HP 125 Business Assistant

LINK/125

HEWLETT PACKARD

19410 Homestead Road, Cupertino, California 95014

Manual Part No. 45534-90000

Printed in U.S.A.

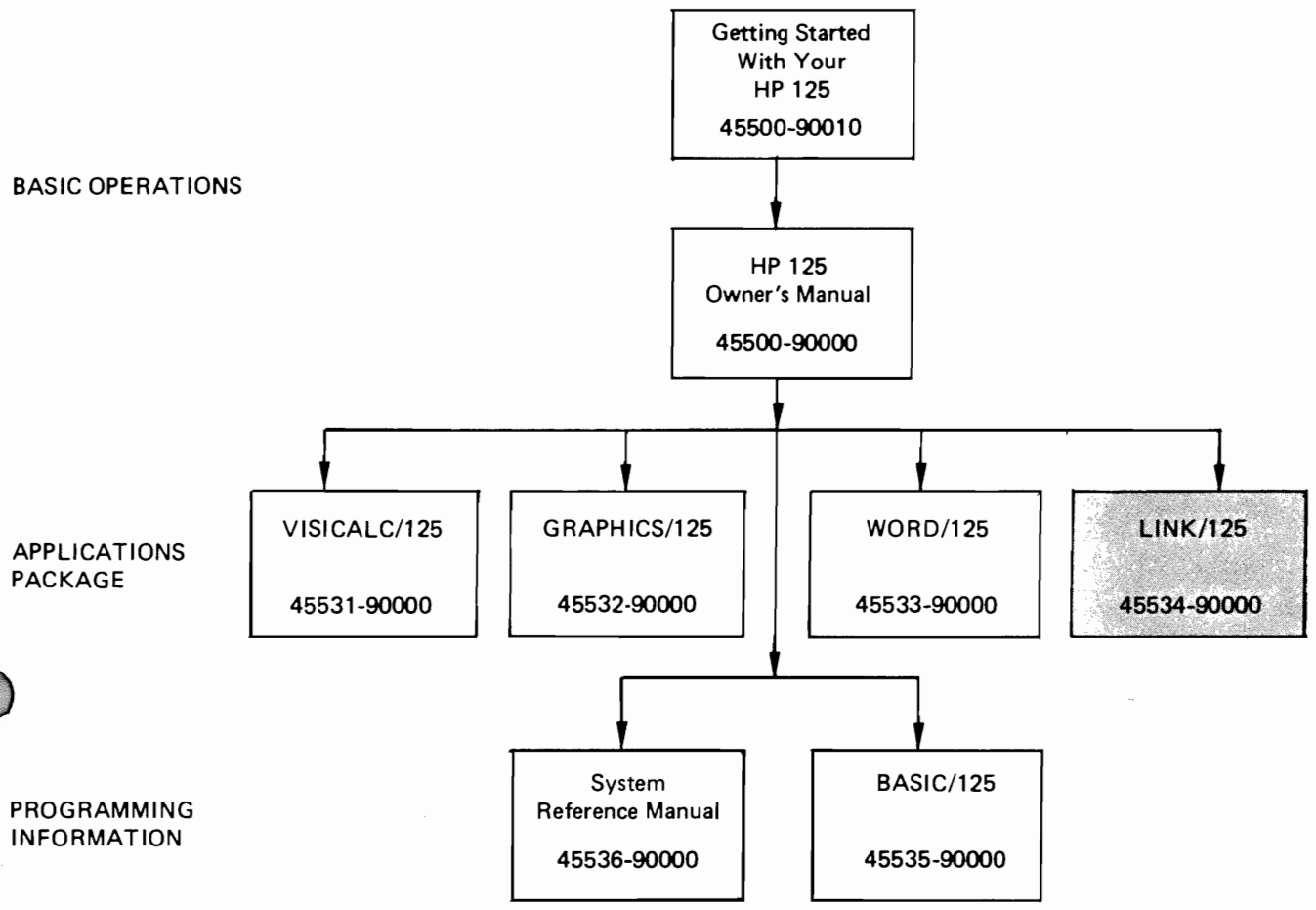
Printing History

New editions of this manual will incorporate all material updated since the previous edition. Update packages may be used between editions and contain replacement and additional pages to be merged into the manual by the user. Each updated page will be indicated by a revised date at the bottom of the page. Note that pages which are rearranged due to changes on a previous page are not considered revised.

The manual printing date and part number indicate its current edition. The printing date changes when a new edition is printed. (Minor corrections and updates which are incorporated at reprint do not cause the date to change.)

First Edition . . . . . .July 1981

Manual Plan


BASIC OPERATIONS
Getting Started With Your HP 125
45500-90010
HP 125 Owner's Manual
45500-90000
APPLICATIONS PACKAGE
VISICALC/125
45531-90000
GRAPHICS/125
45532-90000
WORD/125
45533-90000
LINK/125
45534-90000
PROGRAMMING INFORMATION
System Reference Manual
45536-90000
BASIC/125
45535-90000

Preface

This manual will introduce you to the LINK/125 communications program. The manual provides instructions on how to transfer files between the HP 125 and HP 3000, how to create and execute command files, how to execute HP 3000 QUERY XEQ files and how to set up logging devices. Information is also included on how to use LINK/125 with computers other than the HP 3000.

We suggest that you read the first chapter of the manual, skim the rest of the manual, and return to individual chapters for detailed reading as necessary. For more information on the HP 125 and the HP 3000, refer to the following manuals.

For the HP 125:

Name	Part Number
Getting Started with Your HP 125	45500-90010
HP 125 Owner's Manual	45500-90000
VISICALC™ /125	45531-90000
GRAPHICS/125	45532-90000
WORD/125	45533-90000
BASIC/125	45535-90000

For the HP 3000:

Name	Part Number
MPE Commands Reference Manual	30000-90009
MPE Intrinsics Reference Manual	30000-90010
Using the HP 3000	03000-90121
Using Files	30000-90102
EDIT/3000 Referecne Manual	30000-90011
FCOPY Reference Manual	03000-90064
IMAGE Data Base Management System Reference Manual	30000-90041
QUERY Reference Manual	30000-90042
HPWORD Reference Guide	32120-90001

VISICALC™ /125 is a trademark of Personal Software, Inc.

Table of Contents

Chapter 1 Getting Started with LINK/125

What is LINK/125?.....1-1
Preparing the HP 125 for use with LINK/125.....1-2
Installing LINK/125 Software.....1-2
Running LINK/125.....1-6
Using the Main Menu.....1-10
Accessing the Help Data.....1-13

Chapter 2 Transferring Files from the HP 125 to the HP 3000

Accessing the Transfer to Host Menu.....2-1
Filling in the Transfer to Host Menu.....2-4
  Filling in the Source File Information.....2-4
  Filling in the Destination File Information.....2-6
  Changing the Record Size.....2-7
  Changing the Maximum Number of Records.....2-7
Using the START OVER Function Key.....2-8
Transferring the File.....2-9
Stopping the File Transfer.....2-9

Chapter 3 Transferring Files from the HP 3000 to the HP 125

Accessing the Transfer from Host Menu.....3-1
Filling in the Transfer from Host Menu.....3-4
  Filling in the Source File Information.....3-4
  Filling in the Destination File Information 3-5
Using the START OVER Function Key.....3-6
Transferring the File.....3-6
Stopping the File Transfer.....3-7

Table of Contents (Cont.)

Chapter 4 Creating and Executing Command Files

Creating a Command File.....4-2
Accessing the Command File Prompt and Executing.....4-3
a Command File
Stopping the Command File.....4-4
Using Special Commands.....4-5
Command File Limitations.....4-6

Chapter 5 Executing HP 3000 Query XEQ Files

Accessing the Query Menu.....5-2
Filling in the Query Menu.....5-5
Changing the Output Destination.....5-8
Using the START OVER Function Key.....5-10
Starting the XEQ File.....5-11
Stopping the XEQ File.....5-12

Chapter 6 Setting up Logging Devices

Setting up the Printer.....6-2
Accessing the Logging Function Keys.....6-2
Selecting the Logging Devices.....6-4
  Logging to a Local Printer.....6-4
  Logging to a Local File.....6-5
  Logging to Multiple Devices.....6-7
Using the LOGGING Function Key.....6-7
Additional Information on Logging.....6-8

Appendix A Setting up the Configuration Menu

How to Display the Menu.....A-3
How to Change a Selection on the Menu.....A-3
The Configuration Menu Fields.....A-4
  Terminal Configuration Menu Fields.....A-4
  Data Comm Configuration Menu Fields.....A-7
  Op Sys General List Device Menu Fields.....A-10
Strap Configuration.....A-11
Handshake Configuration.....A-15

Table of Contents (Cont.)

Appendix B File Transfers with "non-HP 3000" Computers

Using Logging and Command Files for File Transfers...B-2
Transferring Files from your Host Computer to the HP 125 Using Logging.....B-2
Transferring Files from the HP 125 to your Host Computer Using Command Files.....B-3
Transfers using a Host Editor.....B-3
Transfers using a Special Program.....B-4
Writing a Program to Simulate HP 3000 FCOPY.....B-5
File Transfer to Host Computer.....B-6
File Transfer from Host Computer.....B-8
Format of the LISTF Response.....B-9
Sample File Transfer Program.....B-11
Additional Information on Connecting Two HP 125's Together.....B-16

Appendix C Transferring HP 125 Files

WORD/125 Files.....C-2
VISICALC/125 Files.....C-3
BASIC/125 Files.....C-4
GRAPHICS/125 Files.....C-4
A General Purpose Solution.....C-4

Appendix D When Things Go Wrong

Error and Warning Messages.....D-1
Recovering from the Premature Termination of a File Transfer.....D-6

GETTING STARTED WITH LINK/125

What is LINK/125?

LINK/125 is a communications program which provides data transfer capability between the HP 125 and HP 3000 systems. LINK/125 runs under the CP/M® Operating System and makes use of the RS-232 serial link on the HP 125.

LINK/125 has several distinct uses. First, and most importantly, LINK/125 is used to transfer files to and from the HP 3000. This capability provides flexibility when designing user applications. Secondly, LINK/125 is used to execute QUERY XEQ files on the HP 3000 from the HP 125. With LINK/125, the destination for QUERY output can even be explictly selected. Third, LINK/125 is used to execute Local Command files. Command files to log-on to a host computer or execute simple MPE commands can be stored on the HP 125 system and executed from LINK/125. Finally, LINK/125 is used to set up logging devices so that a terminal session can be recorded to a local printer, a local file, or both.

CP/M® is the registered trademark of Digital Research, Inc.

LINK/125 was designed to take advantage of the friendly user interface on the HP 125. Screen-labeled function keys guide you through the steps to transfer a file, execute a QUERY XEQ file or execute a command file.

As mentioned previously, LINK/125 is primarily intended to be used to transfer files to and from the HP 3000. With the appropriate programming, however, other host computers may be accommodated (see Appendix B).

Preparing the HP 125 for use with LINK/125

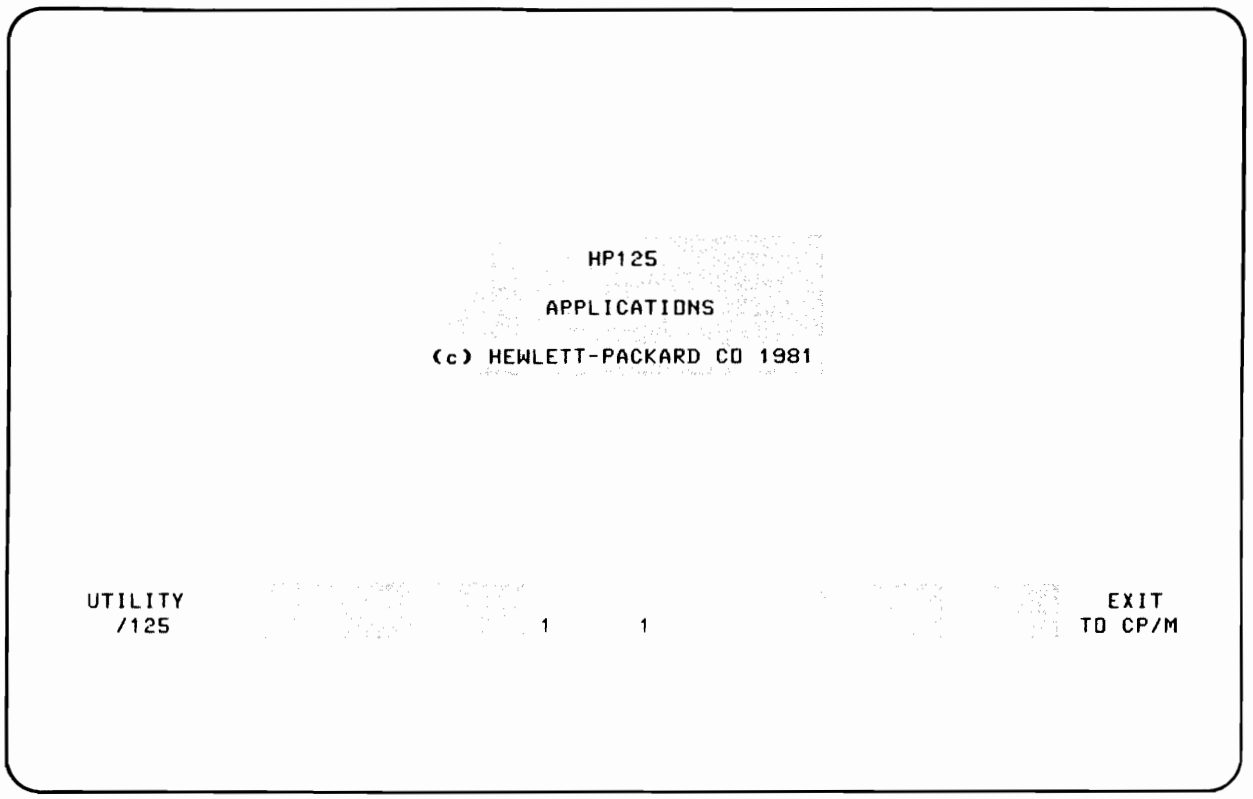
Before beginning to use LINK/125 you must make sure that your HP 125 system has been properly set up and turned on. The setup procedure should include connecting your HP 125 to a host computer and setting up the Terminal Configuration menu. Refer to the "Getting Started With Your HP 125" manual for complete instructions. Also make sure that you format an extra disc before running LINK/125. The extra disc will be used to store your command files and data files. Refer to the "HP 125 Owner's Manual" for instructions on formatting discs.

Installing LINK/125 Software

The first time that you use LINK/125 you will need to install the LINK/125 program onto your system disc. This process copies the LINK/125 program onto your system disc and makes LINK/125 accessible by a single keystroke. If you have already installed LINK/125, go on to the section entitled Running LINK/125.

To install LINK/125 on your HP 125, you need to perform the following steps:

1. Startup the HP 125 system with the system disc in disc drive A (the left drive). The Welcome Menu should appear on the screen. The Welcome Menu looks like this:



If the Welcome Menu is displayed on the screen, go to step 2.

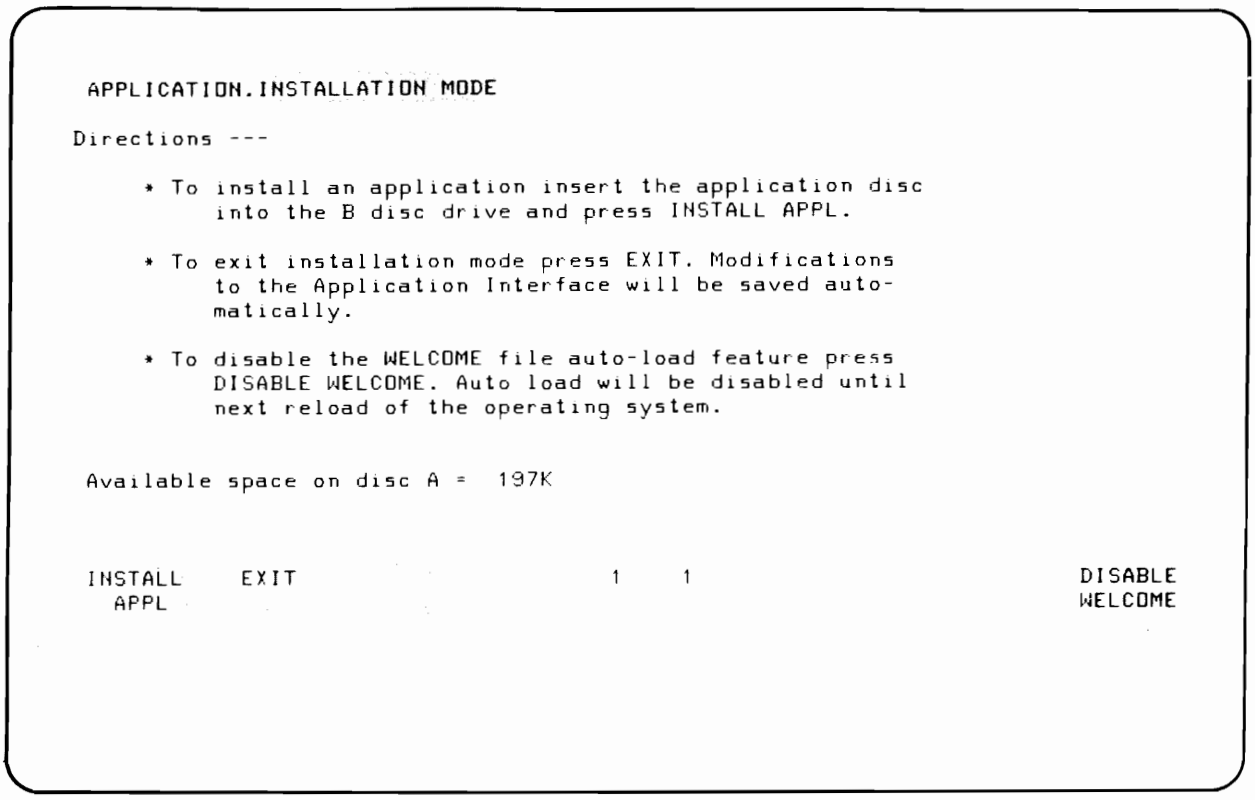
If the message "WELCOME?" appears on the screen instead, the WELCOME program, which displays the Welcome Menu, is not on the system disc, In this case, do the following:

Insert the flexible disc containing LINK/125 into disc drive B (the right drive). Then type in

B:WELCOME (press [RETURN])

This will cause a new copy of the WELCOME program to be loaded into memory, and the Welcome Menu will appear on the screen.

2. To place the WELCOME program into application installation mode, press the [CTRL], [SHIFT], and [@] keys simultaneously. The screen display appears as shown:



NOTE

Once in installation mode, the available space on the disc should be checked against the size of LINK/125 to see if there is enough memory available to perform the installation. (Refer to the label on the LINK/125 disc, for the size of LINK/125.) There are 248K bytes of storage space on each 5-1/4" flexible disc; and 1.2 megabytes of storage space on each 8" flexible disc. (The letter "K" is another way of saying "thousand").

To prevent future problems with the HP application disc, leave at least 20K of unused storage space on the disc. (This space may be used for data files.)

3. Following the instructions on the screen, insert the LINK/125 Disc into disc drive B (the right drive).

4. Press the INSTALL APPL function key.

The message below is displayed:

Application Installation in Progress
Installing ____
LINK/125 Vers. X.X

The lights on the left and right drives (drive A and drive B) alternately light until LINK/125 is installed. Once LINK/125 is installed, you return to the Application Installation Display.

If the message "***Installation aborted. Insufficient disc space on x." appears on the screen, there is not sufficient space available on the system disc to accommodate LINK/125 A new flexible disc must be created to add the additional application. Refer to Chapter 4 in the "HP 125 Owner's Manual" if you need to do this.

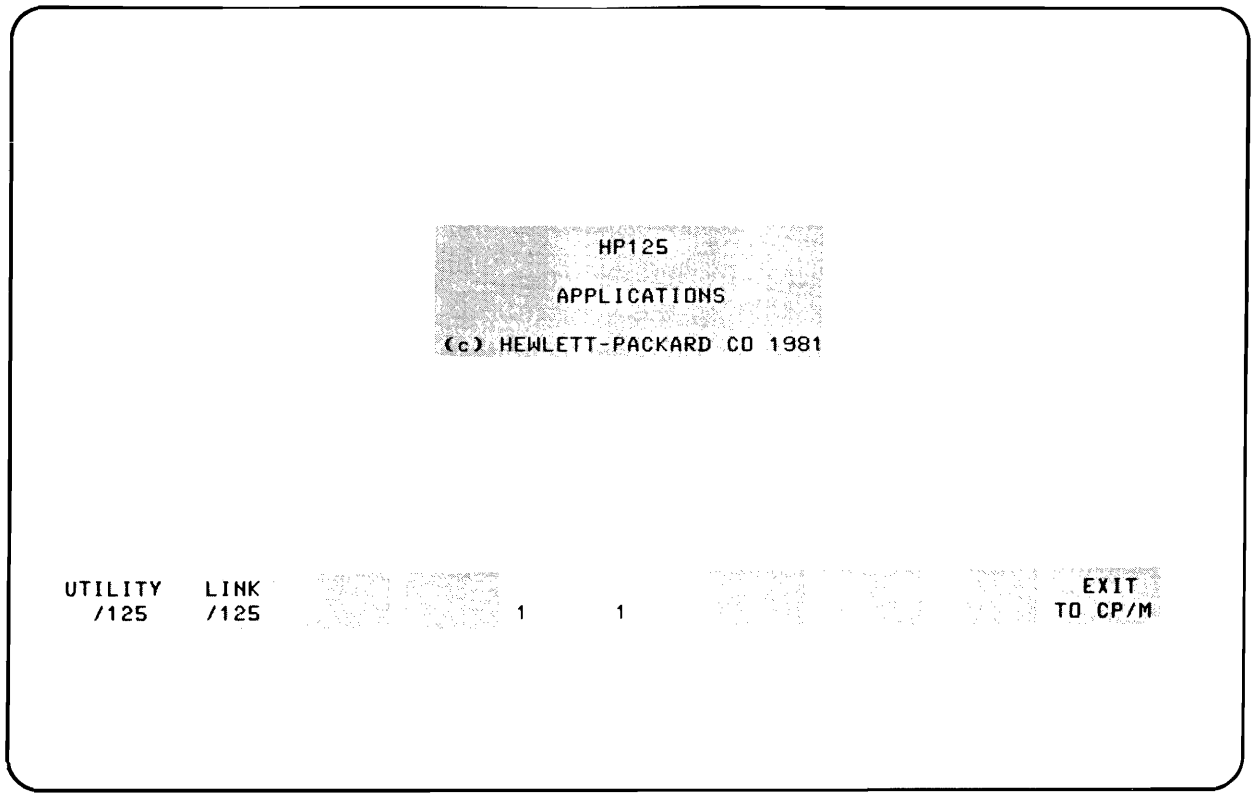
5. Remove the LINK/125 disc from the right disc drive (drive B) and place it in its protective jacket. Save this flexible disc in a safe place. You may need it to install LINK/125 on another system disc. It is also required to obtain low cost software updates from Hewlett-Packard.

6. Once you have installed LINK/125, press the EXIT function key and the following message is displayed:

```
***Save In Progress
***Do Not Disturb
```

At this point a new copy of the WELCOME program (updated with the newly added LINK/125) is being saved on your System disc.

7. When installation is complete, the screen will once again display the Welcome Menu:



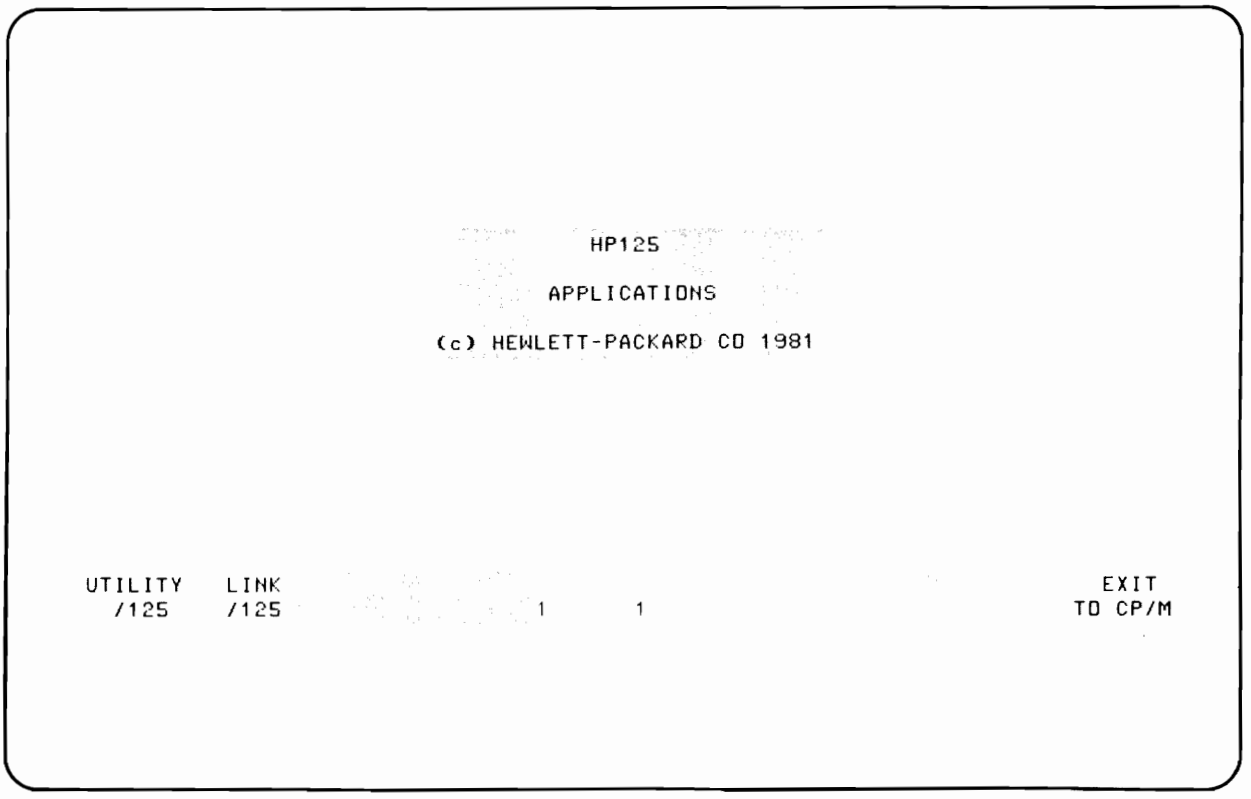
Notice that the function keys displayed at the bottom of the screen now include LINK/125. LINK/125 is now ready to run.

Running LINK/125

Once you have completed the installation process you are ready to run LINK/125.

To run LINK/125 you need to:

1. Startup the HP 125 system with the system disc (containing LINK/125) in disc drive A (the left drive). The screen will display the WELCOME Menu:



2. Press the f8 (EXIT TO CP/M) function key. The WELCOME menu will disappear and the CP/M prompt (A>) will appear on the screen. The labels on the function keys will change to the following:

MODIFY LINE	MODIFY ALL	LOCAL OP SYS*	REMOTE MODE	3	3	TERMINAL TEST	LOAD OP SYS	DISPLAY FUNCTNS	AUTO LF

Notice that an asterisk appears in the f3 (LOCAL OP SYS) function key label. This indicates that your HP 125 is set to operate as a locally-controlled, self-contained office computer under the control of the CP/M Operating System.

3. Press the f4 (REMOTE MODE) function key. The asterisk will "jump" from the f3 function key to the f4 function key label. This indicates that your HP 125 is set to operate as a computer terminal controlled by a host computer.

4. Verify that your HP 125 has been connected to your host computer and the Terminal Configuration menu has been properly set up. Refer to the "Getting Started With Your HP 125" manual for complete instructions.

5. You are now ready to "log-on" to your computer system. The following "log-on" procedure is for the HP 3000 Computer System. If you have some other type of computer system, check the documentation which describes your computer system.

Note: If you are confident that your HP 125 and host computer are properly connected, you may choose to "log-on" after the Main Menu is displayed. To do this, type in your "log-on" sequence on the Main Menu. (Refer to the section entitled "Using the Main Menu.)

To "Log-on" to the HP 3000 computer:

a. Press the RETURN key on the HP 125. The HP 3000 will respond by printing a colon on the HP 125 screen. (If the colon is not printed, check the cabling between the HP 125 and HP 3000 and check the contents of the Terminal Configuation Menu).

b. Enter the HP 3000 :HELLO command followed by your user name, account name and password. (Some accounts will not have a password.) Press the RETURN key. Your entry should look like this:

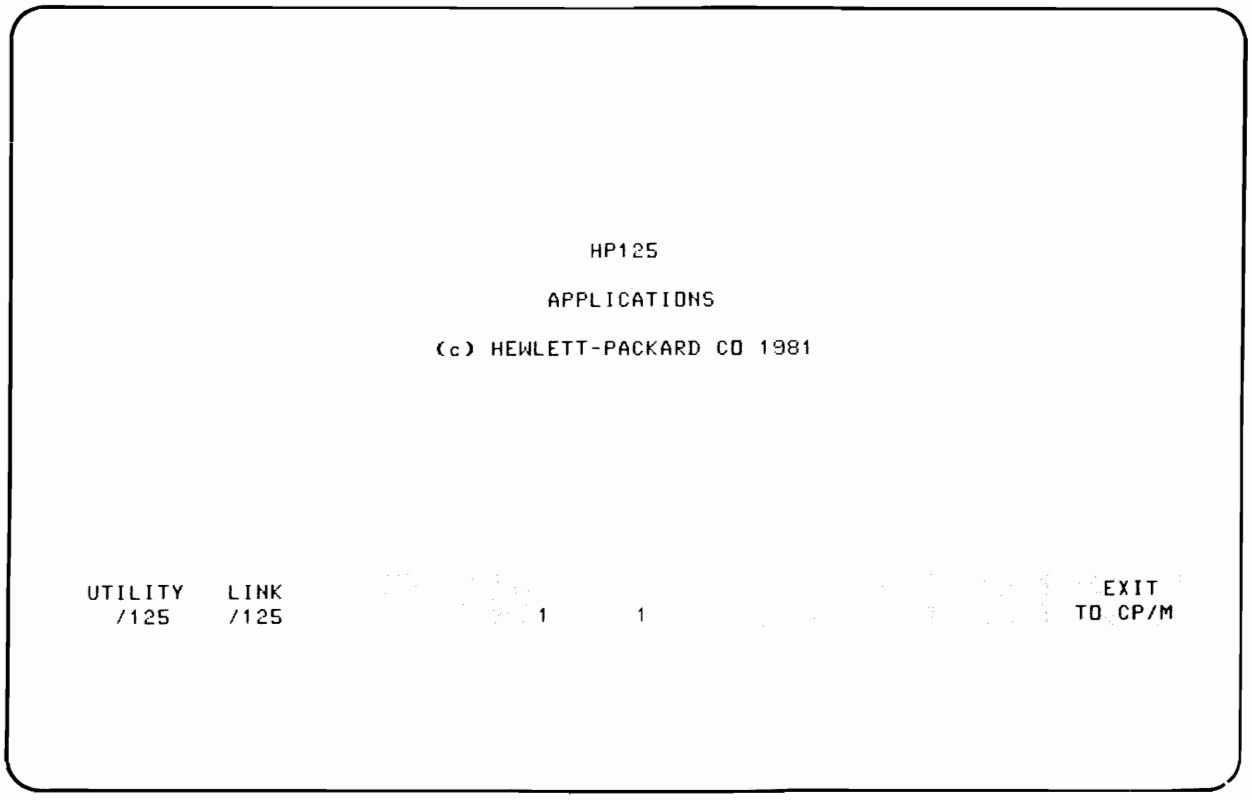
   :HELLO USER.ACCOUNT/PASSWORD

   Refer to the "HP 3000 MPE COMMANDS Reference Manual" for additional information on the :HELLO command.

c. If your log-on attempt is accepted the HP 3000 will send one or more lines of log-on information and will prompt you for your next command (with a colon). The log-on information will include the HP 3000 version number, the date, and the time.

6. Once you have successfully logged onto your computer system, press the f3 (LOCAL OP SYS) function key. Your HP 125 will again be under the control of the CP/M Operating System.

7. Press the f6 (LOAD OP SYS) function key to reload the CP/M Operating System and to display the Welcome Menu:

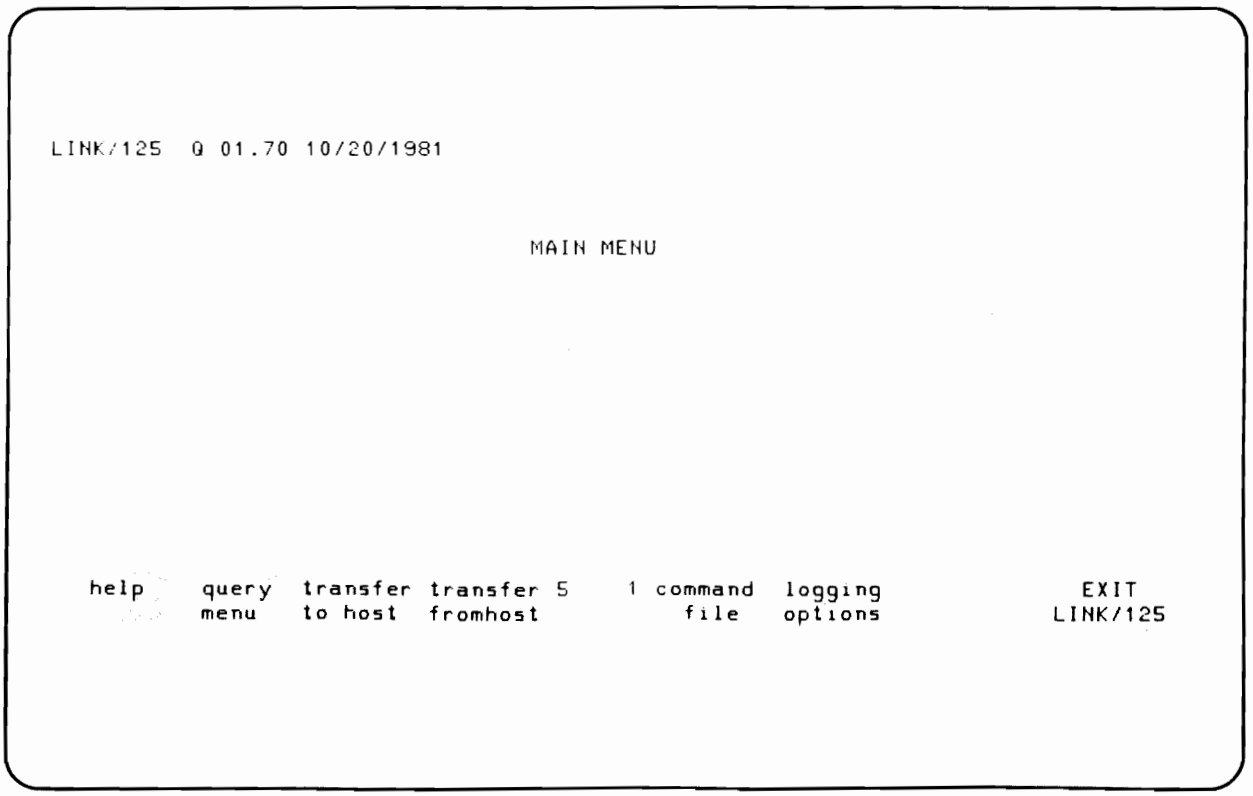


8. Press the function key labelled: LINK/125. The light on disc drive A (the left drive) will light and the following message will appear on the screen:

    *** Application Loading ***

    When LINK/125 finishes loading, it searches for a command file called COMMAND.LNK on the system disc. If COMMAND.LNK is found, it is executed before LINK/125 begins running. (COMMAND.LNK is a special command file that you can create. It can be used to contain log-on sequences, or configuration information for a given host computer system. For information on COMMAND.LNK refer to Chapter 4, "Using COMMAND Files".)

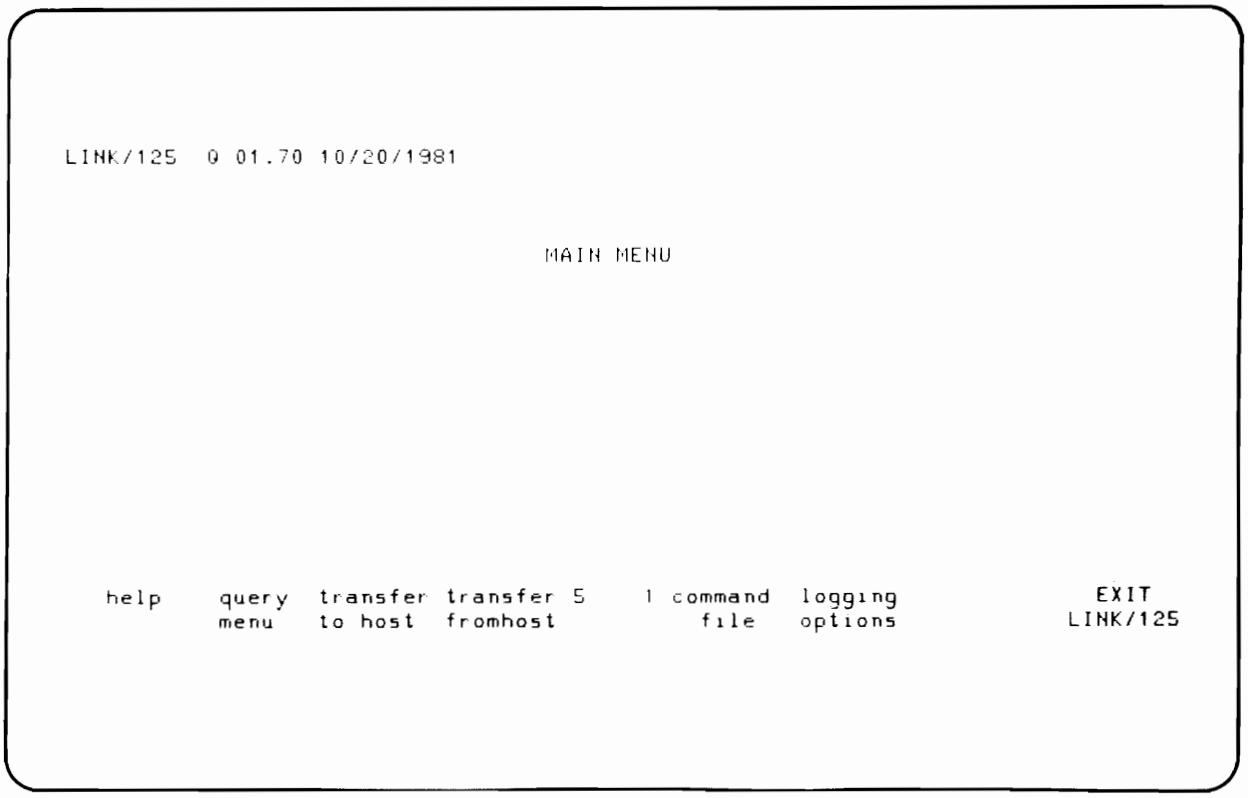
    After COMMAND.LNK is executed (if available), the LINK/125 program begins running and the LINK/125 Main Menu is displayed:



While LINK/125 is running, escape sequences sent from your host computer or typed in from the keyboard cannot be processed. The HP 125 will appear as though display functions were always on. Thus, many host programs will behave abnormally while LINK/125 is running. For example, host programs that contain escape sequences to control the cursor, or to control display enhancements will be printed on the HP 125 screen instead of being processed.

Using the Main Menu

The LINK/125 MAIN MENU is displayed on the screen after LINK/125 begins running. The Main Menu appears as follows:



At the top of the Main Menu, information concerning the version number of LINK/125 is displayed. At the bottom of the Main Menu, the function key labels are displayed.

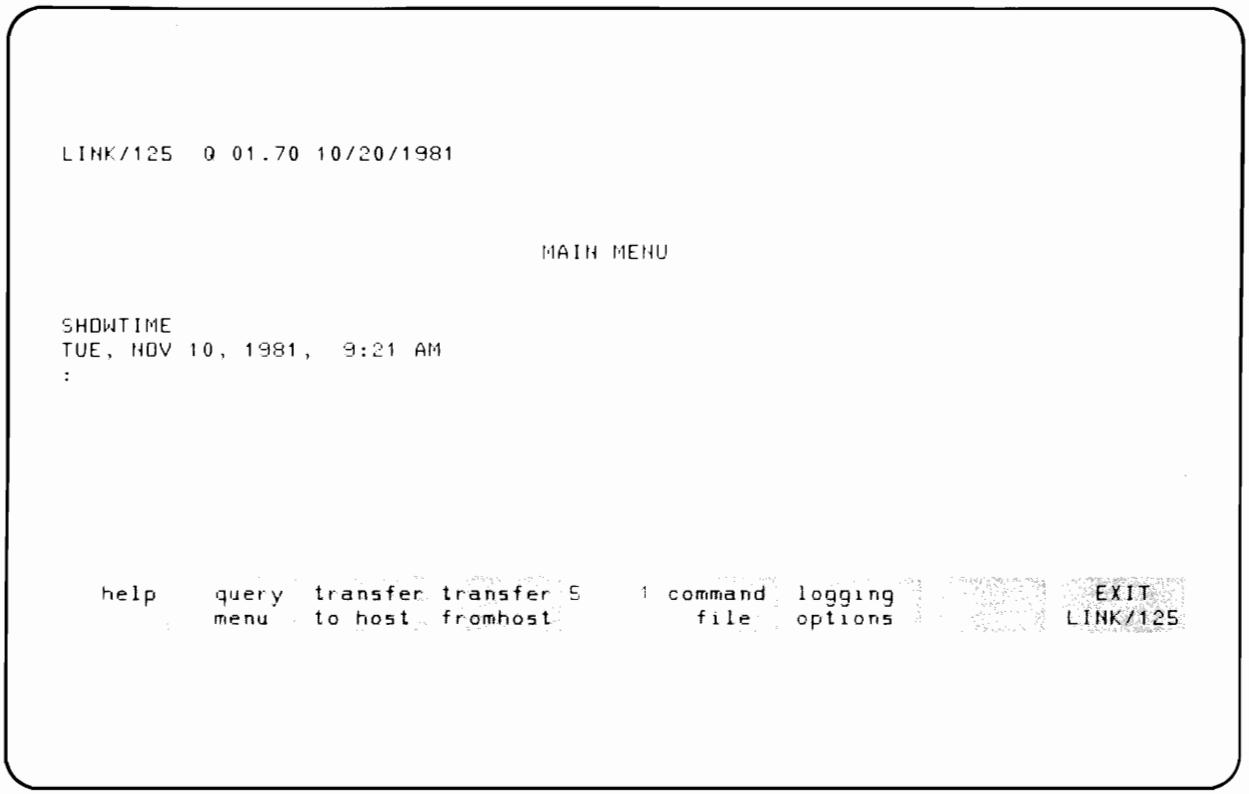
The function keys allow you to access three different screen menus, to display an explanation of the Main Menu function keys, to display a prompt for a command file name, to change the function key labels to select a logging device, or to exit EXIT LINK/125. Each of the menus performs a separate function and can be accessed only by pressing a function key while the Main Menu is displayed. The function keys are defined in the following table:

Label	Function
help	Displays an explanation of the Main Menu function keys on the Main Menu.
query menu	Accesses a menu which allows you to execute a QUERY XEQ file.
transfer to host	Accesses a menu which allows you to transfer files from the HP 125 to the HP 3000 (or other host) computer.
transfer from host	Accesses a menu which allows you to transfer files from the HP 3000 (or other host) to the HP 125.
command file	Displays a prompt which allows you to execute a local command file containing a pre-defined sequence of host computer commands.
logging options	Changes the function key labels to allow you to select a local printer or a local file as a logging device. The current terminal session is then recorded to the logging device.
EXIT LINK/125	Allow you to exit from LINK/125. The Welcome Menu will reappear on the display after pressing this key.

By pressing one of the above listed function keys you can access one of the other menu screens (to transfer files, execute a command file, etc.) or access other softkey labels. Consequently, the Main Menu is most commonly used just as a pathway to the other LINK/125 menus.

The Main Menu can also be used to send commands directly to the HP 3000 computer system. While the Main Menu is displayed, host commands can be entered directly on the screen as if the HP 125 were in Remote Mode, even though the LINK/125 program is running in Local Op Sys Mode. In other words, the Main Menu of LINK/125 allows you to use the HP 125 as a terminal to a host computer while under the control of the local CP/M operating system. (Refer to the "HP 125 Owner's Manual" for more information on Local Op Sys Mode and Remote Mode.)

To enter a host command, type it on the Main Menu just as you would during a normal terminal session. For example, if you typed in the HP 3000 MPE command to display the current time, your screen would appear as follows:

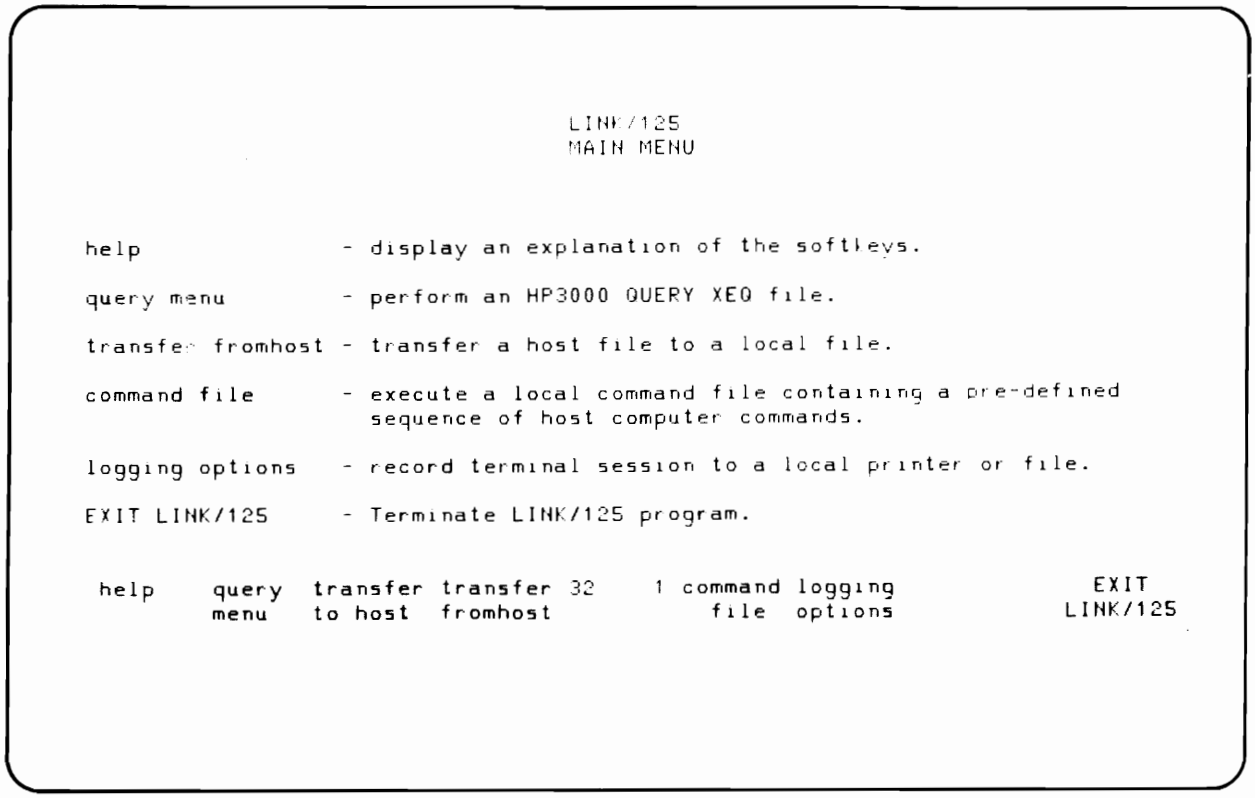


The ability to enter commands directly on the Main Menu is primarily intended for use with simple HP 3000 MPE commands. Attempting to run user-developed programs may produce unexpected results since escape sequence processing from the host is disabled while LINK/125 is running.

Accessing the Help Data

Included within LINK/125 is a description of the function keys that appear on the Main Menu. This description can be viewed by pressing the HELP (f1) function key while the Main Menu is displayed on the screen. (To display the Main Menu, refer to the section entitled "Running LINK/125".)

When you press the HELP (f1) function key, the screen will change and appear as follows:



Notice that the words "Main Menu" continue to appear at the top of the screen. This indicates that the Main Menu is still active. All of the functions that were available on the Main Menu will continue to be available after the HELP function key has been pressed. (Refer to the section entitled "Using the Main Menu" for more information.)

The center of the screen displays a description of each of the Main Menu function keys.

The bottom of the screen displays the function key labels. Notice that the function key labels did not change after the HELP (f1) function key was pressed.

When you are finished viewing the description of the Main Menu function keys, you may access one of the other LINK/125 menus or you may continue to use the Main Menu. To access one of the other menus, all you need to do is press a function key.

To use the Main Menu you will probably want to erase the Help Data. To do this:

1. Position the cursor (blinking underline on the screen) to the top of the Help Data by using the arrow keys ([⌐] [^] [<] [>] [v]) located at the top of the keyboard.

2. Press the CLEAR DSPLY key located in the upper right corner of the keyboard. The data on the screen following the cursor will be cleared.

TRANSFERRING FILES FROM THE HP 125 TO THE HP 3000

File transfers from the HP 125 to the HP 3000 are easy with LINK/125! VISICALC/125 files, and other ASCII files created on the HP 125 can be quickly and easily copied from the HP 125 to the HP 3000 system for permanent storage. The files you transfer should not contain control characters that have special meaning to the HP 3000.

Accessing the Transfer to Host Menu

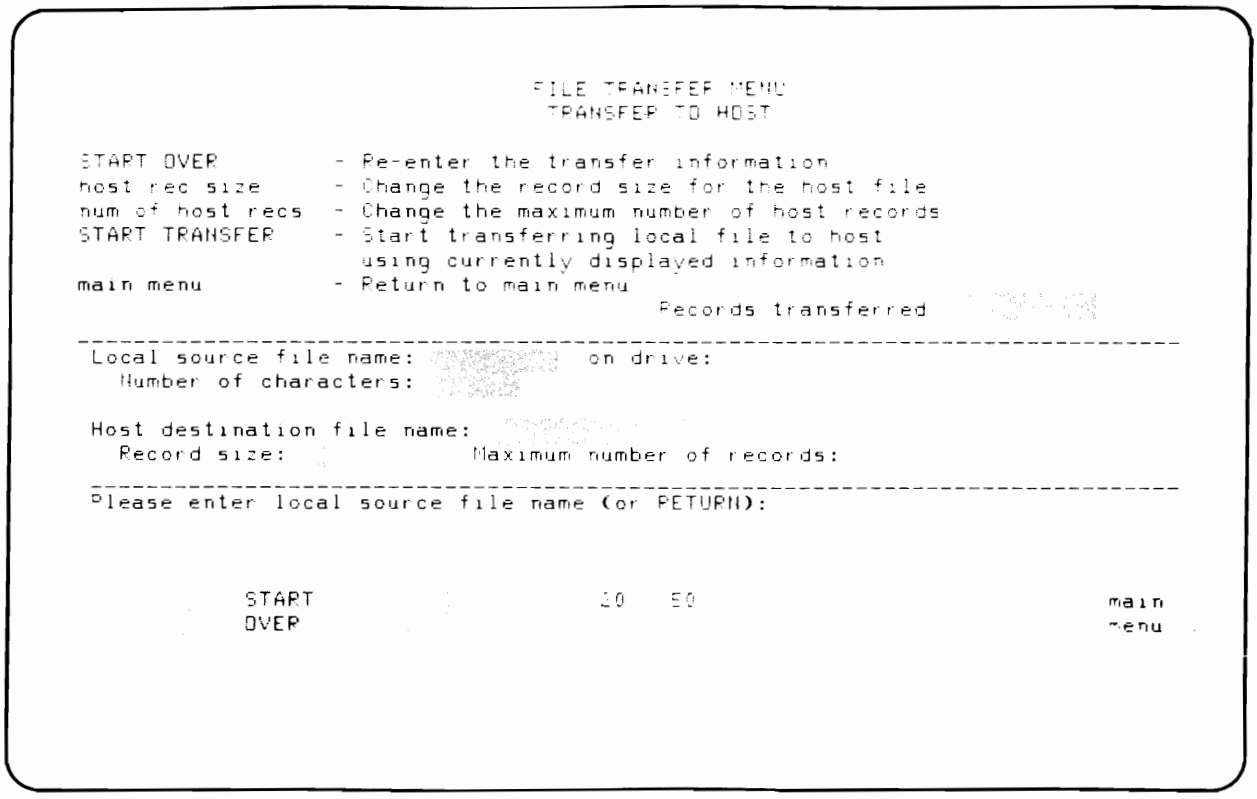
To transfer a file from the HP 125 to the HP 3000, you must first access the Transfer to Host menu. To do this:

Press the TRANSFER TO HOST (f3) function key while the Main Menu is displayed on the screen. (To display the Main Menu, refer to the section entitled "Running LINK/125" in Chapter 1.)

When you press the TRANFER TO HOST (f3) function key, the message:

```
Waiting for host response
```

will be displayed on the screen. Seconds later, the following Transfer to Host menu will appear on the screen:



The top of the screen contains definitions of the function keys used during the "transfer to host" operation. Not all of the function keys listed are displayed on the screen when the "transfer to host" operation begins. For example, the START TRANSFER function key label is not displayed until the Transfer to Host menu has been filled in. (See the following section entitled "Filling in the Transfer to Host Menu.")

Expanded definitions of the Transfer to Host function keys appear in the following table:

Label	Function
START OVER	Allows you to re-enter the transfer information in the Transfer To Host menu. You would press this key if you had made a mistake while typing in the transfer information.
START TRANSFER	Starts transferring the HP 125 file to the HP 3000 using the information currently displayed in the Transfer to Host menu.
host rec size	Allows you to change the record size selected for the HP 3000 file. After you press this key, you are prompted to enter a new record size.
num of host recs	Allows you to change the maximum number of records transferred from the HP 125 to the HP 3000. After you press this key, you are prompted to enter the maximum number of records.
main menu	Allows you to return the Main Menu to the screen.

The center of the screen contains a group of white-on-black areas or "fields". The fields are used to tell LINK/125 the characteristics of the source file on the HP 125 and the destination file on the HP 3000. The fields are defined as follows:

Local Source File Name:	This field will contain the name of the file on the HP 125 that is to be transferred (copied) from the HP 125 to the HP 3000.
On Drive:	This field will contain the disc drive designator (A:, B:, C:, etc) which specifies the location of the source file. For example, if the file LETTER.TXT were located on the "B" disc, "B:" would appear in this field.
Number of Characters:	This field will contain a number specifying the total number of characters in the source file.
Host Destination File Name:	This field will contain the name given to the file after it is transferred to the HP 3000.
Record Size:	This field will contain a number specifying the size of the records created in the HP 3000 file.
Maximum Number of Records:	This field will contain a number corresponding to the maximum number of records for the HP 3000 file.

Filling in the Transfer to Host Menu

Filling in the Source File Information

When the Transfer to Host menu first appears on the screen, the message:

Please enter local source file name (or RETURN):

will be displayed in the bottom section of the menu.

LINK/125 is asking you to enter the name of the HP 125 file that you wish to transfer to the HP 3000. Type in the file name, preceded by the appropriate disc drive designator. (Refer to the "HP 125 Owner's Manual" for more information on filenames.) The disc drive designator is a single letter (from A to H) followed by a colon. This letter tells LINK/125 which disc drive contains the file you want to transfer. Press the RETURN key.

For example, if you wanted to transfer the file LETTER.TXT located on the "B" disc, you would type in:

```
B:LETTER.TXT
```

LINK/125 will attempt to find the specified file on your disc. If it locates the file, the "Local source file name:" and "on drive:" fields will be filled in on the screen with the file name and the disc drive designator. And, the "Number of characters:" field will indicate how many "characters" have been found in the file. "Characters" include letters, numbers, and blank spaces. The number of characters is not critical for you, but can be used to determine how long it will take to copy the file.

For example, if your file contained 10,000 characters, the following approximate times for a file transfer would apply for each baud rate:

Baud Rate	Time per 10,000 Characters (min)
300	8:40
1200	3:05
2400	2:05
4800	1:38
9600	1:31

If LINK/125 cannot locate your file, you should check the following:

1. Make sure that the file name is spelled exactly as you intended. Upper case characters are the same as lower case characters to LINK/125, but be certain you haven't used the wrong keyboard character.

2. Make sure that you have specified the proper disc drive designator. LINK/125 will not be able to locate your file if you have specified the wrong disc drive.

3. Make sure that you have properly specified the "file type". If the name of your file includes a file type, the file type must be included when LINK/125 prompts you to enter the "Local source file name:".

Filling in the Destination File Information

After the source file information has been successfully filled in, the message:

> Please enter the host destination file name (or RETURN):

will be displayed in the bottom section of the menu.

LINK/125 is asking you to enter the name you wish to give to the file after it is transferred to the HP 3000.

Type in the file name and then press the RETURN key.

The name you supply at this point should be a valid HP 3000 file name. (Refer to the "HP 3000 MPE Commands Reference Manual" for more information.)

If the name you type in already exists as a file on the HP 3000, the message:

> WARNING HOST DESTINATION FILE ALREADY EXISTS. IT WILL BE OVERWRITTEN."

will be displayed on the screen.

NOTE

> In most cases, the HP 3000 file name you specify will be the name of a disc file. You may, however, specifiy a file equate in place of a disc file name. For example, if "LP" has been defined as the HP 3000 line printer, the destination file name "*LP" will send the HP 125 file to the HP 3000 line printer. Caution: No checking is done to verify that the file equate is valid.

After you have typed in the "host destination file name", LINK/125 will fill in the "Host Destination File Name:" field on the screen. LINK/125 will also calculate values for the "Record size:" and "Maximum number of records:" fields. These calculated values are based on the number appearing in the "Number of characters:" field on the screen. And, LINK/125 will change the function key labels so that new keys (HOST REC SIZE, NUM OF HOST RECS, and START TRANSFER) are displayed:

For most file transfers, you will not need to change the values in the "Record size:" and "Maximum number of records:" fields. LINK/125 will calculate the acceptable values for you.

The "Record size:" and "Maximum number of records:" fields will only need to be changed if you specifically want a different record size (the default is 80 characters) or if you encounter an error while trying to transfer the file.

Changing the Record Size

To change the record size specified in the Transfer to Host menu:

1. Press the HOST REC SIZE (f3) function key. (You should have already entered the source file information, and entered the destination file information).

2. The message:

   Please enter host file record size (or RETURN):

   will be displayed in the bottom section of the menu.

3. LINK/125 is asking you to enter the host record size. Type in the "record size" and then press the RETURN key. (The number you choose should be from 1 to 256.) The "Record size:" field will display the new record size.

Changing the Maximum Number of Records

To change the maximum number of records specified in the Transfer to Host menu:

1. Press the NUM OF HOST RECS (f4) function key. (You should have already entered the source file information and the destination file information.)

2. The message:

   Please enter maximum number of host records (or RETURN):

   will be displayed in the bottom section of the menu.

3. LINK/125 is asking you to enter the maximum number of records for the host file. Type in the "maximum number of records" and then press the RETURN key. The "Maximum number of records:" field will display the new maximum number of records.

   When changing the "Maximum number of records:" field, you will have to be sure to choose a number large enough to transfer the entire source file. (Do not be concerned about choosing a number too large. The HP 3000 will accept numbers up to 8,388,608. LINK/125 will stop the file transfer as soon as all of the local file has been transferred. A large number, however, will cause extra space to be consumed on the HP 3000. You only need to worry about numbers that are too small.) This can be done quite easily if you observe the following rule:

   > Assume that your local source file has extremely short records. (This is a worst case.) Divide the value in the "Number of characters:" field by your estimated "shortest record size". The result will be a number greater than or equal to your desired "Maximum number of records:" value.

Using the START OVER Function Key

The START OVER (f2) function key allows you to re-enter information into the Transfer to Host menu fields. When you press the START OVER function key, LINK/125 prompts you to re-enter the "Local source file name" and then the "Host destination file name". If you do not wish to change a field, just press the RETURN key.

The START OVER function key is extremely useful if you make a typing error while filling in the Transfer to Host menu. For example, suppose that you had named your host destination file PAYROOL instead of PAYROLL. To make the correction:

1. Press the START OVER (f2) function key.

2. LINK/125 will request the "Local source file name". Since you do not wish to change this entry, press the RETURN key.

3. LINK/125 will request the "Host destination file name". Type in the new name: PAYROLL and then press the RETURN key.

   Your mistake has been corrected.

Transferring the File

If you have filled in the Transfer to Host menu, you are ready to transfer your file to the HP 3000. To do this, press the START TRANSFER (f5) function key.

The message:

Begin File Transfer

will appear in the bottom section of the menu. After several seconds of set-up time, LINK/125 will begin the file transfer.

The field labeled "Records transferred:" (in the center section of the menu) will constantly change and indicate how many records have been transferred.

When the entire file has been transferred, the message:

End of HP 125 to host file transfer

will be displayed on the screen.

Stopping the File Transfer

While the file transfer is in progress there is only one function key label displayed on the screen:

STOP TRANSFER (f4).

Pressing the STOP TRANSFER (f4) function key will cause the file transfer in progress to stop. It will also cause the function key labels to change to the following:

At this point, you may press the CONTINUE TRANSFER (f1) or CONFIRM STOP (f5) function key.

If you press the CONTINUE TRANSFER function key, LINK/125 will resume the file transfer, starting where it left off.

If you press the CONFIRM STOP function key, the function key labels will change so that TIME OUT/EXIT (f4) is the only key displayed, and the message:

Waiting for host response

will be displayed on the screen. LINK/125 is waiting for the HP 3000 to signal that the transfer operation has been aborted.

Note: The TIME OUT/EXIT key should only be pressed if the HP 3000 does not abort the transfer operation. If several minutes elapse without a response from the HP 3000, press the TIME OUT/EXIT function key. LINK/125 will terminate the transfer and the Main Menu will appear on the screen. The HP 3000 may be in an "unknown" state. If this is suspected, refer to the section entitled "Recovering from the Premature Termination of a File Transfer" in Appendix D.

After the transfer has been aborted, the message:

Operation aborted

will be displayed on the screen. The function key labels will change to the following:

```
START                                                    main
OVER                                                     menu
```

Pressing the START OVER (f2) function key will allow you to re-enter the source and destination file information in the Transfer to Host menu. Pressing the MAIN MENU (f8) function key will cause the Main Menu to be displayed on the screen.

TRANSFERRING FILES FROM THE HP 3000 TO THE HP 125

File transfers from the HP 3000 to the HP 125 are easy with LINK/125! Editor files, source program files and other files created on the HP 3000 can be quickly and easily copied from the HP 3000 to the HP 125 for editing or for storage.

Accessing the Transfer from Host Menu

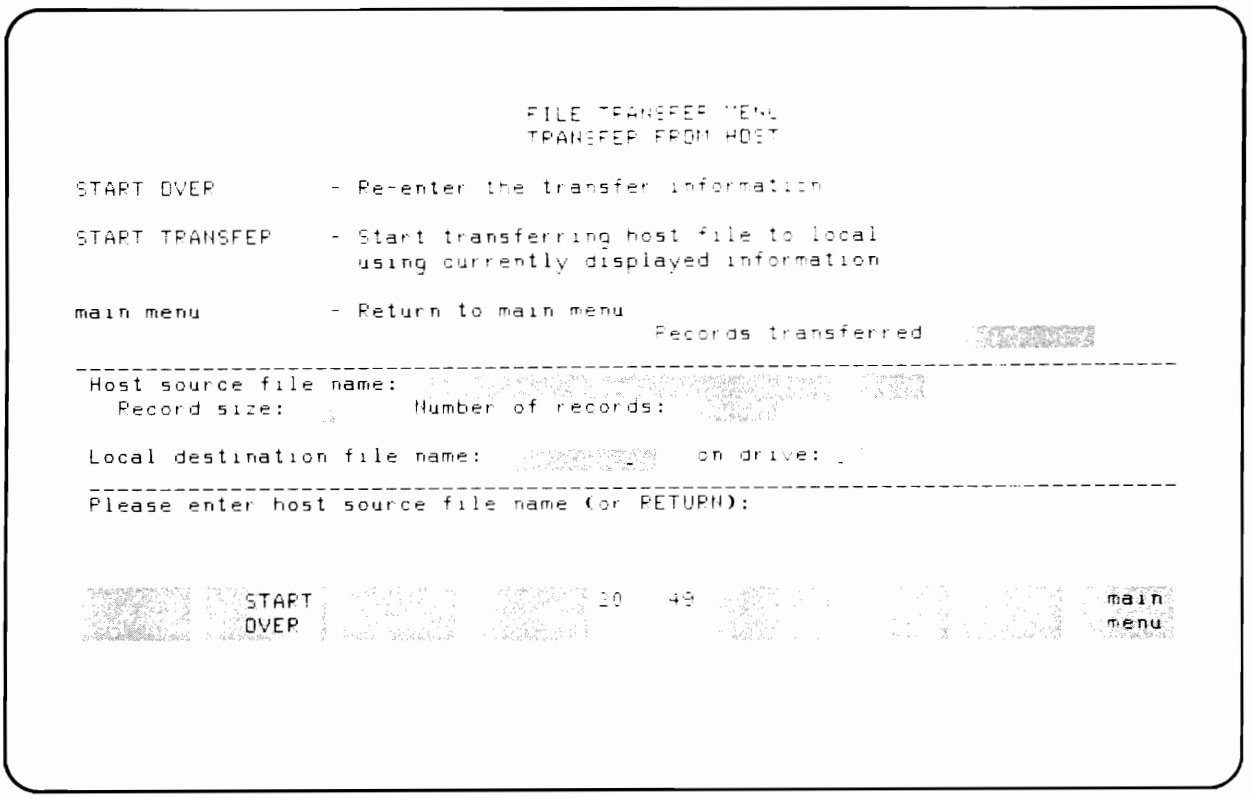
To transfer (copy) a file from the HP 3000 to the HP 125, you must first access the Transfer From Host menu. To do this:

Press the TRANSFER FROM HOST (f4) function key while the Main Menu is displayed on the screen. (To display the Main Menu, refer to the section entitled "Running LINK/125" in Chapter 1.)

When you press the TRANSFER FROM HOST (f4) function key, the message:

```
Waiting for host response
```

will be displayed on the screen. Seconds later, the following Transfer From Host Menu will appear on the screen:



The top of the screen contains definitions of the function keys used during the "Transfer From Host" operation. The START TRANSFER key is not displayed when the menu first appears on the screen. Instead, it appears after the Transfer From Host menu has been filled in. (See the following section entitled "Filling in the Transfer From Host Menu".)

Expanded definitions of the Transfer From Host function keys appear in the following table:

LABEL	FUNCTION
START OVER	Allows you to re-enter the transfer information in the Transfer From Host menu. You would press this key if you had made a mistake while typing in the transfer information.
START TRANSFER	Starts transferring the HP 3000 file to the HP 125 using the information currently displayed in the Transfer From Host menu.
Main Menu	Allows you to return the Main Menu to the screen.

The center of the screen contains a group of white-on-black areas or "fields". The fields are used to tell LINK/125 the characteristics of the source file on the HP 3000 and the destination file on the HP 125. The fields are defined as follows:

Host Source File Name:	- This field will contain the name of the file on the HP 3000 that is to be transferred (copied) to the HP 125.
Record Size:	- This field will contain a number specifying the size of the records in the HP 3000 source file.
Number of Records:	- This field will contain a number specifying the number of records in the HP 3000 source file.
Local Destination File Name:	- This field will contain the name given to the file after it is transferred to the HP 125.
On Drive:	- This field will contain the disc drive designator (A:, B:, C:, etc.) indicating the destination disc drive on the HP 125.

Filling in the Transfer from Host Menu

Filling in the Source File Information

When the Transfer From Host menu first appears on the screen, the message:

Please enter host source file name (or RETURN):

will be displayed in the bottom section of the menu.

LINK/125 is asking you to enter the name of the HP 3000 file that you wish to transfer to the HP 125. Type in the file name, and then press the RETURN key.

Note: In most cases, the HP 3000 file name you specify will be the name of a disc file. You may, however, specify a file equate in place of a disc file name. For example, if "RDR" has been defined as your HP 3000 card reader, the source file name "*RDR" would send the input of your HP 3000 card reader to an HP 125 file.

LINK/125 will attempt to find the specified file on the HP 3000. If it locates the file, the "Record size:" and "Number of records:" fields will be filled in on the screen. These fields indicate the size of the records in your HP 3000 file, and the number of records in your HP 3000 file, respectively. Both fields are intended for informational purposes only. You cannot change the values printed in the fields.

During the transfer operation, the "Number of records:" field may be compared with the "Records transferred:" field to determine when the transfer is completed. (See the following section entitled "Transferring the File" for more information.)

If LINK/125 cannot locate your file on the HP 3000, you should check the following:

1. Make sure that the file name is spelled exactly as you intended. Upper case characters are the same as lower case characters to LINK/125, but be certain you haven't used the wrong keyboard character.

2. Make sure that the file exists in your account. To do this:

   a. Press the MAIN MENU (f8) function key to return to the Main Menu.
   b. Press the RETURN key to obtain the colon prompt from the HP 3000.

c. Type in the command: LISTF
   and then press the RETURN key.
d. The HP 3000 will print the names of the files in your HP 3000 account on the screen.
e. Press the TRANSFER FROM HOST (f4) function key to return to the Transfer From Host menu.

3. Make sure that you are not inside another HP 3000 program.

Filling in the Destination File Information

After the source file information has been successfully filled in, the message:

```
Please enter local destination file name (or RETURN):
```

will be displayed in the bottom section of the menu.

LINK/125 is asking you to enter the name you wish to give to the file after it is transferred to the HP 125.

Type in the file name preceded by the appropriate disc drive designator.

The file name you supply at this point should be a valid HP 125 file name. (Refer to the "HP 125 Owner's Manual" for more information on HP 125 file names.) The disc drive designator is a single letter (from A to H) followed by a colon. This letter tells LINK/125 which disc drive you want the file transferred to.

For example, if you wanted to transfer (copy) your HP 3000 file to an HP 125 file called EXAMPLE.TXT on the "B" disc, you would type in:

```
B:EXAMPLE.TXT
```

If the name you type in already exists as a file on the HP 125, the message:

```
WARNING: LOCAL DESTINATION FILE EXISTS.  IT WILL BE OVERWRITTEN
```

will be displayed on the screen.

After you have typed in the "local destination file name", LINK/125 will fill in the "Local destination file name:" and "On drive:" fields on the screen. The function key labels will change, and the START TRANSFER (f5) function key will be displayed. You are ready to transfer the file.

Using the START OVER Function Key

The START OVER (f2) function key allows you to re-enter information in the Transfer From Host menu fields. When you press the START OVER (f2) function key, LINK/125 prompts you to re-enter the "Host source file name" and then the "Local destination file name". If you do not wish to change a field, just press the RETURN key.

The START OVER function key is extremely useful if you make a mistake while filling in the Transfer From Host menu. For example, suppose that you had named your host source file PAYROOL instead of PAYROLL. To make the correction:

1. Press the START OVER (f2) function key.

2. LINK/125 will request the "Host source file name:". Type in the new name, PAYROLL, and then press the RETURN key.

3. LINK/125 will request the "Local destination file name:". Since you do not wish to change this entry, press the RETURN key.

   Your mistake has been corrected.

Transferring the File

If you have filled in the Transfer From Host menu, you are ready to transfer your file to the HP 125. To do this, press the START TRANSFER (f5) function key. The message:

    Begin file transfer

will appear in the bottom section of the menu. And, after several seconds of set-up time, LINK/125 will begin the file transfer.

The field labeled: "Records transferred:" (in the center section of the menu) will constantly change and indicate how many records have been transferred.

When the entire file has been transferred to the HP 125, the message:

    End of host to HP 125 file transfer

will be displayed on the screen.

Stopping the File Transfer

While the file transfer is in progress, there is only one function key label displayed on the screen: STOP TRANSFER (f4).

Pressing the STOP TRANSFER (f4) function key will cause the file transfer in progress to stop. It will also cause the function key labels to change to the following:

```
CONTINUE                                    CONFIRM
TRANSFER                                    STOP
```

At this point, you may press either the CONTINUE TRANSFER (f1) or CONFIRM STOP (f5) function key.

If you press the CONTINUE TRANSFER function key, LINK/125 will resume the file transfer, starting where it left off.

If you press the CONFIRM STOP function key, the function key labels will change so that TIME OUT/EXIT (f4) is the only key displayed, and the message:

Waiting for host response

will be displayed on the screen. LINK/125 is waiting for the HP 3000 to signal that the transfer operation has been aborted.

Note: The TIME OUT/EXIT key should only be pressed if the HP 3000 does not abort the transfer operation. If several minutes elapse without a response from the HP 3000, press the TIME OUT/EXIT function key. LINK/125 will terminate the transfer and the Main Menu will appear on the screen. The HP 3000 may be in an "unknown" state. If this is suspected, refer to the section entitled "Recovering from the Premature Termination of a File Transfer" in Appendix D.

After the transfer is aborted, the message:

Operation aborted

will be displayed on the screen. The function key labels will change to the following:

```
          START                                                    main
          OVER                                                     menu
```

Pressing the START OVER (f2) function key will allow you to re-enter the source and destination file information in the Transfer from Host menu. Pressing the MAIN MENU (f8) function key will cause the Main Menu to be displayed on the screen.

CREATING AND EXECUTING COMMAND FILES

Local command files, containing pre-defined host computer commands, can be easily executed using LINK/125.

A command file is a CP/M data file containing character strings separated by <CR><LF>, just <CR> or just <LF>. Each character string can be an operating system command, a command to run a utility program or a command to LINK/125. LINK/125 allows you to execute a command file or input the command file to a utility program by just typing in the command file name.

As an example, a very simple command file to show the time and give an account directory on the HP 3000 would appear as follows:

```
showtime
listf
```

Each line of the command would end with the <carriage return> <line feed> characters.

Creating a Command File

Command files may be created either on the HP 125 or on the HP 3000. If they are created on the HP 3000, they need to be transferred to the HP 125 using the "Transfer to Host" menu in LINK/125.

You can use WORD/125 to create command files on the HP 125. To do this:

1. Load the WORD/125 software into your HP 125.

2. Enter the EDIT MODE of WORD/125.

3. Type in the commands you want in your command file. Separate the commands by pressing the RETURN key after each command. (This will put a <carriage return><line feed> after each command.)

4. Enter the COMMAND MODE of WORD/125.

5. Press the DISC FUNCTION (f5) function key and then press the SAVE FILE (f4) function key. WORD/125 will prompt you to enter a WRITE FILENAME>.

6. Type in the disc drive designator, the file name and then "/1". Press the RETURN key. The disc drive designator is a single letter (from A to H) followed by a colon. It is used to tell WORD/125 which disc you want your file stored on. (Refer to the "HP 125 Owner's Manual" for more information on filenames.)

   For example, if you wanted to name your file "COMMAND.ED" and save the file on the "B" disc, you would type in:

   ```
   B:COMMAND.ED/1
   ```

7. WORD/125 will save the contents of the screen to a file on disc.

(Refer to the "WORD/125 Manual" if you need more information on WORD/125.)

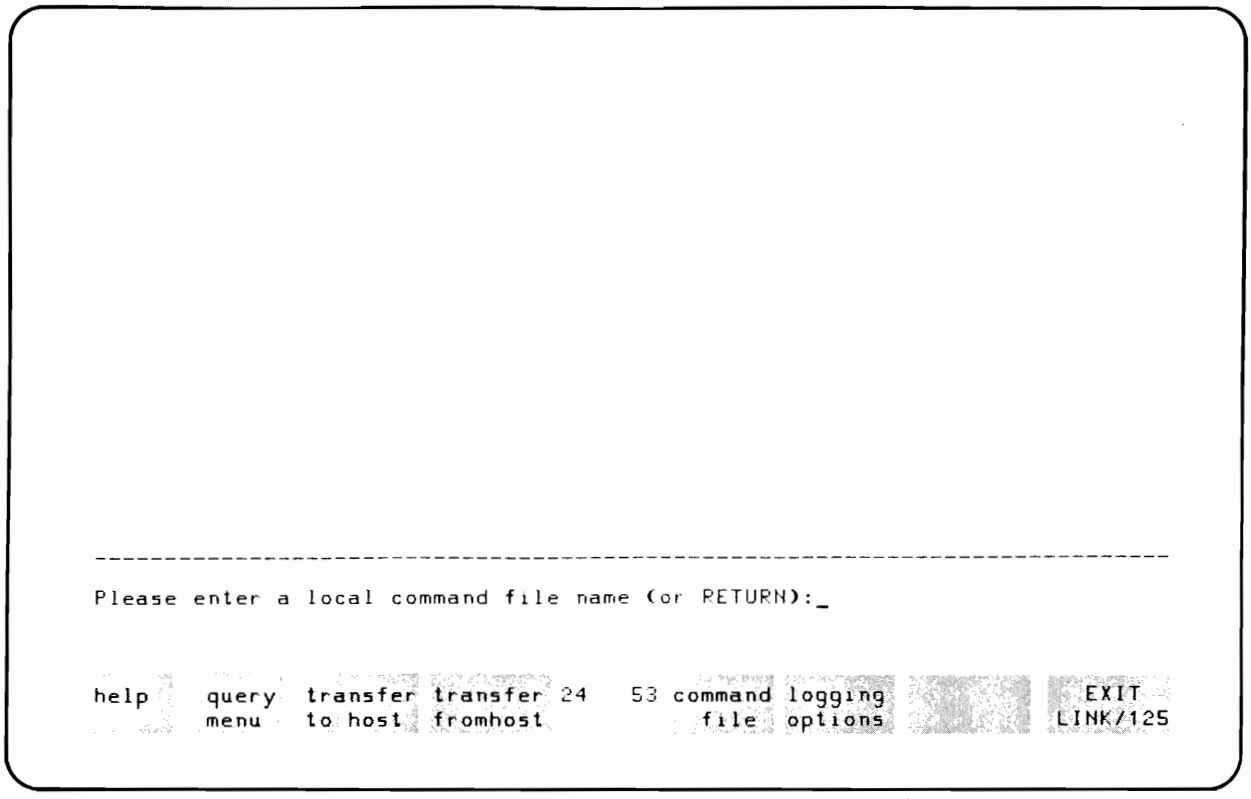
You can use the HP 3000 Editor or HP 3000 HPWORD (word processing package) to create your command file on the HP 3000. If you do this, you will need to save your command file on the HP 3000 and then transfer the file to the HP 125 using the "Transfer to Host" menu. (Refer to the "HP 3000 Editor Reference Manual" or the "HP 3000 HPWord Reference Guide" for more information on creating and saving text files on the HP 3000. Refer to Chapter 3, "Transferring Files from the HP 3000 to the HP 125" for more information on transferring files.)

Accessing the Command File Prompt and Executing a Command File

Once you have created your command file and stored it on an HP 125 disc, you are ready to access the Command File Prompt and then execute your command file. To access the Command File Prompt:

Press the COMMAND FILE (f5) function key while the Main Menu is displayed on the screen. (To display the Main Menu, refer to the section entitled "Running LINK/125" in Chapter 1.)

When you press the COMMAND FILE (f5) function key, the screen will change and appear as follows:



Notice that the function key labels have not changed. You are still in the Main Menu. Also, notice that the prompt:

Please enter a local command file name (or RETURN):

appears at the bottom section of the menu. LINK/125 is asking you to enter the name of the command file that you wish to execute.

Type in the command file name, preceded by the appropriate disc drive designator. Press the RETURN key. LINK/125 will display the message:

Execution of the command file "file name" begins

on your screen, where: file name = the name of your command file.

LINK/125 is starting to execute your command file. LINK/125 reads the lines of your command file sequentially and sends the commands to the HP 3000 or processes the commands locally. If the command file lines are being sent to the host computer, LINK/125 will wait for a prompt from the host computer before sending the next line. (Only those commands which begin with the "&" character are processed locally. See the section entitled "Using Special Commands" for more information on the "&" character.)

After the command file finishes executing, the message:

End of execution of the command file

will be displayed on the screen. Since you are still in the Main Menu, you may press any of the function keys to access another LINK/125 function.

Stopping the Command File

While the command file is being executed, there is only one function key label displayed on the screen:

STOP (f4)

Pressing the STOP function key will cause the command file to stop executing. (The command currently executing will finish executing, though.) It will also cause the function key labels to change to the following:

At this point, you may press either the CONTINUE (f1) or CONFIRM STOP (f5) function key.

If you press the CONTINUE function key, LINK/125 will resume executing the command file.

If you press the CONFIRM STOP function key, the function key labels will change so that TIME OUT/EXIT (f4) is the only key displayed, and the message:

Waiting for host response

will be displayed on the screen. LINK/125 is waiting for the HP 3000 to acknowledge that the command file has been aborted.

Note: The TIME OUT/EXIT key should only be pressed if the HP 3000 does not send an acknowledgement. If several minutes elapse without a response from the HP 3000, press the TIME OUT/EXIT function key. The Main Menu will appear on the screen.

After the command file is aborted, the message:

Execution of command file is aborted

is displayed on the screen.

Since you are still in the Main Menu, you may press any of the function keys displayed:

help	query menu	transfer to host	transfer from host		command file	logging options	EXIT LINK/125

Using Special Commands

As mentioned previously, a command file is a CP/M data file containing character strings separated by <CR><LF>, just <CR>, or just <LF>. The character strings in a command file can either be:

1. interpreted as a host computer command and sent to the host computer

   or

2. interpreted as a local command and executed locally.

Most of the character strings in your command files will probably be of the first type. They will be host computer commands or commands to run a host computer program. For example, one of

your command files could contain commands to log-on to the HP 3000, run the HP 3000 QUERY program, and then perform a batch update on a QUERY data base.

Some of the character strings in your command files may be of the second type. LINK/125 has three built-in commands which are interpreted locally. All three of these commands begin with the character "&". When LINK/125 encounters the "&" character as the first character in a string, it knows that the string is a local command.

Currently, the three local commands available are: &TERMINATOR, &SYNTAX, and &BREAK. These commands are described in the following table:

&TERMINATOR n	This command changes the host terminator character to the character which has ASCII code "n". (The default terminator character is DC1.)
&SYNTAX ON/OFF	This command allows you to enable or disable syntax checking when host (HP 3000) file names are entered into LINK/125 menus. (By default, syntax checking is enabled and host file names are checked to make sure that they are valid HP 3000 file names or file equates. If you have some other type of host system, you will want to disable syntax checking.)
&BREAK n	This command is used to change the file transfer terminator character to the character which has ASCII code "n". The file transfer terminator is the character sent to your host computer when the BREAK key is pressed. It is also the character sent to the host computer after the STOP and CONFIRM STOP function keys are pressed.

Command File Limitations

When you create a command file, you will need to be aware of three limitations.

First, command files should not run HP 3000 programs that send escape sequences to the HP 125. Recall from Chapter 1, "Running LINK/125", that escape sequence processing at the HP 125 is

disabled while LINK/125 is running. Consequently, host programs that send escape sequences to the HP 125 will behave abnormally.

Second, the HP 3000 HELLO command should be preceded by a line containing just the <carriage return><line feed> characters. This is necessary because the HP 3000 MPE Operating system expects a <carriage return> character before the HELLO command. (A line containing just the <carriage return><line feed> characters can be created by putting a "blank" line in your command file.)

Third, the HP 3000 BYE command should not be used in a command file. Using the BYE command will cause LINK/125 to get "stuck" in an abnormal state. This occurs because LINK/125 expects a response from the HP 3000 after each command, and the HP 3000 does not send a response after the BYE command.

EXECUTING HP 3000 QUERY XEQ FILES

QUERY XEQ files on the HP 3000 can be easily executed using LINK/125!

The Query menu in LINK/125 provides a friendly interface to the HP 3000 QUERY program. Into the menu you can enter the name of your data base, your data base password, your mode of access to the data base, and your XEQ file name. You can then use LINK/125 to open your data base, execute the XEQ file and direct the QUERY output to the HP 125 screen, an HP 125 file, the HP 3000 printer or an HP 3000 file.

> Note: An XEQ file is an HP 3000 file containing QUERY commands. It must be created and stored on the HP 3000 before accessing the LINK/125 Query menu. (Refer to the "HP 3000 Query Reference Manual" for more information on XEQ files.)

Since the HP 125 is a terminal as well as a computer system, you could choose to run QUERY directly from your terminal session without entering LINK/125. You might do this if you wanted interactive rather than batch (XEQ file) access to QUERY.

The advantages of using the LINK/125 Query menu instead of running QUERY directly are as follows:

1. LINK/125 provides a simple user interface to QUERY. Consequently, the user has few details to remember when producing a QUERY report.

2. With LINK/125, QUERY output can be automatically downloaded to an HP 125 file.

Accessing the Query Menu

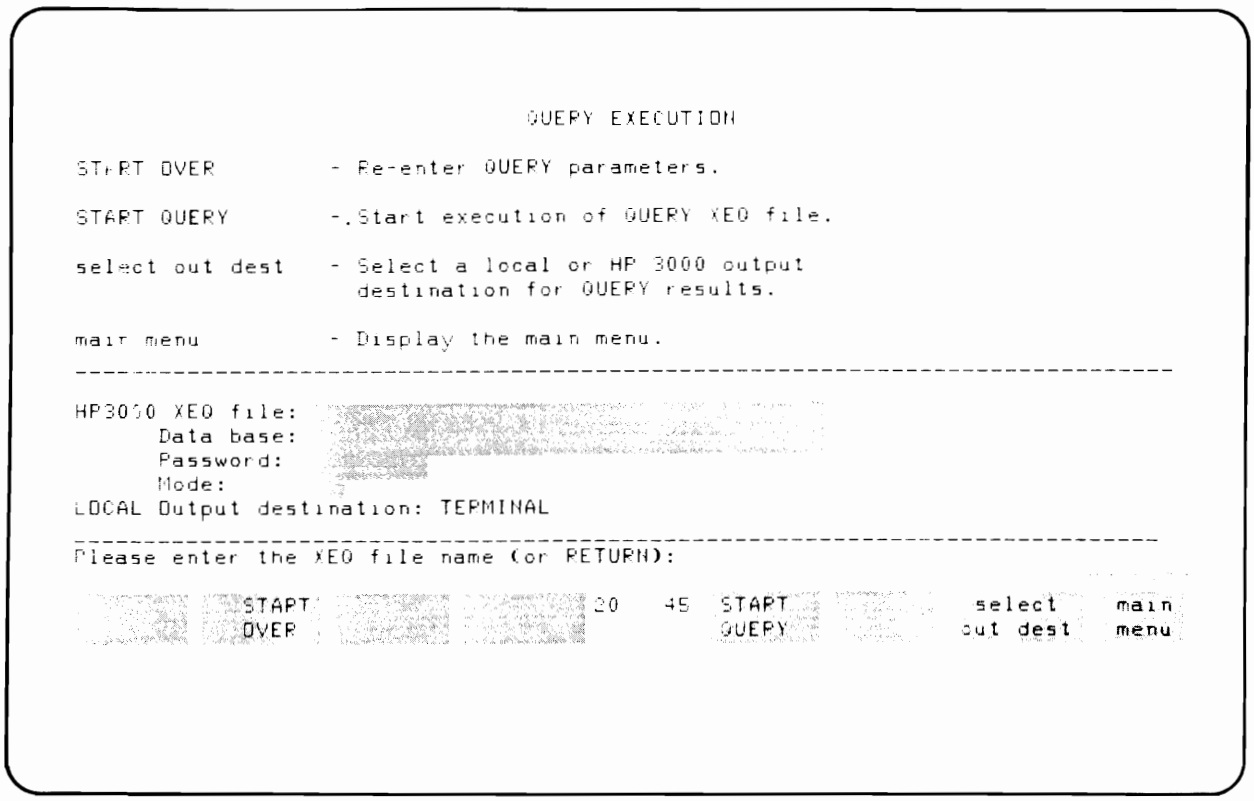
To execute an HP 3000 QUERY XEQ file from LINK/125, first access the Query menu. To do this:

Press the QUERY MENU (f2) function key while the Main Menu is displayed on the screen. (To display the Main Menu, refer to the section entitled "Running LINK/125" in Chapter 1.)

When you press the QUERY MENU (f2) key, the message:

Waiting for host response

will be displayed on the screen. Seconds later, the following Query Menu will appear on the screen:



The top of the screen contains definitions of the function keys used with the Query menu. Expanded definitions of the Query Menu function keys appear in the following table:

Label	Function
START OVER	Allows you to re-enter the XEQ file name, password, or mode in the Query menu. You would press this key if you had made a mistake while typing in the Query menu.
START QUERY	Starts executing the QUERY XEQ file selected in the Query menu.
select out dest	Allows you to change the destination of QUERY output. You may select your terminal screen, a local file, an HP 3000 printer, or an HP 3000 file as the destination. (Refer to the section entitled "Selecting the Output Destination" for more information.)
main menu	Allows you to return the Main Menu to the screen.

The center of the screen contains a group of white-on-black areas or "fields". The fields are used to tell LINK/125 the name of your QUERY XEQ file, the name of your IMAGE data base, the mode and password to open the data base, and the destination for QUERY output. The fields are defined as follows:

HP 3000 XEQ file:	This field will contain the name of the HP 3000 QUERY XEQ file that is to be executed.
Data base:	This field will contain the name of the IMAGE data base that is to be accessed by the QUERY XEQ file on the HP 3000.
Password:	This field will contain the password needed to access the data base. Passwords are defined by the data base designer and control read and write access to information in the data base.
Mode:	This field will contain a mode number defining the type of access to the data base. Depending on the MPE security provisions on your system, this field will accept a number from 1 to 8. (Refer to the section on "Filling in the Query Menu" for more information.)
Output Destination:	This field consists of two parts. The part to the left of the words "Output Destination:" will contain either the letters "HP 3000" or the letters "Local". This part of the field indicates whether the destination is located on the HP 3000 or on the HP 125. The part to the right of the words "Output Destination:" will contain the name of the specific destination. For example the letters "HP 3000 Printer" or the name of an HP 125 file. (Refer to the section on "Changing the Output Destination" for more information.)

Filling in the Query Menu

When the Query menu first appears on the screen, the message:

Please enter the XEQ file name (or RETURN):

will be displayed in the bottom section of the menu.

LINK/125 is asking you to enter the name of the HP 3000 QUERY XEQ file that you wish to execute. Type in the file name and then press the RETURN key. (You must supply the name of the XEQ file.)

The name you supply should correspond to an existing QUERY XEQ file. If you supply a name which does not correspond to an existing file, LINK/125 will detect the error and provide an error message.

After you have typed in the "XEQ file name", LINK/125 will fill in the "HP 3000 XEQ file:" field on the screen, and the message:

Please enter the data base name (or RETURN):

will be displayed in the bottom section of the menu.

LINK/125 is asking you to enter the name of the HP 3000 IMAGE data base that you wish to access. You may choose to:

1. Type in the data base name and press the RETURN key.

or 2. Just press the RETURN key.

If you choose to type in a data base name and then press the RETURN key, LINK/125 will check to see if the name corresponds to an existing binary file. (LINK/125 assumes that if the file exists and is binary, it is a valid data base.) If the name does not correspond to an existing binary file, LINK/125 will provide an error messsage. The data base name you supply will be used to open the data base.

If you choose to just press the RETURN key, it is assumed that the XEQ file will open the data base and provide the necessary password and mode information. Consequently, the "Password:" and "Mode:" fields in the menu will be ignored.

After you have typed in the "data base name", LINK/125 will fill in the "Data base:" field on the screen, and the message:

Please enter the password (or RETURN):

will be displayed in the bottom section of the menu.

LINK/125 is asking you to enter the password needed to access your data base. Type in the password and then press the RETURN key. (If you do not supply a password, LINK/125 will try to open your data base with a blank password.)

Passwords are defined by the data base designer or administrator and control read and write access to information in the data base. You should ask your data base administrator for the necessary password. (Refer to the "HP 3000 QUERY Reference Manual" for more information on passwords.)

After you have typed in the "password", LINK/125 will fill in the "Password:" field on the screen, and the message:

Please enter the mode number (or RETURN):

will be displayed in the bottom section of the menu.

LINK/125 is asking you to enter a number (from 1 to 8) specifying the type of access you want to the data base. Assuming that the MPE security provisions and your data base password permit it, you can enter one of the following modes:

MODE	ACCESS
1	Allows you to find (read), replace, add, or delete entries in the data base (QUERY requests IMAGE dynamically lock and unlock the data base when accessing it.)
2	Allows you to find and replace entries in the data base.
3* or 4	Allows you to find, replace, add, or delete entries in the data base.
5	Allows you to find entries in the data base. (QUERY locks and unlocks the data base).
6,7*, or 8	Allows you to find entries in the data base.

* Modes 3 and 7 give you exclusive access to the data base. All other modes allow other users to share the data base.

(Refer to the "HP 3000 QUERY Reference Manual" for more information on data base access modes.)

Type in the mode number and then press the RETURN key. (If you do not supply a mode number, LINK/125 will try to open the data base with mode 1.)

After you have typed in the "mode number" LINK/125 will fill in the "Mode:" field on the screen, and the message:

Please select a function:

will be displayed in the bottom section of the menu.

LINK/125 is asking you to press one of the four function keys displayed:

If you made a typing mistake and want to change the XEQ file name, the data base name, the password, or the mode, press the START OVER (f2) key and go on to the section entitled "Using the START OVER Function Key".

If you are satisfied with the entries in the Query menu, press the START QUERY (f5) function key and go on to the section entitled "Starting the XEQ File".

If you want to change the destination of the QUERY output (the "Output destination:" field in the menu) press the SELECT OUT DEST (f7) function key and go on to the section entitled "Changing the Output Destination".

Note: The QUERY XEQ file will generate two types of data:

1. Query commands and status messages
2. Output from the XEQ file

The QUERY commands and status messages will be displayed on your screen. The output from the XEQ file will be sent to the destination specified in the "Output destination:" field.

If you want to exit from QUERY and return to the Main Menu, press the Main Menu (f8) function key.

Changing the Output Destination

Output produced by the QUERY XEQ file can be directed to a variety of places. You may choose to send the output to the HP 125 screen (TERMINAL), an HP 125 file, the HP 3000 printer, or an HP 3000 file. The default destination is the HP 125 screen (TERMINAL).

To change the output destination specified in the Query menu:

1. Press the SELECT OUT DEST (f7) function key.

2. The labels for the function keys will change, and the message:

   Please select a function:

   will be displayed in the bottom section of the menu.

3. LINK/125 is asking you to press one of the function keys to select the destination for your QUERY output:

```
TERMINAL                                    local   HP3000  HP3000  query
                                            file    PRINTER  FILE   menu
```

a. If you press the TERMINAL (f1) function key, QUERY output will be directed to the HP 125 screen. The "Output destination:" field will appear as follows:

   LOCAL Output destination: TERMINAL

b. If you press the LOCAL FILE (f5) function key, the message:

   Please enter local file name (or RETURN):

   will be displayed in the bottom section of the menu. LINK/125 is asking you to type in an HP 125 file name. Type in the file name preceded by the appropriate disc drive designator. Press the RETURN key. Do not use the name of an existing file on your disc unless you want the old file purged and a new file created in its place. (LINK/125 will give you the opportunity to change the file name before writing over the old file.) Refer to the "HP 125 Owner's Manual" for more information on HP 125 file names.

   The output is first spooled to the HP 3000 and then downloaded to the HP 125 file. This is necessary so that the output can be separated from the QUERY commands and status messages.

   QUERY output will be directed to the file you specify. The "Output destination:" field will appear as follows:

   LOCAL Output destination: disc designator:file name

c. If you press the HP 3000 PRINTER (f6) function key, QUERY output will be directed to the "default" HP 3000 printer. The "Output destination:" field will appear as follows:

   HP3000 Output destination: HP3000 PRINTER

d. If you press the HP 3000 FILE (f7) function key the message:

   Please enter an HP 3000 file name (or RETURN):

   will be displayed in the bottom section of the menu. LINK/125 is asking you to type in an HP 3000 file name. Type in the file name and then press the RETURN key. Do not use the name of an existing HP 3000 file unless you want the old file purged and a new file created in its place. (LINK/125 will give you the opportunity to change the file name before writing over the old file.) Refer to the "HP 3000 MPE COMMANDS Reference Manual" for more information on HP 3000 file names.

Note: In most cases, the name you supply will be the name of a disc file. You may, however, supply a file equate in place of a disc file name.

Query output will be directed to the file you specify. The "Output destination:" field will appear as follows:

HP3000 Output destination: file name

After you have completed steps 1 through 3 above, the labels for the function keys will change, and you will be prompted to re-enter the XEQ file name, the data base name, the password, and the mode. If you wish to change an entry, type in the new contents and then press the RETURN key.

When you are finished changing the contents of the menu fields, press the START QUERY (f5) function key and go on to the section entitled "Starting the XEQ File".

Using the START OVER Function Key

The START OVER (f2) function key allows you to re-enter information into the Query menu fields. When you press the START OVER function key, LINK/125 prompts you to re-enter the XEQ file name, the data base name, the password and the mode. If you do not wish to change a field, just press the RETURN key. If you wish to change a field, type in the new contents and then press the RETURN key.

The START OVER function key is extremely useful if you make a typing error while filling in the Query menu. For example, suppose that you had named your data base PAYROOL instead of PAYROLL. To make the correction:

1. Press the START OVER (f2) function key.

2. LINK/125 will request the XEQ file name. Since you do not wish to change this entry, press the RETURN key.

3. LINK/125 will request the data base name. Type in the new name PAYROLL and then press the RETURN key. The "Data Base:" field in the menu will display the new name.

4. LINK/125 will request the password. Since you do not wish to change this entry, press the RETURN key.

5. LINK/125 will request the mode. Since you do not wish to change this entry, press the RETURN key.

   Your mistake has been corrected.

Starting the XEQ File

If you have filled in the Query menu, you are ready to execute your QUERY XEQ file. To do this, press the START QUERY (f5) function key.

The message:

```
Begin of query execution
```

will appear in the bottom section of the menu. After a few seconds, the message:

```
RUN QUERY.PUB.SYS   .
```

will appear on the screen. This message indicates that LINK/125 is starting to run the HP 3000 QUERY program. The HP 3000 will respond with information indicating the version of the QUERY program, and then the message:

```
Query/3000 Ready
```

will appear on the screen.

At this point, LINK/125 opens the data base and initiates the XEQ file using the QUERY XEQ command. (If a data base name has not been supplied in the Query menu, LINK/125 assumes that the XEQ file will open the data base.)

While the XEQ file is executing, QUERY will generate two types of data:

1. QUERY commands and status messages
2. Output from the XEQ file

The QUERY commands and status messages will be displayed on your terminal screen. You can examine the commands and status messages to determine if an error occurred while the XEQ file was executing. (Note: LINK/125 does not do error checking once the XEQ file starts.) You may record the commands and status messages for future use by "logging" to a local printer or file. (Refer to Chapter 6, "Setting Up Logging Devices" for more information.) There is only one restriction: the commands and status messages cannot be sent to the same local file as the XEQ file output.

The output from the XEQ file will be sent to the destination specified in the "Output destination:" field of the Query menu. (Refer to the section entitled "Changing the Output Destination" for more information.)

When the entire XEQ file has been executed, LINK/125 automatically exits from the QUERY program and displays the message:

End of Query execution

on the screen.

The function key labels will change to the following:

Pressing the RESTORE MENU (f2) function key will cause the Query menu to reappear on the screen. Pressing the MAIN MENU (f8) function key will cause the Main Menu to be displayed on the screen.

Stopping the XEQ File

While the XEQ file is being executed, there is only one function key label displayed on the screen:

STOP (f4)

Pressing the STOP function key will cause the function key labels to change to the following:

The XEQ file will continue to execute. At this point, you may press either the CONTINUE (f1) or CONFIRM STOP (f5) function key.

If you press the CONTINUE function key, LINK/125 will change the function key labels so that the STOP key is again displayed.

If you press the CONFIRM STOP function key, the function key labels will change so that TIME OUT/EXIT (f4) is the only key displayed, and the message:

Waiting for host response

will be displayed on the screen. LINK/125 is waiting for the HP 3000 to signal that the QUERY program has been aborted.

Note: The TIME OUT/EXIT key should only be pressed if the HP 3000 does not abort the QUERY program. If several minutes elapse without a response from the HP 3000, press the TIME OUT/EXIT function key. LINK/125 will exit from the QUERY program and the Main Menu will appear on the screen. The HP 3000 may be in an "unknown state". If this is suspected, refer to the section entitled "Recovering from the Premature Termination of a File Transfer" in Appendix D.

After the QUERY program is aborted, the message:

Execution of query execution is aborted

is displayed on the screen. The function key labels will change to the following:

RESTORE MENU main menu

Pressing the RESTORE MENU (f2) function key will cause the Query menu to reappear on the screen. Pressing the MAIN MENU (f8) function key will cause the Main Menu to be displayed on the screen.

SETTING UP LOGGING DEVICES

Your interaction with your HP 3000 (or other host computer) can be permanently recorded using LINK/125! Data keyed at the keyboard and echoed by the host computer, or transmitted to the HP 125 by the host computer, can be recorded (or "logged"), line-by-line, to any HP 125 printer or to an HP 125 disc file. You can even choose to log data to several devices at once!

Logging has several important uses. First, logging can be used to record complicated sequences of host computer commands for future reference. Second, logging can be used to get a quick copy of data generated by your host computer. And finally, logging can be used for primitive file transfers from a "non-HP 3000" host computer. (Refer to Appendix B, "File Transfers with non-HP 3000 Computers" for more information.)

There are several important points to keep in mind while using the logging feature in LINK/125.

1. The PRINTER CONTROL and PRINTER MODE function keys that are available when using the HP 125 as a terminal are not available while LINK/125 is running.

2. The device selections made in LINK/125 are totally independent of device selections made using the "Printer Mode" function keys.

3. The selections made in the "General List Device" section of the Configuration Menu are independent of the logging devices selected in LINK/125.

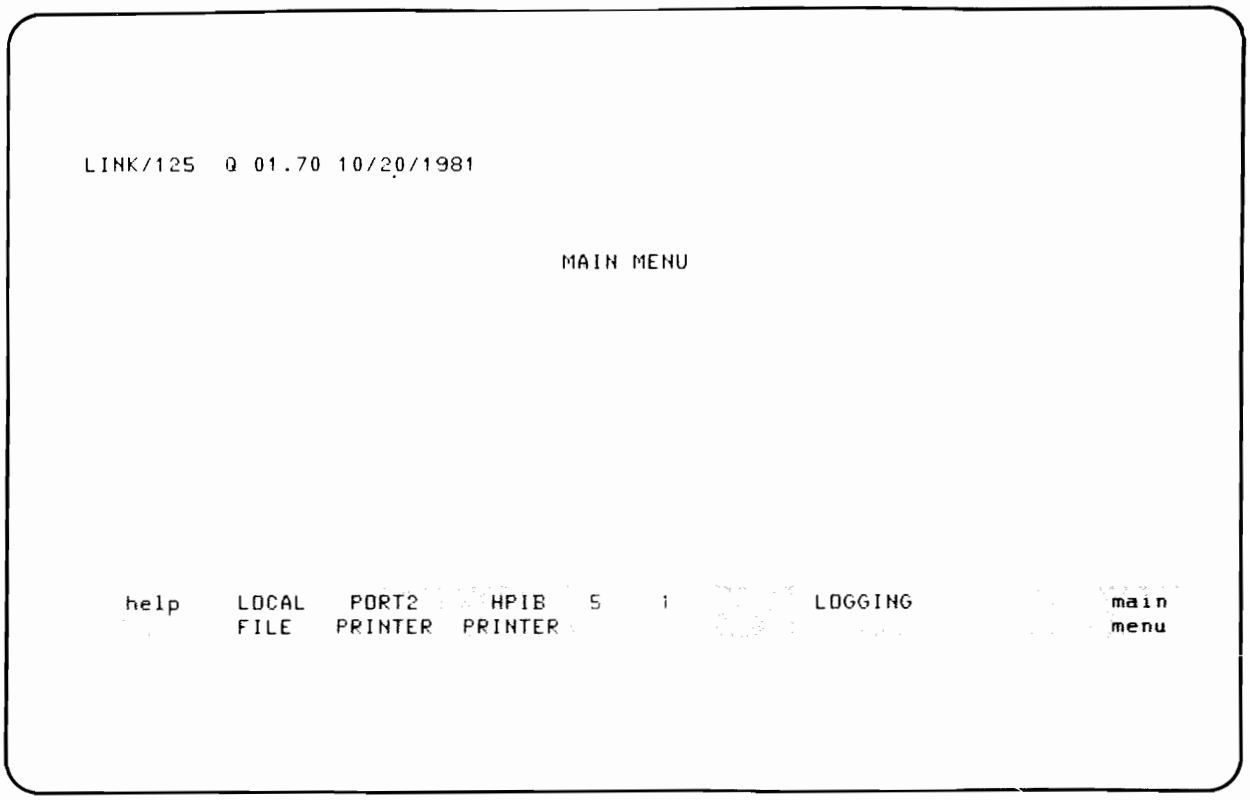
Setting up the Printer

Before you enter LINK/125 and use the logging feature, you should make sure that your printer (or printers) are installed. Check to make sure that the cabling is properly connected and, if you are using a printer connected to Port 2 of the HP 125, check that the Port 2 section of the Configuration Menu is properly set up. (For further assistance on installing your printer, refer to the "Getting Started with your HP 125 manual.)

Accessing the Logging Function Keys

To set up logging devices to record your interactions with your HP 3000, you must first access the logging function keys. To do this:

Press the LOGGING OPTIONS (f6) function key while the Main Menu is displayed on the screen. (To display the Main Menu, refer to the section entitled "Running LINK/125" in Chapter 1.) When you press the LOGGING OPTIONS function key, the screen will change and appear as follows:



Notice that the function key labels have changed. Yet, the Main Menu of LINK/125 is still active. You can observe that you are still in the Main Menu by using the ROLL DOWN key at the top of your keyboard to "roll down" to the line which says "Main Menu".

Note: The label for function key (f5) will be blank if you do not have an Internal Printer built into the top of your HP 125.

Definitions of the function keys appear in the following table:

LABEL	FUNCTION
help	Displays an explanation of the Logging function keys on the screen.
LOCAL FILE	Allows you to select an HP 125 disc file as a logging destination.
PORT2 PRINTER	Allows you to select the printer connected to Port 2 of the HP 125 as a logging device.
HPIB PRINTER	Allows you to select the printer attached to the HP 125 by an HP-IB cable as a logging device.
INTERNAL PRINTER	Allows you to select the printer built-in to the top of your HP 125 as a logging device.
LOGGING	Allows you to enable or disable the logging function. Logging is enabled when there is an asterisk in the function key and disabled when there is no asterisk in the function key label.
main menu	Allows you to return the primary Main Menu function key labels to the screen.

Selecting the Logging Devices

Once you have accessed the logging function keys, you are ready to select the logging devices.

Logging to a Local Printer

To record your HP 3000 interactions to your local printer, press the function key with the label corresponding to your type of printer. If your printer is properly connected, an asterisk will appear in the function key label. (An asterisk will also appear in the LOGGING (f6) function key label. The LOGGING function key will be discussed later.) Your printer has been selected as a logging device.

When you are finished logging to your printer, press the key corresponding to your type of printer again. The asterisk will disappear from the function key label. And, your printer is no longer selected as a logging device.

Note: The HP 125 identifies printers by the way in which they are attached to the system. There are three possibilities:

INTERNAL PRINTER	A printer that is built into the System Processor.
HPIB PRINTER	A printer that is attached to the System Processor by an HP-IB cable.
PORT2 PRINTER	A printer that is attached to the System Processor by an RS-232 cable (usually connected to Data Comm Port #2).

If you are unsure of the type of attachment for an external printer, trace the cable from the printer to the HP-IB or PORT2 connector on the back of the System Processor.

Logging to a Local File

To record your interactions with the HP 3000 to a local file, press the LOCAL FILE (f2) function key.

The message:

Please enter local log file name (or RETURN):

will be displayed on the screen.

LINK/125 is asking you to enter the name of a local file where you want to record your interactions with the HP 3000.

Type in the file name preceded by the appropriate disc drive identifier.

The file name you supply at this point should be a valid HP 125 file name. (Refer to the "HP 125 Owner's Manual" for more information on file names.) The disc drive designator is a single letter (from A to H) followed by a colon. This letter tells LINK/125 which disc drive you want the file located on.

For example, if you wanted to log your interactions with the HP 3000 to an HP 125 file called EXAMPLE.TXT on the "B" disc, you would type in:

```
B:EXAMPLE.TXT
```

If the file name you select already exists on the indicated drive, LINK/125 will display the message:

```
Type Yes to purge old file
WARNING:  LOCAL FILE  file name  ALREADY EXISTS
```

Type in the word "YES" or "Y" and then press the RETURN key if you want to purge the old version of your file.

Type in the word "NO" or "N" and then press the RETURN key if you do not want to purge the old version of your file. You will be prompted to enter another file name.

Once you have entered the file name, LINK/125 will create a new file by that name on your disc. The file will be used to contain your interactions with your HP 3000 computer. Also, an asterisk will appear in the LOCAL FILE function key label. (An asterisk will also appear in the LOGGING (f6) function key label. The LOGGING function key will be discussed later.) The local file has now been set up as a logging destination. All of your interactions with the HP 3000 will be recorded to the local file.

When you are finished logging to the local file, press the LOCAL FILE function key again. The asterisk will disappear from the function key label and the local logging file will be closed. LINK/125 will also update your disc directory so that the logging file will be included in the directory.

The contents of your local logging file cannot be viewed while LINK/125 is running. To view the contents of the local file, you may exit from LINK/125 and use either the CP/M TYPE command or the CP/M Editor. You may also choose to transfer the file to the HP 3000 and use the HP 3000 Editor to view the file.

To use the CP/M TYPE command to view the file:

1. Press the MAIN MENU (f8) function key to display the Main Menu on the screen.

2. Press the EXIT LINK/125 (f8) function key to exit from LINK/125.

3. Press the EXIT TO CP/M (f8) function key to access the CP/M prompt (A>). The prompt indicates that CP/M is waiting for you to enter a command.

4. Type in: TYPE file name
   where "file name" = the name of your local logging file.

5. Press the RETURN key. The contents of your logging file will be displayed on the HP 125 screen.

Logging to Multiple Devices

The logging feature of LINK/125 allows you to log your interactions with the HP 3000 to two or more devices simultaneously. For example, you can log to a local file and the PORT2 printer at the same time.

There is only one restriction when you select multiple destinations: You may not log to the PORT2 PRINTER and the INTERNAL PRINTER at the same time. This restriction exits because the Port2 Printer and the Internal Printer both use the same input/output channels within the HP 125.

Using the LOGGING Function Key

The LOGGING (f6) function key is used to selectively enable and disable the logging function. When the asterisk appears in the LOGGING function key label, logging is enabled. When the asterisk disappears from the LOGGING function key label, logging is disabled. You enable and disable the logging function by pressing the LOGGING key. (One press will enable logging and a second press will disable logging.)

When a device is first selected for logging, an asterisk will appear in the function key label corresponding to the selected device. An asterisk will also appear in the LOGGING function key label. At any time, you may temporarily suspend logging by pressing the LOGGING function key. (This would be useful if you did not want to record some of your interaction with your HP 3000.) When you do this, the selected devices will remain selected, and logging can be resumed by pressing the LOGGING function key again.

The ability to suspend logging is most important when logging to a local file. When logging is suspended, the local file is closed and the CP/M file directory is updated. The particular file remains selected, however, and you can continue to log to the same file by enabling logging.

Additional Information on Logging

You may have noticed that the logging capabilities of LINK/125 are quite similar to the logging capabilities available when using the HP 125 as a terminal. The logging in LINK/125 operates like the "LOG BOTTOM" feature available under the PRINTER CONTROL function key. Yet, there are two important distinctions. First, the LOG BOTTOM feature only allows logging to a local printer. The logging feature in LINK/125 allows you to log to a local file as well as to a local printer. Second, the LOG BOTTOM feature allows you to log both your interaction with your host computer and your interaction with CP/M. The logging feature in LINK/125 only allows the interaction with your host computer to be logged. This restriction exists because LINK/125 is running under CP/M.

(The LOG BOTTOM feature can be reached by pressing the AIDS key and then pressing the PRINTER CONTROL function key while the HP 125 is operating like a terminal. For more information, refer to Chapter 7 of the "HP 125 Owner's Manual.)

SETTING UP THE CONFIGURATION MENU

The HP 125 is a very flexible system with many different configuration options. For example, you can choose to set the data communication speed for passing information to a remote system or printer, set the number of "null" characters sent to your printer, or set many other options.

Your HP 125 system/terminal configuration is changed by modifying a Configuration Menu displayed on the screen (see Figure A-1). The options you select are automatically stored by the system, and remain in effect until you change them through the menu.

You will need to modify the fields in the Configuration Menu if you are connecting your HP 125 to a "non-HP 3000" computer.

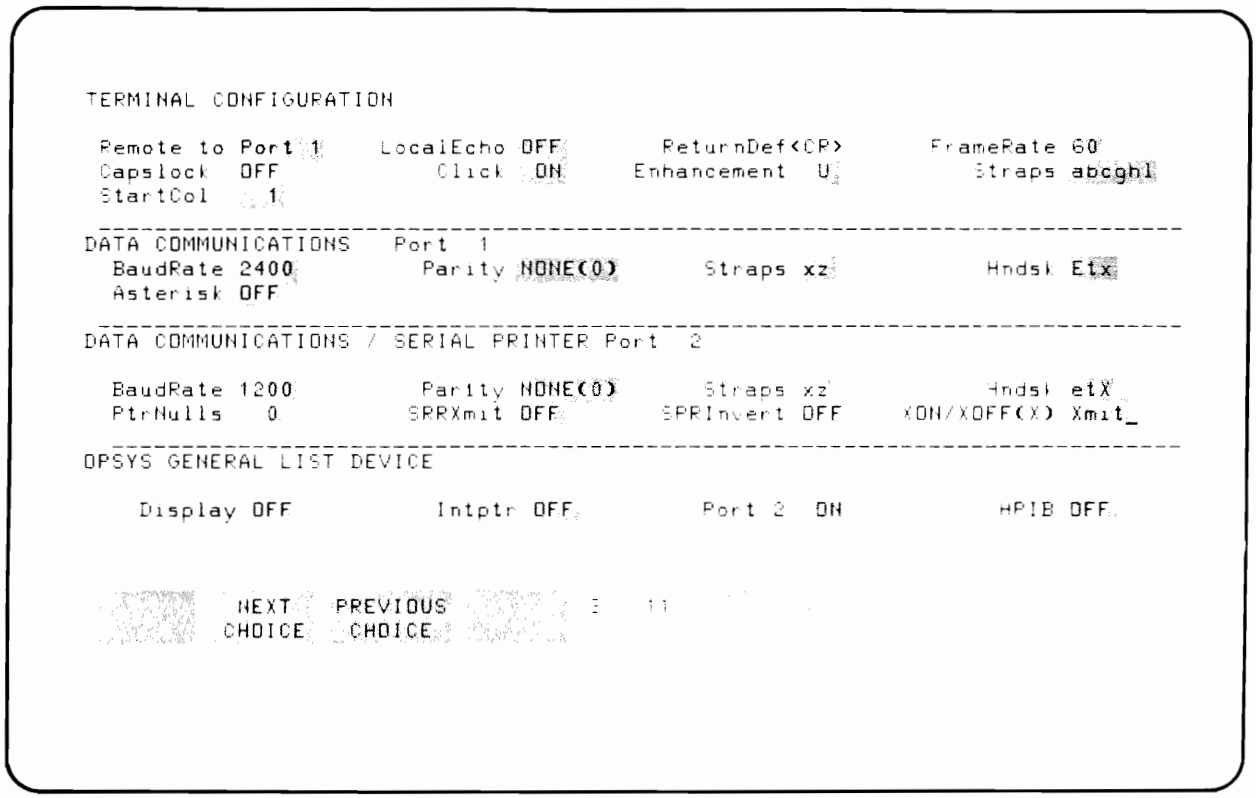


Figure A-1. Configuration Menu

There are four sections to the menu displayed on your screen:

1. Terminal Configuration Section. This section, at the top of the menu, sets certain default settings for the terminal, such as the state of the [CAPS] key, whether the keyboard will click, etc.

2. Two Data Communication Sections. These sections, in the middle of the menu, assign the speed (baud rate), parity value, and other parameters for the data communications port (Port #1) and the printer port (Port #2).

3. Opsys General List Device Section. This section, at the bottom of the menu, lists devices that are used when a program sends data to the General List Device under CP/M control.

In this chapter, you will find a complete discussion of the fields in the Configuration Menu. You will also find a discussion of the strap configurations.

As a prerequisite to reading this appendix you should have installed your HP 125 and connected the HP supported devices. (For information on how to do this, refer to the "Getting Started With Your HP 125" manual.)

How to Display the Menu

To display the menu, follow these steps:

1. Startup the HP 125 system with the system disc in disc drive A (the left drive). The WELCOME MENU should appear on the screen. (Refer to the section "Installing LINK/125" in Chapter 1 if the WELCOME MENU does not appear.)

2. Press the EXIT TO CP/M function key (f8). This will enter the operating system from the WELCOME MENU.

3. Press the [AIDS] key to display the primary set of function key labels.

4. Press the CONFIG function key to display the menu with its current values. The following table lists the function key labels displayed along the bottom of the screen; they allow you to change a selection on the menu. (To exit the Configuration Menu press the [AIDS], [MODES], or [USER KEYS] keys.)

Configuration Function Key Labels

Label	Function
NEXT CHOICE	Cycles forward through all the possible values within a field in the menu.
PREVIOUS CHOICE	Cycles backward through all the possible values within a field in the menu.

How to Change a Selection on the Menu

To change a selection on the menu, perform the following steps:

1. Move the cursor to the character position to be changed. This can be done with the [TAB] keys or the cursor control keys. The [TAB] keys move the cursor from field to field. In fields where more than one option is available (such as straps), use the cursor control keys to access each option.

2a. For fields displayed in inverse video, use the NEXT CHOICE or PREVIOUS CHOICE function keys to cycle through the choices until the desired value is displayed.

b. For other fields, enter the desired value from the keyboard.

3. Once you have made all the changes, return to normal operation by pressing the [AIDS], [MODES], or [USER KEYS] keys.

The Configuration Menu Fields

The following table lists definitions of the fields in the Configuration Menu.

Terminal Configuration Menu Fields

Field	Function
Remote To	This field specifies which data communication port is assigned to a remote host computer system. Pressing the REMOTE MODE function key switches the HP 125 into terminal operation using the port selected here. Values: Port 1 Port 2 Default: Port 1
Local Echo	This field specifies whether or not the terminal should display characters as they are typed when in Remote or Local Op Sys mode. ON = Characters entered at the keyboard are displayed on the screen and transmitted to the computer (local HP 125 processor or remote host system). OFF = Characters entered at the keyboard are transmitted to the computer only. They only appear on the screen if the computer "echoes" them back to the terminal. Default: OFF

ReturnDef

This field specifies the definition of the [RETURN] key. The definition may consist of up to two characters (a trailing blank is not recognized).

Default: <CR >

FrameRate

This field specifies the power line frequency (50 or 60 Hz). The screen refresh rate is then synchronized to the specified frequency. If this field is set to the wrong value, the images on the screen may pulsate visibly.

Values: 50 (for 50 Hz power source)
60 (for 60 Hz power source)

Default: 60

CapsLock

This field allows selection of upper-case characters only.

ON = All alphabetic keys (a-z) are generated in upper-case regardless of the [SHIFT] keys and the sense of the [CAPS] key. The numeric keys are unaffected. The ~, { , and | keys generate the codes for [,], and \, respectively. The key for generating ` is disabled.

OFF = The system generates the full upper and lower-case 128-character set ASCII codes.

Default: OFF

Click

The system is capable of producing an audible "click" as each key is pressed. This field specifies whether that feature is enabled or disabled.

Values: ON (click enabled)
OFF (click disabled)

Default: ON

Enhancement

This field specifies which HP 125 display enhancement will be used when the Enhancement select function keys are used. Enhancements may be used separately or in any combination such as U, HU, B, IB.

Values: I (Inverse video)
U (Underline)
B (Blinking)
H (Half bright)
... and all combinations
Default: U (Underline)

Straps

This field specifies the strap settings available to control the terminal display and data transfer characteristics. Each is represented on the display by an alphabetic character (a, b, c, g, h, and 1).

A strap is enabled or disabled by changing the state of the displayed character from lowercase to uppercase or vice versa. For more information on the a,b,c,g,h,1 straps, refer to the "Strap Configuration" section of this appendix.

Values: a (escape sequence transmission)
b (space overwrite (SPOW) latch)
c (cursor end-of-line wrap-around)
g (Block transfer handshake)
h (Inhibit DC2)
1 (Inhibit self-test)

Default: abcghl

StartCol

This field determines at which column the system begins transmitting text. This setting is used in Modify Line or Modify All mode.

Values: 1-80

Default: 1

Data Comm Configuration Menu Fields

Field	Function

BaudRate

This field specifies the speed at which the data transmission is to take place over the specified data comm port (in bits per second).

Values:

110	1800
150	2400
300	3600
600	4800
1200	9600

Default: 2400

Parity

This field specifies what type of parity generation and checking you wish used with each data character transmitted. The Z strap determines if parity is checked on received data.

Values:

NONE(0)	(Eighth bit is a zero on transmitted data; on received data, eighth bit is ignored)
NONE(1)	(Eighth bit is a one on transmitted data, on received data, eighth bit is ignored)
EVEN	(Even parity generated on transmitted data; eighth bit = parity result)
ODD	(Odd parity generated on transmitted data; eighth bit = parity result)

Default: NONE(0)

Straps

This field specifies the additional strap selections associated with data transfer. Each strap is represented on the display by an alphabetic character (x and z).

A strap is enabled or disabled by changing the state of the displayed character. This is done by selecting the strap and changing it from uppercase to lowercase or vice versa. For more information on the x and z straps, refer to the "Strap Configuration" section in this appendix.

Values: x (Data speed select)
z (Parity check)

Default: xz

Hndsk

This field specifies what type of communications "handshake" is to be used. Each type of handshake is represented by a single alphabetic character (e, t, and x). You enable or disable the type of handshake by changing the state of the displayed character from lowercase to uppercase, or vice versa. For more information on handshaking, refer to the "Handshake Configuration" section in this appendix.

Values: e (ENQ/ACK handshake)
t (Transmit handshake)
x (XON/XOFF)

Default: Etx (ENQ/ACK handshake)

Asterisk

The HP 125 can optionally display a "transmit indicator" -- an asterisk at the bottom of the screen that indicates when the HP 125 is connected to a remote system over an active datacomm line. This field specifies whether the transmit indicator should be enabled or disabled and, if enabled, which RS-232C control line it should reflect. When the asterisk is present, the transmit indicator is on; when the asterisk is missing, the transmit indicator is off. (This feature applies to Port #1 only)

Values: OFF - disables the transmit indicator.
CS - specifies the transmit indicator should reflect the state of the RS-232C Clear to Send (CS) control line (asterisk=HI; no asterisk=LO).
DM - specifies the transmit indicator should reflect the state of the RS-232C Data Mode (DM) or Data Set

Ready (CC) control line (asterisk=HI; no asterisk=LO).

Default: OFF

PtrNulls — Some printers require that "null characters" be transmitted after certain control functions (e.g. carriage return), to allow the printer time to complete the operation. This field specifies the number of ASCII null codes (0-99) to be transmitted to an external printer after each ASCII control code. Under normal operation, the HP 2601A does NOT require this field to be greater than zero.

Values: 0-99

Default: 0

SRRXmit — This field specifies whether or not a -12V on the RS-232C Secondary Receiver Ready (SRR) or Secondary Carrier Detect (SCF) control line is required for transmitting data. This mechanism is primarily used in conjunction with printers which must be able to control the transmission of data from other devices.

Values: ON (required)
OFF (not required)

Default: OFF

SRRINVERT — This field applies only when the SRRXmit field is required. SSRInvert defines whether -12V or +12V is a "true" state of the line. When both the SRRXmit and SRRInvert fields are enabled, the RS-232C Secondary Receiver Ready (SRR) or Secondary Carrier Detect (SCF) control line is inverted from -12V to +12V.

Values: ON (+12V)
OFF (-12V)

Default: OFF

Xon/Xoff(X) — This field defines the Xon/Xoff handshake protocol to be used for receive pacing (communicating with a computer) or transmit pacing (communicating with a printer). Applies to port 2 when port 2 Xon/Xoff handshaking is selected.

Op Sys General List Device Menu Fields

Field	Function
Display	This field specifies whether or not output from an application program to the Op Sys General List Device will be displayed on the display screen. Values: ON (display enabled) OFF (display disabled)
IntPtr	This field specifies whether or not output from an application program to the Op Sys General List Device will be displayed on the internal printer if one exists. Values: ON OFF Default: OFF (ON for option 050)
Port 2	This field specifies whether or not output from an application program to the Op Sys General List Device will be printed on the printer attached to data comm port #2. Values: ON OFF Default: ON (OFF for option 050)
HPIB	This field specifies whether or not output from application programs to the Op Sys General List Device will be printed on the printer attached to the HPIB. Values: ON OFF Default: OFF

Note: Although output is normally routed to only one destination, any combination of these list devices can be active at the same time.

Strap Configuration

The strapping configured for your system allows the following conditions when you specify lowercase or uppercase alphabetic values.

STRAP	ENABLED	DISABLED	DEFAULT
Escape (esc) Transmission	A	a	Disabled
Space Overwrite (SPOW) Latch	B	b	Disabled
Wraparound Cursor, End-of-Line	c	C	Enabled
Short Transfer Trigger Handshake	g	G*	Enabled
Long Transfer Warning Handshake	h	H	Enabled
Data Speed Select	X	x	Disabled
Parity Check	z	Z	Enabled
Inhibit Self Test	L	l	Disabled

*Although the Short Transfer Trigger Handshake is disabled, transfer conditions become dependent on the state of the Long Transfer Warning Handshake strap. For more information, refer to the description for these straps (g,h) below.

When configuration menus are displayed, you can use the [TAB] key to position the cursor to the straps fields. Then use the cursor left [<] or cursor right [>] keys to move the cursor to a position beneath the character representing the strap you want to change.

Escape (esc) Transmission (a-strap): When this strap is enabled, any keyboard-generated escape sequence (cursor movements, etc.) are passed through to the host system and not executed. When disabled the keyboard-generated escape sequence is executed locally and no information is given to the host system.

Space Overwrite (SPOW) Latch (b-strap): This strap controls whether the space bar produces spaces or skips over characters when typing over existing text. When the strap is enabled, the SPOW latch can be turned on by the [RETURN] key and turned off by the HOME UP key, a Linefeed, or [TAB>] key. When the SPOW latch is on, the space bar causes the cursor to move to the right along the current line without overwriting existing characters. When the SPOW latch is off, the space bar causes an overwrite of blank (space) characters as the cursor moves along the current line.

When this strap is disabled (the default state), the SPOW latch is not accessible.

Wraparound Cursor, End-of-Line (c-strap): When enabled (the defaulted state), this strap causes the cursor to wraparound to the beginning of the next line on the display whenever column 80 or the right margin of any line is passed. The System Processor generates a Return and a Linefeed character to accomplish this.

When this strap is disabled, no Return or Linefeed is generated at the end of a line. The cursor remains in, and overwrites column 80 or the right margin.

Short Transfer Trigger Handshake and Long Transfer Warning Handshake (g h-straps): The HP 125 provides three kinds of data transfer operations; Long Transfer in Line Mode, Long Transfer in Character Mode, and Short Transfer.

Long Transfer, Line Mode	A data transfer operation initiated via the [RETURN] key or [ENTER] key while one of the HP 125's Modify modes are on.
Long Transfer, Character Mode	A data transfer operation initiated via the [ENTER] key while the HP 125's Modify modes are off.
Short Transfer	A data transfer operation involving: - Cursor Sensing - Terminal Status - f1 through f8 functions - Response to an "Esc &" sequence

The transfer mode affects the type of handshake used. The complete DC1/DC2 handshake protocol consists of a "trigger" signal (DC1) sent from the host computer to inform the HP 125 that a data transfer is possible. In response, the HP 125 sends a "warning" signal (DC2) to the host computer indicating that the data to be transferred is ready. The host computer sends another trigger signal (DC1) to enable the transfer. The following figure illustrates the handshake protocol:

HOST	HP 125	
DC1---------trigger---------->		Host opens data transfer operation
<----------warning---------DC2		HP 125 signals ready state.
DC1---------trigger---------->		Host enables transfer operation.
<---------transfer---------<data>		HP 125 transmits data.

DC1/DC2 Handshake Protocol

Depending on the state of the g and h straps, one of three subsets of the handshake protocol is used by the terminal. These are as follows:

TYPE 1 (No Handshake)

HOST	HP 125	
<---------transfer---------<data>		Terminal transmits data.

TYPE 2 (DC1 Trigger Handshake)

HOST	HP 125	
DC1---------trigger---------->		Host enables transfer operation.
<---------transfer---------<data>		HP 125 transmits data.

TYPE 3 (DC1/DC2/DC1 Warning Handshake

HOST	HP 125	
DC1---------trigger---------->		Host opens data transfer operation
<----------warning---------DC2		HP 125 signals ready state.
DC1---------trigger---------->		Host enables transfer operation.
<---------transfer---------<data>		HP 125 transmits data.

The effect of the various g and h strap states is shown in the following table:

DC1/DC2 Handshake Protocol Strapping

Strap State	Transfer Category: Long (Line Mode)	Short	Long (Char Mode)
g,h default	TYPE 3	TYPE 2	TYPE 1
g,H	TYPE 1	TYPE 2	TYPE 1
G,h	TYPE 3	TYPE 3	TYPE 3
G,H	TYPE 1	TYPE 1	TYPE 1

[Data Speed Select (x-strap) When this strap is enabled, the data speed signal is set high (CH=on). When disabled (the defaulted state), the data speed signal is set to low (CH=off).

Parity (Z-strap) Parity is a way the HP 125 and a host computer can verify that your data was transferred correctly. Parity refers to a "vertical redundancy check" bit that is added as the high bit of each byte as it is transmitted and checked for the correct value as it is received over the data communications line.

When the Parity strap is enabled (the default state), a parity check for even or odd parity is performed by the terminal on the received data.

When this strap is disabled, no parity check is performed.

Note that the parity is never checked for received data if the HP 125 is configured for either NONE(0) or NONE(1) parity.

Inhibit Self-Test (L-strap) When this strap is disabled, the Power-On Test, OpSys Test, Data Comm Test, Integral Printer Test, and Manufacturing Test are enabled.

When enabled, the Power-On Test, OpSys Test, Data Comm Test, Internal Printer Test, and Terminal Test are not accessible from the keyboard. Any attempt to initiate these tests results in an error message; to clear the message, press [RETURN].

Handshake Configuration

The handshaking configured for your system allows the following conditions when you specify lowercase or uppercase alphabetic characters.

HANDSHAKE	ENABLED	DISABLED	DEFAULT
ENQ/ACK Handshake	E	e	Enabled
Transmit Handshake	T	t	Disabled
XON/XOFF	X	x	Disabled

When configuration menus are displayed, you use the cursor left [<] or cursor right [>] keys to move the cursor to a position beneath the character (e,t,x) to be changed.

ENQ/ACK Handshake. This type of handshake may be used to ensure that the HP 125 has an empty buffer before the host computer transmits more data. When this strap is enabled (the default state), an acknowledge signal (ACK) is transmitted by the HP 125 each time an enquiry signal (ENQ) is encountered from the host computer. Any data contained in the buffer is processed before the ACK signal is transmitted.

When this strap is disabled, any enquiry signal (ENQ) encountered from the host computer is treated as a normal data character. No acknowledge signal (ACK) is generated.

Transmit Handshake. When this handshake type is enabled, the host computer or printer can transmit a "busy" signal across the Clear to Send (CB for RS-232C or 106 for CCITT V.24) control line to temporarily stop the transmission of data from the terminal.

When this handshake type is disabled (the default state), data transmission continues uninterrupted by the computer.

XON/XOFF. This handshake protocol allows the HP 125 to signal the host computer to stop sending data and, subsequently to resume sending data as the input buffer fills and empties.

When this strap is enabled, the input buffer fills to within approximately 40 bytes of its capacity. At this point, the terminal sends a Transmit Off signal (XOFF) to cause the host computer to stop transmitting data. When the buffer has emptied below a quarter of its capacity, the terminal sends a Transmit On signal (XON) which causes the host computer to resume data transmission. This process is repeated until the current data transfer operation is completed. When disabled (the default state), no XON/XOFF handshake occurs.

Note that the XON signal is represented by a DC1 (ctrl-Q) character transmission. The XOFF signal is represented by a DC3 (ctrl-S) character transmission.

APPENDIX B

FILE TRANSFERS WITH "NON-HP 3000" COMPUTERS

As mentioned in the previous chapters, the file transfer capabilities of LINK/125 are intended to be used with the HP 3000 as the host computer system. Yet, with minimal effort, these capabilities can be successfully used with "non-HP 3000" computers.

There are two approaches to file transfers with "non-HP 3000" computers. The first approach uses the logging and command file capabilities of LINK/125. The second approach involves writing a program on your host computer to simulate the HP 3000 FCOPY program. (FCOPY is used by the "Transfer to Host" and "Transfer from Host" functions in LINK/125.)

The approach you choose will depend on the availability of programming resources at your installation and the technical abilities of your users. The first approach requires no special programming on the host computer, but the user interface for transferring files is complex. The second approach requires special programming on the host computer, but provides a friendly user interface. Both approaches will be discussed in detail in the following pages.

Before proceeding in this appendix, though, make sure that your HP 125 has been properly connected and configured for your host computer. Test that the HP 125 will communicate with your host computer in REMOTE MODE as a terminal. (Refer to the "HP 125

Owner's Manual" for more information on REMOTE MODE.) If you cannot communicate with your host computer, check that the Configuration Menu on the HP 125 has been properly configured. (Refer to Appendix A, "Setting Up the Configuration Menu" for more information.) Also check that your host computer is operating in full duplex. LINK/125 will not work in half duplex!

Using Logging and Command Files for File Transfers

The Logging and Command File capabilities in LINK/125 can be combined to perform bi-directional file transfers with almost any host computer. This approach to file transfers with "non-HP 3000" computers requires no special programming, but does require that the user complete a complex procedure in order to transfer a file. The "Transfer to Host" and "Transfer from Host" menus are not used.

Transferring Files from your Host Computer to the HP 125 Using Logging

A file can be transferred from your host computer to your HP 125 using the logging feature of LINK/125! To do this:

1. Follow the procedure in Chapter 1 on "Running LINK/125" to "log-on" to your host computer system and display the LINK/125 Main Menu on the HP 125 screen.

2. Press the LOGGING OPTIONS (f6) function key to access the Logging Option function key labels. Follow the procedure in Chapter 6, "SETTING UP LOGGING DEVICES", to set up a local file as a logging device. Make sure that LOGGING is turned on.

3. Issue the command to your host computer to list a file to the HP 125 screen.

   Because LOGGING is enabled, the file will be automatically recorded to the local logging file as well as displayed on the screen.

4. When the file has finished listing to the screen, press the LOCAL FILE function key to disable logging to the local file.

The file transfer from your host computer to the HP 125 has been completed. The contents of your host computer is now contained in a disc file on the HP 125.

You may need to "clean-up" the HP 125 disc file after the transfer is completed. Since the Logging feature records everything on the HP 125 screen to a logging device, there may be unwanted leading and trailing characters in the local disc file. To delete the extra characters use the CP/M Editor or WORD/125.

Transferring Files from the HP 125 to your Host Computer Using Command Files

A file can be transferred from the HP 125 to your host computer using the command file feature of LINK/125! There are two different methods using command files for accomplishing the transfer. The first method makes use of an editor on your host computer system. The second method makes use of a special program running on your host computer system.

Transfers Using a Host Editor

To use a host editor to transfer a file from the HP 125 to your host computer, do the following:

1. Follow the procedure in Chapter 1 on "Running LINK/125" to "log-on" to your host computer system and display the LINK/125 Main Menu on the HP 125 screen.

2. With the Main Menu displayed on the screen, issue the commands to run an editor on your host computer and enter an insertion mode. (The insertion mode should cause data typed in at the HP 125 keyboard to be recorded as text.)

3. Press the COMMAND FILE (f5) function key to access the Command File prompt. Enter the name of the file you wish to transfer to your host computer. Press the RETURN key.

   The local file will be transferred, line by line, to your host computer (as though it were a command file). When each line is received by your host computer it will be recorded by the host editor.

LINK/125 expects the host computer to send a terminator character to the HP 125 after each line is received. The terminator character must be received before the next line can be sent. Normally, LINK/125 expects the terminator character to be a 'DC1'. You may redefine the terminator, however, by using an &TERMINATOR command in a command file. (Refer to Chapter 4 for more information on command files.)

4. When the entire file has been read and transferred, issue the commands to save the host editor file and exit from the host editor.

The file transfer from the HP 125 to your host computer has been completed. The contents of your HP 125 disc file are now contained in a host computer editor file.

> Note: To simplify the task of transferring files you may want to write an HP 125 program to:
> 1. Append the necessary host commands into the local file to start the editor and enter insert mode.
> 2. Append the necessary host commands into the local file to keep the file and exit the editor at the end of the transfer.

Transfers Using a Special Program

If you do not have access to an editor on your host computer system, you will want to use the following method to transfer a file from the HP 125 to your host computer:

1. Create and store a program on your host computer to log incoming characters and acknowledge their receipt. You may want to use the following BASIC program as a model:

```
1000 DEFINE FILE #1="LOG"
1010 INPUTLNE "",A$
1020 IF LEFT (A$,1)="&" THEN GOTO 1060
1030 WRITE#1,A$
1040 PRINT CHAR(17);    'send DC1 to 125
1050 GOTO 1010
1060 PRINT "Good bye"
1070 CLOSE#1
1080 STOP
```

2. Follow the procedure in Chapter 1 on "Running LINK/125" to "log-on" to your host computer system and display the LINK/125 Main Menu on the HP 125 screen.

3. With the Main Menu displayed on the screen, issue the command to run your special program.

4. Press the COMMAND FILE (f5) function key to access the Command File prompt. Enter the name of the file you wish to transfer to your host computer. Press the RETURN key.

   The local file will be transferred, line by line, to your host computer (as though it were a command file). When each line is received by the host computer it will automatically be recorded into a file.

5. When the entire file has been read and transferred, issue the commands necessary to exit from your special program.

Note: The sample BASIC program listed above will automatically close the file on your host computer system and exit when the "&" character is received.

The file transfer from the HP 125 to your host computer has been completed. The contents of your HP 125 disc file has been transferred to the file specified by your special program.

Writing a Program to Simulate HP 3000 FCOPY

The second approach to file transfers with "non-HP 3000" computers involves writing a program on your host computer to simulate the HP 3000 FCOPY program. With this approach, your users can continue to use the friendly "Transfer to Host" and "Transfer from Host" menus.

FCOPY is a powerful file transfer program that is found on all HP 3000 systems. Included in FCOPY is the ability to send data between an HP 3000 file and a tape cartridge on an HP 264X terminal. (264X is a term used by HP to indicate all HP terminal models which begin with "264". For example the 2645A, 2647A, and 2642A terminals are included in this group.) FCOPY treats the discs on the HP 125 like tape cartridges on the HP 264X terminals.

Data transfers between the HP 3000 and HP 125 are controlled by escape sequences sent from the HP 3000 FCOPY program. The escape sequences are interpreted by LINK/125 to coordinate the transfers. The next two sections, "File Transfer to Host Computer" and "File Transfer from Host Computer" outline the exact pattern of communication between FCOPY and LINK/125 to transfer files. You may use this information as the basis for writing a program on your host computer to simulate FCOPY. Later in this chapter, a sample program which simulates FCOPY has been included. The program was written to transfer files from one HP 125 to another HP 125.

The exact patterns of communication between FCOPY and LINK/125 are given in the tables below. When reading the tables, keep in mind the following points:

1. The symbols 'ESC', 'DC1', 'CR', 'LF', and 'RS' are used to represent single ASCII characters.

2. Upper or lower case letters are significant in escape sequences.

3. An "H:" in the first column signifies a line sent by the host computer. An "L:" in the first column signifies a line sent by the HP 125.

4. The symbol "data" represents a string of ASCII characters excluding control characters.

File Transfer to Host Computer

L: LISTF FILENAME ,1	LINK/125 examines the directory to determine if the file already exists.
H: (CIERR 907),'DC1'	(If there is no file 'filename' on the host system.)
L:BUILD $NEWPASS;REC=-REC_SIZE,,F,ASCII;DISC=NUMBER_OF_RECORDS	This command tells the host the record size for the new file and the number of records it should contain.
H: 'DC1'	The host acknowledges the file statement.
L: RUN FCOPY.PUB.SYS	LINK/125 starts the FCOPY program.
H: >'DC1'	Respond with the FCOPY prompt.
L: FROM=$CTUL;TO=$OLDPASS	LINK/125 requests file transfer to the host system. The host knows the file name from the last LISTF command sent from the HP 125.
H: 'ESC'&pls0R'DC1'	Read and transmit a local record
L: DATA'CR'	Send data
H: 'ESC'&pls0R'DC1'	Read another record
L: DATA'CR'	Send it
.	
.	
.	
H: 'ESC'&pls0R'DC1'	Read one more record
L: 'RS''DC1'	End of local file
H: >'DC1'	Give FCOPY prompt

L: EXIT'CR'	Exit FCOPY
H: :'DC1'	Back to MPE prompt
L: SAVE $OLDPASS;FILENAME	Save temporary file. (This command may be ignored on other hosts.)
H: 'DC1'	Host ready
L: LISTF FILENAME,1	Make sure file was saved
H: FILENAME REC_SIZEB FB NUM_RECS 'DC1'	Tell HP 125 file is OK
L: 'CR'	Finished with FCOPY
H: 'DC1'	Be ready for another transfer.

The above table lists the pattern of communication between FCOPY and LINK/125 when there are no special conditions. But, there are several special conditions that you should consider:

1. If the file name in the LISTF command already exists, the host computer must respond with a highly formatted response. (Refer to the following section entitled "Format of the LISTF Response" for more information.) The user must then decide whether to purge the existing copy of the file or give another file name.

   The request to purge a host file takes the form:

   PURGE file name 'CR '

   followed by another LISTF command.

2. If the host computer needs to terminate the file transfer, it should send the MPE prompt ':' without an escape sequence. The termination may be made any time after the transfer has started. LINK/125 will inform the user that the transfer ended prematurely.

3. If LINK/125 must terminate the transfer early, it sends 'RS' 'DC1' as if it had reached the end of the file transfer. No special indication is given to the user.

4. If the user decides to stop the transfer, LINK/125 will activate the BREAK key and then send ABORT 'CR'. If the BREAK key has been re-defined in a local command file, then the user supplied character will be sent to the host computer. (Refer to Chapter 4, "Creating and Executing Command Files" for more

information on re-defining the BREAK key, re-defining the host terminator, and disabling syntax checking.)

File Transfer from Host Computer

```
L: LISTF FILENAME ,1          LINK/125 examines the directory to
                              determine that 'FILENAME' exists.

H: FILENAME REC_SIZEB FB NUMBER_OF_RECORDS'DC1'

                              Indicate the file exists and
                              provide information about it's type
                              and size.

L: RUN FCOPY.PUB.SYS          LINK/125 starts the FCOPY program

H: >'DC1'                     Respond with the FCOPY prompt

L: FROM=FILENAME;TO=$CTUL     LINK/125 requests the file transfer
                              from the host system

H: 'ESC'&pldWDATA'CR''LF''DC1'
                              Receive and save one record

L: S'CR'                      Record successfully received

H: 'ESC'&pldWDATA'CR''LF''DC1'
                              Receive another record

L: S'CR'                      Record received
    .
    .
    .

H: 'ESC'&plu5C'DC1'           End of host file

L: S'CR'                      Acknowledge

H: >                          Give FCOPY prompt

L: EXIT'DC1'                  Exit from FCOPY

H: :'DC1'                     Back to MPE prompt

L: 'CR'                       Done with FCOPY

H: 'DC1'                      Be ready for another transfer
```

The above table lists the pattern of communication between FCOPY and LINK/125 when there are no special conditions. But, there are several special conditions that you should consider:

1. If the file name in the LISTF command does not exist, the message:

   (CIERR 907) 'DC1'

   should be sent from the host computer. The user will then be prompted to enter another file name.

2. If the host computer needs to terminate the file transfer, it should send the escape sequence:

   'ESC'&plu5C'DC1'

   and then send the FCOPY prompt (>). The termination may be made at any time after the file transfer begins. LINK/125 will not inform the user that the transfer ended prematurely, but the user can observe that the number of records transferred is less than the number of records in the host file.

3. If LINK/125 must terminate the transfer early, it sends F'CR" after the host sends the 'ESC'&pldW escape sequence.

4. If the user decides to stop the transfer LINK/125 will activate the BREAK key and then send ABORT 'CR'. If the BREAK key has been re-defined in a Local Command File, then the user supplied character will be sent to the host computer. (Refer to Chapter 4, "Creating and Executing Command Files" for more information on re-defining the BREAK key, re-defining the host terminator, and disabling syntax checking.)

Format of the LISTF Response

Both the "File Transfer to Host Computer" and "File Transfer from Host Computer" tables use the HP 3000 LISTF command. The LISTF command is used by LINK/125 to determine if a host file exists. It is also used to determine the type, record size, and number of records of the host file.

The LISTF command is sent to the host whenever:

1. the user enters a host file name
2. the PURGE command has been sent
3. the SAVE command has been sent

The LISTF command is used to determine if the PURGE and SAVE operations have been successful.

The host response to the LISTF command may be either positive or negative. If the host file exists, the host computer must respond with:

```
            BYTE POSITION

         1         2         3
12345678901234567890123456789012345678 90
_______________________________________

filename         ddddB  FA      dddddd
```

The "filename" represents the first part of the host file name. For example, if the file name was LINKJOB.APPL.COM the "filename" would be LINKJOB. Bytes 18 to 21 contain an ASCII number which indicates the host file record size. Bytes 33 to 38 contain an ASCII number which indicates the number of records in the host file. The "B" in byte 22 indicates that the record size is given in 8-bit bytes. (The letter "W" is also accepted, indicating 16-bit words.) The "FA" in bytes 25 and 26 indicates that the file type is fixed ASCII.

If the second letter in the file type is "B", LINK/125 recognizes that the file is binary and will not transfer the file.

> Note: File names on some host computers will not have the same syntax as HP 3000 file names. If you have disabled syntax checking through a local command file, LINK/125 will accept any user input as a valid file name. (Refer to Chapter 4, "Creating and Executing Command Files" for more information on Command Files.) When the host computer responds to the LISTF command, the first eight characters of the user input should be put in the "filename" position. And, the name will be right padded with blanks.

If the host file does not exist, the host computer may respond with:

```
     (CIERR 907) 'DC1'
or   'DC1'
```

LINK/125 assumes that any response other than the positive response indicates that the host file does not exist.

Sample File Transfer Program

The previous two sections of this appendix listed the patterns of communication between LINK/125 and the HP 3000 FCOPY program. You could use that information to write a program to simulate the FCOPY program.

This section contains a sample program that simulates FCOPY. You may choose to use this program as a basis for writing your own program to simulate FCOPY. The program was written so that ASCII files could be transferred from one HP 125 to another HP 125 using LINK/125. Since the program was written in BASIC/125, you will need to modify the program to run on your host computer.

After the program listing, you will find some additional information on connecting two HP 125's together for file transfers.

```
  10     '
  20     ' FCOPY - HP125 TO HP125 FILE TRANSFER UTILITY
  30     '
  40     ' THIS PROGRAM IS USED IN CONNECTION WITH LINK/125 TO TRANSFER
  50     ' ASCII FILES FROM ONE HP125 TO ANOTHER.
  60     ' THE PROGRAM SERVES TO SIMULATE THE HP3000 FCOPY UTILITY.
  70     '  THIS IS STRICTLY A PROTO-TYPE VERSION
  80     '
  90     '                                   WRITTEN BY FRANK HEARTNEY
 100     '                                         HP GSD R&D
 110     '                                          JULY 25 1981
 120     '
 130     DEFINT A-Z
 140     DIM C$[255],D$[255]
 150     DIM FILENAME$[35]
 160     '
 170     GOSUB 1500
 180     '
 190     '
 200     GOSUB 9000
 220     ON STATE GOSUB 400,1000,1200,1300
 230     GOSUB 4200
 240     GOTO 200
 250     '
 260     '
 390     ' STATE = 1, COMMAND LEVEL
 400     FCT$=LEFT$(D$,4)
 410     IF FCT$="LIST" THEN GOTO  2000
 430     IF FCT$="FROM" THEN GOTO  2400
 440     IF FCT$="PURG" THEN GOTO  3000
 450     IF FCT$="BYE" THEN GOTO  8000
 460     C$ = LF$ + CR$ + "A>"
 465     RETURN
 470     '
 480     '
 900     ' STATE = 2, SEND FILE TO REMOTE
1000     FCT$=LEFT$(D$,1)
1010     IF FCT$="S" THEN GOTO  3400
1020     IF FCT$="F" THEN GOTO  4000
1030     C$ = LF$
1035     RETURN
1040     '
1050     '
1090     ' STATE = 3, RECEIVE FILE FROM REMOTE
1200     FCT$=LEFT$(D$,1)
1210     IF FCT$=RS$ THEN GOTO  4000
1220     GOSUB 3800
1230     RETURN
1300     '
```

```
1310    ' STATE = 4, RETURN TO COMMAND LEVEL
1320    C$=LF$ + MPEPROMPT$
1325    STATE = 1
1330    RETURN
1340    '
1500    ' INITILIZATION SEQUENCE
1501    '
1510    CR$=CHR$(13)
1520    DC1$=CHR$(17)
1530    ESC$=CHR$(27)
1540    RS$=CHR$(30)
1550    MPEPROMPT$ = ":"
1560    FCOPYPROMPT$=">"
1570    LF$=CHR$(10)
1575    STATE = 1
1580    '  USE ESCAPE SEQUENCES TO GET INPUT FROM AND SEND OUTPUT TO
1582    '  PORT 2
1590    PRINT ESC$ + "&i2s24d4M"
1600    PRINT ESC$ + "&i7s24d8M"
1610    PRINT ESC$ + "&i8s18d23d6M"
1620    '
1630    RETURN
2000    ' HANDLE FILE STATUS REQUEST
2010    D$=MID$(D$,7)
2015    I=LEN(D$)-2
2020    FILENAME$=LEFT$(D$,I)
2030    GOSUB 8400
2040    IF FILEEXISTS =0  THEN C$="(CIERR 907)":RETURN
2070    I=8-LEN(FILENAME$)
2090    IF I > 0 THEN FILENAME$ = FILENAME$ + SPACE$(I)
2095    C$ = LEFT$(FILENAME$,8) + SPACE$(8)
2097    X$=STR$(RSIZE)
2099    I = 5-LEN(X$)
2100    C$=C$ + STR$(RSIZE) + SPACE$(I)
2110    C$=C$ + "B  FA       "
2120    C$=C$ + STR$(RCOUNT)
2125    C$ = CR$ + LF$ +C$
2130    RETURN
2140    '
2260    '
2270    '
2400    ' OPEN THE LOCAL FILE, READ OR WRITE ACCESS
2410    TEMP$=LEFT$(D$,10)
2415    CLOSE#1
2420    GOSUB 8200
2430    IF TEMP$ = "FROM=$CTUL" THEN 2600
2440    D$=MID$(D$,6)
2450    I=INSTR(D$,";")-1
```

```
2460    FILENAME$=LEFT$(D$,I)
2470    OPEN "I",#1,FILENAME$
2480    ON ERROR GOTO 0
2490    IF ERRORNO <> 0 THEN GOTO 4000
2500    STATE = 2
2510    GOSUB 3400
2520    RETURN
2530    '
2540    ' TRANSFER FROM REMOTE TO LOCAL
2600    OPEN "O",#1,FILENAME$
2610    ON ERROR GOTO 0
2620    IF ERRORNO<>0 THEN GOTO 4000
2630    C$ = ESC$ + "&ps0R"
2640    STATE = 3
2650    RETURN
2660    '
3000    ' PURGE A FILE
3010    D$=MID$(D$,7)
3015    GOSUB 8200
3020    KILL D$
3024    ON ERROR GOTO 0
3025    C$=""
3030    RETURN
3040    '
3050    '
3240    '
3400    '
3410    ' SEND A RECORD TO REMOTE
3415    IF EOF(1) THEN 4000
3420    GOSUB 8200
3430    LINE INPUT#1,C$
3435    ON ERROR GOTO 0
3440    IF ERRORNO <> 0 THEN 4000
3500    C$ = ESC$ + "&p1dW" + C$ + CR$ + LF$
3510    RETURN
3520    '
3660    '
3800    ' RECEIVE A RECORD FROM REMOTE
3810    GOSUB 8200
3820    PRINT#1,D$
3830    IF ERRORNO<>0 THEN GOTO 4000
3840    C$ = ESC$ + "&ps0R"
3870    RETURN
3880    '
3890    '
4000    ' SHUT DOWN TRANSFER
4010    CLOSE #1
4020    C$ = ESC$ + "&p1u5C"
4030    STATE=4
4040    RETURN
```

```
4050    '
4060    '
4200    ' SEND DATA TO REMOTE
4210    PRINT C$ + DC1$;        ' DISPLAY AS IF TO SCREEN
4220    C$=""
4230    RETURN
4240    '
4250    '
8000    ' EXIT THIS PROGRAM
8001    PRINT ESC$ + "&i32s5M"
8002    PRINT ESC$ + "&i2S"
8003    PRINT ESC$ + "&i8S"
8005    PRINT ESC$ + "&i8s23d5M"
8040    PRINT ESC$ + "&i7s24d5M"
8060    SYSTEM
8070    '
8080    '
8200    ' ON ERROR ROUTINE
8210    ON ERROR GOTO 8300
8220    ERRORNO=0
8230    RETURN
8240    '
8250    '
8300    ' ERROR TRAP ROUTINE
8310    ERRORNO=ERR
8315    PRINT "ERROR #";ERR
8320    RESUME NEXT
8330    '
8400    ' FILE EXISTS ROUTINE
8410    GOSUB 8200
8420    CLOSE #1
8430    OPEN "I",#1,FILENAME$
8440    ON ERROR GOTO 0
8450    IF ERRORNO THEN FILEEXISTS=0:RETURN
8460    ' FILE DOES EXIST
8470    FILEEXISTS = 1
8480    RSIZE = 245
8490    RCOUNT = LOF(1)*128/80
8492    CLOSE #1
8495    RETURN
8500    '
9000    ' INPUT ROUTINE
9010    IF STATE = 1 THEN LINE INPUT;"";D$:RETURN
9015    D$=""
9020    CH$=INPUT$(1)
9030    WHILE CH$<>CR$
9040    D$=D$ + CH$
9050    CH$ = INPUT$(1)
9060    WEND
9070    RETURN
```

Additional Information on Connecting Two HP 125's Together

Since the HP 125 Configuration Menu provides many configuration options, it is possible to configure two HP 125's so that they can be "Remote" devices for each other. Such a configuration is necessary to use the BASIC/125 program listed in the last section. The program simulates FCOPY and allows file transfers from one HP 125 to another HP 125.

The two HP 125's need to be connected by a serial printer cable. (HP product number 13242G.) An ordinary RS-232 Data Comm cable will not work! The printer cable is just like the Data Comm cable except that the #2 and #3 pins have been reversed. On the RS-232 Data Comm cable, the #2 pin is sometimes called "BA" or the Transmit Data pin, and the #3 pin is sometimes called "BB" or the Receive Data pin. The cable should connect from PORT 2 on one HP 125 to PORT 2 on the other HP 125.

Both HP 125's should have the REMOTE TO field of the Terminal Configuration section of the Configuration Menu set to: PORT 2. Both HP 125's should have the HNDSK field in the Port 2 section of the Configuration Menu set to: etX. This enables the Xon/Xoff handshake and disables all other types of handshaking.

The HP 125 that will be sending the data should have the XON/XOFF field in the Port 2 section of the Configuration Menu set to XMIT. The HP 125 that will be receiving the data should have the same field set to RECV. The HP 125 with "RECV" set will send control characters to the HP 125 with "XMIT" set to prevent the "XMIT" HP 125 from sending data faster than the "RECV" HP 125 can process the data. There are no corresponding checks in the opposite direction. Consequently, the "RECV" HP 125 always assumes that the "XMIT" HP 125 can receive data.

Once you have properly connected and configured the two HP 125's, you are ready to:

1. load the BASIC/125 program in the preceding section onto one of the HP 125 systems

2. load the LINK/125 program onto the other HP 125 system

3. begin doing a file transfer from one HP 125 to the other HP 125!

TRANSFERRING HP 125 FILES

This appendix discusses the file formats used by the software products supported on the HP 125. It is important for you to understand these formats in order to successfully transfer files from your HP 125 to your host computer, and vice versa.

The file transfer capabilities of LINK/125 were designed to be used to transfer variable length record ASCII files. Files transferred with LINK/125 should consist of strings of seven-bit ASCII characters separated by <CR><LF>, just <CR>, or just <LF>. There should be no embedded control codes (binary values 0 through 31) in the files. If you attempt to transfer control codes, you may discover that the control codes get "swallowed" during the transfer, or you may cause the LINK/125 transfer to abort. The preceding two problems arise because the control codes may have a special meaning for your host computer or for the HP 125.

The following paragraphs list the unusual characteristics of the file formats produced by the software packages on the HP 125. At the end of this section, a general purpose solution is suggested to the problem of transferring files with a wide variety of formats.

WORD/125 Files

Files created with WORD/125 are unusual in several ways. First, WORD/125 files are "paragraph" oriented, whereas most other files are "line" or "record" oriented. When you type in text using WORD/125, the text is stored as a continuous paragraph. The text is only separated into lines when it is displayed on the screen. WORD/125 files use the <CR> character as a paragraph separator and not as a line or record separator. (When you examine a WORD/125 file on the HP 125 screen, the symbol "<" will appear wherever the <CR> character occurs.) A special control code is inserted into the text at the end of each physical line when the text is displayed on the screen. (This control code is <SO>, an ASCII 14.)

Second, special control codes are inserted into text when indentations are made in WORD/125 with the INDENT TO TAB function key. Whenever the INDENT TO TAB key is pressed, three special characters are inserted in the text:

1. <US>, an ASCII 31
2. a character count
3. <US>, an ASCII 31

The "character count" indicates how many spaces to indent.

Third, WORD/125 indicates that a particular character is enhanced by setting the eighth bit of the character. Since LINK/125 will only transfer seven-bit ASCII strings, display enhancements will be lost when transferring a file to a host computer.

There are two alternatives for overcoming the unusual conditions listed above. First, you could take an obvious approach and:

1. end each physical line on the screen with a <CR> (<) character
2. not use the INDENT TO TAB function key
3. not use display enhancements.

This alternative would produce a file that could be used with LINK/125, VISICALC/125, and GRAPH/125, since there would be no special characters in the file. The alternative would be practical for files that contain data or structured text such as an outline or an address list. It would not be practical for files containing large paragraphs of text.

The second alternative makes use of a file conversion capability built into WORD/125. WORD/125 allows you to change the format of a file while saving the file on disc. If you add the characters "/1" to the end of your file name when saving a file, WORD/125 will:

1. insert a <CR><LF> at the end of every screen line
2. replace the INDENT TO TAB control characters with the appropriate number of spaces.

Unfortunately, the conversion process is irreversible. Once you use the file conversion process on a file, each physical line is treated as a separate paragraph and the indentations are frozen at their current locations.

VISICALC/125 Files

Files created with VISICALC/125 can be transferred to a host computer and back again with no special preparation. This is true because VISICALC/125 files do not contain any special control codes. The structure of a VISICALC/125 file needs to be examined, though, in order to construct files that are readable by VISICALC/125.

VISICALC/125 provides two separate file formats for storing a worksheet. The first format is known as DATA INTERCHANGE FORMAT (DIF) and is described in the VISICALC/125 Manual. The second format saves the worksheet as though it were a series of keyboard inputs. For each cell defined in the worksheet, VISICALC/125 stores the keyboard command that would be necessary to define that cell. For example, if the cell A3 were the label "XYZ", VISICALC/125 would save the line: ">A3:"XYZ"" in the file. The ">" means: "GOTO" a cell. (Refer to the GOTO function in the VISICALC/125 Manual for more information.) The colon indicates the end of the coordinate. "XYZ" is the label for the cell.

The format of the VISICALC/125 data is important to know if you want to create a program which takes raw data and produces a file that can be used with VISICALC/125. For example, if you created such a program on the HP 125 you could:

1. extract data from an HP 3000 IMAGE data base and download the data to the HP 125 by using the QUERY feature of LINK/125

2. run your local program to create a file readable by VISICALC/125 using the data

3. use the file with VISICALC/125.

BASIC/125 Files

Files created with BASIC/125 are unusual in two ways. First, BASIC/125 files are not normally stored as ASCII files. They are stored as binary files. Second, BASIC/125 allows a program statement to be spread over several physical lines by using a CNTRL/J (LF). The control character is stored in an ASCII file as <LF><CR> and will be interpreted by LINK/125 the same as the character sequence <CR><LF>. That is, each physical line in the BASIC/125 file is treated like a logical line.

The first peculiarity listed above can be overcome quite easily. BASIC/125 has a special SAVE option that stores a program as an ASCII file. This option is invoked by adding ",A" to the file name when it is saved. By using this option, you can create ASCII BASIC/125 files that can be transferred to a host computer using LINK/125. The second peculiarity listed above can only be overcome in one way: by avoiding the use of multi-line statements in your program.

GRAPHICS/125 Files

Data files created for use with the LINEAR CHARTS program in GRAPHICS/125 can be transferred to a host computer and back again without any difficulty. This is true because all of the data in a data file is stored as ASCII strings (including the numeric data).

Menu files (files that end with .PIE, .BAR, .LIN) on the other hand, cannot be used with GRAPHICS/125 after they have been transferred to a host computer unless there is some special preparation. All menu files have a null character (ASCII 0) as the first character of the file. GRAPHICS/125 uses the null character to verify that the file is a GRAPHICS/125 menu. Unfortunately, the null character is lost when the menu file is transferred to a host computer. Thus, the menu file will not be recognized as a menu file when the file is transferred back to the HP 125. To overcome this difficulty, you could write a program to append a null character to the beginning of a menu file.

A General Purpose Solution

If you are planning to use your host computer as a central repository for HP 125 files, you will probably want a general purpose solution to the file format problems presented above. One solution would be to translate the local files to a hexadecimal format before transferring them to the host computer.

The simplest translation would be to convert each byte of data into a pair of hexadecimal characters. (Hexadecimal characters include the numbers 1 through 9 and the letters A through F.) Once the files are transferred back to the HP 125, they could be translated to their original format.

With this approach, all types of files can be transferred to a host computer and back again without difficulty.

WHEN THINGS GO WRONG

This appendix provides information on what to do when "something goes wrong" while you are running LINK/125. The appendix can help you determine if you have made an error, or if there has been a malfunction in your system. The appendix is divided into two sections. The first section describes the error and warning messages that may appear on the screen while you are using LINK/125. The second section describes what to do if a file transfer operation is prematurely stopped and LINK/125 does not exit from the HP 3000 FCOPY program.

Error and Warning Messages

You may see an error or warning message displayed on the screen while you are using LINK/125. The message does not mean that you have broken your HP 125 or destroyed the LINK/125 program. In most cases, the message will tell you what you need to do in order to continue using LINK/125.

Message	What it Means
CLOSE OF LOCAL FILE 'X' FAILED	Unable to close a local file. Check that there is adequate disc space. Also check that the correct disc is in the disc drive.
DISC DRIVE 'X' IS READ ONLY	Check that the correct disc is in the disc drive. Check that the write protect tag is off (for a 5" disc) or on (for an 8" disc).
DISC DRIVE 'X' NOT AVAILABLE	Check that a disc is in the disc drive. Also check that the disc is connected.
HOST FILE EXISTS. IT WILL BE OVERWRITTEN	This message is displayed when writing to a host file that already exists. The file is not purged until you press the START function key.
HOST FILE IS UNDEFINED	This message is displayed when you attempt to start a file transfer without providing the host file name.
HOST QUERY ROUTINE NOT AVAILABLE	Check that you are communicating with the operating system level of your host computer. (On the HP 3000 the MPE colon prompt will be displayed.) You should not be inside a particular program on your host computer.
HOST FILE TOO SMALL	The number entered in the "Maximum number of records:" field was too small. Enter a larger number.
HOST FILE TRANSFER ROUTINE NOT AVAILABLE	Check that you are communicating with the operating system level of your host computer. (On the HP 3000 the MPE colon prompt will be displayed.) You should not be inside a particular program on your host computer.
HOST FILE 'X' DOES NOT EXIST	Check that the host file exists. (On the HP 3000 use the LISTF command.) Also check that you are communicating with the operating system level of your host computer. (On the HP 3000, the colon prompt will be displayed.)

HOST FILE 'X' HAS THE WRONG FILE TYPE	Check that your host file is an ASCII file. LINK/125 can only be used to transfer ASCII files.
HPIB PRINTER ERROR	Some error was encountered while accessing the HPIB printer.
INPUT STRING IS TOO LONG 'X'	You have typed in too many characters in response to a question asked by LINK/125.
INTERNAL PRINTER ERROR	Some error was encountered while accessing the internal printer.
INVALID COMMAND	Check that the command file does not have any invalid special commands. (A special command is a command beginning with "&".)
INVALID MODE NUMBER 'X'	Check that the number you have entered for the data base "Mode:" is from 1 to 8, inclusive.
INVALID PARAMETER	Check that the parameters for special commands in your command file are correct. (A special command is a command beginning with "&".)
INVALID PASSWORD	Check that the password you have entered for the data base is correct.
INVALID REPLY 'X'. MUST BE YES/NO	In response to a question asked by LINK/125 you must answer with "yes", "no", "y", or "n".
LINK/125 TERMINATED ABNORMALLY	This message occurs when the CP/M operating system fails and you need to reload the operating system and LINK/125. You may also need to abort the FCOPY program on the HP 3000.
LOCAL FILE EXISTS. IT WILL BE OVERWRITTEN	This message is displayed when writing to a file that already exists. The file is not purged until you press the START function key.
LOCAL FILE IS UNDEFINED	This message is displayed when you attempt to start a file transfer without providing a local file name.

LOCAL FILE 'X' DOES NOT EXIST	Check that the local file exists. If necessary, exit from LINK/125 and use the DIR command in CP/M.
LOCAL FILE 'X' IS ALREADY IN USE	This message is displayed when you attempt to transfer an active logging file. Disable logging before trying to transfer the file.
LOCAL FILE 'X' IS READ ONLY	This message occurs when you try to write to a local file that has been given "read only" status.
NO MORE SPACE ON DRIVE 'X'	The disc in drive 'X' is full.
NO RECORDS TRANSFERRED. PROBABLE ERROR	This message can be caused by a variety of problems on your host computer. Check that you are communicating with the operating system level of your host computer. (On the HP 3000 the MPE colon prompt will be displayed.) If you are using the HP 3000, also check that your TERM TYPE is 10. (Refer to the "MPE Commands Reference Manual" for more information on TERM TYPE.)
NO XEQ FILE SPECIFIED	Check that you have filled in the name of a QUERY XEQ file in the Query Menu.
NONEXISTENT DATA BASE	Check that the name given in the "Data base:" field is actually a data base. On the HP 3000, you may use the LISTF,2 command to check that the file type is "FB".
NONEXISTENT XEQ FILE	Check that the XEQ file exists. (On the HP 3000, use the LISTF command.)
NUMBER OF RECORDS MUST BE BETWEEN 1 AND 8,388,608	You have specified a number too large in the "Maximum number of records:" field. The HP 3000 will only accept numbers up to 8,388,608.
OPEN OF LOCAL FILE 'X' FAILED	The CP/M operating system cannot open the file on your disc.
PORT2 PRINTER ERROR	Some error was encountered while accessing the printer on Port 2.

PROGRAM ERROR: INTERNAL PARAMETERS INCONSISTENT	This message indicates a problem in LINK/125. It should not occur during normal use of LINK/125.
PURGE OF HOST FILE 'X' FAILED	LINK/125 has been unable to purge a host file. Check that the security system on your host computer does not prevent you from gaining access to the file.
PURGE OF LOCAL FILE 'X' FAILED	LINK/125 has been unable to purge a local file. Check that the correct disc is in the disc drive.
READ ERROR FOR LOCAL FILE 'X'	The CP/M operating system cannot read the file on your disc.
RECORD SIZE MUST BE BETWEEN 1 AND 256	You have specified a number too large in the "Record size:" field. The HP 3000 FCOPY program will only accept numbers from 1 to 256.
THE RECORDS OF FILE 'X' ARE TOO LARGE	You should not attempt to transfer a host file with record sizes greater than 256 characters.
UNABLE TO REOPEN LOGGING FILE	LINK/125 cannot append data to a previously used logging file. Check that there is space available on your disc.
UNABLE TO SAVE HOST FILE 'X'	LINK/125 has been unable to save a file on your host computer. Check that the security system on your host computer does not prevent you from saving a file.
UNFORMATTED DISC ON DRIVE 'X'	Your discs must be formatted with the HP 125 FORMAT utility before they can be used with LINK/125. (See the "Getting Started with your HP 125" manual for more information on disc formatting.)

'X' IS AN INVALID HOST FILE REFERENCE	Check that the host file name you have entered is valid. The file name must be entered in the form: filename/password.groupname.accountname unless syntax checking has been disabled by the &SYNTAX command. (Refer to Chapter 4 for more information on the &SYNTAX command and command files.)
'X' IS AN INVALID LOCAL FILE REFERENCE	Check that the local file name you have entered is valid. The file name must be entered in the form: discid:filename.filetype
'X' IS AN INVALID NUMBER	Numbers typed in response to LINK/125 questions should not contain "signs" (+ or -) or decimal points. All numbers should be unsigned integers.

Recovering from the Premature Termination of a File Transfer

This section describes what to do if a file transfer is prematurely aborted and LINK/125 does not exit properly from the HP 3000 FCOPY program.

FCOPY will cause your HP 125 to behave strangely if the FCOPY program is not exited. When the FCOPY program is first started, the MPE command SETMSG OFF is issued to disable messages from appearing on the screen. While FCOPY is running:

1. the HP 3000 changes the communication to "half-duplex" and sends the "ESC ;" prompt

2. special escape sequences are sent to the HP 125.

In order to exit from the FCOPY program and resume normal operation, you need to do the following:

1. Press the BREAK key. (This stops the FCOPY program.)

2. Type: ABORT and then press the RETURN key. (This aborts the FCOPY program.)

3. Press the ESC key and then type a colon. (This re-establishes full duplex operation.)

4. Type: SETMSG ON and then press the RETURN key. (This allows you to display HP 3000 messages on the screen.)

Index

A

Accessing
  Command file prompt.....4-3
  Help data.....1-13
  Logging function keys....6-2
  Query menu.....5-2
  Transfer from host menu.....3-1
  Transfer to host menu....2-1
Application installation mode.....1-3
Asterisk field.....A-8

B

BASIC/125 Files.....C-4
BaudRate field.....A-7

C

Capslock field.....A-5
Clearing the display.....1-14/1-15
Click field.....A-5
COMMAND.LNK.....1-9
Command file function key.....1-12
Command files.....4-1/4-7
Commands
  Typing in on main menu.....1-12/1-13
Configuration menu.....A-2
  Change a selection...A-3/A-4
  Data comm.....A-7/A-9
  Display.....A-2
  Op sys general list device.....A-10
  Terminal.....A-4
CONFIRM STOP function key.....2-9,3-7,4-4,5-12
CONTINUE function key.....4-4,5-12
CONTINUE TRANSFER function key.....2-9,3-7
Creating command files.....4-2

D

Data base field.....5-4,5-6
Destination file information..2-6/2-7,3-5/3-6
Display field.....A-10

E

Enhancement field.....A-6
Error messages.....D-1/D-6
Executing command files.....4-4
EXIT LINK/125 function key.....1-12

F

FCOPY Simulation.....B-5/B-16
File equates.....2-6,3-4
File transfer times.....2-5
File Transfers
  From HP 3000.....3-1/3-7
  To HP 3000.....2-1/2-10
  Using Command files..B-3/B-5
  Using Logging.....B-2/B-3
  With non-HP 3000....B-1/B-16
Filling in
  Query menu.....5-5
  Transfer from Host menu.....3-4
  Transfer to Host menu.....2-4
FrameRate field.....A-5
Function keys
  command file.....1-12
  CONFIRM STOP.....2-9,3-7,4-4,5-12
  CONTINUE.....4-4,5-12
  CONTINUE TRANSFER....2-9,3-7
  EXIT LINK/125.....1-12
  help.....1-12
  host rec size.....2-3,2-7
  HPIB PRINTER.....6-4/6-5
  INTERNAL PRINTER.....6-3/6-5
  LOCAL FILE.....6-4/6-7

LOGGING.....6-4/6-7
logging options.....1-12
main menu....2-3,3-3,5-3,6-4
num of host
recs.....2-3,2-7/2-8
PORT2 PRINTER.....6-4/6-5
query menu.....1-12
RESTORE MENU.....5-13
select out
dest.....5-3,5-8/5-11
START OVER...2-3,2-8,3-3,3-6
5-3,5-10
START QUERY.....5-3,5-11
START TRANSFER...2-3,2-9,3-3
3-6
STOP.....4-4,5-12
STOP TRANSFER.....2-9,3-7
TIME OUT/EXIT...2-9/2-10,3-7
transfer from host.....1-12
transfer to host.....1-12

G

GRAPHICS/125 Files.....C-4

H

Handshake
configuration.....A-15/A-16
Help data.....1-13/1-14
Help function key.....1-12
Hndsk field.....A-8
Host destination file
name field.....2-4
host rec size function
key.....2-3
Host source file name
field.....3-3
HP 3000 XEQ file
field.....5-4/5-5
HP3000 FILE function
key.....5-8/5-10
HP3000 PRINTER function
key.....5-8/5-9
HPIB PRINTER function
key.....6-4/6-5
HPIB field.....A-10

I

Installing LINK/125.....1-2
INTERNAL PRINTER
function key.....6-3/6-5
IntPtr field.....A-10

L

LINK/125
Installation.....1-2
Running.....1-6
Local destination file
name field.....3-3
Local Echo field.....A-4
LOCAL FILE function
key.....6-4/6-7
local file function
key.....5-8/5-9
Local source file name
field.....2-4
Local commands
&BREAK.....4-6
&SYNTAX ON/OFF.....4-6
&TERMINATOR.....4-6
Log-on.....1-7
Logging.....6-1/6-8
logging options function
key.....1-12
LOGGING OPTIONS function
key.....6-2
LOGGING function key...6-4,6-7

M

Main Menu.....1-10/1-13
main menu function key.....2-3
Maximum number of records
field.....2-4
Maximum number of records,
changing.....2-7
Menu fields
Query.....5-4
Transfer from host.....3-3
Transfer to host.....2-4
Mode field.....5-4,5-6/5-7
Multiple Devices, logging..6-7

N

num of host recs function key.....2-3
Number of characters field.....2-4
Number of records field....3-3

O

On drive field.....2-4,3-3
Output destination field.....5-4,5-8/5-10
Output destination, changing.....5-8/5-10

P

Parity field.....A-7
Password field.....5-4,5-6
Port 2 field.....A-10
PORT2 PRINTER function key.....6-4/6-5
Preparing the HP 125.....1-2
Printer, set up for logging.....6-2
PtrNulls field.....A-9

Q

Query menu.....5-1/5-13
Query menu fields.....5-4
query menu function key.....1-12,5-8

R

Record size, changing.....2-7
Record size field.....2-4,3-3
Recovery from file transfer abort.....D-6/D-7
RemoteTo field.....A-4
RESTORE MENU function key.....5-13
ReturnDef field.....A-5
Running LINK/125.....1-6

S

select out dest function key.....5-3,5-8/5-10
Source file information..2-4,2-5,3-4/3-5
SRRInvert field.....A-9
SRRXmit field.....A-9
Special commands.....4-5/4-6
START OVER function key.....2-3,2-8,3-3,3-6,5-3 5-10
START QUERY function key.....5-3,5-11
START TRANSFER function key.....2-3,2-9,3-3,3-6
StartCol field.....A-6
Starting the XEQ file.....5-11
Starting the transfer..2-9,3-6
STOP TRANSFER function key.....2-9,3-7
STOP function key.....4-4,5-12
Stopping command files.....4-4
Stopping the XEQ file.....5-12
Stopping the transfer..2-9,3-7
Strap Configuration..A-11/A-15
Straps field.....A-6,A-8

T

TERMINAL function key..5-8/5-9
TIME OUT/EXIT function key.....2-9/2-10,3-7,4-4/4-5 5-12/5-13
Transfer from host function key.....1-12
Transfer from host menu.....3-1/3-7
Transfer from host menu fields.....3-3
Transfer to host menu fields.....2-4
Transfer to host function key.....1-12
Transfer to host menu.....2-1/2-10

V

VISICALC/125 Files.....C-3

W

Warning messages.....D-1/D-6
Welcome Menu.....1-2/1-7
WORD/125 Files.....C-2/C-3

X

XEQ files.....5-1
XON/OFF field.....A-9