disc will be shipped, regardless of the size of your return master disc.

1—Either a Condor 20-3 disc or a Condor 20-1 to 20-3 Upgrade disc may be exchanged for the Condor 20-3 disc.

2—Low-priced software package. Re-order the original product to replace damaged media.

HP 12x Software Exchange Kits

Product	Version	Order Part Number†			Price Code, Notes
		3.5" Disc	5.25" Disc	8" Disc	
Op Sys/Util	*A.02.00	45900-13810	45900-15810	45900-18810	A,1
Op Sys/Util	*A.02.00	45900-13800	45900-15800	45900-18800	C,2,9
VisiCalc	*A.02.01	45531-13800	45531-15800	45531-18800	A,9
Graphics	*A.01.03	45532-13800	45532-15800	45532-18800	A,9
Word/12x	*A.02.03	45533-13800	45533-15800	45533-18800	A,9
Link/125	A.02.00	45534-13800	45534-15800	45534-18800	A,3
DSN/Link	A.01.01	45534-13820	45534-15820	45534-18820	A,4
DSN/Link	A.01.01	45534-13810	45534-15810	45534-18810	D,5
BASIC	A.05.21	45535-13800	45535-15800	45535-18800	A
Programming	A.01.00	45536-13800	45536-15800	45536-18800	A
Condor 20-1	A.02.00	45550-13800	45550-15800	45550-18800	A,8
Condor 20-2	A.02.00	45550-13801	45550-15801	45550-18801	A,6,8
Condor 20-3	*A.02.01	45550-13802	45550-15802	45550-18802	A,7,8
BPI G/A	A.01.00	45552-13800	45552-15800	45552-18800	B
BPI Payroll	A.01.00	45553-13800	45553-15800	45553-18800	A
WordStar	A.01.00	45560-13800	45560-15800	45560-18800	A
SpellStar	A.01.00	45561-13800	45561-15800	45561-18800	A
MailMerge	A.01.00	45562-13800	45562-15800	45562-18800	A
MicroPlan	A.01.00	45670-13800	45670-15800	45670-18800	A
MicroPlan Cons.	A.01.00	45671-13800	45671-15800	45671-18800	A

See notes on next page.



Notes

*Revised since original release.

†For each kit ordered, along with your payment submit one corresponding original master disc. This is the disc with the HP software product number and description printed on the label. Be sure to make working copies before sending your master disc.

To determine the price for a kit, contact your dealer or HP office—or call the HP telephone order number for your country. (See the "How to Order" section later in this Current Information Insert.) Orders submitted without the correct master disc cannot be accepted. If 20 or more copies of a single Software Exchange Kit are ordered at the same time, the price is discounted by 35%; no other discounts apply to these kits.

- 1—This kit is to *update* a Series 100 Op Sys. This kit contains the current Operating System disc, the current Utility Disc, the current Computer Tutor Disc, and all Owner's and Installation manual updates issued since the initial 5½ x 8" editions. (An *upgrade* kit to move from earlier HP 125 versions is available as part numbers 45900-13800, -15800, or -18800.)
For each kit ordered, return one original Series 100 A.01.20 Operating System disc. (This kit includes the current Utility and Computer Tutor discs—but only the Op Sys disc will have to be returned.)
- 2—This kit is to *upgrade* an A.01.10 version or an A.01.20 Operating System labeled "HP 125" (rather than "Series 100").
This kit contains:
 - The new 5½" x 8½" Owner's Manual, with slipcase.
 - The new 5½" x 8½" HP 125B Installation Manual, with slipcase.
 - Current Operating System disc, which includes the improved WELCOME utility, the single-disc COPY utility, and the single-disc INSTALL utility.
 - A Utility Disc, containing the new fixed-disc BACKUP utility.
 - The new Computer Tutor Disc, a computer-aided introduction to the 120/125 system for the first-time user.(If you have an A.01.20 Operating System labeled "Series 100", order part number 45900-13810, -15810, or -18810.)
For each kit ordered, return one original HP 125 Operating System disc. (This kit includes the current Utility and Computer Tutor discs—but only the Op Sys disc will have to be returned.)
- 3—This kit is to exchange your Link/125 disc for a Link/125 disc. (If you want to *upgrade* to Series 100 DSN/Link, order part number 45534-13810, -15810, or -18810).
- 4—This kit is to exchange your Series 100 DSN/Link disc for a Series 100 DSN/Link disc. (If you currently have Link/125, order part number 45534-13810, -15810, or -18810 to upgrade to Series 100 DSN/Link.) For each kit ordered, return one original Series 100/DSN/Link disc.
- 5—This kit is to *upgrade* Link/125 to Series 100 DSN/Link—including a second disc containing DSN/Monitor. For each kit ordered, return one original Link/125 disc.
- 6—Either a Condor 20-2 disc or a Condor 20-1 to 20-2 Upgrade disc may be exchanged for the Condor 20-2 disc.
- 7—A Condor 20-3 disc, a Condor 20-2 or 20-3 Upgrade disc, or a Condor 20-1 to 20-3 Upgrade disc may be exchanged for the Condor 20-3 disc.
- 8—To *upgrade* to Condor 20-3, order product 45550K, 45550N, or 45550P. See the "Software Available from HP" section in this Current Information Insert.
- 9—Exchange Kit includes complete new 5½" x 8½" manuals.



Here is a list of the most popular Series 100 supplies and accessories.

A full list of HP computer supplies matched to your system for optimum performance is shown in the *HP Computer User's Catalog*.

For ordering information—or to obtain a copy of the *User's Catalog*—refer to the "How To Order" section in this Current Information Insert.

Binders

5955-3982 8½" x 11" page size; 1½" capacity

5958-0209 5½" x 8½" page size, 1¼" capacity; with slipcover

(5½" x 8½" filler paper is available at your office supply store. The part numbers for one brand, National Blank Book, are 14-250 and 14-251—for plain and ruled paper, respectively.)

For Computers

■ The Portable

92221P RS232C Printer Cable, 1.5 meters
 92221M RS232C Modem Cable, 1.5 meters
 92222F RS232C Gender Converter, Female
 92222M RS232C Gender Converter, Male

■ HP 120 Personal Computer

13242H RS-232C Cable (use 13242-60011 for replacement)
 13269P Carrying Case (for HP 120 with short keyboard plus 9121 disc drive; or HP 120 with extended keyboard.)
 92171K Keyboard Park
 92171T System Turntable
 92240C Display Tilt Unit
 92240D Display Swivel Unit
 92250D Dust Cover
 92220R Right-Angle HP-IB Cable

■ HP 125 Personal Computer

92160A Thermal Paper, Blue Print (Box of 24 rolls)
 92160B Thermal Paper, Black Print (Box of 24 rolls)
 92171R Keyboard Palm Rest (for extended keyboard)
 92171T System Turntable
 92207A Anti-Glare Filter
 92250B Dust Cover

■ **HP 150 Touchscreen Personal Computer**

92160A	Thermal Paper, Blue Print (Box of 24 rolls)
92160B	Thermal Paper, Black Print (Box of 24 rolls)
92160C	Thermal Paper, (Page perforated, box of 24 rolls)
13242H	RS-232C Cable (use 13242-60011 for replacement)
13269C	Carrying Case (for HP 150 and 9121 disc drive)
92250F	Dust Cover
92171J	Large (extended) Keyboard Park
92240A	Light Gray Tilt Unit
92240B	Light Gray Swivel Unit
92220R	Right-Angle HP-IB Cable

For Disc Drives

■ **HP 82901M/S, 82902M/S, 9130A, 9135A 5.25 inch Disc Drives**

92251A	Dust Cover (82901M/S)
92190A	5.25 inch Flexible Discs, Double Sided (Box of 10 discs)
92193K	5.25 inch Flexible Disc Drive Cleaning Kit
92251B	Dust Cover (82902M/S)
92190L	5.25 inch Flex Discs in Flex Files

■ **HP 9121D/S, 9133A/B, 9133V/XV, 9134 3.5 inch Disc Drives, 9114A, 9122D**

92251D	Dust Cover (9121 D/S)
13269T	Disc Drive Case (for 9121)
92191A	3.5 inch Micro Flex Discs—Single-sided (Box of 10)
92192A	3.5 inch Micro Flex Discs—Double-sided (Box of 10)
92191D	3.5 inch Micro Flex Disc Desktop File (Capacity 50)
92191C	3.5 inch Micro Flex Disc Album (Capacity 20)

For Printers

■ **HP 2225A/B/C ThinkJet**

92261A	Individual printhead ink cartridge.
92261M	Cut-sheet ink jet paper. (Four 500-sheet packs)
92261N	Fanfold ink jet paper. (2500 sheets)
92261S	Desktop ThinkJet printer stand

■ **HP 2601A Daisywheel Printer**

92151C	Multistrike Ribbon Cartridges (Box of 12 cartridges)
92151D	Fabric Ribbon Cartridges (Box of 12 cartridges)
92157A	Printer Paper, Fan Fold (Box of 2400 sheets)
92157C	Printer Paper, Microperforated Fan Fold (Box of 2400 sheets)
92252 Series	Plastic Print Wheels, 96 character (Box of 6 wheels)
92153 Series	Metal Print Wheels (1 each)

■ **HP 2602A Daisywheel Printer**

92151H	Multistrike Ribbon Cartridge (Box of 12 cartridges)
92157A	Printer Paper, Fan Fold (Box of 2400 sheets)
92157C	Printer Paper, Microperforated Fan Fold (Box of 2400 sheets)
92262 Series	Plastic Print Wheels, 98 character, USASCII
92263 Series	Plastic Print Wheels, 98 character, International

■ **HP 2631 A/B Dot Matrix Printer**

92155A Ribbon Cartridges (Box of 3 cartridges)
92157A Printer Paper, Fan Fold (Box of 2400 sheets)
92157C Printer Paper, Microperforated Fan Fold (Box of 2400 sheets)

■ **HP 2671A/G, 2673A Thermal Printers**

92160A Thermal Paper, Blue Print (Box of 24 rolls)
92160B Thermal Paper, Black Print (Box of 24 rolls)
92160C Thermal Paper, Blue Print, Page Perforated (Box of 24 rolls)
92160M Thermal Paper, Blue Print (Box of 1320 Fan Fold sheets)
92160N Thermal Paper, Black Print (Box of 1320 Fan Fold sheets)

■ **HP 2686A LaserJet**

92219H RS232C Cable to HP 150, 5 meters
92219J RS232C Cable to IBM PC, 5 meters
92215F RS232C Extension Cable, 15 meters
92215T RS232C Extension Cable, 30 meters
92285A Toner (EP) cartridge
92285B 8.5" x 11" paper tray
92285C 8.5" x 14" paper tray
92285D Metric A4 size paper tray
92285E Metric B5 size paper tray
92286A Plug-in cartridge type font—courier and line printer compressed
92286B Plug-in cartridge type font—proportional space

■ **HP 82905A/B Dot Matrix Printer**

92156A Ribbon Cartridges (Box of 2 cartridges)
92157A Printer Paper, Fan Fold (Box of 2400 sheets)
92157C Printer Paper, Microperforated Fan Fold
92154P Print Head
92171S Desktop Printer Stand
92250T Dust Cover

■ **HP 82906A Dot Matrix Printer**

92156A Ribbon Cartridges (Box of 2 cartridges)
92154N Print Head
92171N Forms tractor unit
92157A Printer Paper, Fan Fold (Box of 2400 sheets)
92157C Printer Paper, Microperforated Fan Fold (Box of 2400 sheets)
92171S Desktop Printer Stand

For Plotters

■ **HP 7225A/B, 7470A, 7475A Plotters**

5050-6810 Multi-Color Pen Package (Pkg of 4 pens; 1 each red, blue, green, and black)
9280-0589 Plotter Paper, English (Pad of 50 sheets)
9280-0588 Plotter Paper, Metric (Pad of 50 sheets)
92250N Dust Cover (7470A)

**Ordering Software
Update and Upgrade
Kits**

Your original master disc must accompany an order for software update or upgrade kits. Therefore, they are available only through your local dealer or from HP by mail.

For ordering instructions, refer to the section "Software Exchange Kits" earlier in this Current Information Insert.

HP Internal Users

Have your purchasing department enter an I2 order on the supplying entity shown for the item on the Corporate Price List or the Parts Price List.

If you are ordering a Software Exchange Kit, return the original master disc to:

Software Product Marketing, Building 78
or Hewlett-Packard
Attn: Software Product Marketing
P.O. Box 60008
Sunnyvale, CA 94088

Reference your HP Internal Order number on the package.

HP Employees

Check with the Employee Computer Program Coordinator in your personnel or purchasing department for ordering instructions.



Mail Order Form

for HP Personal/Desktop Computer Software Update Kits

Use this form only for HP Personal/Desktop Computer Software Update Kits. Supplies matched to your HP Computer System can be ordered with update kits.

Ordering instructions:

1. Print or type all requested customer information.
2. Order software update kit(s) for your HP Personal/Desktop Computer. The original disc must be sent to HP with your order for the software update kit; see instruction 7.
3. You may also order computer supplies using this form. Obtain current prices by calling toll-free 800-538-8787. In California, Alaska and Hawaii call (408) 738-4133 collect.
4. Compute state/local taxes on the total cost of items ordered (HP is required to collect taxes; their omission delays your order.) If tax exempt, you must provide your tax exemption/resale number.
5. Fill in any special shipping instructions, as required. HP pays freight to U.S. addresses on mail orders, EXCEPT you will be charged extra for special expedited shipping methods; and you will be charged freight on heavy, bulky items weighing more than 30 lbs., such as furniture or printer paper.

6. Fill in credit card information or enclose cashier's check for fastest shipment. Payment by personal or company check will delay shipment up to 10 days. Make check payable to Hewlett-Packard Co. All orders subject to credit approval. Do not send currency, coin, stamps or purchase orders.

7. Before your software update kit(s) can be shipped, you must send with your order one original disc (containing the software being updated) for each update kit ordered. This is the disc with the HP software product number and description printed on the label. Be sure to make a working copy before sending the original.

8. Mail this form, along with credit card information (or check), and the original disc to:

HEWLETT-PACKARD
Mail Order Dept., P.O. Box 60008, Sunnyvale, CA 94088

Thank you for your order!

(Over)

Your Name _____ Phone () - - - - - Date _____

Product Number	Description	Quantity	Unit Price	Amount
1			*	*
2			*	*
3			*	*
4			*	*
5			*	*

Tax Exempt? No Yes
 Tax Exempt or Resale Number _____

Subtotal	*
State/Local Taxes	*
TOTAL	*




Ship To

Company _____
 Attn Of _____ Bldg/Room _____
 Street Address _____
 City _____ State _____ Zip _____

Standard Shipping Method is UPS Surface
 Special Shipping Instructions _____

Payment Method

Check Enclosed (Payable to Hewlett-Packard Co.)
 Credit Card (Check one, provide all information, and sign)

Account No. _____
 Expiration Date _____
 Name on Card _____
 Address _____
 Signature _____

Use this form for prepaid U.S. orders only POD 1/84 (Over)

Change of Address Form for Communicator Subscribers

If the information on your *Communicator* mailing label is no longer correct, let us know. Fill in this form and mail to **Hewlett-Packard, Subscriptions Marketing Department, P.O. Box 60008, Sunnyvale, CA 94088 U.S.A.** Allow 6–8 weeks for change to take effect.

(please print)

Old Address:

(attach mailing label or fill in information as it appears on mailing label):

Name _____ (Title) _____

(Company) _____

Address _____ (Bldg No./Mail Stop) _____

City _____ State _____ Zip _____

Country _____

New Address:

(exactly as it should appear on the mailing label)

Name _____ (Title) _____

(Company) _____

Address _____ (Bldg No./Mail Stop) _____

City _____ State _____ Zip _____

Country _____

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