AppleWorks lets you **print** in several different ways. Besides printing to a printer, you can also print to a disk, to the screen, or to the clipboard. The first section of this chapter, "Methods of Printing", explains these various possibilities.

The second section of the chapter, "About Printers," tells you how to set up your printer with AppleWorks. The third section explains how to print formatted reports and documents.

Methods of Printing

AppleWorks can print formatted reports, files, and parts of files onto flexible disks or a ProFile. It also, of course, prints reports and documents on printers.

The different ways you can use AppleWorks to print, listed below, are shown in Figure 13-1.

- The Data Base, the Word Processor, and the Spreadsheet print to a printer.

- All three software applications print formatted files on a disk; these disk files can later be sent to a printer.

- All three software applications print text (ASCII) files.

- The Data Base and the Spreadsheet print formatted reports on the clipboard for use in Word Processor documents.

- The Data Base and the Spreadsheet print DIF files.

- The Data Base prints formatted reports on the screen.

- You can always print a copy of the display on a printer.

Figure 13-1. *Different Ways AppleWorks Prints*

Figure 13-1. *Different Ways AppleWorks Prints*
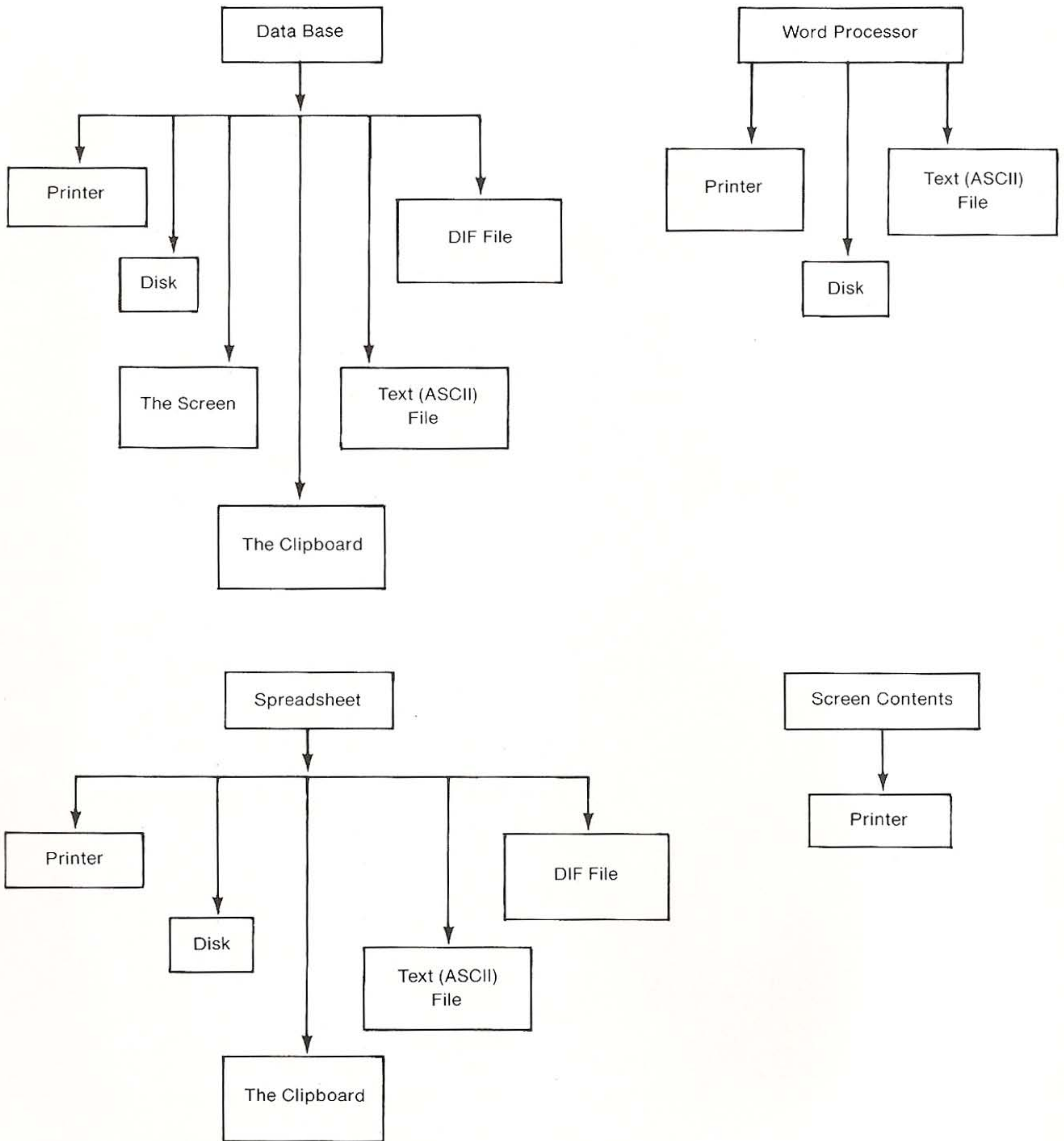
Printing to a Printer

When you print a Data Base report, a Word Processor document, or a Spreadsheet report to a printer, you first format the report or document using the features available in the application you're using. You also set the printer options to communicate the right information to the printer—margins, spacing, and so forth. When you print, you specify the printer you want to print to.

Printing to Disk

Sometimes you want to delay printing a report or document. Perhaps you want to use a telecommunications program to send the file to someone who will then print it. Or perhaps you are creating a file in one place and the printer you'll use is in another location.

Instead of making a hard copy on a printer, you can print to a file on a disk. When the report or document is printed as a file on the disk, it gets all the correct formatting and printer codes just as if it were being printed on the printer, but the file's structure changes so it is no longer an AppleWorks file.

To make use of the printing to disk capability, you must add a printer, following instructions in "Adding a Printer," and **assign it to disk** when you add it. The printer you add should be the same kind you are going to print with ultimately, so the document or report will have the proper printing codes. Then, when you print to disk, you choose the same printer and supply a pathname for the file you are printing. (When you print the report on a disk, the report becomes a file, so you must assign it a filename.)

You must still save your Desktop file as an AppleWorks file on disk after you follow the procedures for printing to disk.

Printing to a Text (ASCII) File

You can print your Data Base report, your Word Processor document, or your Spreadsheet report into a text (ASCII) file on disk. Then you can use the text file as input to other programs.

Text files **do not contain** special printing codes and printer options. But

- Word Processor documents you print to a text file contain the same carriage returns as the document.

- Data Base reports you print to a text file have carriage returns following each entry in the report.

- Spreadsheet reports printed to a text file have carriage returns following each cell.

Text files that you print from the Spreadsheet can be used as a source for Data Base files.

When you print a text file, the report becomes a file, so you must assign it a filename. You must still save your Desktop file as an AppleWorks file on disk after you print to a text file.

Printing to the Clipboard

After you format a Data Base or Spreadsheet report, you can print it to the clipboard. Then you can move or copy it into a Word Processor document.

Printing to a DIF File

DIF files save data in a format to be used by other programs. You can print (or **save**) Data Base and Spreadsheet reports as DIF files on disk for input to other programs. DIF files you print from the Spreadsheet can be used as a source for Data Base files, and vice versa.

When you print to a DIF file, the report becomes a file, so you must assign it a filename. You must still save your Desktop file as an AppleWorks file on disk after you print it to a DIF file.

Printing to the Screen

You can check your Data Base reports before you print them by printing the reports to the screen first.

Printing a Hard Copy of the Display

Any time you need a hard copy of the screen display, press (Ǒ)-(H). The copy is printed on the printer designated for it.

About Printers

You can use almost any printer with AppleWorks. However, you need to provide the program with specific information about your printer.

Each printer works a little differently. The owner's manual for your printer provides the information that you need in order to set up your printer to work with AppleWorks.

AppleWorks is already set up to use certain printers. You can specify the information for other printers. AppleWorks allows you to have up to three printers on your own list of printers.

One of the situations in the following list probably applies to you:

1. **You have an Apple Dot Matrix Printer (DMP) and no other printer.** The Apple DMP is the **default printer**, that is, the printer AppleWorks chooses if you don't specify another. If you have an Apple DMP and no other, you need read no further in this chapter. You're set to print.

2. **You don't have an Apple DMP, but you have another printer on AppleWorks' list:**

   - Apple Daisy Wheel Printer (DWP)
   - Apple Silentype®
   - Apple Imagewriter
   - Epson MX Series
   - Epson MX Graftrax+
   - Epson RX Series
   - Epson FX Series
   - Qume Sprint 5
   - Qume Sprint 11

   If you have one of these printers, you'll have to remove the Apple DMP as AppleWorks' default printer and add the printer you have. And you'll specify your printer as the one where screen contents should print. See the following sections in this chapter: "Adding a Printer," "Removing a Printer," and "Changing the Display Printer."

3. **You have both an Apple DMP and one of the other printers on the list.** You'll need to tell AppleWorks about the other printer and make sure the printer specified for printing screen contents is the correct one. See the following sections in this chapter: "Adding a Printer" and "Changing the Display Printer."

4. **Your printer isn't on AppleWorks' list.** You can probably still use it with AppleWorks. See Appendix B, "Preparing AppleWorks for a Custom Printer".

Table 13-1 shows the features that are available for each printer listed in the Add a Printer menu.

Table 13-1. *Specifications for Printers on AppleWorks' List*

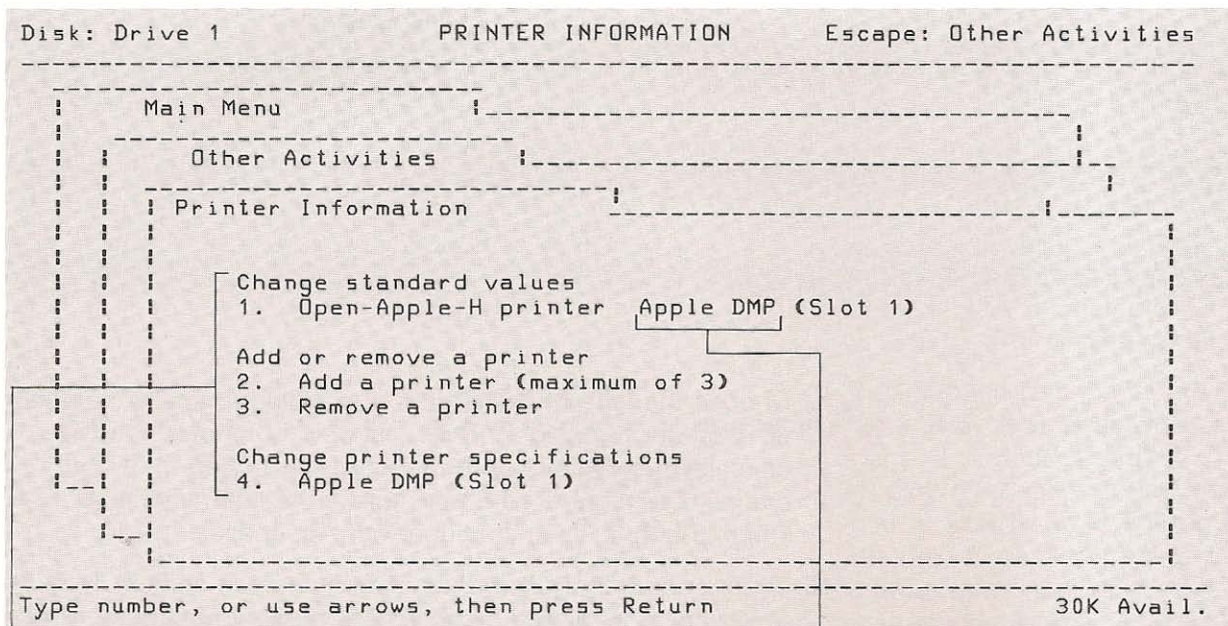| Printer	Bold	Superscript	Subscript	Underlining	6,8 Lines per inch	Proportional	Characters per inch
Apple Dot Matrix	Y	Y	Y	Y	Y	Y	4,5,6,7,8,9,10,12,15,17
Apple Imagewriter	Y	Y	Y	Y	Y	Y	4,5,6,7,8,9,10,12,15,17
Apple Daisy Wheel	Y	Y	Y	Y	Y	Y	4-13,15,17,20,24
Apple Silentype	N	N	N	N	N	N	10
Epson MX series	Y	N	N	Y	Y	N	5,8,10,17
Epson MX/Graftrax+	Y	Y	Y	Y	Y	N	5,8,10,17
Epson RX series	Y	Y	Y	Y	Y	N	5,6,8,10,12,17
Epson FX series	N	Y	Y	Y	Y	Y	5,6,8,10,12,17
Qume Sprint 5	N	Y	Y	Y	Y	Y	4-13,15,17,20,24
Qume Sprint 11	Y	Y	Y	Y	Y	Y	4-13,15,17,20,24

Chapter 13: Printers and Printing

Adding a Printer

You can add up to three printers to the list of printers you're using. Follow these steps to add a printer:

1. Choose Other Activities from the list of Main Menu options.

2. Choose Specify information about your printer(s).

   AppleWorks presents the Printer Information display, which is illustrated in Figure 13-2. The display in Figure 13-2 is for a new AppleWorks system: it has an Apple DMP as its default printer. No other printers are specified.

Figure 13-2. *Printer Information Display*

```
Disk: Drive 1              PRINTER INFORMATION        Escape: Other Activities
-----------------------------------------------------------------------------
-------------------------------
!      Main Menu            !--------------------------------------------
!                           !                                           !
!  !     Other Activities   !--------------------------------------------!--
!  !  ------------------------------!                                    !
!  !  ! Printer Information        !------------------------------!------
!  !  !                                                                 !
!  !  !   ┌ Change standard values                                      !
!  !  !   │ 1.   Open-Apple-H printer  Apple DMP (Slot 1)               !
!  !  !   │                               └─┐                           !
!  !  !   │ Add or remove a printer         │                          !
!  !__!   │ 2.   Add a printer (maximum of 3)│                         !
!  !  !   │ 3.   Remove a printer            │                         !
!  !  !   │                                  │                         !
!  !  !   │ Change printer specifications    │                         !
!__!  !   └ 4.   Apple DMP (Slot 1)          │                         !
   !  !                                      │                         !
   !__!                                      │                         !
!--------------------------------------------│-------------------------
Type number, or use arrows, then press Return│          30K Avail.
```
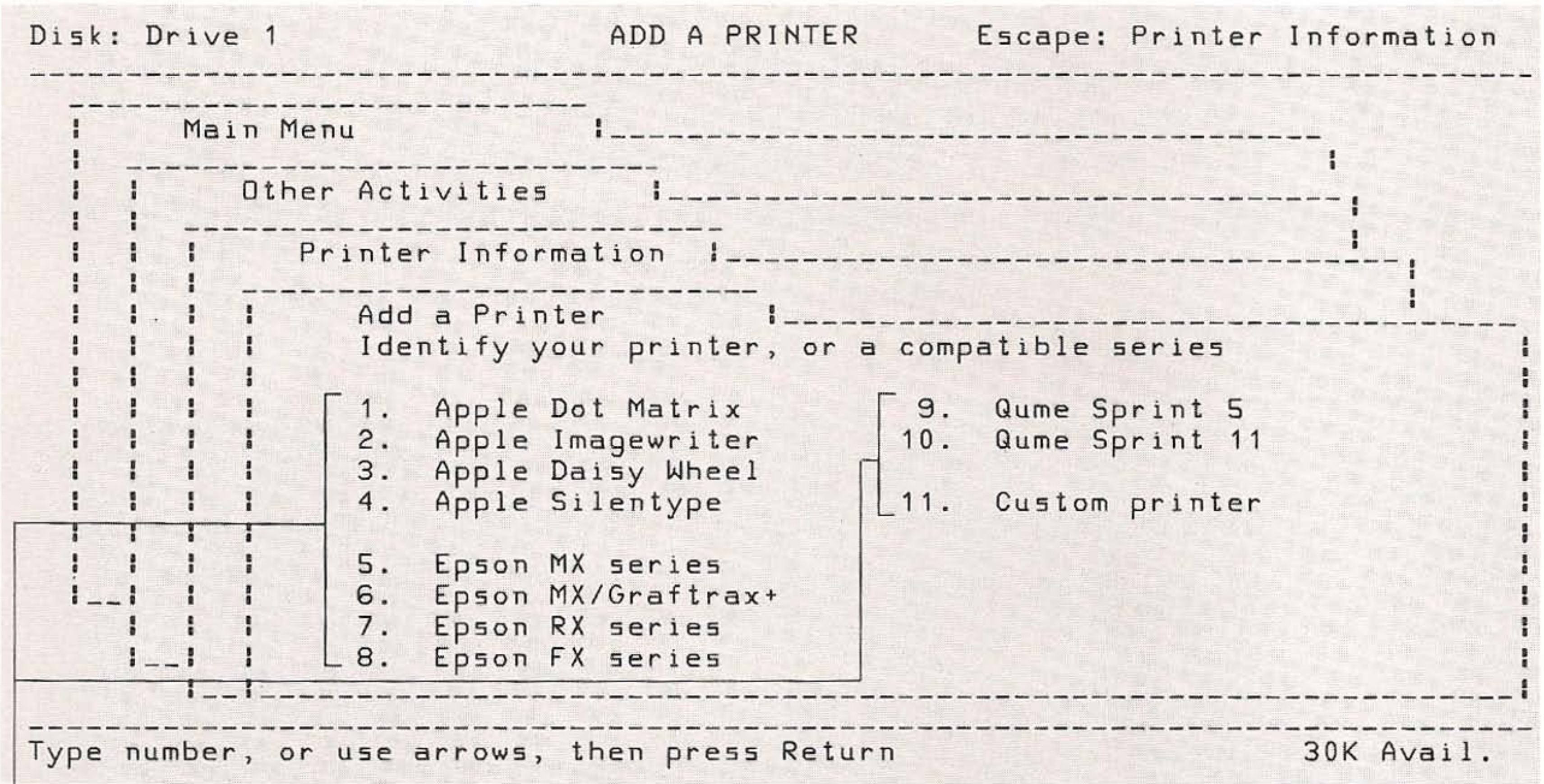
The numbered items represent your options.   Default printer.

3. Choose Add a printer (maximum of 3).

AppleWorks presents the Add a Printer display, which is illustrated in Figure 13-3.

Figure 13-3. Add a Printer Display

```
Disk: Drive 1                    ADD A PRINTER         Escape: Printer Information
-----------------------------------------------------------------------------------
    --------------------------------
    :        Main Menu             :-----------------------------------------------
    :                              :                                              :
    :   --------------------------------                                          :
    : :        Other Activities      :--------------------------------------------:
    : :                              :                                           :
    : :   --------------------------------                                       :
    : : :       Printer Information    :-----------------------------------------:
    : : :                              :                                        :
    : : :   --------------------------------                                    :
    : : : :        Add a Printer          :---------------------------------------
    : : : :     Identify your printer, or a compatible series                   :
    : : : :                                                                     :
    : : : :      1.   Apple Dot Matrix      ┌  9.   Qume Sprint 5                :
    : : : :      2.   Apple Imagewriter     │ 10.   Qume Sprint 11               :
    : : : :      3.   Apple Daisy Wheel     │                                   :
    : : : :      4.   Apple Silentype       └ 11.   Custom printer               :
    :_: : : :                                                                   :
    : : : :      5.   Epson MX series                                          :
    :__: : :     6.   Epson MX/Graftrax+                                       :
    : : :        7.   Epson RX series                                         :
    :__: :     └ 8.   Epson FX series                                         :
    :__:_____:
-----------------------------------------------------------------------------------
Type number, or use arrows, then press Return                       30K Avail.
```

Printers you can add

4. Choose the type of printer you are adding. If you are setting up a printer to assign to disk, choose the printer you will ultimately use when you print your report (step 6). If you choose Custom Printer, follow the instructions in steps 5 and 6. Then continue with Appendix B.

5. Type a name for your printer. The name can contain 15 or fewer characters, and it can be any name you choose. Press (RETURN) after you type the printer's name.

6. Choose the means of access for your printer.

If you have one printer connected to your Apple IIc, choose option 1 (slot 1 is equivalent to port 1). If you have two printers connected, slot 2 (port 2) is the alternate connector.

Chapter 13: Printers and Printing

7. If necessary, change specifications listed in Table 13-2. (If you don't change any specifications, your printer will print normally.) To change one of the first three specifications, type the number of the option and choose `Yes` by typing `Y` in response to `Change the value?`. AppleWorks automatically changes the value to its opposite.

To change specification 4, type 4. Then type the new value for platen width. Then press (RETURN).

Table 13-2. *Generic Specifications*

Specification	Explanation
`1. Needs line feed after each` (RETURN).	Some printers automatically generate a line feed after every carriage return; these printers do not need a line feed from the program. Other printers require that the program generate the line feed. If your printer isn't spacing after each line, or if it is double spacing when it shouldn't, try changing this value.
`2. Accepts top-of-page commands.`	Top-of-page commands are *form feed* commands. After a page of a report is printed, AppleWorks needs to instruct your printer to go to the top of the next page. Most printers can accept a special instruction called a top-of-page or form feed command that automatically causes this to happen. Other printers, including the Apple Silentype, do not have this capability and must print a number of blank lines to get to the next page.

Specification	Explanation
3. Stop at end of each page.	If you are printing on letterhead stationery or if you have a printer like the Silentype that uses nonperforated paper, you will want printing to stop at the end of each page so you can change paper or tear off the printed sheet.
4. Platen width.	The distance your printer's printhead travels, from left to right. The platen width you specify here must be as wide or wider than the one you specify for individual AppleWorks reports.

8. To return to the Printer Information display, press (ESC).

Removing a Printer

Here's how to remove a printer from the list of printers you are using:

1. Choose Other Activities from the list of Main Menu options.

2. Choose Specify information about your printer(s).

3. Choose Remove a printer.

4. Choose the printer you are removing.

The printer is automatically removed and you return to the Printer Information display.

Changing Printer Specifications

This is how to change specifications about your printer:

1. Choose Other Activities from the list of Main Menu options.

2. Choose Specify information about your printer(s).

3. Choose the printer you want to change specifications for.

4. Change the specifications:

   To change 1, 2, or 3, type the number of the specification and then choose Yes.

   To change 4, type 4 and press (RETURN). Type the new value and press (RETURN).

5. To return to the Printer Information display, press (ESC).

Changing the Display Printer

You may want to change the printer where the display prints (when you use the (⌘)-(H) command):

1. Choose Other Activities from the list of Main Menu options.

2. Choose Specify information about your printer(s).

3. Type 1 and press (RETURN).

4. Choose the printer where you want to print the display. You return to the Printer Information display.

Printing Formatted Reports and Documents

This section contains information you need to print Data Base reports, Word Processor documents, and Spreadsheet reports.

Printing a Data Base Report

After you format a Data Base report and set its printer options, you can print it. This is how to print the Data Base report:

1. Make sure you are at the Report Format display.

2. Press (ᯤ)-(P).

3. Choose the device where you want to print the report.

4. If your report has a header, AppleWorks asks you either to type a new report date and press (RETURN), or to accept the default report date by pressing (RETURN). The default report date is the last date you typed for printing a report.

5. If you chose a printer, AppleWorks asks the number of copies you want. Type the number and press (RETURN).

Pathnames are discussed in this manual in Chapter 1 and in detail in the *System Utilities Guide* (Apple IIc) and the *ProDOS User's Manual* (Apple IIe).

6. If you indicate that you want to print to a text (ASCII) file or a DIF file, or that you want to print to disk, AppleWorks asks you for the pathname for the file you are printing. Type the pathname and press (RETURN).

During printing, you can press (ESC) to stop printing and return to Review/Add/Change. Or you can press (SPACE) once to stop printing and once again to restart it.

Printing a Word Processor Document

This section tells how to print a Word Processor document. It also discusses special printer options that cause the printer to pause during printing.

Requesting Printing

This is how to request printing:

1. Press (ᯤ)-(P).

2. Choose `Beginning` if you want to print the document from the beginning, `This page` if you want to print from the beginning of the page the cursor is on, or `Cursor position` if you want to print from the cursor position.

3. Choose the printer you want to use.

During printing, you can press (ESC) to stop printing and return to Review/Add/Change. Or you can press (SPACE) once to stop printing and once again to restart it.

AppleWorks Tip

To print a segment of a document, print from the cursor position to a place you've marked with the printer option `Pause Here` (PH). When the printer pauses, press (ESC).

This is a good way to print the name and address segment of a letter onto an envelope.

Pausing After Each Page

If you want to put in a new piece of paper for each page you print, cause the printer to pause after printing each page:

1. Put the cursor at the place in the document where you want the printer to start pausing for each new page. If you want to pause after each page throughout the document, put the cursor at the beginning of the document.

2. Press (Ć)-(O).

3. Type PE and press (RETURN).

4. Press (ESC).

Finish the document and then print it.

Pausing in a Specific Place

To ask for a pause in a specific place:

1. Put the cursor in the place in the document where you want the printer to pause.

2. Press (Ć)-(O).

3. Type PH and press (RETURN).

4. Press (ESC).

Finish the document and then print it.

Printing a Spreadsheet Report

After you determine how much of the spreadsheet you are going to print and set printer options for a Spreadsheet report, you can print it:

1. Make sure you are at Review/Add/Change.

2. If you're not printing the whole spreadsheet, put the cursor in a cell that marks a corner of the area you are going to print.

3. Press (⌘)-(P).

4. Choose All, Rows, Columns, or Block. *All* refers to all information, not all cells. However, AppleWorks will only print as much information on each row as can fit on your printer.

5. If you chose Rows, Columns, or Block, move the cursor to highlight the area you want to print. Then press (RETURN).

6. Check the width of your report to make sure it's not too wide for your printer's **platen**. If it is, press (ESC) and go back and replan your report, or try more characters per inch in printer options ((⌘)-(O)). Otherwise, choose the device where you want to print the report.

7. If you chose a printer, AppleWorks asks the number of copies you want. Type the number and press (RETURN).

8. If your report has a header, AppleWorks asks you either to type a new report date and press (RETURN), or to accept the default report date by pressing (RETURN). The default report date is the last date you typed for printing a report.

Pathnames are discussed in this manual in Chapter 1 and in detail in the *System Utilities Guide* (Apple IIc) and *ProDOS User's Manual* (Apple IIe).

9. If you indicate you want to print to a text (ASCII) file or a DIF file, or you choose the printer that you have assigned to print to disk, AppleWorks asks you for the pathname for the file you are printing. Type the pathname and press (RETURN).

During printing, you can press (ESC) to stop printing and return to Review/Add/Change. Or you can press (SPACE) once to stop printing and then once again to restart it.

Appendixes

Using AppleWorks With a ProFile

If you have a ProFile storage device, you will find it very useful to install the AppleWorks program on it. Then you can run AppleWorks much more quickly. The steps you follow to begin using a ProFile with AppleWorks are simple:

- Make a subdirectory for AppleWorks files

- Copy startup and program files into the subdirectory

- Copy ProDOS and BASIC.SYSTEM into your ProFile's root directory.

This appendix tells how. It also tells how to start up AppleWorks from a ProFile.

First make a subdirectory on the ProFile for the AppleWorks files. To do this:

1. Place the *ProDOS User's Disk* in drive 1 and start up your Apple IIe.

2. Then type F to choose the ProDOS Filer.

3. Type F again to select `File Commands`.

4. Then type M to make a directory.

5. When you see the prompt for the pathname, type

   `/profile/appleworks`

By the Way: If your ProFile has a volume name other than *profile*, you'll need to use its name as the first part of your pathname in step 5. To find out the volume name, select `Volume Commands` and `List Volumes` from the ProDOS Filer. The volume name is displayed next to the number of the slot that holds the ProFile interface card.

6. Press (ESC) after you see the message

Subdirectory made

You now have a subdirectory called *appleworks* on your ProFile.

The next step is to copy the files from the AppleWorks disks onto the ProFile. To do this:

1. Choose C to copy the files from your AppleWorks disks.

2. Put the AppleWorks *Startup* disk in drive 1 and type

/appleworks/=

to copy all of the files *from* this disk. Then press (RETURN).

3. Now type

/profile/appleworks/=

to copy these files *to* the ProFile. Press (RETURN).

4. When all of the files are copied, remove the *Startup* disk and replace it with the *Program* disk. Using this disk, repeat steps 2 and 3.

Appendix A: Using AppleWorks With a ProFile

You now have all the AppleWorks startup and program files on your ProFile. You'll need to transfer two other files to the root directory of your ProFile: BASIC.SYSTEM from the *ProDOS User's Disk* and PRODOS from the AppleWorks subdirectory. To do this:

1. Select the *Copy Files* option, if you're not already there.

2. Type

`/profile/appleworks/prodos`

to copy PRODOS from the AppleWorks subdirectory.

3. Type

`/profile/prodos`

to copy PRODOS to the ProFile root directory.

4. Remove the *Program* disk from drive 1 and replace it with the *ProDOS User's Disk*.

5. Type

`/users.disk/basic.system`

to copy BASIC.SYSTEM from the disk.

6. Type

`/profile/basic.system`

to copy BASIC.SYSTEM to the ProFile root directory.

You can now run the AppleWorks program directly from the ProFile.

Here's how to start up AppleWorks from your ProFile:

1. Turn on the ProFile and wait for the red *ready* light on the front to stop blinking. With the *ProDOS User's Disk* in Drive 1, turn on your Apple IIe or, if the computer is already on, press (CONTROL)-(RESET).

2. Type B to enter BASIC. Then type PR#4 (or, instead of 5, the number of the slot where you have the ProFile interface card).

3. Then, to run the program, type

   ```
   -appleworks/aplworks.system
   ```

You'll then see the opening display for AppleWorks.

Preparing AppleWorks for a Custom Printer

If your printer is not listed on the Add a Printer menu, you should communicate information to AppleWorks about your printer. You tell AppleWorks how to:

- set different characters per inch

- set different lines per inch

- start and end boldface, subscripts, and superscripts

- underline.

IIc You have a fifth printer specification, serial interface settings. Communicating information to AppleWorks about them is included in this appendix, too.

Selecting a Custom Printer

To add your custom printer to the the list of printers available for AppleWorks, follow the normal procedure for adding a printer described in Chapter 13, "Printers and Printing." Here is a summary of these steps:
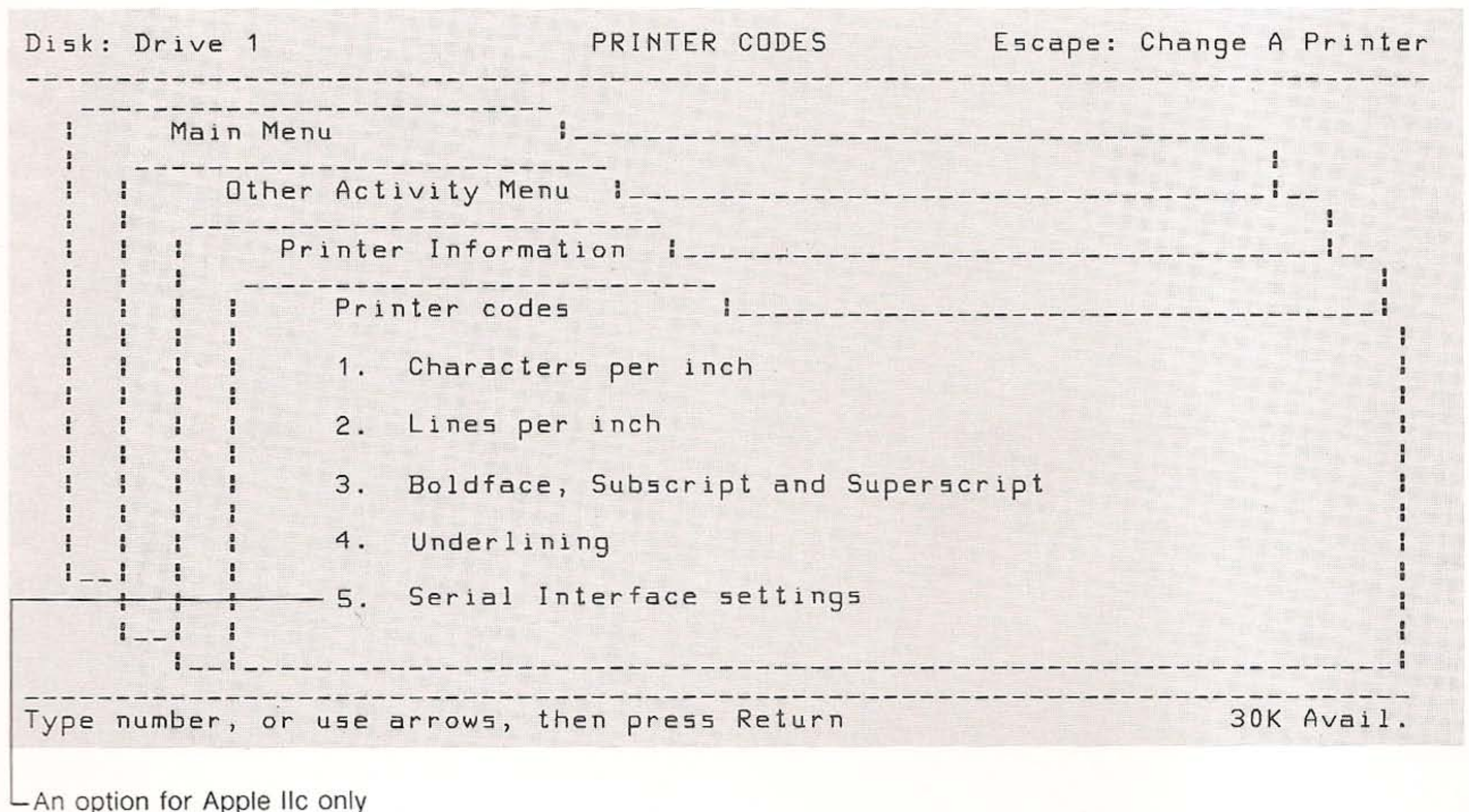
1. Choose option 5, Other Activity Menu, from the list of Main Menu options.

2. Choose option 7, Specify information about your printer(s).

3. Choose Add a printer (maximum of 3).

4. Choose Custom Printer from the list of printers available for AppleWorks. You can have only *one* custom printer. If you try to add another, you receive a warning message.

5. Type the name of the printer.

6. Choose the means of access for your printer, that is, the type of connection you have.

7. Change printer specifications 1 through 4, if necessary.

8. Choose option 5, Printer codes, to prepare AppleWorks for your printer.

Configuring Your Custom Printer

When you select the option Printer codes from the Printer Information menu, the menu shown in Figure B-1 appears.

Figure B-1. *Printer Codes Menu*

```
Disk: Drive 1                    PRINTER CODES            Escape: Change A Printer
---------------------------------------------------------------------------------
    -------------------------------
    !      Main Menu            !_____
    !                           !                                           !
    !    -------------------------                                          !
    !    !    Other Activity Menu  !_____!__
    !    !                         !                                  !  !
    !    !    -------------------------                               !
    !    !    !    Printer Information  !_____!__
    !    !    !                         !                            !  !
    !    !    !    -------------------------                         !
    !    !    !    !    Printer codes        !_____!
    !    !    !    !                         !                        !
    !    !    !    !    1.  Characters per inch                       !
    !    !    !    !                                                  !
    !    !    !    !    2.  Lines per inch                            !
    !    !    !    !                                                  !
    !    !    !    !    3.  Boldface, Subscript and Superscript       !
    !    !    !    !                                                  !
    !    !    !    !    4.  Underlining                               !
    !__!    !    !                                                    !
         !----!----!------ 5.  Serial Interface settings             !
         !__!    !                                                   !
            !__!_____!
---------------------------------------------------------------------------------
Type number, or use arrows, then press Return                      30K Avail.
```

└─An option for Apple IIc only

To select one of the options, type the number and press (RETURN) or use the arrow keys and press (RETURN).

Appendix B: Preparing AppleWorks for a Custom Printer

Characters Per Inch

When you select Characters per inch from the Printer codes menu, you type the keystrokes, or control codes, necessary for your printer to print with a different number of characters per inch.

1. Type the characters per inch, such as 15. You can print with from 4 to 24 characters per inch. If you previously typed codes for a specific characters per inch, that number is displayed on the screen with the message Is this OK?. Answer No to specify other codes, or Yes to accept the displayed codes.

2. Type the keystrokes, or control codes, required by your printer to print in the characters per inch you specified. You can find the codes you need in the manual that came with your printer.

▲ Warning
You can leave this menu only by typing a caret (^). If you press (ESC) to leave the menu, it is displayed as a code. If you make a mistake while you are using this screen, type ^ and the number of the characters per inch you are defining. Then answer No to the question Is this OK?.

3. Type ^ after you finish typing the codes.

4. Define more characters-per-inch codes or press (ESC) to return to the Printer codes menu.

The following rules apply to using different characters per inch:

- If you do not specify any characters per inch, AppleWorks displays and prints your text as if your printer were set to 10 characters per inch.

- Decimal values, like 16.5, are not allowed. Define the next lower whole number value. For example, if your printer can print 16.5 characters per inch, type the codes so they are displayed under 16 characters per inch.

- If you define a characters per inch that your printer can't do, your reports and documents are printed in the same characters per inch as whatever you printed last.