- ☐ OfficeShare
- ☐ HP Vectra SETUP
- ☐ The Executive Series
- ☐ Video and HP Vectra

For users of the Portable,
HP 12x, Touchscreen/150,
and Vectra computers

HEWLETT PACKARD

–"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"

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HP Computer Museum

For research and education purposes only.

The HP PC Newsline

OfficeShare, HP's PC local area network, is now available. OfficeShare links together HP Vectra PC, Touchscreen/150, and IBM PC/XT/AT personal computers in order to provide low cost peripheral, information, and file sharing as well as terminal emulation with file transfer to HP3000 systems. For details, read the article on OfficeShare in the "Product News" section of this issue.

* * *

1-2-3 from Lotus for the Touchscreen PC now supports the newest Hewlett-Packard plotter, the **7550**. This plotter has been added to the Printgraph disc included with the standard 1-2-3 product.

Previously, users were advised to designate the HP 7475 or 7470 plotter when using a 7550 plotter with 1-2-3's Printgraph program. By using the new 7550 software driver, however, you will be able to take advantage of the 7550's eight pen capacity and rapid plotting speed. Please be aware that 1-2-3's Printgraph does not support the 7550 automatic feed feature.

Customers with the old Printgraph disc can exchange it for the newer disc by following the standard exchange kit procedure given in the Current Information insert in this issue. The part number is 45482-63005.

* * *

As a service to those customers who deal directly with HP, HP is now offering **Release 2.0 of Lotus 1-2-3 to HP Vectra customers.** This release includes a number of improvements over the original 1A release--an expanded spreadsheet, now 8,192 rows by 256 columns, 39 new @ functions, and data regression. The original 1-2-3 menu still appears for the most part, and if you've been using Release 1A, you will be able to use your data files with Release 2.0. For more information, see the article on 1-2-3 in the "Product News" section. Of course, this product is also available from your dealer.

* * *

In the last issue of the Communicator, we introduced Symphony for the Touchscreen/150. In this issue, we are pleased to announce that **Symphony (Release 1.1) for the HP Vectra PC** is also available through Hewlett Packard or your dealer.

Symphony, a versatile business tool for managers and professionals, integrates five powerful functions-- spreadsheet, graphics, word processing, data base management and communications. Symphony offers advantages for novice users, like a comprehensive, on-line tutorial and complete help screen, as well as capabilities for advanced users, such as Symphony Command Language, window management and powerful macro abilities.

For more information about Symphony, please read the article "Introducing Symphony for the Touchscreen/150" in Issue 13. However, note that Symphony for the HP Vectra PC will not utilize the proprietary HP Touch feature, since this product was originally written for the IBM PC family.

Symphony supports a wide variety of printers, plotters, modems and monitors. You must tell Symphony which devices to use by following the Install procedure. The Install and Utility Disc, included with Symphony, will lead you through this process step by step, and give you lists of peripherals and monitors from which to choose. If you are using Symphony and an HP Vectra with a color monitor, you should select the IBM color card and color monitor choice. This selection will allow you to view Symphony in color, but without text and graphics on the screen together. If you have a Vectra and a black and white monitor, you should also select the IBM color card and color monitor choice, which will enable you to view text and graphics on the screen simultaneously.

Symphony for the HP Vectra requires 384K of RAM. The HP part number for this product is 68339F.

<center>* * *</center>

In the Current Information insert, beginning with this issue, you will see individual articles identifying software available from HP for the Touchscreen/150, HP Vectra PC, and the Portable/Portable PLUS. You will also see a "Discontinued Software" article which lists the discontinued products and their successors. The "Software Exchange Kit" article provides ordering information for updating/upgrading/replacing current and discontinued products and gives the dates through which discontinued software may be replaced.

See you in two months . . .

Welcome to the *HP PC Communicator*

WELCOME

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

This publication was formerly called the *Series 100 Communicator*—the new name, *HP PC Communicator*, reflects the increased breadth of the Hewlett-Packard personal computer product line.

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 HP PC users throughout the world.

□

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Spanish with Word/12x

Stanley M. Kluver

Here is a method to make the English Word/12x program handle the special Spanish characters: the tilde, the upside down question mark, the upside down exclamation mark, and the accent mark. The only special equipment you need is a Spanish printwheel.

By using ASCII in-line characters in your text, the special characters can be easily produced. The in-line characters are given below:

Spanish Character	In-line Characters
tilde	#126/
upside down question mark	#91/
upside down exclamation mark	#93/
accent	#167/

For example, to print the word mañana with the tilde, you must enter the word as **man#126/ana.**

Use a space behind the in-line characters for the question mark and exclamation mark to eliminate the possibility of the character printing on top of the first word in the sentence.

Note: The unique Spanish characters must be printed with the Spanish printwheel to be seen; they will not appear on your terminal screen.

□

**Q. Using WordStar 3.3 B, how do I get my
Okidata 92 to print letter quality?**

A. *WINSTALL your WordStar fourth user-defined
function key (^PR).*

Once in WINSTALL:

1. *At the Installation Menu, press B for the
Custom Installation of Printer. (Press any key to
continue.)*

2. *At the Printer Installation Menu, press M for
the user-defined functions.*

3. *Press <RETURN> to move through User
Functions 1, 2, and 3.*

4. *Press C to change the value of the fourth
function key (^PR).*

5. *Type* **1B** *<RETURN>.*
Type **31** *<RETURN>.*

6. *Type . <RETURN> <RETURN> (period,
<RETURN> <RETURN>) to confirm the
new value of 1Bh 31h.*

7. *Press X to exit the Printer Installation Menu
and X again to exit the Installation Menu.*

8. *Press A to save changes.*

In WordStar:

*Once in your text, press ^PR (While holding the
Control Key, press "P" and then let go of both keys.
Then press "R"). The symbol "^R" will appear on
the screen. This step is used at the place you want to
begin letter quality printing.*

☐

3

Q. What do I have to do to get my Okidata printer to underline in WordStar 3.3 B?

A. *First, run a self test on your printer to identify the revision number of your unit. If you have Revision 1, 2, or 3, run WINSTALL choosing the Epson MX80 printer from the Menu of Printers. If you have Revision 4 or 5, run WINSTALL choosing the Okidata printer from the Menu of Printers. Then follow the step-by-step procedure listed below to program the User-Defined Functions.*

Once in WINSTALL:

1. *At the Installation Menu, press B for the Custom Installation of Printer. (Press any key to continue).*

2. *At the Printer Installation Menu, press M for the User-Defined Functions.*

3. *Press C to change the value of the first function (^PQ).*

4. *Type **1B** <RETURN>.*
    *Type **43** <RETURN>.*

5. *Type . <RETURN> (period <RETURN>) for the next value.*

6. *Press <RETURN> to confirm that the new value is 1Bh 43h.*

7. *Press C to change the value of the second function key (^PW).*

8. *Type **1B** <RETURN>*
    *Type **44** <RETURN>*

9. *Type . <RETURN> <RETURN> (period <RETURN> <RETURN>) to confirm the new value is 1Bh 44h.*

10. *Press <RETURN> to move through User Functions 3 and 4.*

11. *Press X to exit the Printer Installation Menu, and X again to exit the Installation Menu.*

12. *Press A to save changes.*

In WordStar:

1. *Once in your text Press ^PQ (While holding the Control Key, press "P" and then let go of both keys. Then press "Q"). The symbol "^Q" will appear on the screen. This step is used at the place where you want to begin underlining.*

2. *Press ^PW at the place in your text where you want to turn off the underlining.*

□

Running the Vectra SETUP Program   Ralph Woodley
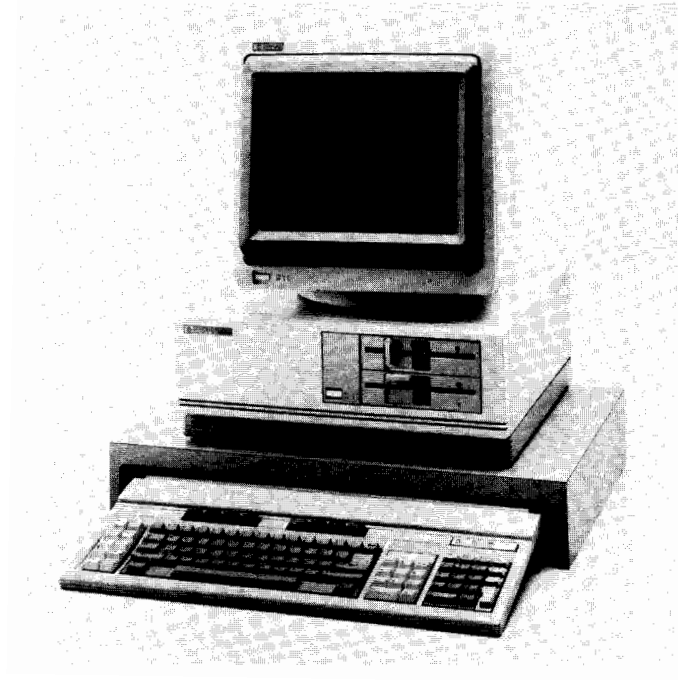
This article is to give people who own the HP Vectra Personal Computer a better understanding as to what the SETUP program is and how to use it than is given in the system manuals. You may wish to clip this article out and keep it with your *Using Vectra* manual for future reference.

What Does the SETUP Program Do?	The SETUP program sets up the computer's internal configurations (lets the computer know what it has), helps you align the HP Touch accessory, prepares the internal hard disc for moving (if you have one), and initializes (physically formats) an internal hard disc drive.

The different SETUP tasks are listed here as they appear on the screen, and are followed by instructions on how to run each one:

Options Available:

1. Set System Configuration
   Date, Time, Memory Size,
   Flexible Disc Drive Types,
   Primary Display Characteristics

2. Align Touchscreen

3. Prepare Internal Hard Disc for Moving

4. Initialize Internal Hard Disc

Option 1: Setting Up the Computer's Internal Configurations	To set up the computer's internal configurations (which you may need to do the first time you start your computer after you buy it, or if you ever add any internal accessories to it) follow the directions below:

1. Insert the DOS 3.1 disc into drive A and start up your computer.

2. If you see the following message displayed:

   "Invalid configuration information—Run SETUP program

   Strike f1 to continue"

   You MUST run the SETUP program to make sure that your computer recognizes what has been installed into it. (This may sound strange, but the fact is the HP Vectra can support so many different types of disc drives, memory boards, and Video boards that it must be told —via the SETUP program—what has been installed into it.)

3. After striking f1 to continue, the PAM Main Menu will be displayed. Press the Tab key twice, then press Enter.

4. The following screen is displayed:

```
Configuration Setup Program Ver 1.9
(C) Copyright Hewlett-Packard 1985
(C) Copyright Phoenix Software Asc. Ltd 1985



    Options Available:

1. Set System Configuration
        Date, Time, Memory Size,
        Flexible Disk Drive Types,
        Primary Display Characteristics

2. Align Touchscreen

3. Prepare Internal Hard Disk for Moving

4. Initialize Internal Hard Disk

5. Exit



Enter option number:
```

5. Choose option 1 by typing **1** and pressing Enter.
6. A brief description on storing configuration information is displayed. Read it, then press Enter.

Setting the Date and Time

The first SETUP task is to set the date and time. After you set them, the computer will keep track of the date and time even when the computer is turned off.

1. If the date and time (the Vectra uses military time, the 24 hour clock, e.g. 09:30:30 means 9:30 A.M. and 30 seconds, 13:30:30 means 1:30 P.M. and 30 seconds) are correct, type **y** and go on to the next section, **Setting the Configuration Options.**

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If the date and time are wrong, type **n** and then press Enter. Go on to step 2.

2. Type the correct date (an example of the proper format for the date would be **05/01/1985**) and press Enter.

3. Type the correct time (follow the form of the examples given in step 1) and press Enter.

4. You are then shown the date and time you entered. If they are correct, type y and press Enter.

   If they are not, type **n** and press Enter. Then go back to step 2.

Setting the Configuration Options

The next thing you must do is tell your computer what options you have, e.g. disc drives, memory, monitor. Before you can do anything here, you must know what you've ordered with your HP Vectra. The Setup Inventory Foldout contains the information you will need. If not, consult with your dealer, or person who put your computer together to find out.

1. The following illustration is an example of the screen you will see next (the options may not be the same as yours):

```
The following information is required
for correct operation of your computer.

The current settings of your options :

Diskette Drive A:      is   360K
Diskette Drive B:      is   360K
System Base Memory     is   636K
  (System reports 640K installed)
Expansion Memory       is   OK
Primary Video Adapter is Multi-Mode or Color (80 COL)

360K drives have a "*" on the front bezel

Are these options correct
(Reply Y or N then <enter>)

    ?
```

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2. Compare the options settings on the screen with the options you know to be installed in your HP Vectra. If you see any differences, type **n** and press Enter.

3. You will first be asked about your Flexible "Diskette Drives"—what type of drive(s) do you have (NONE, 360K, 1.2M) and where they are located (Drive A: is the top drive and Drive B: would be right below it). Consult the Setup Inventory Foldout.

   If the drive types are correct for your Vectra, and located (A: or B:) in the correct drive slot (i.e. HP drives with a "*" are 360K drives, HP drives without are 1.2M drives), type **y** and press Enter.†

   If not type your response to the questions displayed (press Enter after you type **y** or **n**).

4. You will next be asked about your HP Vectra's System Base Memory. Again, consult the Setup Inventory Foldout if you don't know (memory typically comes in increments of 256, 512, or 640).

   Your HP Vectra reserves a portion of memory for HP programs. For example, you may have 640K of system memory installed in your computer, but it will only let you use 636K of it. So you would see in the option settings listing:

   > "System Base Memory is 636K
   > (System reports 640K installed)"

   As before, type **y** if what you see displayed is correct for your HP Vectra, and press Enter.

   If you have something different type **n**, press Enter and type in what is correct for your Vectra (again, pressing Enter after you've typed in your selection).

5. Next, Expansion Memory (memory cards are usually 1024, or 512 each). Do the same as before to reselect, if necessary.

6. Then you will be asked about what Primary Video Adapter you have. The most common HP monitors used with HP Vectra are "Multi-Mode or Color graphic (80 columns)" which includes the HP 12" Color Display and the HP 12" Monochrome Display. Reselect if necessary.

---

† If you have an internal hard disc you won't need to confirm any information about it.

7. You will next see a menu listing all the option settings you have chosen. Once again, refer to the Setup Inventory Foldout to make sure you've got everything right.

If everything looks good, type y and press Enter.

8. You will see the message:

"Your system must now be rebooted.
Insert DOS disk and Press <enter>"

Your DOS 3.1 disc should already be in drive A: so press Enter to restart (reboot) your system.

Option 2: Aligning the Touchscreen

If you are going to install the HP Touch accessory onto your HP Vectra monitor, you must run the "Align Touchscreen" program. If your display is incorrectly adjusted, the HP Touch accessory won't work properly. This program helps you check to see if the display is correctly adjusted and will help you to adjust it if it isn't. Follow the directions below:

1. With the PAM Main Menu displayed, press Tab twice to highlight SETUP, then press Enter.

2. To select the "Align Touchscreen" option, type 2 and press Enter.

3. Before following the instructions displayed, the illustrations below will help you select the proper adjusting knobs on an HP Color or HP Monochrome display (monitor). You may need to use a small flat-blade screwdriver when making your adjustments.

4. Align the crosshairs as best you can, it doesn't have to be perfect, but should be very close.

5. When finished, press any key to get back to the main SETUP menu.

6. Type 5 and press Enter to get back to PAM. You can then test your Touchscreen alignment by touching an application from the screen and touching the Start Applic function label.

7. If everything works fine, you need not run the "Align Touchscreen" program again until you move your computer (the earth's magnetic field can affect screen alignment, so changing the computer's orientation to it can change the alignment).

If your Touchscreen doesn't work properly (you select an application and one above, below or to either side is selected instead), go through steps 1 through 7 again.

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Option 3: Preparing the Internal Hard Disc for Moving	If your HP Vectra has an internal hard disc (i.e. 20MB, or 40MB, etc.), whenever you plan to move your computer you MUST run the "Prepare Internal Hard Disk for Moving" program! Whether you are moving your computer from New York to San Francisco, or from one end of the desk to another, you must run this program to ensure that you don't lose data.
	When you use your computer, the Read/Write heads hover minute fractions of an inch away from the disc media. Moving your computer can cause the heads to bounce on the hard disc media and cause damage to it.
	The "Prepare Internal Hard Disk for Moving" program moves the Read/Write heads a safe distance away from the disc media to the parking position used when the hard disc is shipped from the factory. Follow the directions below for running the program.
	1. From the PAM Main Menu, select and run the SETUP program.
	2. From the SETUP main menu, type **3** and press Enter.
	3. The Read/Write heads are now parked. You may now turn off your HP Vectra and move it.
	4. The next time you turn on your HP Vectra, the heads will automatically unpark themselves.
Option 4: Initializing the Internal Hard Disc	If you get a Vectra with an internal hard disc, it is absolutely necessary to run this program before you use your internal hard disc. The Initializing process physically formats your internal hard disc and prepares it for MS DOS partitioning (the FDISK program, discussed more in detail in the *Using Vectra* manual) and logical formatting (the FORMAT program is also discussed in the *Using Vectra* manual).
	To initialize the hard disc, do the following:
	1. Select and run the SETUP program from the PAM Main Menu.
	2. From the SETUP main menu, type **4** and press Enter.
	3. If you have an HP 20MB internal hard disc, you will see this message:
	"You have the following hard disks: hard disk drive 1 is installed Is the hard disk information correct?"

This is correct for the 20MB, type **y** to confirm.

If you have an HP 40MB internal hard disc, you will see this message:

> "You have the following hard disks:
> hard disk drive 1 is installed
> hard disk drive 2 is installed
>
> Is the hard disk information correct?"

This is correct for the 40MB, type **y** to confirm.

4. You will then be asked if you want to initialize a disc. Since you do, type **y** and press Enter.

5. Next, enter the disk id number by typing **1** for both the 20MB disc and the 40MB disc.

6. Then you will be warned about destroying data. Since you just got your HP Vectra there is no data on the hard disc. Type **y** to confirm that you want to initialize your hard disc.

7. When you are prompted to enter an interleave factor, press Enter (this will give you an interleave factor of 2—which is required for both the HP 20MB and 40MB drives).

8. Initialize takes about one minute per Megabyte. When finished, you must next run the FDISK and FORMAT programs if you have a 20MB internal hard disc.

   If you have a 40MB internal hard disc, it is configured as two 20MB drives. Upon completion of initialization for the first 20MBs, you must repeat steps 4 through 7 to initialize the other half of the 40MB drive.†

So that's the grand tour of the SETUP program. It's one of those programs that you'll probably only run a few times during the lifetime of the product, but for those few times it's important to know what you're doing and why.

---

† You must also run FDISK and FORMAT for each 20MB half of the 40MB internal hard disc (this will give you a C: drive and a D: drive of 20MBs each).

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The HP Vectra PC can access ANSI escape sequences that provide many useful screen and keyboard control features. The following example illustrates a group of ANSI escape sequences called Set Graphics Rendition (SGR) that deal with screen enhancements.

Loading ANSI.SYS

The first thing you need to do is add the following line to your CONFIG.SYS file:

DEVICE = a:\ANSI.SYS

This assumes that ANSI.SYS (and the operating system) reside on drive a: in the root directory.

After you alter CONFIG.SYS, you must reboot the system (press [CTRL] [ALT] [DEL]) to load ANSI.SYS.

**Programming the
Screen Enhancement**

The following program uses the ANSI escape sequences to illustrate inverse video and a return to the default screen characteristics.

```
10   OPEN "O",#1,"CON"      'Open the console as the output device
20   ESC$ = CHR$(27)        ''Define escape command
30   NORMAL$ = "[0m"        'Define default video
40   INVERSE$ = "[7m"       'Define inverse video
50   PRINT #1, ESC$+INVERSE$+"INVERSE ";   'Example of inverse video
60   PRINT #1, ESC$+NORMAL$+" NORMAL";     'Return to defaults
70   PRINT #1, CHR$(10)+CHR$(13)           'Carriage Return/Line Feed
80   CLOSE #1
90   END
```

If you have a color monitor and you want to try out some color changes, replace lines 40 and 50:

```
40   COLR$ = "[31;44m"      'Define red foregrnd, blue backgrnd
50   PRINT #1, ESC$+COLR$+"RED ON BLUE";   'Example of color change
```

If you leave out line 60, exit BASIC, and run MS-DOS commands, your screen will scroll up with red foreground and blue background. BASIC doesn't run through the console (that's why you had to open the console as an output device), but MS-DOS does.

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All personal computers have video, which basically consists of a display, a video card, and the cables to connect the two. Whether you get monochrome (for example, black and white) or color depends not only on the display, but also on the capabilities of the video card. All video systems provide the capability to view keyboard characters on the screen. This is called alpha-numeric and is a function of the video card. Some video systems also provide the capability to do graphics on the video; again, this is a function of the video card.

The Question of Video...

The industry standard consists of two basic video cards: monochrome (alpha-numerics only) and color/graphics (which provides color, graphics, and usually-not-so-easy-to-read alpha-numerics). So, with most video systems:

- If you don't want color or graphics, you need a monochrome video card and monochrome display;

- If you want graphics, you would need the color/graphics video card and either a color or monochrome display (you give up clear alpha-numerics); or

- If you want color and/or graphics plus good alpha-numerics, you need a monochrome video card and monitor AND a color/graphics card and color monitor. (You get the color/graphics on the color monitor and the good alpha-numerics on the monochrome monitor.)

...The HP Solution

The HP Vectra PC, however, has the multi-mode video card that combines all these functions. From this one card, you can run a monochrome display or a color display* and you can have both graphics and crisp alpha-numerics.

*To increase compatibility, the Vectra PC provides outlets for the industry standard video cables. Unfortunately, there's just not enough room on one card for all the outlets. Therefore, the multi-mode video card has outlets for a monochrome display and for a nine-pin composite color display; and the multi-mode color adapter card, which is a half-size board that fits in an 8-bit slot and is cabled to the multi-mode card, provides the outlet for the three-plug RGB (red, green, blue) display.

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The following chart shows the board(s) you need for different displays on the Vectra PC:

	HP Monochrome Display	Composite Color Display	RGB Color Display	IBM Monochrome Display
HP Multi-mode video card	x	x	x	
HP Multi-mode color adapter card			x	
IBM monochrome video card				x

What are Alpha-Numeric and Graphics Resolutions: the Vectra PC versus the Competition

Alpha-numeric resolutions are usually presented on a dots per cell basis. For example, the Vectra PC has an alpha-numeric resolution of 8x16 (in both monochrome and color). This means that each character is constructed of 8 dots across and 16 dots down. While the character cell is about the same size from one video system to the next, the number of dots per cell varies. The industry standard color graphics video systems usually have an 8x8 character cell (in color**), which means that the characters will appear somewhat fuzzy and be less easy to read than the alpha-numeric text on the Vectra PC.

**Monochrome resolutions tend to be higher; for example, the alpha-numeric character resolution is 9x14 on IBM's monochrome display adapter (still lower than the Vectra PC's 8x16).

Graphics resolutions are presented on a dots per screen basis. For example, a common graphics resolution is 320x200, or 320 dots across and 200 dots down. Generally, the more dots on the screen, the sharper the graphics image. Whereas only one alpha-numeric resolution is provided, several graphics resolutions are generally available. The Vectra PC provides 320x200, 640x200, and 640x400; the first two resolutions providing compatibility with the industry standards and the third being a contribution to clear graphics images by HP.

Why do the number of colors available vary so radically depending on whether you're in alpha-numeric or the various graphics modes?

As shown in the table below, as the graphics resolution is increased, the number of colors available decreases. Basically, it's a trade-off based on memory space. A large portion of a video card is devoted to special memory, the sole purpose of which is to store what appears on the video display.

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Alpha-numeric characters are stored by cells, so one byte is used to store a predefined character and another to store the color of the cell. Therefore, for one character, only two bytes are needed; a screenful of alpha-numeric characters would require 3,840 bytes of memory.

However, with graphics, each dot on the display must be stored in memory, and for each dot, a color must be saved. For example, a screenful of dots at medium (640x200) resolution (128,000 dots) requires 16,000 bytes of memory.

The least memory is taken up by alpha-numerics; therefore, you can get 16 colors from a total of 16 available (16/16). With low resolution graphics, 16 colors are available, but you can only use four at a time (4/16). You can get only foreground and background (1/1) in medium or high resolution, but the graphics are displayed in greater degrees of clarity.

	HP Monochrome Display	HP Color Disp. w/adapter	IBM Color Display
Alpha-numeric text mode	8x16	8x16	8x8
Colors (simultaneous/available)			
Alpha-numeric	16/16	16/16	16/16
Low (320x200 graphics)	4/16[1]	4/16	4/16
Medium (640x200 graphics)	1/1[2]	1/1	1/1
High (640x400 graphics)	1/1	1/1	NS

NS = not supported
[1] using gray scaling
[2] monochrome

□

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Chart before titles and legends are added

Main Title
Subtitle

Y Axis Title

40

30

20

10

0

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

X Axis Title

Footnote
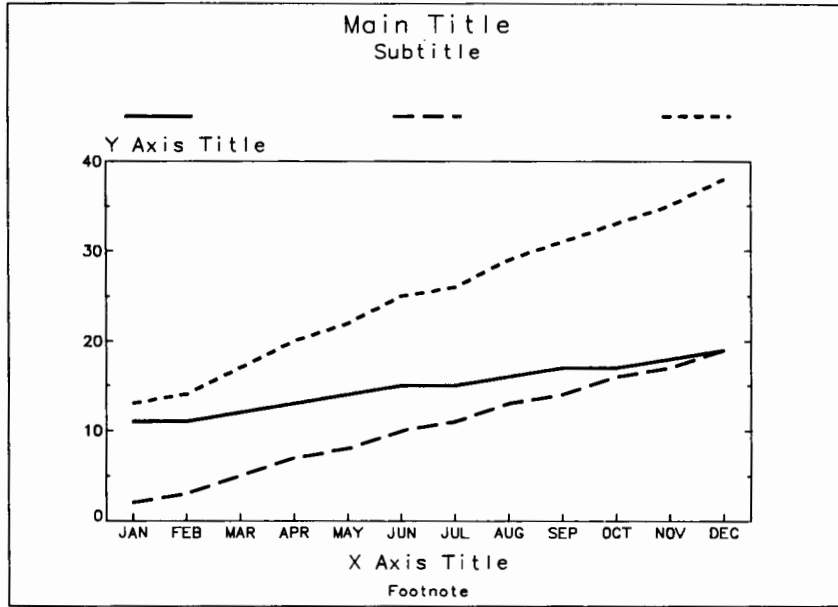
Chart after titles and legends are added

A&B Product Comparison
FY 1983

Product A   Product B   Products A & B

Saturation Percentage

50

40

30

20

10

0

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

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Graphing Data from Your BASIC Program   Brian Rainie
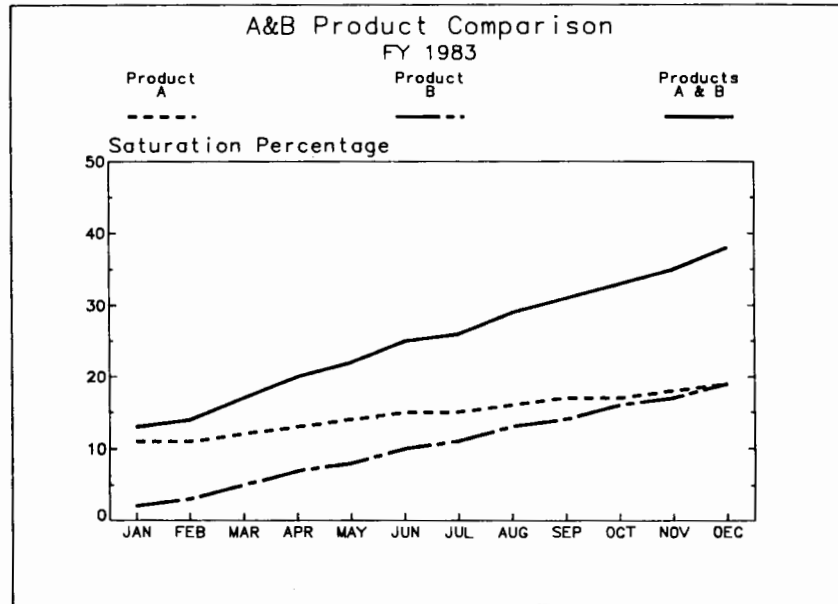
Let's suppose for a moment that you've created a very complicated BASIC program that generates a table of values. As you well know, it's much easier to see trends by looking at a graphic representation of the data in a table than it is by looking at the table itself. So the subject of this article (logically enough) is the art of graphing a table of data.

Choices, Choices. . .

There are three ways to graph data from a table. The first method requires that you write a large software package that drives the graphics display and/or a plotter from a BASIC program. This could take all day. Or all month. The second method relies on the HP Series 100 Graphics package, which is currently available for the HP 150 personal computer. After your program has displayed the data on the screen or on paper, you could call up the appropriate graphics program and enter the data manually. The third method is a simple, logical extension of the second method, to wit: modify your BASIC program so that it writes the table to a diskette file, using a format that the graphics software can read directly.

You've probably gathered that this third method is appropriate for many BASIC applications. So how do you generate a diskette file that the graphics software can read? It's not hard at all. The format, called DIF, is well documented in the original *HP 125 Graphics Manual*. (What, you don't have an HP 125 graphics manual? Check the computer section of your favorite bookstore; several books that deal with DIF are currently on the market.)

Quick and Dirty DIF Files

If you'd rather not spend any time learning DIF formatting rules, you can follow the example in this article that demonstrates how to generate DIF files from a BASIC program.

The program listing that follows creates a table of data in the array TABLE. Although the graphics packages do not allow the specification of legends in the DIF file, each row of values can be labeled. (You place the labels in the array LABELS$.) The program displays the table on the screen, creates a diskette file called TABLE.DIF, and writes the table entries out to that file. The TABLE.DIF file can then be read directly into a graphics program

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and plotted. Here is the procedure to follow in order to load the data, in this case using Line Chart as an example:

- Enter the Line Chart application
- Touch or press function key [f3] ("GET A CHART")
- Position the cursor at the "Data File Directory" field
- Enter the name TABLE.DIF
- Touch or press function key [f1] ("DATA TRANSFER IN")
- Touch or press function key [f5] ("DATA") to load the data into memory

Once you've loaded and previewed the data, you can add the legends and titles manually.

Program listing:

```
1000 REM ================================================================
1010 REM  Test program for generating a graphics compatible DIF file
1020 REM ================================================================
1030 SUBJECTS=3 'Define number of subjects (one graph line per subject)
1040 LABELED.ENTRIES=12 'Define number of entries per subject (pts per line)
1050 DIM TABLE(LABELED.ENTRIES,SUBJECTS) 'Dimension array to hold the data
1060 DIM SUBJECTS$(SUBJECTS) 'Dimension array to hold subject names
1070 DIM LABELS$(LABELED.ENTRIES) 'Dimension array to hold labels (x-axis)
1080 REM ********** Load subject names into array **********************
1090 FOR I=1 TO SUBJECTS : READ SUBJECTS$(I) : NEXT I
1100 DATA Product A,Product B,Products A&B
1110 REM ********** Load labels with month names **********************
1120 FOR I=1 TO LABELED.ENTRIES : READ LABELS$(I) : NEXT I
1130 DATA JAN,FEB,MAR,APR,MAY,JUN,JUL,AUG,SEP,OCT,NOV,DEC
1140 REM ********** For each month, for each entry, compute value *******
1150 FOR I1=1 TO LABELED.ENTRIES 'From 1 to length of list (down)
1160   FOR I2=1 TO SUBJECTS      'From 1 to number of subjects (across)
1170     IF I2=1 THEN TABLE(I1,I2)=INT(10+I1^.9)
1180     IF I2=2 THEN TABLE(I1,I2)=INT(I1+I1^.8)
1190     IF I2=3 THEN TABLE(I1,I2)=TABLE(I1,1)+TABLE(I1,2)
1200   NEXT I2
1210 NEXT I1
2000 REM ****************************************************************
2010 REM * Output table information to screen                          *
2020 REM * Requires TABLE(LABELED.ENTRIES,SUBJECTS) containing the data, *
2030 REM * SUBJECTS$(SUBJECTS) containing the names of the subjects,    *
2040 REM * and LABELS$(LABELED.ENTRIES) containing labels.             *
2050 REM ****************************************************************
2060 REM ********** Output header/title information ********************
2070 PRINT "Table of values:" : PRINT
2080 REM ********** Output subject names across top ********************
```

```
2090 PRINT "",
2100 FOR I=1 TO SUBJECTS : PRINT SUBJECTS$(I), : NEXT I : PRINT
2110 REM ********** Output table preceding data with labels *************
2120 FOR I1=1 TO LABELED.ENTRIES
2130    PRINT LABELS$(I1),
2140    FOR I2=1 TO SUBJECTS
2150      PRINT TABLE(I1,I2),
2160    NEXT I2
2170    PRINT
2180 NEXT I1
2190 REM ********** Output trailer/finish information ******************
2200 PRINT : PRINT "End of table"
3000 REM ***********************************************************
3010 REM * Output table information to a disc file (DIF format)      *
3020 REM * Requires TABLE(LABELED.ENTRIES,SUBJECTS) containing the data, *
3030 REM * SUBJECTS$(SUBJECTS) containing the names of the subjects,    *
3040 REM * and LABELS$(LABELED.ENTRIES) containing labels.            *
3050 REM ***********************************************************
3051 REM ********** Define special codes for DIF files *****************
3052 DBL.QUOTES$=CHR$(34)+CHR$(34) : CRLF$=CHR$(13)+CHR$(10)
3053 REM ********** Define special function for value conversion ********
3054 DEF FNNUM$(X)=MID$(STR$(X),2+(X<0))
3055 REM ********** Open output file TABLE.DIF ********************
3056 OPEN "O",1,"TABLE.DIF"
3060 REM ********** Output header/title information *******************
3070 PRINT #1,"TABLE";CRLF$;"0,1";CRLF$;DBL.QUOTES$
3071 PRINT #1,"VECTORS";CRLF$;"0,";FNNUM$(SUBJECTS+1);CRLF$;DBL.QUOTES$
3072 PRINT #1,"TUPLES";CRLF$;"0,";FNNUM$(LABELED.ENTRIES);CRLF$;DBL.QUOTES$
3073 PRINT #1,"DATA";CRLF$;"0,0";CRLF$;DBL.QUOTES$
3080 REM ********** Output subject names across top *****************
3090 REM
3095 REM    >>> Subject names must be added manually under "Legends" <<<
3100 REM
3110 REM ********** Output table preceding data with labels ************
3120 FOR I1=1 TO LABELED.ENTRIES
3121    PRINT #1,"-1,0";CRLF$;"BOT"
3130    PRINT #1,"1,0";CRLF$;CHR$(34);LABELS$(I1);CHR$(34)
3140    FOR I2=1 TO SUBJECTS
3150      PRINT #1,"0,";FNNUM$(TABLE(I1,I2));CRLF$;"V"
3160    NEXT I2
3170    REM
3180 NEXT I1
3190 REM ********** Output trailer/finish information ******************
3200 PRINT #1,"-1,0";CRLF$;"EOD"
3210 CLOSE 1
4000 END
```

☐

Assembly Language Subroutines
for BASIC Programs
Brian Rainie

Writing for the Interpreter vs Writing for the Compiler	CALLing an assembly language subroutine from a compiled BASIC program is relatively easy. The LINKer will combine the subroutine in with the main code and resolves all data and code references automatically. CALLing an assembly language subroutine from Interpretive BASIC, on the other hand, is definitely not trivial. There is no way to "link" the subroutine into the interpreter code or BASIC source. The only technique available here is to somehow reserve an area of memory, programmatically load the subroutine's code and data into it, then compute and resolve any data and code references required.
	I believe I will dedicate a future article to the art of CALLing assembly language subroutines from an interpreter. If you are desperate, you may want to check into previous issues of major computer software magazines.
Use the CALL Statement	There are three methods of accessing assembly language subroutines from a BASIC program. The first method is the USR function call, which is old and seldom used. The other two make use of the statements CALL and CALLS. The CALLS. The CALL statement is your best bet; it is the most efficient, takes up less stack space, and passes parameters in a format which is fairly easy to work with. There is no real need to use CALLS when accessing assembly language subroutines because all parameters passed reside in a single segment; they are relative to DS.
Group Names And Offsets	If you take a look at the subroutine examples in the BASIC compiler manual, you will note that the segment names CONST, DATA, and CODE are used. You will also notice that CONST and DATA are grouped into DGROUP. This sample code should not be taken lightly. This is a requirement to insure the proper merging of the code and data with the main code and data. Do NOT change any of the names or specifications of the segments used!
	Any direct references to variables declared in the subroutine will be DGROUP-relative and properly accessed. On the other hand, if you read the description of OFFSET in your macroassembler manual you will note that it returns the SEGMENT-relative offset if the group name is not specified explicitly. If you must use OFFSET, remember to use the format: OFFSET DGROUP: <variable name>. If you are as paranoid as I am, you'll use LEA instead of OFFSET.

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Passing Strings To Assembly Language Subroutines

If you have read my article entitled "A Complete Guide To BASIC Strings", you should have a fairly good understanding of the methods used by BASIC to handle string pointers. When a string is passed to an assembly language subroutine, what BASIC actually passes is the address of the string's String Descriptor Block (SDB). The SDB tells you how long the string is and where its text may be found (a one word length followed by a one word offset).

If this string is to be modified, its text had better be residing in string space; it should not have been equated directly to a string constant (e.g. A$ = "text"). If you modify a string which has been equated to a constant, you will be changing the constant itself.

If a string's length is to be modified, the safest method is to pass a string large enough to hold the returned text and have the assembly language subroutine pass back the text and a value designating what the new length should be. After CALLing the subroutine, the main program can use the LEFT$ function to shorten the string to the required length. A sample BASIC program follows:

```
100 REM  INPUT A STRING AND PRINT OUT THE NEW UPSHIFTED-DEBLANKED STRING
110 REM
120 REM
130 REM  Get user's response and place it into A$.  Since this is a response,
140 REM  it will automatically be place into String Space and the text can
150 REM  be modified by an assembly language subroutine without harm to the
160 REM  program.
170 REM
180 LINE INPUT "Enter your string > ",A$
190 REM
200 REM  User's response is now in A$.  It will be large enough to hold the
210 REM  return string because the return string must be the same size or
220 REM  smaller, by definition of the subroutine.  The integer variable
230 REM  NEWLEN% will return the new length A$ must be shortened to.
240 REM
250 CALL UPSDEB(A$,NEWLEN%)
260 REM
270 REM  A$ now contains the new text, but must still be shortened.
280 REM
290 LET A$=LEFT$(A$,NEWLEN%)
300 REM
310 REM  Output new A$
320 REM
330 PRINT "Upshifted/deblanked text:  ";A$
340 END
```

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**Writing The
Subroutine With
MACROs**

I find it very difficult to understand why most programmers ignore the fact that MACRO-Assembler supports MACROs. Granted, the concept may be somewhat intimidating, but they simply aren't that difficult to implement.

When you first start to use MACROs, you will probably create very simple routines and include them at the beginning of your program (the same method used in the upcoming example). After you have added the same MACROs to several different source files, you will learn that it is easier to place them in their own file and use an INCLUDE statement in the source file to merge them in. This should satisfy you for quite some time.

As you learn more and more about the MACRO-Assembler, you will discover that it makes two "passes". The source is read once to declare references and code, then one more time to clean things up. MACROs are only required during the first pass, therefore you can use an IF with the INCLUDE so the file is only read once. This will definitely speed things up.

As you write your subroutines, you will discover that there are four procedures which seem to be a constant bother:

- Initial code to be executed upon entering the subroutine

- Final code to be executed at the end of the subroutine

- An easy method to gain access to parameters

- An easy method to read a string's SDB (string descriptor block).

The assembly language subroutine which follows resolves the reference to UPSDEB in the BASIC program listed earlier and includes MACROs to take care of the four problem areas listed above:

```
page            60,132
title           UPSHIFT/DEBLANK STRING
.sall


;******************************************************************
;
;*  Define enter and exit macros.  Format when entering procedure is  *
;*  to use ENTERBP [<number of parameters>].  If the number of        *
;*  of parameters is not specified, the BP register is not stored      *
;*  for safe keeping.  To return from the procedure, simply use RETBP.*
;******************************************************************
;
```

```
enterbp macro   parmcnt
        ifidn   <parmcnt>,<>
        parms = 999
        else
        parms = parmcnt
        push    bp
        mov     bp,sp
        add     bp,parms*2+4
        endif
        push    ds
        push    es
        endm


retbp   macro
        pop     es
        pop     ds
        if      parms ne 999
        pop     bp
        ret     parms*2
        else
        ret
        endif
        endm


;**********************************************************************
;*  Define parameter equates.  The enterbp macro sets up the BP reg   *
;*  in such a way as to make parameter referencing much easier.  Most *
;*  people use [bp+6] to reference the last param, [bp+8] to reference*
;*  the second from the last, and so on.  This is hard to read and is  *
;*  difficult to update when the number of parameters must be changed.*
;*  By using enterbp and the following equates, parameters are now     *
;*  referenced by the names parm1, parm2, etc. (eg: mov ax,parm3).     *
;**********************************************************************
;
parm1   equ     [bp]
parm2   equ     [bp-2]
parm3   equ     [bp-4]
parm4   equ     [bp-6]
parm5   equ     [bp-8]
parm6   equ     [bp-10]
parm7   equ     [bp-12]
parm8   equ     [bp-14]


;**********************************************************************
;*  Define getsdbs macro.  This macro will load the cx and si reg.s    *
;*  with the length and address of the string specified by a parameter*
;*  name.  As an example, "getsdbs parm1" would load the SDB of the    *
;*  string variable passed as parameter 1 into cx and si.              *
;**********************************************************************
;
```

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```
getsdbs macro   paramspec
        mov     si,paramspec
        mov     cx,[si]
        mov     si,[si+2]
        endm


code            segment byte public 'code'
                public upsdeb
                assume cs:code

;**********************************************************************
;*                                                                    *
;*  CALL UPSDEB(<return string>,<new length>)                         *
;*                                                                    *
;*  This routine removes all the blanks from the passed string,       *
;*  upshifts it and returns both the new string and how many          *
;*  characters it must be truncated to.                               *
;*                                                                    *
;*  The integer variable new-length value will be overwritten.        *
;**********************************************************************
upsdeb          proc    far
                enterbp 2

                getsdbs parm1           ;Get len/addr of str into cx,si
                xor     dx,dx           ;Set counter/new-length to zero
                jcxz    upsdeb_2        ;Empty string?

                push    ds              ;Set es = ds
                pop     es              ;
                mov     di,si           ;Set dest ptr = source ptr
upsdeb_1a:      lodsb                   ;Start of loop:  Get character
                cmp     al,' '          ;Is it a blank?
                je      upsdeb_1c       ;If so, skip it
                cmp     al,'a'          ;Below range for upshifting?
                jb      upsdeb_1b       ;If so, do not upshift
                cmp     al,'z'          ;Above range for upshifting?
                ja      upsdeb_1b       ;If so, do not upshift
                sub     al,32           ;Upshift the character
upsdeb_1b:      stosb                   ;Store the new character
                inc     dx              ;Increment counter/new length
upsdeb_1c:      loop    upsdeb_1a       ;End of upshift/deblank loop

upsdeb_2:       mov     bx,parm2        ;Get addr of new length var
                mov     [bx],dx         ;Set equal to new length

                retbp
upsdeb          endp

code            ends
                end
```

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Just One Quick Note About Fatal Errors	If you are going to write a large amount of assembly language code, and will be calling MS-DOS functions, read up on INTerrupt 24H. Although the functions will return error status codes related to most problems, fatal errors (e.g. disc not ready) are handled in a very special way.
	Ah, yet another article to write some day.
Special Thanks	A very special thank you to Pat Grever for helping me with the development of the general purpose entry/exit MACROS contained in this article.

□

Product News

Introducing OfficeShare:
HP's PC Local Area Network   Gregg Kussmann

HP is proud to introduce the OfficeShare PC Local Area Network. As a member of the HP AdvanceNet family of products, OfficeShare links together HP Vectra PC, HP 150A, HP Touchscreen, HP Touchscreen II and IBM PC/XT/ AT personal computers, providing low cost peripheral, information and file sharing through local network "servers," as well as terminal emulation with file transfer to HP 3000 systems over a standard IEEE 802.3 link. OfficeShare also utilizes the powerful MicroSoft Network services, therefore is fully compatible with software written for other MicroSoft compatible networks, such as the IBM PC Network.

Key Features

File Sharing: Users of the OfficeShare network can conveniently store and retrieve files on network discs connected to the server, a dedicated personal computer which manages the network's shared resources (discs, printers and plotters).

Printer and Plotter Sharing Through Spooling: OfficeShare provides a print and plot spooler, which manages the network's printers and plotters. Users can conveniently send files to the spooler over the network, thereby allowing them to perform other functions while the files are actually being printed or plotted at the network server.

HP 3000 Access Over the Network: OfficeShare also makes possible terminal emulation with file transfer to an HP 3000 over the network! Users running AdvanceLink gain access to the power of larger printers, remote data bases and HP 3000 applications without additional RS-232 cables. Users can also transfer files between the PC and the HP 3000, providing increased information sharing.

At the time of this writing, the following 3000 applications have been verified to work on the Touchscreen/150 using the OfficeShare Network:

mpe commands	MRJE
compilers	MS3000
fcopy	OPT
edit	Rapid (inc. Inform
HPDraw	and Transact)
HPEasy Chart	
HPDSG	
HPMap 3000	
HPMenu	
HPSpell	

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The following did not work:

HPAccess Central
HPMessage
Print Central
HPSlate
HPWord
MM 3000
PM3000

Other products, including HPDesk and TDP, are still in testing. Contact your sales rep for details.

Transparent Access to the Network: Network users can utilize the network's resources and even communicate with the HP 3000 through AdvanceLink through the same human interfaces they have always used. This helps eliminate user re-training!

Data Security: OfficeShare provides passwords to its "tree-structured" disc directory, preventing unauthorized access, as well as multiple levels of user capability (permissions) for each network resource.

HP AdvanceNet Compatibility: HP AdvanceNet Compatibility means that the OfficeShare Network adheres to HP's long-term networking strategy, which is based around standards the ISO model and protocols such as IEEE 802.3.

MicroSoft MS-NET Application Software Support: OfficeShare's compatibility with MicroSoft Networks, an emerging defacto standard, means more application software will be available for your OfficeShare network.

Managing the OfficeShare Network Course: HP has developed a one-day course designed to train the network manager about the OfficeShare product. Training includes an overview of networking, network planning, installation and configuration, daily operation, periodic maintenance and troubleshooting tips. The course will be offered at designated local HP Sales and Service offices.

HP Quality and Support: OfficeShare is backed by HP's acknowledged quality and worldwide support, meaning more uptime, fewer service calls and quick repairs.

Ordering Information	HP's OfficeShare Network provides a variety of configuration alternatives. Please contact your local HP Sales and Service Office for configuration assistance, ordering information, or to ask about the Ethernet/150 update.

Recently, Lotus Development Corporation began shipping a new version of 1-2-3™ for the IBM PC/XT/ AT and IBM PC Compatibles. Hewlett-Packard is now offering this new product for use with the recently announced HP Vectra PC.

The new version of 1-2-3, Release 2.0, hosts a number of improvements over the original version of 1-2-3, Release 1A. One of the most beneficial changes is its expanded spreadsheet, which is now 8,192 rows by 256 columns. A more efficient memory management scheme allows users to build larger spreadsheets. This program supports the Intel Above Board (or compatible), allowing users to access up to 4 megabytes of random access memory, and the Intel 80287 co-processor, which enables 1-2-3 to perform mathematical calculations much more rapidly. In addition, 1-2-3 now has the powerful macro capabilities that are included with Symphony from Lotus.

Release 2.0 of 1-2-3 has 39 new @ functions. Its date and time functions will return the date and time by the hour, minute, and even second. Financial functions calculate a compounding term (@CTERM), a double-declining balance (@DDB), interest rates (@RATE), straight line depreciation (@SLN), sum of the year's digits depreciation (@SVD), and the period of an investment (@TERM). Several new special functions and string functions have also been added.

An exciting new feature in 1-2-3 is data regression. This capability allows users to compute a regression line for a series of observations, and if desired, predict the value of the next data point in the series. 1-2-3 determines the rate of change between the various data points by calculating the slope and the constant of a line with the R-squared method. It also determines the variance between an actual data point and its estimate by calculating the standard error and the degrees of freedom. This information can then be used for further analysis on the spreadsheet or for charting various types of graphs.

The original 1-2-3 menu still appears, for the most part, with the new version of 1-2-3. Although some commands have been added to the menu, Lotus has attempted to preserve as much of the original menu as possible. 1-2-3 now has an easier install procedure, which allows for single drivers to be added to the driver library and support of new printers and plotters and multiple driver sets.

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The tutorial included with 1-2-3 is now a book, and provides for a self-paced approach to learning about 1-2-3's features and functions. Context-sensitive help screens have also been added so that users can gain only the relevant information that they need.

Users who have been working with Release 1A of 1-2-3 will be able to use data files with Release 2.0 of 1-2-3. The new 1-2-3 will read .WKS files, but when it saves files, it will turn them into .WK1 files. To convert a .WK1 file back to a .WKS file, you simple use the Translate utility that is included with the new 1-2-3. The new 1-2-3 will also read Symphony (Release 1.01 and 1.1), Jazz, dBase II and DIF files. Again, you can change these files back into the desired format with the Translate utility disc. The part # for this product is 68340F.

□

The Executive Series:
A Family of Easy-to-Use
Software Products

Patrick Apfel
Marilyn Ruel

The Executive Series of products is now available for the HP Vectra and IBM Personal Computers. This series offers an integrated family of easy-to-use, yet powerful personal productivity software products for business professionals and managers.

A family of five powerful packages:

The Executive Series includes five sophisticated software products. The family was designed to provide professionals with the right amount of power they need for the application they want to perform. Unlike many competitive "multi-applications" software packages which seek to provide a solution for everyone, each Executive Series package provides a set of features optimized for the professional and manager.

The Executive Series includes:

Executive MemoMaker: Simple, versatile word processor that features on-screen editing, professional spelling correction, and search and replace.

Executive Card Manager: A Rolodex,® card file-like information manager with built-in report writer, simple form letter generator, and data base capabilities such as searching, sorting and merging.

Executive Card Manager: Templates: 21 modifiable card file and report layouts which provide Executive Card Manager users with a set of standard formats for instant productivity.

Executive SpreadSheet: Softkey-driven full-function spreadsheet that is fully compatible with other HP spreadsheet products. Features powerful consolidation capability and compatibility with Visicalc 3000.

AdvanceLink 2392: Advanced, easy-to-use communications software. Provides HP Vectra and IBM personal computers with full HP 2392 terminal emulation capabilities, as well as file transfer and command files. AdvanceLink 2392 builds on the success of AdvanceLink for the Touchscreen PCs by allowing professionals to integrate their HP Vectra PCs with the HP Personal Productivity Center.

A family of five easy-to-learn and easy-to-use packages:	All of the Executive Series products display precisely-worded command softkeys which make their powerful features both easy to learn and to use. And with a consistent approach to each product's user interface, it's easy to apply what you learn on one product to the others. With minimal training, business professionals can be productive on their HP Vectra and IBM personal computers.
A family of five communicating packages:	The Executive Series products work together. For example, with the Executive Series it is easy to transfer an Executive SpreadSheet worksheet or an Executive Card Manager report into an Executive MemoMaker document. And just as easily, you can transfer the document to your HP 3000, using AdvanceLink 2392, and forward it through HPDesk. You can also have your secretary polish it with AdvanceWrite, HP's Vectra PC-based secretarial word processing solution.
A family of five office automation packages:	Professionals and managers of large corporations have acquired numerous spreadsheet, data base, word-processing, and data communication packages which often cannot communicate with each other. The standard file formats provided by the Executive Series products let you exchange information with the most popular ISV software packages.
	Also, by introducing the Executive Series for the HP Vectra and IBM-personal computers, HP provides a solution for large corporations with mixed-vendor's workstation environments. The Executive Series products enable business professionals of the same workgroup— whether they work on an HP Vectra PC, Touchscreen PC, IBM PC, XT, or AT—to get software tailored to their needs. The part number for each product is given below and in the Current Information article "Software Available from HP."

Executive Spreadsheet—	68332F
Executive MemoMaker—	68330F
Executive Card Manager—	68331F
Executive Card Manager: Templates—	68335F
AdvanceLink 2392—	68333F

MicroPro Products for HP Vectra PC — Marc Lowe

Major accounts and customers can now purchase MicroPro's industry leading word processing packages for use on the HP Vectra PC. MicroPro products which will be available through Hewlett-Packard's direct sales force include: WordStar, WordStar Professional, WordStar 2000 and WordStar 2000 Plus.

The WordStar and WordStar 2000 families of products offer you two different approaches to word processing. WordStar and WordStar Professional offer the experienced word processor user flexibility and total control of all word processor functions from the main keyboard area. WordStar 2000 and 2000 Plus offer the user a new, revolutionary approach to word processing ... today's most advanced word processing technology—with a human touch. WordStar 2000 and 2000 Plus utilize a user interface unique in the word processing industry and very different from WordStar and WordStar Professional.

WordStar and WordStar Professional

WordStar and WordStar Professional are being offered in revision 3.31, MicroPro's most recent release of this popular word processing software line. Today, the WordStar family is being used by more people than any other word processing package available for microcomputers.

WordStar 3.31 offers you everything you need to edit, insert, delete, and rearrange text. Special features include: Simultaneous editing and printing, dynamic page break display, flexible formatting, automatic search and replace, word wrap, and right margin justification shown on-screen! Special effects such as boldfacing, underlining, strikeout, subscripts, and superscripts lend a professional look to your documents.

WordStar Professional offers you WordStar 3.31 plus three additional programs to further enhance your productivity. These programs include CorrectStar,™ MailMerge,® and StarIndex.®

CorrectStar is the industry's fastest and most accurate spelling checker. Based on the Houghton-Mifflin American Heritage Dictionary, CorrectStar contains over 65,000 words representing 99 percent of today's most frequently used words. CorrectStar is for anyone who needs perfect documents and doesn't have the time for tedious proofreading.

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MailMerge is a versatile text- and data-merging program ideal for direct mailings to clients and prospects. MailMerge allows you to quickly and easily merge data and form letters for customized mailings, and create mailings labels and invoices from data files.

StarIndex automates the production of tables of contents and indexes. With StarIndex, you can number paragraphs, sections, and chapters and build tables of contents and alphabetized indexes effortlessly. Whether you're preparing a major report, a proposal, or even the manuscript for your latest novel, StarIndex can help you.

WordStar 2000 and WordStar 2000 Plus	WordStar 2000 and WordStar 2000 Plus represent a revolutionary advance in word processing technology. Although WordStar text files are compatible with WordStar 2000, the WordStar 2000 line of products is completely distinct from MicroPro's traditional WordStar product offering. The design goals for WordStar 2000 were to develop a full featured word processing package without compromising on human usability. WordStar 2000 is a product ahead of its time.

WordStar 2000 is easy to use because all of its commands appear on clear, easy-to-use menus. There's no need to memorize arcane commands with WordStar 2000. Function keys are user definable, so common commands can be pre-selected for fast entry. On-screen help is available every step of the way. Interactive, on-screen tutorials and a well-written "Getting Started" booklet, help to get new users up and running quickly.

WordStar 2000 is as powerful as it is easy to use. WordStar 2000 includes special features: windowing, format sheets, keystroke glossary, five function math capability, typewriter mode, on-screen boldfacing and underlining, and footnoting. In addition, WordStar 2000 features a built-in spelling corrector, mail merging capability with conditional printing, and a file conversion utility which lets you use files created by WordStar.

WordStar 2000 Plus offers all of the features and benefits of WordStar 2000 plus a built-in mailing list management system, telecommunications capability, and automatic indexing. The mailing list manager makes it easy to track prospects and to reach all (or part) of your list of periodic mailings. The telecommunications module

enables you to send documents quickly through electronic mail and to access popular information services. Automatic indexing capability allows you to produce alphabetical indexes of words you mark in your documents, as well as generate tables of contents.

|	
Fulfilling Your Needs	The following guidelines should help you decide which MicroPro word processor would be best for you:
	WordStar is the best choice if:
	■ You're a fast "touch typist."
	■ You think learning about computers and software is fun.
	■ You work with people who already know and use WordStar.
	■ You need a word processor for writing and programming.
	■ You will use word processing several hours a day.
	WordStar 2000 is the best choice if:
	■ You're new to word processing, but know you'll have major projects to do.
	■ You want the most extensive word processing features available.
	■ Your work grows beyond word processing to mailing lists and electronic mail.
	■ You want the best possible output for your LaserJet and letter-quality printers.
Ordering Information	68345F WordStar 68346F WordStar Professional 68341F WordStar 2000 68342F WordStar 2000 Plus

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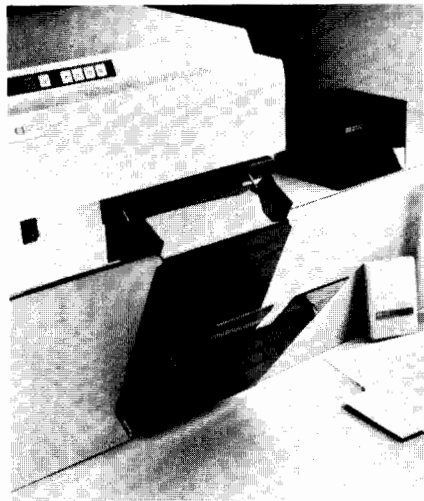
HP introduces the HP LaserJet Printer Forward Collator, HP Vectra PC Protectors, New Graphics Organizers, and the five-in-one ThinkJet Accessory Kit.

|	
Protection for HP Vectra PC	**Keyboard Park** When you're through with your keyboard, slide it into HP's Vectra PC keyboard park (HP P/N 92171Z). You'll gain desktop space and protect your keyboard from accidental spills. Constructed of wood with mar-resistant laminate, this park will easily support your Vectra PC monitor and other smaller items. **Dust Cover** A two-piece, anti-static and water-resistant cotton dust cover for your Vectra PC is now available from HP. It's designed to fit the monitor and keyboard perfectly. Order HP P/N 92259A for the monochrome monitor and keyboard, or 92259B for the color monitor and keyboard. **Carrying Case** Transport your Vectra PC in HP's thickly padded carrying case on wheels (HP P/N 35178A). You'll be able to roll it to where you're going safe and sound. The black, three-piece set is made of water-resistant cordura nylon. The individual cases hold either the monochrome or color monitor, the system processing unit, and the keyboard. The SPU and monitor bags feature removable, wraparound shoulder straps as well as leather-wrapped carrying handles.
HP LaserJet Printer Forward Collator	With a forward collator (HP P/N 92285F) for your LaserJet, you no longer need to arrange documents in their original order. The collator gets the job done. Installation is simple. Just remove the output tray and attach the collator into the slots where the output tray is normally in place. Made of durable, lightweight plastic, the collator can hold up to 200 sheets of paper. To refill the paper tray, just pivot the collator upward for easy loading.
5-in-1 ThinkJet Accessory Kit	We've combined five popular products into one convenient package to get you started—or keep you going—with your ThinkJet Printer. When you order HP P/N 92261D, you'll get: ■ two print-head ink cartridges (print approximately 1000 pages) ■ one acrylic printer stand (holds 500 sheets of fanfold paper)
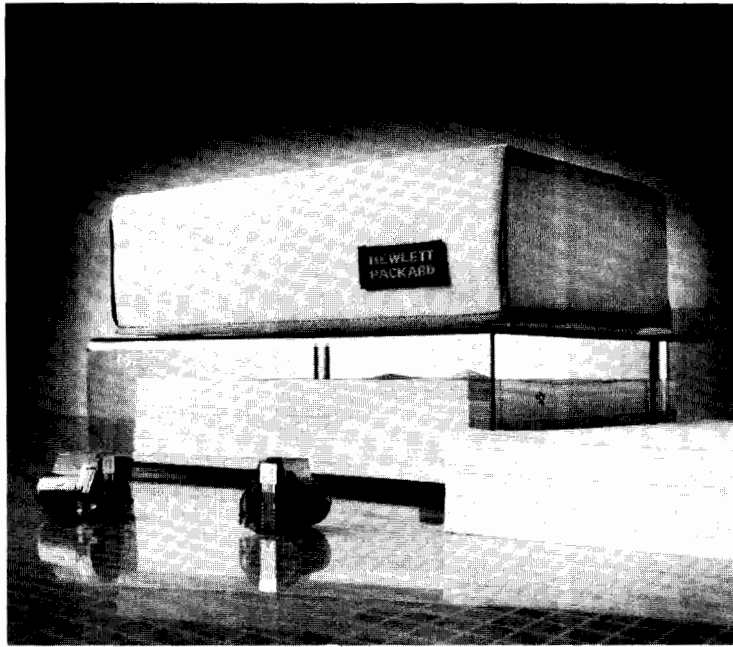
	■ one customized, water-resistant, cotton dust cover
	■ 500 sheets of 8.5 in. x 11 in. microperforated fanfold paper
	■ 500 sheets of individually cut 8.5 in. x 11 in. paper.
New Graphics Organizers for HP ColorPro and HP 7475A Plotters	Save space and keep plotter supplies handy by using HP's Graphics Organizers especially designed for the ColorPro 7440A (92177W) and the 7475A (92177X) plotters. Made of translucent gray acrylic, each organizer is a plotter stand as well as a compartmentalized drawer for supplies. Store and protect pen carousels, paper, transparency film, and fiber-tip pens in the high density, foam-lined drawer. The 92177W Graphics Organizer also works with the 7470A plotter.
Ordering	Contact your HP dealer or call HP direct using the phone numbers in the Current Information section.

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Encyclopedia

The Encyclopedia

*In This Issue

*In This Issue

The HP PC Bugline

Latest information about HP PC questions, problems, and solutions

Problem: Whenever I try to run **Executive Card Manager** (ECM) on my Vectra it comes up just fine, but won't let me open any card files. **Executive MemoMaker** (EMM) also comes up but won't let me edit anything. What's going on?

Solution: Your system doesn't have enough file handles set up to run these programs properly.

In an MS-DOS environment, most application programs operate using files outside of the main program for such things as prompting text and help messages. Internally, the operating system "knows" these files not by file name, but by numbers it assigns to them as it opens them for use. These numbers are called "file handles."

To conserve system memory (each handle needs about 32 Bytes), MS-DOS uses a default maximum of eight file handles. The system uses five of these handles for its own use, so if your application program needs more than two external files, it will not be able to run properly. To solve this problem, you need to tell MS-DOS to use more file handles.

You can tell MS-DOS to use more file handles by including the statement FILES=20 in the file CONFIG.SYS in the root directory of your operating system work disc. To find out what you currently have in the CONFIG.SYS file, insert your operating system work disc in drive A: (or use C> if it's a hard disc) and type:

```
A>CHDIR\ <Return>
A>TYPE CONFIG.SYS <Return>
```

To add or change the FILES setting you may use a text editor. Or, you can recreate the file by first typing:

```
A>COPY CON CONFIG.SYS <Return>
FILES=20 <Return>
```

second, making the other entries from your original CONFIG.SYS file (i.e. SHELL=PAMCODE.EXE ROOT), and last, typing CTRL-Z and pressing Return. (CTRL-Z is function key F6, or CTRL-Z from PAM.)

Note: You will have to re-boot your system using this disc to activate the FILES value.

--Claudia Carpenter

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Problem: How can I adjust the sound level of the key click on my Vectra?

Solution: It's very easy to adjust this feature. To make it louder, hold down the CTRL key and the ALT key and press the numeric keypad key "+" until you get the desired volume. To turn it down or even off, hold down the CTRL key and the ALT key and press the numeric keypad key "-" until you get the desired volume.

--Mike Hachigian

* * *

Problem: Using my Vectra, how can I display information that takes up more than a page, e.g. a DIR or TYPE-ing a file? The information is lost once it is scrolled off the top of the page.

Solution: The Vectra, being PC AT compatible, does not include a built-in terminal like the Touchscreen/150, therefore you will need to follow one of the two solutions. One solution is to use CTRL-S to pause the display (and CTRL-Q to resume). The other solution is to use the MORE command. MORE takes the information and displays a screenful at a time. When you are ready for "more" data, you press a key to get the next screen. For example, to look at a file named MYFILE, you would type:
TYPE MYFILE | MORE

--Kevin Folan

* * *

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 all or part of this information:

- Product Description—a one- or two-sentence explanation of what the product does.
- Encyclopedia Articles—a reference to any Encyclopedia articles in previous *Communicator* issues covering this product.
- 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.)
- Data Files—a description of the files used by the product, to aid in data transfer.
- Integration Features—a summary of any features built into the product to facilitate data transfer to other products.

■ Data Transfer Procedures—specific techniques which have been discovered for data transfer to specific products.

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 issues containing the latest articles for each product.
Contributors	The Encyclopedia is a result of effort by many people. The key contributors for this issue are:

Mary Jo Blakenship
John Callendar
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Noni Kaufman
Leonard Knapp
Rich Moyer
Margaret Price
Ron Reimert
Martha Seaver
Hal Sindler
Vicky Spilman
Tore Strong

Also, we would like to send a special thanks to the OPD Support Team.

If you have an item which you would like to share, please send it to the *Communicator* editor.

Charting Gallery ... for the Touchscreen/150

Encyclopedia Articles	This is the first Encyclopedia article on this product.
Product Description	Charting Gallery is an enhancement to the Series 100 Graphics which can be used to create quality pie, bar, line, and scatter charts. Charts can be emphasized with large and bold text. They can be plotted to any HP graphics plotter and to many graphics printers, including HP and non-HP printers.
Data Files	Charting Gallery stores its charts in two files, a chart file with suffix ".GPH" and a binary data file with suffix ".GPD". It can also save the charts in a picture file with suffix ".GAL" to be used in other products that read picture files; such as Drawing Gallery and Executive MemoMaker. Charting Gallery can read data from DIF files and simple ASCII print files.
Integration Features	Charting Gallery lets you get data from DIF and simple ASCII files. The format for these files has the following limitations. –Data must be in a columnar format with no blank lines (no blank columns for DIF files). –For ASCII data, blanks or commas are used as delimiters bewteen columns; no non-numeric symbols can be used for numeric data (e.g. %). –Data must be oriented such that x-axis data (if desired) is in the first column and next five columns contain data desired for five y-axis variables; if the first one or two rows are textual, they will be treated as legends. To bring in data from a DIF or ASCII print file: 1. Choose the chart type you want to use and start the appropriate program (Line, Pie, or Bar Gallery). 2. From the GET AND SAVE menu specify the file name and press GET DATA. Make sure that you specify the file extension ".DIF"—or "." if there is no extension. 3. Go to the DATA menu to see the retrieved data. Pictures that are saved in Charting Gallery can be used in Executive MemoMaker or Drawing Gallery. Conversion between HP3000 figure files and Touchscreen/150 picture files is not available.

Data Transfer Procedures

To Executive MemoMaker:

From the GET AND SAVE menu, specify a picture file name and press SAVE PICTURE to store the chart in the picture format (with extension ".GAL"). To include the picture in a document, see the MemoMaker documentation.

To Drawing Gallery:

From the GET AND SAVE menu in Charting Gallery, specify the picture file name and press SAVE PICTURE to store the chart in the picture format (with extension ".GAL"). This file can then be brought into Drawing Gallery.

Note: To use these procedures, you need to be an experienced user of both software packages involved in the data transfer. You should also be aware that these procedures are *not* supported by Hewlett-Packard. They were developed to work with existing products—not included in the original product designs. These procedures may not work under all circumstances or with all version combinations.

Please send your additions or updates for this article to the *Communicator* editor—so that we may share them with other users in future issues.

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Deluxe VisiCalc/150 ... for the Touchscreen/150

Encyclopedia Articles	This is the first Encyclopedia article on this product.
Product Description	VisiCalc® was the first spreadsheet application for personal computers. It is a row and column manipulator which makes it possible for financial planners to create "what-if" scenarios.
Data Files	The .VC file is the basic command file for any VisiCalc application. It contains all the constants, variables and equations that allow reconstruction of the spreadsheet when the file is loaded. The command /SS stores the worksheet; the command /SL loads the worksheet.
	The .PRN file is an ASCII print file (or print format file) that can be used to print the spreadsheet or integrate it into a word processing document. It is an output file, only produced by the /PF command.
	The .DIF file type is used to pass information to other applications—it contains the labels and the data from the original spreadsheet, but not the formulas. Although it is an output file, it can be read back into VisiCalc—thus recreating the spreadsheet from the time the DIF™ file was originally produced. The recreation contains no formulas, and therefore, cannot be manipulated in the normal manner. It is produced by the /S#S command.
Integration Features	VisiCalc has no built-in integration features except for the DIF file capability.
Data Transfer Procedures	**To Lotus 1-2-3:**
	1. Save the worksheet using the /SS command.
	2. Use the Translate Utility within 1-2-3 to translate the .VC file to a .WKS format.
	3. Use the /FILE RETRIEVE command within 1-2-3 to load the worksheet.
	To WordStar:
	Use the VisiCalc /PF command to create an ordinary print format file (ASCII). This can be read into the word processor with its file input command.
	To MultiMate:
	Use the VisiCalc /PF command to create an ordinary print format file (ASCII). Use MultiMate's File Conversion Utility FILECONV to convert the ASCII file to MultiMate format.

To MemoMaker:

Same as from VisiCalc/150 to WordStar.

To Executive MemoMaker:

Same as from VisiCalc/150 to WordStar.

To MS Word:

Use the VisiCalc /PF command to create an ordinary print format file (ASCII). This file can then be read into MS Word with the .PRN extension using Transfer Load.

To HPWord:

Use AdvanceLink to move the ASCII print file to HP3000. Or use HPDesk/HPMessage to transfer the file as "VC" or as "ASCII." In HPWORD, you can convert the print file to an HPWORD file (you may get a message saying it was unable to create the document, but it will be there) and then you can edit it. Keep in mind that the number of characters able to be printed on a line may be less than the number of characters in the longest row of your spreadsheet.

HPWord's CONVERT contains heuristics to detect the "structure" of the ASCII text in an attempt to recognize indented paragraphs, tables, etc. Try to make the last column of your spreadsheet a blank column with the first character of each cell a blank character. This helps HPWord align the spreadsheet. These heuristics are NOT perfect, but they come close 90% of the time. The first line in your spreadsheet may be treated as a paragraph and may get wrapped. In this case you will need to edit your text in the HPWord file after the convert is done and the spreadsheet is brought in. For HPWord conversion, contact your local HPWord specialist.

To HPSLATE:

Use AdvanceLink or HPDesk/HPMessage to move the print format file to HP3000. Then use HPSLATE conversion utility to input directly to HPSLATE.

To TDP:

Use AdvanceLink or HPDesk/HPMessage to move the print format file to HP3000. Text directly into TDP.

To Series 100 Graphics:

1. Save .VC file as a .DIF file. Place the cursor at the upper left corner where you want to start storing. VisiCalc asks you for the lower right corner. Store in columnar format.

2. Using Series 100 Graphics, press the "Get a CHRT" key (f3).

3. Since this is a new chart, don't type anything under "Chart File Information." Type in the name of your DIF file (include disc and extension ID) under "Data File Information", in the "Directory" field (since the "File" field isn't big enough).

4. Press the "Transfer Data In" key (f1) so that an asterisk appears.

5. Press the "Data" key (f5) and Graphics will load your data file.

6. Proceed with chart creation.

To Charting Gallery:

Can read DIF files, or print format files.

To Picture Perfect:

To use Deluxe VisiCalc data in a Picture Perfect chart, you must save your spreadsheet either as a DIF file or as a DOCUMENT print file. To save part of your spreadsheet as a DIF file, use the /S#S command. To save part of it as a DOCUMENT print file use /PC to specify DOCUMENT printer with NO for all options except Auto Feed. Then use /PF to save the file. Note that there are restrictions to the format of the data that you can use in Picture Perfect. Refer to the Integration Features of Picture Perfect (Issue #13) for those limitations. You may need to browse the contents of the print file in File Manager to determine the exact layout of the spreadsheet data within the file, so that you can accurately describe that layout via the Data Access menu.

To DSG/3000:

To use Deluxe VisiCalc data in a DSG/3000 chart, you must save your spreadsheet as a DOCUMENT print file. To save part of it as a DOCUMENT print file use /PC to specify DOCUMENT printer with NO for all options except Auto Feed. Then use /PF to save the file. Once you have the print file, transfer the file to the HP3000 using AdvanceLink or HPDesk/HPMessage. Use an HP3000 editor to determine the exact layout of the data within the file. Note that there are restrictions to the format of the data that you can use in DSG/3000. Refer to the Integration Features of DSG/3000 (this issue) for those limitations.

To VisiCalc/3000:

Use AdvanceLink to move the .VC file to HP3000. Or use HPDesk/HPMessage to transfer the file as ".VC" to the HP3000 and copy it out of HPDesk to MPE.

To IBM PC VisiCalc:

There are two ways to use HP data on IBM PC VisiCalc:

■ DIF files–Use DIF files for DATA transfer only. Data is completely interchangeable using DIF files. Once transferred, the DIF file can be loaded into IBM PC VisiCalc.

To transfer the data using DIF files, use the options described in the "AdvanceLink" article in Issue #13.

■ VC files–Use VC files to transfer the whole spreadsheet over. The Deluxe VisiCalc feature set on the HP Touchscreen computer and the HP3000 is a superset of the IBM PC VisiCalc feature set. You will need to modify your VC files so they have the same feature set as the IBM PC version.

Note: Since IBM PC VisiCalc is a subset of VisiCalc on the Touchscreen or on the HP3000, VC files can be transferred from the IBM PC with no modifications necessary. As mentioned above, DIF files are interchangeable so they can be transferred both ways with no modifications.

To transfer the HP data using VC files, follow these steps:

For VC file transfer (to use an HP VisiCalc spreadsheet on the IBM PC), follow these steps:

1. Strip out all HP Touchscreen Deluxe VisiCalc specific features. This is done using a word processor (WordStar, MemoMaker) and deleting from the VC file the lines containing the commands listed below:

   Versions A.01.04 and earlier:

   /GA commands (global attributes)
   /GCC command (individual column width)
   /GSC (default global sort)
   /GAC (global default consolidate attribute)
   Local data formats
   Financial, statistical and date functions
   Round function
   LOOKUP, CHOOSE, IF functions returning
     labels

2. Transfer the file to the IBM PC using the options described in the "AdvanceLink" article in Issue #13.

To Condor:

Refer to the article "File Transfers from VisiCalc to Condor" in *Communicator* Issue #13.

Note: To use these procedures, you need to be an experienced user of both software packages involved in the data transfer. You should also be aware that these procedures are *not* supported by Hewlett-Packard. They were developed to work with existing products—not included in the original product designs. These procedures may not work under all circumstances or with all version combinations.

Please send your additions or updates for this article to the *Communicator* editor—so that we may share them with other users in future issues.

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Deluxe VisiCalc/3000 ... Data Transfer to the Touchscreen/150

Encyclopedia Articles	This is the first Encyclopedia article on this product.
Product Description	With Deluxe VisiCalc you can implement the popular VisiCalc spreadsheet package on the HP3000. Deluxe VisiCalc can do the same cell, row, and column manipulations as VisiCalc plus more. Spreadsheets can be printed on printers slaved off the terminal as well as on system printers connected to the HP3000.
Data Files	Deluxe VisiCalc stores its spreadsheets in a VC file format. You can also save the spreadsheet as a DIF file, or as an ASCII print file (printed to a file, specifying the printer as DOCUMENT). Deluxe VisiCalc can read its own spreadsheet files as well as DIF files and SD files.
Integration Features	Deluxe VisiCalc lets you read data from DIF files. Load the DIF file by using the command: /S#L "Filename"; you will usually need to specify that the data be loaded in column format because most DIF file creators (e.g. Lotus) save DIFs in column format.
	VisiCalc also lets you read an SD file into a spreadsheet. The command for doing this is the same as for DIF files. Deluxe VisiCalc automatically recognizes the SD file and does SD to DIF conversion.
Data Transfer Procedures	**To Lotus 1-2-3:** You can save VisiCalc spreadsheets in standard VC or DIF file format and use them in Lotus 1-2-3. Lotus has a Translate Utility that can bring either file type into Lotus WKS format. You must first transfer the file to the HP150 using AdvanceLink. When you transfer a VC file, specify the filename for the HP150 file with the ".VC" extension. When you transfer the DIF file, specify a ".DIF" extension.
	Note: Because of a quirk in VisiCalc/Lotus combination, you must leave the first cell of the spreadsheet that you are saving and transferring blank.

To WordStar:

You can print Deluxe VisiCalc spreadsheets to a
DOCUMENT file by using the /PC Command and
specifying the printer as DOCUMENT: say NO to
all the configuration options except leave Auto
Feed as YES. Then use /PF to specify the
DOCUMENT file name. Then transfer this
DOCUMENT (a simple ASCII print file) to the
HP150 using AdvanceLink. Refer to the WordStar
Data Transfer Procedures (Issue 13) for details on
how to incorporate the ASCII print file in a
document.

To MultiMate:

Same as from Deluxe VisiCalc/3000 to WordStar.

To MemoMaker:

Same as from Deluxe VisiCalc/3000 to WordStar.

To Executive MemoMaker:

Same as from Deluxe VisiCalc/3000 to WordStar.

To MS Word:

Same as from Deluxe VisiCalc/3000 to WordStar.

To HPWord:

In addition to being able to incorporate the
DOCUMENT file saved from the Deluxe VisiCalc
spreadsheet into HPWord, you can bring the
VisiCalc print file into HPWord using the
CONVERT utility of HPWord. When setting up
your spreadsheet, leave the first character of each
cell blank to help HPWord align the spreadsheet.

To HPSLATE:

Same as from Deluxe VisiCalc/3000 to WordStar.

To TDP:

Same as from Deluxe VisiCalc/3000 to WordStar.

To Series 100 Graphics:

To use Deluxe VisiCalc data in a Series 100
Graphics chart, you must save your spreadsheet
either as a DIF file or as a DOCUMENT print file.
To save part of your spreadsheet as a DIF file, use
the /S#S command. To save part of it as a
DOCUMENT print file use the /PC to specify
DOCUMENT printer with NO for all options
except Auto Feed. Then use /PF to save the file.

Once you have a print or DIF file, transfer the data to the HP150 using AdvanceLink; for a DIF file give the HP150 target file name the extension ".DIF". Note that there are restrictions to the format of the spreadsheet data that you can use in Series 100 Graphics. Refer to the Integration Features of Graphics for the Touchscreen 150 (Issue 13) for those limitations.

To Charting Gallery:

To use Deluxe VisiCalc data in Charting Gallery chart, you must save your spreadsheet either as a DIF file or as a DOCUMENT print file. To save part of your spreadsheet as a DIF file, use the /S#S command. To save part of it as a DOCUMENT print file use /PC to specify DOCUMENT printer with NO for all options except Auto Feed. Then use /PF to save the file. Once you have a print or DIF file, be sure to name the HP150 target file with a ".DIF" extension. Note that there are restrictions to the format of spreadsheet data that you can use in Charting Gallery. Refer to the Integration Features of Charting Gallery (in this issue) for those limitations.

To Picture Perfect:

To use Deluxe VisiCalc data in Picture Perfect chart, you must save your spreadsheet either as a DIF file or as a DOCUMENT print file. To save part of your spreadsheet as a DIF file, use the /S#S command. To save part of it as a DOCUMENT print file use /PC to specify DOCUMENT printer with NO for all options except Auto Feed. Then use /PF to save the file. Once you have a print or DIF file, transfer the data to the HP150 using AdvanceLink or HPDesk/ HPMessage. Note that there are restrictions to the format of spreadsheet data that you can use in Picture Perfect. Refer to the Integration Features of Picture Perfect for those limitations. You may need to browse the contents of the print file in File Manager to determine the exact layout on the Data Access menu.

To DSG/3000:

To use Deluxe VisiCalc data in a DSG/3000 chart, you must save your spreadsheet as a DOCUMENT print file. To save part of it as a DOCUMENT print file, use /PC to specify DOCUMENT printer with NO for all options except Auto Feed. Then use /PF to save the file.

Once you have the print file, use an HP3000 editor to determine the exact layout of the data within the file. Note that there are restrictions to the format of data that you can use in DSG/3000. Refer to the Integration Features of DSG/3000 (this issue) for those limitations.

To HPEasyChart:

You cannot bring Deluxe VisiCalc data into HPEasyChart; the only outside data it accepts is SD files.

To Series 100 VisiCalc:

Deluxe VisiCalc/3000 spreadsheets, which are in VC file format, can be used in Series 100 VisiCalc. DIF files saved from a Deluxe VisiCalc/3000 spreadsheet can also be used. Once you have saved your Deluxe VisiCalc/3000 spreadsheet, either as the standard VC file or as a DIF file, transfer it to the HP150 using AdvanceLink or HPDesk/HPMessage. Be sure to name your target files on the HP150 with the appropriate ".VC" or ".DIF" extension. Then access the spreadsheet with the /SL command for VC files or /S#L for DIF files.

To IBM PC VisiCalc:

Transfer the file to the IBM as outlined in the "AdvanceLink for the IBM PC Family" article (Issue #13). See the "Deluxe VisiCalc/150" article in this issue for further details on file compatibility.

Note: To use these procedures, you need to be an experienced user of both software packages involved in the data transfer. You should also be aware that these procedures are *not* supported by Hewlett-Packard. They were developed to work with existing products—not included in the original product designs. These procedures may not work under all circumstances or with all version combinations.

Please send your additions or updates for this article to the *Communicator* editor—so that we may share them with other users in future issues.

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Drawing Gallery ... for the Touchscreen/150

Encyclopedia Articles	This is the first Encyclopedia article on this product.
Product Description	With Drawing Gallery, almost any type of data, pictures, or text can be drawn.
	You can use Drawing Gallery to create organizational charts, time lines, meeting agendas and text charts.
Data Files	Drawing Gallery produces a file with the extension ".GAL" when the user "Saves a Picture." Drawing Gallery can only read in and save ".GAL" pictures.
Integration Features	Charts saved as pictures in Charting Gallery can be brought into and enhanced by Drawing Gallery. Pictures saved in Drawing Gallery can be used in Executive MemoMaker. Conversion between HP3000 figure files and Touchscreen/150 picture files (.GAL) is not available.
Data Transfer Procedures	**To Executive MemoMaker:**
	In Drawing Gallery, SAVE A PICTURE. In Executive MemoMaker, GET A PICTURE using the file name that was saved in Drawing Gallery. The picture will be placed at the location of the cursor.
	To Charting Gallery:
	Drawing Gallery pictures cannot be brought into Charting Gallery.

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DSG/3000 ... Data Transfer to the Touchscreen/150

Encyclopedia Articles	This is the first Encyclopedia article on this product.
Product Description	DSG/3000 is a full capability business charting package that lets you create bar, pie, line, and scatter charts. Charts can be enhanced with high quality fonts, different text sizes, bar or line textures, and annotations. The charts can be plotted to any HP plotter or to several HP3000 compatible HP graphics printers.
Data Files	DSG/3000 stores its charts as DSG/3000 (filecode GRAPH) chart files. If you enter your chart data on the DATA PROMPT menu, that data is stored as an SD file. DSG/3000 can also save the chart as a figure in a figure file (filecode FIG). It can read data from SD files or from simple ASCII print files.
Integration Features	DSG/3000 lets you read data from SD files that are created in other office applications, e.g. HPListkeeper, QUERY, DSG/3000, or from simple ASCII print files.

For SD files:

1. Specify on the DATA DEFINITION menu the name of the SD file and press ENTER. DSG/3000 will retrieve the variable names (item names) and data format information from the self-describing (SD) file and fill in the menu.

2. On the Bar Chart, Line Chart, or Pie Chart menu, specify the variable names you want to use for each of the data items on your chart.

For ASCII print files:

1. Data must be in a columnar format where each data record contains a set of values for variables which are in the same order in each subsequent record. No variable labels or column headings should be included in the file; just columns of raw data with no special numeric formats (i.e. no %, CR/DR, only commas and decimals). On the Data Definition menu, specify the data file name. Then determine whether you want to specify the layout of the data in the file in terms of a free (variable) or fixed format.

    a. If you want free format, specify the relative position in the records of each variable (e.g. 1 or 3 for first or third).

      b. If you prefer fixed format, specify the offset and length for each variable in the records. You may need to look at the actual layout of the data in an HP3000 editor so that you can adequately specify it to DSG/3000.

2. On the Bar Chart, Line Chart, or Pie Chart menu, specify the variable names you want to use for each of the data items on your chart.

Data Transfer Procedures

To Lotus 1-2-3:

DSG/3000 stores the data entered on the Data Prompt menu as an SD file. That file can be converted to a DIF file automatically when it is transferred from the HP3000 to the HP150 via AdvanceLink. When you perform this transfer, name the HP150 file with a ".DIF" file extension. That DIF file can then be used in Lotus 1-2-3. See the Integration Features section of the Lotus article in Issue #13 to see how to bring a DIF file into Lotus using the Transfer Utility.

To HPWORD:

HPWord can include figures created in DSG/3000 in its documents. Save your chart as a figure in DSG/3000 by specifying Create Figure on the Main Menu. Then use the Figure Space in HPWord for that figure.

To TDP:

TDP can include figures created in DSG/3000 in its documents. Save your chart as a figure in DSG/3000 by specifying Create Figure on the Main Menu. Then use the illustration command in TDP to specify that figure.

To Series 100 Graphics:

The SD data file stored by DSG/3000 when you enter data on the Data Prompt menu can be converted to a DIF file automatically when it is transferred from the HP3000 to the HP150 with AdvanceLink; be sure to name the HP150 target file with a ".DIF" file extension. That DIF file can then be used in Series 100 Graphics. See the Integration Features section of Series 100 graphics in this issue to see how to bring a DIF file into Series 100 Graphics. Note that only the chart data can be used; not the actual chart.

To Charting Gallery:

The SD data file stored by DSG/3000 when you enter data on the Data Prompt menu can be converted to a DIF file automatically when it is transferred from the HP3000 to the HP150 with AdvanceLink; be sure to name the target HP150 file with a ".DIF" file extension. That DIF file can then be used in Charting Gallery. See the Integration Features section of Charting Gallery in this issue to learn how to bring a DIF file into Series 100 Graphics. Note that only the chart data can be used; not the actual chart.

To Picture Perfect:

The SD data file stored by DSG/3000 when you enter data on the Data Prompt menu can be converted to a DIF file automatically when it is transferred from the HP3000 to the HP150 via AdvanceLink; be sure to name the target HP150 file a ".DIF" file extension. That DIF file can then be used in Picture Perfect on the Data Access menu. See the Integration Features section of Picture Perfect (Issue #13) to learn how to bring a DIF file into Picture Perfect. Note that only the chart data can be used; not the actual chart.

To HPEasyChart:

The SD data file that is created when you enter data on the Data Prompt menu can be used in HPEasyChart. See the Integration Features section of HPEasyChart in this issue to learn how to bring a SD file into HPEasyChart. Note that only the chart data can be used; not the actual chart.

To HPDraw:

In DSG/3000, you can save a chart as a figure to be used in an HPDraw drawing. You create a figure of your chart in DSG/3000 by specifying Create Figure on the Main Menu. In HPDraw, enter the figure and figure file name on the Figure menu.

To VisiCalc/3000:

The SD data file that is created when you enter data on the Data Prompt menu can be used in VisiCalc. That SD file can be converted for use within your spreadsheet by using the /S#L SD filename command in Deluxe Visicalc.

To Series 100 VisiCalc:

The SD data file stored by DSG/3000 when you enter data on the Data Prompt menu is converted to a DIF file automatically when it is transferred from the HP3000 to the HP150 by AdvanceLink;

be sure to name the target HP150 file with a
".DIF" file extension. That DIF file can then be
brought into Series 100 VisiCalc with the load
command /S#L.

Note: To use these procedures, you need to be
an experienced user of both software packages
involved in the data transfer. You should also be
aware that these procedures are *not* supported by
Hewlett-Packard. They were developed to work
with existing products—not included in the
original product designs. These procedures may
not work under all circumstances or with all
version combinations.

Please send your additions or updates for this
article to the *Communicator* editor—so that we may
share them with other users in future issues.

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Executive Memomaker ... for the Touchscreen/150

Encyclopedia Articles	This is the first Encyclopedia article on this product.
Product Description	Executive MemoMaker, like MemoMaker is a simple, easy to learn word processor. It combines the familiar MemoMaker features with new features, such as: ■ The option to read and store documents in either ASCII or MemoMaker format. ■ MemoSpeller—a spelling checker/corrector. ■ Used in conjunction with the Graphics Gallery products, the ability to merge text and graphics.
Data Files	Text files are the same as MemoMaker—Executive MemoMaker uses the 8th bit for formatting.
Integration Features	Executive MemoMaker files are compatible with WordStar and MemoMaker files. .GAL files created in Charting or Drawing Gallery can be integrated, as can straight ASCII files from other word processing applications or .PRN files from spreadsheet applications. Executive MemoMaker has an ASCII file option key. You can convert a document file to ASCII by bringing the file in as a document and saving it as ASCII.
Data Transfer Procedures	**To Lotus 1-2-3:** Same as from MemoMaker to Lotus 1-2-3. **To WordStar:** Text Files—No conversion necessary. WordStar cannot read graphics files. **To MultiMate:** Text Files—Save as ASCII file. Use MultiMate's FILECONV utility to convert to MultiMate format. MultiMate cannot read graphics files. **To MemoMaker:** Text Files—No conversion necessary. MemoMaker cannot read graphics files. **To MS Word:** Text Files— Use WordStar to MS Word Conversion Utility (see WordStar Encyclopedia article in Issue 13), —or— Save as ASCII file. MS Word cannot read Graphics files. Rename with .DOC extension. **To HPWord:** Text Files—Same as from WordStar to HPWord.

To HPSlate:

Text Files—Same as from WordStar to HPSlate.

To TDP:

Text Files—Same as from WordStar to TDP.

To Series 100 Graphics:

Same as from MemoMaker to Series 100 Graphics.

To Charting Gallery:

Same as from MemoMaker to Charting Gallery.

To DSG/3000:

Same as from WordStar to DSG/3000.

To Picture Perfect:

Same as from MemoMaker to Picture Perfect.

To IBM PC MemoMaker:

Same as from WordStar to WordStar IBM PC.

Note: To use these procedures, you need to be an experienced user of both software packages involved in the data transfer. You should also be aware that these procedures are *not* supported by Hewlett-Packard. They were developed to work with existing products—not included in the original product designs. These procedures may not work under all circumstances or with all version combinations.

Please send your additions or updates for this article to the *Communicator* editor—so that we may share them with other users in future issues.

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HPEasyChart ... Data Transfer to the Touchscreen/150

Encyclopedia Articles	This is the first Encyclopedia article on this product.
Product Description	HPEasyChart is an easy-to-use chart maker on the HP3000 that you can use to create pie, bar, line, and scatter charts. All the information needed to design a chart can be specified with one simple menu. There are options for plotting your charts on any HP plotter or printing on one of several HP3000 graphics printers.
Data Files	HPEasyChart stores its chart as a DSG/3000 (filecode GRAPH) chart file and a simple ASCII data file (chart name with "Q" appended). It also can save the chart as a figure in a figure file (filecode FIG). The only data HPEasyChart can read from external data files is from SD type files; NOT simple ASCII files.
Integration Features	HPEasyChart lets you read data from SD-type files created in other office applications, e.g. HPListkeeper, QUERY, DSG/3000. 1. In HPEasyChart, select a chart type you want to design. 2. Then go to the Data Selection menu using the Data File function key, and specify the SD file name. Browse the file to see the names of the data items. 3. Enter the names of the data items you want to use in your chart. Return to the chart menu to look at the retrieved data for your chart. HPEasyChart stores its chart data in a simple ASCII data file (chart name suffixed with a "Q") with a standard column format (an image of the columns of data from the chart menu is saved in a file), it can be used by any application that reads ASCII data. For applications on the HP150, the data must first be transferred to the HP150 using AdvanceLink or HPDesk/HPMessage.
Data Transfer Procedures	**To Lotus 1-2-3:** Bring data, but not graph, in as an ASCII print file. **To WordStar:** Same as from HPEasyChart to Lotus 1-2-3. **To MultiMate:** Same as from HPEasyChart to Lotus 1-2-3. **To MemoMaker:** Same as from HPEasyChart to Lotus 1-2-3.

To Executive MemoMaker:

Same as from HPEasyChart to Lotus 1-2-3.

To MS Word:

Same as from HPEasyChart to Lotus 1-2-3.

To HPWord:

HPWord can include figures saved in HPEasyChart in its documents. Save your chart as a figure in HPEasyChart by specifying Save Figure on the Save Menu. HPEasyChart saves the figure in a figure file with the same name. Then use the Figure Space in HPWord for that figure.

To HPSLATE:

Same as from HPEasyChart to Lotus 1-2-3.

To TDP:

TDP can include figures saved in HPEasyChart in its documents. Save your chart as a figure in HPEasyChart by specifying Save Figure on the Save Menu. HPEasyChart saves the figure in a figure file with the same name. Then use the \illustration command in TDP to specify that figure.

To Series 100 Graphics:

A chart saved in HPEasyChart is in the appropriate format to be used in Series 100 Graphics. To transfer data, you must use the Data In function on the Charts menu, specifying the HPEasyChart data file name: that data file name is the chart name you specify when saving the chart, with a "Q" appended. You must first use AdvanceLink or HPDesk/HPMessage to transfer the file from the HP3000 to the HP150. Refer to the Integration Features section of Series 100 Graphics in Issue 13 for information on bringing in ASCII print file data. Note that only the data can be accessed, not the actual chart. Data cannot be brought into Text Charts.

To Charting Gallery:

A chart saved in HPEasyChart is in the appropriate format to be used in Charting Gallery. To transfer data use the Get Data function. The HPEasyChart data file name is the chart name you specify when saving the chart, with a "Q" appended. You must first use AdvanceLink to transfer the file from the HP3000 to the HP150. Refer to the Integration Features section of Charting Gallery for information on bringing in ASCII print file data. Note that only the data can be accessed, not the actual chart.

To Picture Perfect:

A chart saved in HPEasyChart is in the appropriate format to be used in Picture Perfect. In Picture Perfect, use the Data Access Menu, reached from USER AIDS and Load DIF-Row/COL. The data file name from the chart is the name you specify in HPEasyChart when saving the chart, with a "Q" appended. You must first use AdvanceLink or HPDesk/HPMessage, to transfer the file from the HP3000 to the HP150. Refer to the Integration Features section of Picture Perfect in Issue 13 for information on bringing in ASCII print file data. Note that only the chart data can be used, not the actual chart.

To DSG/3000:

HPEasyChart charts can be used automatically in DSG/3000. Save your chart in HPEasyChart, specifying a chart name. In DSG/3000 you can edit that same chart by specifying that chart (chart and chart file name are the same) on the Main Menu. Note that HPEasyChart charts edited in DSG/3000 are not guaranteed to work properly when later accessed in HPEasyChart. Also note that only the chart specifications from the chart can be edited within DSG/3000, not the actual chart data.

To HPDraw:

In HPEasyChart you can save a chart as a figure to be included in an HPDraw drawing. On the HPEasyChart Save Menu specify a figure name and use the Save Figure function key; in HPDraw, bring that figure into your drawing by specifying the figure and figure file name on the Figure menu. HPEasyChart saves the figure giving both the figure and figure file the same name.

Note: To use these procedures, you need to be an experienced user of both software packages involved in the data transfer. You should also be aware that these procedures are *not* supported by Hewlett-Packard. They were developed to work with existing products—not included in the original product designs. These procedures may not work under all circumstances or with all version combinations.

Please send your additions or updates for this article to the *Communicator* editor—so that we may share them with other users in future issues.

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HPMessage ... for the Touchscreen/150 and the IBM PC Family

Encyclopedia Articles	This is the first Encyclopedia article on this product.
Product Description	HPMessage offers easy-to-use electronic mail and file exchange capability for the HP 150, IBM PC and IBM XT personal computers by providing a user interface program which communicates with HPDeskManager III (Rev. A.03.00) on an HP3000 via an asynchronous link.

HPMessage can:

- Send, receive and reply to messages from HPDesk

- Send and receive MS-DOS and PC-DOS files as part of messages locally

- Maintain distribution lists locally

- Send messages to HP 150, IBM PC and HP3000 users

HPMessage for the Touchscreen is Product 36568A and HPMessage for the IBM PC or XT is Product 36569E.

Operation	To transfer a file to or from HPDeskManager:

1. Run HPMessage. When HPMessage comes up, answer as to whether or not you are logged on to the HP3000.

2. Supply your logon for HPDesk and press Sign On.

3. To transfer a file to the HP3000 starting from the main menu of HPMessage:

   a. Press Send Messages.

   b. Fill out the form. Don't forget to change the file type if necessary. PC File (Binary) is the default with other choices being ASCII, MemoMaker document, VisiCalc VC, and VisiCalc DIF.

   c. Press Mail.

4. To transfer a file to the Touchscreen or IBM PC starting from the main menu of HPMessage:

   a. Ask for a list of messages.

   b. Select the message of interest by either using the cursor keys and the Select key, or by using Touch. Press Save.

   c. Select the part of the message to save again as in b. above (on multi-part messages you can only transfer down one part at a time).

	To save it to on the Touchscreen or IBM PC, fill out the filename. Include pathnames if applicable. d. Press Save Item.
Touchscreen and IBM PC Versions	HPMessage for the Touchscreen and HPMessage for the IBM PC are functionally identical except that the user interface is a little different due to the difference in softkey layout between the Touchscreen and the IBM PC. Please note that HPMessage for the IBM PC is not supported on the IBM-AT PC or the PCjr.
Terminal Functions	Neither HPMessage product has a terminal emulator within. It is not necessary since HPMessage handles all communication functions with the HP3000 and HPDesk. You can run HPDesk directly by using the Terminal function on the Touchscreen. There is no equivalent function on the IBM PC, however. The user of an IBM PC must have some form of terminal emulator available (AdvanceLink PC or some other package) to run HPDesk directly. There are times when it is advantageous to run HPDesk directly after transferring a file, for example, it is the way to get the file from HPDesk to MPE.
Eavesdrop Plotters	File transfer will not work with an eavesdrop plotter present: communication errors will result. If the user has an eavesdrop plotter on the communication line being used to the HP3000, it must be disconnected during the actual file transfer. It may be reconnected after successful completion of the file transfer.

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HPSlate ... Data Transfer to the Touchscreen/150

Encyclopedia Articles	This is the first Encyclopedia article on this product.
Product Description	HPSlate is an easy-to-use word processing product for the HP3000. It gives the user a simple softkey and menu interface to produce basic documents.
Data Files	HPSlate stores its documents in its own format which is non-ASCII. The filecodes vary, depending on the software in use **and** on whether the document is expanded (i.e being edited by HPSlate) or whether it is compressed for storage:

Software Versions	HP3000 Filecode Compressed	Expanded
HPSlate A.00.00	1120	1153
HPSlate A.01.01	1150	1153
HPSlate A.03.01 and later	1152	1153
HPSlate A.04.03 or later with MPE V/E or later	SLATE	SLATW

Integration Features	HPSlate is integrated into HPDeskManager for creating and editing text items.
Data Transfer Procedures	**To WordStar:** Use HPSlate CONVERT Utility to convert from HPSlate format to ASCII. Transfer to the Touchscreen PC using AdvanceLink. Bring into WordStar. —or— Copy into HPDeskManager and use the CONVERT command to convert to MemoMaker format. Transfer to the Touchscreen PC using HPMessage. Bring into WordStar. **To MultiMate:** Same as WordStar, except use FILECONV to convert file from ASCII to MultiMate format. **To MemoMaker:** Same as HPSlate to WordStar. **To Executive MemoMaker:** Same as HPSlate to WordStar. **To MS Word:** Same as HPSlate to WordStar, then use WordStar to MSWord convert utility to convert to MSWord format.

To HPWord:

Copy document into HPDeskManager. Use the CONVERT command to convert to HPWord format. Copy x to (MPE filename).

To TDP:

Use the HPSlate CONVERT utility to convert document to Editor format. Bring file into TDP/3000. HPSlate has an interface to TDP to allow printing of HPSlate documents via the TDP formatter, executing embedded formatting commands in the HPSlate document.

To DSG/3000:

Use HPSlate CONVERT utility to convert to Editor format. Data must be in columnar format with no blank lines and no columns.

To IBM PC MemoMaker:

Same as HPSlate to WordStar.

Note: To use these procedures, you need to be an experienced user of both software packages involved in the data transfer. You should also be aware that these procedures are *not* supported by Hewlett-Packard. They were developed to work with existing products—not included in the original product designs. These procedures may not work under all circumstances or with all version combinations.

Please send your additions or updates for this article to the *Communicator* editor—so that we may share them with other users in future issues.

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MultiMate ... for the Touchscreen/150

Encyclopedia Articles	This is the first Encyclopedia article on this product.
Product Description	MultiMate™ is a full function word processor, which offers a menu driven interface for document creation and modification. It is similar to the Wang word processor. MultiMate includes a spelling checker and a merge/print utility.
Data Files	MultiMate produces and uses MultiMate (or binary) files. The eighth bit is used to access the extended character set, rather than for formatting as in MemoMaker and WordStar.
Integration Feature	MultiMate includes a program called FILECONV. With FILECONV you can accomplish three types of file conversion: 1. ASCII files to MultiMate documents 2. MultiMate documents to ASCII documents 3. .DIF files to MultiMate documents When converting MultiMate to ASCII, all indents, tabs and centering are space filled—therefore the basic formatting is maintained.
Data Transfer Procedures	**To Lotus 1-2-3:** Use FILECONV to convert to ASCII. If file contains text as well as columns of data, each cell (or line of text) must be enclosed in quotes. **To WordStar:** Use FILECONV to convert to ASCII. Can be opened in WordStar as either a Document or non-Document file. **To MemoMaker:** Use FILECONV to convert to ASCII. **To Executive MemoMaker:** Same as MultiMate to MemoMaker. **To MS Word:** Use FILECONV to convert to ASCII. Rename with .DOC extension.

To HPWord:

Use FILECONV to convert to ASCII.

1. Use HP Message—transfer ASCII file to HPDesk. From IN Tray, open item number, then Copy x to (MPE filename). Bring file into HPWord; use Convert Document option to convert to HPWord format.

—or—

2. Use AdvanceLink to transfer to the HP3000 as ASCII (8 bit) file. In HPWord, use Convert Document option to convert from ASCII to HPWord format.

To HPSlate:

Use FILECONV to convert to ASCII. Then, same as from MultiMate to HPWord. Bring file into HPSlate: HPSlate will automatically convert to proper format.

To TDP:

Use FILECONV to convert to ASCII. Then, same as from MultiMate to HPWord. Bring file into TDP. No further conversion necessary.

To Series 100 Graphics:

Use FILECONV to convert to ASCII. Data must be in columnar format with no blank lines and no titles. First column must contain x axis data. You can have up to five columns of y axis data.

To Charting Gallery:

Same as from MultiMate to Series 100 Graphics.

To DSG/3000:

Use FILECONV to convert to ASCII, then:

1. Use HPMessage to transfer ASCII file to HPDesk. From IN Tray, open item number, and copy x to (MPE filename).

—or—

2. Use AdvanceLink to transfer as ASCII (8 bit) file to HP3000.

Bring into DSG/3000. Data must be in columnar format with no blank lines and no titles.

To Picture Perfect:

Use FILECONV to convert to ASCII. Data must be in columnar format with no blank lines and no titles.

To MultiMate IBM PC:

Same as from WordStar to WordStar IBM PC.

Note: To use these procedures, you need to be an experienced user of both software packages involved in the data transfer. You should also be aware that these procedures are *not* supported by Hewlett-Packard. They were developed to work with existing products—not included in the original product designs. These procedures may not work under all circumstances or with all version combinations.

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Current Information

Current Information

The level of capability provided by advanced personal computer software—together with the rapid evolution of this field—means that you may sometimes have questions that are not answered in the product manuals. Depending on where you purchased the specific software or hardware product, the best source of assistance for that product may be your own organization, your dealer, an independent vendor, or Hewlett-Packard.

This section is designed to guide you through the process of obtaining the most rapid resolution of any question that you have. It is organized in a series of steps:

Step 1: Is the answer in the *Communicator?*
Step 2: Is the answer available through CompuServe?
Step 3: Is support provided from within your own organization?
Step 4: Was this product purchased from a dealer?
Step 5: Was this product provided by an independent vendor?
Step 6: Telephone assistance from Hewlett-Packard
Step 7: Training or consulting

By following these steps, you can rapidly and inexpensively get the answer you need.

Step 1: Is the answer in the *Communicator?*

The *Communicator* is the heart of our support program. This magazine brings you applications information, operational tips, programming techniques, information on software updates, manual corrections, and data on known software problems and their solutions.

The new Encyclopedia section, initiated with Issue #9, provides detailed, easily-accessed information on each major hardware and software product. Many of these sections are written by people from our HP HelpLine Response Centers, reflecting the most common questions and problems.

Refer to the article "Ordering *Communicator* Subscriptions" in the Current Information section of this issue for ordering details.

Step 2: Is the answer available through CompuServe?	HP maintains a database on the CompuServe™ on-line information service called HP OnLine—it contains product news, answers to frequently-asked questions, and other information. HP also facilitates user interaction by hosting an open forum where users may post messages for general user response. Periodically, HP may respond to selected user questions.
	To gain access to HP OnLine, you must have an account with CompuServe (you are billed for CompuServe connect time and network services) and you must have a 300- or 1200-baud modem.
	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 article "User Group: Interex" in this *Communicator*.
Step 3: Is support provided from within your own organization?	If you work in an organization which has several HP personal computers, there is often one person who coordinates the purchase, set-up, and training for your company or institution. In a large organization, this function is often provided by the central MIS, office-automation, or data-processing department. (For example, each Hewlett-Packard division or office has an Office Automation Coordinator, usually part of the finance department, who provides personal computer training and assistance.)
	Your internal support personnel have full knowledge of your organization's overall system: your internally developed programs, your particular operating and networking procedures … and your specific hardware and software configuration. Your experts, in turn, have access to special resources within Hewlett-Packard. HP support services, such as training courses, are purchased to supplement your internal capabilities.
	With centralized support within your organization, your support is localized and customized to your particular needs.
	If you do not have an internal support capability, support for a product generally comes from the organization that sold you the product—the dealer or Hewlett-Packard.

Step 4: Was this product purchased from a dealer?	If this product was purchased from a dealer or independent system supplier, they have worked with you to define your application and configure your system—perhaps selecting software or hardware not supplied or supported by Hewlett-Packard. Here, your dealer is the best source of assistance—knowing you, your needs, and your configuration well.
	Authorized dealers are backed up by special support resources within HP ... and, of course, the full range of Hewlett-Packard software and hardware support services may be purchased as a supplement to those provided by your dealer.
	By buying your hardware, software, accessories, and supplies from an Authorized Hewlett-Packard Dealer who provides full support, you build up a continuing relationship—providing a local, personal, and uniquely-responsive support program customized for your business.
Step 5: Was this product provided by an independent vendor?	Many products which run on HP personal computers are developed and marketed by independent organizations—referred to in the personal computer industry as "Independent Software Vendors" (ISVs) or "Independent Hardware Vendors" (IHVs).
	Hewlett-Packard publishes catalogs and directories listing software and hardware products that the ISVs and IHVs have tested for operation on our systems. We refer to these as "verified" or "listed" products. Because of the specialized knowledge required, your support for one of these products comes either directly from the original developer or through the dealer from whom you purchased it.
Step 6: Telephone assistance from Hewlett-Packard	Telephone assistance is available from the worldwide network of Hewlett-Packard Response Centers for most products distributed by HP. (For certain specialized non-HP-developed products which are distributed by HP under our product number, we have made arrangements for support to come directly from the original developer. This is indicated in the product data sheet and the documentation supplied with the product.)
	For telephone assistance outside the U.S. and Canada, call your HP Sales and Service Office and ask for the Personal Computer Response Center.
	In the U.S. and Canada, the telephone assistance program is called HP HelpLine.

Here is how the U.S./Canada HP HelpLine
program works:

- The toll-free HP HelpLine number is:

    1-800/858-8867

    HP HelpLine is open Monday through Friday
    from 7 A.M. to 9 P.M. Eastern Standard Time
    (to 6 P.M. Pacific Standard Time).

- Calls to the HP HelpLine are paid for by one of
  three means:

    –By quoting a unique "certificate number" from
    a Call Certificate. Certificate packs are ordered
    by mail or telephone from HP's Direct
    Marketing Division.

    –By providing a VISA, Master Charge, or
    American Express charge authorization.

    –By identifying yourself as the Authorized
    Caller under a specific annual Software
    Support Agreement.

- When you call, a coordinator arranges for the
  appropriate HP support representative to
  return your initial call within two hours. Using
  a full set of 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 answer your question.

- HelpLine support does not extend to program
  development, program coding, isolation of
  coding errors, and implementation assistance.
  These areas are most economically resolved
  through on-site consulting and training, as
  described in Step 7, below.

- A call-incident is defined as a discussion of
  moderate duration focusing on one specific
  topic to resolve an inquiry or problem. A call-
  incident includes the time on the telephone
  discussing the question, time to research the
  solution, plus any additional call-backs required
  to clarify the question.

- The actual charge for a call-incident is not
  initiated until the call is closed. There is no
  charge if the call is the result of a specific
  documentation defect or software design
  problem ... or if an answer cannot be found.

[Of course, this is only a summary of the new
Personal Computer Assistance program. For
details, please call the National Response Center
at (800) 858-8867.]

Step 7: Training or consulting

Perhaps your need for support is most efficiently and economically met by training or consulting:

- Classroom training is available to supplement the documentation that accompanies your product. Courses can help first-time computer users rapidly build confidence and gain new skills away from the distractions of the day-to-day job. As HP training courses are developed, they are listed in the *Communicator*.

  These courses can be taught at your facility using your own systems. Also, training to suit your specific needs can be designed and given through HP's computer consulting service.

  Many dealers teach similar courses or can arrange for Hewlett-Packard to teach a course in your area. To discuss training, call your local dealer or HP office.

- Consulting service, available from Hewlett-Packard by the hour or by the day, provides personalized assistance in system operation, recommendations for improved performance, or suggestions on application design. Your dealer or system house may also have consulting services available. To discuss consulting, call your local dealer or HP office.

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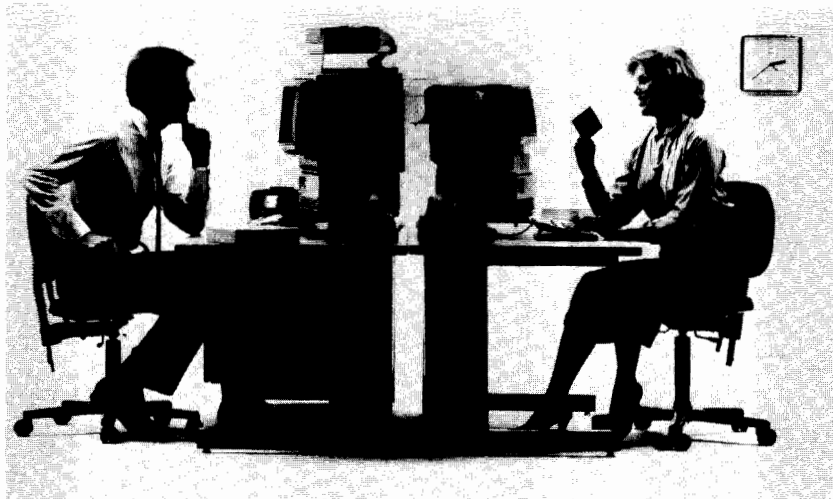
Get in Touch	To get in touch with Vectra PC, Touchscreen/150, HP 12x, and Portable owners in your area—and worldwide—join Interex, the International Association of Hewlett-Packard Computer Users. Interex is an independent group of HP computer users, with chapters and regional groups in 21 countries. If you join Interex, you will receive, at no cost, an assortment of *HP Communicator* back issues which pertain to your computer model.
Start a Local Chapter	Local Interex Personal Computer chapters are now forming. For details on joining or starting a group in your area, contact Interex headquarters and ask for the pamphlet "Starting a Regional User Group."
Membership	Two levels of membership are available:

Under Membership:

■ **Standard Membership** includes a subscription to the magazine *Professional Computing*, a subscription to *Interrupt*, and one disc from the Interex Contributed Software Library.

Standard Membership:
  North America $70
  Outside North America $120

■ **Standard-Plus Membership,** available to users in North America, includes all the Standard Membership services *plus* a subscription to CompuServe's 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, online conferencing, and the *Interrupt* newsletter.

Your Standard-Plus Interex Membership gets you started with a CompuServe Information Service account and documentation . . . plus 2 hours of free connect time on the network. CompuServe bills you directly for additional on-line time. (If you already subscribe to CompuServe, then you should order the standard membership.)

Standard-Plus Membership
  (not available outside North America). . . $100

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 can contact the HP 100 Users Group in England:

Tim Cullis
HP 100 Users Group
Trafalgar House
Grenville Place
Mill Hill
London, NW7 3SA
England

Interex

*The International Association
of Hewlett-Packard Computer Users*

Application for
Series 100 Membership

Enclosed is my full payment for:

Standard Membership
_____ North America $70*
_____ Outside North America $120*

Standard-Plus Membership (not available outside North America)
_____ North America $100*
Of this fee, $15 is allocated for a subscription to Professional Computing.

Payment Method:

☐ Check Enclosed   Check Number _____
                        (if a company check)

☐ Bill Visa # _____ Expires _____

☐ Bill MasterCard # _____

   Interbank # _____ Expires _____

Member Information:

Name _____

(Title) _____

(Company) _____

Address _____

City _____ State _____ ZIP _____

Country _____

Telephone _____

Computer: ☐ The Portable (HP 110)   ☐ HP 120 or HP 125
                 ☐ HP Touchscreen/150   ☐ Vectra PC
Disc Format: ☐ 3½" single-sided ☐ 3½" double-sided ☐ 5¼"
Please send my free *Communicator* back issues ☐

(over)

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.

To determine which U.S. products are recommended for use with localized computers, check with your dealer or HP office.

Name	Product Number	Uses HP Touch	Special Requirements
ACCOUNTING:			
BPI General Accounting	45455A		
BPI Accounts Receivable	45456A		
BPI Accounts Payable	45457A		
BPI Inventory Control	45460A		
BPI Job Cost/150	45461A		
BPI Payroll	45458A		
BPI Personal Accounting	45459A		
COMMUNICATIONS:			
AdvanceLink—U.S.	45431A	●	
—German	45431AD	●	
Dow Jones Spreadsheet Link	45511D		
DSN/Link—German	45425AD	●	
—Spanish	45425AE	●	
—French	45425AF	●	
—Dutch	45425AH	●	
—Latin American	45425AM	●	
—Swedish	45425AS	●	
—Finnish	45425AX	●	
HPMessage	36568A	●	Corresponding 3000 software required
IBM 3278 Term. Emul. Acces.	45641B	●	
OfficeShare Network Server	50902A		Dedicated PC Plus User S/W Network Server
OfficeShare Network User	50903A		
Transend COMplete	45414A	●	
VT100 Terminal Emulator	45412A		
DATA BASE MANAGEMENT:			
Condor3	45416A	●	
dBASEII—U.S.	45468D		
—French	45468AF		
—German	45468AD		
Executive Card Manager	45421A	●	
ECM: Templates	45441D	●	
HP Access	36898A	●	Corresponding 3000 software required
Pers. Card File—Afrikaans	45422AA	●	
—German	45422AD	●	
—Spanish	45422AE	●	
—French	45422AF	●	
—Dutch	45422AH		

Name	Product Number	Uses HP Touch	Special Requirements
—Latin Amer.	45422AM	●	
—Norwegian	45422AN	●	
—Swedish	45422AS	●	
—Finnish	45422AX	●	
—Danish	45422AY	●	
—Italian	45422AZ	●	
PFS:File and PFS:Report	45488A	●	
R:Base 4000	45545A		
R:Base 5000	45563A		512K

ENGINEERING DESIGN:

AutoCAD	47956A		512K

GRAPHICS:

Diagraph	45463A	●	
Charting Gallery—U.S.	45513A	●	
—German	45513AD	●	
Drawing Gallery—U.S.	45411A	●	384K
—German	45411AD	●	384K
Gallery Pic. Library, Vol. II	45433A		
Gallery Collection—U.S.	45437A	●	384K
—German	45437AD	●	384K
—Italian	45437AZ	●	384K
GraphPlan by Chang Labs	45467A	●	
Graphwriter Basic Set	45484A	●	
Painter	45540A	●	
Picture Perfect	45462A	●	
PFS:Graph	45490A	●	
S/100 Graphics—Afrikaans	45410AA	●	
—Spanish	45410AE	●	
—French	45410AF	●	
—Dutch	45410AH	●	
—Latin Amer.	45410AM	●	
—Norwegian	45410AN	●	
—Swedish	45410AS	●	
—Finnish	45410AX	●	
—Danish	45410AY	●	
—Italian	45410AZ	●	

INTEGRATED SOLUTIONS:

ExecuDesk—U.S.	45444A	●	
—German	45444AD	●	
—Danish	45444AY	●	
—Italian	45444AZ	●	
ExecuDesk System	45442A	●	384K
Symphony from Lotus	45498A	●	

Name	Product Number	Uses HP Touch	Special Requirements
PROGRAMMING LANGUAGES AND DEVELOPMENT TOOLS:			
BASIC by Microsoft	45445D		
BASIC Programmer's Library	45310A		
COBOL by Microsoft	45448A		
Compiled BASIC by Microsoft	45446D		
Cross Reference Utility	92248BA		
Forms Master	45443A	●	
FORTRAN by Microsoft	45449D		
GW-BASIC by Microsoft	45450D	●	
ICON Design System	45311A	●	
Lattice C Compiler	45452D		
Pascal by Microsoft	45447D		
Programmer's Tools	45435A		
SPREADSHEETS:			
1-2-3 from Lotus	45482A		
Financial Calculator	45423A		
MicroPlan	45465A	●	
MicroPlan Conso. Module	45466A		
Microsoft Multiplan	45473D	●	
Deluxe Visicalc/150—U.S.	45405A	●	
—French	45405AF	●	
Visicalc/150—Afrikaans	45405AA	●	
—German	45405AD	●	
—Spanish	45405AE	●	
—Dutch	45405AH	●	
—Latin American	45405AM	●	
—Norwegian	45405AN	●	
—Swedish	45405AS	●	
—Finnish	45405AX	●	
—Danish	45405AY	●	
—Italian	45405AZ	●	
UTILITIES:			
HP PLCPak	33406A		
Print Central/150	36890A		Corresponding 3000 software required
WORD PROCESSING:			
HPWORD/150 U.S. English	27505A	●	512K
HPWORD/150 U.K. English	27505AB		
Executive MemoMaker U.S.	45418A	●	
Executive MemoMaker— German	45418AD		
Executive MemoMaker— Italian	45418AZ		

Name	Product Number	Uses HP Touch	Special Requirements
MemoMaker—Afrikaans	45420AA	●	
—German	45420AD	●	
—Spanish	45420AE	●	
—French	45420AF	●	
—Dutch	45420AH	●	
—Latin Amer.	45420AM	●	
—Norwegian	45420AN	●	
—Swedish	45420AS	●	
—Hebrew	45420AT	●	
—Arabic	45420AV	●	
—Finnish	45420AX	●	
—Danish	45420AY	●	
—Italian	45420AZ	●	
Microsoft SPELL	45556D	●	
Microsoft WORD	45474D	●	
MultiMate	45424A	●	
PFS:Write	45489A	●	
WordStar—U.S.	45400D	●	
WordStar Professional	45427D		384K + dual double sided disk drive
WordStar Professional Options	45429D		384K + dual double sided disk drive

Name	Product Number	Uses HP Touch	Special Requirements
European WordStar/MailMerge Combo:			
—U.K. English	45313AB		
—German	45313AD		
—Spanish	45313AE		
—French	45313AF		
—Dutch	45313AH		
—Norway	45313AN		
—Swedish	45313AS		
—Finnish	45313AX		
—Danish	45313AY		
—Italian	45313AZ		

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To determine which U.S. products are recommended for use with localized computers, check with your dealer or HP office.

Name	Product Number	Uses HP Touch	Special Requirements
COMMUNICATIONS:			
AdvanceLink	45431E		
AdvanceLink 2392	68333F		
HP IRMA IBM3278/79 Term Emul	50920A		
HPMessage	36569E		Corresponding 3000 software required
OfficeShare Network Server	50902F		Dedicated PC Plus user software
OfficeShare Network User	50903F		Network Server
DATA BASE MANAGEMENT:			
Executive Card Manager (ECM)	68331F	●	
ECM: Templates	68335F	●	
HP Access	36898F	●	Corresponding 3000 software required
R:Base 5000	68336F		
GRAPHICS:			
TextCharts	45406E		
INTEGRATED SOLUTIONS:			
Symphony from Lotus	68339F		
PROGRAMMING LANGUAGES AND DEVELOPMENT TOOLS:			
MS BASIC Compiler	35190B		
MS BASIC Interpreter	35190A		
MS C Compiler	35186E		
MS COBOL Compiler	35186B		
MS FORTRAN Compiler	35186C		
SPREADSHEETS:			
1-2-3 from Lotus	68340F		
Executive Spreadsheet	68332F	●	
UTILITIES:			
HP PLC PAK	33406B		
Print Central/Vectra	36890F		Corresponding 3000 software required

Name	Product Number	Uses HP Touch	Special Requirements
WORD PROCESSING:			
AdvanceWrite I	27506F		
AdvanceWrite II	27507F		
AdvanceWrite III	27508F		
Executive MemoMaker	68330F	●	
MS Word	35190D		
MemoMaker	45420E		
MultiMate	68338F		
MultiMate Advantage	68343F		
WordStar	68345F		
WordStar Professional	68346F		
WordStar 2000	68341F		
WordStar 2000 Plus	68342F		

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To determine which U.S. products are recommended for use with localized computers, check with your dealer or HP office.

Name	Product Number	Portable	Portable Plus
ACCOUNTING:			
Rags to Riches Ledger	45520C	●	
Rags to Riches Sales	45521C	●	
Rags to Riches Receivables	45522C	●	
Rags to Riches Payables	45523C	●	
COMMUNICATIONS:			
Dow Jones Spreadsheet Link	45511D	●	
PC2622 for Portable PLUS	82861K Opt.400		ROM
Reflection 1	82863K Opt.400		ROM
DATA BASE MANAGEMENT:			
d:BASEII	45468D	●	●
PROGRAMMING LANGUAGES AND DEVELOPMENT TOOLS			
BASIC by Microsoft	45445D	●	
BASIC by Microsoft	82862K Opt. 400		ROM
Compiled BASIC by Microsoft	45446D	●	●
FORTRAN by Microsoft	45449D	●	●
GW-BASIC by Microsoft	45450D	●	
Lattice C Compiler	45452D	●	●
Pascal by Microsoft	45447D	●	●
Programmer's Tools	45419C	●	●
SPREADSHEETS:			
1-2-3 from Lotus	45548K Opt. 400		ROM
Microsoft Multiplan	45473D	●	

Name	Product Number	Portable	Portable Plus
WORD PROCESSING:			
MemoMaker/Time	45504K		
Management	Opt. 400		ROM
Microsoft SPELL	45556D	●	●
Microsoft WORD	45474D	●	
Microsoft WORD	45549K		
	Opt. 400		ROM
WordStar	45400D	●	

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Product Name	Touchscreen/150: Product #	Superseded by:
DATABASES:		
DSN/Link—U.S. English	45425A	AdvanceLink/150—45431A
—U.K. English	45425AB	AdvanceLink/150—45431A
Condor 1	45415A	Condor 3—45416A
Condor 1 to 3 Upgrade	45417A	Condor 3—45416A
dBASE II/150	45468A	dBASE II—45468D
Personal Card File/150	45422A	Executive Card Manager—45421A
GRAPHICS:		
Charting Gallery/Executive MemoMaker Bundle	45440A	Sold separately: Charting Gallery—45513A and/or Executive MemoMaker—45418A
Series 100 Graphics—U.S.	45410A	Charting Gallery—45513A
—German	45410AD	German Charting Gallery—45513AD
PROGRAMMING:		
BASIC by Microsoft/150	45445A	BASIC by Microsoft—45445D
Compiled BASIC/150	45446A	Compiled BASIC—45446D
FORTRAN by Microsoft/150	45449A	FORTRAN by Microsoft—45446D
GW-BASIC by Microsoft/150	45450A	GW-BASIC by Microsoft—45450D
Pascal by Microsoft/150	45447A	Pascal by Microsoft/150—45447D
SPREADSHEETS:		
Context MBA/150	45481A	None
Microsoft Multiplan/150	45473A	Microsoft Multiplan 45473D
VisiCalc/150—U.S. English	45405A	Deluxe VisiCalc/150—45405A
—French	45405AF	French Deluxe VisiCalc/150—45405AF
WORD PROCESSING:		
MemoMaker/150—U.S. English Touchscreen	45420A	Executive MemoMaker/150—45418A

Product Name	Product #	Superseded by:
WordStar/150—U.S. English	45400A	WordStar—45400D
—U.K. English	45400AB	U.K. WordStar/MailMerge Combo—45313AB
—German	45400AD	German WordStar/MailMerge Combo—45313AD
—Spanish	45400AE	Spanish WordStar/MailMerge Combo—45313AE
—French	45400AF	French WordStar/MailMerge Combo—45313AF
—Dutch	45400AH	Dutch WordStar/MailMerge Combo—45313AH
—Norwegian	45400AN	Norwegian WordStar/MailMerge Combo—45313AN
—Swedish	45400AS	Swedish WordStar/MailMerge Combo—45313AS
—Finnish	45400AX	Finnish WordStar/MailMerge Combo—45313AX
—Danish	45400AY	Danish WordStar/MailMerge Combo—45313AY
—Italian	45400AZ	Italian WordStar/MailMerge Combo—45313AZ
MailMerge—U.S. English	45401A	Included in WordStar Professional—45427D or Professional Options—45429D
—U.K. English	45400AB	U.K. WordStar/MailMerge Combo—45313AB
—German	45400AD	German WordStar/MailMerge Combo—45313AD
—Spanish	45400AE	Spanish WordStar/MailMerge Combo—45313AE
—French	45400AF	French WordStar/MailMerge Combo—45313AF
—Dutch	45400AH	Dutch WordStar/MailMerge Combo—45313AH
—Norwegian	45400AN	Norwegian WordStar/MailMerge Combo—45313AN
—Swedish	45400AS	Swedish WordStar/MailMerge Combo—45313AS
—Finnish	45400AX	Finnish WordStar/MailMerge Combo—45313AX

Product Name	Product #	Superseded by:
—Danish	45400AY	Danish WordStar/MailMerge Combo—45313AY
—Italian	45400AZ	Italian WordStar/MailMerge Combo—45313AZ
SpellStar	45402A	SpellStar has been superseded by CorrectStar which is included in WordStar Professional—45427D and/or Professional Options—45429D. An Upgrade kit is available from CorrectStar to SpellStar for users with a dual single-sided disc drive.
WordStar/MailMerge/ SpellStar Combo	45404A	Superseded by WordStar Professional—45427D.

HP Vectra PC and/or IBM PC/XT/AT:

Product Name	Product #	Superseded by:
DATA COMMUNICATIONS:		
AdvanceLink	45431E	AdvanceLink 2392—68333F
Monitor/IBM PC	45439A	AdvanceLink 2392—68333F
DATABASES:		
Personal Card File	45422E	Executive Card Manager—68331F

The PORTABLE or the Portable PLUS:

Product Name	Product #	Superseded by:
DATABASES:		
DataFax	45408C	None

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Here is a list of the most popular *HP PC* supplies and accessories.

A full list of HP computer supplies matched to your system for optimum performance appears 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 section.

Binders

5955-3982	8½" x 11" page size; 1½" capacity
5958-0209	5½" x 8½" page size, 1¼" capacity; with slipcover
5958-0210	7" 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

13269K	Vinyl replacement case
13269U	Carrying case—Leather
13269V	System carrying case
13269W	Attaché case
13269Z	Leather briefcase
92221P	RS232C printer cable (1.5 meters)
92221M	RS232C modem cable (1.5 meters)
92222F	RS232C gender converter (female)
92222M	RS232C gender converter (male)
82167A	HP-IL cable (0.5 meters)

■ 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)
92171C	Keyboard drawer park
92171J	Keyboard park—large
92171T	System turntable
82167B	HP-IL cable (1.0 meter)
92240C	Display tilt unit
92240D	Display swivel unit
92250D	Dust cover
92220R	Right-angle HP-IB cable (0.3 meters long)
92251P	"Stacked" dust cover (for computer and disk drive)

■ HP 125 Personal Computer

92160A	Thermal paper, blue print (box of 24 rolls)
92160B	Thermal paper, black print (box of 24 rolls)
92171C	Keyboard drawer park
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)
13269BB	Carrying case for Touchscreen
13269C	Carrying case (for HP 150 and 9121 disc drive)
92250F	Dust cover for 150
92250K	Dust cover for Touchscreen
92171C	Keyboard drawer park
92171J	Large (extended) keyboard park
92171X	ThinkJet printer stand for top of display
92240A	Light-gray tilt unit
92240B	Light-gray swivel unit
92220R	Right-angle HP-IB cable (0.3 meters long)

■ HP Vectra PC

92190X	High-capacity 5.25-inch flexible discs, 1.2 MB formatted capacity for use on the Vectra PC's high capacity internal disc drive (box of 10 discs)
92190A	5.25-inch flexible discs, 360 KB formatted capacity (box of 10 discs)
92259A	Vectra PC dust cover for monochrome monitor and keyboard
92259B	Vectra PC dust cover for color monitor and keyboard
35178A	Vectra PC three-piece carrying case
92171Z	Vectra PC keyboard park
92171X	ThinkJet printer stand for top of display
24542D	Parallel printer cable for the Vectra PC (2 meters)
24542G	Serial printer cable for the Vectra PC (3 meters)
24542H	Serial plotter cable for Vectra PC to 7550 plotter
24542M	U.S./European modem cable (3 meters) for the Vectra PC
45741A	Monochrome video extension cable
45742A	Color video extension cable

For Disc Drives

■ HP 82901M/S, 82902M/S, 9130A, 9135A 5.25-inch Disc Drives

92190A	5.25-inch flexible discs, double-sided (box of 10 discs)
92190L	5.25-inch flexible discs in Flex Files
92193K	5.25-inch flexible-disc drive-cleaning kit
92194N	5.25-inch rolltop file (capacity 120 discs)
92251A	Dust cover (82901M/S)
92251B	Dust cover (82902M/S)

■ HP 9121D/S, 9133A/B, 9133V/XV, 9134 3.5-inch Disc Drives; 9114A, 9122D, 9122S, and 9133D Disc Drives

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)

92191H	3.5-inch micro flex disc album (capacity 20) (replaces 92191C)
92191R	3.5-inch micro flex disc roll-top file (capacity 50)
92251D	Dust cover (9121 D/S)
13269T	Disc-drive case for 9121

For Printers

■ HP 2225A/B/C/D ThinkJet

92261A	Individual printhead ink cartridge
92261L	Fan-folded ink-jet paper (1000 sheets)
92261M	Cut-sheet ink-jet paper (two 500-sheet packs)
92261N	Fan-folded ink-jet paper (five 500-sheet packs)
92261S	Desktop ThinkJet printer stand
92171X	Terminal top ThinkJet printer stand for 239X series terminals
92250V	Dust cover
13269TT	Carrying case

■ HP 2601A Daisywheel Printer

92151C	Multi-strike ribbon cartridges (box of 12 cartridges)
92151D	Fabric ribbon cartridges (box of 12 cartridges)
92157A	Printer paper, fan-folded (box of 2400 sheets)
92157C	Printer paper, microperforated fan-folded (box of 2400 sheets)
92177C	Sound enclosure
92210P	Printer stand
92177Q	Sheet-feeder
92252 Series	Plastic print wheels, 96 character (box of 6 wheels)
92153 Series	Metal print wheels (1 each)

■ HP 2602A Daisywheel Printer

92151H	Multi-strike ribbon cartridge (box of 12 cartridges)
92157A	Printer paper, fan-folded (box of 2400 sheets)
92177D	Sound enclosure
92157C	Printer paper, microperforated fan-folded (box of 2400 sheets)
92177R	Sheet-feeder
92262 Series	Plastic print wheels, 98-character, USASCII
92263 Series	Plastic print wheels, 98-character, International
92264 Series	Plastic print wheels, HP 150 International Keyboard Support

■ HP 2932A/2934A Dot-Matrix Printer

92154B	Print head (average life of 200 million characters)
92155L	Ribbon cartridges (box of 3 cartridges)
92157A	Printer paper, fan-folded (box of 2400 sheets)
92157C	Printer paper, microperforated, fan-folded (box of 2400 sheets)
92155M	OCR ribbon cartridge—for bar code applications (box of 3 cartridges)
92214P	Mobile printer stand

■ HP 2671A/G and 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)
92160D	Thermal paper, black print (box of 4 rolls)
92160E	Thermal paper, black print (box of 330 fan-folded sheets)
92160M	Thermal paper, blue print (box of 1320 fan-folded sheets)
92160N	Thermal paper, black print (box of 1320 fan-folded sheets)

■ HP 2686A LaserJet Printer

92219H	RS232C cable to HP 150 (5 meters)
92219J	RS232C cable to IBM PC (5 meters)
92214P	Mobile printer stand
92215F	RS232C extension cable (15 meters)
92215T	RS232C extension cable (30 meters)
92285A	Toner (EP) cartridge—black
92285G	Toner (EP) cartridge—brown
92285B	8.5" x 11" paper tray
92285C	8.5" x 14" paper tray
92285F	LaserJet forward collator
92285D	Metric A4-size paper tray
92285E	Metric B5-size paper tray
92286A	Plug-in type-font cartridge (Courier and Line Printer, compressed)
92286B	Plug-in type-font cartridge (Proportional Spacing)
92286C	Plug-in type-font cartridge (International Courier)
92286D	Plug-in type-font cartridge (Prestige Elite)
92286E	Plug-in type-font cartridge (Letter Gothic)
92286F	Plug-in type-font cartridge (Proportional Spacing II)
92286G	Plug-in type-font cartridge (Legal Elite)
92286J	Plug-in type-font cartridge (Math Elite)
92286H	Plug-in type-font cartridge (Legal Courier)
92286L	Plug-in type-font cartridge (Courier and Line Printer)
92286M	Plug-in type-font cartridge (Prestige Elite P + L)
92286N	Plug-in type-font cartridge (Letter Gothic P + L)
92286P	Plug-in type-font cartridge (Tms Rmn P + L)
92286Q	Plug-in type-font cartridge (Memo 1)
92286T	Plug-in type-font cartridge (Tax)
92286U	Plug-in type-font cartridge (Forms, "portrait"-style)
92286V	Plug-in type-font cartridge (Forms, "landscape"-style)

■ HP 82905A/B Dot-Matrix Printer

92156A	Ribbon cartridges (box of 2 cartridges)
92157A	Printer paper, fan-folded (box of 2400 sheets)
92157C	Printer paper, microperforated, fan-folded
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-folded (box of 2400 sheets)
92157C	Printer paper, microperforated, fan-folded (box of 2400 sheets)
92171S	Desktop printer stand

For HP 7470A and 7475A Plotters

■ Paper

9280-0589	Fifty A-size sheets (blank)
9280-0517	Three hundred A-size sheets (blank)
9280-0588	Fifty A4-size sheets (blank)
9280-0519	Three hundred A4-size sheets (blank)
9280-0614	Fifty B-size sheets (blank)
9280-0518	Three hundred B-size sheets (blank)
9280-0615	Fifty A3-size sheets (blank)
9280-0610	Three hundred A3-size sheets (blank)
9280-0640	Fifty A-size sheets (gloss-finish heavy-weight)
9280-0642	Fifty A4-size sheets (gloss-finish heavy-weight)
9280-0641	Fifty B-size sheets (gloss-finish heavy-weight)
9280-0643	Fifty A3-size sheets (gloss-finish heavy-weight)

■ Paper-and-Pen Kits

| 5061-5070 | Three hundred A-size sheets; pen holder; 20 fiber-tip pens (10 colors, 2 line-widths) |
| 5061-5071 | Three hundred A4-size sheets; pen holder; 20 fiber-tip pens (10 colors, 2 line-widths) |

■ Transparency Film

9270-1126	Fifty A-size sheets (for the 7470A plotter)
9270-1181	Fifty A-size sheets (for the 7475A plotter)
9270-1182	Fifty A4-size sheets (for the 7475A plotter)

■ Transparency Kits

5061-7561	Fifty sheets of paper-backed A-size transparency film; 16 pens (7 colors, 2 tip-widths) (for the 7470A plotter)
5061-7583	Fifty sheets of paper-backed A-size transparency film; 16 pens (7 colors, 2 tip-widths) (for the 7475A plotter)
5061-7584	Fifty sheets of paper-backed A4-size transparency film; 16 pens (7 colors, 2 tip-widths) (for the 7475A plotter)

■ Fiber-Tip Pens (for use with paper)

5060-6784	Narrow line-width (0.3-mm) red pen (package of 5)
5060-6785	Narrow line-width (0.3-mm) blue pen (package of 5)
5060-6786	Narrow line-width (0.3-mm) green pen (package of 5)
5060-6787	Narrow line-width (0.3-mm) black pen (package of 5)
5060-6890	Wide line-width (0.7-mm) black pen (package of 5)
5060-6891	Wide line-width (0.7-mm) blue pen (package of 5)
5060-6892	Wide line-width (0.7-mm) green pen (package of 5)
5060-6893	Wide line-width (0.7-mm) red pen (package of 5)
5060-6810	Narrow line-width (0.3-mm) pens (package of 4: one each red, blue, green, and black)
5060-6858	Wide line-width (0.7-mm) pens (package of 4: one each red, blue, green, and black)

5060-6894	Narrow line-width (0.3-mm) pens (package of 6: one each orange, brown, violet, turquoise, gold, lime green)
5060-6895	Wide line-width (0.7-mm) pens (package of 6: one each orange, brown, violet, turquoise, gold, lime green)

■ **Transparency Pens (for use with film)**

5061-5010	Narrow line-width (0.3-mm) black pen (package of 5)
5061-5012	Narrow line-width (0.3-mm) red pen (package of 5)
5061-5015	Narrow line-width (0.3-mm) green pen (package of 5)
5061-5016	Narrow line-width (0.3-mm) blue pen (package of 5)
5061-5020	Wide line-width (0.7-mm) black pen (package of 5)
5061-5022	Wide line-width (0.7-mm) red pen (package of 5)
5061-5025	Wide line-width (0.7-mm) green pen (package of 5)
5061-5026	Wide line-width (0.7-mm) blue pen (package of 5)
5060-6818	Narrow line-width (0.3-mm) pens (package of 4: one each red, blue, green, and black)
5060-6819	Wide line-width (0.7-mm) pens (package of 4: one each red, blue, green, and black)
5060-6834	Narrow line-width (0.3-mm) pens (package of 4: one each orange, brown, violet, and black)
5060-6835	Wide line-width (0.7-mm) pens (package of 4: one each orange, brown, violet, and black)

■ **Solvent**

5060-6828	One ounce (29.6 ml) of solvent for refreshing dry transparency pens

■ **Accessories**

92171S	Desktop stand (7470A)
92177V	Personal Plotter-pen organizer (for fiber-tip pens)
92177T	Plotter-pen organizer (for short pens)
92177U	Plotter-pen organizer (for tall pens)
92177W	ColorPro (7440A) graphics organizer
92177X	7475A graphics organizer
92250N	Dust cover (7470A)
92214P	Mobile support stand (7475)

□

Hewlett-Packard personal business computers and their application programs are designed for ease of use and ease of learning. Classroom training courses can help 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 (1 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 (1 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 (1½ days)

- *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 (1 day)

- *Condor/150 20-1 and 20-3 can be ordered as a single unit.*

  35124A (2 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	■ 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.

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

Computer
Museum

Issue #3 includes the following major articles:

–"Disc Formats on the HP Series 100"
–"Non-HP 12x 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"

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"

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"

-"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

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

Issue #9 includes the following major articles:

-"PIPping Files on Your HP 12x"
-"From Numbers to Charts on the HP 150:
  dBASEII to Series 100 Graphics"
-"HP 150 Graphics: From the Screen to Your
  Printer"
-"Using Lotus/150 1-2-3 with the 7475A Plotter
  and B-size Paper"
-"Running Applications from MS-DOS on Your
  HP 150"
-"Word/12x: Rapid Returns"
-"Localizing Your HP 150"
-"Using Record Mode on the HP 150"
-"Escaping in High-Level Languages"
-"Access to the Touchscreen via MS-Pascal/150"
-"So You Want to Write Programs for the HP 150"
-"Introducing PFS:File and PFS:Report for the
  HP 150"
-"GraphPlan: New Integrated Spreadsheet and
  Graphics Software"
-"New Simulations—and a Chess Game—for the
  HP 150"
-"Challenging New Recreational Software for
  Series 100 PC Users"
-"The Portable: Desktop Capability in a
  Notebook-Sized Package"
-"The Portable: Compatibility with the HP 150"
-"Battery-Powered Peripherals for The Portable"
-"dBASEII for The Portable . . . and a New Version
  for the HP 150"

Issue #10 includes the following major articles:

-"Removing Soft Hyphens in WordStar/12x"
-"Adding Data Points to Linear Charts in
   Graphics/12x"
-"Internal Rate of Return: Using the Iteration
   Option in Multiplan"
-"Lotus 1-2-3: Disc Drives, Peripherals, and Data
   Bases"
-"Setting User-Defined Function Keys in
   dBASE II"
-"A 'Help' Menu for CP/M Utilities"
-"Transferring Fixed-Length ASCII Records via
   DSN/Link"
-"A Feature-by-Feature Comparison of the HP 150
   and HP 2623A Terminals"
-"Saving HP 150 Screen Graphics"
-"BAT/150: A Fast, Easy Way to Obtain an
   .EXE File"
-"Graphics on the HP 150: Filling Polygonal
   Areas"
-"The Newest Members of the HP 150 Family"
-"Two New Programming Tools for HP 150 Users"
-"Double-Sided Disc Drives for the HP 150B"
-"Announcing the EtherSeries/150 Local-Area
   Network"
-"The HP 150B and the IBM PC Speak to Each
   Other"
-"Enhanced Condor Software Now Available for
   the HP 150"
-"Enhanced MicroPlan for the HP 150"

Communicator Issue #10. 5958-0250

Issue #11 includes the following major articles:

-"Inverting the Order of Items on Lists in
   Word/12x"
-"Using Memory Effectively in Lotus 1-2-3"
-"Moving Blocks of Text in MemoMaker"
-"Headings and Footings in Word/12x"
-"Installing the ThinkJet Printer with WordStar"
-"Writing Your Own Menu Routines"
-"Using Escape Codes to Create Function Keys
   in COBOL"
-"Reads with Handshaking in HP 150 BASIC"
-"Double's No Trouble"
-"Precision Problems in Microsoft Languages"
-"Presenting The Graphics Gallery"
-"Introducing Dow Jones Spreadsheet Link"
-"The BPI Family of Accounting Packages"
-"Turbo Pascal: A Hot Item"
-"Special Upgrade for Word/12x"
-"From Keyboard to Printer with Type-a-Line"
-"PFS: . . . for the HP 150"

–"MultiMate and Friends"
–"HP 125 Software Obsolescence"

Issue #12 includes the following major articles:
–"The HP Personal Computer Assistance
  Program"
–"How to Use Diagraph"
–"Transferring Files from Condor to dBASE II"
–"File Transfers—Every Which Way—with The
  Portable"
–"MemoMaker on The Portable: Differences"
–"LaserJet Support under MultiMate and
  WordStar"
–"HP 120/125 Word and WordStar with the
  LaserJet"
–"Macros in WordStar"
–"File Transfers from VisiCalc to Condor"
–"What's So Special about BASIC?"
–"Useful Functions in BASIC"
–"General-Purpose Input Routines"
–"BASIC Relational and Logical Operations"
–"Fun with the Calendar"
–"Introducing the Touchscreen II"
–"ExecuDesk and the ExecuDesk System"
–"New Personal Productivity Center Release"
–"Introducing Print Central"
–"HPWORD/150—HP 3000 Word Processing"
–"HPAccess/Touchscreen and HPAccess Central"
–"Data-Storage Solutions for HP PCs"
–"Microsoft Word"
–"MS-DOS Manual Update for Touchscreen II
  Owners"
–"Announcing Deluxe VisiCalc"
–"Introducing VT100 Emulation for the HP 150B"
–"The Touchscreen 3278 Emulation Upgrade"

Issue #13 includes the following major articles:
–"Condor/150: Computations Against Computed
  Values"
–"Condor/150: Sending Escape Sequences to Your
  Printer"
–"Diagraph and Picture Perfect: Positioning
  Multiple Pictures"
–"Lotus 1-2-3: Transferring Files to and from
  PCF"
–"MS Word: How to PRINT MERGE Data from
  dBASEII"
–"MS Word: How to PRINT MERGE Data from
  Condor"

–"WordStar: Installing Multiple Copies on One Fixed Disc"
–"WordStar: Installing Multiple Copies on One Flexible Disc"
–"Helpful Hints for Compiling BASIC Programs"
–"Double-Referencing Variables in Compiled BASIC"
–"The 64 Dollar/K Question"
–"BASIC Floating Point Internal Representation"
–"BASIC General Purpose Error-Handling Routines"
–"A Complete Guide to BASIC Strings"
–"Introducing the Vectra PC"
–"Upgrading Your HP 150A or Touchscreen to a Touchscreen II"
–"Independent Software Vendor Program Update"
–"Introducing Executive Card Manager"
–"Symphony for the Touchscreen/150"

Communicator Issue #13. 5958-0253

Additional copies of this current issue are available:

Communicator Issue #14. 5958-0254

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

This section lists the software exchange kits available for The Portable, HP 120/125, Touchscreen/150, and HP Vectra PC. These kits contain the latest software and any manual updates issued since the original release. **Exchange kits are provided at a nominal charge.** You return your original master disc as proof of purchase and continue operating as usual with your work copy of the software.

Software Exchange Kits are provided for several different purposes:

- **Updates.** Software is revised to add new features, to work with new peripherals, or to correct problems. You can update your program and manuals at a nominal cost by ordering the appropriate Software Exchange Kit.

  The *Encyclopedia* article for your product explains the capabilities added or problems fixed in the latest version.

- **Upgrades.** When major features are added to a software product, you can 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 the details of new features.

- **Media Replacement.** The master-copy/work-copy technique used is designed to minimize the risk of damage to your master software due to handling or human error. If this happens, 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 and 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 by mail from HP's Direct Marketing Division, 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.) HP cannot accept orders submitted without the correct master disc.

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.

Replacement Media for Discontinued Software	We are committed to sustain support for Hewlett-Packard products well after technology advances and market demand cause us to discontinue offering a product for sale.

It is HP corporate policy to ensure availability of parts and full support services for your computer for five years beyond discontinuance. Specifically, this means:

■ Replacement Media Exchange Kits available for five years from date of last HP shipment, as indicated for each product in the "Discontinued Software" table in this section.

■ Availability of telephone assistance through Hewlett-Packard Help Line Response Centers.

■ Continuing coverage in this magazine—the *HP PC Communicator*. (By the way, you can help —share your tips and ideas with other users— just send a note to the *Communicator* editor.)

Products Not Listed	Because entertainment software packages are low-priced, there are no exchange kits for these products. Re-order the original product to replace damaged discs.

For information on other products not listed, contact your dealer or HP Sales and Service Office.

Product	Version	Order Part #	Notes
Touchscreen (HP 150B) Operating System and Utilities		45626-63007	3
Sys Master Disc			
MS-DOS	B.02.02		
MS-DOS	B.02.02		
COMMANDS			
P.A.M.	B.02.02		
HPBIOS	B.02.02		
FORMAT	B.02.00		
DEV CONFIG	B.02.00		
Appl Master Disc			
COPY/BACKUP	B.02.02		
INSTALL	B.02.02		
SET UP P.A.M.	B.02.02		
MS-DOS	B.02.03		
UTILITIES			
Touchscreen II Operating System and Utilities		45847-63004	4
MS-DOS	2.11		
MS-DOS	2.11		
COMMANDS			
P.A.M.	C.01.00		
HPBIOS	C.01.02		
FORMAT	C.01.00		
DEV CONFIG	C.01.00		
EASY CONFIG	C.01.00		
COPY/BACKUP	C.01.00		
INSTALL	C.01.00		
SET UP	C.01.00		
SAVERAM	C.01.01		
MS-DOS	C.01.00		
UTILITIES			
OP SYS			
MASTER :			
European Spanish		45847-63005	
French		45847-63006	
German		45847-63007	
Dutch		45847-63008	
Norwegian		45847-63010	
Swedish		45847-63011	
UK		45847-63012	
Finnish		45847-63013	
Danish		45847-63014	
Italian		45847-63015	

Product	Version	Order Part #	Notes
AdvanceLink	A.03.02	45431-63002	
BASIC Interpreter	A.01.01	45445-63002	
BASIC Compiler	A.01.01	45446-63002	
BPI General Acctg.	A.01.00	45455-63001	
BPI Personal Acctg.	A.01.11	45459-63001	
BPI Accounts Rec.	A.01.11	45456-63001	
COBOL	A.01.00	45448-63001	
Condor 3	*A.02.11	45416-63002	1
CorrectStar (hard-disc upgrade)	3.31	45429-63002	
CorrectStar to SpellStar Upgrade	3.31	45429-63001	
dBASE II	*A.02.41	45468-63001	
Diagraph	A.03.00	45463-63001	
Financial Calculator	n/a	n/a	2
DSN/Link	A.01.01	45424-63001	
Forms Master	A.01.00	45443-63001	
FORTRAN	A.01.00	45449-63001	
FORTRAN Upgrade	A.01.00	45449-63003	
Graphics (bar disc, pie disc, line disc, text disc, examples disc)	*A.03.01	45410-63001	
GraphPlan	1.00.T2	45467-63001	
GraphWriter	A.01.01	45484-63001	
GW BASIC	A.01.00	45450-63002	
HP Word	A.00.00	27505-63001	
Lattice C Compiler	A.01.00	45452-63001	
Lotus 1-2-3:			
System Disc	1A.2	45482-63001	
System Disc	1A.2	45482-63004	
Utility	1A.2	45482-63002	
Tutorial 1&2	1A.2	45482-63003	
Printgraph	1A.2	45482-63005	

Product	Version	Order Part #	Notes
MailMerge	A.03.30	45401-63001	
MemoMaker	B.01.02	45420-63001	
MicroPlan	4.04.T2	45465-63001	
MicroPlan Consol.	4.04.T2	45466-63001	
MS Word	B.01.00	45474-63002	
MultiMate	3.29	45424-63001	
MultiPlan	A.01.10	45473-63001	
Pascal	A.01.00	45447-63001	
PCF	B.00.02	45422-63001	
Picture Perfect	A.03.00	45462-63001	
PFS: File & Report	A.02.41	45488-63001	
Prog. Tools/Portable	A.01.00	45419-63001	
Prog. Tools/150	A.01.00	45435-63001	
R:Base 4000	1.1	45545-63001	
SpellStar	A.03.30	45402-63001	
Symphony	1.1		
Prog. Disc, Tutorial, Help		45498-63001	
Printgraph, Utility Discs		45498-63002	
Install Prog., Library Discs		45498-63003	
Tutorial1, Tutorial2 Discs		45498-63004	
Transend COMplete	A.01.00	45414-63001	
VisiCalc	B.01.02	45405-63004	
VT100 Terminal Emulator	A.01.00	45412-63001	
WordStar	*A.03.3B	45400-63001	
WordStar Upgrade	3.3.3	45400-63031	

*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 you want a kit with 5.25" discs, please indicate this preference on your order. Otherwise 3.5" disc will be shipped, regardless of the size of your returned master disc.

Notes

1—Either a Condor 20-3 disc or a Condor-20-1-to-Condor-3 Upgrade disc can be exchanged for the Condor 3 disc.

2—Low-priced package. Re-order the original product to replace damaged media.

3—Three double-sided discs, written in single-sided format, to exchange for damaged HP 150A or Touchscreen (HP 150B) media. To upgrade an HP 150A to the **Touchscreen (HP 150B)** operating system, order this kit. To update an HP 150A or Touchscreen to the **Touchscreen II** operating system, order the Touchscreen II Upgrade Kit (45849-63006) from your dealer or HP office. The upgrade kit includes the new operating system disc and the ROM integrated circuits required by the new disc; it is not user-installable. (Refer to the article "Upgrading Your HP 150A or Touchscreen to a Touchscreen II" in *Communicator* Issue #13 for details).

4—Double-sided exchange disc for damaged Touchscreen II media. To upgrade an HP 150A or Touchscreen (HP 150B) to the Touchscreen II operating system, order the Touchscreen II Upgrade Kit (45849-63006) from your dealer or HP office. The upgrade kit includes the new operating system disc and the ROM integrated circuits required by the new disc; it is not user-installable. (Refer to the article "Upgrading Your HP 150A or Touchscreen to a Touchscreen II" in *Communicator* Issue #13 for details.)

Vectra PC
Media Replacement

Product	Version	Order Part #	Notes
Op Sys Disc		45951A	1
BASIC Interpreter		45952A	1
MS-DOS Macro Assembler		45953A	1

Notes

1—Because an exchange kit would be priced at approximately the same price as the original product, the order number is for the original product.

Portable
Software Exchange Kits

Product	Version	Order Part #	Notes
BASIC Interpreter	A.01.01	45445-63002	
BASIC Compiler	A.01.01	45446-63002	
DataFax	A.01.01	45408-63001	
dBASEII	*A.02.41	45468-63001	
Prog. Tools	A.01.00	45419-63001	

*Revised since original release.

Discontinued Software
Replacement Media Exchange Kits

| Product (Notes) | Version | Order Part Number† | | Exchange Available Through |
		3.5″ Disc	5.25″ Disc	
HP 12x:				
Op Sys/Util/12x (1)	*A.02.00	45900-13810	45900-15810	April, 1990
Op Sys/Util/12x (2,6)	*A.02.00	45900-13800	45900-15800	April, 1990
VisiCalc/12x (6)	*A.02.01	45531-13800	45531-15800	April, 1990
Graphics/12x (6)	*A.01.03	45532-13800	45532-15800	April, 1990
Word/12x	*A.02.03	45533-13800	45533-15800	April, 1990
Link/12x (3)	A.02.00	45534-13800	45534-15800	April, 1990
DSN/Link/12x	A.01.01	45534-13810	45534-15810	April, 1990
BASIC/12x	A.05.21	45535-13800	45535-15800	April, 1990
Programming/12x	A.01.00	45536-13800	45536-15800	April, 1990
Condor 1/12x (5)	A.02.00	45550-13800	45550-15800	April, 1990
Condor 3/12x (4)	*A.02.01	45550-13802	45550-15802	April, 1990
BPI G/A/12x	A.01.00	45552-13800	45552-15800	April, 1990
BPI Payroll/12x	A.01.00	45553-13800	45553-15800	April, 1990
WordStar/12x	A.01.00	45560-13800	45560-15800	April, 1990
SpellStar/12x	A.01.00	45561-13800	45561-15800	April, 1990
MailMerge/12x	A.01.00	45562-13800	45562-15800	April, 1990
MicroPlan/12x	A.01.00	45670-13800	45670-15800	April, 1990
MicroPlan Cons./12x	A.01.00	45671-13800	45671-15800	April, 1990
Touchscreen/150:				
Condor 1/150	A.02.11	45415-63002	n/a	April, 1990
Context MBA/150	A.02.03	45481-63001	n/a	April, 1990

See notes on next page.

*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.

Notes

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 number 45900-13800 or 45900-15800.)

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 introducton 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 or 45900-15810.)

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 or 45534-15810.)

4—A Condor 3 disc, a Condor 20-2 or 3 Upgrade disc, or a Condor 20-1 to 3 Upgrade disc may be exchanged for the Condor 3 disc.

5—A Condor 2 disc or a Condor 1 to 2 upgrade disc may be exchanged for the Condor 2 disc.

6—Exchange Kit includes complete new 5½" x 8½" manuals.

All of the items listed in this issue, except software update/upgrade kits and HP-conducted training courses, are available from your dealer or HP:

- Your local HP Dealer can often provide immediate delivery. (To locate a dealer, call 800/ FOR-HPPC in the U.S. or contact your local HP office—ask for "Personal Computer Dealer Sales.")

- Your HP Sales and Service Office will transmit your order to the appropriate HP distribution center.

Ordering by Telephone from HP

Except for systems, peripherals (such as disc drives and printers), and training courses, the items listed in this issue are also available by telephone from Hewlett-Packard:

- Australia . . . . (03) 895-2645
  (03) 895-2615
  (03) 895-2815
  (03) 895-2861

- Austria . . . . (0222) 2500-615
  (0222) 2500-616

- Belgium/Luxembourg . . . . (02) 762 32 00

- Canada
  Toronto local . . . . (416) 671-8383
  Ontario. 1-800-387-3417
  Quebec. 1-800-387-3417
  British Columbia 112-800-387-3154
  Other Provinces 1-800-387-3154

- Denmark . . . . (02) 816640-258

- Finland . . . . (90) 887 2361

- France . . . . (1) 692 83 264
  (1) 690 77 825

- Greece . . . . (81) 6471673

- Italy . . . . (02) 9236 9437
  (02) 9236 9478
  (02) 9236 9585

- Middle East
  Athens . . . . (01) 6828811

- Norway . . . . (02) 171180

- South Africa
  Johannesburg . . . . (011) 8025111
  Cape Town . . . . (021) 537954

- Spain 91-6374013
  91-6370011

- Sweden . . . . (08) 7502028
  (08) 7502027
  (08) 7502204

- Switzerland . . . . (057) 31 22 54
  (857) 31 22 53
  (057) 31 22 59
- The Netherlands . . . . (020) 547 6606
- United Kingdom . . . . (0734) 697201
- United States 800-538-8787
  Alaska, California, and Hawaii . . . 408-738-4133
- West Germany . . . . (0130) 3322

For countries not listed, call your local HP Sales and Service Office.

Ordering HP-Conducted Training Courses	Hewlett-Packard provides personal computer 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.
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 article "Software Exchange Kits" elsewhere in this Current Information section.
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 Administrator/Internal Orders, Building 78/5 or to: Hewlett-Packard P.O. Box 60008 Sunnyvale, CA 94088 Attn: Software Administrator/ Internal Orders 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 DIRECT MARKETING
   Mail Order Dept., P.O. Box 60008, Sunnyvale, CA 94088

   For carriers other than U.S. Mail, the address is:

   HEWLETT-PACKARD DIRECT MARKETING
   Mail Order Dept., 1320 Kifer Road, Sunnyvale, CA 94086

Thank you for your order!

	Product Number	Description	Quantity	Unit Price	Amount
				Disc Size: ___ 5.25" ___ 3.5"	
1←					.
1					.
2					.
3					.
4					.
5					.

Your Name _____ Phone (___) ___ — ___ Date _____

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 ___

Special Shipping Instructions

Standard
Shipping
Method is
UPS Surface

Payment Method

☐ Purchase Order (Number _____)
☐ Check Enclosed (Payable to Hewlett-Packard Co.)
☐ Credit Card (Check one, provide all information, and sign)

☐ (MasterCard) ☐ (VISA) ☐ VISA

Account
No. ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

Expiration
Date ☐☐ — ☐☐

Name on Card _____

Address _____

Signature _____

Use this form for prepaid U.S. orders only.

POD 1/84

(Over)

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

This publication contains articles on how to best use your system—plus each issue includes sections of the "HP PC Encyclopedia."

The "HP PC 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.)

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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 (DMK).
HP Employees	Check with the Employee Computer Program Coordinator in your personnel or purchasing department for Direct Marketing Division (DMK) ordering instructions.

□

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(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 _____

Notes

Notes

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