HEWLETT PACKARD

Issue No. 1

HP 125 Communicator

Contents

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Notes from the Editor

Welcome to the first issue of the Communicator 125. This magazine presents information about your HP 125 which we think will interest you: application hints, programming tips, new product information, and even solutions to some common problems. Each issue is composed of the sections "About Applications," "File Management," and "Hardware Headlines." These sections contain articles which explain features of your HP 125 and its peripherals. The articles span several levels of expertise ranging from the casual user to the experienced programmer. The Communicator 125 is another way we at General Systems Division and Hewlett-Packard express our support to you, the HP 125 owner.

There are also several features in each issue, including "New Product Review", "Programming Challenge," and "Customer Corner." The articles in New Product Review present an overview of the new products for the HP 125. The Programming Challenge helpful solutions to some common programming problem -- can you solve it? The Customer Corner feature was created for article contributions from you. Our thanks to Bob Youdon of Hewlett-Packard Corporate for the first issue's customer contribution.

If you wish to contribute to Customer Corner send your article to the following address:

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Your contributions are quite welcome, but there are some restrictions. We reserve the rights to select the articles that are included in any issue and to edit the articles. Any material that you send us may not be returned. We look forward to including your articles in the Communicator 125.

Hope you enjoy your first issue of the Communicator 125.

New Product Review

In this section, you will read about several new hardware and software features for the HP 125. These features include:

- Support of the HP 9134A and HP 9135A 4.4 Mb disc drives, increasing the mass storage capacity of the HP 125.
- A new operating system (Version A.01.20).
- Support of the HP 7470A Two-Pen Plotter and a new release of the GRAPHICS/125 software (A.01.01).
- A new software utility, Block-Format/125, which allows your HP 125 to emulate a block mode terminal for V/3000 applications.

Each article describes the features of the new products, and how you can obtain these products if you decide to upgrade your existing HP 125 system.

Increased Mass Storage Capacity for the HP 125

The HP 125 now supports the use of a 4.4M byte fixed disc drive. The drive not only provides an increase in mass storage capacity but also an increase in performance and reliability.

The 4.4M byte physical capacity of the fixed disc is logically segmented into four partitions of 1.1M byte each. To the HP 125 Operating System, each of the four logical discs resembles an 8" flexible disc. The new 4.4M byte fixed disc is available in two separate products: the HP 9134A and the HP 9135A:

- HP 9134A - this product is of special interest to those of you who already own an HP 125 system. It consists of a stand-alone disc that connects to an existing system via an HP-IB cable. The modular design of the HP 125 allows you to easily upgrade your system.
- HP 9135A - This product consists of the 4.4M byte disc packaged with a 5-1/4" flexible disc drive. An HP 125 system using the 9135A cannot accept additional disc drives. Therefore, if you are looking for additional mass storage, you should consider the stand alone 9134A product in combination with your existing mass storage devices.

To use a 9134A or 9135A, you must have Version A.01.20 or later of the HP 125 Operating System. The new HP 125 Operating System is described in the next section.

If you are interested in purchasing an HP 9134A or 9135A, contact the person from whom you purchased your

system, either your HP Sales Representative or your Authorized HP Dealer.

New HP 125 Operating System

In order to support the new HP 9134A/9135A Disc Drives, several changes were made to the HP 125 Operating System. In addition, new features were added. The new version number of the HP 125 Operating System is A.01.20 which supersedes the A.01.01 version.

The following benefits are provided by the changes made to the HP 125 Operating System Disc.

Ease of Use

- A new version of the WELCOME Menu and Program is included. In this new version, the Application Installation mode has been modified so that applications may be installed from any disc drive; the previous version required applications to be installed from the "B" to the "A" drive. In addition, an Application Deletion Mode has been added which allows you to delete applications from a disc; previously entire discs had to be re-formatted to delete an application.

Greater Reliability

- For HP 9895A flexible discs, cylinders 0-75 are available for data storage and cylinders 76-77 are reserved as spare cylinders; this reserved area is used if the regular storage area has a small fault (which can result in inaccurate data). On Version A.01.01, cylinders 0-77 are available for data storage.

Improved Performance

- The recommended stagger for 8" flexible discs has been changed from "6" to "8" in the FORMAT utility program. This results in the disc being used more efficiently.

Additional Programming Tools

- HP Function Call #111 has been added. It returns the version number of the HP CP/M Operating System; for example, if the version is A.01.20, the high order 4 bits of register H will indicate the version number (A=0), the low order 4 bits of register H will indicate the update number (1), and register L will indicate the fix number (20).

- The definition of HP Function Call #127 has been changed. It now returns the machine number (the HP 125 is considered to be machine 1); previously that number was interpreted as the version number of the operating system.

For information on how to obtain Version A.01.20 of the HP 125 Operating System, see the ordering information enclosed with this issue of the HP 125 Communicator. Remember that the HP 125's software update plan requires you to mail in your Master Operating System disc.

In addition to the new HP 125 Operating System Disc, you will receive:

- A new disc, HP 125 Utilities, which contains the Block-Format/125 utility software (see "Block-Format/125" in this section).

- Manual updates to "Getting Started With Your HP 125" and the "HP 125 Owners Manual" and a brand new "HP 125 Utilities Manual".

HP 7470A Two-Pen Plotter

In the past, professional quality graphics has been both expensive and time-consuming. With the GRAPHICS/125 software and an HP graphics plotter, you can turn your HP 125 into a graphics workstation and produce multi-color charts, graphs, and text slides quickly and easily.

The low cost, high performance HP 7470A Two-Pen plotter is an attractive addition to the family of plotters supported on the HP 125. While providing greater plotting speed and more pens than the low-end HP 7225B plotter, the price of the new 7470A is roughly half that of the 7225B. And, best of all, you don't sacrifice quality for improved price and performance; the HP 7470A delivers the same high quality graphics you have come to expect from Hewlett-Packard.

The HP 7470A uses two pens. A pen stall is located on the left and right side of the plotter. The GRAPHICS/125 software allows you to specify up to eight pen colors. Pen #1 will always be the pen in the pen stall on the left; pens #2 through #8 will be in the right pen stall. If you only specify pens #1 and #2, then the HP 7470A can complete a plot without any user intervention. If pens #3 through #8 are specified, the program pauses in the middle of the plot and prompts you to change the pen in the right-hand stall.

In order to support the HP 7470A plotter, the GRAPHICS/125 software was modified. The previous version (A.01.00) supported only the HP 7225B and HP 9872C plotters. The new version (A.01.01) supports all three plotters.

Your Authorized HP Dealer or local Hewlett-Packard Sales Office can provide you with further information on how to obtain the HP 7470A.

If you have never purchased the GRAPHICS/125 software package, here's how to obtain it. You can order it from Hewlett-Packard's Computer Supplies Operation or local HP Sales Office using the information provided in the back of this magazine. Or you can purchase it directly from an HP Authorized Dealer.

If you have the original version of the GRAPHICS/125 software (A.01.00) and wish to add an HP 7470A plotter to your HP 125, here's your chance to take advantage of HP's low-cost software update plan provided by the Computer Supplies Operation. Enclosed in the back is ordering information with a list of the current software revision levels. Upon receipt of your original GRAPHICS/125 master disc and a nominal payment, the new version and relevant manual updates are mailed directly to you.

Block-Format/125

Block-Format/125 is a software utility program which enables your HP 125, operating in remote mode, to run data entry application programs which use V/3000.

Loading Block-Format/125 is very simple. It can be installed into the Welcome Menu of your HP 125 so that a function key labeled BLOCK-FORMAT is displayed after the Operating System is loaded. After pressing the Block-Format function key, a new menu appears with a function key labeled LOAD. Press this key and your software is loaded into terminal memory; the HP 125 automatically switches from LOCAL OP SYS to REMOTE Mode. You can now log onto an HP 3000 computer and run V/3000 applications.

Block-Format/125 was designed with V/3000 applications in mind; however, you should be aware of the following:

- All display enhancements (inverse video, half-bright, underline, and blinking) appear as half-bright, inverse video fields.
- Memory lock is only partially implemented with Block-Format/125. Data will not scroll out of screen memory when memory lock is enabled. However, display lock is not implemented to hold lines at the top of the display.
- The location of the display enhancements is frozen while in the Format mode. With some block mode terminals, the end points of an enhanced field within an unprotected field may be moved left or right with the DELETE CHAR and INSERT CHAR keys, respectively.
- Some block mode terminals integrate format capability with a data logging feature so that data on V/3000 screen can be printed onto a pre-printed form, with only the unprotected data transferred. The HP 125 format capability is not integrated with logging.
- Some application programs shift to an alternate character set to prevent certain information from being displayed on the terminal (using the shift in/shift out characters). The HP 125 will display this data exactly as transmitted rather than shifting to an alternate character set.
- Block terminator characters (written to display memory by an application program for use as record separators in a block of data) are ignored by the HP 125.

The Block-Format/125 program is now included as standard with every HP 125 System. While packaged as part of the operating system, the program resides on another disc labeled HP 125 Utilities.

Any HP 3000 customer who has received the LINK/125 software will automatically receive a copy of the Block-Format utility and relevant documentation.

If you wish to obtain the Block-Format/125 software, it is available via the software replacement service of HP's Computer Supplies Operation. Since Block-Format/125 is now included with the operating system, you must send your old Master Operating System disc along with a nominal payment. You will receive the following:

(1) the latest version of the Operating System (A.01.20).

(2) a disc labeled "HP 125 Utilities", which contains the Block-Format/125 program.

(3) all relevant manual updates.

See the ordering information enclosed in the back of this issue for more information.

For Your Benefit ...

This table summarizes the relationship between software and hardware for the newly released products. Those boxes marked indicate that the configuration will work correctly.

	Operating System	
	A.01.01	A.01.20
Disc Drives HP 9135/9134		X
2-Pen Plotter HP 7470A	X	X
Block-Format/125	X	X

	Graphics/125	
	A.01.00	A.01.01
2-Pen Plotter HP 7470A		X

About Applications

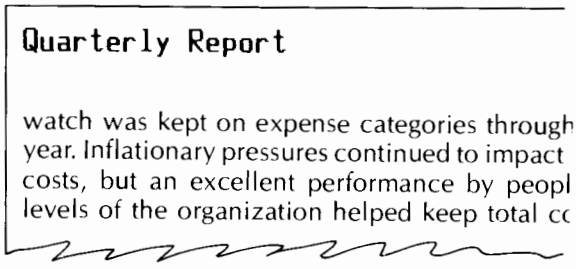
Single and Multi-line Page Headings with WORD/125

If you are producing a long document, you will probably want to put a chapter heading or title at the top or bottom of each page.

Create page headings (headers) with WORD/125 by using the .H command. Type .H followed by the heading text and a carriage return. You may use a maximum of 87 characters to create any header. The page heading is placed on the page according to the "TOP/BOTTOM SPACING", and "ODD/EVEN FORMAT" entries in the Titling and Pagination Table (see the WORD/125 manual).

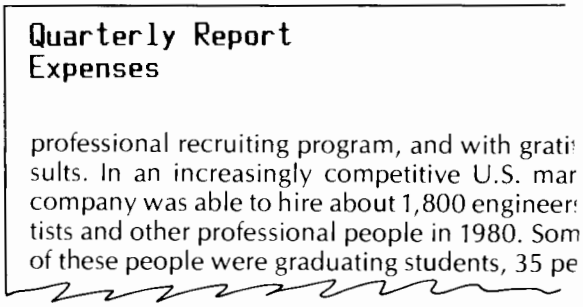
As an example, to put the header "Quarterly Report" on the pages of a document, the .H statement appears as follows:

```
.H Quarterly Report<
```



Create multi-line headers by inserting BACKSLASH (\) characters into the .H statement. Each time that a BACKSLASH (\) character is encountered, a new line is generated. For example, to print a header with the words "Quarterly Report" on the first line and the word "Expenses" on the second line, the .H statement would appear as follows:

```
.H Quarterly Report\Expenses<
```



Again, the header is placed on the page according to the specifications in the Titling and Pagination Table. For example, if the Titling and Pagination Table specifies that the header is to be centered, then each line of the header is centered. Or, if the Titling and Pagination Table specifies that the header is to be left-justified, then each line of the header is left-justified.

Searching for Enhanced Text in WORD/125

The search and replace capability in WORD/125 is normally used to search for and replace unenhanced text, ignoring enhanced text. With the following steps, though, enhanced text can be located with WORD/125:

1. Enter command mode.

2. After you are in command

mode, press the 'SEARCH & REPLACE' function key.

3. Once the softkey labels change, press one of the 'SEARCH' function keys. The words "SEARCH FOR:" appear on the screen.
4. Hold down the CTRL key and press the W key, type the word(s) you wish to find, then hold down the CTRL key and press W again.

As you type the words you wish to find, you should see the characters appear enhanced on the screen. As you may have guessed, the "CTRL W" is a control code that both enables and disables enhancements with WORD/125.

Making Invisible Characters Visible in WORD/125

Printing invisible characters (e.g., #, /, ^) presents a challenge to users of WORD/125. For example, the pound sign (#) when followed by a slash (/) does not print. This is annoying if you wish to abbreviate the phrase "pounds per". The sequence "# /", where a space is between the # and /, results in the # not being printed. The #, ^, and / are special command characters in WORD/125.

Solve the problem by enhancing the troublesome character and then removing the enhancement with the in-line command (!7). For example, to print out ^E, the text would have to look like this:

!7^E #32/

As the up caret must be enhanced, it will appear on the screen in inverse video.

In summary, to print any characters or character combinations that are commands in WORD/125, each character must be treated in the above manner.

Directory Scrolling in VISICALC®/125

Scrolling through the directory allows the user to examine the directory before accessing a file.

As indicated in the VISICALC/125 manual, you can scroll through the directory using the /S command. This is done by pressing the right cursor key (>) when VISICALC/125 prompts for a file to load, store or delete. Pressing the 'RETURN' key when the correct file name is displayed completes the operation on that file. However, there are a number of things to keep in mind when using this feature:

1. The /SL and /SS commands allow scrolling of only .VC type files.
2. The /S# allows scrolling of only .DIF files.
3. The /SD command allows scrolling and deletion of all files on the disc. This includes system files!
4. Scroll files on alternate discs by typing in the disc identifier followed by a colon before using the scroll key (>).

Sending Escape and Control Codes to a Printer from VISICALC®/125

Many printer features such as compressed print or line spacing have to be "setup" by escape or control codes before sending printable output.

When using the print command of the VISICALC/125 program, you may send these codes in the form of a "setup string."

Take a look at what appears on the prompt line when you request print output:

```
 Print: Lower right, "Setup, -, &
```

At this point the VISICALC/125 program wants either a lower right coordinate or a setup string, but not both!

Specify the setup string by typing a quote mark ("). The prompt line will blink and display the following:

```
 Print:  Setup or RETURN
```

Now type the desired setup string followed by a carriage return. For example, to send the sequence, ESC CTRL Z I to a printer, the following dialog would take place:

```
 VISICALC/125 prompts:
    Print: Lower right, "Setup, -, &

 You type:
    "

 VISICALC/125 prompts:
    Print: Setup or RETURN

 You type:
    ^E^CZI<CR>
```

At this point, the VISICALC/125 program once again prompts you for the lower right coordinate. You see, it did not forget!

Programming Challenge: #1

Have you ever wished that BASIC/125 included an 'UPC$' function like many other HP BASICs? This function is used to 'upper-case' a character string, and hence makes it easier to check user input.

For example:

```
100 INPUT "Do you want to continue?"
105 IF A$ = "Y" THEN 50
110 IF A$ = "y" THEN 50
```

Of course, lines 105 and 110 could be replaced by:

```
105 If INSTR ("Yy",
      LEFT$(A$,1))>0 THEN 50
```

Either of these solves this immediate problem, but is there a general way to determine the upper-case equivalent of any alpha character?

Programming challenge number 1 is this: write a single line user defined function in BASIC/125 which returns the upper-case equivalent of any alpha character. The initial character may be upper case or lower case; it is the your responsibility to verify the character as an alpha character.

A solution to this issue's programming challenge is on the back page. Compare your answer with it. If you have a better solution, we would like to see it. Just send your solution to:

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Warning: PASCAL

While HP neither offers nor endorses any CP/M version of PASCAL, we've received reports about problems using the loader program associated with PASCAL MT+. The problem is with the disc buffering algorithm internal to the CP/M BIOS, which prevents loading of PASCAL programs.

This problem, we're glad to report, has been fixed in Version A.01.20 of the HP 125 Operating System. You can order your update with the information at the back of the manual.

File Management

Backing up from HP 9134 and HP 9135 Disc Drives

Is copying files from your hard disc to a 5 1/4" flexible disc your only means of backup? If so, you need to limit the size of your files. You should not create files larger than the maximum space on the 5 1/4" flexible disc, 248K bytes. On the hard disc you are able to create files up to 1.1M bytes, the equivalent of one 8" flexible disc.

Any file on your hard disc that is larger than the available space on your backup flexible disc will not copy completely. The HP 125 then assigns a temporary filename (filename.$$$) to the incomplete copy.

You may check your file size and available flexible disc space several ways. Below is a suggested method for checking both.

NOTE: The following procedures assume that you know the filename, filetype, and disc identifier of the file you are checking on. You also need to know which disc the STAT program is on. These examples check the size of file EHDATA on disc C and the available space on the backup flexible disc in drive E. STAT is on disc B.

Checking File Size

1. Go to the WELCOME menu. (It does not matter what disc or program you are in.)

2. Press the 'EXIT TO CP/M' softkey on the WELCOME menu.

3. After the prompt (X>; where X is the drive you are on) appears, type

   B:STAT C:EHDATA

   then press return. (If you are already on disc B or C, omit the corresponding disc identifier.)

The HP 125 then responds with several pieces of information. The information you need, file size, is under the BYTES heading.

```
Recs  Bytes  Ext Acc
   4     1k    1 R/W A:LETTER
Bytes Remaining On A: 24k
```

Checking Available Disc Space

1. Go to the Welcome menu. (It does not matter what disc or program you are in.)

2. Press the 'EXIT TO CP/M' softkey on the WELCOME menu.

3. After the prompt (X>; where X is the drive you are on) appears, type

   B:STAT E:

   then press RETURN. (If your prompt is B>, omit the B: before STAT.)

The HP 125 responds with the available space on the disc in drive E.

```
E: R/W, Space: 248k
```

Once you know the size of your files and the available space on your backup flexible disc, you may easily calculate whether or not your files will fit on a 5 1/4" backup flexible disc.

Things You Should Know about Random Access Files

A feature of the CP/M Operating System is its ability to support two types of file access: sequential and random. This article describes some restrictions when you use the PIP Utility, the TYPE command, and the READ SEQUENTIAL System Function Call with random access files.

When a file is accessed sequentially, records are read and written in a sequential fashion. This means that before record 2 can be read, record 1 must be read. Similarily, record 1 must be written before record 2 can be written. In "random access" mode, however, records can be read and written in any order. This gives more flexibility to an application, but the application must keep track of which records have been written.

The PIP utility and TYPE command are intended for use with files that are accessed sequentially. Using PIP and TYPE with a file intended for random access may result in only part of the file being accessed. Care must be used when copying this type of file with PIP because the destination file might not contain all of the original data.

The HP applications WORD/125, VISICALC/125, and GRAPHICS/125 use sequential access (so PIP copies entire files created by these applications). BASIC/125 allows you to use both sequential and random access files. Other CP/M applications that you may be using might also use either method of file access. If you are not sure if your data files are intended for random access only, contact your HP dealer or local HP Sales and Service Office.

What happens when PIP and TYPE are used on a random access file? The key to the answer is that they both use the READ SEQUENTIAL System Function Call. As stated above, this call works fine on a sequential access file. But on a random access file, due to the way some information is kept in the directory, READ SEQUENTIAL sometimes finds the end-of-file too early. So this means that on some random access files, after the first part of the file is processed, the system thinks it has reached the end of the file. With PIP and TYPE, the last part of the file would never be processed.

To know whether a random access file will be processed correctly with PIP and TYPE requires an understanding of the directory structure. Details of the structure are described in the HP 125 System Reference Manual. If the directory entry has an unallocated group between two allocated groups, the false end-of-file will be detected. PIP and TYPE do not properly process a file that has this type of directory entry.

Here is what you need to remember:

1) PIP and TYPE process WORD/125, GRAPHICS/125, and VISICALC/125 files correctly.

2) Do not use PIP and TYPE with files intended for random access since an "end of file" might be detected too early.

For more information on the group allocation, the directory, or the READ SEQUENTIAL function call, refer to the HP 125 System Reference Manual.

Customer Corner

Which Disc Is It?

[Note from the Editor: If you are using only a few discs, you may not have any problem keeping track of your data files. However, as your collection of discs grows, the information in this customer contribution may help you organize and keep track of your files.]

While working on our HP 125 recently, I removed the flexible disc from drive B for about the tenth time just to see what number disc I was using; all our discs are carefully numbered with a two digit number. As I looked at the number, I wondered why I couldn't read the disc number electronically, such as reading a file name that gives the number of the disc. A conversation with my SE provided the following solution:

Type: SAVE 0 #01

This places a file named #01 on disc number one; a file that takes zero space but that lists in the directory. Typing STAT *.* will list the directory in alphabetical order and the number sign sorts to the top just as is desired. Type DIR #* and the number alone will appear. In WORD/125 the directory will keep you similarly informed.

Do this for all the flexible discs that you have. Then, as you are working with the disc files and want to know what disc you have in the disc drive just type DIR #*.

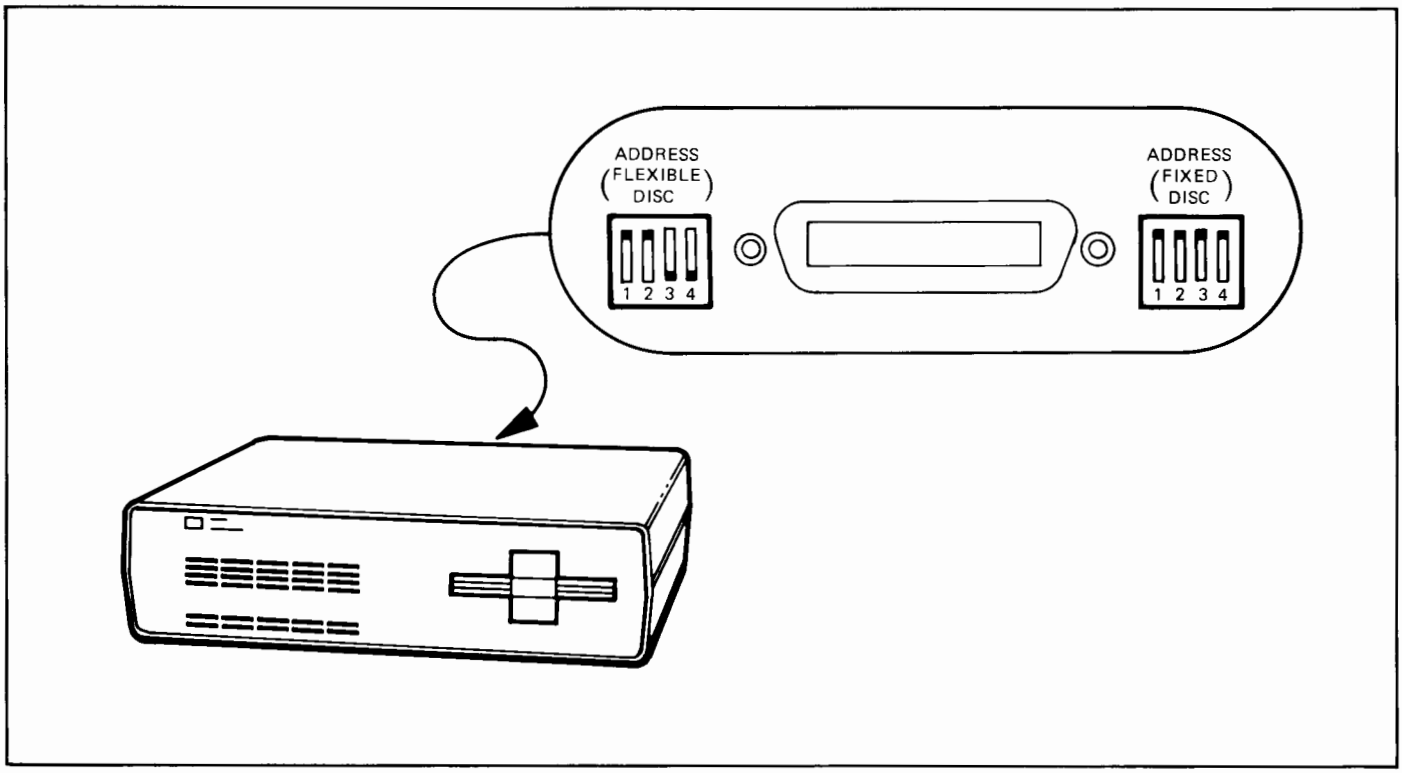
Hardware Headlines

HP 9895 - HP 9135 File Transfer

If you've decided to upgrade your HP 9895 disc drive to the new HP 9135 Winchester disc drive, you'll need to do some "address switching" to copy your existing files. Format the HP 9135, and copy the operating system and utilities as described in the addendum to the "Getting Started With Your HP 125" manual. Follow the addendum through Step 10 on page 2-5.

At this point, you need to perform some extra steps which are not described in the addendum.

1. Turn off the HP 9135.
2. Change the address of the HP 9135 fixed disc drive from "2" to "0" as described in the addendum.
3. Change the address of the HP 9135 flexible disc drive to "3." (Switches 3 and 4 down -- see figure below.) The flexible disc is now disabled.



Now, set the HP 9895 address to "2" by following the instructions on page 4-9 of the "Getting Started Manual".

Turn on the HP 9135, HP 9895, and HP 125: the CP/M operating system should load from the HP 9135 Winchester disc. At this point, the Winchester will be logical drives A, B, C and D. The HP 9895 will be drives E and F.

Use PIP or COPY to transfer your files. Remember that most HP application programs must be re-installed. However, the new "WELCOME" program permits installation from any disc drive, so this shouldn't be a problem.

When you finish transferring your files, disconnect the HP 9895 and power off the HP 9135. Reset the HP 9135 flexible disc to address "2"; power on the HP 9135, and re-load CP/M.

Does Your 2601A Printer Print Only in Column 1?

Several users have found themselves faced with a 2601A problem. Output is printed only in column one. Attempts to resolve the problem by pressing the RESET softkey, the RESET button, or even the ON/OFF switch are unsuccessful. Users may get into this bind by removing the WORD/125 disc without exiting the application or powering down the disc before exiting, then powering up with a different application.

The problem is that the printer is "set up" when using WORD/125 so that WORD/125 clears the set up at exit. If the set up is not cleared, later attempts to access the printer result in an unsuccessful print operation. Turning the printer off does not help because the "setup" executed by WORD/125 is retained in the 2601A's battery powered CMOS memory.

The cleanest way to get out of the situation is to reload WORD/125, change the first two Y Table entries to 0 and 2, respectively, reset the printer, and then exit WORD/125.

This problem may occur when you are printing from VisiCalc/125 after using WORD/125. If you don't want to reload WORD/125 and exit from it, Send the printer reset escape sequence from the VisiCalc print command as follows:

2. "<CR> The quote mark tells VisiCalc/125 that this is a set up.

3. ^E^CZI<CR> Type escape sequence (^E=ESC and ^C=CTRL)

VisiCalc now asks for the lower right coordinate.

Software Status Bulletin

WORD/125 Rel: 02.00

Problem Description: Print format table entries go to "32" when filename is too long. WORD/125 does not reject filenames or filetypes that are longer than CP/M filenaming conventions allow. Entering a too-long filename results in the following:

a. The size of the file is listed in the directory as an impossibly high number (e.g. 520K on a 256K byte disc).

b. All of the Y Table values are changed to 32.

Workaround: Make sure that all filenames used in WORD/125 follow CP/M filenaming conventions.

Problem Description: A line is printed at the wrong location with two column print. The two column print macro will occasionally print the last line of the first column in the second column. Also, dot commands are not always handled correctly.

Workaround: Some of the two column macro problems can be avoided by using a "manual method" for creating two columns of text rather than using the macro. "Manual method" instructions are as follows:

1) Imbed a .Y command at the top of the document to specify the width and length of the first column.

2) Use the J command to find the start of the second column.

3) Imbed a .T (to reposition the page) and a .Y (to format the second column) at the beginning of the second column. The .T command works only with printers capable of negative line feed, such as the HP 2601A.

4) Repeat steps 1, 2, and 3 for the entire document.

Problem: In WORD/125, if the cursor is on the line below the last line of text (not in column one) and the cursor is homed down (moved to column 1 with the home key), the bottom of the screen will be filled with unwanted characters.

Workaround: To clear the unwanted characters from the screen, complete the following steps:

1) Go to Command Mode.

2) Type "Z" and then press the RETURN key. This will display the screen to set tabs.

3) Press the ESC key to exit from the Tab screen.

4) Go to Edit mode.

Problem Description: Tabs set past column 80 on the screen are not always set correctly. If the screen is set to a line length of 150 and tabs are set between columns 80 and 150, the tabs will not stay where they are set on the screen. Most often an extra tab appears at column 81 on the screen.

Workaround: If you must set tabs past column 80, realize that you will have an extra tab at column 81.

Problem Description: When printing decimal tabs in proportional spacing, the right margin is no longer aligned.

Workaround: Place a .Y statement before and after the tabbed section. Replace each value (except the proportional spacing value) in the .Y statement with a slash. In the .Y statement before the tabbed section, turn the proportional spacing "off" (0); after the tabbed section, turn proportional spacing back "on" (1).

Problem Description: When using a character-oriented print routine, hyphenated phrases (e.g. phone numbers) may be split at the end of a line.

Workaround: Enhance the hyphen then turn off the enhancement with the !7 command prior to the hyphen. Remember to reset the enhancements after the hyphen.

GRAPHICS/125 Rel: 01.00

Problem Description: If a solid (shade #7) segment of a stacked bar chart is less than 0.5% of the chart's range, the small solid segment may be drawn too high causing the segment above to be drawn on top of the smaller segment.

Workaround: Rescale your y axis so that the smallest segment is greater than 0.5% of the chart's range.

Problem Description: The labels on the linear charts are rounded to the nearest tenth. For examples the values 0, 0.25, and 0.50 will be plotted as 0, 0.3, and 0.5.

Workaround: Use numbers which are accurate to one decimal place.

Problem Description: Pie segment labels are not positioned properly when the segment approaches 0.5%.

Workaround: Sort the segments with the sort option.

Problem Description: When you are making a bar chart, if the x-axis labels are too long they will write over one another when plotted.

Workaround: Either use fewer bars per chart or use shorter text in your labels.

Problem Description: In Pie Charts, the labels will be plotted over exploded segments in certain instances.

Workaround: Use the auto sort option or avoid exploding segments.

Problem: When using stacked bar charts in GRAPHICS/125, small solid slices are not always drawn in the correct place on the bar chart. The slice is most often drawn too high on the chart or, if small enough, may not be drawn at all. This problem occurs because solid slices in stacked bar charts are drawn a "fraction of an inch" short, so that the solid portion does not bleed on the other sections of the bar chart. If the small slice is smaller than this "fraction of an inch", the slice is positioned in the wrong place.

Workaround: Avoid graphing bar chart segments of very small size.

BASIC/125 Rel: 05.21

Problem Description: The HP 125 firmware contains an error that causes the "Esc d" escape sequence to be processed incorrectly. (The "Esc d" sequence allows simulation of the ENTER key function.) This problem is most clearly visible when trying to execute the escape sequence from a BASIC/125 program. The cursor stays on any blank line.

Workaround: Press the RETURN or ENTER key to clear the cursor from the blank line.

Pen and Ink

This article presents corrections to the HP 125 manuals. Just pencil in these corrections to update your HP 125 manuals.

VISICALC/125 Rel: 02.00

Correction Description: On page 5-8 of the VISICALC/125 manual, change the exponentiation example on the top of the page to read 2^5 [RETURN].

Correction Description: Page 6-3 of the VISICALC/125 manual incorrectly states that the [CTRL] E command can be used to edit replicate commands. In fact, replicate commands cannot be edited with [CTRL] E. Strike the sentence "As with any other entry ... by using [CTRL] [E]."

Correction Description: Page 9-3 of the VISICALC/125 manual states that the "^E" causes the character that follows to be an escape character. This is not true. Modify the text to say that "^E" sends an escape character.

WORD/125 Rel: 02.00

Correction Description: Artwork is missing from the bottom of page 1-13 of the WORD/125 manual. Drawings for the "up arrow" and "down arrow" cursor control keys should be inserted in the blank spaces at the bottom of the page. Draw the keys in using the keys on page 1-7 of the WORD/125 manual as examples.

Correction Description: On page iii of the WORD/125 manual, change the manual title to read "System Reference Manual" instead of "Software Reference Manual".

Correction Description: On page 2-9 of the WORD/125 manual, the middle of of the page, the text reads: "See the information on marks in chapter 5 for more information." Change the reference to chapter 6 instead of chapter 5.

BASIC/125 Rel: 05.21

Correction Description: The BASIC/125 manual states on page 3-80 that the default text width on the screen is 72 characters. Change the number to 80 characters instead of 72.

Correction Description: On lines 1020 and 1030 in the example on page H-4, place a "$" after the "ESC".

System Reference

Correction Description: Page 15-18 of the HP 125 System Reference Manual incorrectly describes the XTHL assembly mnemonics; XTHL has no paramenters; it exchanges the HL register pair with the top of the stack.

On page 15-18 in the table listing XTHL and its definition, delete the word "Data" (beside it) and change the definition to read "Exchange the data on top of the stack with the contents of the HL register pair.

Correction Description: On page A-7, change the Key Code A9 fro... "enhance Linergins" to "Enhance Line"

Correction Description: On page 10-11, change the maximum length of Subfunction 123 (window message string) from 79 to 80.

International—HP 125 Software, Update, and Manual Ordering Information

5/82

This is a summary of ordering information for the HP 125 software, updates, and manuals which are available from your Hewlett-Packard Sales and Service Office and from Authorized HP 125 Dealers. For each product, ordering information is given for:

- New software packages ... to add additional capabilities to your system.
- Software Update Kits ... to provide an updated version or replace damaged media. Software Update kits contain the latest software and any manual updates; they are provided at a nominal cost in exchange for your original master disc.
- Manual Updates ... to obtain revised manuals or change pages for your manuals. If a manual is updated independently of the software, the update is automatically sent to subscribers on the corresponding HP System Information Service (SIS). For those who do not subscribe or who subscribed late, updates are also available separately.

Operating System (Current Version A.01.20)

- Op Sys and Utility Software Update Kit. To add the new 9134/9135 fixed disc drive to your A.01.01-based HP 125 system, to add the Block/Format Utility, or to replace damaged media, exchange your disc for:

  HP 125 Op Sys & Util. Update Kit 5-1/4" 45500-15800 *
  HP 125 Op Sys & Util. Update Kit 8" ... 45500-18800 *

  One original Operating System disc must be exchanged for each Software Update Kit ordered. (Future Op Sys Update Kits will always include the Utility Disc current at that time -- but only the Op Sys disc will have to be returned. Therefore, if you do not have a Utility Disc you will receive one as part of the Operating System Update Kit, whether you update now or later.)

  The Kit includes updates to both the HP 125 Owner's Manual and Getting Started With the HP 125, plus a copy of the new HP 125 Utilities Manual.

- For Manual Updates covering the 9134/9135 and correcting minor documentation errors, you may purchase new copies of:

  HP 125 Owner's Manual 45500-90000
  Getting Started with your HP 125 45500-90010

  The new Block/Format Utility is covered in:
  HP 125 Utilities Manual 45500-90105

VISICALC/125 (45531A -- Current Version A.02.00)

- To add VISICALC/125 to your system, order:
  VISICALC/125 5-1/4" ..... 45531A Std.
  VISICALC/125 8" ..... 45531A -080

- To replace damaged media, exchange your disc for:
  VISICALC/125 Update Kit 5-1/4" ..... 45531-15800 *
  VISICALC/125 Update Kit 8" ..... 45531-18800 *

- If you are using A.01.20 Op Sys but are not on SIS, order:
  VISICALC/125 Reference Manual Update .. 45531-99001

  (Covers usage with the new WELCOME file and corrects minor documentation errors.)

GRAPHICS/125 (45532A - Current Version A.01.01)

- To add GRAPHICS/125 to your system, order:
  GRAPHICS/125 5-1/4" ..... 45532A Std.
  GRAPHICS/125 8" ..... 45532A -080

- To add the new 7470A plotter to your system or replace damaged media, exchange your disc for:

  GRAPHICS/125 Update Kit 5-1/4" ..... 45532-15800 *
  GRAPHICS/125 Update Kit 8" ..... 45532-18800 *

- There is a GRAPHICS/125 manual update which covers the new 7470A plotter and usage with the A.01.20 Op Sys WELCOME file. The update also corrects minor documentation errors. If you do not order the Software Update Kit but want a copy of the manual update alone, order:

  GRAPHICS/125 Reference Manual 45532-99001

WORD/125 (45533A -- Current Version A.02.00)

- To add WORD/125 to your system, order:
  WORD/125 5-1/4" ..... 45533A Std.
  WORD/125 8" ..... 45533A -080

- To replace damaged media, exchange your disc for:
  WORD/125 Update Kit 5-1/4" ..... 45531-15800 *
  WORD/125 Update Kit 8" ..... 45531-18800 *

- If you are using A.01.20 Op Sys but are not on SIS, order:

  WORD/125 Reference Manual Update 45533-99001

  (Covers usage with the new WELCOME file and corrects minor documentation errors.)

*For each Update Kit ordered, return one original disc of the same product. (Use your working copy until the new disc arrives.) If 20 or more assorted Software Update Kits are ordered at the same time, the price is discounted by 35%; no other discounts apply to Update Kits.

LINK/125 (45534A -- Current Version A.02.00)

- To add LINK/125 to your system, order:
  LINK/125 5-1/4" ..... 45534A Std.
  LINK/125 8" ..... 45534A -080

- To replace damaged media, exchange your disc for:
  LINK/125 Update Kit 5-1/4" ..... 45534-15800 *
  LINK/125 Update Kit 8" ..... 45534-18800 *

- If you are using A.01.20 Op Sys but are not on SIS, order:
  LINK/125 Reference Manual Update 45534-99001

  (Covers usage with the new WELCOME file.)

BASIC/125 (45535A -- Current Version A.05.21)

- To add BASIC/125 to your system, order:
  BASIC/125 5-1/4" ..... 45535A Std.
  BASIC/125 8" ..... 45535A -080

- To replace damaged media, exchange your disc for:
  BASIC/125 Update Kit 5-1/4" ..... 45535-15800 *
  BASIC/125 Update Kit 8" ..... 45535-18800 *

HP 125 Programming Package (45536A -- Current Version A.01.00)

- To add the Programming Package to your system, order:
  HP 125 Programming Package 5-1/4" ..... 45536A Std.
  HP 125 Programming Package 8" ..... 45536A -080

- To replace damaged media, exchange your disc for:
  HP 125 Prog. Package Update Kit 5-1/4" 45536-15800 *
  HP 125 Prog. Package Update Kit 8" .... 45536-18800 *

*For each Update Kit ordered, return one original disc of the same product. (Use your working copy until the new disc arrives.) If 20 or more assorted Software Update Kits are ordered at the same time, the price is discounted by 35%; no other discounts apply to Update Kits.

Solution to Programming Challenge

Most programming problems have many possible solutions; here is one for the problem described on page 9.

The problem is to discover a BASIC/125 function which can be used to return the upper-case equivalent of any ASCII alpha character which a user might enter. Consider the function:

```
100 DEF FNUP$(A$)=CHR$(ASC(A$)+(ASC(A$)>95)*32)
```

The secret to this solution is the 'logical' expression:

```
(ASC(A$)>95)
```

If the ASCII character is upper case, the above expression will evaluate as 'false'. The ASCII representation of upper-case characters is between 65 and 90, hence ASC(A$) cannot be greater than 95. The numeric value which represents 'false' is zero, so the expression evaluates to 0.

If the ASCII character is lower case, the above expression will evaluate as 'true', a numeric value of -1.

Take the logical value, and multiply it by 32 (the difference between the ASCII code for an upper case character and its lower case equivalent). If the initial character was upper case, the expression is 0*32, or 0. If the initial character was lower case, the expression is -1*32, or -32.

When this value is added to the original ASCII code, the result will be in the range 65 through 90 and will represent the ASCII decimal equivalent of the upper case character desired. The 'CHR$' function will then return the single upper case ASCII character.

You might use this function as follows:

```
110 INPUT"Do you need help";BUF$
120 IF FNUP$(LEFT$(BUF$,1))="Y" THEN 200
. . .
200 'HELP REQUESTED - PRINT INSTRUCTIONS
. . .
```

A more advanced application, to upper case a file name, might be:

```
500 INPUT"Enter File Name";BUF$
505 FILE$=""
510 FOR I=1 TO LEN(BUF$)
515 FILE$=FILE$+FNUP$(MID$(BUF$,I))
520 NEXT I
530 PRINT"The upper case name is ";FILE$
```

We hope some of you will be able to use this function in your programs. If you have a different way of attacking the same problem, let us know.

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