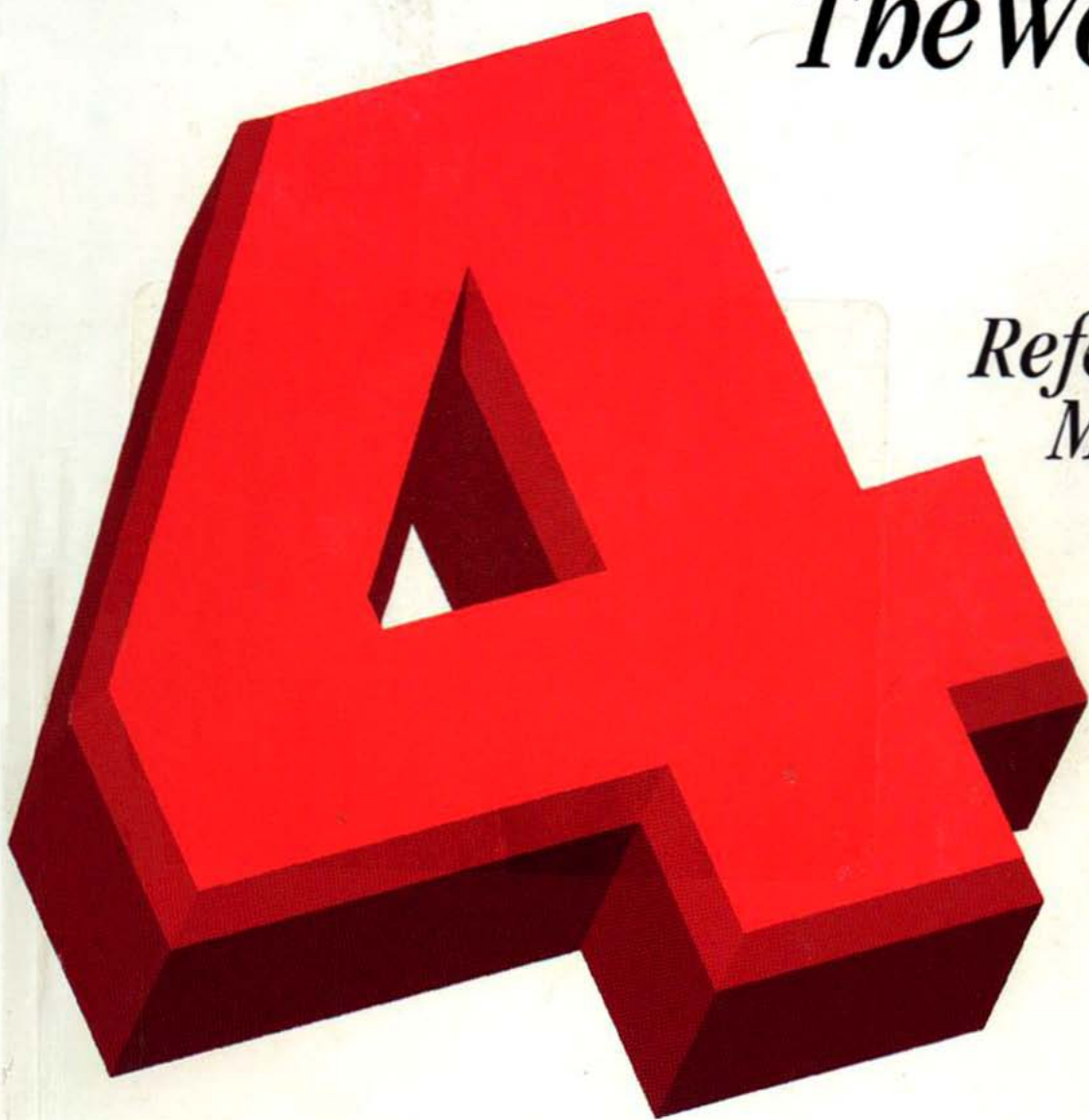


AppleWorks® 4

The Works

*Reference
Manual*



Quality Computers™

AppleWorks® Reference

for Version 4

AppleWorks is a powerful and easy-to-use word processing, spreadsheet, and database program. It is designed to help you create professional-looking documents, reports, and presentations. This reference guide provides a comprehensive overview of the software's features and functions, including detailed instructions on how to use the various tools and options available. Whether you are a beginner or an experienced user, this guide will help you get the most out of AppleWorks.

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About AppleWorks

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Chapter 1

Common Tasks and the Desktop

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Common Tasks and the Desktop

The AppleWorks® application lets you work with word processing, data base, and spreadsheet files at the same time because the Word Processor, Data Base, and Spreadsheet are all part of AppleWorks—that is, they are all *integrated*.

The Desktop is where you work with AppleWorks files. You can think of the Desktop as the hub of a wheel that has three spokes. To travel from one spoke to another (move information between the Data Base and the Word Processor, for example) you move through the hub, the Desktop.

The Desktop does the tasks that are common to all three modules of the program, including:

- adding and removing files from the Desktop
- saving files and working with files on the disk
- changing the way AppleWorks handles date and time formats
- setting up the printer you use with the program
- ◆ **Printer setup** AppleWorks comes pre-configured to work with an Apple ImageWriter I or ImageWriter II printer. If you have a different printer, see Appendix C, "Printer Configuration."

Starting AppleWorks

There are several ways to start AppleWorks—the easiest is to turn on the computer with your AppleWorks Startup disk in the drive. Step-by-step instructions appear in the AppleWorks Getting Started booklet.

- ◆ **Important** You should only work with backup copies of your AppleWorks program disks. Keep the originals in a safe place.
- ◆ **Clock users** If you have a built-in clock in your Apple II, AppleWorks reads the date and time from it. If you have no clock installed, AppleWorks asks for the date. You must have a clock to use AppleWorks' auto-save and screen blanking functions (see "Time-Based Options" in Appendix B, "Standard Settings.")
- ◆ **5.25" disk users** AppleWorks may from time to time ask you to place the specific disk it needs in the disk drive. These prompts will appear at the bottom of the screen. Insert the requested disk and press Return.

We strongly suggest that you give your backup copies of the AppleWorks disks the same names as the originals. (Most of the disks should be named AppleWorks, except for the Dictionary disk and the Extras disk.) *Do not* name any of your data disks APPLEWORKS.

Figure 1-1 shows AppleWorks' Main Menu. You'll see this Main Menu whenever you start AppleWorks.

Figure 1-1

Main Menu

1 DISK

Location of data disk
(you can change this).

2 MAIN MENU

Your current location in the
AppleWorks menu structure.

3 FILE CARD

Main Menu options or
commands—what you
can tell AppleWorks to do.

4 PROMPT

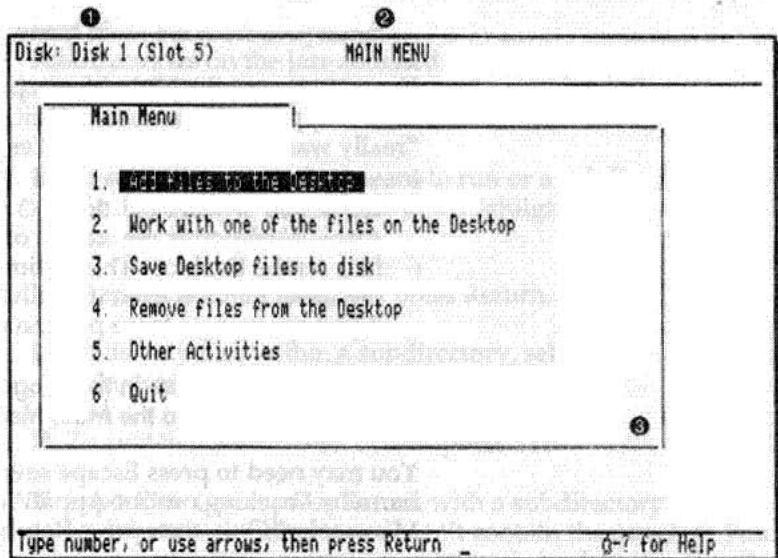
A suggestion on how to proceed.

5 CURSOR

Blinking underline.

6 HELP

Reminds you that you
can press ⌘-? for Help.



Quitting AppleWorks

- **Select Quit from the Main Menu, then press Return.**

If you are not at the Main Menu, press Escape one or more times until it appears. Then choose Quit. AppleWorks asks you if you “really want to do this.” Select Yes, then press Return to quit.

- ◆ **Quick quit** If you hold down ⌘ while pressing Return on Yes, AppleWorks quits regardless of whether you have any unsaved files on the Desktop. This option may be noticeably faster than the usual method even if you have no unsaved files, especially if you are using a large portion of the Desktop memory.

- **From anywhere else in the program, press Escape one or more times to go back to the Main Menu.**

You may need to press Escape several times, but you can't do any harm by “backing out” of AppleWorks this way. From the Main Menu select Quit, then press Return

- ◆ **To get to the Main Menu quickly** Press ⌘-Q (for QuickSwitch) to display the Desktop Index. Then press Escape to go immediately to the Main Menu.

A program selector allows you to run a new program by selecting it from a list, instead of having to type in its name and location.

A *program selector*, called Bird's Better Bye, is installed in the ProDOS file on your AppleWorks Startup disk. If you start your computer with the AppleWorks Startup disk, quitting AppleWorks activates the program selector and allows you to run another program. When you quit that program, you will return again to Bird's Better Bye. The program selector remains available until you turn off your computer or until you restart using a different startup disk.

If you have started your computer with a different disk than the AppleWorks Startup disk, when you quit AppleWorks, you return to whatever program was running when you started AppleWorks, or to the standard ProDOS quit screen. Refer to your ProDOS User's Manual for instructions on how to start a program from ProDOS.

Bird's Better Bye lists up to 16 of the available programs or subdirectories on the last-accessed disk. The program selector is not part of AppleWorks. You use it after you have quit AppleWorks.

- To select a program you want to run or a subdirectory you want to open, use the ↑ and ↓ keys to highlight the filename or subdirectory name.
- To run a selected program, press Return.
- To list any files within a subdirectory, select the subdirectory, then press Return.
- To switch between disk drives, press Tab.
- **Important** If you press Return with a subdirectory selected and find that the subdirectory doesn't contain the program you were looking for, press Escape to move back to the parent directory of the subdirectory. If you press Tab and see the message "I/O ERROR," you are probably looking at a drive which doesn't contain a disk. Press Tab again to switch to another drive.

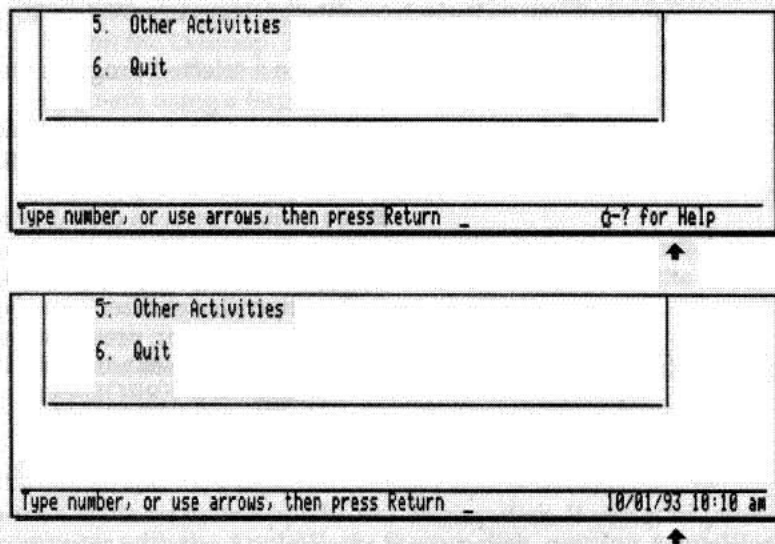
Getting Help

AppleWorks provides on-screen Help information for the Desktop, Word Processor, Data Base, and Spreadsheet. You can ask for help any time you see ⌘-? in the lower-right corner of the screen, as shown in Figure 1-2. (If you have a clock, you can ask for help any time you see the time and date display.)

Figure 1-2

Press ⌘-? for Help

You can press ⌘-? for Help whenever you see the ⌘-? message (or the current date and time) in the lower right corner of the screen.



How to Get Help

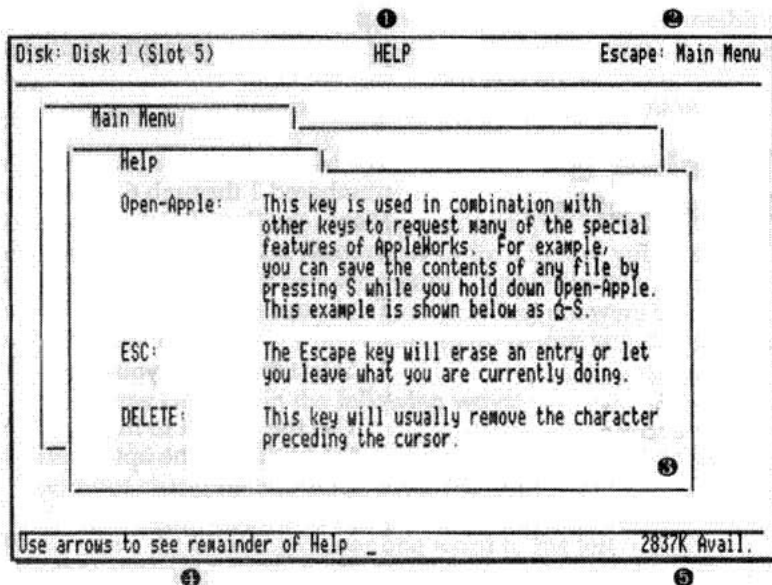
- Hold down the ⌘ key and simultaneously press "?" (the question mark key).

Do not press Shift for the question mark. AppleWorks shows a help screen as shown in Figure 1-3.

Figure 1-3

Help screen for the Desktop

- ① **HELP**
Title of this screen.
- ② **ESCAPE**
Where AppleWorks takes you if you press Escape (back to the Main Menu).
- ③ **FILE CARD**
The help information appears in this area.
- ④ **PROMPT**
Use \uparrow and \downarrow to read the Help.
- ⑤ **MEMORY**
Amount of memory available on the Desktop.



Selecting and Typing

AppleWorks is menu-driven. This means that you select the files you want to work with, and what you want to do with them, largely by making choices on menus or answering prompts.

Choosing a Menu Option

The Main Menu, for example, offers six menu options or choices numbered 1 through 6. Whenever AppleWorks displays the Main Menu, the first choice—"Add files to the Desktop"—is highlighted to show it is selected. Pressing Return chooses the selected option.

To choose a menu option:

1 Select the option you want by highlighting it.

Use the \uparrow or \downarrow to highlight the option, or type the number of the option. If the option is already highlighted, do nothing.

2 Press Return.

- If you type a number (1 through 6 for the Main Menu), AppleWorks highlights the selection for the number you type. That number remains on the AppleWorks prompt line. If you want to move the highlight to another choice, use the \uparrow \downarrow keys or delete the number already in the prompt line, then type another number. (See "Answering a Prompt" following.)

Answering a Prompt

AppleWorks may sometimes ask a question at the bottom of the screen, followed by two or more possible answers with one answer highlighted. For example, when you quit AppleWorks, AppleWorks asks if you "really want to do this? No Yes" with "No" highlighted. To choose the answer you want, do one of the following:

- If the answer you want is already highlighted, press Return.
- Press the \leftarrow or \rightarrow keys to highlight the answer you want, then press Return.
- Type the first letter of your answer.

AppleWorks automatically moves on. Do not press Return.

Typing an Answer

If AppleWorks asks you to type in an answer (usually, something like how many copies of a document you want to print), type the word or number at the keyboard. When you are satisfied with your answer, press Return. (See the section below if you want to change something you've typed.)

Changing Something You've Typed

If you're unhappy with something you've typed when answering an AppleWorks prompt, here's how to fix it before you press Return. Once you have pressed Return, AppleWorks accepts whatever you've typed as your answer. Most answers can be reversed or changed—it's just easier to do before you press Return.

1 Make any changes in the following ways:

- If you need to move the blinking cursor to the right or left without changing anything, press the ◀ or ▶ key.
- To move the blinking cursor one word to the left or right without changing anything, press ⌘-◀ or ⌘-▶.
- To erase the character to the left of the cursor, press Delete.
- To erase the character under the blinking cursor (and move all characters to the right of the cursor one place to the left), press ⌘-Delete.
- To get rid of the character under the blinking cursor and everything to the right of the cursor to the end of the line, press Control-Y or ⌘-Y. (Do not use the Shift key.)
- To insert characters, move the blinking underline cursor to the place where you want to insert characters, and type. (If the cursor is a solid rectangle, press ⌘-E first to switch to the blinking underline.) AppleWorks pushes any characters to the right of the cursor further to the right as you type.

Selecting and Typing

- To replace characters by writing over them, move the blinking solid rectangle cursor to the place you want and type. To display the replacement (solid rectangle) cursor, press ⌘-E. You can switch between the insert and replace cursors at any time in AppleWorks by pressing ⌘-E.
- 2 When you've finished your changes, press Return.

Desktop and Clipboard

AppleWorks supports three Desktops. Each Desktop can hold up to twelve files. You can switch from one Desktop to the next with the Tab key any time AppleWorks asks you to choose the file or files you want to work with. (When adding files to the Desktop from a disk, use ⌘-D to switch Desktops. Tab switches to the next disk in this instance.)

Use the three separate Desktops to work on a large number of files at once (for example, chapters in a book) or to simplify your work (keeping the most frequently used files on one Desktop and keeping supplemental files, such as glossaries, on a different Desktop). AppleWorks does not dictate how you use the three Desktops—you decide for yourself.

The Clipboard is a part of the Desktop too. It holds information you're transferring around AppleWorks—either within a file (from place to place in a word processing document, for instance) or between files (from a Data Base file to a Spreadsheet file).

AppleWorks has three separate clipboards—one for each of the programs in AppleWorks. To find out how to copy and move information using the Clipboard, see Chapter 3, "Word Processing Basics," Chapter 9, "Modifying a Data Base," and Chapter 13, "Building a Worksheet."

Whenever you move or copy information *to* the Clipboard, AppleWorks uses the Clipboard associated with the program you're using. For example, the Word Processor clipboard is used to hold information copied or moved from a word processor file.

When you move or copy information *from* the Clipboard, AppleWorks uses the last Clipboard something was moved to, regardless of which program you're using at the moment. If you move something to the Clipboard in the Data Base, then switch to a spreadsheet file and move information from the Clipboard to the file, AppleWorks takes the information from the Data Base clipboard even though you're in the Spreadsheet program.

You can also tell AppleWorks which Clipboard to get information from when moving or copying information by holding down the ⌘ key while choosing "From clipboard" after pressing ⌘-C or ⌘-M. AppleWorks will let you choose one of the three clipboards as the source of the move. This works in all three AppleWorks modules.

Desktop and Clipboard

- ◆ **Two routes to the Clipboard** AppleWorks provides two ways to place data on the Clipboard: you can copy (or move) data to the Clipboard, and you can print data to the Clipboard. When you print to the Clipboard, AppleWorks places formatted data on the Clipboard by replacing any Tab characters in your original data with a number of spaces, just as if the data was going to a printer. When you copy to the Clipboard, AppleWorks does not substitute spaces for tabs. These distinctions become important when you transfer Spreadsheet or Data Base information to the Word Processor.

AppleWorks also lets you edit the contents of the clipboard directly, just as if they were another file on the Desktop. For more information on this feature, see Appendix A, "Other Activities."

Chapter 2

AppleWorks' Main Menu

Figure 2-1 shows the
AppleWorks main menu.

Figure 2-1
AppleWorks main menu

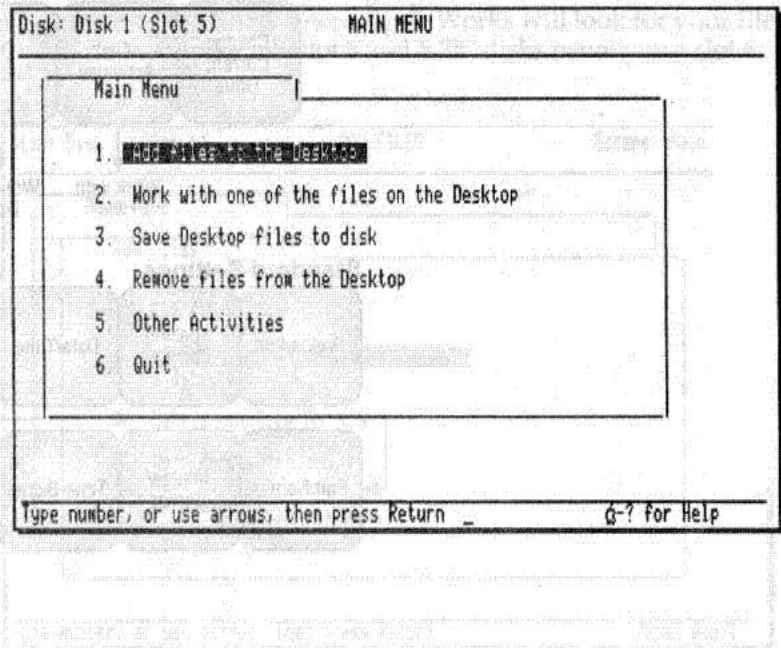


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AppleWorks' Main Menu

The Main Menu is the control panel for AppleWorks. It's the first thing you see after AppleWorks has loaded. Figure 2-1 shows the Main Menu as it appears on the screen. Figure 2-2 is a map showing the new choices that appear after choosing a particular menu option. For example, if you choose "Work with one of the files on the Desktop," AppleWorks presents you with a list of files to choose from. While Figure 2-2 may look complex at first glance, spend a few moments exploring your options on the screen and it will quickly become clear.

Figure 2-1
Main Menu



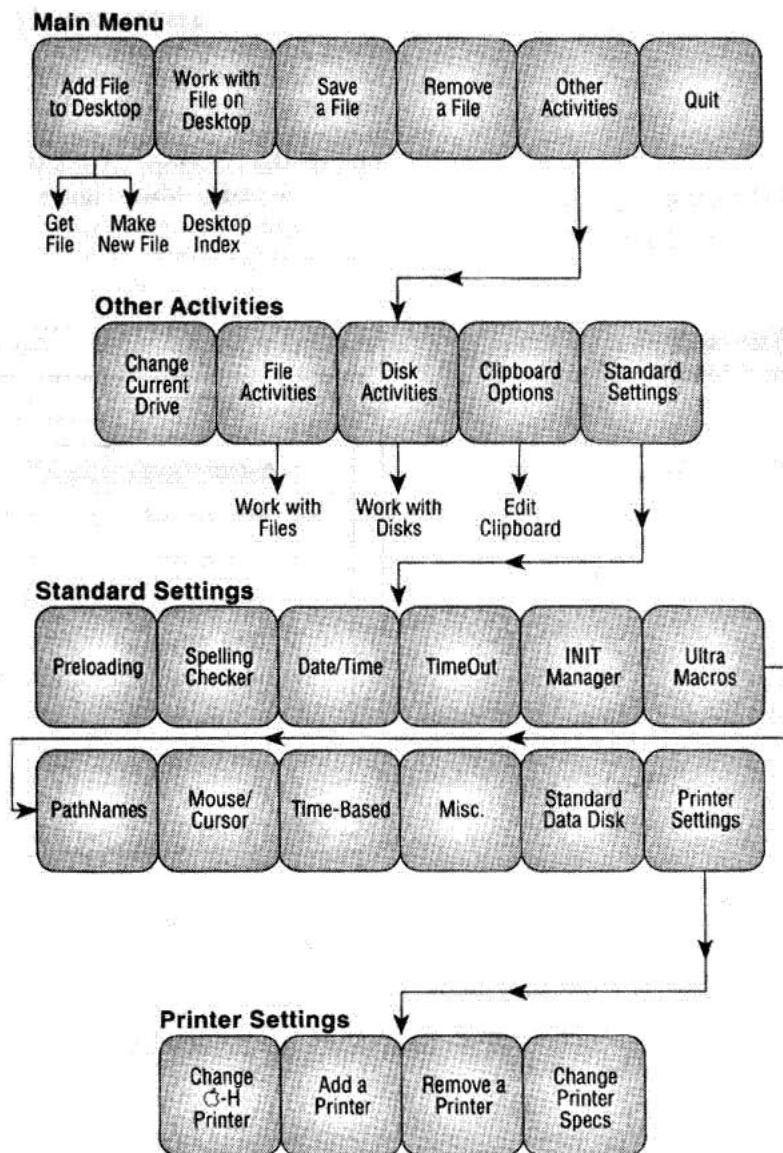
AppleWorks' Main Menu

Figure 2-2

Map of the Main Menu

Each horizontal line holds the menu options from a different menu. (The Standard Settings menu is on two lines, but it's one menu.)

Vertical lines lead from menu to menu.



Adding Files to the Desktop

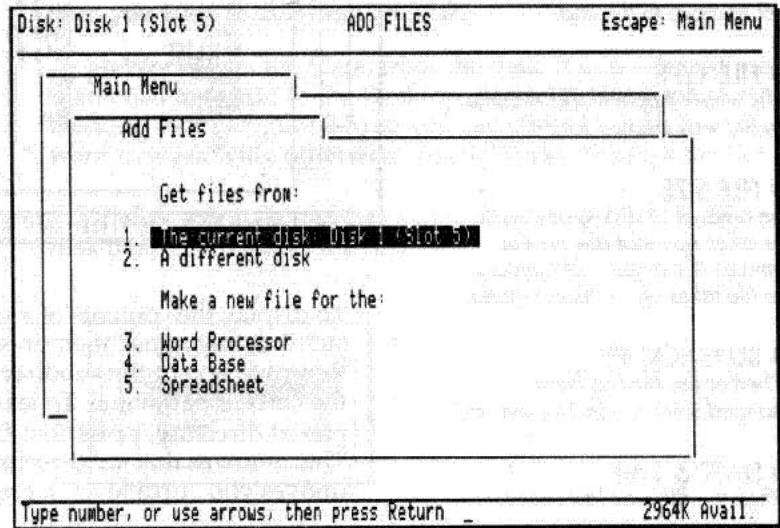
You can add a new file to the Desktop by getting an existing file from the disk, by creating the new file from scratch, or by changing the current disk first, so that you can get an existing file from a different disk.

Adding a File from Disk

- 1 From the Main Menu, select "Add files to the Desktop," then press Return.

AppleWorks displays the Add Files screen, as shown in Figure 2-3. "The current disk" is highlighted with the slot and disk number of the drive where AppleWorks will look for your files. 3.5" disks usually use slot 5 and 5.25" disks usually use slot 6.

Figure 2-3
Add Files screen



- 2 Press Return to choose "The current disk."

AppleWorks displays a list of available files on the current disk, as shown in Figure 2-4.

- If you know the exact name of the file you want to add, and are certain that it exists on the current disk, press ⌘-Return instead of Return. AppleWorks asks for the name of the file without displaying the file list. Enter it and press Return.

Adding Files to the Desktop

If the current disk that AppleWorks shows in the upper-left corner of the screen is not the disk where your files are located, see "Adding Files from Another Disk," later in this Chapter.

Figure 2-4

Selecting a file

1 DISK

Location of the current disk.
Press Tab to change disks.

2 FILE LIST

Lists the AppleWorks files on the current disk. Press ⌘-1 to move to the top of the list. Press ⌘-9 to move to the end.

3 FILE TYPE

Tells which AppleWorks module the file was created for.

4 FILE SIZE

The amount of disk space each file takes up—not always the same as the amount of memory the file takes up in the computer.

5 BU (BACKUP)

Whether the file has been changed since it was backed up.

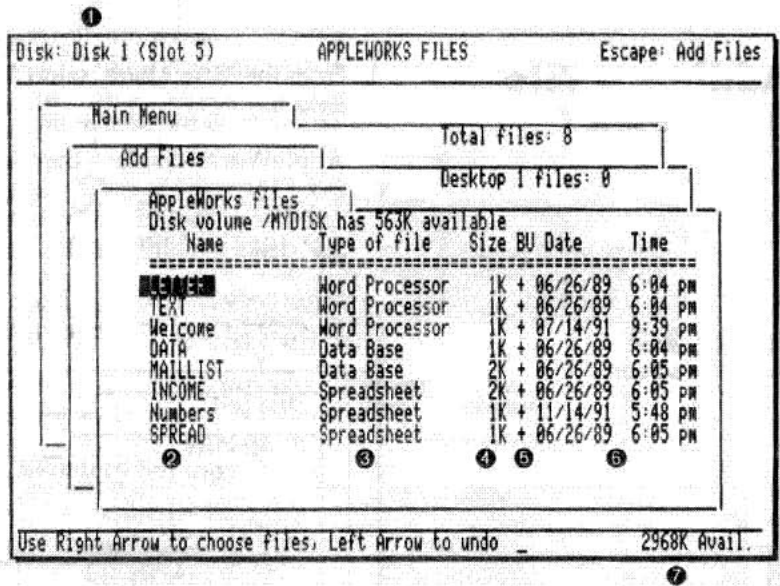
6 DATE & TIME

When the file was last saved.

7 MEMORY

Memory available for files on the Desktop.

Use ⌘ to select multiple files.
Press Return when all the desired files have been selected.



To display the contents of a subdirectory, highlight the subdirectory name, then press ⌘-> (or press Return). Press ⌘-Return to accept the subdirectory you have chosen and add it to the current pathname. To leave a subdirectory and move to its parent directory, press ⌘-<. Do not hold down the Shift key. This removes that subdirectory from the current pathname (moves you "up a level"). Press Tab to move between disks.

- **Changing the list order** Press ⌘-A to arrange the file list to find the file you're looking for more easily. AppleWorks will ask you whether you want to arrange by Name (files displayed alphabetically regardless of type), Type (files grouped into types and alphabetized within type—the standard method), Size (largest files first), or Date (most recently modified files first). Changing the list order only affects the way you view files in AppleWorks, not the actual order of the files on the disk.
- **Ejecting disks** If the current file listing is from a 3.5" disk, you can press ⌘-Y to eject the disk.

3 Use the ↑ and ↓ keys to highlight the file you want.

If you want to add more than one file at a time, press the → key when the first file is highlighted, then press the ↑ or ↓ key to move to another file. Press the → key to select another file. (The ← key deselects a file.)

To select all the files in the list for adding (up to a maximum of twelve), press ⌘-→. To deselect all the files in the list, press ⌘-←.

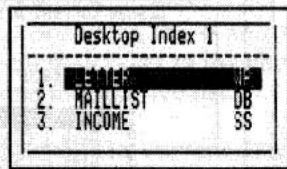
Press ⌘-D to switch Desktops if the current Desktop doesn't have room for the number of files you wish to add.

Press Return when you have highlighted (or selected) the file (or files) you want to add from the disk.

AppleWorks gets the file(s) from the disk. If you selected more than one file to add to the Desktop, AppleWorks displays the Desktop Index (Figure 2-5) so you can choose which file you want to work with; otherwise, AppleWorks displays the file.

- ◆ **5.25" disk users** AppleWorks may ask you to insert a different disk before it displays the file.

Figure 2-5
Desktop Index



- ◆ **Where to go from here** If you added a word processing document from the disk, see Chapter 3, "Word Processing Basics." If you added a data base file from the disk, see Chapter 7, "Creating a Data Base." If you added a Spreadsheet file from the disk, see Chapter 13, "Building a Worksheet."

Adding Files to the Desktop

Adding Files from Another Disk

AppleWorks remembers the location of the last data disk you used and calls it the *current disk*. If you need to add files from a different disk, you can change the current disk from the Add Files menu.

You can select a standard data disk so you don't have to tell AppleWorks which disk drive to use every time you start the program. See Appendix B, "Standard Settings."

- 1 From the Main Menu, select "Add files to the Desktop," then press Return.

AppleWorks displays the Add Files screen (Figure 2-3). "The current disk" is highlighted, with the slot and drive number (or pathname) of the disk where AppleWorks will look for files.

- 2 Select "A different disk," then press Return.

AppleWorks displays the drive list, as shown in Figure 2-6.

Figure 2-6

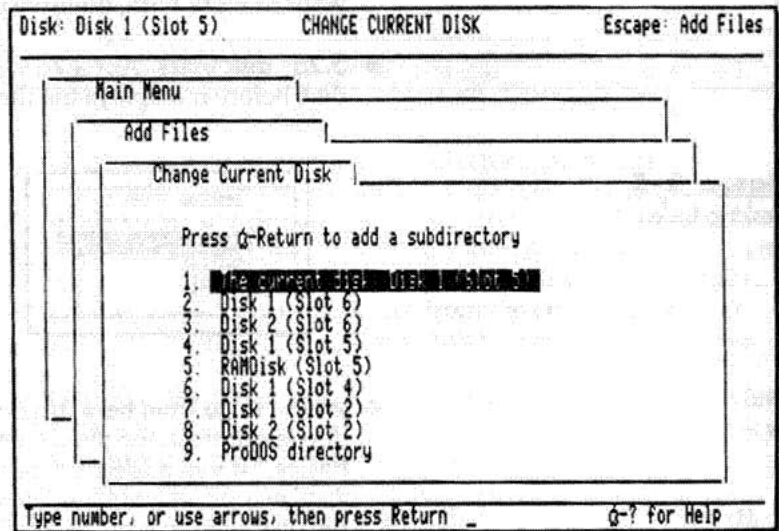
Changing the current disk

Select a drive from the list and press Return, or choose "Current disk" to accept the current disk or pathname.

Press ⌘-Return on "Current disk" to add a subdirectory. Press ⌘-D to drop the last subdirectory in the current path.

Press ⌘-Return on any drive to select a subdirectory on that disk.

Press ⌘-Return on "ProDOS directory" to select a path via "point and shoot."



- ◆ **Note** Your drive list will probably look different. We have two 5.25" drives in Slot 6, a 3.5" drive in Slot 5 Drive 1, a RAM Disk in Slot 5 Drive 2, and a hard drive with three partitions (S2 D1, S2 D2, and S2 D4).

Selecting a Disk or Directory

3 Select the disk or directory you want to use, then press Return.

If you're not sure which drive you want, press ⌘-? (do not hold down the Shift key) to see the names of the disks in each drive.

After you choose a disk, AppleWorks changes the current disk to the one you have selected, and returns you to the Add Files screen. From there, select "The current disk" and press Return to add a file from the disk.

AppleWorks displays the drive list (Figure 2-6) whenever it wants you to select a disk or directory. The following options are available:

- Select "The current disk" to accept AppleWorks' default or current setting, or to accept a pathname after changing it as detailed below.
- Select a disk by highlighting it with the ↑ and ↓ keys, then press Return. AppleWorks exits the drive list and uses the main directory of the specified disk. (Press ⌘-? to see the names of the disks in the drives.)
- Select a disk as above, but press ⌘-Return instead of Return. AppleWorks displays a list of the subdirectories on the disk. Select one using the ↑ and ↓ keys, then press Return. The current disk is set to the chosen directory and AppleWorks returns to the drive list.
- Highlight "The current disk" and press ⌘-Return. AppleWorks displays a list of the subdirectories on the current disk or in the current directory. Select one using the ↑ and ↓ keys, then press Return. The chosen directory is appended to the current pathname and AppleWorks returns to the drive list. Repeat this procedure to add more subdirectories.
- Press ⌘-A (or ⌘->) to add a subdirectory, as described above. AppleWorks returns to the drive list.
- Press ⌘-D (or ⌘-<) to drop the last subdirectory from the current pathname and stay in the drive list.

Adding Files to the Desktop

- Press ⌘-P to display the list of pathnames you have defined under "Standard Settings" (see Appendix B). From this list, select the desired pathname and press Return to choose one of the pathnames and use it immediately, or ⌘-Return to select the pathname and return to the drive list for further editing. Press ⌘-1 through ⌘-8 from the drive list to change directly to one of the stored pathnames without seeing the pathname list.
- Highlight "ProDOS directory" and press Return to specify a ProDOS directory by typing a pathname. This is useful when you know exactly where you want to go and just want to get there as quickly as possible.

When the desired disk or directory is displayed next to "Current disk," highlight "Current disk" and press Return to proceed. (Press Escape to exit the drive list and leave the current disk unchanged.)

- ◆ **AppleWorks Veterans** To select a pathname "point-and-shoot" style as in AppleWorks 3.0, press ⌘-Return while "ProDOS directory" is highlighted. AppleWorks displays the subdirectories of the current disk or directory, if any. Use ⌘-> (or Return) to enter a highlighted subdirectory, or ⌘-< to "back out" of a subdirectory. (Do not use the Shift key with ⌘-> or ⌘-<.) Press Tab to switch to another disk. Press ⌘-P (for Path) when you are inside the desired disk or directory. AppleWorks accepts the current disk and proceeds to the next screen.

Creating a New File

When you create a new file to add to the Desktop, you can make it from scratch or from an existing ASCII (text) file. ASCII (American Standard Code for Information Interchange) files are not AppleWorks files, but AppleWorks can understand them. If you already have an ASCII file that you want to change into an AppleWorks file, see Appendix E, "DIF and ASCII Files."

- 1 From the Main Menu, select "Add files to the Desktop," then press Return.
- 2 Select "Word Processor," "Data Base," or "Spreadsheet," then press Return.

You must create a new file expressly for the module of AppleWorks where you expect to use it. You can easily move data from one kind of file to another using the clipboard.

- 3 If you are creating a Word Processor or Data Base file, AppleWorks asks if you want to make it "From scratch" or "From an ASCII (Text) File." Select "From scratch," then press Return.

If you are creating a Spreadsheet file, AppleWorks knows you want to create it from scratch, because AppleWorks cannot make spreadsheet files from text files. In either case, AppleWorks asks for the name of the new file.

- 4 Type in the new filename, then press Return.

An AppleWorks filename can have up to 15 characters. It must start with a letter, but can contain numbers or letters in uppercase or lowercase, periods, and spaces (no other punctuation).

AppleWorks displays an empty word processing document, empty worksheet, or new data base setup, depending on which type of file you create.

- ◆ **Where to go from here** If you created a word processing document, see Chapter 3, "Word Processing Basics." If you created a data base, see Chapter 7, "Creating a Data Base." If you created a Spreadsheet file, see Chapter 13, "Building a Worksheet."

Working with Desktop Files

When you add one file from the disk, AppleWorks displays the file automatically. If you add more than one file at a time, AppleWorks gives you a choice of which file to work with. Later, you can work with another file that is already on the Desktop.

To work with a file already on the Desktop, follow these steps:

- 1 From the Main Menu, select "Work with one of the files on the Desktop," then press Return.

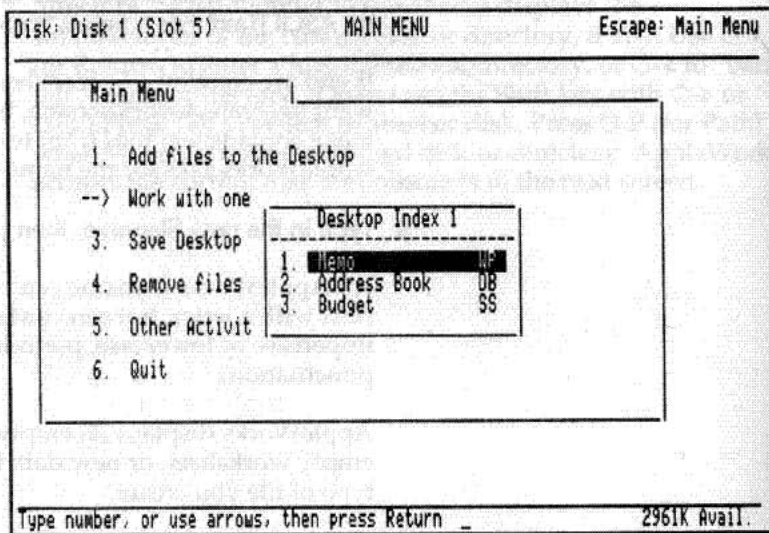
AppleWorks displays the Desktop Index shown in Figure 2-7, which lists the files available on the current Desktop. If you don't see the file you want, press Tab to move through AppleWorks' three Desktops until you see the file listed, or press ⌘-1, 2, or 3 to move directly to the Desktop you want to work with. (If you forgot which files are on which Desktop, press ⌘-V to see an "overview" of all three Desktops.)

Figure 2-7
Desktop Index

Press Tab to switch Desktops.

Press ⌘-1, 2, or 3 to move directly to one of the three Desktops.

Press ⌘-Q to display the Desktop Index from anywhere in AppleWorks.



- 2 Use the ↑ or ↓ key to highlight the file you want to work with, then press Return.

AppleWorks displays that file. The other files listed in the Desktop Index remain on the Desktop, even though they disappear from your screen.

-
- ◆ **Switching files without returning to the Main Menu** No matter where you are in AppleWorks, you can press ⌘-Q (for QuickSwitch) to display the Desktop Index and go directly to another file. The Tab key moves through AppleWorks' three Desktops. Use the ⬆ and ⬇ keys to highlight the file you want to work with, then press Return.

To get back to the Main Menu quickly from anywhere in AppleWorks, press ⌘-Q for QuickSwitch, then press Escape.

Renaming a File

You can change the filename of an AppleWorks file any time you're working with that file on the Desktop.

To change a filename:

1 If the file is not already on the Desktop, add it to the Desktop.

If necessary, select the file from the Desktop Index (⌘-Q) to work with it.

You can add a file from the disk or select it from the "Work with a file on the Desktop" option on the Main Menu.

2 Press ⌘-N to change the name of the file.

At the bottom of the screen, AppleWorks displays the current name for the file and asks you to type a new filename.

- ◆ **Data Base** Renaming a data base file differs somewhat from renaming word processor and spreadsheet files. See Chapter 9, "Modifying a Data Base."

3 Type the new name for the file, then press Return.

You may need to delete, edit, or type over the current filename (by pressing ⌘-E to switch to the replacement cursor). You can press ⌘-Y to delete the entire filename at once. After you type in the new filename, then press Return, the file's name is changed.

4 Press ⌘-S to save the file with the new name.

- ◆ **Renaming disk files** See "File Activities," in Appendix A, "Other Activities," for details on how to rename files directly on disk. (This technique is much faster than loading and resaving a file.)

Saving a File

You save a file by telling AppleWorks to write it onto the disk. Once there, a file remains on the disk until you remove it or until you tell AppleWorks to write another file to the same disk using the same name (for example, when saving a later version of the same file with the same name).

- ◆ **Old versus new** Version 4 of AppleWorks can use any file created with older versions of AppleWorks. Word Processor files saved by version 4 are compatible with version 3 of AppleWorks and may also be compatible with older versions if you don't use tabs. Spreadsheet files saved by version 4 are compatible with older versions if you have not used any new functions or formats. Data base files saved by version 4 are not compatible with older versions of AppleWorks, but can be transferred via ASCII text format (see Appendix E).

There are two ways to save a file. You can return to the Main Menu and choose "Save Desktop files to disk." This method allows you to save more than one Desktop file—of any type—at a time. Or you can press ⌘-S or ⌘-Control-S to save the file you're currently working on without leaving the AppleWorks module you're in.

The ⌘-S keystroke is useful for saving your work every few minutes (as you should for safety). The Auto-Save feature (under "Time-Based Options" in Standard Settings—see Appendix B) can provide further security.

Saving One or More Files

AppleWorks holds a file in memory while you're working on it. That's OK—you can write a quick note that way, or do a little figuring with the Spreadsheet. However, to retain your work, you must save the file on the disk. Saving your work every few minutes is also good insurance against a power outage.

To save one or more files at a time:

- 1 **If you are working with a file, press Escape to return to the Main Menu.**

You may need to press Escape several times, depending on what you're doing. A quicker way is to press ⌘-Q, then Escape. Even though AppleWorks returns to the Main Menu, your file—like the rest of the files on the Desktop—is still in the computer's memory.

Saving a File

- 2 From the Main Menu, select "Save Desktop files to disk," then press Return.

AppleWorks displays the Save Files screen (Figure 2-8).

Figure 2-8
Save Files screen

1 DISK

Files will be saved to the disk or pathname indicated here.

2 MARKED FILE

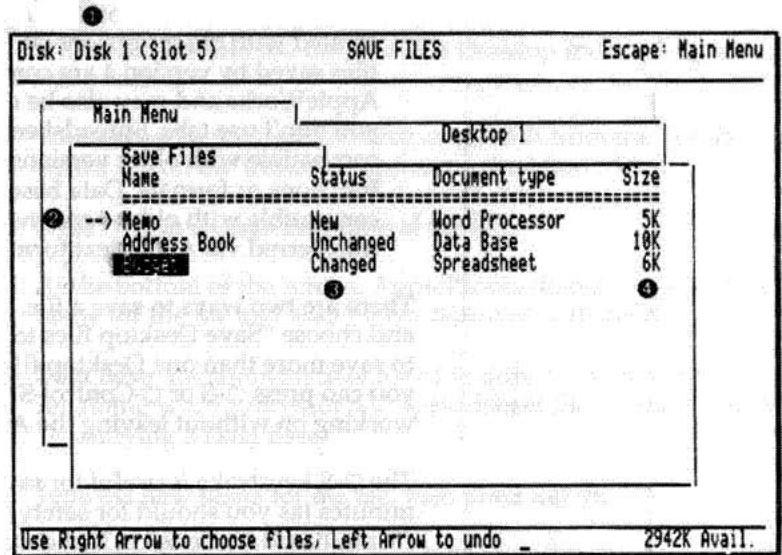
This file has been marked for saving with the → key. If no files are marked when Return is pressed, only the highlighted file is saved.

3 STATUS

New files have never been saved. Unchanged files were loaded from disk and never modified. Changed files were loaded from disk and have been modified. Saved files are new or changed files which were subsequently saved.

4 SIZE

How much memory the files take up on the Desktop. This may not be the same as the amount of disk space they require.



- 3 Use the ↑ and ↓ keys to highlight the file you want to save.

If you want to save more than one file at a time, press the → key when you have highlighted one file to select it, then press the ↑ or ↓ key to move to another file. Press the → key to select another file. (The ← key deselects a file.)

To select all the files on the Desktop for saving, press ⌘→. To deselect all the files on the Desktop, press ⌘←.

Press Tab to move through AppleWorks' three Desktops. (Any files you have chosen on a Desktop are de-selected when you switch to the next Desktop. You can select files from only one Desktop at a time.)

4 Press Return when you have highlighted (selected) the file you want to save.

AppleWorks gives you the choice of saving the file on the current disk, changing the current disk before saving the file, or saving the file back to its original directory (useful if you have changed directories in the meantime). ⌘-Return automatically saves all files to their original disks or directories.

5 Select how you want to save the file, then press Return.

AppleWorks saves the file on the current disk, with the pathname that AppleWorks displays in the upper left of the screen. (For more information about pathnames, see "Changing the ProDOS Prefix" later in this Chapter, or consult your ProDOS manual.)

- ◆ **SmartSave** You can save a file without leaving the AppleWorks module you're working in. From any of the three modules, press ⌘-S to save the file that's on the screen. If you want to "SmartSave" the file to its original directory (no matter what the current directory is), press ⌘-Control-S.
- ◆ **Data Base reports** When AppleWorks saves a data base file, it saves all table and label report formats along with it.

Removing a File

When you remove a file from the Desktop, AppleWorks frees up the memory that the file was using. Removing a file from the Desktop does not delete the file from the disk, alter it, or remove any information from the Clipboard that you may have copied from the file. Unless you have changed the file while it was on the Desktop (or created it and have not yet saved it), AppleWorks immediately removes the file from the Desktop.

To remove a file from the Desktop:

- 1 From the Main Menu, select "Remove files from the Desktop," then press Return.

AppleWorks displays the Remove Files screen (Figure 2-9.)

Figure 2-9

Remove Files screen

1 MARKED FILE

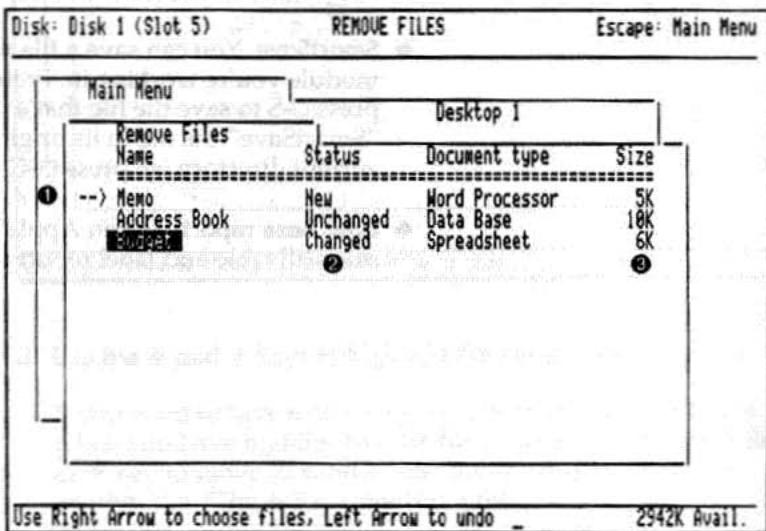
This file has been marked for removal with the → key. If no files are marked when Return is pressed, only the highlighted file is removed.

2 STATUS

New files have never been saved. Unchanged files were loaded from disk and never modified. Changed files were loaded from disk and have been modified. Saved files are new or changed files which were subsequently saved.

3 SIZE

How much memory the files take up on the Desktop.



2 Use the \uparrow and \downarrow keys to highlight the file you want to remove.

If you want to remove more than one file at a time, press the \rightarrow key when you have highlighted one file to select it, then press the \uparrow or \downarrow key to move to another file. Press the \rightarrow key to select another file. (The \leftarrow key deselects a file.)

To select all the files on the Desktop for removal, press $\text{⌘}-\rightarrow$. To deselect all the files on the Desktop, press $\text{⌘}-\leftarrow$.

Press Tab to move through AppleWorks' three Desktops. (Any files you have chosen on a Desktop are de-selected when you switch to the next Desktop. You can select files from only one Desktop at a time.)

3 Press Return when you have highlighted (selected) the file you want to remove.

AppleWorks removes the file from the Desktop, but does not delete any copy you have of it on the disk.

Press $\text{⌘}-\text{Return}$ to automatically save the selected files to their original disks or directories before removing them, if necessary, with no further prompts.

Other Activities

The Other Activities option on the Main Menu lets you “do housekeeping” with disks, files, and directories; change settings to get the most out of AppleWorks and your printer; and change how AppleWorks works to suit yourself better.

You can use the Other Activities option to:

- change the current disk drive
- access File Activities to list, delete, rename, lock, unlock, copy, and move disk files
- access Disk Activities to copy, erase, verify, format, or compare disks, or to rename, copy, or create subdirectories
- access Clipboard Options to directly edit one of AppleWorks' three Clipboards
- change Standard Settings, including printer configuration

For further information on any of these topics, see Appendix A, “Other Activities” (for everything on the Other Activities menu except Standard Settings), Appendix B, “Standard Settings” (for everything on the Standard Settings menu except printer configuration), or Appendix C, “Printer Configuration.”



Word Processor



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Chapter 3

Word Processing Basics

Using Apple's word processing software, you can create any kind of document—a letter, memo, book, or poem—format it, verify its spelling, and print it on any of several types of printers.

- Create a new word processing file or add an existing one to the Desktop by following the steps in Chapter 2, "Adding Files to the Desktop."

Figure 3-1 shows five elements of a typical Word Processing file.

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Word Processing Basics

Using AppleWorks' word processing features, you can create any kind of document—a letter, memo, book, or poem—format it, verify its spelling, and print it on any of several types of printers.

- Create a new word processing file or add an existing one to the Desktop by following the steps in Chapter 2, "Adding Files to the Desktop."

Figure 3-1 shows the elements of a typical Word Processor file.

The Word Processor Screen

Figure 3-1

Word Processor screen

1 FILE

Reminds you which file you're working with.

2 REVIEW/ADD/CHANGE

Tells you you can review and make changes to your file.

3 ESCAPE

Press Escape from the Review/Add/Change screen to return to the Main Menu.

4 TAB RULER

Displays the positions of your tabs. You can change tabs.

5 TEXT

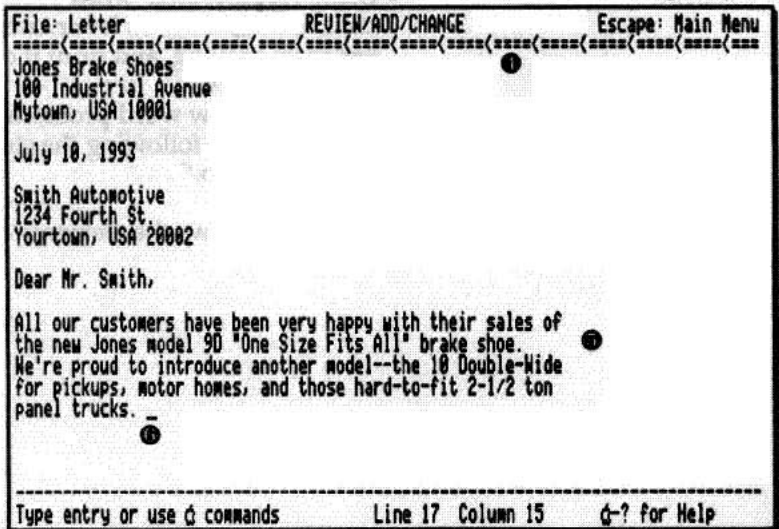
This is the body of your document.

6 CURSOR

The cursor indicates where your next keystroke will be inserted.

7 POSITION

Tells you what line and column of your document the cursor is on.



Moving Around a Document

Figure 3-2 summarizes the keystrokes you can use to move the blinking (data entry) cursor around a word processing file.

Figure 3-2

Moving around a word processing file

- Indicates where the cursor is
- Indicates where the cursor will go

File: New Bulletin REVIEW/ADD/CHANGE Escape: Main Menu

| | | | | | |
|-------------------|----------|-----|-----|-----|-----|
| Sales Projections | High | 300 | 303 | 318 | 921 |
| | Low | 200 | 202 | 212 | 614 |
| | Expected | 250 | 252 | 265 | 768 |

Ms. Simon, you requested a bulletin reflecting our annual performance and outlining projections for next year's performance. Here it is.

By the way, we've changed the spelling of Granola Pudding Delight, as you've suggested. Calling it Granola Budding.

Sales in the Organic Pi line are booming! Yogurt yummy is really taking off, as are Very Berry and Apple Light.

TABBING

To move the cursor one tab space to the right, press **Tab**. (Press **⇧-Tab** to backtab.)

SPACE BY SPACE

To move the cursor one space in any direction, press the **⇐** **⇓** **⇑** **⇒** keys.

WORD BY WORD

To move the cursor right one word, press **⇧-⇐**.

To move the cursor left one word, press **⇧-⇒**.

START/END OF LINE

To move the cursor to the start of a line, press **⇧-←**.

To move the cursor to the end of a line, press **⇧-→**.

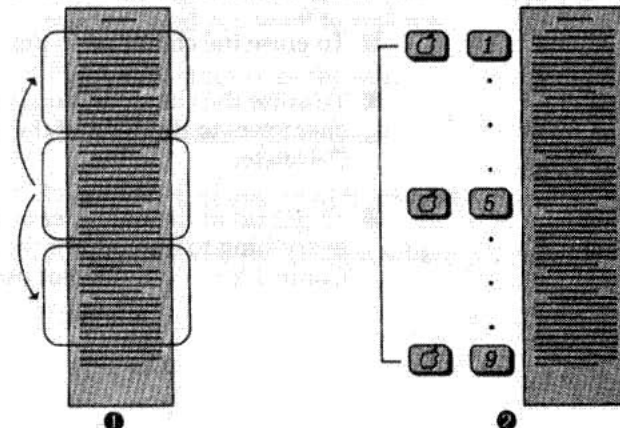
1 SCREEN BY SCREEN

To move the cursor up one whole screen, press **⇧-↑**.

To move the cursor down one whole screen, press **⇧-↓**.

2 PROPORTIONALLY

To move the cursor to the beginning, middle, or end of a document, press **⇧-1...9**. The beginning of the document is 1; the end is 9.



Editing Text

You can always add to, delete from, or otherwise change the text of a document on the Desktop. Once you have saved a file on a disk, that version of the file remains on the disk until you next use it. Later, you can add it to the Desktop, make changes to it, and save it again with the same filename. AppleWorks replaces the earlier version with the later one.

◆ **Important** These sections assume that you have added an existing Word Processor file to the Desktop or have created one from scratch.

Inserting New Text

- 1 **Move the cursor to the place in the document where you want to add text.**
- 2 **Make sure the insert cursor (a flashing underline) is active. If it is not, press ⌘-E.**
- 3 **Type the text you wish to add.**

To mark the end of a paragraph, press Return. To place a blank line between paragraphs, press Return twice.

◆ **Keeping two words together** Use a “sticky space” if you want two words to stay together and not be separated on different lines (or pages). To stick two words together, press ⌘-Space bar instead of pressing the Space bar without the ⌘. Delete a sticky space the same way you delete any character. See below.

Deleting Text

There are several ways to delete text. Figure 3-3 summarizes them.

- To erase the character to the left of the cursor, press Delete.
- To erase the character under the blinking cursor (and move all characters to the right of the cursor one place to the left) press ⌘-Delete.
- To get rid of the character under the blinking cursor and everything to the right of the cursor to the end of the line, press Control-Y or ⌘-Y. (Do not use the Shift key.)

Figure 3-3

How to delete text

LEFT OF CURSOR

Press the **Delete** key to delete the character to the left of the cursor.

TO END OF LINE

Press **⌘-Y** or **Control-Y** to delete from the cursor position to the end of the line.

UNDER CURSOR

Press **⌘-Delete** to delete the character the cursor is on.

BLOCK DELETE

Press **⌘-D**, then highlight the desired text and press **Return**, to delete a block of text.

Changing Existing Text

■ Indicates where the cursor is

□ Indicates the text which will be deleted

By the way, we've changed the spelling of Granola Pudding Delight, as you've suggested. Calling it Granola Pudding Delite adds pizzaz to our lineup and will surely gain us a

Good news from the market analysts. The Wolfe-Schwartzberg industry pie chart shows us a strong leader city-wide in all categories. We've come a long way from giving pies to the

All in all, it's been a good year, and projections show that next year should be even better. With the new factory in place, our extra capacity should make us able to keep up

Good news from the market analysts. The Wolfe-Schwartzberg industry pie chart shows us a strong leader city-wide in all categories. We've come a long way from giving pies to the

There are two ways to change existing text: by replacing text and by deleting old text and entering new.

To replace characters by writing over them:

- 1 Press **⌘-E**, if necessary, to switch to the blinking solid rectangle cursor (called the replacement cursor).
- 2 Move the replacement cursor to the location you want and type over any text you want to replace.

The new text replaces the old.

To replace old text with new text:

- 1 Delete any text you want to remove.
- 2 Put the cursor at the position where you want to add new text.
- 3 Enter the new text.

Editing Text

- **Don't forget to save** The changes you make to a document while it is on the Desktop are only temporary. Press **⌘-S** to save the file. If you have not changed the document's filename, you replace the original file on disk with the changed file. If you changed the name, both versions are kept. Save the file with a different filename to maintain a "trail" of important documents as they change. For the information on changing a filename and saving the file, see Chapter 2, "AppleWorks' Main Menu."

Finding a Word or Phrase

AppleWorks can locate words, phrases (or any other text), specific pages in your document, a marker you may have placed in the text, or printer options (where boldface text begins, for example).

To find a word or phrase:

- 1 Move the cursor to the location in the document where you want to begin the text-finding operation.**

AppleWorks searches from the cursor position to the end of the document; by moving the cursor to the beginning, for example, you guarantee that AppleWorks searches the entire document.

- 2 Press ⌘-F to Find occurrences of a word, text, or other items in your document.**

AppleWorks displays a list of the types of items it can find:

- Text** AppleWorks searches for up to 30 characters of text, about the number of characters you can enter on the AppleWorks prompt line. In its search, AppleWorks pays no attention to whether letters are uppercase or lowercase, and does not distinguish between QUALITY, Quality, and quality.
- Case-sensitive text** AppleWorks searches for up to 30 characters of text. In its search, AppleWorks pays attention to whether letters are uppercase or lowercase, distinguishing between QUALITY, Quality, and quality.
- Page** AppleWorks searches for a specific page number. See "Determining Page Breaks" in Chapter 4.
- Marker** AppleWorks searches for an invisible marker you have placed in the text. See "Printer Options" in Chapter 4 for information on how to set a marker.
- Options for printer** AppleWorks searches for a specific printer option. See "Printer Options" in Chapter 4 for how to set and remove a printer option.

Finding a Word or Phrase

3 Use the ← and → keys to select a type of item to search for.

You can also press the key corresponding to the first letter of your selection.

- Hold down the ⌘ key while selecting Text or Case-sensitive text to restrict the search to whole words. If you do not hold down ⌘, AppleWorks performs a partial search.

For example, if you search for “and,” without instructing AppleWorks to find whole words only, AppleWorks will find “hand,” “grandiose,” and “Andrew,” along with dozens of other instances. The word “and” by itself is only one possibility. If you restrict the search to whole words, only the exact word “and” will be found.

After you select the type of item to search for, AppleWorks asks for the text, page number, marker number, case-sensitive text, or printer option, depending on your choice.

4 Type the words or characters you want to find, then press Return.

If AppleWorks cannot find any occurrence of the words or characters, it tells you: “Not found. Press Space Bar to continue.”

In that case, press the Space bar to return to editing the file.

If AppleWorks finds the words or characters, it highlights the first occurrence and asks if it should find the next occurrence.

5 Press Y to find the next occurrence or press N to stop the search.

If you press Y to continue the search and AppleWorks finds another occurrence, it highlights that occurrence and asks again if it should continue. AppleWorks will continue until it can find no more occurrences or you stop the search.

Finding & Replacing Text

AppleWorks can locate text or case-sensitive text and replace it with other text that you specify.

To replace text:

1 Move the cursor to the beginning of text you want to search.

AppleWorks searches from the cursor position to the end of the document.

2 Press **⌘-R** to replace occurrences of text or case-sensitive text in your document.

AppleWorks displays the types of items it can find:

- Text** AppleWorks searches for up to 30 characters of text. In its search, AppleWorks pays no attention to whether letters are uppercase and lowercase. It recognizes QUALITY, Quality, and quality as being the same, and replaces it with exactly the text you have typed in as a replacement.
- Case-sensitive text** AppleWorks searches for up to 30 characters of text. In its search, AppleWorks pays close attention to whether letters are uppercase and lowercase. It will recognize the difference between QUALITY, Quality, and quality, and replaces it with exactly the text you have typed in as a replacement (including any capitalization).

3 Use the **←** and **→** keys to select a type of item to search for.

You can also press the key corresponding to the first letter of your selection.

- Hold down the **⌘** key while selecting Text or Case-sensitive text to restrict the search to whole words. If you do not hold down **⌘**, AppleWorks performs a partial search.

For example, if you search for "and," without instructing AppleWorks to find whole words only, AppleWorks will find "hand," "grandiose," and "Andrew," along with dozens of other instances. The word "and" by itself is only one possibility. If you restrict the search to whole words, only the exact word "and" will be found.

Finding & Replacing Text

After you have selected the type of item to search for, AppleWorks asks, "Replace what?"

- 4 Type the text to be replaced, then press Return.**

AppleWorks asks, "Replace with what?"

- 5 Type the replacement text, then press Return.**

You have the choice of "One at a time" or "All."

- 6 Select "One at a time" if you want to approve each replacement. Select "All" if you want AppleWorks to search for every instance of the text and automatically replace it with the text you specified. Press Return.**

If you choose "All," AppleWorks immediately replaces all occurrences that it can find. If you choose "One at a time," AppleWorks finds the first occurrence of the target text (if any) and asks, "Replace this one?"

- 7 To replace the text, press Y; to skip this occurrence, press N.**

AppleWorks asks, "Find next?"

- 8 Press Y to continue or N to end the search.**

If you continue, AppleWorks finds the next occurrence (if any) and again asks if you want to replace it. When AppleWorks can find no more occurrences, it tells you: "Not found. Press Space bar to continue."

- 9 Press the Space bar to continue editing your file.**

Moving & Copying Text

When you move text, you remove it from one location and place it in another. When you copy text, you leave the text you want to copy in its existing location and make a duplicate to move to a new location. AppleWorks can move text within the same document, to other word processing documents, or to other Desktop files in the Spreadsheet and Data Base modules of AppleWorks.

To move or copy text to other documents or to spreadsheet and data base files, you must first move or copy the text into the Clipboard. For an explanation of the Clipboard, see "Desktop and Clipboard" in Chapter 1.

Moving or Copying Text Within a Document

1 Move the cursor to the beginning or end of the text you wish to move or copy.

2 Press ⌘-M to Move the text or ⌘-C to Copy the text.

AppleWorks asks whether you want to move or copy the text "Within document," "To clipboard," "From clipboard," or "Append to clipboard."

3 Select "Within document," then press Return.

AppleWorks asks you to highlight the text you want to move or copy.

4 Use the \uparrow \downarrow \leftarrow \rightarrow keys to highlight the text you want to move or copy, then press Return.

AppleWorks asks you to select the new location.

5 Place the cursor where you want text to begin, then press Return.

AppleWorks moves or copies the highlighted text from its old location and places it in the new location.

Moving & Copying Text

Moving or Copying Text to the Clipboard

To transfer text to another word processing document, to a spreadsheet, or to a data base file, you must move or copy it to the Clipboard.

1 Move the cursor to the beginning or end of the text you wish to move or copy.

2 Press ⌘-M for Move the text or ⌘-C for Copy the text.

AppleWorks asks whether you want to move or copy the text "Within the document," "To clipboard," "From clipboard," or "Append to clipboard."

3 Select "To clipboard" or "Append to clipboard" and press Return.

If you copy or move "To clipboard," AppleWorks replaces the current contents of the clipboard with the data you copy or move. If you Append, AppleWorks adds the data you copy or move to the current contents of the Clipboard.

After you select "To clipboard" or "Append to clipboard," AppleWorks asks you to highlight the text.

4 Use the ↑ ↓ ← → keys to highlight the block of text you want to move or copy, then press Return.

AppleWorks moves or copies the highlighted text from its old location to the Clipboard. If you are copying the text, it stays in your document. If you are moving it, the existing text is deleted.

Moving or Copying Text from the Clipboard

To move or copy text from the Clipboard, the Clipboard must first hold text you want to move or copy from another word processor document, or data from the Data Base or Spreadsheet. If you haven't moved or copied your text onto the Clipboard, follow the steps above, "Moving or Copying Text to the Clipboard."

1 Place the cursor where you want the text to begin, then press ⌘-M for Move or ⌘-C for Copy.

AppleWorks asks whether you want to move or copy the text "Within the document," "To clipboard," "From clipboard," or "Append to clipboard."

2 Select "From clipboard," then press Return.

AppleWorks moves or copies the text from the active Clipboard to the location of the cursor on the screen. The active Clipboard is the Clipboard which was most recently moved or copied to. To choose a different Clipboard, hold down ⌘ while you choose "From clipboard," then select the Clipboard you want.

Splitting the Window

AppleWorks lets you view two separate parts of your document at one time with the Split Window command. AppleWorks "freezes" the top half of the screen and lets you work in the bottom half.

To activate the split window:

- 1 Using the \uparrow and \downarrow keys, scroll the document so that the part you want to "freeze" appears at the top of the screen.
- 2 Press ⌘-W to split the window, as shown in Figure 3-4.

AppleWorks "freezes" the top part of the screen. The first line in the bottom window shows the line the cursor was on when you pressed ⌘-W .

Figure 3-4
Split window

Press ⌘-W to activate the word processor's Split Window feature.

Press ⌘-W again to de-activate it.



All normal Word Processor editing functions are still available, except that you can only edit in the bottom half of the screen.

To stop using the split window, press ⌘-W again. The top line of the bottom window becomes the top line of the screen.

Leaving the file you're working on (pressing Escape to return to the Main Menu, or using ⌘-Q to switch to a different file, or even ⌘-S to save) deactivates the split window.

Chapter 4

Formatting a Document

with its on-screen appearance.

File Edit View Window Help
Page 1 of 100
Page 1 of 100

Page 1 of 100
Page 1 of 100

Blank Page

Formatting a Document

Formatting refers to the instructions that you place in a document to tell AppleWorks how to print and display the document.

A word processing document looks different on the screen from how it looks when it is printed. The differences are in the amount of text you can see at one time (about a third of a printed page appears on the screen), and in the formatting information that AppleWorks displays. Figure 4-1 compares a printed document with its on-screen appearance.

Figure 4-1

Word processor document (with formatting instructions) and the printed document

```
File: Journal                      REVIEW/ADD/CHANGE                    Escape: Main Menu
<====<====<====<====<====<====<====<====<====<====<====<====<====<====<====<====<====<====<====
-----Page Header
-----Tab Ruler
Analysis^                           Page - 1#
-----Page Header End
-----Tab Ruler
-----Centered
                Offering of Stock#
-----Unjustified
-----Indent: 10 chars
This stock offering has the following advantages: #
#
^ # substantial tax savings at the state and federal
# levels#
#
^ # industry-wide growth at a rate well over 20%#
#
-----Indent: 0 chars
But there are a number of disadvantages. The management is
not experienced. The marketing plan seems thin. The
manufacturing plant is a shambles. -
-----
Type entry or use ⌘ commands          Line 20 Column 37          ⌘-? for Help
```



```
Analysis                                     Page - 1

                Offering of Stock

This stock offering has the following advantages:

    • substantial tax savings at the state and federal
      levels

    • industry-wide growth at a rate well over 20%

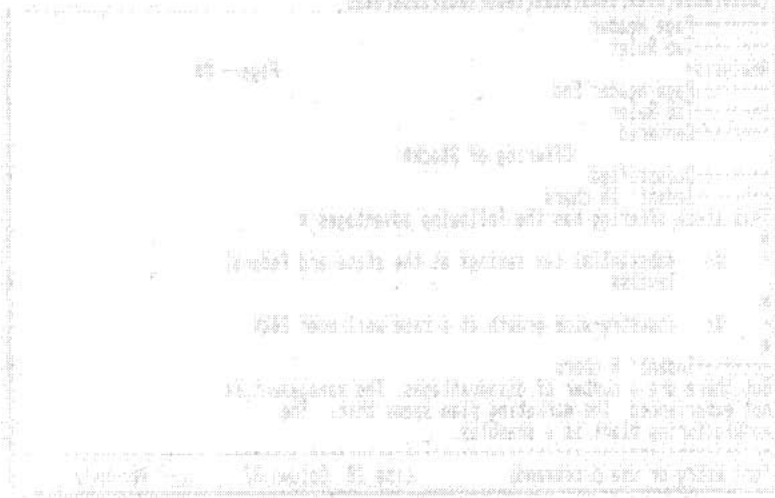
But there are a number of disadvantages. The management
is not experienced. The marketing plan seems thin. The
manufacturing plant is a shambles.
```

Formatting a Document

The formatting information includes tab stops, centering and other text justification, underlining and boldface, and the page breaks where the text in your file runs over onto the next page.

If you make no adjustments, the Word Processor is set up for an 8.5-inch x 11-inch page, with 1-inch margins at left and right, no margin at the top, a 2-inch margin at the bottom, 10 characters per inch, 6 lines per inch vertical spacing, single-spaced lines, and left-justified text.

AppleWorks assumes no top margin to allow you to position the paper in the printer as you wish.



Tab Stops

Tab stops control paragraph indenting, column alignment in tables (left, right, and center), and alignment of columns of figures by their decimal points. Tabs appear in the ruler line at the top of every word processing document, as shown in Figure 4-2. Tab stops control the alignment of text, as shown in Figure 4-3.

You can have as many different rulers in a document as you wish—one for every paragraph, if you need that many tab settings (and have that much patience).

Figure 4-2
Ruler line and tab stops

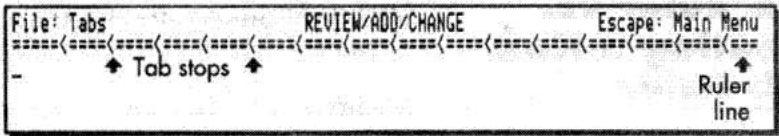
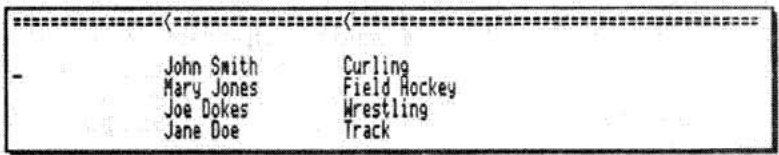
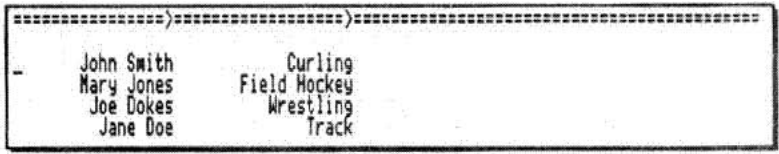


Figure 4-3
How tabs affect text

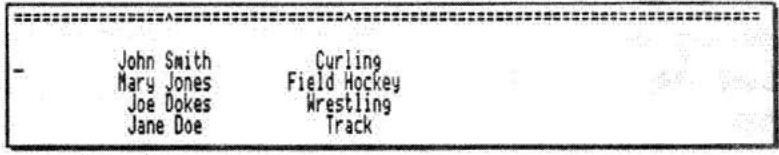
LEFT TAB
Aligned to left



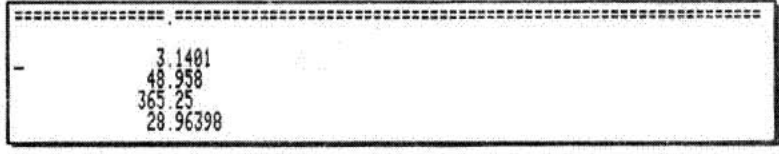
RIGHT TAB
Aligned to right



CENTER TAB
Aligned to center



DECIMAL TAB
Aligned to decimal point



Tab Stops

Modifying a Tab Ruler vs. Creating a New Tab Ruler

- ◆ **Proportional font users** The Apple II displays a monospaced font on the screen (every character has the same width). If your printer uses a proportional font (each character has its own width) rather than a monospaced font, you'll find that what you print is not aligned as it appears on screen. Use tabs to align table columns, rather than spaces. You may need to adjust tab stops to allow enough room for text.

Each AppleWorks Word Processor document starts with one preset ruler. The tab ruler displays the current tab stops. You can modify the preset ruler by setting or clearing its tab stops. As long as you use only this one ruler, it affects the entire document.

Modifying a tab ruler affects any tabs from the position of the ruler to the end of the document. Creating a new tab ruler affects tabs from the position of the cursor to the end of the document.

You can create an additional ruler in the document at any time. You create a new ruler by pressing ⌘-T for Tabs, and selecting Create from the Tab? prompt. The new ruler begins to take effect with the paragraph your cursor is in, and remains in effect from the position of the cursor to the end of the document, or until you create another new ruler below it.

The ruler line at the top of the word processor screen displays the ruler in effect at the cursor position. If there is more than one ruler, the ruler line changes as the cursor moves through the document. To see your rulers as you scroll through the document, press ⌘-Z for Zoom.

Setting or Clearing a Tab Stop

1 Press ⌘-T to set or clear tab stops.

AppleWorks asks if you want to "Modify current" ruler or "Create new" ruler. Choose "Modify current" if you want to change tab stops in the ruler currently in effect; choose "Create new" if you want to add a new ruler. The new ruler takes effect with the paragraph your cursor is in when you create it, and remains in effect from that point until you change it or reach the end of the document.

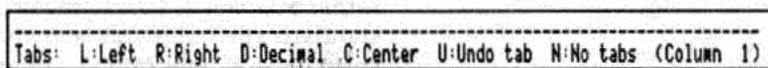
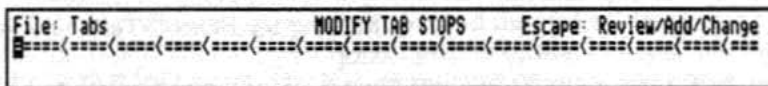
- 2 Select "Modify current" or "Create new," then press Return.

AppleWorks displays the tab choices shown in Figure 4-4 and places a cursor at the first column of the ruler line at the top of the screen.

Figure 4-4

Setting tabs

Move the cursor to the position you want to set a tab, and press the letter of the kind of tab you want to set.



- 3 Use the ← and → keys to move the cursor to the location on the ruler line where you want to set the tab.

The (Column number) readout at the end of the Tab menu line gives you the cursor's position.

- 4 Press the first letter of one of the six tab options to choose it:

Left Sets a left tab at the cursor position.

Right Sets a right tab at the cursor position.

Decimal Sets a decimal tab at the cursor position.

Center Sets a center tab at the cursor position.

Undo Tab Clears the tab at the cursor position.

No Tabs Clears an entire ruler.

You can set only one tab option at any one position on the ruler.

- 5 Move the cursor to the next position and set or clear a tab.
- 6 When you have finished setting and clearing tabs, press Escape.

Tab Stops

- ◆ **To use a tab** To use a tab stop, press the Tab key. The cursor moves to the tab stop. Your text is aligned as you type. When you use a decimal tab, for example, AppleWorks jumps to the decimal position, accepts your numbers (moving them to the left on the screen like a calculator), and waits for you to enter a decimal point, or another Tab.
- ◆ **Backing up** Press ⌘-Tab to move the cursor to the previous tab stop.
- ◆ **"Space" tabs** If you press Control-T, AppleWorks produces the effect of a tab in your document by using space characters rather than a true tab character. Columns line up as with a standard tab; but if you later change the tab settings on the ruler, "space" tabs don't change. Also, if you use space tabs, your document will stay in the old (pre-3.0) AppleWorks format. Earlier versions of AppleWorks used only space tabs.

Understanding Printer Options

A printer option tells your printer how to handle the text sent to it by AppleWorks—"here comes normal text," "here comes centered text." Each printer option is a command that AppleWorks embeds in your text. As AppleWorks sends the text of your document to a printer, it also sends printer option instructions.

Most printer options come in pairs: they have a begin option to start the effect and an end option to end the effect. When AppleWorks encounters a "begin printer option" in your text, it turns that feature on. The feature remains on until you put an end printer option in your text to turn it off, or, in the case of a printer option like Left Margin, until you insert another of the same option with a different value.

For example, if you enter the printer option for centered text (CN), AppleWorks will center all text from the command until it encounters a command to change it or until it reaches the end of the file, whichever comes first.

Options such as Boldface and Underline are character-based options (that is, they can be applied to as few or as many characters as you like). Options such as New Page and Left Margin are paragraph-based options (that is, they appear on a separate line in your document and affect entire paragraphs).

Making Printer Option Codes Visible

- To make printer option codes visible, use the Zoom command (press ⌘-Z). Press ⌘-Z again to hide them.

Some printer codes, including boldface and underline, are always visible, regardless of the zoom status.

Entering a Printer Option

You enter all printer options the same way. Table 4-1 later in this Chapter summarizes the printer options.

To enter a printer option:

- 1 Move the cursor to where you want the printer option to begin taking effect.
- 2 Press ⌘-O to display the list of printer options.

Figure 4-5 shows how the list appears on the screen.

Understanding Printer Options

Figure 4-5

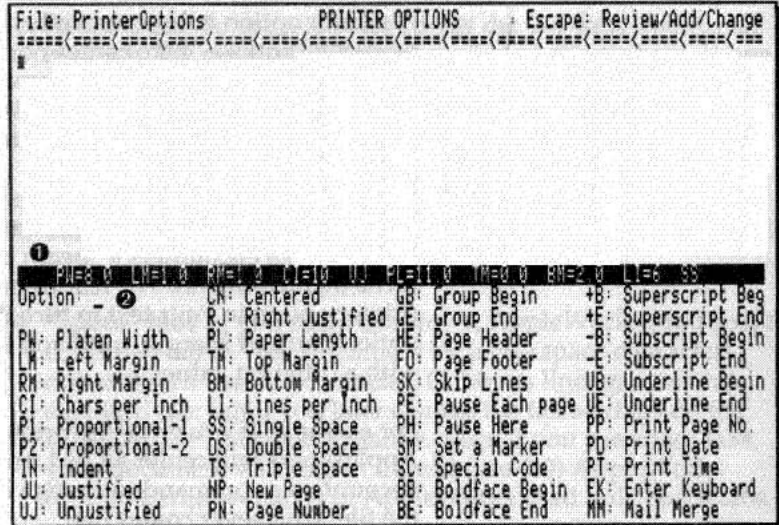
Printer options

1 STATUS LINE

A summary of the settings in effect for the current paragraph (paper width, margins, characters per inch, justification, page length, and line spacing).

2 OPTIONS MENU

Type the two-letter code of the option you want to set. AppleWorks will prompt you for other necessary information.



3 Type in the two-character code for the printer option you want, then press Return.

Some printer options require additional information—for example, the printer options for setting characters per inch or special printer codes. AppleWorks asks for any additional information it needs on the line under the word “Option.”

- Type in any additional information AppleWorks asks for, then press Return.

AppleWorks places the printer option in your document at the cursor location.

4 You may enter additional printer options at that same cursor position. When you have finished, press Escape to continue editing your document.

- ◆ **Looking for something?** You can find printer options with the Find command. See “Finding a Word or Phrase” (in Chapter 3).

Removing a Printer Option

AppleWorks' character-based printer options (options like boldface and underline which can be applied to as few or as many characters as you want) can be deleted using the Delete key. To delete the paragraph-based options (options which appear on their own line and apply to entire paragraphs), the use ⌘-D command.

To remove a printer option:

- 1 If necessary, press ⌘-Z to make printer options visible.
- 2 Move the cursor to the start of the line with the printer option.
- 3 Press ⌘-D for Delete text.
- 4 Use the ↑ and ↓ keys to highlight the printer option you want to delete, then press Return.

AppleWorks deletes the printer option.

Centering, Full Justify, Right Justify, and Normal Text

*"Justify" means "to line up."
Right-justified text means text lined up along its right side.
"Unjustified" text is really left-justified.*

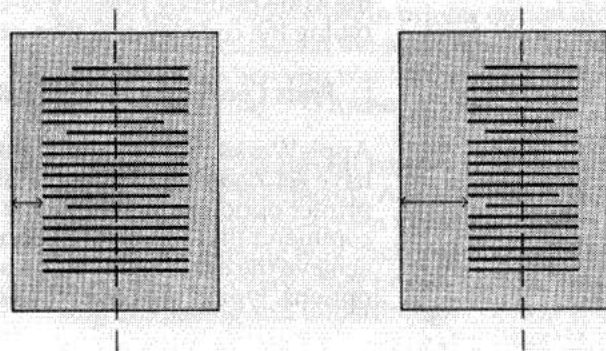
AppleWorks can justify text (line up text evenly along both right and left margins), right justify text (line up text along the right margin only, leaving the left margin unaligned or "ragged"), or align text normally (line text up against the left margin only, leaving the right margin "ragged").

The centering option (CN or Control-C) centers entire lines of text between the margins you have set. Increasing or decreasing the size of the right or left margin can move centered text right or left on the page (as shown in Figure 4-6), but affects other text in the document as well.

Figure 4-6

Centered lines

AppleWorks centers lines between margins



Understanding Printer Options

◆ **To center columns** Use a center tab to center text in one or more columns at a location other than directly between the margins.

1 **Move the cursor to the beginning of the first line you want to justify or center.**

2 **Select from the following options:**

Press Control-C for Center.

AppleWorks displays the Center printer option (if you have set Zoom) and centers all text from the Center print option to the end of the document or to another command setting justification, whichever comes first. You can achieve the same result by pressing ⌘-O to display printer options, typing the code CN, and then pressing Return.

Press Control-F for Full justify (aligned along both margins).

AppleWorks displays the Full Justify printer option (if you have set Zoom) and justifies all text from the Full Justify printer option to the end of the document or to any other command setting justification, whichever comes first. This appears on the printer, not the screen. You can achieve the same result by pressing ⌘-O to display printer options, typing the code JU, and then pressing Return.

Press Control-N for Normal justify (flush left, ragged right).

AppleWorks displays the Unjustify printer option (if you have set Zoom) and unjustifies all text from the Unjustify printer option to the end of the document (or to any other command that sets justification, whichever comes first). You can achieve the same result by pressing ⌘-O to display printer options, typing the code UJ, and then pressing Return.

Press Control-R for Right justify (flush right, ragged left).

AppleWorks displays the Right Justify printer option (if you have set Zoom) and right-justifies all text from the Right Justify printer option to the end of the document or to any other command that sets justification, whichever comes first. You can achieve the same result by pressing ⌘-O to display printer options, typing the code RJ, and then pressing Return.

Underlining and Boldfacing

With AppleWorks you can use underlining or boldfacing or both to make text stand out. You can apply underlining or boldfacing after you write the text or you can pause in your writing, set the printer option, and then continue writing. In both cases, you set the printer option the same way.

For underlined or boldface text:

- 1 Move the cursor to the first character or position you wish to underline or have in boldface.**
- 2 Press Control-B to start boldface or Control-L to start underlining.**

AppleWorks places a marker in the text to indicate a style change. (This marker is a light underscore for underlining, or a light vertical line for boldface.) You can also press ⌘-O to display a list of printer options, type the code BB (boldface begin) or UB (underline begin), then press Return.

- 3 Move the cursor one character to the right of the last character you wish to underline or have in boldface, or type the characters you wish to underline or have in boldface.**
- 4 Press Control-B to end boldfacing or Control-L to end underlining.**

AppleWorks places a marker in the text to indicate a style change. (This marker is a light underscore for underlining, or a light vertical line for boldface.) You can also press ⌘-O to display printer options, type the code BE (boldface end) or UE (underline end), then press Return.

- ◆ **In the beginning** The Control-key equivalents Control-L (underlining) and Control-B (boldface) both produce the begin printer option *unless* a begin printer option already appears to the left of the cursor on the same line. If AppleWorks is entering a begin code when you want an end code (or vice versa), enter the code from the ⌘-O menu.
- ◆ **To boldly go...** Be careful when setting printer options such as underlining or boldfacing. AppleWorks indicates a change in style with a small on-screen marker—it's easy to forget that you started underlining way back in paragraph 2, and never turned it off! Just like every other printer option, you must start and stop boldfacing and underlining.

Understanding Printer Options

Setting Margins

A margin is the area between your text and the edges of the paper, as shown in Figure 4-7. Margins are measured in inches and expressed in decimal tenths of inches. For example, enter a 1½" margin as 1.5.

Figure 4-7

The four margins

1 LEFT MARGIN

Standard: 1"

2 RIGHT MARGIN

Standard: 1"

3 TOP MARGIN

Standard: 0"

4 BOTTOM MARGIN

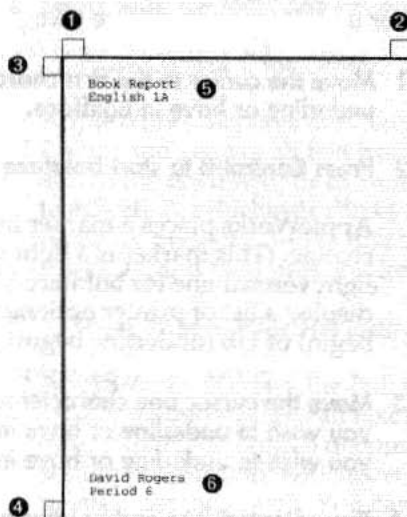
Standard: 2"

5 MULTI-LINE HEADER

AppleWorks lets you define more than one line for the header, which can include the page number.

6 MULTI-LINE FOOTER

AppleWorks lets you define more than one line for the footer, which can include the page number.



To set a margin:

- 1 Press **⌘-O** to display a list of AppleWorks' printer options.
- 2 Type the two-character code for the margin you want to set, then press **Return**.

| Margin | Code |
|---------------|------|
| Left Margin | LM |
| Right Margin | RM |
| Top Margin | TM |
| Bottom Margin | BM |

AppleWorks asks for the number of inches.

Indents and Hanging Indents

- 3 Type the margin you want in inches and tenths of inches, then press Return.**

AppleWorks places the printer option on the screen with its current value, and leaves the list displayed in case you wish to enter additional printer options.

- 4 When you have finished entering printer options, press Escape to return to editing your document.**

You can indent the first line of a paragraph by pressing Tab or the Space bar to start the paragraph a short distance to the right of the left margin.

To create a hanging indent (sometimes called an "outdent"), like the numbered paragraphs in this manual:

- 1 Put the cursor in the paragraph where you want the hanging indents to begin.**
- 2 Press ⌘-O for Options.**
- 3 Type "IN" for indenting after the first line, then press Return.**
- 4 Type in the number of spaces you want the second and following lines to be indented, then press Return.**

If you want the entire paragraph to start at a different left margin, including the indentation, enter a different Left Margin (LM) value.

- 5 Press Escape.**

The first line will start at the left margin, and all the following lines will be indented.

To stop creating hanging indent paragraphs, put the cursor in the paragraph, press ⌘-O for Options again, type "In," press Return, type "0" (zero), press Return, and press Escape. You may also want to reset any margins you changed.

Understanding Printer Options

Headers and Footers

A header is text that appears at the top of every page; a footer is text that appears at the bottom of every page. Common uses for both headers and footers include numbering pages; printing document, chapter, or filenames; and dating or time-stamping your printouts.

A document may have either a header and a footer, or both. Headers and footers are different from top and bottom margins (see Figure 4-7). A header appears below the top margin; a footer appears above the bottom margin.

You can place the printer options that control headers and footers anywhere in your document. Headers and footers begin to print the next chance they get—usually at the top of the next new page for headers, and on the bottom of the page on which you inserted the option for footers. This permits you to vary them for different parts of your document. If you want a header or a footer to appear on the first page, make it the first text you put in your document after any margin or similar settings.

- To make sure that a header or footer prints from the very first page, put the header or footer at the top of your document.
- To delay printing a header to a second (or later) page, put the header about 10 lines down from the top of the document. AppleWorks will begin printing the first page before “seeing” the header. To delay a footer to the second page, place it after the first page break.
- ◆ **How many lines can I put in a header or footer?** They’re limited only by page size. A quick formula for figuring it is: lines per page minus 1, then divided by 2. For example, on a standard 66 line page...

$$\frac{66-1}{2} = 32.5$$

...you would have a maximum of a 32-line header and a 32-line footer. Of course, you wouldn’t have much room left over for your text!

To create a header or footer:

- 1 Move the cursor to the line where you want the header or footer to first appear—in most cases, this should be the beginning of the document.**
- 2 Press ⌘-O to display AppleWorks' printer options.**
- 3 Type HE for a header or FO for a footer, then press Return.**

AppleWorks automatically enters the beginning and ending printer options for both headers and footers (see Figure 4-8 for an example).
- 4 Press Escape to return to the document.**
- 5 Enter the text of your header or footer between the Page Header (or Footer) and Page Header (or Footer) End printer options.**
- 6 Enter any printer options you want in the header or footer.**

If you want to enter a page number, date, time, pause command, or other printer option in the header or footer, press ⌘-O to display a list of printer options and type the code you want to enter. Press Escape when finished.

If you want to number the pages of your document and increment those page numbers automatically, you must include the page numbering print option PP (print page number) between the header or footer options on screen. (See Figure 4-8 for an example of a page number in a header.) You can also place the PP code anywhere on your page to tell AppleWorks to put the current page number at that position one time.

To set the starting page number of a document, use the printer option PN. This command is handy for long documents that may extend over several files. To find out what page number to start with on a multiple-file document, calculate pages with ⌘-K for the first document and jump to the end of the first document to find out the final page number. Then add 1, and enter that as your starting page number on the second document.

Numbering Pages

Understanding Printer Options

Place the PN printer option *before* any page number reference. For example, if you plan to have your pages numbered in a header, place the PN printer option earlier in the document than the HE or FO (header or footer) printer option which contains the PP (print page number) option. That way, AppleWorks knows the first page number before it must print the first header or footer.

Make sure the PN option is *outside* the header (or footer) begin and end codes; otherwise all pages will have the same number—probably not what you wanted!

Figure 4-8
Page number in a header

```
File: FitzG                      REVIEW/ADD/CHANGE                      Escape: Main Menu
=====
-----Page Header
The Sound of Money: Fitzgerald's Great Gatsby -- Page #
-----Page Header End
#
```

Determining Page Breaks

AppleWorks' standard values for paper and printing call for an 11" page length (printer option PL) and 6 lines per inch (printer option LI). This translates into a 66-line page. Allowing for top and bottom margins, you're more likely to fit about 54 lines on a page.

To find out where page breaks occur in your document, you can calculate page breaks with C-K.

You can create a page break wherever you want it by using the printer option NP (new page) or by typing Control-P.

To determine page breaks:

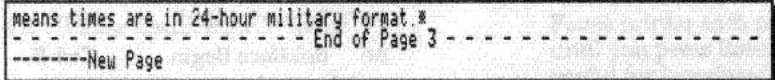
1 Press ⌘-K to calculate page breaks.

AppleWorks displays a list of up to six printing possibilities: up to five different printers (or printer setups), and an ASCII text file. AppleWorks determines the page breaks for your document based on the characteristics of the printer you choose. It assumes an ASCII text file has a 66-line page.

2 Select one of the choices, then press Return.

AppleWorks determines your page breaks and displays them as "--End of Page #--". See Figure 4-9 for an example.

Figure 4-9
Page breaks



```
means times are in 24-hour military format.*
-----End of Page 3 -----
-----New Page
```

To begin a new page:

1 Move the cursor to the line where you want the new page to begin.

2 Press Control-P for page break.

AppleWorks inserts the New Page option into your document.

You can also press ⌘-O to display a list of printer options, type NP, press Return, and then press Escape to resume editing your document.

Printer Options

Tables 4-1 and 4-2 organize the list of AppleWorks' printer options to make it easier to find the one you need. Some of the most frequently-used printer options (center, underline, and so forth) have additional Control-key equivalents that allow you to enter them more quickly.

The Min/Std/Max column lists the minimum, standard (preset), and maximum values for those page options that accept numerical settings.

Table 4-1

Printer options
alphabetically by
abbreviation

| Code | Function | Key | Min/Std/Max | Comments |
|------|---------------------|--------|---------------|---|
| +B | Superscript Begin | none | | Start superscript text |
| +E | Superscript End | none | | End superscript text |
| -B | Subscript Begin | none | | Start subscript text |
| -E | Subscript End | none | | End subscript text |
| BB | Boldface Begin | Ctrl-B | | Start boldface text |
| BE | Boldface End | Ctrl-B | | End boldface text; can use Ctrl-B only if on same line as BB |
| BM | Bottom Margin | none | 0.1"/2"/23.9" | |
| CI | Characters per inch | none | 4/10/24 | Tell printer how many characters per inch the font uses (for mono-spaced fonts) |
| CN | Center Text | Ctrl-C | | Center entire line of text between margins |
| DS | Double Space | none | | |
| EK | Enter from Keybd | none | | Allow manual text entry at print time |
| FO | Footer | none | | |
| GB | Group Begin | none | | Prevent text from being split by a page break (use with GE) |
| GE | Group End | none | | Prevent text from being split by a page break (use with GB) |
| HE | Header | none | | |
| IN | Indent | none | | Indent succeeding lines of paragraph |

Table 4-1

Printer options
alphabetically by
abbreviation
(continued)

| Code | Function | Key | Min/Std/Max | Comments |
|------|---------------------|--------|---------------|--|
| JU | Justify Text | Ctrl-F | | Align right and left margins |
| LI | Lines per inch | none | 6/6/8 | Tell printer how many lines are in 1 inch |
| LM | Left Margin | none | 0.1"/1"/13.4" | |
| MM | Mail Merge | none | | For Mail Merge document |
| NP | New Page | Ctrl-P | | Begin new page |
| P1 | Proportional Font 1 | none | | Tell printer to use 1st proportional font |
| P2 | Proportional Font 2 | none | | Tell printer to use 2nd proportional font |
| PD | Print Date | none | | Print date at position |
| PE | Pause Each Page | none | | Pause printer each page until you press Return; useful for letterhead. |
| PH | Pause Here | none | | Pause printer until you press Return; useful for letterhead |
| PL | Paper Length | none | 1"/11"/24" | |
| PN | Starting Pg. Numbr | none | | Declare the starting page number; useful with documents that span multiple files |
| PP | Print Page Number | none | | Print page number at position |
| PT | Print Time | none | | Print time at position |
| PW | Platen Width | none | 1"/8"/13.5" | Same as paper width |
| RJ | Right Justify Text | Ctrl-R | | Align text flush right and ragged left |
| RM | Right Margin | none | 0.1"/1"/13.4" | |
| SC | Special Prtr Codes | none | | |

Printer Options

Table 4-1

Printer options
alphabetically by
abbreviation
(continued)

| Code Function | Key | Min/Std/Max | Comments |
|--------------------|--------|-------------|---|
| SK Skip Lines | none | | Force printer to skip n lines; e.g for pasting in an illustration |
| SM Set Marker | none | | Set invisible marker |
| SS Single Space | none | | |
| TM Top Margin | none | 0"/0"/23.9" | |
| TS Triple Space | none | | |
| UB Underline Begin | Ctrl-L | | Begin underline text |
| UE Underline End | Ctrl-L | | End underline text. Can use Ctrl-L only if on same line as UB. |
| UJ Unjustify Text | Ctrl-N | | Align text normally: flush left, ragged right |

Table 4-2

Printer options by
category of function

| Code Function | Key | Comments |
|--------------------------|------|---------------------|
| Printer and Paper | | |
| PW Platen Width | none | Same as paper width |
| PL Paper Length | none | |
| SC Special Prtr Codes | none | |
| Page Description | | |
| LM Left Margin | none | |
| RM Right Margin | none | |
| TM Top Margin | none | |
| BM Bottom Margin | none | |
| HE Header | none | |
| FO Footer | none | |

Table 4-2

Printer options by
category of function
(continued)

| Code | Function | Key | Comments |
|-------------------------------------|--------------------|--------|--|
| Page Description (continued) | | | |
| NP | New Page | Ctrl-P | Begin new page |
| PN | Starting Pg. Numbr | none | Declare the starting page number; useful with documents that span multiple files |
| SK | Skip Lines | none | Force printer to skip n lines; e.g for pasting in an illustration |
| PH | Pause Here | none | Pause printer until you press Return; useful for letterhead |
| PE | Pause Each Page | none | Pause printer each page until you press Return; useful for letterhead |
| SM | Set Marker | none | Set invisible marker |
| PP | Print Page Number | none | Print page number at position |
| PD | Print Date | none | Print date at position |
| PT | Print Time | none | Print time at position |
| EK | Enter from Keybd | none | Allow manual text entry at print time |
| MM | Mail Merge | none | For Mail Merge document |

Font

| | | | |
|----|---------------------|------|---|
| P1 | Proportional Font 1 | none | Tell printer to use 1st proportional font |
| P2 | Proportional Font 2 | none | Tell printer to use 2nd proportional font |
| CI | Characters per inch | none | Tell printer how many characters per inch the font uses (mono-spaced fonts) |
| LI | Lines per inch | none | Tell printer how many lines are in 1" |

Format

| | | | |
|----|----------------|--------|--|
| SS | Single Space | none | |
| DS | Double Space | none | |
| TS | Triple Space | none | |
| IN | Indent | none | Indent succeeding lines of paragraph |
| JU | Justify Text | Ctrl-F | Align right and left margins |
| UJ | Unjustify Text | Ctrl-N | Align normally: flush left, ragged right |

Printer Options

Table 4-2

Printer options by category of function (continued)

| Code | Function | Key | Comments |
|---------------------------|--------------------|--------|--|
| Format (continued) | | | |
| CN | Center Text | Ctrl-C | Center entire line of text between margins |
| RJ | Right Justify Text | Ctrl-R | Align text flush right and ragged left |
| GB | Group Begin | none | Prevent text from being split by a page break (use with GE) |
| GE | Group End | none | Prevent text from being split by a page break (use with GB) |
| Style | | | |
| BB | Boldface Begin | Ctrl-B | Start boldface text |
| BE | Boldface End | Ctrl-B | End boldface text; can use Ctrl-B only if on same line as BB |
| +B | Superscript Begin | none | Start superscript text |
| +E | Superscript End | none | End superscript text |
| -B | Subscript Begin | none | Start subscript text |
| -E | Subscript End | none | End subscript text |
| UB | Underline Begin | Ctrl-L | Begin underline text |
| UE | Underline End | Ctrl-L | End underline text. Can use Ctrl-L only if on same line as UB. |

Table 4-3

Printer option markers (for character-based options)

| Marker | Option | Code |
|--------|-----------------------------|-------|
| | Boldface begin/end | BB BE |
| ... | Underline begin/end | UB UE |
| ↑ | Superscript begin/end | +B +E |
| ↓ | Subscript begin/end | -B -E |
| ^ | Special code, tab, or Apple | SC |
| # | Print page number | PP |
| ⌘ | Print date or time | PD PT |
| ✓ | Enter from keyboard | EK |
| ◆ | Mail Merge | MM |
| — | Sticky Space | — |

Printing a Document

AppleWorks has built-in support for many printers. You can define the printer codes required for a "custom" printer if the name of your printer does not appear in the list. (See Appendix C.)

- ◆ **Before you print for the first time** AppleWorks comes set up and ready to use the Apple ImageWriter I and ImageWriter II printers. If you are using a different printer, you must set up AppleWorks for the printer you are using. See Appendix C, "Printer Configuration," to find out how to set up AppleWorks for the printer you are using.

You can print all or part of a word processor document either on the printer or to the disk.

When you print a document on the printer, AppleWorks interprets any printer options in your text and automatically sends the printer the appropriate commands—for example, to turn boldface on or off.

When you "print" a document on the disk, AppleWorks puts an ASCII text file on a disk you specify, and names it using the filename you supply when you give the print-to-disk command. You can use such an ASCII text file to exchange data with many other programs.

Whether you print on paper or disk, you can print from the beginning to the end of the document, the page you are in, from the cursor position to the end of the document, or a range of pages—from a specific page number to the end of the range (for example, pages 2 through 10).

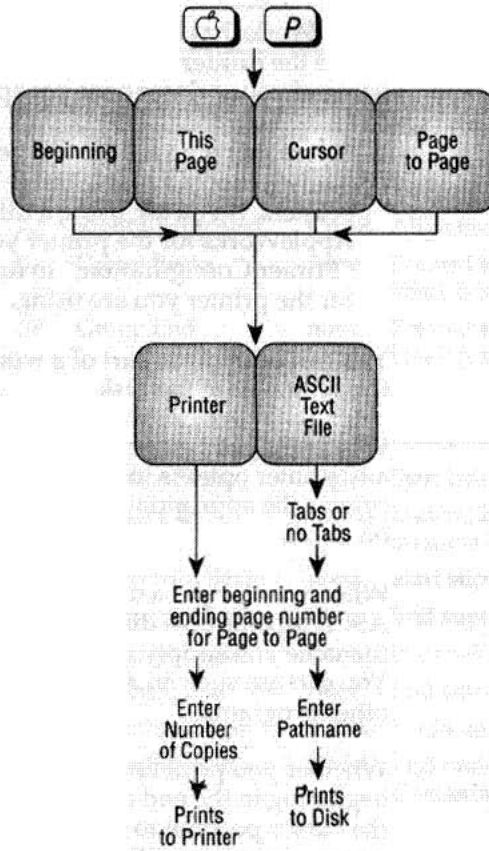
Figure 4-10 illustrates how the Print command works.



Printing a Document

Figure 4-10

How the Print command works



Printing a Document on the Printer

Before printing, make sure the printer is:

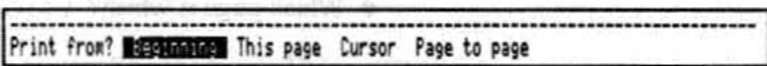
- connected to your computer
- turned on
- ready to receive data (on line)
- loaded with paper

1 Press **⌘-P** for Print.

AppleWorks displays the Print menu as shown in Figure 4-11.

Figure 4-11

Print menu



2 Select the portion of the document you wish to print by choosing one of the four "Print from" commands, then press Return.

AppleWorks displays the Print menu. You can select between sending the file to a printer or creating an ASCII text file (Figure 4-12).

Figure 4-12

Print destinations



Printing a Document

3 Select your printer, then press Return.

AppleWorks uses the ImageWriter I and ImageWriter II as its standard printers. If your printer is different, see Appendix C, "Printer Configuration."

- If you choose to print the file "Page to page," AppleWorks first asks you to enter the beginning page number, then press Return. Then it asks you to enter the ending page number, then press Return.

◆ Which page is which? Use ⌘-K to calculate page breaks.

- If you choose "Beginning," "This page," or "Cursor" to print your document, AppleWorks asks you to enter the number of copies you want printed, then press Return. You can print between 1 and 255 copies—but it's usually much faster to print one copy of your document and photocopy any additional copies you need.

When you have finished entering the information that AppleWorks requests, AppleWorks prints the document.

Printing an ASCII Text File to Disk

When you print an ASCII text file to a disk, AppleWorks ignores text printer options such as boldface and underline. They don't exist in a simple ASCII file. But there are other formatting decisions you must make; these are illustrated in Figure 4-13.

1 Press ⌘-P for Print.

AppleWorks displays the Print menu shown in Figure 4-11.

2 Select the portion of the document you wish to print by choosing one of the four "Print from" commands, then press Return.

AppleWorks displays a screen where you can select between sending the file to a printer or creating an ASCII text file (Figure 4-12).

3 Select "ASCII text file," then press Return.

AppleWorks asks you to choose from three ways of saving an ASCII file as shown in Figure 4-13. Figure 4-14 illustrates the three choices.

Figure 4-13

Three ways to save an ASCII text file

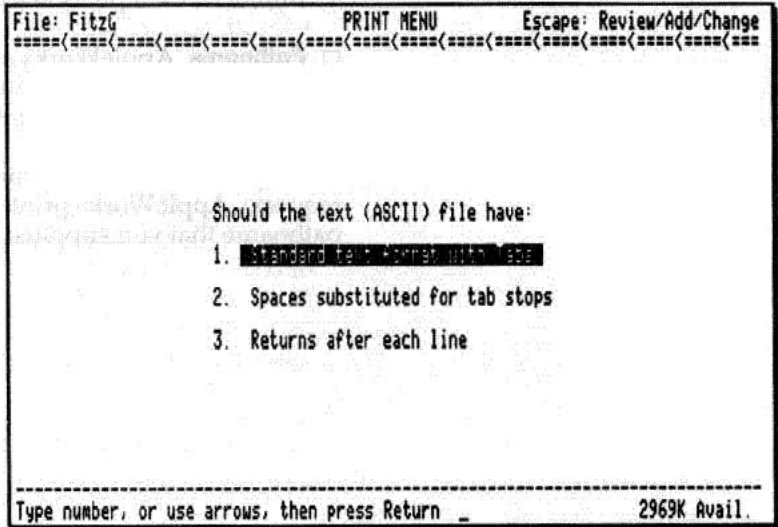


Figure 4-14

Three ASCII formats

Tab characters allowed in file

| | | |
|-------------|------------|-------------------|
| One Hen | <i>tab</i> | For sale by owner |
| Two Ducks | <i>tab</i> | Decoys |
| Three Geese | <i>tab</i> | In pear tree |

*Tabs replaced by spaces
(◊ represents a space)*

| | | |
|-------------|------------------------|-------------------|
| One Hen | ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊ | For sale by owner |
| Two Ducks | ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊ | Decoys |
| Three Geese | ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊ | In pear tree |

*Return after each line
(¶ represents a return)*

```

Fourscore and seven years ago, our¶
fathers brought forth on this continent¶
a new nation¶
  
```

◆ **Warning** Apple II programs don't generally recognize the Tab character (AppleWorks is an exception). Older versions of AppleWorks did not print the Tab character to the disk. The Tab character is Control-I (09 in decimal ASCII code).

Printing a Document

4 Type the number of the format you want, then press Return.

AppleWorks requests the following information:

- Page numbers** If you chose "Page to page," AppleWorks first asks you to enter the beginning and ending page numbers, then press Return after each.
- Pathname** AppleWorks asks you to enter the pathname, then press Return. For more information about pathnames, see "Subdirectories," in Appendix A.

When you have finished entering information that AppleWorks requests, AppleWorks prints the document to the disk using the pathname that you supplied.

Chapter 5

The Spelling Checker

To verify
spelling
documents

Blank Page

Verifying Your Spelling

AppleWorks helps you make sure that you have correctly spelled all the words in your document. AppleWorks corrects doubled words (it fixes “the the house,” a common typographical error) and checks each word against an 90,000-word dictionary.

You can have AppleWorks check your spelling several ways. See “Spelling Options” in this Chapter. Also see “Spelling Checker Settings” in Appendix B.

- ◆ **Watch Your Context** AppleWorks only verifies spelling, not usage. If you write the sentence “Bob and Bill had there baseball,” AppleWorks lets it pass. “There” is a correctly-spelled English word—it’s just the *wrong* correctly-spelled English word in this context.

To Verify the Spelling in a Document

These steps assume you have not changed AppleWorks’ spelling options or made any changes to the preset spelling checker settings. If you have made changes, see “Spelling Options” in this Chapter for information on the ways AppleWorks operates under those conditions.

- If you want to check only one word or a particular block of text, move the cursor within or to the left of any single word you want to verify or to the first word in the block you want to verify.

1 Press ⌘-V for Verify spelling.

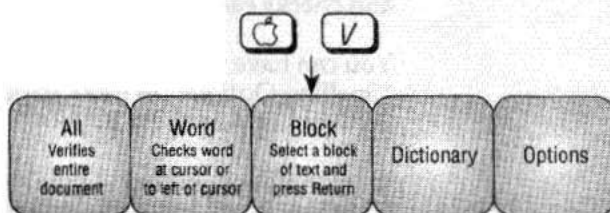
At the bottom of the screen, AppleWorks displays the menu shown in Figure 5-1. The option “All” is highlighted. The first three menu options control how much of the document you check. Figure 5-2 is a map showing the options that control how much of a document you check.

Verifying Your Spelling

Figure 5-1
Spelling menu

Verify spelling? **⌘** Word Block Dictionary Options

Figure 5-2
Controlling how much
of the document to check



◆ **5.25-inch disk users** When verifying your spelling, AppleWorks will prompt you when to insert your Dictionary and AppleWorks Program disks.

2 Press the first letter of one of the first three menu options to control how much of the document you want to check.

- Select “All” to have AppleWorks check the entire document—not just a single word or block of text. AppleWorks displays a screen that shows its progress as it scans the document, then displays text again.
- Select “Word” to have AppleWorks check only the word that the cursor is in or the word to the left of the cursor.
- Select “Block” to have AppleWorks check a block of text. AppleWorks asks you to use the **⬆** **⬇** **⬅** **➡** keys to highlight the block you want to check. If your cursor starts or ends the block between words or in the middle of a word, AppleWorks includes the whole word.

AppleWorks verifies the part of the document you have indicated. If AppleWorks finds any words it can't match with those in its dictionaries, it highlights the first unknown word and asks how to proceed as shown in Figure 5-3.

Figure 5-3

Correcting an unknown word

1 UNKNOWN WORD

AppleWorks highlights each misspelled word it finds.

2 TEXT TO BE CHECKED

This text is what AppleWorks will check (we selected "All").

3 REPLACE

AppleWorks accepts the word you type as a quick replacement.

4 ADD TO DICTIONARY

AppleWorks adds the word to the Custom Dictionary and never questions it again.

5 IGNORE

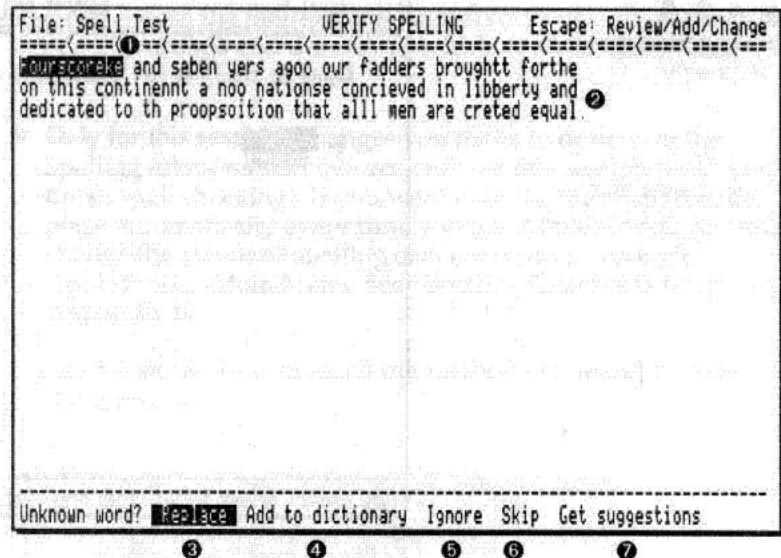
AppleWorks does not question the word again during the current spelling session.

6 SKIP

AppleWorks moves on to the next misspelled word (if any), but will highlight the word again if it appears again.

7 GET SUGGESTIONS

AppleWorks displays a list of proposed spellings for you to choose from.



3 Choose a command to tell AppleWorks how to handle the unknown word.

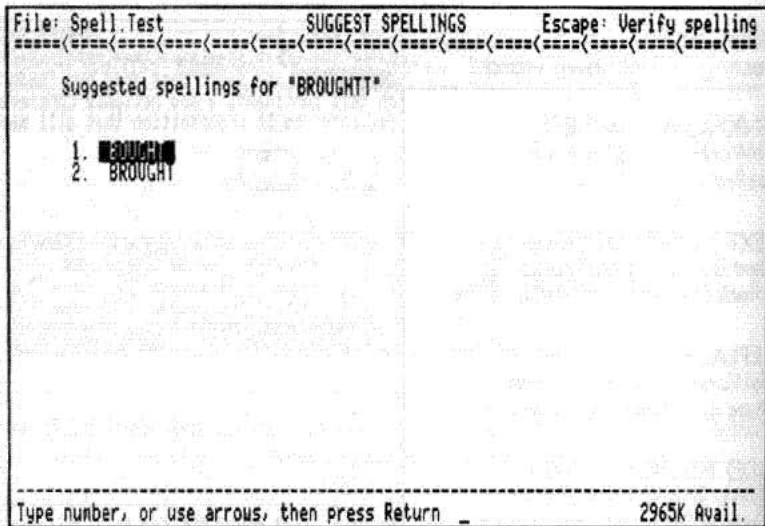
Press the first character of the command, or use the ← or → key to select the command, then press Return.

- Replace** If you know the correct spelling
- Add to dictionary** If the word is spelled correctly and is one you use frequently
- Ignore** If the word is spelled correctly and is used frequently in the current document
- Skip** If the word is spelled correctly and is not used frequently in the current document
- Get suggestions** If you don't know the correct spelling of the word

If you choose "Get suggestions," AppleWorks displays a set of possible correct spellings for you to choose from, as shown in Figure 5-4.

Verifying Your Spelling

Figure 5-4
List of suggested spellings



- ◆ **If you spot the right word immediately** Press the Space bar to tell AppleWorks to stop displaying any more suggestions.

If AppleWorks can find no suggestions in its dictionaries, it tells you: "Unable to find any suggested spellings."

- 4 Press Space bar to continue checking your document.**

AppleWorks returns you to editing your document when you have taken care of all the words it has questioned, or when you press Escape.

- ◆ **Options** You can use the Options spelling command to tell AppleWorks whether to show a spelling summary, to place summary information on the Clipboard, or even to summarize and make no corrections. See the next section, "Spelling Options."

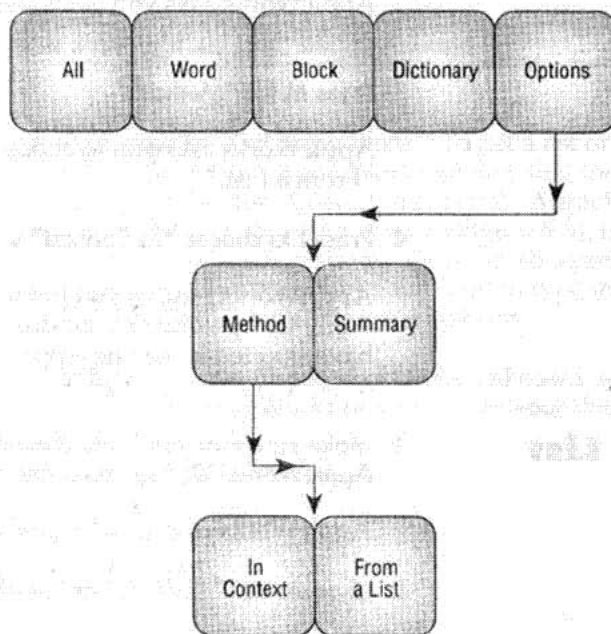
Spelling Options

You can choose the method that AppleWorks uses to display the words it questions and the way in which you use the spelling summary.

- ◆ **Only for this session** Changes you make to options in the Spelling menu remain in force only for this session (until you finish spell checking). If you want to make the changes take place automatically every time you use AppleWorks, you must change the standard spelling checker settings through AppleWorks' Main Menu. See "Spelling Checker Settings" in Appendix B.

Figure 5-5 shows how to reach the Method command from the Spelling menu.

Figure 5-5
Choosing a method



Spelling Options

Changing Methods

AppleWorks has two methods of verifying the words in your document. The first is "In Context," where AppleWorks questions each word as it appears in the text of your document. This is AppleWorks' preset way of verifying.

The second method is "From a List"—AppleWorks reads your document and then displays a list of the words it questions. The advantage of the list method is that you can take care of many words at one time (add them to the Custom Dictionary, ignore them, or correct them).

1 Press ⌘-V to display the Verify Spelling menu.

2 Press O to choose the Options command.

AppleWorks asks you to choose between "Method" and "Summary."

3 Press M for "Method."

AppleWorks asks you to choose between "In Context" and "From a List."

4 Press I to choose "In Context" or F to choose "From a List."

AppleWorks returns you to the Spelling menu so that you can verify the spelling of your document. The checking method you have selected is the one AppleWorks uses.

Using the List Method

1 Make sure that you have chosen the List method from AppleWorks' Option command on the Spelling menu.

AppleWorks displays the Spelling menu.

2 Choose "All," "Word," or "Block" from the Spelling menu.

AppleWorks displays a screen that shows its progress as it scans your document. Then it displays an alphabetized list of unknown words, as shown in Figure 5-6.

Figure 5-6

Using the List method

1 UNKNOWN WORDS

AppleWorks displays all the unknown words found in your document here.

2 WORD COUNT

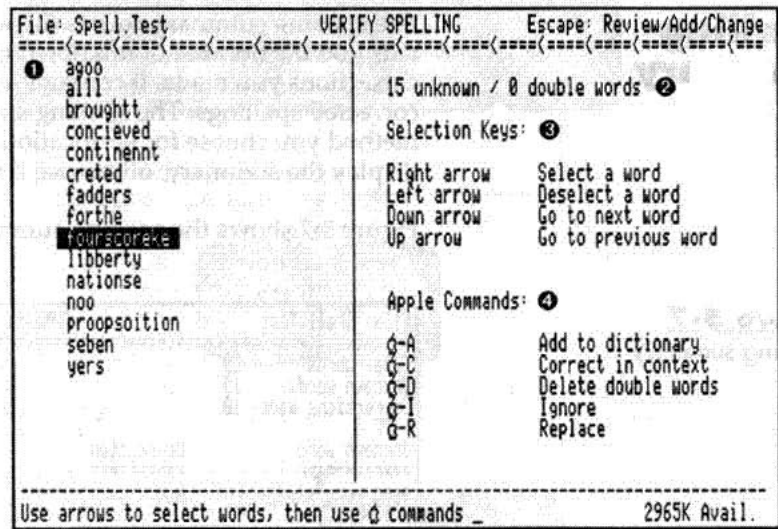
Summarizes the number of unknown words remaining to be handled.

3 SELECTION KEYS

Keys you use for selecting words from the Unknown Words list. First select all the words you want to handle a certain way, then type an Apple Command.

4 APPLE COMMANDS

Keys you use for handling words from the Unknown Words list. First select all the words you want to handle a certain way using the selection keys, then type an Apple Command.



◆ **Two ways to "Get suggestions"** To get a list of spelling suggestions from AppleWorks while using the List method, you can press **Q-C** for "Correct in context"; AppleWorks displays the In Context correction screen (Figure 5-3), from which you can select "Get suggestions." You can also press **Q-R** for Replacement. AppleWorks asks you to type in the replacement. Then press **Q-?** for a list of suggestions.

3 When you have disposed of all the unknown words in your document, AppleWorks returns you to your document.

Spelling Options

Spelling Summary

The spelling summary counts the words in your document and tells you the number of unknown words and how many corrections you made. It contains a list of unknown words with the corrected spellings. The spelling summary is independent of the method you choose for verification. You must tell AppleWorks to display the summary; otherwise it will not normally do so.

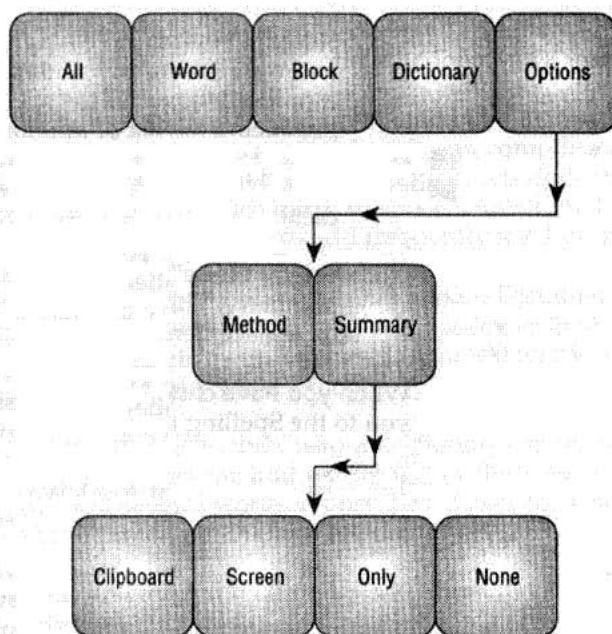
Figure 5-7 shows the spelling summary.

Figure 5-7
Spelling summary

| File: Spell.Test | | SUMMARY | Escape: Review/Add/Change |
|--|--------------|------------|---------------------------|
| Total words: | 29 | | |
| Unknown words: | 15 | | |
| Corrections made: | 10 | | |
| Unknown word | Correction | Count | |
| ===== agoo | ===== ago | ===== 1 | |
| alll | | 1 | |
| broughtt | brought | 1 | |
| concieved | | 1 | |
| continennt | continent | 1 | |
| creted | | 1 | |
| fadders | | 1 | |
| forthe | forth | 1 | |
| fourscoreke | fourscore | 1 | |
| libberty | | 1 | |
| nationse | nation | 1 | |
| noo | new | 1 | |
| proposition | | 1 | |
| seben | seven | 1 | |
| Use up and down arrow keys to scroll _ | | | 2963K Avail. |

Figure 5-8 shows how to reach the Summary menu.

Figure 5-8
How to reach the
Summary menu



Changing the Spelling Summary Setting

1 Press ⌘-V to display the Verify Spelling menu.

2 Press O for Options.

AppleWorks asks you to choose between “Method” and “Summary.”

3 Press S for Summary.

AppleWorks displays the Summary menu:

- Select “Clipboard” to have AppleWorks place the spelling summary on the Clipboard, where you can copy or move it into a document.
- Select “Screen” to have AppleWorks display the summary on the screen.

Spelling Options

- Select "Only" to have AppleWorks prepare a summary without making any spelling corrections. This choice essentially turns off the spelling checker except for producing the list of unknown words, the word count, and the total number of unknowns. You may want to use this in a classroom setting to force students to look up words in a dictionary and make their own corrections.
- Select "None" if you don't want AppleWorks to display a summary. This choice does not affect any word verification or replacement. AppleWorks is preset to operate this way.

When you have chosen a summary setting, AppleWorks returns you to the Spelling menu so that you can verify your document.

Using a Custom Dictionary

AppleWorks uses two dictionaries to check spelling. It always uses the Main Dictionary. The other dictionary is a Custom Dictionary.

A Custom Dictionary contains words that do not appear in the Main Dictionary. For example, you can compile a dictionary of scientific terms for use in physics abstracts, industry or technical terms for company reports, or sports terms for a bowling league newsletter. You can also add frequently used proper names.

- ◆ **Vocabulary** AppleWorks has a Main Dictionary of 90,000 words—most people regularly use fewer than 20,000. Basic English gets by on a vocabulary of 800 words—only 1 percent of AppleWorks' Main Dictionary.

Adding words to the Custom Dictionary can be accomplished in two ways. You can add words as you check your document, or you can add several words at once. See "Creating a New Custom Dictionary" later in this Chapter.

You can create and name several different Custom Dictionaries for different purposes.

You can add as many words to your Custom Dictionary as will fit on your disk—but AppleWorks can check your document more quickly if you keep each Custom Dictionary small.

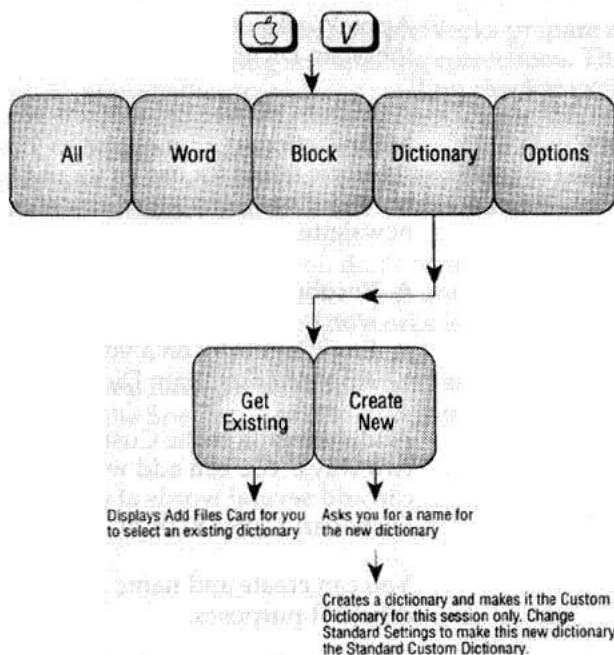
- ◆ **A reminder** If you use more than one Custom Dictionary, make sure to get the one you want from the disk before verifying your spelling.

Figure 5-9 shows the options available when you choose "Dictionary" from the Spelling menu.

Using a Custom Dictionary

Figure 5-9

The Dictionary command



Using an Existing Custom Dictionary

When you “Get a Custom Dictionary” from the Spelling menu, that Custom Dictionary is available only during the current session (until you leave AppleWorks). If you want to use a different Custom Dictionary automatically, see “Spelling Checker Settings” in Appendix B.

- 1 Press **⌘-V** to display the Verify Spelling menu.
- 2 Press **D** to choose Dictionary.

AppleWorks asks whether you want to “Get” an existing dictionary, or “Create” a new one.

Creating a New Custom Dictionary

3 Press G for Get an existing dictionary.

AppleWorks displays the Custom Dictionary file card.

4 Select the Custom Dictionary you want, then press Return.

AppleWorks returns you to the Spelling menu so that you can begin verifying your spelling.

1 Press ⌘-V to display the Verify spelling menu.

2 Press D to choose Dictionary.

AppleWorks asks whether you want to "Get" an existing dictionary, or "Create" a new one.

3 Press C for Create a new dictionary.

4 Type a name for the new Custom Dictionary, then press Return.

While you can name the dictionary anything you like, you may wish to name it something like CUST2.DICT or SECOND.DICT so you'll recognize the file on the disk when you're not using AppleWorks.

When you press Return, AppleWorks creates the new dictionary and makes it the Custom Dictionary for this session only (until you leave AppleWorks)

After AppleWorks has created the new dictionary, it will tell you "New Custom Dictionary successfully created."

5 Press the Space bar to return to the Spelling menu and verify your document.

- ◆ **5.25-inch disk users** If you have several different Custom Dictionaries and have run out of disk space, you can use the ProDOS System Utilities disk to move the Custom Dictionaries to another disk. The disk to which you move the Custom Dictionaries must be named the same name as your main dictionary disk, probably /DICTIONARY.

Using a Custom Dictionary

Adding Many Words to a Custom Dictionary

A Custom Dictionary usually grows word by word over time as you use AppleWorks to verify the spelling of many documents. If you have a list of words that are likely to appear in your documents (a special technical vocabulary, for instance), you may want to put them all into the Custom Dictionary at the same time.

Adding many words at one time to a Custom Dictionary is easiest to do if you have set the Spelling Options Method to "From a list." See "Spelling Options" earlier in this Chapter.

To add a group of several words:

- 1 **Create a new word processor document.**
- 2 **Set the Spelling Option Method to "List," as detailed in "Spelling Options."**
- 3 **Type the list of specialized words into the document.**

You can enter them one to a line or one after another (even though they don't form sentences). There must be at least one space between each word.

- 4 **Press ⌘-V for Verify Spelling.**
- 5 **AppleWorks presents the list of questionable words. Add the ones you want to the Custom Dictionary.**

AppleWorks only questions those words that aren't already in its Main Dictionary. When you have finished adding the new words, your Custom Dictionary holds your specialized word list.

Editing a Custom Dictionary

An AppleWorks Custom Dictionary is an ASCII text file. You can edit a Custom Dictionary using the Word Processor. This is useful if you wish to remove one or two words from the dictionary, but do not wish to delete the entire dictionary from the disk and build it again. The technique is to add the old Custom Dictionary to the Desktop and use the spelling checker to create a new Custom Dictionary. You can then remove the old Custom Dictionary from the Desktop, if you wish.

To edit a Custom Dictionary:

- 1 **Make sure that the "Save text files as text" setting in Miscellaneous options is set to Yes (see Appendix B).**
- 2 **From the Main Menu, select "Add files to the Desktop," then press Return.**
- 3 **Select "From a different disk," and press Return.**
- 4 **Select the disk which contains your dictionaries from the list, then press Return.**

You can use any of the methods described in Chapter 2 to select a disk or directory.

AppleWorks displays a list of the files on that disk or in that directory.

- 5 **Select the file "Cust.Dictionary" or any other Custom Dictionary you have created and wish to edit, then press Return.**

The Custom Dictionary appears as an AppleWorks word processor file, with one word to each line.

- 6 **Edit the text of the Custom Dictionary as you would any document in the Word Processor.**

Change the spelling, delete words, and add new words using standard word processor commands. New words should be added in alphabetical order, each on their own line, with no spaces before or after the words. (Pressing ⌘-K automatically removes extraneous spaces from the ends of lines.) You can use either uppercase or lowercase characters.

- 7 **Press ⌘-S to save the edited custom dictionary to disk.**

Blank Page

Chapter 6

Mail Merge & Glossaries

Blank Page

Mail Merge & Glossaries

AppleWorks' word processor provides three ways to use data base information in the word processor.

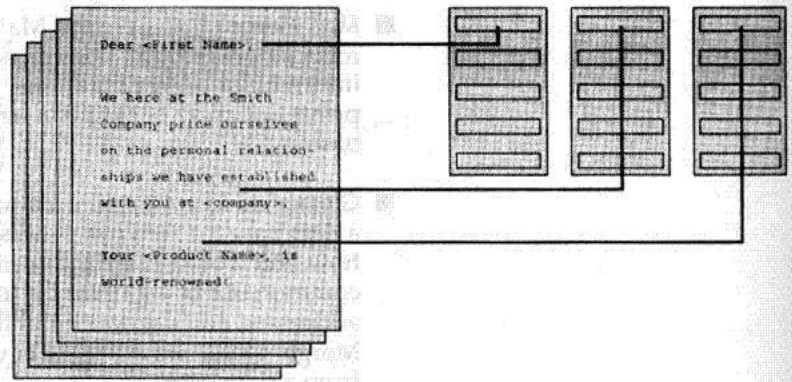
- **Clipboard** We've already discussed how you can use the Clipboard to move information to and from all three modules of AppleWorks, either by copying the information directly from one file to another, or by printing the information to the clipboard first.
- **Mail Merge** AppleWorks' Mail Merge facility lets you create form letters or other documents which are "filled in" by information from a data base when you print. AppleWorks prints one copy of the form letter for each record in the data base.
- **Glossaries** The Glossary feature lets you bring information from a data base into a word processor document. You can specify how you would like the information to be formatted. The most common use of a glossary is to automatically enter names, addresses, and salutations at the top of a letter. Unlike Mail Merge, glossaries are usually used for importing *one* record from a data base.

Mail Merge

Using Mail Merge, you can write a single letter (or other document) that reads each separate record from an AppleWorks data base and uses the contents of specific data base categories in specific places on the letter. AppleWorks automatically adjusts the spacing so that each document appears individually written. Figure 6-1 illustrates a Mail Merge document receiving information from the categories of an AppleWorks data base.

Figure 6-1 Mail Merge

Each Mail Merge document includes the category contents from one data base record.



The most frequent use for Mail Merge is generating form letters—you know, the kind that start “Dear Mr. Smith Family, You and the rest of the Family family may already have won....”

You’ve probably received dozens of equally bad form letters in your own lifetime. But a well-conceived form letter and its accompanying data base can be an effective marketing tool—or a newsy way to keep a far-flung family up to date.

The key to Mail Merge is that it’s a two-part system. The AppleWorks Word Processor provides extensive formatting through its printer options (boldface, italics, and so forth) and the Data Base provides organized information.

Think through the data base file before you create it. For example, if you include only one category called Name, and then enter a typical “name” like Professor Jane Smith, English Department, you’re going to end up with a letter that starts: “Dear Professor Jane Smith, English Department,” rather than “Dear Jane,” or “Dear Professor Smith.”

You can overcome this potential problem by creating your data base with several categories, such as honorific (professor), first name (Jane), last name (Smith), and department (English Department). Then when you write your Mail Merge letter, you can pick and choose the best combination to make the letter "sound real."

- ◆ **Not necessarily a form letter** Your Mail Merge document does not need to be a form letter. Any kind of document that can include "fill in the blanks" information is a candidate for Mail Merge. In fact, some people use Mail Merge as a flexible report generator for a variety of data base reports.

For example, suppose you have 20 candidates for a job at your company and want to condense their resumes to fit a master format that you can circulate. Create a small data base, write the Mail Merge document, and produce the identical documents, one for each applicant.

There are three main steps to creating a Mail Merge document:

- 1 Select the Data Base file you want to use as the source of your records.**
- 2 Write a Word Processor document using the Mail Merge printer option to show where you want to include information from the data base file.**
- 3 Print the letter.**

AppleWorks automatically uses the category information from the data base file in your Mail Merge document, and prints a form letter for each record in the data base.

Mail Merge

Selecting the Data Base File

Before you can compose your Mail Merge document, you must first tell AppleWorks which data base you will be using. AppleWorks needs this information to give you a list of the categories you can use in the mail merge document.

To select the data base file:

- 1 Add the data base file containing the names (or other information) you want to use to the Desktop, either from disk or by creating a new file and entering the data.**

Refer to Chapter 8, "Creating a Data Base," for more detailed instructions on building a data base.

- 2 Add a new word processing document to the Desktop.**

AppleWorks asks you to name the document. Enter a name and press Return.

AppleWorks displays the word processing screen.

- 3 Press ⌘-A , for Add or Edit Glossary/Mail Merge.**

AppleWorks displays the Glossary/Mail Merge screen, shown in Figure 6-2.

Figure 6-2

Glossary/Mail Merge screen

Select option 9 to choose the mail merge data base associated with this word processor document.

```
File: Form.Letter          EDIT RULES          Escape: Review/Add/Change
=====
Glossary menus (global):
1. Printer Options
2. Letterhead
3. Block Name
4. Title
5. Closing
6. <undefined>
7. <undefined>
8. <undefined>

Mail merge (for this WP file):
9. Merge Data Base      none

-----
Type number, or use arrows, then press Return _          2941K Avail.
```

4 Select option 9, "Merge Data Base," and press Return.

AppleWorks displays a list of the data base files on the Desktop. (All the data base files on all three Desktops are displayed in one list.)

5 Use the ↑ and ↓ keys to select the file you added in step 1, then press Return.

6 Press Escape to return to your document.

Select the category that holds the information you want to include in the Word Processor document, then press Return.

AppleWorks asks whether you want the category to print as a whole line—meaning it contains no indentation in the second line—meaning as the first line—meaning as multiple lines—meaning as a paragraph with a paragraph mark or second address line.

Mail Merge

Writing the Mail Merge Document

Mail Merge is a printer option available in the AppleWorks Word Processor, as shown in Figure 6-3. It is selected from the Options menu in the Word Processor like any other printer option, except that AppleWorks will prompt you for additional information about the data base category you want to include.

Figure 6-3
Mail Merge printer option

| Option: | CH | UJ | LB | +B |
|--------------------|---------------------|----|---------------------|---------------------|
| Option: MM | Centered | | Group Begin | Superscript Beg |
| PW: Platen Width | RJ: Right Justified | | Group End | +E: Superscript End |
| LM: Left Margin | PL: Paper Length | | HE: Page Header | -B: Subscript Begin |
| RM: Right Margin | TM: Top Margin | | FO: Page Footer | -E: Subscript End |
| CI: Chars per Inch | BM: Bottom Margin | | SK: Skip Lines | UB: Underline Begin |
| P1: Proportional-1 | LI: Lines per Inch | | PE: Pause Each page | UE: Underline End |
| P2: Proportional-2 | SS: Single Space | | PH: Pause Here | PP: Print Page No. |
| IN: Indent | DS: Double Space | | SM: Set a Marker | PD: Print Date |
| JU: Justified | TS: Triple Space | | SC: Special Code | PT: Print Time |
| UJ: Unjustified | NP: New Page | | BB: Boldface Begin | EK: Enter Keyboard |
| | PN: Page Number | | BE: Boldface End | MM: Mail Merge |

If you like, you can write the Mail Merge document ahead of time, leaving out the data base categories. Then you can go back and insert the data base categories after selecting the mail merge data base as described in steps 3-6 in the previous section.

- You can use a category more than once in a document. (In fact, there is no limit to the number of times you can use a category in a document, or to the number of categories you can use.)
- You need not use the categories in the order they appear in the data base. You can use them in any order.
- You can put more than one category in a line or in a paragraph, and mix categories with punctuation and other characters.
- You can construct entire sentences and paragraphs from categories if you created your data base with that in mind.

To create a Mail Merge document:

1 Add the Word Processor document to the Desktop if necessary.

You should already have selected the data base you want to use with this document, following steps 3-6 in the previous section.

2 Move the blinking cursor to the location where you want to enter information from a particular data base category.

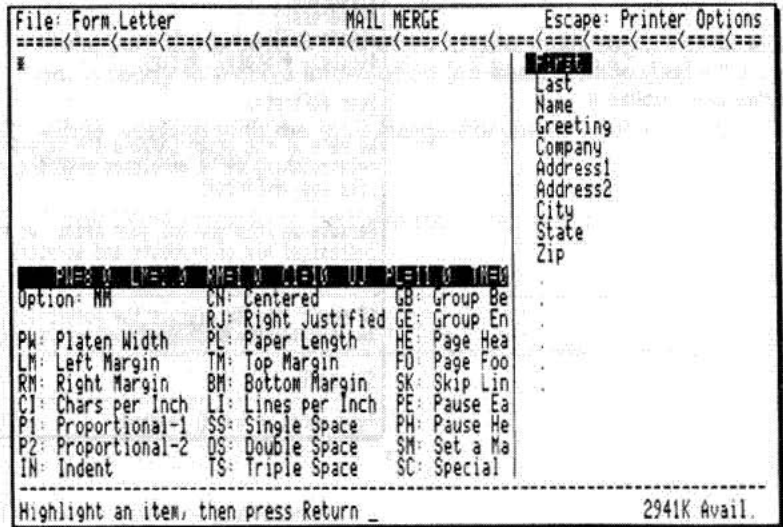
3 Press \odot -O for Printer Options.

AppleWorks displays the printer options list.

4 Type MM for Mail Merge.

AppleWorks displays a list of data base categories, Figure 6-4.

Figure 6-4
Selecting a mail merge category



5 Select the category that holds the information you want to include in the Word Processor document, then press Return.

AppleWorks asks whether you want the category to print as a blank line even if it contains no information in the record that's printing at the time—useful for multiple-line addresses which may not have a business name or second address line.

Mail Merge

AppleWorks represents an entry that does print a blank line like this:

```
<CategoryName>
```

AppleWorks represents an entry that does not print a blank line (one that closes up the space) like this:

```
[CategoryName]
```

6 Select Yes or No for printing the blank line, then press Return.

AppleWorks inserts a diamond symbol, followed by the category name in brackets, as shown in Figure 6-5.

Figure 6-5
Sample Mail Merge document

Note use of merged information within the body of the letter to further personalize it.

```
File: Form.Letter          REVIEW/ADD/CHANGE          Escape: Main Menu
=====
♦(First) ♦(Last)
♦(Company)
♦(Address1)
♦(Address2)
♦(City), ♦(State) ♦(Zip)

Dear ♦(First),

We here at the Smith Company are very proud of the personal
relationships we've developed over the years with people
like you, ♦(First)!

Because we know you and your needs, we can offer you a
customized mix of products and services that's just right
for the needs of ♦(Company).

If you'd like to discuss the possibilities, please contact
me, ♦(Sales Rep), at your earliest convenience.

Sincerely, _
-----
Type entry or use ⌘ commands          Line 20 Column 11          ⌘-? for Help
```

If you want to enter another Mail Merge category immediately, type MM, then press Return. Follow steps 5 and 6 again.

If you want to enter punctuation, continue typing, or delete the space character that automatically follows each Mail Merge category, press Escape. Delete the space character if you want to follow the Mail Merge category with punctuation. Never delete the bracket characters or the diamond symbol.

When you have finished creating the Mail Merge document, you should save it in case you want to print it again later. AppleWorks will remember the data base you were using with this document.

Now it's time to print.

If you want to print the Mail Merge document again, you must make sure that the data base containing the records you want to print is on the Desktop.

Mail Merge documents print the same way normal documents do, except that information from the data base (e.g. Jane) replaces the category names and brackets (e.g. <name>). If you print one copy, AppleWorks prints one document for each of the records you have on the Desktop. For more information about printing a Word Processor document, see "Printing a Document" in Chapter 4.

To print your Mail Merge document, do the following:

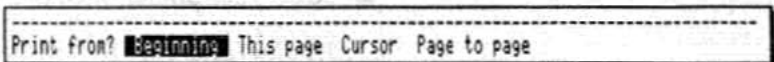
- 1 **Make sure the printer is connected to your computer, is turned on, is ready to receive information (on-line), and has paper in it.**
- 2 **While working with the mail merge document on the Desktop, press ⌘-P for Print.**

AppleWorks displays the Print menu shown in Figure 6-6.

Printing the Mail Merge Document

Figure 6-6

Print menu



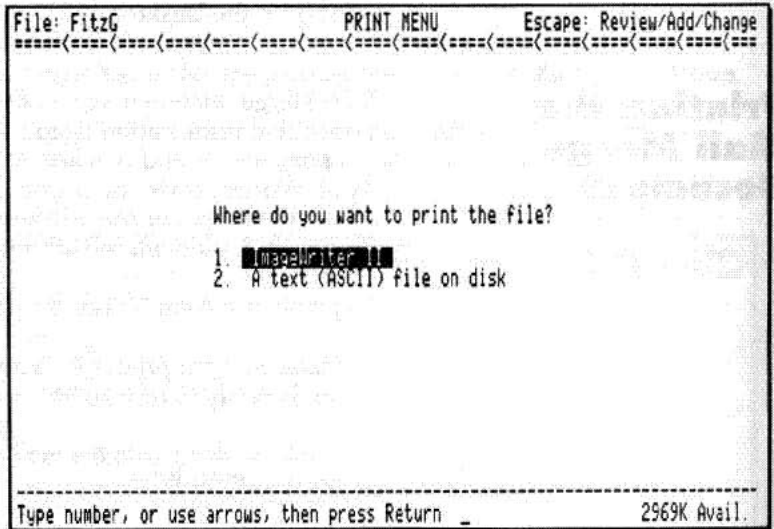
Print from? **Beginning** This page Cursor Page to page

Mail Merge

- 3 Select the portion of the document you wish to print by choosing one of the four "Print from" options, then press Return.

AppleWorks displays a screen where you can select between sending the file to a printer or creating an ASCII text file (Figure 6-7).

Figure 6-7
Print Destinations



- 4 Select your printer, then press Return.

AppleWorks uses the ImageWriter I and ImageWriter II as its standard printers. If your printer is different, see Appendix C, "Printer Configuration."

If you chose to print the file using "Page to page," AppleWorks first asks you to enter the beginning page number, then press Return. Then it asks you to enter the ending page number, then press Return.

Other Mail Merge Tips

- 5 Select whether you want to "Merge data base items with this document" or "Print document without merging," then press Return.

AppleWorks asks you to enter the number of copies you want printed, then press Return. You can print between 1 and 255 copies—but it's usually much faster to print one copy of your document and photocopy any additional documents you need. Remember, for each copy you specify (1, 2, 3, etc.), AppleWorks prints a copy of the document *for every record in the data base*.

When you have finished entering the information that AppleWorks requests, AppleWorks prints the document.

- To change the order in which the records are merged (for example, to print the form letters in ZIP code order), simply sort the data base file using ⌘-A. See Chapter 10, "Finding, Selecting, and Arranging."
- To print only some of the records in the data base (for example, only those people who live in Michigan), set up appropriate record selection rules for the data base using ⌘-R. See Chapter 10, "Finding, Selecting, and Arranging."
- To print on a preprinted form, where the categories must fall in precise locations, follow the Mail Merge entries in the word processor document with a number of # symbols. This disables AppleWorks' normal "word-wrap" features for the imported data base categories. The imported information will always take the same amount of space, regardless of how many characters are in each record. AppleWorks uses the total width of the mail merge entry and the # characters; for example, ♦[City]##### would force the City category to always print as 15 characters. The minimum width of such a field is five characters—the ♦ symbol, the brackets around a one-character category name, and one # symbol, like this: ♦[A]#. Each such entry must be followed by a space.
- You can change the data base used for the merge operation at any time using steps 3-6 in "Selecting the Data Base File," earlier in the Chapter. The data base file you use for the merge doesn't have to be *exactly* like the data base file you used to create the document, as long as all the same categories are available.

Glossaries

AppleWorks' word processor can directly access data base files through *glossaries*. Like mail merge, a glossary is a way to link a word processor document to a data base. Unlike mail merge, glossaries specialize in small quantities of information, accessing one data base record at a time and inserting it into your word processor document.

With a glossary, you can view a list of your friends (or business contacts) inside the word processor. Simply by selecting a name from the list, that person's name and address can be automatically formatted and inserted into your word processor document, complete with a salutation ("Dear John").

While names and addresses are the most popular use for glossaries, you can also use them to pull up part numbers and descriptions for an invoice, to get a state's abbreviation from its full name (or vice versa), or for dozens of other uses.

AppleWorks supports up to eight glossaries. These glossaries can be accessed in all word processor documents. Each glossary points to a specific data base file (which must be on the Desktop when you define or use the glossary) and also includes formatting information that tells AppleWorks which categories to import from each data base record and how the incoming data should be formatted.

As with mail merge, you will want to give careful consideration to the design of your data base. Remember, if you want to be able to greet someone by their first name as part of a glossary, you must make sure that their first name is stored in a category of its own, not as part of a "full name" category. However, when you use the glossary, you will probably want to see the full name of each person in the pop-up list.

The solution to this dilemma is to create a calculated data base category which uses the @Join function to create a full name from separately-entered first and last names. If you set auto-recalc on the first and last name categories, the full name will automatically be updated every time you change the first or last name categories. With this arrangement you can list the full name in the pop-up list while still maintaining separate last and first names for use in the glossary entry. See "Formula Rules" in Chapter 8, "Category Rules & Options," for more information on calculated categories.

Defining a Glossary

- 1 Add the glossary data base to the Desktop, either from a disk or by creating a new file and entering the data.
- 2 Add any word processor file to the Desktop and work with it.

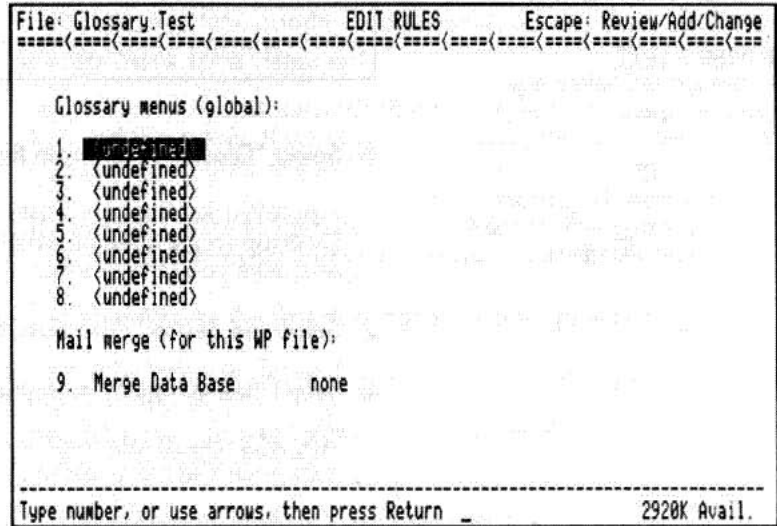
It doesn't matter which file you use—create a new one if you don't already have one on the Desktop. Although the word processor document is not used in the creation of the glossary, you must be in the Word Processor to define a glossary.

- 3 Press **⌘-A** to Add or edit Glossary/Mail Merge.

AppleWorks displays the Edit Rules screen, Figure 6-8.

Figure 6-8
Edit Rules screen

Select an undefined glossary from this list to define a new glossary, or select an existing glossary to modify it.



- 4 Select an undefined glossary from the list and press Return.

AppleWorks asks you to name the new glossary. This is the name by which you will select the glossary when you “call it up” with the **⌘-G** keystroke later. Use a name like “Address Book” or “States” which will remind you what the list is for.

- 5 Type the name for the new glossary and press Return.

AppleWorks displays the Glossary screen, Figure 6-9.

Glossaries

Figure 6-9
Glossary screen

1 MENU TITLE

The name of the glossary as it will appear on the ⌘-G menu.

2 GLOSSARY FILE

The name of the data base file which contains the glossary information.

3 LIST CATEGORY

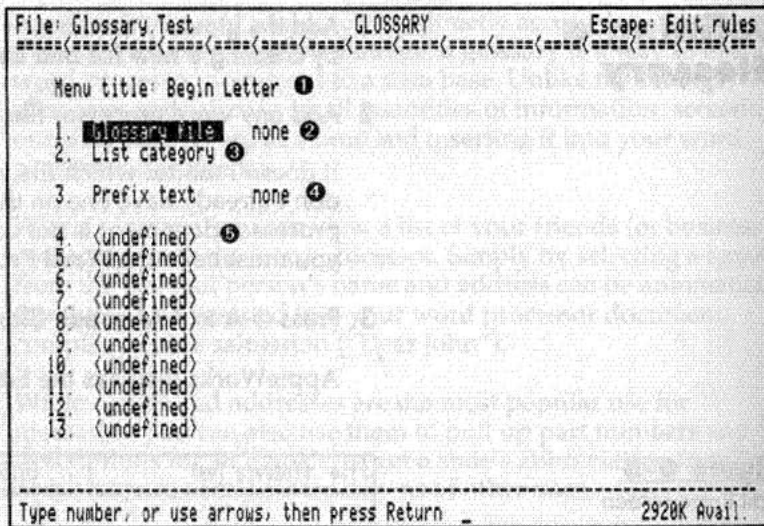
The category in the glossary file which will be listed on the screen when the glossary is used.

4 PREFIX TEXT

The text entered before any glossary entries.

5 TEMPLATE

Categories from the glossary data base, along with the text to be displayed after them.



6 Select "Glossary file" from the menu, then press Return.

AppleWorks displays a list of all the data base files on the Desktop (regardless of which of the three Desktops they are on) and asks you to select one.

7 Select the desired data base file and press Return.

8 Select "List category" and press Return.

AppleWorks displays a list of all the categories in the selected data base and asks you to choose one.

9 Select the category which you wish to see listed in the word processor when you select this glossary, and press Return.

For example, if you are defining an address book glossary, you probably want to see a list of names when you are asked to select a record, so you would select the "Name" or "Full Name" category—whatever category is appropriate for the data base you are using and the glossary you are defining.

Defining a Template

Now that you have told AppleWorks which data base file you want to use, you must tell AppleWorks how to format the data as it is imported from the data base into a word processor document.

To define a template:

- 1 Start at the Glossary screen (Figure 6-9).**
- 2 Tell AppleWorks what text you want to include before the record.**

For example, in an address glossary, you might want to include the text "To:" in front of the imported address. To do this, select "Prefix text" and press Return. Type the exact keystrokes you want inserted before the record, just as if you were typing the prefix manually. You can include carriage returns and tabs, in addition to letters, numbers, and punctuation. Press ⌘-Return when you're finished.

AppleWorks includes everything you type, including the Delete key and the ⬅ key. If you make a mistake, press ⌘-Return to end the input, then select "Prefix text" again to re-enter the text.

If you don't want to include any text before the inserted data, skip this step entirely and leave Prefix text set to <none>.

- 3 Tell AppleWorks the first data base category to include.**

Select the first <undefined> entry on the list and press Return. AppleWorks displays a list of the categories in the data base and lets you select a category from the list. Select the desired category and press Return.

- 4 Tell AppleWorks the text to include after the data base category.**

Press Return again to enter the text which you want inserted after the data base category. Again, AppleWorks includes everything you type. Press ⌘-Return when you're finished or if you make a mistake. Skip this step only if you don't want any text (even a carriage return or a space) inserted between this category and the next.

Glossaries

5 Continue defining the template by repeating steps 3 and 4 with additional undefined categories.

Press Escape when the template has been completely defined.

Figure 6-10 shows a sample glossary template. Figure 6-11 shows how the data from the data base file will be formatted by this template into the word processor document.

Figure 6-10

Sample glossary template

Take careful note of how the prefix text and the categories and text defined in the template affect the final appearance of the glossary information.

```
File: Glossary.Test                GLOSSARY                Escape: Edit rules
=====
Menu title: Begin Letter
1. glossary file      Address DB
2. List category      Full Name
3. Prefix text        TO:<tab>
4. Full Name          <rtm tab>
5. Company            <rtm tab>
6. Address            <rtm tab>
7. City              ,<spc>
8. State              <spc spc>
9. Zip               <rtm rtn>Dear<spc>
10. First Name       ,<rtm rtn>
11. <undefined>
12. <undefined>
13. <undefined>
-----
Type number, or use arrows, then press Return _      2920K Avail.
```

Figure 6-11

Result of sample glossary template

```
File: Glossary.Test                REVIEW/ADD/CHANGE        Escape: Main Menu
=====
TO: Joe Gleason
    Quality Computers
    20200 Nine Mile Rd.
    St. Clair Shores, MI 48080
Dear Joe,
```

Deleting an Entry from a Template

To delete an item from the glossary template, highlight it and press the Delete key. The items after the deleted entry will "move up" to fill in the empty space.

Changing a Glossary Name

- 1 Press **⌘-A** to Add or edit Glossary/Mail Merge.

AppleWorks displays the Edit Rules screen and asks you to select a glossary.

- 2 Select the glossary you want to rename and press **Return**.

AppleWorks asks you for the new name of the glossary.

- 3 Edit the glossary name and press **Return**.

Use the arrow keys, the **⌘-Y** command, the Delete key, and the replacement cursor (**⌘-E**) as necessary. After you press **Return**, AppleWorks displays the Glossary screen.

- 4 Press **Escape** twice.

Deleting a Glossary

- 1 Press **⌘-A** to Add or edit Glossary/Mail Merge.

AppleWorks displays the Edit Rules screen and asks you to select a glossary.

- 2 Highlight the glossary you want to delete and press **Delete**.

AppleWorks asks you if you really want to do this.

- 3 Select **Yes** and press **Return**.

- 4 Press **Escape**.

Using a Glossary

Glossaries are available inside any word processor document.

1 Press **⌘-G** for Glossary.

AppleWorks displays a list of your currently defined glossaries.

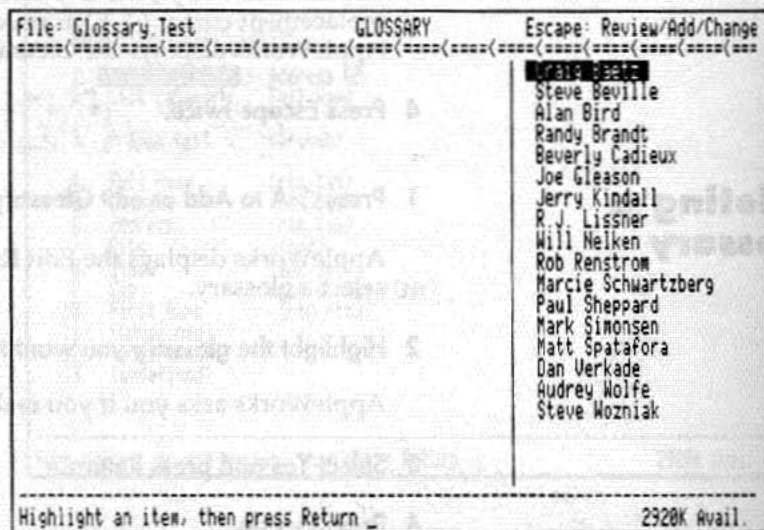
2 Select the glossary you want to use and press **Return**.

AppleWorks displays a list of the records in the data base, using the List Category defined in the glossary (Figure 6-12).

Figure 6-12

Choosing from the glossary

The contents of the list category (defined in the glossary) are displayed on the screen.



3 Select the record you want to insert and press **Return**.

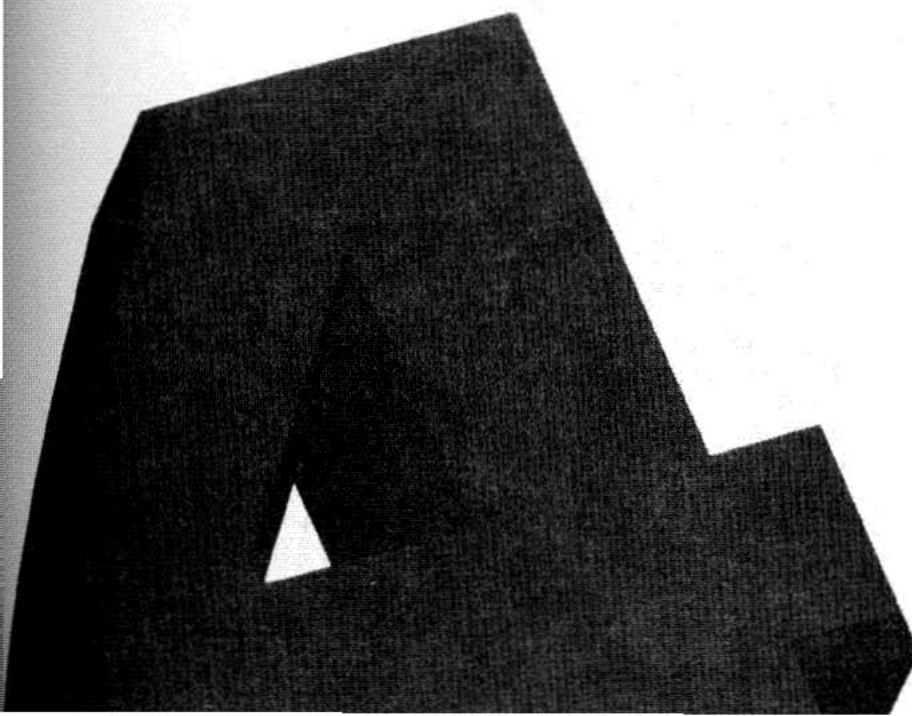
AppleWorks inserts the record into the word processor document, formatting it according to the template you specified earlier.

If any of the categories used in the template are blank, AppleWorks inserts neither the category data nor the text which would normally be inserted after that category's data. By designing your template carefully, you can make the inserted data format properly even if one of the categories is not supplied. With the template in Figure 7-3, for example, the inserted glossary text will still look good if the Company category is empty. (On the other hand, this template doesn't work too well if Zip is missing.)

Creating a Data Base

.....

Data Base



Blank Page

Chapter 7

Creating a Data Base

Levels of information are organized by design, data from scientific experiments, a list of observations, procedures, or laboratory procedures. You can use the information, generate printed reports from it, create mailing labels, and use it in various charts, graphs, and worksheets.

1. Begin with creating a new data base file or adding data to an existing file. This is done by following the steps and clicking on "Adding a New File to the Database."

2. Next, you will be asked for the name of the file. The word "name" is the name of the file, not the name of the data. The name of the file is "Data Base" and the name of the data is "Data Base." The name of the data is "Data Base" and the name of the data is "Data Base."

Blank Page

Creating a Data Base

Using AppleWorks' data base features you can organize many kinds of information—sales figures by region, data from science experiments, a list of household possessions, or bowling league scores. You can sort the information, generate printed reports from it, create mailing labels, and use it in written documents and worksheets.

- Begin with creating a new data base file or adding a new data base file to the Desktop by following the steps in Chapter 2, "Adding a New File to the Desktop."
- ◆ **Memory** Memory determines the maximum size of your AppleWorks data base. The more memory you have, the bigger your data base can be. An Apple II with 128K of memory should be able to hold about 200 records of 100 characters each. For more details, see Appendix F, "Limits and Capacities."

Data Base Basics

A data base stores information in records. Each record can contain several types of information. The information is organized by *categories*. (In many other data base programs, each piece of information stored in a record is called a field. You may have heard this term before.)

When you work with the data base, you can choose to view several records at once (Multiple Record Layout) or to fill the screen with one record at a time (Single Record Layout).

Records and Categories

A *record* is similar to an index card in a file box. Each person or item has its own individual record. Once you create a record, you can put in it whatever information you need or remove information you no longer want. If something changes—an address perhaps—you can make changes.

A *category* is the basic unit of information in a record. If you are keeping records of addresses, you could create a category for a person's name, the street, town, and so on. Within one data base file, every record contains the same categories, although you need not put information into each category on any given record. The information put into a category is called an entry.

A *data base* is a collection of records.

Each record in a data base represents one object—a person, an item in your warehouse, or the records in your record collection. The categories represent the characteristics of each object. If you are storing a list of people, your categories might be First Name, Last Name, Address, Phone Number, and so forth.

Single Record Layout and Multiple Record Layout

Single Record Layout allows you to look at one record at a time. It's similar to leafing through your index cards. You can design your records so that the information is easy to find.

If you want to look at many records at once, use Multiple Record Layout (Figure 7-1). In this layout the records appear in a list with each category in a separate column, one record to a line. Figure 7-2 compares Single and Multiple Record Layouts.

To switch from one layout to the other, press ⌘-Z (for Zoom).

Parts of a Data Base Screen

Figure 7-1
Typical Multiple
Record Layout

- 1 FILE**
Reminds you which file you're working with.
- 2 REVIEW/ADD/CHANGE**
Tells you you can review and make changes to your file.
- 3 ESCAPE**
Press Escape from the Review/Add/Change screen to return to the Main Menu.
- 4 SELECTION**
Tells you how many records are in your file and how many are selected by the current rules.
- 5 CATEGORIES**
Each category stores a characteristic of one of the items in your data base. Categories are displayed in columns in Multiple Record Layout.
- 6 CURSOR**
The cursor indicates where your next keystroke will be inserted.
- 7 RECORDS**
Each record represents an entity in your data base. Records are displayed one to a line in Multiple Record Layout.

| | | |
|------------------------------|---------------------------|---------------------|
| 1 | 2 | 3 |
| File: Extremes | REVIEW/ADD/CHANGE | Escape: Main Menu |
| Record 1 of 33 (33 selected) | | |
| Selection: All records 4 | | |
| Extreme 5 | Location | Measurement |
| Driest Spot_ 6 | Atacama Desert, Chile | rainfall barely mea |
| Rainiest Spot | Mount Waialeale, Hawaii | annual average rain |
| Coldest Recorded Temperature | Vostok, Antarctica | -127 degrees F. (-8 |
| Hottest Recorded Temperature | Al Aziziyah, Libya, south | 136 degrees F. (58 |
| Strongest Recorded Wind | Mount Washington, New Ham | 231 mph, on April 1 |
| Foggiest Place (sea level) | Grand Banks, off Newfound | more than 120 days |
| Highest Point | Mount Everest, Nepal-Tibe | 29,028 feet |
| Lowest Point | Dead Sea, Israel-Jordan | surface of water 1, |
| Longest River | Nile, Africa | 4,145 miles |
| Highest Waterfall | Angel Falls, Venezuela | 3,212 feet |
| Largest Gorge | Grand Canyon, Colorado Ri | 277 miles long, 1 t |
| Deepest Gorge | Hells Canyon, Snake River | 7,900 feet |
| Biggest Cave | Nammoth-Flint Ridge cave | more than 180 miles |
| Largest Desert | Sahara Desert, North Afr | 3,320,000 sq. mi. |
| Deepest Ocean Trench | Mariana Trench, Pacific O | 36,198 feet |
| Type entry or use Q commands | | Q-? for Help |

Parts of a Data Base Screen

Figure 7-2

The Zoom command (Z)

MULTIPLE RECORD LAYOUT

One record appears on each line.

Categories appear in columns.

| Extreme | Location | Measurement |
|------------------------------|---------------------------|---------------------|
| Driest Spot | Atacama Desert, Chile | rainfall barely mea |
| Rainiest Spot | Mount Waialeale, Hawaii | annual average rain |
| Coldest Recorded Temperature | Vostok, Antarctica | -127 degrees F. (-8 |
| Hottest Recorded Temperature | Al Aziziyah, Libya, south | 136 degrees F. (58 |
| Strongest Recorded Wind | Mount Washington, New Ham | 231 mph, on April 1 |
| Foggiest Place (sea level) | Grand Banks, off Newfound | more than 120 days |
| Highest Point | Mount Everest, Nepal-Tibe | 29,028 feet |
| Lowest Point | Dead Sea, Israel-Jordan | surface of water 1, |
| Longest River | Nile, Africa | 4,145 miles |
| Highest Waterfall | Angel Falls, Venezuela | 3,212 feet |
| Largest Gorge | Grand Canyon, Colorado Ri | 277 miles long, 1 t |
| Deepest Gorge | Hells Canyon, Snake River | 7,900 feet |
| Biggest Cave | Mammoth-Flint Ridge cave | more than 180 miles |
| Largest Desert | Sahara Desert, North Afri | 3,320,000 sq. mi. |
| Deepest Ocean Trench | Mariana Trench, Pacific O | 36,198 feet |

Type entry or use Z commands Z? for Help

SINGLE RECORD LAYOUT

One record appears on each screen.

Categories appear wherever you place them on the screen.

Press Z to switch between Multiple Record Layout and Single Record Layout.

| Extreme | Location | Measurement |
|---------------|-------------------------|------------------------------------|
| Rainiest Spot | Mount Waialeale, Hawaii | annual average rainfall 460 inches |
| Extra: | | - |

Type entry or use Z commands Z? for Help

Setting Up a Data Base

You set up a data base from scratch by creating and naming a new data base file from the Add Files menu, then by defining the categories that go into the new data base.

You can also create a data base from an ASCII text file. See Appendix E, "DIF and ASCII Files."

You can have a maximum of 60 categories in a data base.

- ◆ **Planning for Mail Merge?** If you're planning to use your data base for form letters or labels, consider using separate categories for honorifics (Ms., Mr., The Honorable), last names, and any other details you may want to control separately in a form letter or address label. You'll be able to avoid clumsy openings such as "Dear Professor Susan Smith, Ph.d., English Department," if each title and name is in a different category.

A rule of thumb is to have one category for each way you might want to sort the data base or extract information from it—by last name, account number, department, test score, gender, and so forth.

When you print the information in a report, it's simple to recombine the separate categories—just print them side by side. You can also use calculated categories (see "Formula Rules" in Chapter 8) to join category information from separate categories into a new category.

Setting Up a New Data Base from Scratch

- 1 **From the Main Menu, add a data base file to the Desktop, and name it.**

To add a file to the Desktop, follow the steps in "Adding a New File to the Desktop" in Chapter 2.

AppleWorks displays the Change Name/Category screen, as shown in Figure 7-3. The new data base automatically contains one category called Category 1.

Setting Up a Data Base

Figure 7-3

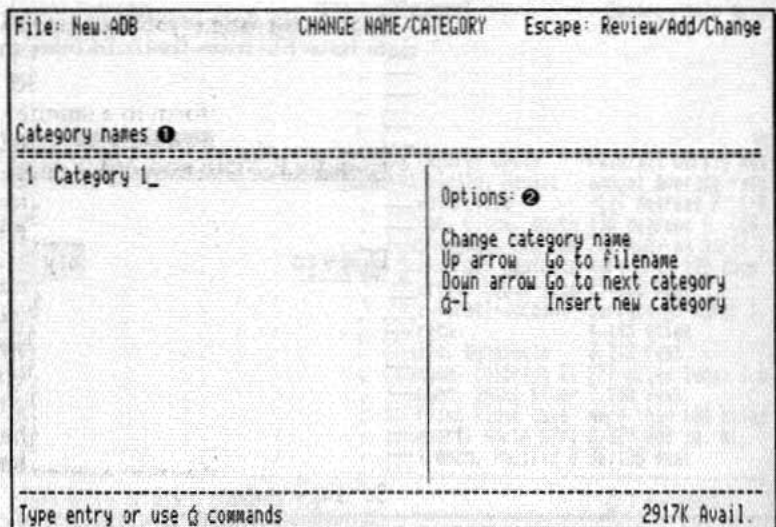
Change Name/Category screen

1 CATEGORY NAMES

This is where you enter the names of the categories for your new data base. AppleWorks automatically creates one category.

2 OPTIONS

The options available change depending on whether you're entering a new category, inserting one, entering a new file name, etc.



2 If you wish, change the name of Category 1.

You can have a maximum of 20 characters in a category name.

It makes the data base easier to work with and more meaningful to have a category called "City" than a category called "Category 1."

Either delete the category name with ⌘-Y, or press ⌘-E to switch to the replacement cursor and type directly over the generic name. If there is any text left over, press ⌘-Y to delete to the end of the line. Don't forget to switch back again to the insert cursor with ⌘-E.

3 Type in the name you want for the category.

- ◆ **As time goes by...** If you would like all the information in a category to conform to a standard date or time format, append the word *date* or *time* to the category name—for example, Birthdate or Starttime (the category name must be one word). AppleWorks spots this and automatically converts the entries to an internal date format, making sorting and searching easier. Dates can range from January 1, 1000 to December 31, 9999.

If you have a category name in your data base that includes *date* or *time*, you can enter the time or date (as appropriate) from the system clock by typing an @ sign as the category entry.

Set time and date formats for the Data Base from the Other Activities menu on the Main Menu. See Appendix B, "Standard Settings."

- ◆ **Important** The following sections assume that you have created a data base from scratch as described in the previous section.

You can enter a new category at the end of the category list or by inserting it ahead of the category that the cursor is on. When AppleWorks returns to the Review/Add/Change screen, it initially displays categories in the order you entered them; you can later change the order of appearance in both Multiple Record Layout and Single Record Layout.

- 1 **From the Change Name/Category screen, press the ↓ key or press Return.**

AppleWorks moves the cursor down one line and changes the options, as shown in Figure 7-4.

Creating New Categories

Setting Up a Data Base

Figure 7-4

Options

| |
|--|
| Options: Type category name Up arrow Go to previous category |
|--|

- 2 Type in the name for the new category, then press Return.
- 3 Continue to enter new categories, if you want, by entering the new name, then pressing Return.

Inserting a Category Before Another Category

- 1 Use the \uparrow \downarrow \leftarrow \rightarrow keys to position the cursor where you want to insert the new category.

- 2 Press \odot -I for Insert.

A blank line appears on the line above the cursor.

- 3 Type the name of the new category, then press Return.

Deleting a Category

- 1 Use the \uparrow \downarrow \leftarrow \rightarrow keys to position the cursor on the category name you want to delete.

- 2 Press \odot -D for Delete.

AppleWorks removes the category name and closes up the list.

Changing a Filename

- 1 Move the cursor at the first category, then press the \uparrow key.

AppleWorks prompts you at the bottom of the screen to change the filename, as shown in Figure 7-5.

Figure 7-5

Changing a filename



Type filename: New.ADB_ 2917K Avail.


- 2 Delete the current filename and type in a new one.
- 3 Press Return to accept the new filename or press Escape to revert to the old filename.

You can only revert to the old filename if you press Escape before you press Return.

Accepting the New Data Base

Figure 7-6

Prompt should appear this way



Type entry or use ⌘ commands 2917K Avail.

AppleWorks adds a blank record to the new data base and displays it in the Single Record Layout (Figure 7-7), ready for you to enter data.

Setting Up a Data Base

Figure 7-7

Single Record Layout screen

| | | |
|------------------------------|-------------------|-------------------|
| File: New.ADB | REVIEW/ADD/CHANGE | Escape: Main Menu |
| Selection: All records | | |
| Record 1 of 1 (1 selected) | | |
| ----- | | |
| Name: - | | |
| Address: - | | |
| City: - | | |
| State: - | | |
| ZIP: - | | |
| ----- | | |
| Type entry or use Q commands | | Q-? for Help |

Entering Information

Once you have set up your data base, entering information into it is almost as simple as using the AppleWorks Word Processor. Where there are working differences between Multiple and Single Record Layout, they are explained in this section.

The contents of one category in one record is an entry. When you enter information into a data base, you'll generally type entries for all (or most) of the categories for a single record. Occasionally, you'll want to replace an existing entry or record with a new one, or change the contents of an entry slightly.

You can type the entries for new records at the end of the data base or insert them before an existing record.

- ◆ **Inserting text versus replacing text** When entering data into your data base, remember that you can press ⌘-E to switch between the blinking box (replacement) cursor that types over existing text, and the blinking underline (insert) cursor that inserts new text and pushes existing text next to it over to make room.

If you are entering data into a data base that you have just created, jump immediately to step 4. If you are entering data into an existing data base, start with step 1.

- 1 Press ⌘-9 to display the last record in the data base.
- 2 Press ⌘-→ to move to the next record.

AppleWorks automatically displays a blank record, ready for data entry, as shown in Figure 7-8. ("Auto-add DB records at end" in the Miscellaneous Standard Settings must be set to Yes in order for this to work. See Appendix B for more information on Standard Settings.)

Typing a New Record into Single Record Layout

Entering Information

Figure 7-8
Entering a new record in
Single Record Layout

| | | |
|-------------------------------|-------------------|---------------------|
| File: Extremes | REVIEW/ADD/CHANGE | Escape: Erase entry |
| Selection: All records | | |
| Record 34 of 34 (34 selected) | | |
| ----- | | |
| Extreme: Lowest point in U.S. | | |
| Location: Salton Sea_ | | |
| Measurement: - | | |
| Extra: - | | |
| ----- | | |
| Type entry or use ⌘ commands | | ⌘-? for Help |

4 Type in the information for each record's categories; press Return after typing each one.

If you have a category name in your data base that includes date or time, you can enter the time or date (as appropriate) from the system clock by typing an @ sign as the category entry.

Normally, you can't change categories which contain formula or import rules. See "Preferences" in Chapter 8 for a way to allow editing of these categories.

When you have pressed Return for the last category on the screen, AppleWorks presents you with another blank record to fill in.

5 If you have more records to add, go back to Step 4.

Inserting New Records into a Data Base File

- 1 Move the cursor to the location where you want to insert a new record.
- 2 Press ⌘-I for Insert.

AppleWorks asks you how many records you want to insert (Figure 7-9).

Figure 7-9

How many records to insert

| | | |
|--------------------------------------|----------------|---------------------------|
| File: Extremes | INSERT RECORDS | Escape: Review/Add/Change |
| Selection: All records | | |
| Record 34 of 34 (34 selected) | | |
| ----- | | |
| Extreme: Lowest point in U.S. | | |
| Location: Salton Sea | | |
| Measurement: - | | |
| Extra: - | | |
| ----- | | |
| Insert how many records? (Max 250) _ | | 2915K Avail. |

- 3 Enter a number between 1 and 250.
- 4 When you have finished inserting new records, press Escape to return to the Review/Add/Change screen.

Changing the Return Direction

In Multiple Record Layout, pressing Return moves the cursor down within the same category column or right to the next category column, depending on how it was set on the Record Layout screen. Many people find it easier to move around in the Multiple Record Layout if the cursor moves to the right when you press Return.

To set the Return key to work this way:

- 1 From the Review/Add/Change screen of Multiple Record Layout, press ⌘-L to change the layout.

If you have any reports defined, AppleWorks asks whether you want to change the existing record layout or use a layout from a report format; otherwise, AppleWorks immediately displays the Change Record Layout screen.

Entering Information

- 2 If you have reports defined and AppleWorks asks if you want to change the existing layout, select "Change the Existing Layout."

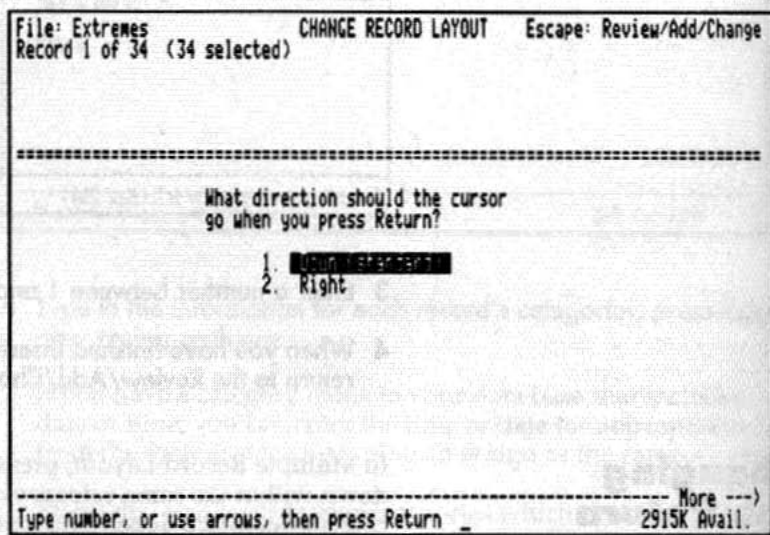
AppleWorks displays the Change Record Layout screen.

- 3 Press Escape.

AppleWorks asks which direction the cursor should go when you press Return (Figure 7-10).

Figure 7-10

Changing the cursor direction



- 4 Choose the direction you want the cursor to go and press Return.

Using Ditto to Enter Identical Entries

If several records have the same value in a particular category (same hometown or zip code for instance) but are not candidates for standard values (see "Standard Values" later in this Chapter), you can press ⌘- (the Ditto or quotation mark key) to enter the category value from the line immediately above. Do not press Shift when entering this command.

- ◆ **Return direction** If you plan to use Ditto, you should have the Multiple Record Layout Return direction set to "Down."

Moving Around a Data Base

Figure 7-11 summarizes the keystrokes you can use to move the cursor around a Data Base file. The keystrokes have the same result in both Multiple Record Layout and Single Record Layout.

Figure 7-11

Moving around a Data Base file

CATEGORY BY CATEGORY

To move cursor to next category, press **Tab**.

To move cursor to previous category, press **⇧-Tab**.

CHARACTER BY CHARACTER

To move the cursor left or right within a category, press the **←** **→** keys.

To move the cursor up or down (from category to category in Single Record Layout or from record to record in Multiple Record Layout), press the **↑** **↓** keys.

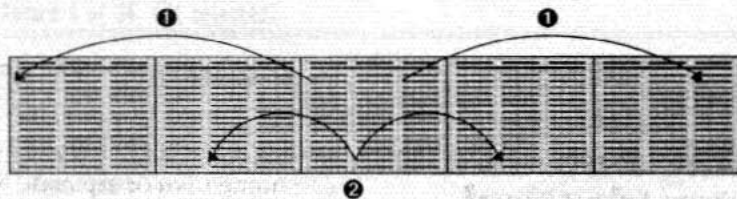
| Extreme | Location | Measurement |
|---------------|-------------------------|---------------------|
| Driest Spot | Atacama Desert, Chile | rainfall barely mea |
| Rainiest Spot | Mount Waialeale, Hawaii | Annual average rain |

| Extreme | Location | Measurement |
|-------------------------------|----------|-------------|
| Driest Spot | | |
| Rainiest Spot | | |
| Coollest Recorded Temperature | | |
| Hottlest Recorded Temperature | | |
| Strongest Recorded Wind | | |

1 START/END OF RECORD

To move the cursor to the last category, press **⇧->**.

To move the cursor to the first category, press **⇧-<**.



2 SCREEN BY SCREEN

To move the cursor left one screen, press **⇧-←**.

To move the cursor right one screen, press **⇧-→**.

Moving Around a Data Base

Figure 7-11

Moving around
a Data Base file
(continued)

3 SCREEN BY SCREEN

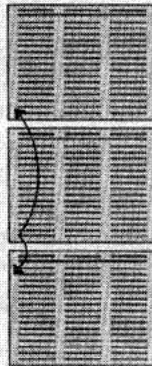
To move cursor back one
screen,* press ⌘-↑.

To move the cursor forward one
screen,* press ⌘-↓.

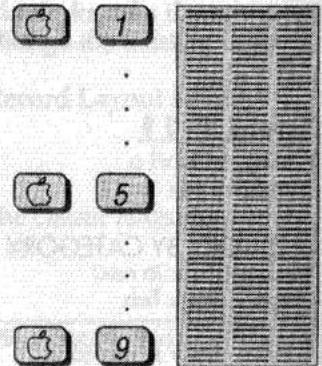
4 PROPORTIONALLY

To move to the beginning or
end of the file, or anywhere in
between, press ⌘-1...9.

* A screen is one record in
Single Record Layout or 15
records in Multiple Record
Layout.



3



4

- ◆ **Multiple Record Layout as a roadmap** Because you can switch easily between Multiple Record Layout and Single Record Layout, you can use the Multiple Record Layout display to locate the record you need, then return to the Single Record Layout display to view the entire record on one screen.

Standard Values

A standard value is information that categories in new records contain until you tell them otherwise. You can set one standard value for each category in a record. All new records start off containing any standard values that you set.

For example, perhaps most of your students are in grade 6, but some are in other grades. Make 6 the standard value for the Grade category. When filling in new records you'll need only enter a grade number for students who are not in grade 6. You can set similar standard values for categories like City, Department, or Zip code—even for a category like Last Name, if you're preparing a mailing list for the Smith family reunion.

You can make it easy on the person who will enter information into your data base (usually yourself) by setting standard values for some of the categories you have created.

Setting Standard Values

- 1 From the Review/Add/Change screen, press \odot -V for Standard Values.

AppleWorks displays the Set Standard Values screen, as shown in Figure 7-12.

Figure 7-12
Setting Standard Values

File: Extremes SET STANDARD VALUES Escape: Review/Add/Change

Record 0 of 34 (34 selected)

Extreme: -

Location: -

Measurement: -

Extra: -

Type standard category values 2915K Avail.

Standard Values

- 2 Use the **↑ ↓ ← →** keys to move the cursor to the category you want to have a standard value.
- 3 Type the standard value, then press **Return**.

Move the cursor to other categories, if you wish, and enter more standard values. Press **Return** after entering each one.

If the category name ends in *date* or *time*, entering a **@** in Standard Values will automatically enter the current date or time, as appropriate, into the new record when it is created.

- 4 When you have finished entering standard values, press **Escape**.
AppleWorks returns you to the Review/Add/Change screen.

Removing a Standard Value

- 1 From the Review/Add/Change screen, press **⌘-V** for Standard Values.

AppleWorks displays the Set Standard Values screen, as in Figure 7-12.

- 2 Use the **↑ ↓ ← →** keys to move the cursor to the category with the standard value you want to delete.

Place the cursor on the first character of the standard value.

- 3 Press **⌘-Y** to delete the standard value, then press **Return** to accept your deletion.

- 4 When you have finished deleting standard values, press **Escape**.

AppleWorks returns you to the Review/Add/Change screen.

Chapter 8

Category Rules & Options

- 1. **Category Rules** are used to define the conditions under which a category is applied to a customer's purchases.
- 2. **Options** are used to define the conditions under which a category is applied to a customer's purchases.
- 3. **Category Rules** are used to define the conditions under which a category is applied to a customer's purchases.
- 4. **Options** are used to define the conditions under which a category is applied to a customer's purchases.
- 5. **Category Rules** are used to define the conditions under which a category is applied to a customer's purchases.
- 6. **Options** are used to define the conditions under which a category is applied to a customer's purchases.

The following are the conditions under which a category is applied to a customer's purchases:

- 1. **Category Rules** are used to define the conditions under which a category is applied to a customer's purchases.
- 2. **Options** are used to define the conditions under which a category is applied to a customer's purchases.
- 3. **Category Rules** are used to define the conditions under which a category is applied to a customer's purchases.
- 4. **Options** are used to define the conditions under which a category is applied to a customer's purchases.
- 5. **Category Rules** are used to define the conditions under which a category is applied to a customer's purchases.
- 6. **Options** are used to define the conditions under which a category is applied to a customer's purchases.

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Category Rules & Options

AppleWorks has powerful options that let you:

- restrict data entry to only numbers or only text and to ensure that an appropriate number of characters (or an appropriate value) was entered
- set a data entry mask to ease input tasks and ensure consistency of data in the data base
- import data into the current data base file from another data base file or a spreadsheet
- post (export) changed categories to other data bases
- define calculations in the data base, where the value of one category is determined by the value of other categories and a formula
- automatically format entries with a variety of characteristics
- set the general preferences for each data base file

All of these functions are set up with the ⌘-O (Options) command in the data base. Note that this command is only available from the Review/Add/Change screen—when you are editing a report format, AppleWorks displays the Printer Options screen when you press ⌘-O.

- ◆ **Not for dates or times** AppleWorks automatically applies its own formatting and data entry rules to date and time categories (categories ending in the word “Date” or “Time”). Do not apply category rules to date or time categories.

Setting Category Rules

Types of Category Rules

AppleWorks lets you set the following kinds of rules for each category in your data base file. (Each category can have one rule.)

- **Text only** AppleWorks prevents you from entering anything but letters and spaces in the category (you can specify other allowable characters such as punctuation) and ensures that you have entered an appropriate number of characters
- **Numbers only** AppleWorks prevents you from entering anything but numbers (along with optional commas, minus sign, and decimal point) and ensures that the value is within a specified range
- **Mask** AppleWorks uses a “template” you specify to automatically format the input (useful for categories like phone number, social security number, or serial number)
- **Glossary** AppleWorks lets you enter data for this category from a pop-up list (can also be used to restrict entries to a certain set of values—for example, valid state abbreviations—or to “expand” an abbreviation to its full value)
- **Import** AppleWorks imports the category from another data base, based on the value you type (for example, you can type a part number in one category and have the part description and unit price, from a master inventory data base, appear in the appropriate categories automatically)
- **Export** AppleWorks exports the category to another data base, updating it (for example, if you edit a student’s name in the grade book data base, it can automatically be “posted back” to your master student file)
- **Formula** AppleWorks calculates the category’s value based on the values of one or more of the other categories in the data base and a formula you enter (for example, multiplying the unit price by the quantity entered to calculate the extended price)
- **Miscellaneous** AppleWorks lets you enter anything you like in the category but ensures that you have entered an appropriate amount of data

AppleWorks displays the rule type at the bottom of the screen when the cursor is on a category which has a rule defined.

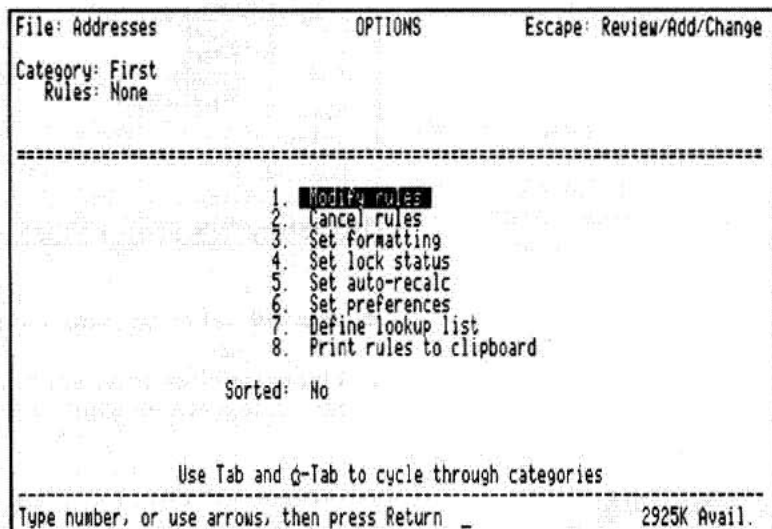
Setting Category Rules

Each type of rule has its own set of unique settings, which will be covered in more detail in following sections. Here are the general procedures for setting a category rule:

- 1 With the cursor on the category to which you want to add the rule in the Review/Add/Change screen, press **⌘-O**.

AppleWorks displays the Options screen, Figure 8-1.

Figure 8-1
Options screen



- 2 Select "Modify rules" and press Return.

AppleWorks displays the Define New Rules screen, Figure 8-2 (next page).

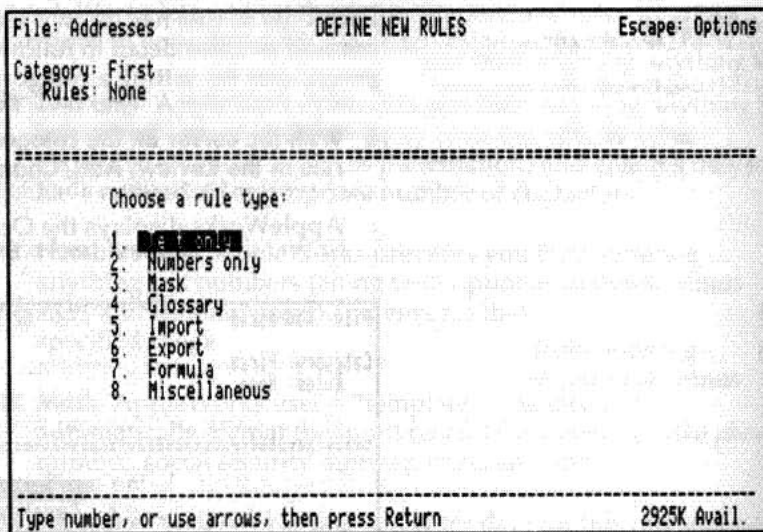
- 3 Select the type of rule you want to define, and press Return.

AppleWorks asks you to specify the settings for the type of rule you have selected. Change the default settings as specified in the following sections.

- 4 When all settings are as you like, press Escape twice to return to the Review/Add/Change screen.

Setting Category Rules

Figure 8-2
Define New Rules screen



- ◆ **Shortcut** When defining more than one category rule, only press Escape *once* after defining a rule. This will return you to the Options screen. From there, use Tab and ⌘-Tab to select the next category you want to work with.

Changing Category Rule Settings

To change the settings of a rule, without changing the *type* of rule assigned to the category:

- 1 With the cursor in the category to be changed in the Review/Add/Change screen, press ⌘-O.

AppleWorks displays the Options screen.

- 2 Select "Modify rules" and press Return.

Since a rule has already been defined for the category, AppleWorks skips the question about the type of rule to be defined, and goes immediately to the screen where you specify the settings for that rule. Make the changes as before.

- 3 When all settings are as you like, press Escape twice to return to the Review/Add/Change screen.

Canceling a Rule or Changing a Rule Type

To cancel a rule or to change the type of rule assigned to a category

- 1 **With the cursor in the category with the rule to be canceled or changed in the Review/Add/Change screen, press ⌘-O.**

AppleWorks displays the Options screen.

- 2 **Select "Cancel rules" and press Return.**

AppleWorks asks if you really want to cancel the rule.

- 3 **Select Yes and press Return.**

AppleWorks returns you to the Options screen.

- 4 **If you want to define a different type of rule, select "Modify Rules" and proceed as described in "Setting Category Rules." Otherwise, press Escape to return to the Review/Add/Change screen.**

To view or print all rules:

- 1 **From the data base Review/Add/Change screen, press ⌘-O.**

AppleWorks displays the Options screen.

- 2 **Select "Print rules to clipboard" and press Return.**

AppleWorks places the rules on the Word Processor clipboard. From here, they can be moved or copied to a word processor document to facilitate printing or viewing. However, an even quicker method is:

- 3 **Press ⌘-Q, then ⌘-C, to edit the active clipboard.**

AppleWorks displays the contents of the clipboard in the Word Processor Review/Add/Change screen to facilitate viewing or printing.

- 4 **Press Escape when you are done viewing or printing.**

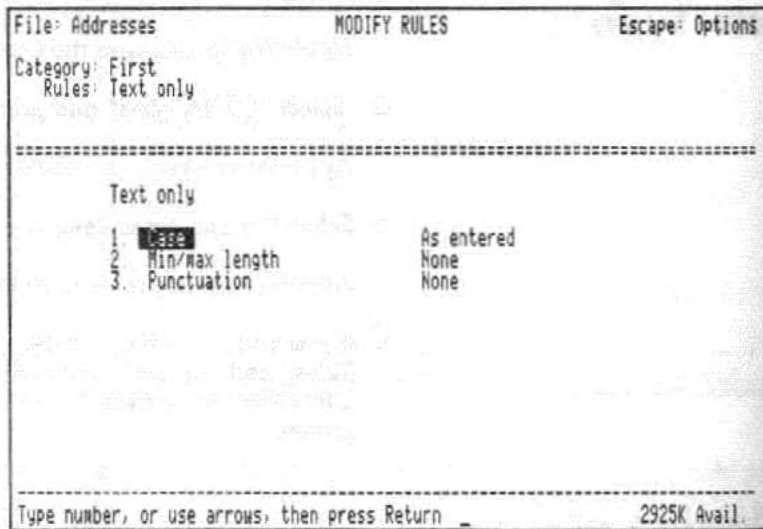
AppleWorks returns you to the Main Menu.

Viewing or Printing All Rules

Text Only Rules

When you define a Text Only rule for a category, AppleWorks allows you to set the following options (Figure 8-3):

Figure 8-3
Text Only options



- **Case** AppleWorks asks you to select from the following case (capitalization) options:
 - As entered** AppleWorks stores the text exactly as typed
 - Upper case** AppleWorks automatically changes all letters to upper case
 - Lower case** AppleWorks automatically changes all letters to lower case
 - Capitalized** AppleWorks automatically changes the first letter of each word to upper case, and changes the rest of the letters to lower case

Text Only Examples

- **Min/max length** (0-75) AppleWorks lets you specify a minimum and maximum length for the category. If the text is not at least as long as the minimum length, or if it is longer than the maximum length, AppleWorks rejects the entry. (You can always leave the category blank regardless of the Min/max settings.) To cancel the Min/max setting and allow any length entry, leave both the minimum and maximum values blank.
- **Punctuation** AppleWorks normally accepts only letters and spaces in a text only category. Enter additional characters you would like accepted here, all together, with no spaces or other characters between them.

Here are some useful settings for commonly-entered types of data:

- **Street address** Case: Capitalized; Min/max length: 10/75; Punctuation: [0123456789,].
- **State or province** Case: Upper case; Min/max length: 2/2; Punctuation: None
- **Full name** Case: Capitalized; Min/max length: 10/75; Punctuation: [,-'].

Numbers Only Rules

When you define a Numbers Only rule for a category, AppleWorks allows you to set the following options (Figure 8-4):

Figure 8-4
Numbers Only options

File: Customers MODIFY RULES Escape: Options

Category: Credit Line
Rules: Numbers only

Numbers only

| | |
|-------------------|------|
| 1. Min/max value | None |
| 2. Min/max length | None |

Type number, or use arrows, then press Return 2925K Avail.

- **Min/max value** AppleWorks lets you select the minimum and maximum values allowed in this category. If the value is not between the minimum and maximum values you specify, inclusive, AppleWorks rejects the entry. (You can always leave the category blank regardless of the Min/max settings.) To cancel the Min/max setting and allow any range of entries, leave both the minimum and maximum values blank.
- **Min/max length** (0-75) AppleWorks lets you specify a minimum and maximum length for this category. Note that this is different from the above setting which checks the number's value, not how many characters it contains. If the text is not at least as long as the minimum length, or if it is longer than the maximum length, AppleWorks rejects the entry. (You can always leave the category blank regardless of the Min/max settings.) To cancel the Min/max setting and allow any length entry, leave both the minimum and maximum values blank.
- ◆ **What's a number?** Use the "Numbers only" rule only for numbers which represent real amounts. Although data items like ZIP codes and phone numbers also contain only numbers, entry of these items is better handled by a Mask rule.

Mask Rules

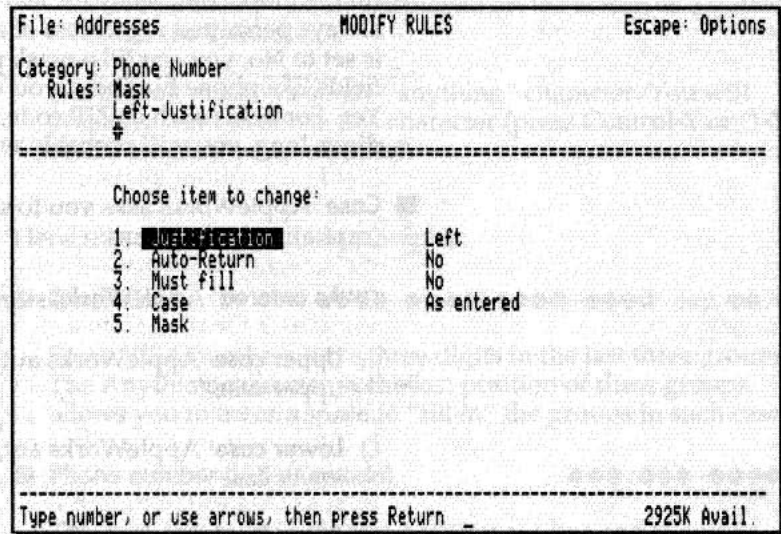
The Mask rule is designed for data which always follows a certain format. For example, a social security number always consists of three digits, a hyphen, two more digits, a hyphen, and four more digits. Other prime candidates for masks are phone numbers, serial numbers, part numbers, credit card numbers, and ZIP codes.

Since formatted data often contains characters (such as hyphens and spaces) which are always in the same place, the Mask rule also allows you to define which characters in the category always stay the same. You don't have to type these characters when entering data into a Mask field—in fact, the cursor skips right over them.

In short, Mask rules make data entry faster, greatly reduce input errors, and ensure that all data is entered in a consistent format.

When you define a Mask rule for a category, AppleWorks allows you to set the following options (Figure 8-5):

Figure 8-5
Mask options



Mask Rules

- **Justification** If you select Left, AppleWorks places the cursor at the start of the category when you begin entering data. If you select Right, AppleWorks places the cursor at the end of the category, and your entry moves left as you type (like on a calculator).
- **Auto-Return** If Auto-Return is set to Yes, AppleWorks automatically moves to the next category (as if you had pressed Return) as soon as you have filled the mask completely. If Auto-Return is set to No, you must still press Return after filling the mask. While it is faster to enter data with Auto-Return set to Yes, it can also be confusing because the masked category does not work the same as the rest of AppleWorks' categories. Also, you don't have the chance to check your entry for errors before pressing Return, the way you normally do.
- **Must fill** If this option is set to Yes, AppleWorks insists that you fill the mask completely (or leave it blank—a blank entry is always permitted regardless of any mask settings). If this option is set to No, you can fill a mask partially if you like. For data fields like phone numbers, you will probably want to set this to Yes. For fields such as ZIP code, which can be either 5 digits or 9 digits long, you will probably want to set this to No.
- **Case** AppleWorks asks you to select from the following case (capitalization) options:
 - As entered** AppleWorks stores the text exactly as typed
 - Upper case** AppleWorks automatically changes all letters to upper case
 - Lower case** AppleWorks automatically changes all letters to lower case
 - Capitalized** AppleWorks automatically changes the first letter of each word to upper case, and changes the rest of the letters to lower case

- **Mask** This is where you define the data entry mask itself. Use the following keys to define your mask:
 - **Normal characters** Normal characters—basically any key on the keyboard that can be printed on the screen—will be automatically typed for you as you use the mask. The cursor will skip over them when it is moved within a masked field, so they cannot be edited by the user of your data base.
 - **Control-A** Allows the user to enter *any* character in that character position. Displayed on the screen as a “crossroads” symbol (⛶).
 - **Control-N** Allows the user to enter only a *number* (0-9) in that character position. Displayed on the screen as a diamond symbol (◆).
 - **Control-T** Allows the user to enter only *text* (a letter A-Z) in that character position. Displayed on the screen as a dotted underline symbol (...).

The default mask is a single “anything” character. You will probably want to delete this character (press Control-Y or Ⓞ-Y) before entering your real mask.

Mask Examples

Here are some simple mask examples:

■ Credit Card

◆◆◆◆◆ ◆◆◆◆◆⛶◆◆◆◆◆⛶◆◆◆◆◆ exp ◆◆/◆◆

Some VISA numbers have three digits in the last three groups. The Anything character in the last position of these groups allows you to enter a space to “fill in” the groups in such cases.

■ Phone number (U.S./Canada)

◆◆◆/◆◆◆◆◆◆◆◆◆◆ ...

The Text character in the last position can be used to enter a single-letter code to designate the phone number as Home, Work, Day, Evening, Fax, Modem, Cellular, etc.

Glossary Rules

Glossaries are used to link one data base file to another. AppleWorks takes what you type in the category, looks up a matching record in the other data base (searching a category you specify), and automatically “types in” the corresponding information from a *different category* in the glossary data base.

Here’s a practical example. Suppose you have a category called State which must contain the full name of a state (e.g. Colorado). However, you don’t want to have to *type* the full name of the state—you’re feeling lazy, and besides, you have all the two-letter state codes memorized, and they must be good for *something*.

Therefore, you set up a simple two-category data base called “States.” In the first category, called “Code,” you enter each state’s postal abbreviation. In the second category, called “Name,” you enter the full spelled-out name of the state. Then you set up a Glossary rule in your main data base that takes the two-letter code you type, looks it up in the States data base, and types in the corresponding full-length name. The result: you can type in the two-letter code, and AppleWorks automatically translates it.

Or take it from the other direction. You need to enter the two-letter abbreviations, but you never can remember them. Is MI Michigan or Minnesota? Is AK Alaska or Arkansas? The same States data base comes to your rescue. You tell AppleWorks to give you a pop-up list of the spelled-out state name. Then you can select the state from the menu, and AppleWorks enters its abbreviation for you—automatically! (You can set it up so you can still type in the abbreviation if you happen to remember it.)

Although these two situations seem completely opposed to each other, they are both handled easily by Glossary rules. You can probably think of dozens of other instances in which these abilities will be useful.

- ◆ **Duplicate keys** If the glossary file is arranged alphabetically on the key category, AppleWorks will display a pop-up list when you enter a key which matches multiple records in the import file. If the glossary file is not sorted, AppleWorks imports from the first record which matches the entered key.

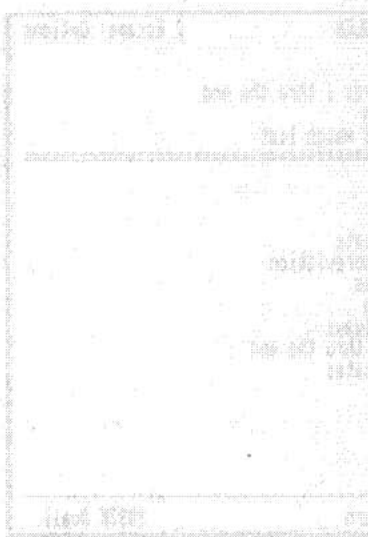
When you define a Glossary rule for a category, AppleWorks allows you to set the following options (Figure 8-6):

Figure 8-6
Glossary options

```
File: Invoice                                MODIFY RULES                                Escape: Options
Category: State
Rules: Glossary from file "States" Records 1 thru the end
List: State Result: Abbreviation
Allow partial matches; Entry must match list
=====
Choose item to change:
1. List                                     State
2. Result                                    Abbreviation
3. Allow partial matches                     Yes
4. Append when ⌘-G used                       No
5. Entry must match list                     Always
6. Records                                   1 thru the end
7. File                                       States
=====
Type number, or use arrows, then press Return _                2897K Avail.
```

- **File** If you are defining a new Glossary rule (and not modifying an existing one), AppleWorks displays a list of all the other data base files on the Desktop before allowing you to set the options. Select the file that contains your glossary and press Return. If you are modifying an existing Glossary rule, you can change the glossary file with the "File" option.
- **List** This tells AppleWorks the name of the category it should display in a pop-up list when you press ⌘-G. When you select an item from the ⌘-G list and press Return, AppleWorks enters the corresponding Result (below). The List category is also used to search for a match when you type in an entry without using the list. When you select the List option, AppleWorks displays the names of the categories in the glossary data base you selected; choose a category and press Return.

Glossary Rules



■ **Result** This tells AppleWorks which category it should get from the glossary data base and type in for you. This can be the same category as the List category—if you made a glossary file of names, you might want to be able to choose the name from the list and have the name itself entered (not some other category).

■ **Allow partial matches** If this is set to Yes, AppleWorks will let you type the first few letters of an entry, match the first item in the glossary which begins with what you typed, and enter the corresponding result in the category. For example, this would let you type in "Cal" and match "California." If this is set to No, what you type must match exactly for the glossary to work.

■ **Append when ⌘-G is used** If this is set to Yes, AppleWorks appends the result to the current category contents when you use ⌘-G. If this is set to No, AppleWorks replaces the current category contents with the result.

■ **Entry must match list** This determines what happens when AppleWorks can't find what you typed in the glossary data base. Available options are:

- Always** The entry you type must *always* be found in the glossary file. This allows you to restrict the contents of the category to certain values (for example, to validate a state abbreviation).
- Never** The entry you type must *never* be found in the glossary file. This lets you specify values that you *cannot* enter into a field (for example, a customer who has bounced several checks) by putting them into the glossary.

- **Ignore** The entry you type is accepted regardless of whether it is in the glossary file. Using this with a glossary which converts state abbreviations to spelled-out names would allow you to type in either the abbreviation *or* a spelled-out name. The spelled-out name would not be found in the glossary, but AppleWorks would accept it anyway. If you entered an abbreviation, however, AppleWorks would still convert it to the full name.
- **Only ⌘-G** The entry you type is accepted, and AppleWorks does not look it up in the glossary at all. Only ⌘-G is used to access the glossary. If you assigned "Only ⌘-G" to the glossary which converts spelled-out state names to their postal abbreviations, typing the state name would have no effect. You would need to press ⌘-G to see the list.
- **Records** Since most glossaries will be simple two-category data bases, AppleWorks gives you the capability of combining several glossaries in one data base file. AppleWorks lets you specify the range of records. Enter the first and last record numbers you want to use. (Enter END as the last record number to tell AppleWorks to use all the records in the file past a certain number.) When constructing a data base file which contains more than one glossary, put information that doesn't change (like state codes) at the beginning, and more frequently updated information (like part numbers) at the end.

Import Rules

Import rules, like Glossary rules, are used to link one data base to another. The difference is that Glossary rules work within one category in your main data base, while Import rules work with *two* categories in your main data base.

With an Import rule, you can type a customer number into one category of your invoice data base, have AppleWorks look up the customer's name in a separate customer data base or spreadsheet, then place the name in another data base category.

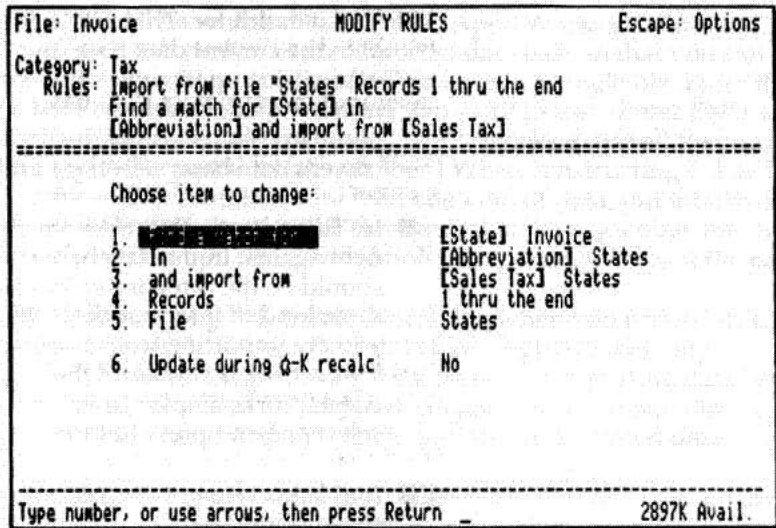
In fact, you could also have the customer's shipping address, credit limit, current balance, and other information imported into the invoice data base with a whole series of Import rules. (You can have more than one import rule looking at the customer number, so all you'd need to do is type in the customer number to have AppleWorks look up all the customer's information and bring it into the current record.)

Import rules hinge on the fact that each record in the data base you're importing from has a category which uniquely identifies each record. This category is called the *key*. In an inventory data base, the part number would be the key. In a student data base, the student ID or social security number might be the key. (If there are no two students with the same name, you could also use the name as a key, but since it's perfectly "legal" in the real world to have two students with the same name, you should avoid this. If any duplication of keys is possible, choose a better key.)

Each category you want to import *to* needs an import rule. The import rule tells AppleWorks which other category to look at (the key) in this data base, which category (or column, if you're importing from a spreadsheet) contains the key in the imported data base, and which category (or column) should be imported.

When you define an Import rule for a category, AppleWorks allows you to set the following options (Figure 8-7):

Figure 8-7
Import options



■ **File** If you are defining a new Import rule (and not modifying an existing one), AppleWorks displays a list of all the data base and spreadsheet files on the Desktop before allowing you to set the options. Select the file that contains the data you want to import and press Return. If you are modifying an existing rule, you can change the import file with the "File" option.

- One file** With this setting, AppleWorks always imports from the same file.
- File name in category** With this setting, AppleWorks looks at the category you specify in the current data base, gets the file name contained *there*, then looks in that file to find the data to be imported. You could use this feature to look up student names from various files based on what class they're in.

Import Rules

- **Find a match for** This tells AppleWorks which category to look at in the current data base (the “key”). For example, if you wanted to import a customer’s name based on their customer number, you would set “Find a match for” to [Customer Number]. AppleWorks displays a list of categories in the current data base; select one and press Return.
- **In** This tells AppleWorks which category to match the “key” field against in the data base you’re importing from. This should be the category *in the other data base* which contains the same kind of information as the “Find a match for” category. (If you are importing from a spreadsheet, this will be a column.) This setting is similar to the “List” setting in a Glossary rule. AppleWorks displays a list of categories in the other data base; select one and press Return.
- **And import from** This tells AppleWorks which category to get the imported data from in the other data base. This should be the category which contains the same kind of information as the category you’re adding the rule to. (If you are importing from a spreadsheet, this will be a column.) This setting is similar to the “Result” setting in a Glossary rule. AppleWorks asks if you want to import from one category, or from a category name contained in a category.
 - **One category** With this setting, AppleWorks always imports from the same category.
 - **Category name in category** With this setting, AppleWorks looks at the category you specify in the current data base, gets the category name contained *there*, then looks in that category in the import data base and imports the data found there. For example, if you have different prices in your inventory data base for retail and wholesale customers, you could have a category called “Price Level” in your invoice data base. Tell AppleWorks to import from the category name contained in the category “Price Level,” and you can store Retail or Wholesale there to import the price from the appropriate category in the inventory data base, depending on whether the customer is a Retail or Wholesale customer.

- **Records** As with a Glossary rule, AppleWorks can limit the search to a *portion* of the imported data base so that you can store more than one import data base in a single file. Enter the first and last record numbers you want to use. (Enter END as the last record number to tell AppleWorks to use all the records in the file past a certain number.) When constructing a data base file which contains more than one kind of data, put information that doesn't change (like state codes) at the beginning, and more frequently updated information (like part numbers) at the end.
- **Update during ⌘-K Recalc** Normally, when you press ⌘-K to force a recalculation of the data base, AppleWorks only recalculates formula categories. If you are importing data based on a key value in a calculated category, you will want to set this to Yes to force AppleWorks to update the imported data as well.
- ◆ **Using a Glossary with Import Rules** Since the key used for an import rule is often a difficult-to-remember number (like a part number or social security number), you may find it useful to define a Glossary rule on the category which contains the key. For example, in an Invoice data base which requires you to enter part numbers to look up merchandise descriptions and unit price, you would set up Import rules on the "Description" and "Unit Price" categories to import that information based on the part number, and a Glossary rule on the "Part Number" category to list the descriptions and result in the part number. Then, if you didn't know a part number, pressing ⌘-G with the cursor in the "Part Number" category would display a list of the available parts; selecting an item from the list would enter its part number and thereby cause AppleWorks to import the description and unit price from the inventory data base.

Export Rules

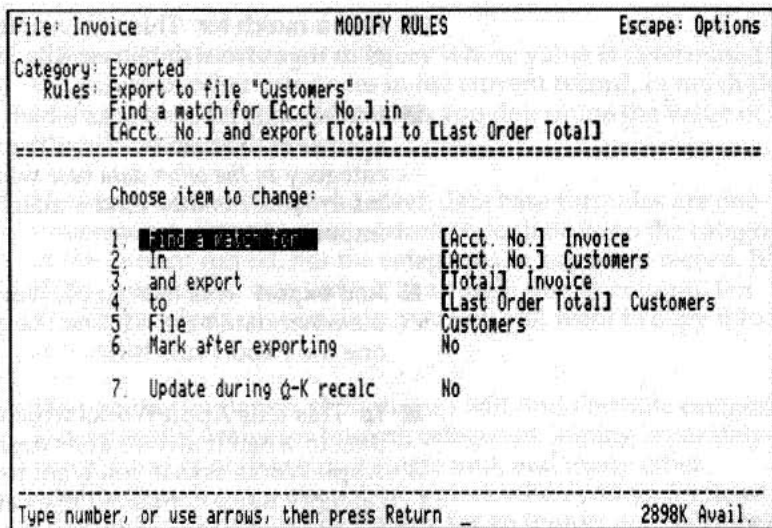
Export rules allow you to update other data base files when you make changes to your current data base. For example, you could post the Total category from an invoice record back to a summary data base.

As with Import rules, AppleWorks uses the concept of a key field to find the record in the export file which corresponds to the current record in the current file. For example, if you were posting an invoice total to a summary file, you would probably use the invoice number as the key. A record with the appropriate key must already exist in the export file.

AppleWorks, remember, allows only one rule per data base category. Therefore, you might think it impossible to export a calculated category (one with a Formula rule) to another data base, since that would require two rules on the calculated category. AppleWorks gets around this limitation by allowing you to place the Export rule on *any* category. The rule does not need to be on the category you wish to export, but can be on a regular data entry category which does not need any other rules. You could also set up an extra category, if you like, with no purpose other than holding the export rule.

When you define an Export rule for a category, AppleWorks allows you to set the following options (Figure 8-8):

Figure 8-8
Export options



■ **File** If you are defining a new Export rule (and not modifying an existing one), AppleWorks displays a list of all the data base files on the Desktop before allowing you to set the options. Select the file that you want to export to, then press Return. If you are modifying an existing rule, you can change the export file with the "File" option.

- One file** With this setting, AppleWorks always exports to the same file.
- File name in category** With this setting, AppleWorks looks at the category you specify in the current data base, gets the file name contained *there*, then places the data being exported into that file. You could use this feature to place student test scores into various files based on what class they're in.

Export Rules

- **Find a match for** This tells AppleWorks which category to look at in the current data base (the key), just as in an Import rule.
- **In** This tells AppleWorks which category to match the key field against in the data base you're exporting to. This should be the category *in the other data base* which contains the same kind of information as the "Find a match for" category, just as in an Import rule.
- **And export** This tells AppleWorks which category to export to the other data base. This can be a different category from the one the Export rule is in.
- **To** This tells AppleWorks which category to put the exported data in when it arrives at its destination in the export file. AppleWorks asks if you want to export to one category, or to a category name contained in a category.
 - **One category** With this setting, AppleWorks always exports to the same category.
 - **Category name in category** With this setting, AppleWorks looks at the category you specify in the current data base, gets the category name contained *there*, then exports to that category in the other data base. For example, if you had a data base of sales transactions, you could use this feature to export each salesperson's totals to a different category depending on the region they were in.
- **Mark after exporting** If this is set to Yes, AppleWorks places the export flag (see "Flag exports text" in "Preferences," later in this chapter) in the category which contains the rule. This lets you see at a glance which records have been exported. If you have attached the Export rule to a category which is used for other data, you will want to leave this set to No.
- **Update during ⌘-K recalc** If this is set to Yes, AppleWorks performs the export whenever the record is recalculated with ⌘-K. You will want to set this to Yes if you are exporting a Formula category, and leave it set to No otherwise.

Formula Rules

A Formula rule sets up a category whose value is determined by the values of other categories in the current record, in much the same manner the spreadsheet lets you determine the value of a cell from the value of other cells.

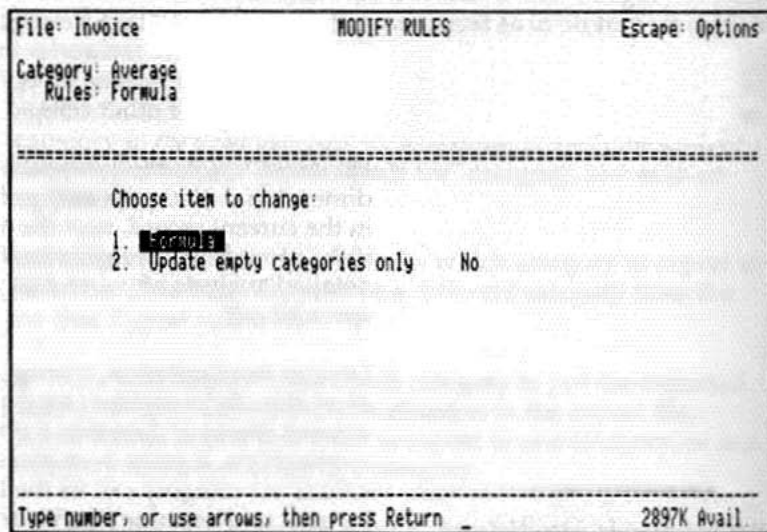
However, unlike the spreadsheet, data base formulas are one-dimensional. You can only perform calculations on the categories in the current record, not the categories in any other record. It's as if the spreadsheet was limited to a single row or column. For detailed analysis of your data, you will still want to copy it to the spreadsheet.

Despite this limitation, though, you will find Formula categories exceptionally useful for totaling categories, joining separately-entered pieces of data into a single unit, and many other applications. It gains even more power when you understand that a Formula category can be the key for an import or export, or can be used to determine the file or category used for an import or export using the "Category name in category" or "File name in category" options.

When you define a Formula rule for a category, AppleWorks allows you to set the following options (Figure 8-9):

Formula Rules

Figure 8-9
Formula options



- **Formula** The formula itself. Use arithmetic operators and functions (next section) to combine the values of other categories. Categories are referenced by placing their names between square brackets, as in [Category].

AppleWorks performs calculations from left to right; you can control mathematical precedence (the order in which calculations are performed) with parentheses.

For example, AppleWorks evaluates the formula $5*2+3$ left to right in the order it's written: first multiplying $5*2=10$, then adding $10+3=13$. You can control the precedence (the order) with parentheses. Changing the formula to $5*(2+3)$ tells AppleWorks to evaluate the part of the formula in parentheses first: $2+3=5$. Then AppleWorks multiplies the value inside the parentheses by the value outside: $5*5=25$.

In complex formulas, AppleWorks first evaluates the formulas within the innermost parentheses.

- ◆ **Shortcut** Press ⌘-C to enter a category name by choosing it from a list. Press ⌘-F to enter a function by choosing it from a list.

When Formulas Are Calculated

AppleWorks updates categories with Formula rules under the following circumstances:

- When you press ⌘-K to tell AppleWorks to recalculate
- When you make a change in a category which has Auto-recalc set (see "Other Category Options" later in this chapter)

AppleWorks never updates categories with Formula rules under these circumstances:

- When the formula category is locked
- When the "Update empty categories only" option is set to Yes and the category already contains a value of some kind

Press ⌘-K to tell AppleWorks to recalculate formulas. AppleWorks gives you the following options:

- **This record** AppleWorks recalculates the current record
- **Range of records** AppleWorks asks you to specify the range of records to be highlighting them on the screen (only works in Multiple Record Layout)
- **Active records** AppleWorks recalculates only the records displayed under the current selection rules (if no selection rules are active, the entire file is recalculated)
- **Entire file** AppleWorks recalculates all records

When recalculating a file, AppleWorks deals with three types of category rules: imports, formulas, and exports. (Import and Export rules are only dealt with if their "Update on ⌘-K recalc" option is set to Yes.) Normally, imports are performed first, then formulas are calculated, and finally, exports are performed. You can change the order of the first two operations with the "Recalc order" preference (see "Preferences," later in this chapter). Exports, if any, are always performed last.

Recalculating Formulas Manually

Formula Reference

Variables

There are three different types of variables in a formula. *Text* and *Number* are the most commonly used.

■ **Text** Text can be indicated in several ways. The examples below all return the text characters "Test". Literal text must be surrounded by single quotes, double quotes or colons.

- **Literal text** @Caps ("Test")
- **The result of a function** @Caps (@Left (:tester's:, 4))
- **The contents of another category** @Caps ([Words]) when category Words contains Test

When multiple Text parameters are required by a function, this manual refers to them as *Text1*, *Text2*, etc. *Textn* means any number of text items may be entered.

■ **Numbers** Numbers may be indicated in the same three ways as text. The examples all result in "30" being returned.

- **Literal numbers** @Int (30)
- **The result of a function** @Int (@Sum (5, 10, 15))
- **The contents of another category** @Int ([Nums]) if category Nums contains 30

When multiple Number parameters are required by a function, this manual refers to them as *Number1*, *Number2*, etc. *Numbern* means any number of number items may be entered.

■ **Boolean** Boolean is a special usage of *Number* which evaluates either to zero or non-zero. Zero means false, while non-zero means true. All non-zero numbers have exactly the same effect.

■ **Value** When a function accepts parameters of either Text or Number, we use the term *value*.

■ **Dates** For functions which operate on dates (or return dates), the dates must be between January 1, 1904 and June 5, 2083, inclusive. See "Julian Dates & Date Math" in Chapter 15 for more information about how AppleWorks performs calculations on dates.

Operators

Formulas may include arithmetic and logical operators which control how the formula is evaluated.

- **Arithmetic Operators** Arithmetic operators result in arithmetic calculations. AppleWorks supports the basic operators:

| | |
|----|------------|
| + | add |
| - | subtract |
| * | multiply |
| / | divide |
| () | precedence |

- **Logical Operators** Logical operators are used to determine if an expression evaluates to a true (non-zero) or false (zero) result. This boolean (true or false) result is used to control what functions do. See "Boolean" in the preceding section.

| | |
|----------|-----------------------------|
| $x < y$ | true if x is less than y |
| $x > y$ | true if x is greater than y |
| $x <> y$ | true if x is not equal to y |
| $x = y$ | true if x equals y |

Date Functions

@Time

Returns the current time in the current AppleWorks time format. You must have a clock to use this function.

@TimeToNum([category])

Converts an AppleWorks time category ("time" must be in the name) into minutes, resulting in a number from 0-1439 (0= 12:00 AM and 1439 = 11:59 PM). Divide the result by 60 to get hours.

@Today

Returns the current date in the current AppleWorks date format. Normally the "Update empty categories only" option should be set to Yes so that only new records get modified.

Formula Reference

@DateToJul(Text)

Converts a text date to Julian date. An AppleWorks date category may be specified for the Text variable.

@JulToDate(Number1,Number2)

Converts Julian date in *Number1* to AppleWorks date type specified by *Number2*. Here are the date types:

1. AppleWorks standard
2. Mon DD YYYY Oct 1 1993
3. DD Mon YYYY 1 Oct 1993
4. MM/DD/YYYY 10/1/1993
5. MM/DD/YY 10/1/93
6. DD/MM/YY 1/10/93
7. Month DD YYYY October 1 1993
8. DD Month YYYY 1 October 1993

@MoFromJul(Number)

Returns month as number 1-12 from Julian date in *Number*.

@DayFromJul(Number)

Returns day as number 1-31 from Julian date in *Number*.

@YrFromJul(Number)

Returns year as number (such as 2010) from Julian date.

Text Functions

@Right(Text,Number)

Returns *Number* characters from the right of *Text*.

@Left(Text,Number)

Returns *Number* characters from the left of *Text*.

@Mid(Text,Number1,Number2)

Returns *Number2* characters starting at position *Number1* of *Text*.

@Upper(Text)

Returns *Text* with all characters set to upper case.

@Lower(Text)

Returns *Text* with all characters set to lower case.

@Caps(Text)

Returns *Text* with each word capitalized. This function never changes letters to lower case, so to force true capitalization, use

@Lower first: @Caps(@Lower("teST cASE"))

@Join(Text1,Text2,Textn)

Joins (concatenates) *Text* items. For example, @Join("Bill The", [Species]) would return "Bill The Cat" if the Species category had the text "Cat" in it at recalculation time. In another record, Species might contain "Client," and "Bill The Client" results.

@Len(Text)

Returns the length of the specified text or category.

@Find(Text1,Text2,Number,Boolean)

Returns position of *Text1* inside of *Text2* starting with *Number*. If *Boolean* is false, case is ignored, but if *Boolean* is true, the case must match for find to succeed. Returns a 0 if *Text1* isn't found. This function would be pretty useless by itself, and is normally used to supply a number to another function.

@Abs(Number)

Returns the absolute value of *Number*, changing the number to positive if it's negative.

@Sqrt(Number)

Returns the square root of *Number*.

@Max(Number1,Number2,Numbern)

Returns the highest value found in the series of *Numbers*.

@Min(Number1,Number2,Numbern)

Returns the lowest value found in the series of *Numbers*.

@Sum(Number1,Number2,Numbern)

Returns the total of the series of *Numbers*.

@Avg(Number1,Number2,Numbern,Boolean)

Averages a series of *Numbers*. If *Boolean* is true, only non-zero categories will be used; if *Boolean* is false, all categories will be used.

Numeric Functions

Formula Reference

@Val(Text)

Returns the numeric value of a literal or a category. The value must be all numeric; otherwise @Val returns zero.

@Round(Number1,Number2)

Rounds *Number1* to decimal places specified by *Number2*. It rounds down if the last number is 0-4, and rounds up for 5-9. Example: @Round(3.14159,3) = 3.142.

@Int(Number)

Returns the integer portion of *Number*. @Int(4.55) = 4.

@Dec(Number)

Returns the decimal portion of *Number*. @Dec(4.5) = .5.

@Inv(Number)

Returns the inverse sign of *Number*. Examples: @Inv(4) = -4, @Inv(-4) = 4, and @Inv(@Int(@Abs(@Round(4,0)))) = -4.

Logic Functions

@And(Number1,Number2)

Returns the logical AND of any two numbers. Any non-zero number is considered true. The result is zero (false) unless both numbers are true (non-zero).

@Or(Number1,Number2)

Returns the logical OR of any two numbers. Any non-zero number is considered true. The result is 1 (true) unless both numbers are false (zero).

@Not(Number)

Returns the logical inverse of any argument. @Not(1)=0 and @Not(0) = 1.

@Choose(Number,Text1,Text2,Textn)

Returns *Text* item equivalent to *Number*. For example, if *Number* is 2, *Text2* will be returned. If *Number* is 0 or greater than the number of *Text* items, a blank will be returned.

@Match(Textx,Text1,Text2,Textn)

Returns number of *Text* item which matches *Textx*. For example, if category *Item* contained "two" and the function was @Match([Item],"one","two","three") the result would be 2.

@If(Boolean,Value1,Value2)

Returns *Number1* if *Boolean* is true, or *Number2* if *Boolean* is false. @If(1,5,10) returns 5.

Special Functions

@Alert(*Text*)

Sounds an error tone and displays an alert message. Use with @If to test a particular category for a valid range of values and alert the user to an error condition:

```
@If([Age]>15,[Age],@Alert("You can't drive"))
```

@Alert only functions if the targeted category has changed since the last recal.

@CurRecNo

Returns the current record number at the time of recalculation. This is the same number displayed in the single record layout.

@PriorRec(*Category*)

Returns the contents of the specified category in the previous record. In the first record, this returns the standard value for the category.

@CurRow

Returns the current record's row number. If record selection rules are not active, the result will be identical to @CurRecNo, but if rules are active, the number coincides to the record's position in the sequence of selected records.

@TotRecs

Returns the total number of records in the file.

@Inc(*Number1*,*Number2*)

Automatically increments by *Number2* starting with *Number1*. This function is only evaluated when the entire file is being recalculated using Ⓞ-K.

Other Category Options

Set Formatting

AppleWorks can automatically format numeric and text entries. Formats can be applied to categories regardless of any rules defined, so you can apply a format to an imported or calculated category as well as categories without rules.

To define a category format:

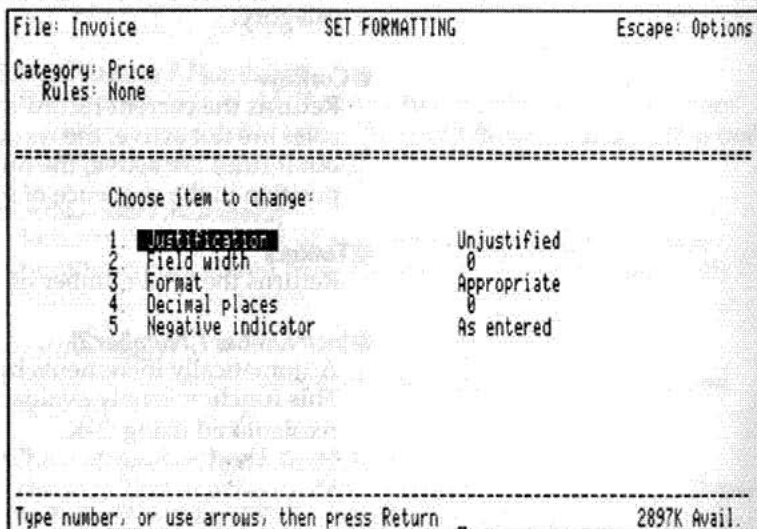
- 1 With the cursor in the category you want to format, showing the Review/Add/Change screen, press **⌘-O**.

AppleWorks displays the Options screen.

- 2 Select "Set formatting" and press **Return**.

AppleWorks displays the Set Formatting screen, Figure 8-10.

Figure 8-10
Set Formatting screen



3 Change the formatting options as desired.

- **Justification** Determines whether the category contents is justified left, right, or unjustified.
 - Left** The category contents appear left-justified in the field width. If the contents do not fit in the field width, the excess data is not displayed.
 - Right** The category contents appear right-justified in the field width. If the contents do not fit in the field width, the excess data is not displayed.
 - Unjustified** The category contents are displayed in AppleWorks' usual format, allowing any amount of data (up to 78 characters) to be displayed.
- **Field width** Determines the width of the field for display purposes. Data can be longer if imported from another file or calculated by a formula rule, but only this many characters will be displayed.
- **Format** Determines the format for numeric values. Available formats are:
 - Fixed** A fixed number of decimal places from 0-7
 - Money** Dollar sign, commas separate thousands, decimal places from 0-7
 - Commas** Commas separate thousands, decimal places from 0-7
 - Percent** Decimals converted to whole numbers (0% -100% with trailing percent symbol (%), decimal places from 0-7
 - Appropriate** AppleWorks accepts the figure the way you type it in, adds decimal places as necessary in calculations

4 From **Format** to return to the **Review/Add/Change** screen.

Other Category Options

- **Negative Indicator** Determines how AppleWorks displays negative values. Choices are:
 - As entered** Does not change your negative indicator
 - Parentheses** Encloses negative values in parentheses
 - Leading -** Places a minus sign in front of negative values
 - Trailing -** Places a minus sign after negative values
- 4 **Press Escape when you have changed the settings as desired.**

AppleWorks returns you to the Options screen. Press Escape once more to return to the Review/Add/Change screen.

Updating a Category's Format

If you have already entered data into a category before you set up the category's formatting options, or if you change the format of a formatted category, AppleWorks must be told to update all the entries in the category to the new format. Use the ⌘-U command to update formats. The options for this command are:

- **This record** AppleWorks updates the current record
- **Range of records** AppleWorks asks you to specify the range of records to be updated by highlighting the first and last records (multiple record layout only)
- **Active records** AppleWorks updates only the records displayed under the current selection rules (if no selection rules are active, the entire file is updated)
- **Entire file** AppleWorks updates all records

Set Lock Status

Lock Status is set from the ⌘-O Options screen. When a category is locked, no changes can be made to it. (Even Formula rules are not recalculated.)

To change Lock Status:

- 1 With the cursor in the category you want to lock or unlock in the Review/Add/Change screen, press ⌘-O.

AppleWorks displays the Options screen.

- 2 Select "Set lock status" and press Return.

AppleWorks asks if you want the category locked.

- 3 Select Yes or No to lock or unlock the category, then press Return.

- 4 Press Escape to return to the Review/Add/Change screen.

Set Auto-Recalc

AppleWorks can automatically recalculate the current record when you make a change to a particular category. This can keep your formula categories correct without ever using ⌘-K.

To activate Auto-recalc:

- 1 With the cursor in the category you want to trigger auto-recalc in the Review/Add/Change screen, press ⌘-O.

AppleWorks displays the Options screen.

- 2 Select "Set auto-recalc" and press Return.

AppleWorks asks if you want a change in the category to trigger an auto-recalc.

- 3 Select Yes or No to activate or deactivate auto-recalc category, then press Return.

- 4 Press Escape to return to the Review/Add/Change screen.

Lookup Lists

Glossary and Import categories let you bring information into the current data base from another data base. As such, they are extremely powerful. AppleWorks also gives you another tool for linking data bases—the *lookup list*.

Let's look again at an example we've used several times in this chapter. We have two data base files. One file contains a list of all our customers' names and addresses, and other information. The other file contains invoice data—one invoice per record. We have set up import and glossary rules so that typing a customer number into an invoice (or choosing a customer name from a pop-up ⌘-G list) imports the customer's name, address, and so forth from the customer data base.

Since one customer can have any number of invoices, the same customer number can appear many times in our invoice data base. However, each customer number appears only once in the customer data base, so that AppleWorks can uniquely identify a customer for importing. This relationship of the invoice data base to the customer data base is therefore called a *many-to-one* relation.

AppleWorks' *lookup list* feature lets you take advantage of the relationship from the other direction. For example, in the customer data base, you could use a lookup list to get a list of all a particular customer's orders (based on which customer is being displayed)—*without* having to go to the invoice data base and set record selection rules.

You can probably think of many other uses for this feature. For example, you could set up a tardy/absent data base containing categories for a student's ID number, the date, and the word "absent" or "tardy." Each time the student is absent, you could add a record to this data base. (Naturally, you could use a glossary rule in this file to make finding the student's ID a snap, and an import rule to bring in the student's name when the ID is entered.) Using a lookup list in the master student file, you'll be able to move to a student's record, press ⌘-J, and instantly view a detailed list of their tardies and absences from that data base.

Each data base can have one lookup list.

Defining or Changing a Lookup List

To define a lookup list, or to change an existing lookup list:

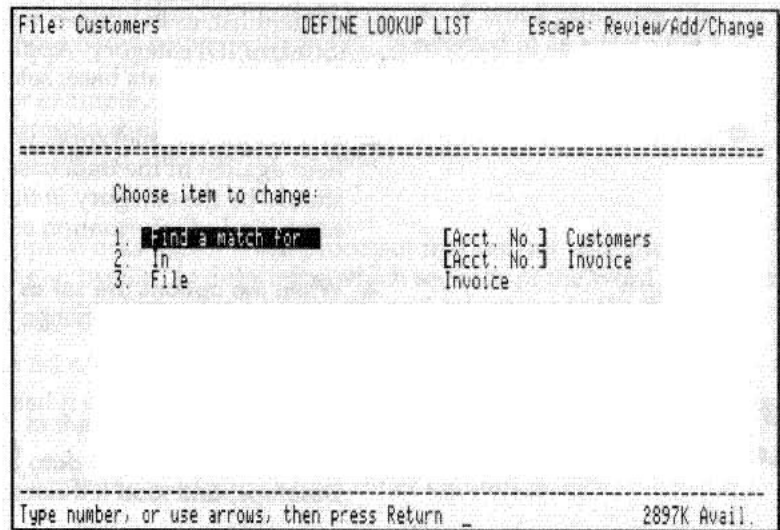
- 1 At the Review/Add/Change screen, press **⌘-O**.

AppleWorks displays the Options screen.

- 2 Select "Define lookup list," then press **Return**.

AppleWorks displays the Define Lookup List screen, as shown in Figure 8-11.

Figure 8-11
Define Lookup List screen



Lookup Lists

3 Set the lookup list options as desired.

- **File** If you are defining a new lookup list (and not modifying an existing one), AppleWorks displays a list of all the data base files on the Desktop before allowing you to set the options. Select the file that you want to look up items in, then press Return. If you are modifying an existing lookup list, you can change the export file with the "File" option.
- **Find a match for** This tells AppleWorks which category to look at in the current data base (the key). For example, if you wanted to look up a student's tardies and absences from the master student list, as in our second example, you would choose the [Student ID] category. AppleWorks displays a list of categories in the current data base; select one and press Return.
- **In** This tells AppleWorks which category to match the "key" field against in the data base containing the lookup data. This should be the category *in the other data base* which contains the same kind of information as the "Find a match for" category.

4 When the options are set as you like, press Return twice to return to the Review/Add/Change screen.

To use a lookup list once it has been defined:

- 1 Make sure the lookup data base is on one of AppleWorks' three Desktops, and load it if necessary.
- 2 While viewing the master data base in the Review/Add/Change screen, press ⌘-J.

Using the multiple record layout, AppleWorks displays the records in the other data base with key fields which match the key field in the current record of the current data base.

- 3 Browse through the records, then press Escape to return to the Review/Add/Change screen.

While browsing, use the ⬆ ⬇ ⬅ ➡ keys, and the Tab and ⌘-Tab keys, to move through the displayed records and categories. Use ⌘-Z to toggle between multiple record layout and single record layout. Use ⌘-F to further restrict the selection with Find.

Using a Lookup List

Word Processor Window

The Data Base also includes a way to link a word processor document to a data base. This allows you to provide customized help screens for each category in your data base. It also gives you the capability to store a large quantity of free-form text "connected to" each record in a data base (for example, a student's complete disciplinary history linked to that student's entry in the master student list, or a lengthy part description linked to each record in an inventory data base).

Creating the Word Processor Document

Create a new word processor file as usual. Name the file the same name as the data base it is to be linked to, preceded by "H." (The "H" stands for Help, because the word processor file will hold help information for the data base file. A word processor file whose name begins with an "H" is referred to as a Help file.)

For example, if your data base is named "Students," the corresponding word processor file must be named "H.Students." (The period after the "H" is vital.)

Writing the Help File

AppleWorks uses a word processor marker (set with the SM printer option) to determine which sections of the word processor document correspond to records and categories in the document.

To set a data base marker:

- 1 In the Word Processor Review/Add/Change screen, press \odot -O.

AppleWorks displays the Printer Options screen.

- 2 Type SM, then press Return.

AppleWorks asks which marker number should be set.

- 3 Type 150, then press Return.

AppleWorks inserts a Set Marker: 150 printer option. Figure 8-12 shows how the screen looks with this option set.

Word Processor Window

Figure 8-12
Data Base marker in
Word Processor file



4 Press Escape.

AppleWorks returns to the Review/Add/Change screen.

5 If necessary, press \odot -Z so that the marker is visible.

6 On the line following the marker, enter the subject text for this section of the word processor document.

The subject text can be one of two things:

- Category name** For example, if you wanted to provide help for the data base category called "Part Number," you would enter "Part Number" (without the quotes) below the marker.
- Record key** For example, if you wanted to enter Joseph Gleason's disciplinary history (a lengthy item perfectly suited for storage in a word processor document), you would enter his student ID number below the marker.

Viewing the Help File

- 7 Enter the information you would like to have associated with this subject on the following lines.

All standard Word Processor options are available to you.

- 8 To enter another marker, position the cursor at the end of the document (⌘-9) and follow these instructions again beginning with step 1.

■ **Editing an existing help file** Help files can be edited just like any other word processor document. Just be aware of the locations of the markers (we suggest leaving Zoom on) and make sure that each marker is followed by an appropriate subject on a line by itself. If you delete a data base marker, be sure to delete the associated text as well.

- ◆ **Tip** When AppleWorks can't find the section that matches a data base category or key value, it displays the whole file. Therefore, we suggest that you place general help information *before* the first marker—or, at the very least, a message stating "No information available for this record."

To view the information in a help file from its data base:

- 1 In the Review/Add/Change screen of the data base, move the cursor to the category you want help on, or to the category which contains a key value that is also contained in the help file (for example, Student ID).
- 2 Press ⌘-` for information about the category, or ⌘-W for the information related to the particular record.

AppleWorks displays a window containing the appropriate information from the help file. If no match for the category or key was found, AppleWorks displays the entire word processor file for your perusal.

- 3 Browse through the help information using the ↑ and ↓ keys, or use ⌘-↑ and ⌘-↓ to move a page at a time, or use ⌘-1 and ⌘-9 to move to the beginning or end, respectively, of the information.
- 4 Press Escape to return to the data base Review/Add/Change screen.

Preferences

In addition to the settings defined by the Standard Settings screen (see Appendix B), which are used throughout AppleWorks, each data base file has its own set of preferences.

To change the preferences for the current data base:

- 1 From the Review/Add/Change screen, press **⌘-O** for Options.

AppleWorks displays the Options screen.

- 2 Select "Set preferences," then press Return.

AppleWorks displays the Set Preferences screen, Figure 8-13.

Figure 8-13
Set Preferences screen

| | | |
|---|--------------------------|-----------------|
| File: Customers | SET PREFERENCES | Escape: Options |
| Category: Acct. No. | | |
| Rules: None | | |
| ===== | | |
| Set preferences | | |
| 1. Case-sensitive imports | No | |
| 2. Case-sensitive sorting | No | |
| 3. Edit formula categories | No | |
| 4. Errors before message shown | 0 | |
| 5. Beep on illegal characters | No | |
| 6. Import from disk | No | |
| 7. Recalc order | Import, then recalculate | |
| 8. Flag exports text: | None | |
| 9. Display century in dates | Yes | |
| 10. Add year to dates | Yes | |
| ===== | | |
| Type number, or use arrows, then press Return | | 2896K Avail. |

- 3 Change the preferences as desired.

Press the **↑** and **↓** keys to highlight the preference to be changed, and press Return to change the preference. Available preference settings include:

- **Case-sensitive imports** Determines whether AppleWorks pays attention to case differences when searching another data base for a value to be imported. With this option set to No, entering Mi or mi in an import category would match MI (the abbreviation for Michigan) in a states data base. With this option set to Yes, you would need to enter MI in all upper case before AppleWorks would find the import data.
- **Case-sensitive sorting** Determines whether AppleWorks pays attention to case differences when sorting. With this option set to No, "Apple," "apple," and "APPLE" would all be considered equivalent and would appear next to each other when the data base file is arranged (sorted). With this option set to Yes, a lower case letter is considered to be alphabetically "higher" than all upper case letters, so "apple" would come after *all* records which started with *any* upper case letter. (See the ASCII chart in Appendix C to see exactly how AppleWorks determines sorting order.)
- **Edit formula categories** Determines whether AppleWorks lets users make changes to categories which contain formulas. If set to No, AppleWorks treats formula categories as locked. Otherwise, AppleWorks lets you change the result of the formula once it has been calculated. Imports are considered calculations, so this setting also affects categories with import rules.
- **Errors before message shown** Determines how many invalid keystrokes AppleWorks lets you make in a category with a rule defined before an error message is displayed. If this is set to zero, AppleWorks never displays an error message.
- **Beep on illegal characters** If set to Yes, AppleWorks beeps whenever an invalid character is typed in a text-only, numbers-only, or mask category. (This is independent of the error message setting, above.)
- **Import from disk** If set to Yes, AppleWorks will look on disk (on the current disk or in the current directory) if a file referenced in an import rule cannot be found on one of AppleWorks' Desktops.

Preferences

- **Recalc order** Determines whether AppleWorks performs recalculations of formula categories before or after imports. Usually, you want imports to be performed first so that any calculated categories which reference the imported data will be updated; however, if you're importing data based on a calculated key, you will probably want to recalc first.
 - **Flag exports text** Determines the text entered into the category containing an export rule. This allows you to easily see which records have been exported. The default setting is None, which means that AppleWorks does not place any data in the category.
 - **Display century in dates** Determines whether AppleWorks displays years as two or four digits. If you are working with genealogical or historical data, you may want to set this option to Yes.
 - **Add year to dates** Determines whether AppleWorks automatically assumes the current year for dates entered without a year. If this option is set to Yes, any date entered without a year will have the current year appended. If set to No, dates entered without a year will be stored without a year.
- 4 Press Escape twice when you have finished changing the preferences to your liking.**

AppleWorks returns to the Review/Add/Change screen.

Chapter 9

Modifying a Data Base

Blank Page

Modifying a Data Base

After you create a data base and enter data into it, you may still add new categories or delete existing ones. You can also change the layout of the screen in either Single Record Layout or Multiple Record Layout.

Adding & Deleting Categories

You can change the way the categories in the data base appear in Multiple Record Layout and Single Record Layout.

- ◆ **Important when inserting or deleting categories** If you delete an existing category from a data base that already has information in it, you delete all the information in that category from every record. If you add a new category to an existing data base, you'll have an empty category in every record that you must fill by using ditto or by typing information into the new category in every record.
- ◆ **Important** The steps in the following sections assume that you have added an existing data base file to the Desktop, and are starting with the Review/Add/Change screen.

Adding a Category to an Existing Data Base

- 1 Press **⌘-N** to display the Change Name/Category screen, as shown in Figure 9-1.

AppleWorks displays the Change Name/Category screen with the filename on the prompt line.

Figure 9-1

Adding a category to an existing data base

| | | |
|------------------------------|----------------------|----------------------------------|
| File: Presidents | CHANGE NAME/CATEGORY | Escape: Review/Add/Change |
| Category names | | |
| 1 Name | | Options: |
| 2 Number | | Change category name |
| 3 Political Party | | Up arrow Go to previous category |
| 4 Birth Year | | Down arrow Go to next category |
| 5 Birthdate | | ⌘-I Insert new category |
| 6 Birthplace | | ⌘-D Delete this category |
| 7 Inauguration Date | | |
| 8 Inauguration Age | | |
| 9 Year of Death | | |
| 10 Date of Death | | |
| 11 Age at Death | | |
| 12 Vice President | | |
| Type entry or use ⌘ commands | | 2919K Avail. |

Deleting a Category from an Existing Data Base

- 2 Press Return to accept the current filename (or type a new filename, if you wish, then press Return).
- 3 Use the \uparrow \downarrow keys to position the cursor where you want to insert the new category.
- 4 Press \odot -I for Insert.
- 5 Type the name of the new category, then press Return.

You can add more than one new category by repeating steps 3 through 5.

- 6 When you have finished adding new categories, press Escape to accept the data base and return to the Review/Add/Change screen.

- 1 Press \odot -N to display the Change Name/Category screen, as shown in Figure 9-1.
- 2 Press Return to accept the current filename (or type a new filename, if you wish, then press Return).
- 3 Use the \uparrow \downarrow keys to position the cursor on the category that you want to delete.
- 4 Press \odot -D for Delete.

AppleWorks confirms that you want to do this.

- 5 Press Y for Yes or N for No.

AppleWorks removes the category you have indicated. You can delete more categories by repeating steps 3, 4, and 5.

- 6 When you have finished deleting categories, press Escape to accept the data base and return to the Review/Add/Change screen.

Changing Layouts

Changing the Multiple Record Layout

AppleWorks lets you change how the data is displayed on the screen.

You can change the order of categories in Multiple Record Layout and determine which categories AppleWorks displays.

- ◆ **Deleting categories** Deleting categories from the Multiple Record Layout merely hides categories from being displayed on the screen—it does not actually delete them from the data base.

1 Press **⌘-L** to change the layout for the data base.

If you have any reports defined (for information on reports, see Chapter 11, "Creating a Table Report"), AppleWorks asks whether you want to change the existing layout or get a report format. If you get a report format, the data base conforms to that format (including record selection).

2 Select "Change the existing layout," then press Return.

AppleWorks displays the Change Record Layout screen, as shown in Figure 9-2. If you have more category columns in your data base than fit on the screen, you can press **←** and **→** to see them.

Figure 9-2
Changing the Multiple Record Layout

←/→ move cursor from one column to another

⌘-←/→ switches category containing the cursor with the category to its left or right

⌘-←/→ shrinks or widens the column width

⌘-D deletes (hides) the category but leaves the data in it intact

⌘-I brings a hidden category out of hiding

| File: Presidents | | CHANGE RECORD LAYOUT | | | | Escape: Review/Add/Change | | |
|---|--------|----------------------|------------|-----------|------------|---------------------------|--------------|--|
| Record 1 of 42 (42 selected) | | | | | | | | |
| ----- | | | | | | | | |
| --> or <-- Move cursor | | | | | | | | |
| > ⌘ < Switch category positions | | | | | | | | |
| --> ⌘ <-- Change column width | | | | | | | | |
| ⌘-D Delete this category | | | | | | | | |
| ⌘-I Insert a previously deleted category | | | | | | | | |
| ----- | | | | | | | | |
| 25 | 6 | 9 | 10 | 10 | 11 | 17 | | |
| Name | Number | Political | Birth Year | Birthdate | Birthplace | In | | |
| ----- | | | | | | | | |
| George Washington | 1 | Fed | 1732 | 2/22 | VA | 17 | | |
| John Adams | 2 | Fed | 1735 | 10/30 | MA | 17 | | |
| Thomas Jefferson | 3 | Dem-Rep | 1743 | 4/13 | VA | 18 | | |
| ----- | | | | | | | | |
| Use options shown above to change record layout | | | | | | | More --> | |
| | | | | | | | 2918K Avail. | |

- 3 When you have finished changing the Multiple Record Layout, press **Escape**.

AppleWorks asks how you want the cursor to move when you press **Return**.

- 4 Select either "down" or "right," then press **Return**.

AppleWorks returns you to the Review/Add/Change screen.

- 1 Press **⌘-L** to change the layout for the data base.

AppleWorks displays the Change Record Layout screen, as shown in Figure 9-3.

Changing the Single Record Layout

Figure 9-3

Change Record Layout screen for Single Record Layout

←←←← move cursor

⌘←←←← picks up a category and move it around the screen

⌘-T turns on/off display of inverse category names

| File: Presidents | CHANGE RECORD LAYOUT | Escape: Review/Add/Change |
|--|----------------------|-------------------------------|
| | Return or arrows | Move cursor |
| | ⌘ and arrows | Move category location |
| | ⌘-T | Turn inverse names on/off |
| | ⌘-C | Change number of columns 1,13 |
| ----- | | |
| Name: George Washington | | |
| Number: 1 | | |
| Political Party: Fed | | |
| Birth Year: 1732 | | |
| Birthdate: 2/22 | | |
| Birthplace: VA | | |
| Inauguration Date: 1789 | | |
| Inauguration Age: 57 | | |
| Year of Death: 1799 | | |
| Date of Death: 12/14 | | |
| Age at Death: 67 | | |
| Vice President: John Adams | | |
| - | | |
| ----- | | |
| Use options shown above to change record layout. | | 2918K Avail. |

You can't hide a category when changing the Single Record Layout as you can when changing the Multiple Record Layout. If you want to remove a category in Single Record Layout, you must delete it from the data base. See "Deleting a Category from an Existing Data Base," earlier in this section.

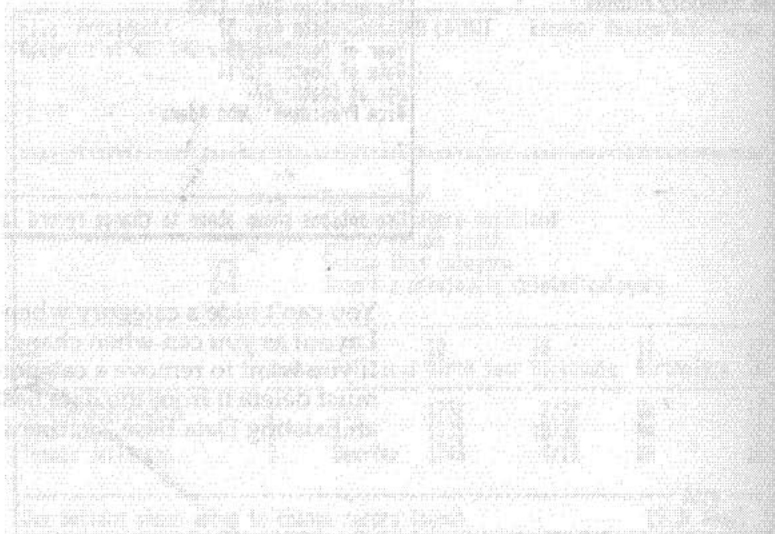
Changing Layouts

- ◆ **Displaying inverse categories** Press ⌘-T to switch the category names between inverse and normal. All category names become inverse together. This is useful when you have a lot of information on the screen at one time, and want your category names to stand out.
- ◆ **Automatic column layout** Press ⌘-C to automatically lay out your categories into columns. AppleWorks asks you how many columns you want, and automatically arranges your categories as evenly as possible.
- ◆ **Multi-screen records** AppleWorks lets you create single-record layout screens up to 60 lines long. AppleWorks automatically scrolls the screen when you try to move the cursor to a category that's not displayed.

2 When you have finished making changes to the Single Record Layout, press **Escape** to accept the changes you have made.

If you have moved the categories out of the order in which they were created, AppleWorks asks you whether you want pressing the Return key to move the cursor across categories from left to right or down categories from top to bottom.

AppleWorks returns to Single Record Layout on the Review/Add/Change screen.



Freezing Titles

When working with a Multiple Record Layout that has many categories, moving the cursor to the right normally scrolls categories on the left off the screen. You can freeze one or more left side categories so that they remain in place when you move the cursor to the right.

For example, the first category on the left may be a name; to see the information 10 or 15 categories to the right you would normally have to scroll the Name category off the screen. Freezing titles keeps the Name category on the screen while you move the cursor to categories on the right.

1 Move the blinking cursor to the right of the category columns you want to freeze.

All columns to the left of this column will later freeze in place as you scroll right.

2 Press \odot -T to freeze Titles.

AppleWorks confirms that you want to freeze the "left side."

3 Press Return to freeze the titles.

1 Press \odot -T for Titles.

AppleWorks confirms that you do not want the titles frozen.

2 Press Return to thaw the frozen titles.

Freezing Titles

Thawing Titles

Deleting Data

Deleting an Entry

This method works in either Multiple or Single Record Layout.

- 1 Move the cursor onto the first character of the entry.
- 2 Press ⌘-Y to delete the entry.

In all AppleWorks modules, there are four ways to delete characters:

- To erase the character to the left of the cursor, press Delete.
- To erase the character under the blinking cursor (and move all characters to the right of the cursor one place to the left), press ⌘-Delete.
- To get rid of the character under the blinking cursor and everything to the right of the cursor, press Control-Y or ⌘-Y (do not use the Shift key).
- To replace characters by writing over them, move the blinking solid rectangle cursor to the first character you want to replace, and type. To switch between the replacement and insert cursors, press ⌘-E.

Deleting an Entire Record

- 1 For Multiple Record Layout, move the cursor anywhere in the record you want to delete.

For Single Record Layout, display the record you want to delete.

- 2 Press ⌘-D for Delete.

In Multiple Record Layout, AppleWorks highlights the record.

- To delete the highlighted record in Multiple Record Layout: press Return. You can also press the ↑ and ↓ keys to highlight more than one record before you press Return. AppleWorks deletes the records and automatically returns you to the Review/Add/Change screen.

In Single Record Layout, AppleWorks asks, "Delete current record?"

- To delete the current record in Single Record Layout: press Y for Yes. To tell AppleWorks to ignore that particular record, press N for No. AppleWorks then displays the next record in the data base and asks you if you want to delete that record. When you have finished deleting in Single Record Layout, press Escape.

Changing Data

Changing an Entry

You can always change an entry before you press Return and move to the next category or record by pressing Delete, ⌘-Delete, Control-Y, or ⌘-Y.

- 1 Move the cursor to the entry.

For Single Record Layout, display the record, then move the cursor to the entry.

- 2 Edit the entry to change it, then press Return.

Normally, you can't change categories which contain formula or import rules. See "Preferences" in Chapter 8 for a way to allow editing of these categories.

Changing an existing record is the same as changing several separate entries.

- 1 Move the cursor to the first entry.

For Single Record Layout, display the record, then move the cursor to the first entry.

- 2 Edit the entry to change it, then press Return.

Normally, you can't change categories which contain formula or import rules. See "Preferences" in Chapter 8 for a way to allow editing of these categories.

Continue replacing any other entries in the record as you wish.

Changing an Existing Record

Inserting New Records Before Existing Ones

- 1 Move the cursor to the record before which you want to insert the new record.
- 2 Press **⌘-I** for Insert.

AppleWorks asks how many records you would like inserted, as shown in Figure 9-4.

Figure 9-4

Inserting new records

| Name | Number | Political | Birth Year | Birthdate | Birthplace | In |
|------------------------|--------|-----------|------------|-----------|------------|----|
| George Washington | 1 | Fed | 1732 | 2/22 | VA | 17 |
| John Adams | 2 | Fed | 1735 | 10/30 | MA | 17 |
| Thomas Jefferson | 3 | Dem-Rep | 1743 | 4/13 | VA | 18 |
| James Madison | 4 | Dem-Rep | 1751 | 3/16 | VA | 18 |
| James Monroe | 5 | Dem-Rep | 1758 | 4/28 | VA | 18 |
| John Quincy Adams | 6 | Dem-Rep | 1767 | 7/11 | MA | 18 |
| Andrew Jackson | 7 | Dem | 1767 | 3/15 | SC | 18 |
| Martin Van Buren | 8 | Dem | 1782 | 12/05 | NY | 18 |
| William Henry Harrison | 9 | Whig | 1773 | 2/09 | VA | 18 |
| John Tyler | 10 | Whig | 1790 | 3/29 | VA | 18 |
| James Knox Polk | 11 | Dem | 1795 | 11/02 | NC | 18 |
| Zachary Taylor | 12 | Whig | 1784 | 11/24 | VA | 18 |
| Millard Fillmore | 13 | Whig | 1800 | 1/07 | NY | 18 |
| Franklin Pierce | 14 | Dem | 1804 | 11/23 | NH | 18 |
| James Buchanan | 15 | Dem | 1791 | 4/23 | PA | 18 |

Insert how many records? (Max 250) 1 2918K Avail.

- 3 Enter the number of records you want inserted, up to 250, and press **Return**.

AppleWorks adds that many blank records to your data base.

- 4 Fill in the new records as usual.

Changing Data

Adding New Records at the End of a Data Base

(Single Record Layout Only)

1 Press **⌘-9** to display the last record in the data base which contains data.

2 Press **⌘-→** to move to the next record.

AppleWorks adds a new blank record to the end of the data base. (In order for this to work, "Auto-add DB records at end" must be set to Yes in Miscellaneous Standard Settings; see Appendix B, "Standard Settings.")

3 Enter the data for the new record.

Figure 9-5 shows the data being entered for a new record.

Figure 9-5

Typing in the entries for a new record

| | | |
|---------------------------------|-------------------|-------------------|
| File: Presidents | REVIEW/ADD/CHANGE | Escape: Main Menu |
| Selection: All records | | |
| Record 42 of 42 (42 selected) | | |
| ----- | | |
| Name: William Jefferson Clinton | | |
| Number: 42 | | |
| Political Party: Dem | | |
| Birth Year: 1946 | | |
| Birthdate: 8/19 | | |
| Birthplace: AR | | |
| Inauguration Date: | | |
| Inauguration Age: - | | |
| Year of Death: - | | |
| Date of Death: - | | |
| Age at Death: - | | |
| Vice President: - | | |
| ----- | | |
| Type entry or use ⌘ commands | | ⌘-? for Help |

4 If you have more records to add, go back to step 3.

Moving & Copying Records

When you move records, you remove them from one location and place them in another. When you copy records, you make a duplicate of a record and move the duplicate to a new location, leaving the original in its existing location. AppleWorks can move or copy records within the same data base, to other data bases, or to other Desktop files in the Spreadsheet and Word Processor modules.

Moving and copying work a little differently in Multiple Record Layout and Single Record Layout.

- **Single Record Layout** You can duplicate up to 250 instances of a single record. AppleWorks immediately enters the copies into the data base. You cannot move a record while in Single Record Layout.
- **Multiple Record Layout** You can move or copy as many contiguous records as will fit on the Clipboard (dependent on memory). You can duplicate up to 250 instances of a single record at one time.
- ◆ **If you want to move all the records in a data base** An AppleWorks data base file must contain at least one record. Consequently, to move (not copy) all the records from a data base, you must create one blank record at the beginning of the data base (⌘-I), and then move all but that blank record.

To move or copy records, you must first put them on the Clipboard. For an explanation of the Clipboard, see "Desktop and Clipboard" in Chapter 1.

Moving & Copying Records

Moving or Copying Records to the Clipboard

(Multiple Record Layout Only)

Figure 9-6
Moving records to the Clipboard

- 1 Move the cursor to the first record you want to move or copy.
- 2 Press **⌘-M** for Move or **⌘-C** for Copy.

AppleWorks highlights the record your cursor is in and asks if you want to copy the "Current record" or copy or move records "To clipboard," "From clipboard," or "Append to clipboard." (Figure 9-6). If you append to the clipboard, AppleWorks adds your selection to the clipboard without first removing its current contents.

| Name | Number | Political | Birth Year | Birthdate | Birthplace | In |
|------------------------|--------|-----------|------------|-----------|------------|----|
| George Washington | 1 | Fed | 1732 | 2/22 | VA | 18 |
| John Adams | 2 | Fed | 1735 | 10/30 | MA | 17 |
| Thomas Jefferson | 3 | Dem-Rep | 1743 | 4/13 | VA | 18 |
| James Madison | 4 | Dem-Rep | 1751 | 3/16 | VA | 18 |
| James Monroe | 5 | Dem-Rep | 1758 | 4/23 | VA | 18 |
| John Quincy Adams | 6 | Dem-Rep | 1767 | 7/11 | MA | 18 |
| Andrew Jackson | 7 | Dem | 1767 | 3/15 | SC | 18 |
| Martin Van Buren | 8 | Dem | 1782 | 12/05 | NY | 18 |
| William Henry Harrison | 9 | Whig | 1773 | 2/09 | VA | 18 |
| John Tyler | 10 | Whig | 1790 | 3/29 | VA | 18 |
| James Knox Polk | 11 | Dem | 1795 | 11/02 | NC | 18 |
| Zachary Taylor | 12 | Whig | 1784 | 11/24 | VA | 18 |
| Millard Fillmore | 13 | Whig | 1800 | 1/07 | NY | 18 |
| Franklin Pierce | 14 | Dem | 1804 | 11/23 | NH | 18 |
| James Buchanan | 15 | Dem | 1791 | 4/23 | PA | 18 |

Move records? **To clipboard** From clipboard Append to clipboard

- 3 Press **T** for "To clipboard" or **A** for "Append to clipboard."

AppleWorks asks you to highlight the records you want to move or copy (Figure 9-7).

Figure 9-7
 Highlighting records
 you want to move

File: Presidents MOVE RECORDS Escape: Review/Add/Change
 Record 7 of 42 (42 selected)
 Selection: All records

| Name | Number | Political | Birth Year | Birthdate | Birthplace | In |
|------------------------|--------|-----------|------------|-----------|------------|----|
| George Washington | 1 | Fed | 1732 | 2/22 | VA | 17 |
| John Adams | 2 | Fed | 1735 | 10/30 | MA | 17 |
| Thomas Jefferson | 3 | Dem-Frep | 1743 | 4/13 | VA | 18 |
| James Madison | 4 | Dem-Frep | 1751 | 3/16 | VA | 18 |
| James Monroe | 5 | Dem-Frep | 1758 | 4/28 | VA | 18 |
| John Quincy Adams | 6 | Dem-Frep | 1767 | 7/11 | MA | 18 |
| Andrew Jackson | 7 | Dem | 1767 | 3/15 | SC | 18 |
| Martin Van Buren | 8 | Dem | 1782 | 12/05 | NY | 18 |
| William Henry Harrison | 9 | Whig | 1773 | 2/09 | VA | 18 |
| John Tyler | 10 | Whig | 1790 | 3/29 | VA | 18 |
| James Knox Polk | 11 | Dem | 1795 | 11/02 | NC | 18 |
| Zachary Taylor | 12 | Whig | 1784 | 11/24 | VA | 18 |
| Millard Fillmore | 13 | Whig | 1800 | 1/07 | NY | 18 |
| Franklin Pierce | 14 | Dem | 1804 | 11/23 | NH | 18 |
| James Buchanan | 15 | Dem | 1791 | 4/23 | PA | 18 |

Use cursor moves to highlight records, then press Return _ 2918K Avail.

4 Use the ↑ and ↓ keys to highlight the records you want to move or copy, then press Return.

AppleWorks puts a copy of the records on the Clipboard. If you are moving the records, AppleWorks removes them from the data base. If you are copying the records, AppleWorks leaves them in the data base. Later, you can copy the records from the Clipboard to anywhere in this or another data base.

- ◆ **Printing to the Clipboard** You can print to the Clipboard from the table and label report formats in the Data Base. The primary use for printing to the Clipboard is to transfer formatted information, keeping row and column alignment intact, from the Data Base to the Word Processor. See Chapter 11, "Creating a Table Report" and Chapter 12, "Creating a Label Report."

Moving & Copying Records

Moving or Copying Records from the Clipboard

(Multiple Record Layout Only)

1 Move the cursor to the record where you want to place the records from the Clipboard.

2 Press ⌘-M for Move or ⌘-C for Copy.

AppleWorks highlights the record your cursor is in and asks if you want to move or copy records to or from the Clipboard (Figure 9-6).

3 Press F for "From clipboard."

AppleWorks immediately enters the records from the Clipboard into your data base.

◆ **Categories matter!** *Moving* from the clipboard moves the data to matching category names, or, if no category names match, in their original order (seen with ⌘-N); *copying* from the clipboard puts the categories in the order they were in at the time they were copied (layout order).

If you move records from the Clipboard that have more categories than the data base you're putting them into, AppleWorks throws away the data in the extra categories. If you move records from the Clipboard that have fewer categories than the data base you're putting them into, AppleWorks puts nothing in those categories.

If you're moving information from the Clipboard that came from the Spreadsheet, then AppleWorks turns each Spreadsheet row into a record and the columns of your Spreadsheet file into categories.

AppleWorks copies each line of text from your word processing document as a single category in a separate record of the data base. If you want your word processing text to occupy several categories in each record, insert one or more tab characters in the original word processing line. For example:

| | | <u>Category A</u> | <u>Category B</u> |
|-------------------------|---------|-------------------|-------------------|
| Bob Smith (space) \$200 | becomes | Bob Smith \$200 | |
| Bob Smith (tab) \$200 | becomes | Bob Smith | \$200 |

Duplicating the Current Record

(Both Layouts)

You can duplicate a single record up to 250 times. The process copies one record and makes exact copies of it.

- 1 For Multiple Record Layout, move the cursor to the record you want to copy.

For Single Record Layout, display the record you want to copy.

- 2 Press **⌘-C** for Copy.

If you are copying from Multiple Record Layout, AppleWorks asks if you want to copy the "Current record," "To clipboard," "From clipboard," or "Append to clipboard." Select "Current record," then press Return.

Whether you are copying from Single Record Layout or Multiple Record Layout, AppleWorks asks "How many copies of the current record?" You can make up to 250 copies.

- 3 Type in the number of copies you wish to make, then press Return.

AppleWorks duplicates the record and inserts the copies into the data base immediately before the original record.

Blank Page

Chapter 10

Finding, Selecting, & Arranging

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Finding, Selecting, & Arranging

Data bases are used for finding groups of records that match certain rules, and for arranging (sorting) records so you can discover otherwise hidden patterns.

For example, you might want to find all records that contain zip codes greater than 60600 to target a mailing to residents in the Western United States, or find all records of experiments where specific gravity of a liquid was greater than 1.0. Obviously, all records in the data base will probably not match those rules; those that do form a *selection*—a subset of all the records.

Arranging (or *sorting*) records can be for convenience—the Post Office requires large mailings to be sorted in zip code order—or it can show that there were 17 mentions of your company name in the local newspaper last quarter, a fact you might not have noticed otherwise.

Finding Records

You can find records that contain particular text—words and phrases—in any category or in a specific category. AppleWorks selects only those records which contain text that exactly matches the text you're searching for. You can also find a particular record by its number, or find only the records which have been changed since the last time the file was saved.

Finding Text in Any Category

AppleWorks can search your entire data base (all categories). This is the most general search and, as such, is also the slowest. Use it only when you can't remember what category the data you're seeking is in, or when you want to search related categories.

- 1 With AppleWorks displaying the Review/Add/Change screen for the data base, press **⌘-F** for Find.

AppleWorks displays the Find Records screen with the Find menu at the bottom, as shown in Figure 10-1.

Figure 10-1

Find Records screen

1 RECORD SELECTION

All records are currently selected

2 ANYWHERE

Finds the text anywhere in the data base

3 IN ONE CATEGORY

Finds the text in a specified category

4 RECORD NUMBER

Finds the specified record number

5 SORTED DATA

Finds data in a sorted category

6 CHANGED RECORDS

Finds records that have changed

| Extreme | Location | Measurement |
|------------------------------|--------------------------|----------------------|
| Driest Spot | Atacama Desert, Chile | rainfall barely meas |
| Rainiest Spot | Mount Waialeale, Hawaii | annual average rainf |
| Coldest Recorded Temperature | Vostok, Antarctica | -127 degrees F. (-88 |
| Hottest Recorded Temperature | Al Aziziyah, Libya, sout | 136 degrees F. (58 C |
| Strongest Recorded Wind | Mount Washington, New Ha | 231 mph, on April 12 |
| Foggiest Place (sea level) | Grand Banks, off Neufoun | more than 120 days a |
| Highest Point | Mount Everest, Nepal-Tib | 29,028 feet |
| Lowest Point | Dead Sea, Israel-Jordan | surface of water 1,3 |
| Longest River | Nile, Africa | 4,145 miles |
| Highest Waterfall | Angel Falls, Venezuela | 3,212 feet |
| Largest Gorge | Grand Canyon, Colorado R | 277 miles long, 1 to |
| Deepest Gorge | Hells Canyon, Snake Rive | 7,900 feet |
| Biggest Cave | Mammoth-Flint Ridge cave | more than 180 miles |
| Largest Desert | Sahara Desert, North Afr | 3,320,000 sq. mi. |
| Deepest Ocean Trench | Mariana Trench, Pacific | 36,198 feet |

Find? **Anywhere** In one category Record number Sorted data Changed records

2 3 4 5 6

- 2 Press Return to choose Anywhere.

AppleWorks asks you to type the text it should match, as shown in Figure 10-2.

Figure 10-2

Typing the text that AppleWorks uses for comparison

Type comparison information: Africa_ 2919K Avail.

3 Type in the text to be matched, then press Return.

You can type in up to 30 characters of text. AppleWorks locates any matches and displays those records as in Figure 10-3. (To find the first matching record and stay at Review/Add/Change screen, press ⌘-Return instead of Return after typing the text.)

Figure 10-3

Records containing "Africa" in any category

| Extreme | Location | Measurement |
|----------------|--------------------------|-------------------|
| Longest River | Nile, Africa | 4,145 miles |
| Largest Desert | Sahara Desert, North Afr | 3,320,000 sq. mi. |

File: Extremes FIND RECORDS Escape: Review/Add/Change
Record 9 of 33 (2 selected)
Find records containing AFRICA
Press ⌘-F to change Find.

Type entry or use ⌘ commands ⌘-? for Help

To perform another search, press ⌘-F again. Change the existing text or enter new text to match, then press Return.

4 Press Escape when you have finished examining the records AppleWorks has found (if any).

AppleWorks returns to the Review/Add/Change screen and again displays all records in the data base.

Finding Text in a Specific Category

1 With AppleWorks displaying the Review/Add/Change screen for the data base, press ⌘-F for Find.

AppleWorks displays the Find Records screen with the Find menu at the bottom.

Finding Records

2 Select "In a specific category," then press Return.

AppleWorks asks you to choose the category it should search, as shown in Figure 10-4. The current category is highlighted as the default.

Figure 10-4
Choosing a specific category to search

| Extreme | Location | Measurement |
|------------------------------|--------------------|-------------|
| Driest Spot | Atacama Desert, Ch | Extreme |
| Rainiest Spot | Mount Waialeale, H | Location |
| Coldest Recorded Temperature | Vostok, Antarctica | Measurement |
| Hottest Recorded Temperature | Al Aziziyah, Libya | Extra |
| Strongest Recorded Wind | Mount Washington, | |
| Foggiest Place (sea level) | Grand Banks, off N | |
| Highest Point | Mount Everest, Nep | |
| Lowest Point | Dead Sea, Israel-J | |
| Longest River | Nile, Africa | |
| Highest Waterfall | Angel Falls, Venez | |
| Largest Gorge | Grand Canyon, Colo | |
| Deepest Gorge | Hells Canyon, Snak | |
| Biggest Cave | Mammoth-Flint Ridg | |
| Largest Desert | Sahara Desert, Nor | |
| Deepest Ocean Trench | Mariana Trench, Pa | |

Use arrows to select, then press Return _ 2917K Avail.

3 Select the category you want to search, then press Return.

AppleWorks asks you for the text to match.

4 Type in the text to match, then press Return.

AppleWorks locates any matching records, and displays them on the Find Records screen. (To find the first matching record and remain in the Review/Add/Change screen, press ⌘-Return instead of Return after typing the text to match.)

5 Press Escape when you have finished examining the records AppleWorks has found (if any).

AppleWorks returns to the Review/Add/Change screen and again displays all records in the data base.

Finding Text in a Sorted Category

If the category you want to search is arranged (sorted) in alphabetical order, and you want to find the records which contain specific text, you can use AppleWorks' "Sorted category" option. This option performs a lightning-fast *binary search* to locate the desired record instantly regardless of file size.

For example, you could use the "Sorted category" find to immediately locate the people whose last names are "Rogers" in your name and address data base, assuming that the data base is sorted by last name.

- ◆ **Exact match only** While the other search methods look for the specified text in any part of a category (or categories), searching in a sorted category only looks for an exact match for the specified text in the category. If an exact match is not found, the results will be unpredictable. If more than one match is found, the record AppleWorks displays may or may not be the first match.

To search in a sorted category:

- 1 **With AppleWorks displaying the Review/Add/Change screen for the data base, and the cursor in the category you want to search, press ⌘-F for Find.**

AppleWorks displays the Find Records screen with the Find menu at the bottom.

- 2 **Select "Sorted category," then press Return.**

AppleWorks asks you for the text to match.

- 3 **Type in the text to match, then press Return.**

AppleWorks displays a record which matches your request—*not* necessarily the first such record. Since your data base is sorted on this category, other records which also match the search text may precede and follow this record.

Unlike the other Find options that search for specific text, AppleWorks remains in the data base Review/Add/Change screen.

Finding Records

Finding a Record by Number

You can find a record by its number.

- 1 With AppleWorks displaying the Review/Add/Change screen for the data base, press **⌘-F** for Find.

AppleWorks displays the Find Records screen with the Find menu at the bottom.

- 2 Select "Record number," then press Return.

AppleWorks asks you for the record number.

- 3 Type in the record number, then press Return.

AppleWorks displays the desired record. AppleWorks remains at the Review/Add/Change screen.

Finding Changed Records

- 1 With AppleWorks displaying the Review/Add/Change screen for the data base, press **⌘-F** for Find.

AppleWorks displays the Find Records screen with the Find menu at the bottom.

- 2 Select "Changed records," then press Return.

AppleWorks displays the records which have been changed since the last time you saved the file.

- 3 Press Escape when you have finished examining the records AppleWorks has found (if any).

AppleWorks returns to the Review/Add/Change screen and again displays all records in the data base.

Selecting Records

You can select records that match a set of selection rules (sometimes called criteria). Rules can search for records, for example, where the name is Smith or Jones, where product name begins with Apple, or where zip code is greater than 60600. AppleWorks selects those records that meet your selection rules. You can have up to three selection rules at any given time.

Selecting Records by Rules

You can have up to three selection rules simultaneously.

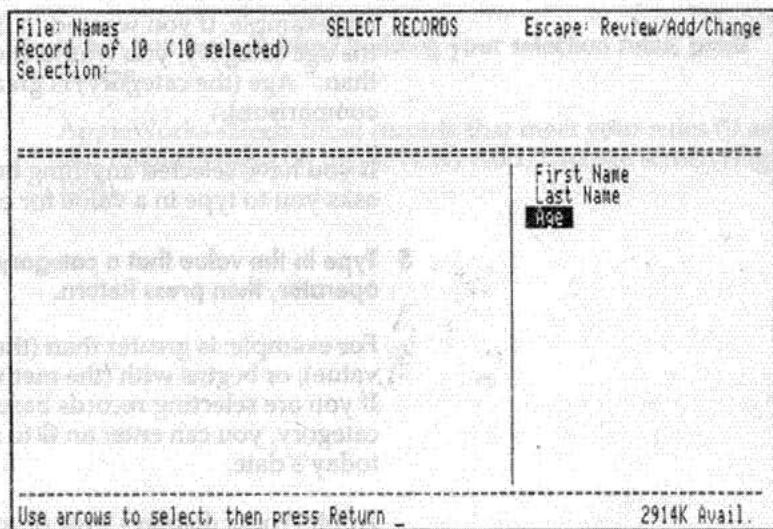
- 1 With AppleWorks displaying the Review/Add/Change screen for the data base, press **⌘-R** for Record selection.

AppleWorks asks whether you want to select all records, define record selection rules, or get the rules from a report format.

- 2 Select "Define record selection rules," then press Return.

AppleWorks displays the Select Records screen, Figure 10-5.

Figure 10-5
Selecting a category
for a selection rule

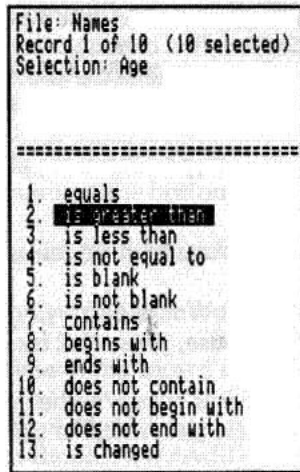


- 3 Select the first category you want, then press Return.

AppleWorks displays a list of methods of comparison, as shown in Figure 10-6.

Selecting Records

Figure 10-6
Selection operators



- 4 **Select a method of comparison for the category you just chose, then press Return.**

For example, if you wanted to find everyone older than 18 in the age category, you would choose the operator “is greater than.” Age (the category) is greater than (the method of comparison).

If you have selected anything but “is changed,” AppleWorks asks you to type in a value for comparison.

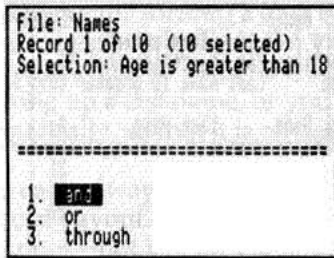
- 5 **Type in the value that a category should have to satisfy the operator, then press Return.**

For example: is greater than (the method of comparison) 18 (the value); or begins with (the method of comparison) B (the value). If you are selecting records based on the value of a date category, you can enter an @ to select records which match today’s date.

AppleWorks displays a list of *connectors*, as shown in Figure 10-7. A connector can join two selection rules. For example, Age is greater than 18 (selection rule 1) and (the connector) Last name is greater than F (selection rule 2).

Figure 10-7

Connectors



Press Escape if you want to stop at this point. If you wish to continue making rules, choose one of the three connectors to connect the first selection rule with a second, then press Return. (Otherwise, skip to step 5.)

AppleWorks displays the list of data base categories.

If you wish to enter a second selection rule, follow steps 2, 3, and 4 again. To enter a third rule, choose another connector and follow steps 2, 3, and 4 a third time.

6 When you have finished building your selection rules, press Escape.

AppleWorks selects those records that meet your rules (if any) and displays them on the Review/Add/Change screen (Figure 10-8).

Selecting Records

Figure 10-8
Results of a selection by rule

| File: Names | REVIEW/ADD/CHANGE | Escape: Main Menu |
|--|-------------------|-------------------|
| Record 7 of 10 (3 selected) | | |
| Selection: Age is greater than 18 and Last Name is greater than F | | |
| First Name | Last Name | Age |
| Mike | Green | 21 |
| Nancy | Farrel | 24 |
| Bob | Smith | 20 |

Type entry or use ⌘ commands ⌘-? for Help

- ◆ **To display all records again** Press ⌘-R, select “Display all records” from the menu, and press Return.
- ◆ **Saving rules for later use** AppleWorks remembers a set of record selection rules for each report format you define. If you use a particular set of rules frequently, define the rules in a report format. To get the rules from the report, press ⌘-R, select “Get rules from a report,” and press Return. Then select the desired report format and press Return. (See Chapters 11 and 12.)

Arranging a Data Base

Arranging (or sorting) a data base allows you to arrange your data base to best suit your needs. You might want to arrange records alphabetically, so that you can easily find a phone number by looking up a last name, or you might want to sort the records numerically, so that it is obvious who the top three salespeople are.

The easiest way to see the arrangement of a data base is in Multiple Record Layout. AppleWorks moves complete records when it arranges—not just the contents of the category you're arranging.

You can have AppleWorks arrange a data base by up to three categories at once. AppleWorks arranges the data base by the first category; then, within each grouping of identical first categories, AppleWorks arranges by the second category. Within each identical grouping of the second category, AppleWorks arranges by the third. You do not need to specify all three categories.

You can arrange an AppleWorks data base by more than three categories. The easiest way is to arrange the data base by single categories. First arrange the data base by the least important category. Then arrange the data base by the next least important category. Continue arranging category by category to the the most important category.

- ◆ **Arranging is important** AppleWorks must group categories to subtotal properly when you're doing table (columnar) reports. To be able to group categories, you must arrange the data base. For more details on grouping and reports, see "Report Calculations" in Chapter 11.
- ◆ **Case-sensitive sorting** Normally, AppleWorks does not pay attention to case (capitalization) when arranging. See "Preferences" in Chapter 8 for a way to make case matter.

Figure 10-9 illustrates a typical data base. The records are in no particular order.

Arranging a Data Base

Figure 10-9

Typical data base

Note that the data base is arranged in no particular order and that the cursor is in the Last Name category.

| First Name | Last Name | Age |
|------------|------------|-----|
| John | Jones_ | 3 |
| Susan | Doe | 28 |
| Bob | White | 8 |
| Jennifer | Smith | 12 |
| Harry | Williamson | 15 |
| Linda | Wu | 18 |
| Mike | Green | 21 |
| Nancy | Farrel | 24 |
| Mary | Smith | 6 |
| Bob | Smith | 20 |

Arranging a Data Base on One Category

- 1 Move the cursor to the category you want to arrange by.
- 2 Press **⌘-A** for Arrange.

AppleWorks displays the Arrange screen, Figure 10-10.

Figure 10-10

Arrange screen

① ONE CATEGORY

Arrange on the category the cursor was in (Last Name)

② SEVERAL CATEGORIES

Arrange on several categories, in descending level of importance

File: Names ARRANGE (SORT) Escape: Review/Add/Change
Record 1 of 10 (10 selected)
Arrange on category:

Arrange (sort) on? **Category (Last Name)** Several categories

①

②

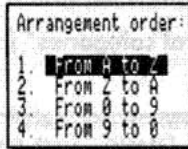
3 Press Return to arrange the data base by the category the cursor was in.

The category name appears in the prompt line. When you press Return, AppleWorks asks how you want the category arranged, as shown in Figure 10-11.

Figure 10-11
Arranging the category

When arranging on a date or time category, this menu also includes:

- 5. Chronological
- 6. Reverse chronological



4 Press the number of the arrangement, or use the ↑ and ↓ keys to select the arrangement order, then press Return.

AppleWorks arranges the data base, then returns to the Review/Add/Change screen with the records in the new order (Figure 10-12).

Figure 10-12
Data Base in its new order, arranged by last name

| First Name | Last Name | Age |
|------------|------------|-----|
| Susan | Doe | 28 |
| Nancy | Farrel | 24 |
| Mike | Green | 21 |
| John | Jones | 3 |
| Jennifer | Smith | 12 |
| Mary | Smith | 6 |
| Bob | Smith | 20 |
| Bob | White | 8 |
| Harry | Williamson | 15 |
| Linda | Wu | 18 |

Arranging a Data Base

Arranging a Data Base on Multiple Categories

You can arrange a data base by as many as three categories at one time. AppleWorks uses the categories in the order you supply them.

- 1 Press **⌘-A** for Arrange.

AppleWorks displays the Arrange screen.

- 2 Select "Several categories" (as in Figure 10-13) and press Return.



Arrange (sort) on? Category (First Name) []

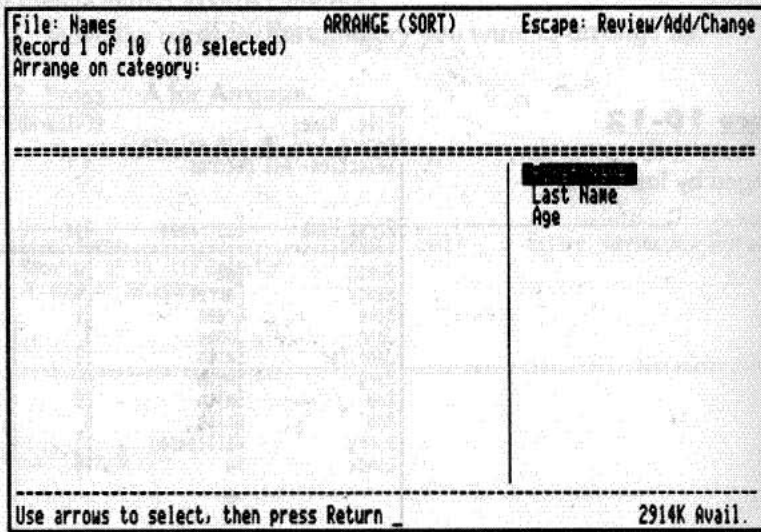
Figure 10-13

Arranging by several categories

AppleWorks displays the Arrange screen with numbered category names, as shown in Figure 10-14.

Figure 10-14

Arranging on multiple categories



File: Names ARRANGE (SORT) Escape: Review/Add/Change
Record 1 of 10 (10 selected)
Arrange on category:

Last Name
Age

Use arrows to select, then press Return 2914K Avail.

- 3 Select the first category on which you want to arrange the data base, then press Return.

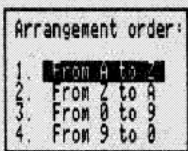
AppleWorks puts the name of the category at the top of the screen and asks you for the arrangement order (Figure 10-15).

Figure 10-15

Arranging the category

When arranging on a date or time category, this menu also includes:

5. Chronological
6. Reverse chronological



If you're arranging the data base on a category name that ends with "date" or "time," the arrangement order will also show "Chronological" and "Reverse Chronological."

4. Select the arrangement order you want to apply to the first category, then press Return.

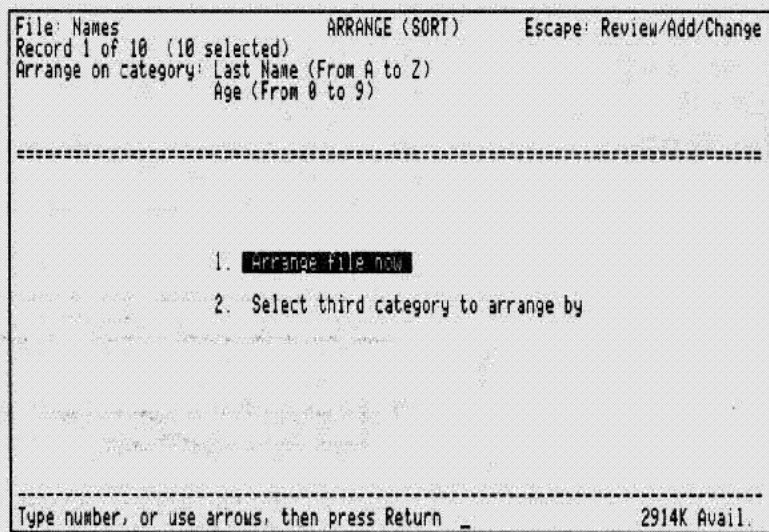
AppleWorks adds the arrangement order to the right of the first category in the list of categories (Figure 10-16), and displays the numbered list of categories again.

5. Choose another category as the second arranging category, and choose an arrangement order for it.

After you have chosen a second category and arrangement order, AppleWorks asks if you want to choose a third category or arrange now, as shown in Figure 10-16.

Figure 10-16

Arrange now or select a third category to arrange by



- 6 Select a third category to arrange by or arrange the file now, as you wish.

AppleWorks displays the arranged data base, as shown in Figure 10-17 below.

Figure 10-17
Data base, arranged
on two categories

(by last name, then sorted
by age within last name)

| File: Names | REVIEW/ADD/CHANGE | Escape: Main Menu |
|------------------------------|-------------------|-------------------|
| Record 1 of 10 (10 selected) | | |
| Selection: All records | | |
| First Name | Last Name | Age |
| Susan | Doe | 28 |
| Nancy | Farrel | 24 |
| Mike | Green | 21 |
| John | Jones | 31 |
| Mary | Smith | 6 |
| Jennifer | Smith | 12 |
| Bob | Smith | 20 |
| Bob | White | 8 |
| Harry | Williamson | 15 |
| Linda | Wu | 18 |

Type entry or use ⌘ commands: ⌘-? for Help

Arranging a Record Selection

- 1 Create a record selection as described in "Selecting Records," earlier in this Chapter.
- 2 Arrange by one, two, or three categories, as described in "Arranging a Data Base on One Category" and "Arranging a Data Base on Multiple Categories," earlier in this Chapter.

AppleWorks arranges and displays the selection as you have specified.

AppleWorks actually arranges the *entire* data base—but it displays the selection, which is arranged as well. When you display the entire data base (by changing the record selection rules to "Select all records"), it will be arranged as the selection is.

Chapter 11

Creating a Table Report

Blank Page

Creating a Table Report

AppleWorks provides two kinds of reports: table reports and label reports. Table reports are columnar with all the data from one record on one line. This allows you to total and subtotal columns in the records of your data base.

Label reports are multiline reports; the information from one record can be on several lines. Their most prevalent use is creating mailing labels from the information in your data base (although you need not print labels to print a label-format report).

AppleWorks can save both kinds of report formats, with selection rule information, along with the data base. Once you create a table report format, that report format is always there for you to use. You can save up to a total of 30 reports, whether they are table or label reports, with your data base.

To ensure that your report will print the way you want it to, take advantage of AppleWorks' ability to "print" the report on the screen to preview the report before you print it.

- ◆ **Arrangement order is important!** The arrangement order of your data base is critical when totaling and subtotaling columns in a report. After all, you can't subtotal all the grapefruit from Florida without first grouping all the grapefruit together. A table report assumes the arrangement order in effect at the time you print.

Figure 11-1 shows a data base in Multiple Record Layout. Figure 11-2 shows AppleWorks' Report Format screen. Figure 11-3 shows a completed report based on the same table report format.

The process of producing table reports is a simple one. This Chapter explains how to create a table report format or use an existing one, make any necessary changes to the table format, set printer options, and print the report.



Creating a Table Report

Figure 11-1
A typical data base

Category formats have been applied to Revenue, Goal, and Difference categories.

The Difference category has a Formula rule which reads:
[Goal] - [Revenue]

File: Fruits REVIEN/ADD/CHANGE Escape: Main Menu
Record 1 of 6 (6 selected)
Selection: All records

| Farm | Produce | Revenue | Goal | Difference |
|-------------|----------|------------|------------|------------|
| Jones Farms | Apple | \$2,000.00 | \$2,000.00 | \$0.00 |
| Smith Ranch | Apple | \$1,500.00 | \$2,000.00 | \$500.00 |
| Doe Ranch | Cherry | \$1,200.00 | \$1,500.00 | \$300.00 |
| Jones Farms | Cherry | \$2,500.00 | \$2,500.00 | \$0.00 |
| Smith Ranch | Pear | \$1,000.00 | \$1,000.00 | \$0.00 |
| Doe Ranch | Rutabaga | \$2,000.00 | \$2,200.00 | \$200.00 |

Type entry or use Q commands Q-? for Help

Figure 11-2
Report Format screen

1 FILE & REPORT NAME

2 GROUP TOTALS ON
This report prints subtotals when the Produce category changes

3 TOTALED CATEGORIES
This report totals the Revenue, Goal, and Difference categories.

File: Fruits REPORT FORMAT Escape: Report Menu
Report: by Fruit
Selection: All records

Group totals on: Produce

| 11 | 20 | 14 | 14 | 14 | L |
|---------|-------------|---------------|---------------|---------------|---|
| Produce | Farm | Revenue | Goal | Difference | |
| A | B | C | D | E | n |
| Apple | Jones Farms | 9999999999.99 | 9999999999.99 | 9999999999.99 | 7 |
| Apple | Smith Ranch | 9999999999.99 | 9999999999.99 | 9999999999.99 | 8 |
| Cherry | Doe Ranch | 9999999999.99 | 9999999999.99 | 9999999999.99 | |

Use options shown above to change report format 2906K Avail.

Figure 11-3

Printed report based on
format in Figure 11-2

*Note subtotals printed whenever
the Produce category changes,
and final totals printed at the end
of the report.*

| File: | Fruits | | | Page 1 |
|----------|-------------|---------------|---------------|-----------------|
| Report: | by Fruit | | | October 1, 1993 |
| Produce | Farm | Revenue | Goal | Difference |
| Apple | Jones Farms | \$2,000.00 | \$2,000.00 | \$0.00 |
| Apple | Smith Ranch | \$1,500.00 | \$2,000.00 | \$500.00 |
| | | \$3,500.00 | \$4,000.00 | \$500.00 |
| Cherry | Doe Ranch | \$1,200.00 | \$1,500.00 | \$300.00 |
| Cherry | Jones Farms | \$2,500.00 | \$2,500.00 | \$0.00 |
| | | \$3,700.00 | \$4,000.00 | \$300.00 |
| Pear | Smith Ranch | \$1,000.00 | \$1,000.00 | \$0.00 |
| | | \$1,000.00 | \$1,000.00 | \$0.00 |
| Rutabaga | Doe Ranch | \$2,000.00 | \$2,200.00 | \$200.00 |
| | | \$2,000.00 | \$2,200.00 | \$200.00 |
| | | \$10,200.00 * | \$11,200.00 * | \$1000.00 * |

Press Space Bar to continue _

2906K Avail.

Using a Table Report

AppleWorks can create two kinds of formats: label format for mailing labels and table formats for columnar reports. (See Chapter 12, "Creating a Label Report," for more information on creating mailing labels.) AppleWorks refers to both kinds of saved formats as "reports."

- ◆ **Important** To create a new report or modify one, you must add the data base to the Desktop and make sure it is displaying the Review/Add/Change screen in either Multiple or Single Record Layout.

For a definition of Multiple and Single Record Layout, see Chapter 7, "Creating a Data Base."

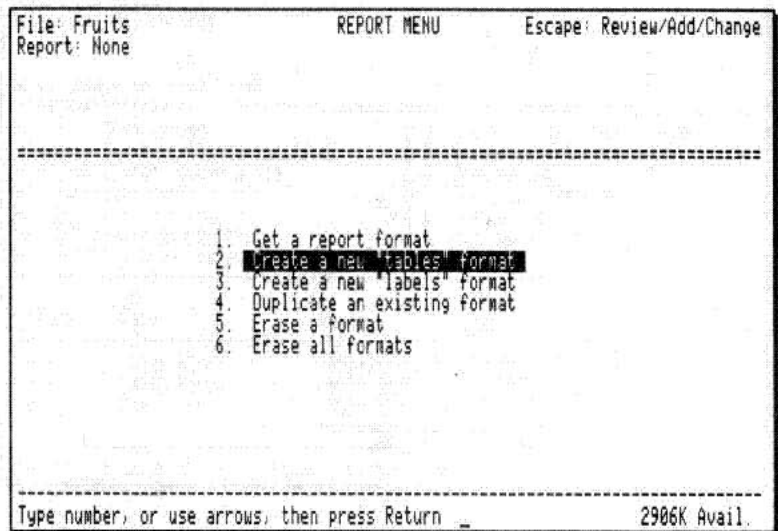
AppleWorks saves all label and table report formats along with the data base. You can have up to a total of 30 of both kinds of reports.

- 1 Press **⌘-P** for Print.

AppleWorks displays the Report menu, shown in Figure 11-4.

Creating a New Table Report Format

Figure 11-4
Report menu



2 Select "Create a new 'tables' format," then press Return.

AppleWorks asks whether it should create the new format from scratch or base it on the current Multiple Record Layout. The difference is slight; "From scratch" presents you with the categories of the data base arranged from left to right in the order you created them. If you base the report format on the current Multiple Record Layout, AppleWorks presents only the categories in the current Multiple Record Layout and presents them in the order of the current Multiple Record Layout. This is a shortcut to give you a useful starting point. You can add (or delete) any data base categories when you edit the report format.

3 Select "From scratch," or "From the current layout," then press Return.

AppleWorks asks you to type in the name of the new table report format.

4 Type in the name, then press Return.

AppleWorks displays the initial report format on the Report Format screen, ready for editing, as shown in Figure 11-5.

Figure 11-5
Report Format screen

```
File: Fruits                      REPORT FORMAT                      Escape: Report Menu
Report: Fruit Sales
Selection: All records

-----
->  <- Move cursor                      Q-J Right justify this category
Q-> Q-< Switch category positions        Q-N Change report name and/or title
Q-> Q-< Change column width             Q-O Printer options
Q-A Auto-sort options (off)            Q-P Print the report
Q-D Delete this category                Q-R Change record selection rules
Q-G Add/remove group totals            Q-T Add/remove category totals
Q-I Insert a prev. deleted category

-----
12      12      12      12      12      L
Farm    Produce  Revenue  Goal    Difference
A-----B-----C-----D-----E-----
Jones Farms Apple  $2,000.00 $2,000.00 $0.00
Smith Ranch Apple  $1,500.00 $2,000.00 $500.00
Doe Ranch  Cherry  $1,200.00 $1,500.00 $300.00
-----
Use options shown above to change report format          2905K Avail.
```

Using a Table Report

Using an Existing Table Report Format

1 Press \odot -P for Print.

AppleWorks displays the Report menu.

2 Select "Get a report format," then press Return.

AppleWorks displays a list of available report formats for both columnar reports and mailing labels. If there are no formats available, AppleWorks tells you.

3 Select the report format you want, then press Return.

If the format includes any record selection rules, AppleWorks executes these and displays the format.

- ◆ **Where did all the records go?** AppleWorks includes selection rules in its report (table and label) definitions. When AppleWorks gets the format, it selects records from the data base using these rules. Change the rules to get your records back; see "Including Record Selection Rules in the Table Format," later in this Chapter.

Duplicating or Erasing Report Formats

1 Press \odot -P for Print.

AppleWorks displays the Report menu, shown in Figure 11-4.

2 Select an option.

To duplicate an existing format, select "Duplicate an existing format," then press Return. Type in the new name, then press Return.

To erase one format, select "Erase a format," then press Return. AppleWorks displays a list of available formats and asks you to select a format.

To erase all report formats for the data base select "Erase all formats," then press Return. AppleWorks warns you, and gives you a chance to change your mind (choose No).

3 Select a format, then press Return.

Designing a Report Format

Once the report format for the table is on the screen, you can delete any categories you don't need for your report. The categories are still part of the data base, they just don't show up in the report. If you want, you can insert them later.

Table 9-1 lists the commands you can use to edit the table report format.

Table 9-1

Keystroke Commands for Editing Table Format

| Keystroke | Action |
|-----------|---|
| ← → | Move the cursor location right or left |
| ⌘-← → | Change column width |
| ⌘->, ⌘-< | Switch category positions |
| ⌘-A | Arrange (sort) the data base |
| ⌘-D | Delete category cursor is on |
| ⌘-G | Add or remove group totals from a category |
| ⌘-I | Insert a previously deleted category |
| ⌘-J | Right justify category |
| ⌘-N | Change report name and/or title |
| ⌘-O | Display list of printer options for table format |
| ⌘-P | Print the report |
| ⌘-R | Change record selection rules for this table format |
| ⌘-T | Add or remove category totals |

Hiding and Inserting Categories

You do not need to include every category of the data base in your report. Hide any categories you don't need; you can insert the hidden categories later if you change your mind.

To hide (in this case, called "delete") a category:

- 1 Move the blinking cursor to the category you want to delete.
- 2 Press ⌘-D for Delete.

AppleWorks deletes the category from the report format.

Designing a Report Format

To insert a previously hidden category:

- 1 Move the blinking cursor to the location where you want AppleWorks to insert the category.
- 2 Press **⌘-I** for Insert.

AppleWorks displays a list of deleted categories. If there are no deleted categories, AppleWorks tells you so.

- 3 Select the category you want to insert, then press **Return**.
AppleWorks inserts the category.

Switching Two Categories

You can switch the location of two categories.

- 1 Move the blinking cursor to one of the two categories you want to switch.
- 2 Press **⌘-<** to switch that category with the one on its left. Press **⌘->** to switch that category with the one on its right.

Changing a Column Width

- 1 Move the blinking cursor to the category whose width you want to change.
- 2 Press **⌘-←** to narrow the column; press **⌘-→** to widen the column.

AppleWorks increases or decreases the width of the category by one character for each keystroke.

Right Justifying Entries in a Column

Normally, entries in a table report are left justified. (AppleWorks lines up their left sides.) You can also right justify (align the right side) category columns—especially appropriate for money and other columns of numbers.

- 1 Move the blinking cursor to the column you want to right justify.
- 2 Press **⌘-J** for Justify.

Arranging the Report

AppleWorks can remember the sorting order it should use with each report and automatically arrange the data base before printing. To set the arrangement order:

- 1 Move the blinking cursor to the category you want to sort by.
- 2 Press \odot -A for Arrange.

AppleWorks asks you if you want to arrange the data base by "Category (name)," by "Several categories," or "None."

- 3 Select "By category" or "Several Categories," then press Return.

AppleWorks asks you to choose how you want the data base arranged, as shown in Figure 11-6.

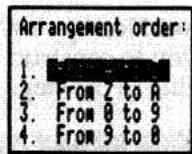


Figure 11-6
Arranging the category

When arranging on a date or time category, this menu also includes:

5. Chronological
6. Reverse chronological

- 4 Select an arrangement order, then press Return.

If you have selected "By category," AppleWorks arranges the data base. Otherwise, AppleWorks asks you to specify the second category and, optionally, the third category, then arranges the data base.

- ◆ **Canceling sorting** If you want the report to use whatever order the data base happens to be in when you print, press \odot -A, then select "None."

Designing a Report Format

Including Selection Rules in the Table Format

The current selection rules becomes part of the table report format. As a convenience, you can change record selection rules while defining a table report format. The selection rules you create here become part of the table report format and affect the current selection of the data base. These steps summarize how to change record selection rules. For a full discussion of selection rules, see Chapter 9, "Finding, Selecting, and Arranging Data Base Information."

1 Press ⌘-R for Record Selection.

If you have any selection rules already set for the data base, AppleWorks first asks if you want to select all records.

Answer Yes to select all records. Answer No to change the existing rule.

If you answer No, AppleWorks displays the Select Records screen for you to construct a new selection rule. Build a new rule according to the steps in "Selecting Records" in Chapter 8.

2 When you have finished changing the selection rule, press Return.

The new selection rule becomes part of the table report format.

Changing the Format Name

1 Press ⌘-N to change the name of the table report.

2 Type in the new name, then press Return.

AppleWorks asks you to type in a title line. The title line appears just above the category names at the top of the table report.

3 If you want a title line, type it, then press Return.

If you do not want a title line, press Escape. AppleWorks returns you to the Report Format screen.

Report Calculations

You can do two different kinds of calculations in your reports. Figure 11-7 shows a simple report with calculations.

Figure 11-7
Simple report

| File: | Fruits | | | Page 1 |
|----------|-------------|---------------|---------------|-----------------|
| Report: | by Fruit | | | October 1, 1993 |
| Produce | Farm | Revenue | Goal | Difference |
| Apple | Jones Farms | \$2,000.00 | \$2,000.00 | \$0.00 |
| Apple | Smith Ranch | \$1,500.00 | \$2,000.00 | \$500.00 |
| | | \$3,500.00 | \$4,000.00 | \$500.00 |
| Cherry | Doe Ranch | \$1,200.00 | \$1,500.00 | \$300.00 |
| Cherry | Jones Farms | \$2,500.00 | \$2,500.00 | \$0.00 |
| | | \$3,700.00 | \$4,000.00 | \$300.00 |
| Pear | Smith Ranch | \$1,000.00 | \$1,000.00 | \$0.00 |
| | | \$1,000.00 | \$1,000.00 | \$0.00 |
| Rutabaga | Doe Ranch | \$2,000.00 | \$2,200.00 | \$200.00 |
| | | \$2,000.00 | \$2,200.00 | \$200.00 |
| | | \$10,200.00 * | \$11,200.00 * | \$1000.00 * |

Press Space Bar to continue _

2906K Avail.

You can do the following kinds of calculations:

- total a category over the entire report
- group categories for subtotals
- ◆ **Arranging and grouping is important to subtotals** If you want AppleWorks to subtotal when the contents of the controlling category changes, you must arrange the data base so that identical entries appear together, total the categories you want, and group the selection. If the entries change randomly throughout the data base, AppleWorks subtotals randomly throughout the data base. You must total the category in which you want the subtotal.
- **AppleWorks Veterans** Previous versions of AppleWorks let you define calculated categories in reports. AppleWorks now lets you define calculated categories in the data base itself, using much more flexible formulas. For this reason, calculated categories have been removed from reports. See Chapter 8, "Category Rules & Options," for more details.

Report Calculations

Totaling a Column

- 1 Move the blinking cursor to the category you want to total.
- 2 Press **⌘-T** for Total.

AppleWorks asks how many decimal places you want in the total, and proposes 0 decimal places.

- 3 Type in the number of decimal places you want, then press **Return**.

AppleWorks asks how many blank spaces you want to leave to the right of the column, and proposes three blank spaces.

- 4 Type in the number of blank spaces you want, then press **Return**.

AppleWorks replaces any sample entries with a series of 9's and a double underline to signify a totaled category. Figure 11-8 shows how totaled categories appear on screen.

Figure 11-8
Totaled categories

| File: Fruits | | REPORT FORMAT | | Escape: Report Menu | | |
|---|---------------------------------|---------------------------|---------------|---------------------|---------------------------------|-------------------------------|
| Report: by Fruit | | | | | | |
| Selection: All records | | | | | | |
| Group totals on: Produce | | | | | | |
| ----- | | | | | | |
| → | ← | Move cursor | | ⌘-J | Right justify this category | |
| ⌘-> | ⌘-< | Switch category positions | | ⌘-M | Change report name and/or title | |
| ⌘-→ | ⌘-← | Change column width | | ⌘-O | Printer options | |
| ⌘-A | Auto-sort options (off) | | | | ⌘-P | Print the report |
| ⌘-D | Delete this category | | | | ⌘-R | Change record selection rules |
| ⌘-G | Add/remove group totals | | | | ⌘-T | Add/remove category totals |
| ⌘-I | Insert a prev. deleted category | | | | | |
| ----- | | | | | | |
| 11 | 20 | 14 | 14 | 14 | | |
| Produce | Farm | Revenue | Goal | Difference | L | |
| A----- | B----- | C----- | D----- | E----- | n | |
| Apple | Jones Farms | 9999999999 99 | 9999999999 99 | 9999999999 99 | 7 | |
| Apple | Smith Ranch | 9999999999 99 | 9999999999 99 | 9999999999 99 | 8 | |
| Cherry | Doe Ranch | 9999999999 99 | 9999999999 99 | 9999999999 99 | | |
| ----- | | | | | | |
| Use options shown above to change report format | | | | 2906K Avail. | | |

Grouping Categories for Subtotals

- 1 With the cursor in the category you want to group for subtotaling, press \odot -G for Group.

AppleWorks asks whether you want to print group totals only. Answer No if you want to print all numerical entries and category totals as well as group totals. Answer Yes if you want to print only the subtotals (for groups) and totals.

- 3 Select Yes or No for group totals, then press Return.

AppleWorks asks whether you want to go to a new page after each group total.

- 4 Select Yes or No for a new page, then press Return.

AppleWorks enters your grouping instructions and notes any grouping at the top of the screen, as shown in Figure 11-9.

Figure 11-9
Grouped totals

```
File: Fruits
Report: by Fruit
Selection: All records

Group totals on: Produce ◀
=====
→  ◀ Move cursor
⌘→ ⌘◀ Switch category positions
```

Removing Group Totals and Category Totals

- 1 Move the blinking cursor to the category whose total or grouping you want to remove.
 - 2 Press \odot -T to remove the total for the category. Press \odot -G to remove the grouping (and subtotaling) for the category.
- ◆ **Grouping and Subtotaling** The commands \odot -T and \odot -G act like on-off switches to turn totaling and grouping on and off.

Printer Options for Reports

Printer options all appear on the Report Format Printer Options screen. Make sure that the printer options for each table report format are set properly. Settings for a typical table report appear in Figure 11-10.

- ◆ **Printer option minimums, standards, and maximums** Table 4-1 lists minimum, standard, and maximum values for these printer options.

Figure 11-10
Printer options for a typical report

| File: Fruits | | PRINTER OPTIONS | | Escape: Report Format | |
|---|------------|---|----------------------------------|-----------------------|--|
| Report: by Fruit | | | | | |
| ----- | | | | | |
| -----Left and right margins----- | | | -----Top and bottom margins----- | | |
| PN: Platen Width | 8.0 inches | PL: Paper Length | 11.0 inches | | |
| LM: Left Margin | 0.0 inches | TM: Top Margin | 0.0 inches | | |
| RM: Right Margin | 0.0 inches | BM: Bottom Margin | 2.0 inches | | |
| CI: Chars per Inch | 10 | LI: Lines per Inch | 6 | | |
| | | | | | |
| Line width | 8.0 inches | Printing length | 9.0 inches | | |
| Char per line (est) | 80 | Lines per page | 54 | | |
| | | | | | |
| -----Formatting options----- | | | | | |
| SC: Send Special Codes to printer | | | | No | |
| PD: Print a Dash when an entry is blank | | | | No | |
| PH: Print report Header at top of each page | | | | Yes | |
| | | Single, Double or Triple Spacing (SS/DS/TS) | | SS | |
| ----- | | | | | |
| Type a two letter option code _ | | | | 2905K Avail. | |

Selecting or Changing a Printer Option

- 1 Press **⌘-O** to display a list of printer options.

AppleWorks displays the Printer Options screen, as shown in Figure 11-10.

- 2 Select an option by typing its two-letter code.

Depending on the option, AppleWorks either switches the setting to its opposite (changes yes to no, for example), or gives you an opportunity to type in the new setting.

3 Type in the new setting, if AppleWorks asks for one, then press Return.

4 When you have finished setting printer options, press Escape.

AppleWorks returns you to the table report format. The printer option settings you have made become a part of the table report format.

Entering Special Printer Control Codes

AppleWorks can send printer control codes to your printer at the beginning of the print operation. You can use them for selecting printer features such as compressed print. AppleWorks sends the special codes only when you print this data base report format. In other words, each report format can have its own special codes. You need not enter them in the description of your printer (if you do that, you do not need to enter them here).

You can enter any special codes that your printer may require.

To enter a code, just type the keystrokes. For example, if your printer manual calls for a Escape-E, press Escape and then Shift-E (uppercase and lowercase are always important to special printer codes). If your printer manual calls for Control-N, hold down the Control key and type N.

◆ **Oops!** AppleWorks enters every character you type—including backspace and return. If you make a mistake, press ⌘-Return and then type SC for a chance to retype your codes.

Printing a Table Report

You can print a table report to:

- your printer
 - the screen, to preview the report before printing
 - the Clipboard (to bring data with no tab characters into the Word Processor module of AppleWorks, or to export totals)
 - an ASCII text file or DIF file on disk
- ◆ **Before you print for the first time...** AppleWorks comes set up to print on the Apple ImageWriter I and II printers. If you are using a different printer, you must set up AppleWorks for the printer you are using. See Appendix C, "Printer Configuration," for the steps necessary to configure AppleWorks for the printer you are using.

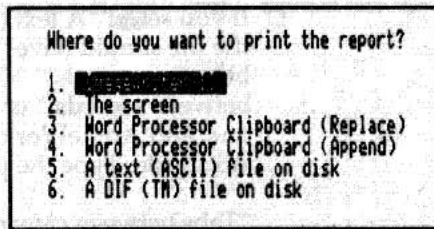
To print a table report:

- 1 **Select an existing table report format or create a new one.**
- 2 **Make sure that the table report format has the selection rules you want and that it is arranged the way you wish.**
- 3 **Check the Printer Options screen to make sure that you have set the printer options correctly for the report and for your printer.**
- 4 **Make sure that the printer is on and that there is paper in it.**
- 5 **Press ⌘-P for Print.**

AppleWorks displays a screen asking where you want to print the report. Figure 11-11 shows the choices.

Figure 11-11

Print destinations



6 Select one of the print destinations, then press Return.

- If you select your printer (you may see up to five different printers or printer setups on the screen), AppleWorks prints your report on the printer.
- If you select "The screen" AppleWorks sends the report to the screen, rather than the printer. This is convenient for previewing reports.
- If you select "The clipboard (for the Word Processor)" (or "Append"), AppleWorks prints the data base on the Clipboard with any Tab characters replaced by space characters to preserve the data base column alignment when you copy the information into a Word Processor document.
- If you select "A DIF (TM) file on disk," AppleWorks asks you to type in a pathname for the DIF file. Type the pathname, then press Return.

Printing a Table Report

- If you select "A text (ASCII) file on disk" AppleWorks asks if the file should have "Tabs between categories, Returns between records," "Characters between categories, Returns between records," or "Return after each category." Select one, and AppleWorks asks you to type in a pathname for the ASCII file. Type the pathname, then press Return.

"Tabs between categories, Returns between records" saves the ASCII file on the disk with a Tab character after each category in a single record and with a Return character signifying the end of each record.

"Characters between categories, Returns between records" saves the ASCII file on the disk with a character you specify after each category, and with a Return character at the end of each record. Many data base programs want to see text files with commas between categories; this option lets you do it.

"Return after each category" saves the ASCII file on the disk with a Return character at the end of every category. This is the format that earlier versions of AppleWorks used.

If you print to the screen, your report looks like Figure 11-12.

Figure 11-12
Printing a report
on the screen

| File: | Fruits | | | Page 1 |
|----------|-------------|---------------|---------------|-----------------|
| Report: | by Fruit | | | October 1, 1993 |
| Produce | Farm | Revenue | Goal | Difference |
| Apple | Jones Farms | \$2,000.00 | \$2,000.00 | \$0.00 |
| Apple | Smith Ranch | \$1,500.00 | \$2,000.00 | \$500.00 |
| | | \$3,500.00 | \$4,000.00 | \$500.00 |
| Cherry | Doe Ranch | \$1,200.00 | \$1,500.00 | \$300.00 |
| Cherry | Jones Farms | \$2,500.00 | \$2,500.00 | \$0.00 |
| | | \$3,700.00 | \$4,000.00 | \$300.00 |
| Pear | Smith Ranch | \$1,000.00 | \$1,000.00 | \$0.00 |
| | | \$1,000.00 | \$1,000.00 | \$0.00 |
| Rutabaga | Doe Ranch | \$2,000.00 | \$2,200.00 | \$200.00 |
| | | \$2,000.00 | \$2,200.00 | \$200.00 |
| | | \$10,200.00 * | \$11,200.00 * | \$1000.00 * |

Press Space Bar to continue _ 2906K Avail.

Chapter 12

Creating a Label Report

... ..

1.

... ..

2.

... ..

3.

... ..

4.

... ..

... ..

... ..

... ..

Blank Page

Creating a Label Report

AppleWorks provides two kinds of reports: table reports and label reports. Table reports are columnar with all the data from one record on one line. This allows you to total and subtotal columns in the records of your data base.

Label reports are multiline reports; the information from one record can be on several lines. Their most prevalent use is creating mailing labels from the information in your data base (although you need not print labels to print a label-format report).

AppleWorks' mailing labels go together with AppleWorks' mail merge (form letter) capabilities. You create the form letter with Mail Merge, and create the mailing labels to mail them with a label report.

- You can print from 1 to 24 labels across. (Most label paper is set up for 1 or 3 labels across.)
- You can save up to a total of 30 report formats, whether they are table reports or label reports.
- Each mailing label format can include selection rules and sorting order for the data base.

The process of producing mailing labels is a simple one. This Chapter explains how to create a mailing label format or use one you already have defined for this data base, make any changes to the label that may be necessary, set printer options, and print the labels.

AppleWorks lets you print labels in the name of the user format.

4. Type in the name for the label report format, then press Return.

AppleWorks displays the label report in the Report Format window, ready for editing (Figure 12-3).

Using a Label Report

AppleWorks can save two kinds of report formats: label report format for mailing labels and table report formats for columnar reports. (See Chapter 11, "Creating a Table Report.") AppleWorks refers to both kinds of saved formats as "reports."

- ◆ **Putting a label on it** Just because you print a mailing label format doesn't mean you must print the format on mailing labels. You might want to print a list of names and addresses three or four across on plain paper—say, to check off attendees at the Fireman's Ball or to send to an organization where an official quorum is necessary.
- ◆ **Important** To create or use any mailing label, you must first add the data base to the Desktop, and make sure it is displaying the Review/Add/Change screen in either Multiple or Single Record Layout.

For a definition of Multiple and Single Record Layout, see Chapter 7, "Creating a Data Base."

Creating a New Label Report Format

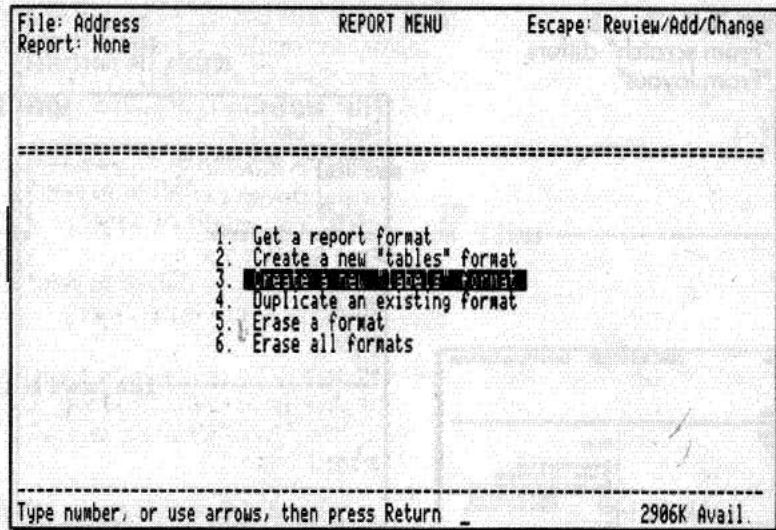
AppleWorks saves all label and table report formats along with the data base.

- 1 Press **⌘-P** for Print.

AppleWorks displays the Report menu, shown in Figure 12-1.

Figure 12-1

Report menu



2 Select "Create a new 'labels' format," then press Return.

AppleWorks asks whether it should create the new format from scratch or base it on the current Single Record Layout. Figure 12-2 illustrates the different results you can get.

3 Select "From scratch" or "From the current layout," then press Return.

AppleWorks asks you to type in the name of the new format.

4 Type in the name for the new label report format, then press Return.

AppleWorks displays the initial label on the Report Format screen, ready for editing (Figure 12-3).

Using a Label Report

Figure 12-2

How "From scratch" differs from "From layout"

File: Address CHANGE NAME/CATEGORY Escape: Report Menu

Report: Labels
Selection: All records

1. 1

First Name
Last Name
Address
City
State
ZIP

-----Each record will print 6 lines-----

Use options shown on Help Screen q-? for Help

"From Scratch" generates a simple list of categories, in the order in which the categories were defined

File: Address REVISE-NO-CHANGE Escape: Report Menu

Selection: All records

Record 1 of 23 (23 selected)

First Name: john Last Name: Jones
Address: 13 Elm St. City: Columbus
State: OH ZIP: 43202

File: Address REPORT FORMAT Escape: Report Menu

Report: Labels
Selection: All records

1. 1

First Name Last Name
Address
City State ZIP

-----Each record will print 3 lines-----

Use options shown on Help Screen q-? for Help

"From Layout" generates copies the Single Record Layout to the report format

Figure 12-3
Mailing label ready
for editing (created
from a layout)

| | | |
|--|---------------|---------------------|
| File: Address | REPORT FORMAT | Escape: Report Menu |
| Report: Labels | | |
| Selection: All records | | |
| | | 1, 1 |
| ----- | | |
| First Name | Last Name | |
| Address | | |
| City | State | ZIP |
| -----Each record will print 3 lines----- | | |
| | | |
| | | |
| ----- | | |
| Use options shown on Help Screen | | Q-? for Help |

Using an Existing Label Format

1 Press **Q-P** for Print.

AppleWorks displays the Report menu (Figure 12-1).

2 Select "Get a report format," then press Return.

AppleWorks displays a list of available report formats for both columnar reports and mailing labels. If there are no formats available, AppleWorks tells you.

3 Select the report format you want, then press Return.

If the format includes any arrangement (sort) order or selection rules, AppleWorks executes these and displays the format.

- ◆ **Where did all the records go?** AppleWorks includes selection rules in its report (columnar and label) definitions. When AppleWorks gets the format, it selects records from the data base using these rules. Change the rules to get your records back. See "Including Record Selection Rules in the Label Format," later in this Chapter.

Using a Label Report

Duplicating or Erasing Formats

It's often easier to change a detail or two on an existing format than it is to create one from scratch.

1 Press **⌘-P** for Print.

AppleWorks displays the Report menu.

2 Select an option.

To duplicate an existing format, select "Duplicate an existing format," then press Return. Type in the new name, then press Return.

To erase one format, select "Erase a format," then press Return. AppleWorks displays a list of available formats and asks you to select a format.

To erase all report formats for the data base, select "Erase all formats," then press Return. AppleWorks warns you, and gives you a chance to change your mind (choose No).

3 Select a format, then press Return.

Designing the Label Format

Once the report format for the mailing label is on the screen, you can move categories, delete them from the format (and restore them later if you change your mind), make the spacing automatically close up between the city, state and zip—or any other categories on the same line—and print either the contents of the category or both the contents and category name.

- ◆ **X marks the spot** The first character of a category's contents prints where the first character of the category appears in the format. If you plan to put more than one category on a line (city, state, and zip, for example), see "Closing Up Space: Justify Categories" later in this Chapter.

Table 12-1 lists the commands you can use to edit the label format.

Table 12-1

Label format
editing keystrokes

| Keystroke | Action |
|-----------|--|
| ← → | Move the cursor |
| ↶ → ← → | Move the category in the label format |
| ↶-> | Display next record in data base if zoomed in |
| ↶-< | Display previous record in data base if zoomed in |
| ↶-1...↶-9 | Go to beginning...end of data base file if zoomed in |
| ↶-A | Arrange (sort) the data base |
| ↶-D | Delete this spacing line or category cursor is in |
| ↶-I | Insert a spacing line or category you have deleted |
| ↶-J | Left justify category (close up space to left) |
| ↶-N | Change report name and/or title |
| ↶-O | Display list of printer options for label format |
| ↶-P | Print labels |
| ↶-R | Change record selection rules for this label format |
| ↶-V | Print both name and value for category cursor is in |
| ↶-Z | Zoom between category names and label appearance |

Designing the Label Format

Moving Categories Within a Label Format

- 1 Use the $\leftarrow \rightarrow$ keys to move the blinking cursor under the first character of the category name.
- 2 Press $\leftarrow \rightarrow$ to move the category to a new position.

The category name moves one character in the specified direction each time you press the key combination. AppleWorks prevents you from placing one category on top of another or moving a category through another category (you can, however, move categories around other categories).

AppleWorks lets you have up to 60 lines in a label report. The screen automatically scrolls when necessary to allow you to place categories wherever you like.

Closing Up Space: Justify Categories

You'll often want the information from more than one category on the same line. A good example of this is first and last names, or city, state or province, and zip or postal code in an address.

AppleWorks puts the first character of the category's contents where you have placed the first character of the category in the format. This can lead to category locations that are too short or too long on any given label.

To have AppleWorks allow *just* enough room, but not too much:

- 1 Move the blinking cursor to the first character of the category you want to have AppleWorks adjust automatically.
- 2 Press \leftarrow -J for Justify.

AppleWorks places a < (less than) symbol to the left of the category. Figure 12-4 shows a mailing label justified so that AppleWorks automatically closes up space between categories.

- ◆ **Closing up** When you close up space, the category to the right starts one space after the category to the left ends. There is no word wrap.

Figure 12-4

Mailing label with justified fields

Justified categories are marked with a leading "<" symbol and automatically close up any excess space to their left.

| | | |
|--|---------------|---------------------|
| File: Address | REPORT FORMAT | Escape: Report Menu |
| Report: Labels | | |
| Selection: All records | | |
| | | 1, 1 |
| ===== First Name | <Last Name | |
| Address | | |
| City | <State | <ZIP |
| -----Each record will print 3 lines----- | | |
| Use options shown on Help Screen | | ⌘-? for Help |

Hiding and Inserting Categories and Lines

You can delete a category from the format so that it does not appear on the report. Deleted categories are still part of the data base—they just don't appear in this format.

To hide (in this case called "delete") a category or a line:

- 1 Move the blinking cursor to the first character of the category or anywhere on the line you want to delete from the format.
- 2 Press ⌘-D for Delete.

AppleWorks deletes the category or line from the format.

If more than one category is on the same line (for instance, City, State, and Zip Code), AppleWorks deletes only the category under your cursor.

Designing the Label Format

Arranging the Labels

You can insert any category from the data base that does not currently appear in the format. You can also delete or insert blank lines. To insert (or reinsert) a category or blank line:

1 Move the blinking cursor to the location where you want to insert the category or the blank line.

2 Press \odot -I for Insert.

AppleWorks displays a list of items you can insert—a line above the cursor, a line below the cursor, or a previously deleted category.

3 Select the item you want to insert, then press Return.

AppleWorks inserts the item.

AppleWorks can remember the sorting order it should use with each report and automatically arrange the data base before printing.

To set the arrangement order:

1 Move the blinking cursor to the category you want to sort by.

2 Press \odot -A for Arrange.

AppleWorks asks you if you want to arrange the data base by "Category (name)," by "Several categories," or "None."

3 Select "By category" or "Several Categories," then press Return.

AppleWorks asks you to choose how you want the data base arranged.

Including Selection Rules in the Label Format

4 Select an arrangement order, then press Return.

If you have selected "By category," AppleWorks arranges the data base. Otherwise, AppleWorks asks you to specify the second category and, optionally, the third category, then arranges the data base.

- ◆ **Canceling sorting** If you want the report to use whatever order the data base happens to be in when you print, press ⌘-A, then select "None."

The current selection rules becomes part of the mailing label format. As a convenience, you can change record selection rules while defining a label report format. The selection rules you create here become part of the label report format and affect the current selection of the data base. These steps summarize how to change record selection rules. For a full discussion of selection rules, see Chapter 9, "Finding, Selecting, and Arranging Data Base Information."

1 Press ⌘-R for Record Selection.

If you have any selection rules already set for the data base, AppleWorks first asks if you want to select all records.

Answer Yes to select all records. Answer No to change the existing rule.

If you answer No, AppleWorks displays the Select Records screen for you to construct a new selection rule.

Build a new rule according to the steps in "Selecting Records" in Chapter 10.

2 When you have finished changing the selection rule, press Return.

The new selection rule becomes part of the label format.

Designing the Label Format

Changing the Report Format Name

1 Press **⌘-N** to change the mailing label format name.

2 Type in the new name for the format, then press **Return**.

AppleWorks asks you to type in a title line. The title line appears just above the top line of the label.

3 **If you want a title line, type it, then press Return.**

If you do not want a title line, press **Escape**. AppleWorks returns you to the Report Format screen.

Printer Options for Labels

The available printer options for mailing labels are similar to table (columnar) reports. Make sure that the printer options for your label report format are set properly.

You must:

- set the printer options appropriate for mailing labels
- turn off the Top-of-Page command
- set any special codes your printer requires or that you want
- tell AppleWorks how many labels to print across the page

Selecting or Changing a Printer Option

- 1 Press **⌘-O** to display printer options.

AppleWorks displays the Printer Options screen as shown in Figure 12-5. Settings for one-across labels, each 1 inch from top to bottom, appear in Figure 12-5. To find out how to measure mailing labels, see Figure 12-6.

Figure 12-5

How to set printer options for 1-inch mailing labels

Set the following options:

PW: the width of your labels (if printing more than one across, the width of all labels)

CO: the number of labels across on a page

PH: must be set to No

PL: the length of one label

LI: Make sure this is set properly for the length of your label. The number of lines in your label, divided by the LI setting, must equal the page length. Use **⌘-I** in the label design screen to insert blank lines as necessary.

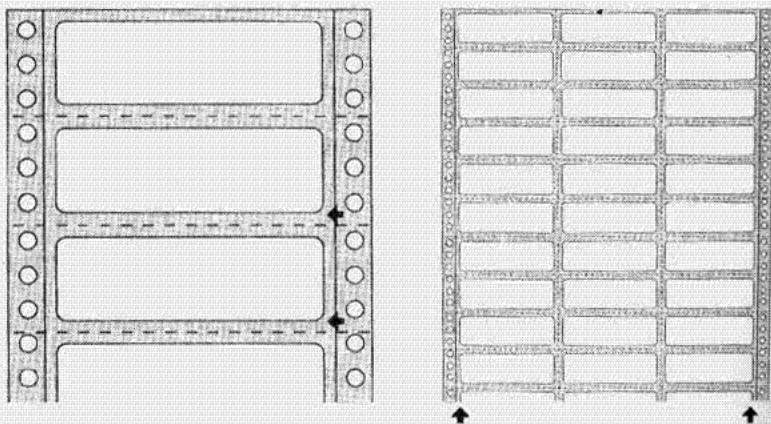
| File: Address | PRINTER OPTIONS | Escape: Report Format |
|--|-----------------|----------------------------|
| Report: Labels | | |
| -----Left and right margins----- | | |
| PW: Platen Width | 3.0 inches | |
| LM: Left Margin | 0.0 inches | |
| RM: Right Margin | 0.0 inches | |
| CI: Chars per Inch | 10 | |
| CO: Columns | 1 | |
| -----Top and bottom margins----- | | |
| PL: Paper Length | 1.0 inches | |
| TM: Top Margin | 0.0 inches | |
| BM: Bottom Margin | 0.0 inches | |
| LI: Lines per Inch | 6 | |
| Line width | 3.0 inches | Printing length 1.0 inches |
| Char per line (est) | 30 | Lines per page 6 |
| Char per col (est) | 30 | |
| -----Formatting options----- | | |
| SC: Send Special Codes to printer | | No |
| PD: Print a Dash when an entry is blank | | No |
| PH: Print report Header at top of each page | | No |
| OL: Omit Line when all entries on line are blank | | Yes |
| KS: Keep number of lines the Same within each record | | Yes |
| Type a two letter option code _ | | 2904K Avail. |

Printer Options for Labels

Figure 12-6
Measuring mailing labels

Measure from the bottom of one label to the bottom of the next to get the Page Length (PL)

Measure from the left of the first label column to the right of the last label column to get the Platen Width (PW)



- ◆ **Printer option minimums, standards, and maximums** Table 4-1 lists minimum, standard, and maximum values for these printer options.

2 Select an option by typing its two-letter option code.

Depending on the option, AppleWorks either switches the setting to its opposite (changes Yes to No, for example), or gives you an opportunity to type in the new setting.

- ◆ **To print multiple columns of labels** For multiple columns of labels, be sure to set CO (columns) to the number of labels across you want to print; set PW (platen width) to the width of the label paper, and set PL (paper length) to the measure of your label, as shown in Figure 12-5.

3 Type in the new setting, if AppleWorks asks for one, then press Return.

- ◆ **Set "Print report header" to No** Remember to set the "Print report header" option to No; otherwise, AppleWorks will print a header on each label.

4 When you have finished setting printer options, press Escape.

AppleWorks returns you to the mailing label format. The printer option settings you have made become part of the mailing label format.

Turning Off the Top-of-Page Command

This is a condensed version of the information in Appendix A, "Installing a Printer." It outlines the steps necessary to turn off the Top-of-Page command when printing mailing labels. We suggest leaving the Top-of-Page command off *at all times*, unless you encounter difficulty printing from some other part of AppleWorks.

- 1 From the Main Menu, select "Other Activities," then press Return.
- 2 Move the highlight to "Select standard settings for AppleWorks," then press Return.
- 3 Highlight "Printer settings," then press Return.
- 4 Select your printer from the Printer Information screen, then press Return.

The option "Accepts top-of-page commands" should be set to No. If it is set to Yes, you must change it.

- To change "Accepts top-of-page commands" to No, select the option, press Return, answer Yes to "Change the value?," then press Return.

- 5 Press Escape four times to return to the Main Menu.

Entering Special Printer Control Codes

AppleWorks can send printer control codes to your printer at the beginning of the print operation. You can use them for selecting printer features such as compressed print. AppleWorks sends the special codes only when you print this data base report format. In other words, each report format can have its own special codes. You need not enter them in the description of your printer (if you do that, you do not need to enter them here).

You can enter any special codes that your printer may require. Consult your printer manual for a list of printer codes.

Printer Options for Labels

To enter a code, just type the keystrokes. For example, if your printer manual calls for a Escape-E, press Escape and then Shift-E (uppercase and lowercase are often important to special printer codes). If your printer manual calls for Control-N, hold down the Control key and type N.

- ◆ **Oops!** AppleWorks enters every character you type—including backspace and return. If you make a mistake, press ⌘-Return and then type SC for a chance to retype your codes.

Printing Labels

You can print mailing labels to:

- your printer
 - the screen (to preview them before printing)
 - the Clipboard (to copy into the Word Processor module of AppleWorks)
 - an ASCII text file or DIF file on disk
- ◆ **Before you print for the first time...** AppleWorks comes set up to print to the Apple ImageWriter I and ImageWriter II printers. If you are using a different printer, you must set up AppleWorks for the printer you are using. See Appendix C, "Printer Configuration," for the steps necessary to set up AppleWorks for the printer you are using.

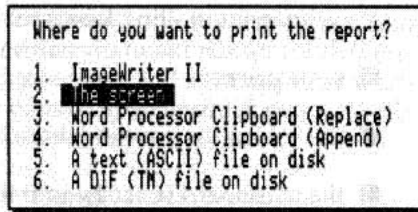
Printing Mailing Labels

- 1 Create or get a mailing label report format from the data base.
- 2 Make sure that the mailing label format has the selection rules you want and that it is arranged the way you wish.
- 3 Check the Printer Options screen to make sure that you have set the printer options for your printer and labels.
- 4 Make sure that the top-of-page command is set to No on the Printer Information screen.
- 5 Make sure that the printer is connected properly, is on, is able to receive information (on-line), and that there are labels in it.
- 6 Press ⌘-P for Print.

AppleWorks displays a screen asking where you want to print the report. Figure 12-7 shows the choices.

Printing Labels

Figure 12-7
Print destinations



7 Select one of the print destinations, then press Return.

- If you select your printer (you may see up to five different printers or printer setups on the screen), AppleWorks prints your report on the printer.
- If you select "The screen" AppleWorks sends the report to the screen, rather than the printer. This is convenient for previewing reports.
- If you select "The clipboard (for the Word Processor)" (or "Append"), AppleWorks prints the data base on the Clipboard with any Tab characters replaced by space characters to preserve the data base column alignment when you copy the information into a Word Processor document.
- If you select "A text (ASCII) file on disk" AppleWorks asks if the file should have "Tabs between categories, Returns between records," "Characters between categories, Returns between records," or "Return after each category." Select one and AppleWorks asks you to type in a pathname for the ASCII file. Type the pathname, then press Return.

"Tabs between categories, Returns between records" saves the ASCII file on the disk with a tab character after each category in a single record and with a Return character signifying the end of each record.

"Characters between categories, Returns between records" saves the ASCII file on the disk with a character you specify after each category, and with a Return character at the end of each record. Many data base programs want to see text files with commas between categories; this option lets you accomodate them.

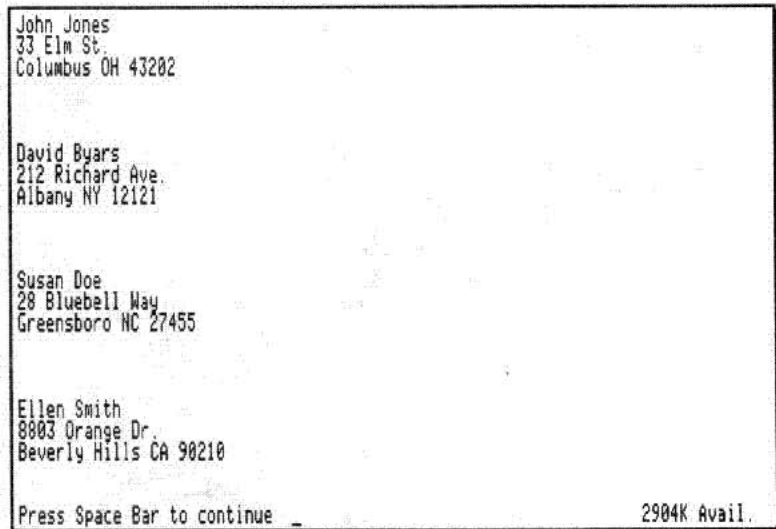
"Return after each category" saves the ASCII file on the disk with a Return character at the end of every category. This is the format that earlier versions of AppleWorks used.

- If you select "A DIF (TM) file on disk," AppleWorks asks you to type in a pathname for the DIF file. Type the pathname, then press Return.

If you elect to print to the screen, your labels will appear like those in Figure 12-8.

Figure 12-8

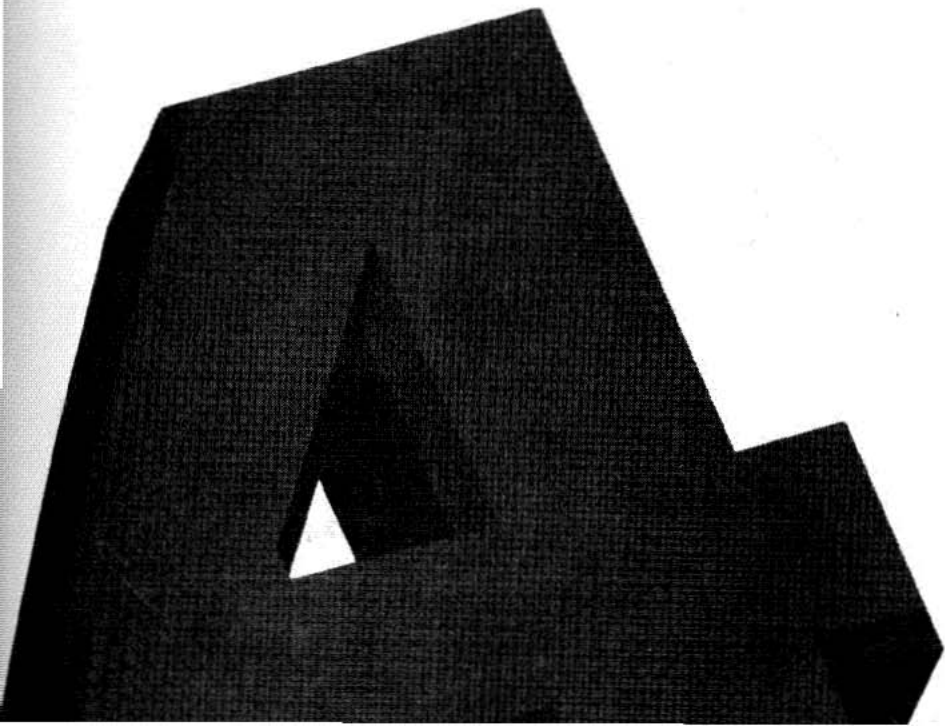
Printing labels to the screen



Blank Page



Spreadsheet



Blank Page

Chapter 13

Building a Worksheet

1. Select the range of cells that you want to insert.

2. Right-click.

3. Insert

4. Cells

5. Columns

6. 1 column

7. OK

8. Done

9. Done

10. Done

Blank Page

Building a Worksheet

A worksheet (or spreadsheet) is made up of rows and columns—like a ledger sheet or the financial analyst’s “worksheet” that gave this type of program its name. A cell is the intersection of a row and a column. A cell can hold text, numbers, or a special type of formula that calculates a result and displays it on screen. Figure 13-1 illustrates the parts of a typical worksheet file as it appears in AppleWorks.

A number at the left side of the screen identifies each row; a letter at the top identifies each column. The place where an individual row and column meet is called a cell. You identify each cell by its column letter and row number—for example, cell B4 or cell H36.

Building a Worksheet

Figure 13-1
Typical worksheet

1 COLUMNS

Labeled by letters

2 ROWS

Labeled by numbers

3 CELLS

The worksheet is composed of cells. A cell is the intersection of a row and a column.

4 LABEL

Text entered into a cell

5 VALUE

Numbers entered into a cell

6 CELL FORMAT & VALUE

Tells how the cell is formatted and its unformatted value

| File: Home Budget | | REVIEW/ADD/CHANGE | | | Escape: Main Menu | | |
|---|-------------------|-------------------|--|------------|-------------------|------------|--|
| -----A-----B-----C-----D-----E-----F-----G----- | | | | | | | |
| 1 | | | | JAN | FEB | MAR | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | INCOME | | | | | | |
| 5 | Employment Income | | | | | | |
| 6 | Pay Check 1 | | | \$2,000.00 | \$2,000.00 | \$2,000.00 | |
| 7 | Pay Check 2 | | | \$1,000.00 | \$1,000.00 | \$1,000.00 | |
| 8 | Other | | | \$100.00 | \$100.00 | \$300.00 | |
| 9 | | | | | | | |
| 10 | Investment Income | | | | | | |
| 11 | Interest | | | \$50.00 | \$50.00 | \$50.00 | |
| 12 | Rental | | | \$500.00 | \$500.00 | \$500.00 | |
| 13 | Other | | | \$75.00 | \$75.00 | \$75.00 | |
| 14 | | | | | | | |
| 15 | Other Income | | | \$200.00 | \$125.00 | \$125.00 | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | EXPENSES | | | | | | |

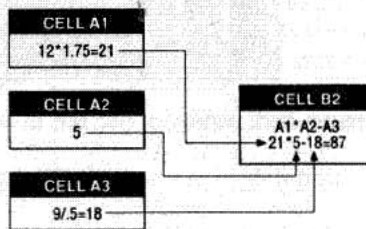
E6: (Width:11, Value, Layout-M2)
2000
Type entry or use α commands _ α ? for Help

Using AppleWorks' spreadsheet functions and formulas, you can build profit and loss statements, calculate mortgage payments, perform trigonometric calculations, or perform weighted student grade averages—do any kind of numerical calculations that work well in rows and columns.

A worksheet's calculations are interlocked in such a way that one calculation can use the results of others. Figure 13-2 shows how. This is the essential concept of the spreadsheet.

Figure 13-2

How one calculation depends on the results of others



In a worksheet, calculations don't just happen once as they do when you use a hand-held calculator. They happen every time you enter new data, making the worksheet a dynamic way to see the effects of your decisions before you make them.

Create a new worksheet file or add an existing file to the Desktop by following the steps in Chapter 2, "Adding a New File to the Desktop."

- ◆ **A word about terminology** AppleWorks generally uses "spreadsheet" to refer to its ability to do row-and-column calculations—"the AppleWorks spreadsheet screen." AppleWorks uses "worksheet" to refer to the *file* of calculations that you set up and save—"Save your worksheet on the disk."

Moving Around the Worksheet

Figure 13-3 summarizes the keystrokes you can use to move the cell pointer around a worksheet file. You can also move to specific cell locations or find specific cell contents with the Find command.

Figure 13-3

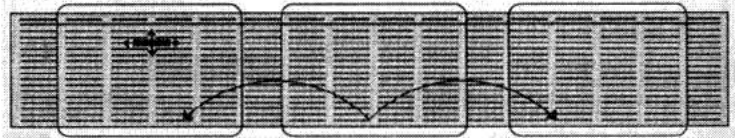
Moving around a worksheet

CELL BY CELL

To move pointer one cell in any direction, use the \uparrow \downarrow \leftarrow \rightarrow keys

SCREEN BY SCREEN

To move pointer left or right one screen, use the \leftarrow \rightarrow keys



COLUMN BY COLUMN

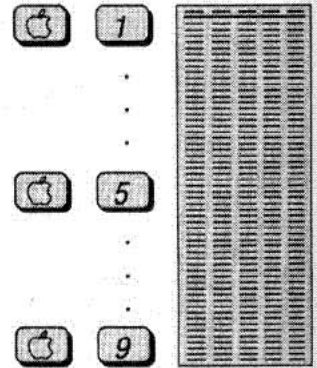
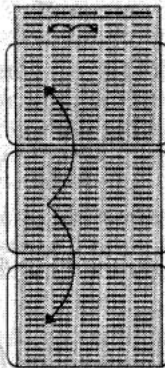
To move pointer right or left one column, press Tab or \leftarrow -Tab

SCREEN BY SCREEN

To move pointer up or down one screen, use the \uparrow \downarrow keys

PROPORTIONALLY

To move from top to bottom proportionally, press \leftarrow -1...9.



Finding & Replacing

Finding a Specific Cell Location

- 1 Create or add a worksheet to the Desktop.
- 2 Press **⌘-F** for Find.

AppleWorks asks if you want to "Repeat last" find operation, look for specific "Coordinates" (a cell location), or look for "Text" (a label), "Number" (a value), or "Formula."

- 3 Select "Coordinates," then press Return.

AppleWorks asks you to type in a complete cell location—such as B2 or H83. You can use lowercase letters, but you must type in both the column letter(s) and row number.

- 4 Type in the cell location, then press Return.

AppleWorks moves the cell pointer to the specified location.

- ◆ **To go back there later** AppleWorks remembers your last Find operation, and whether it was to cell coordinates or to a cell containing text. If you move somewhere else in the worksheet, you can press **⌘-F** and then Return, and go back to the cell you just looked for—as long as you don't use Find in the meantime. Even if you looked for a cell containing text, numbers, or a formula, AppleWorks still remembers the coordinates of the last cell you looked for and offers it as the default for the next Find.

Finding Cell Contents

- 1 Move the cell pointer to the cell where you want to start searching.

AppleWorks starts searching from (but not including) the current cell. To search the whole spreadsheet, move the cursor to the upper left corner (cell A1). (You could also start from the lower right corner and search backward.)

- 2 Press **⌘-F** for Find.

AppleWorks asks if you want to repeat your last Find operation, look for specific coordinates (a cell location), or look for text, numbers, or formulas.

- 3 Select "Text," "Number," or "Formula," then press Return.

AppleWorks searches only the types of cells you specify. If you select "Number," AppleWorks will also find formula cells which evaluate to the value you specify.

Finding & Replacing

- Text** Searches the *displayed value* of cells for the text you specify (can be numeric—searching for 77 will find cells that contain 1776, for example)
- Number** Searches the *underlying numeric value* of number and formula cells, matching with a precision based on the search value (e.g., 8.9 in a cell formatted with zero decimal places would display 9; searching for 8 or 8.9 would find it, but searching for 9.0 would not)
- Formula** Searches the underlying formula for the specified text—use for finding all the usage of @SUM

After specifying a cell type, AppleWorks asks for the search direction.

4 Select the search direction and press Return.

- Ahead by row** starts with the current pointer location, searches rightward until it reaches the end of the row, then moves down to the beginning of the next row and continues the search from there.
- Back by row** starts with the current pointer location, searches leftward until it reaches the beginning of the row, then moves up to the end of the preceding row and continues the search from there.
- Down by column** starts with the current pointer location, searches downward until it reaches the bottom of the column, then moves right to the top of the next column and continues the search from there.
- Up by column** starts with the current pointer location, searches upward until it reaches the top of the column, then moves left to the bottom of the preceding column and continues the search from there.

Hold down the ⌘ key while selecting the search direction to restrict the search to only the current row or column.

AppleWorks now asks for the information you want to find.

5 Type in the text to find, then press Return.

AppleWorks moves the cell pointer to the cell containing the information you have specified, if any. If AppleWorks can't find any cell containing that information, it tells you so.

Replacing Cell Contents

To search for the contents of a cell (text or number) and replace them with another value, follow these steps:

1 Move the cell pointer to the cell where you want to start searching.

AppleWorks starts searching from (but not including) the current cell. To search the whole spreadsheet, move the cursor to the upper left corner (cell A1). (You could also start from the lower right corner and search backward.)

2 Press ⌘-R for Replace.

AppleWorks asks if you want to look for text or numbers.

3 Select "Text" or "Number," then press Return.

AppleWorks searches only the types of cells you specify.

After you specify a cell type, AppleWorks asks for the search direction (see previous page for a description of each option).

4 Select the search direction and press Return.

Hold down the ⌘ key while selecting the search direction to restrict the search to only the current row or column.

AppleWorks now asks for the information you want to find.

5 Type in what you want to find, then press Return.

Next, AppleWorks asks for what you want to replace that information with.

Finding & Replacing

6 Type the replacement you desire, then press Return.

AppleWorks asks you whether you want to replace the items one at a time, or all at once.

If you select "One at a time," AppleWorks highlights each instance and asks you whether you want to replace it before doing so. If you select "All," AppleWorks replaces the data in all the cells which meet your specifications without asking you each time.

7 Select "One at a time" or "All," then press Return.

If you have selected "One at a time," AppleWorks finds each cell which matches your criteria and asks whether you want to perform the replacement. After you answer Yes or No, AppleWorks asks if you want to continue searching.

If you have selected "All," AppleWorks does the replacements all at once, without asking your permission for each cell which matches the search criteria.

Building a New Worksheet

There are three building blocks for your worksheet: label, value, and formula. A label is text that you enter into a spreadsheet cell. It can be up to 70 characters long. A value is a number; it can display up to seven decimal places and display a currency symbol, commas, and percent sign. However, it isn't necessary to include all of these.

A formula is a mathematical expression that evaluates to a *value*. This value can either be a number or text. Most often, a formula refers to other cell locations (for example, the formula $+A1+B2$). The other cell can in turn hold a label, a value, or a formula. (While you can't add the value in A1 to the label in B2, AppleWorks does have functions that can return text as the result of a numerical computation, or a value from a comparison of labels.)

Being able to refer to the contents of cells or the results of calculations in other cells gives the AppleWorks Spreadsheet its power and flexibility. When a formula refers to a cell location, AppleWorks checks that cell location to get the result of any calculation, label, or value that might be there, then uses that information in the formula that originally referred to the other cell.

AppleWorks comes with a set of built-in functions that make it easy to create formulas that do complex calculations. Each function begins with an @ symbol so AppleWorks can distinguish it from a label or a cell reference. Most functions accept a value, a list of cell locations (A1, A2, A3), or a range of cells (A1...A3).

Functions include summing up a range (@SUM), finding the net present value of money (@NPV), or locating a particular label in a list of labels (@LOOKUP). You can find a complete list of functions in Chapter 16, "Summary of Spreadsheet Functions."

To build a worksheet, you enter labels, values, and formulas in the cells where you want them to appear.

Building a New Worksheet

Typing into a Cell

Move the cell pointer to the cell in which you want to type. When you begin typing, you'll see what you type appear at the bottom of the screen with the AppleWorks blinking cursor. When you've finished typing into a cell, press Return or any arrow key.

Ditto

If you must enter a column of identical values, you can use the ⌘- (ditto) command. Do not press the Shift key while using this command. Ditto copies the contents of the cell above the cell pointer into the current cell. If the cell above the cell pointer contains a formula, cell references are adjusted to be relative to the new location of the formula.

Deleting Something You've Typed

If you're unhappy with something you've typed into a cell, here's how to fix it before you press Return. Once you have pressed Return, AppleWorks accepts whatever you've typed into the cell. You can still edit information you've already entered into a cell, but it's easier to catch it before you press Return. If you want to erase the character to the left of the cursor, press Delete.

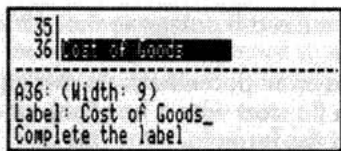
Entering a Label

A label may be up to 70 characters long. If a label is wider than the current column width, *and if the columns to the right of the label cell are empty*, AppleWorks will split the label among the columns so that you can read all of it. If the cell to the right is not empty, AppleWorks does not extend the label. You can also widen a column. See "Setting Column Width" in Chapter 14.

- 1 Move the cell pointer to the cell where you want the label.
- 2 Begin typing with any letter; AppleWorks enters the label automatically.

If you want a label to begin with a numeral, press " (double quotation marks) before you begin typing. Figure 13-4 shows how a label looks while being entered.

Figure 13-4
Entering a label



3 When you have finished typing the label, press Return.

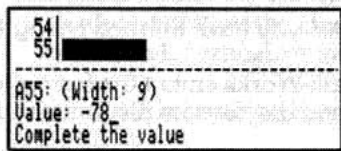
AppleWorks enters the label on the worksheet.

AppleWorks can display a value with up to seven decimal places.

- 1 Move the cell pointer to the cell where you want the value.**
- 2 Begin typing with any numeral (0 through 9) or with the minus sign (-); AppleWorks enters the value automatically.**

The minus sign is useful for entering a negative value. You can also begin a value with a plus sign or an open parenthesis. Figure 13-5 shows how a value looks while you're entering it.

Figure 13-5
Entering a value



3 When you have finished typing the value, press Return.

AppleWorks enters the value on the worksheet. If your value is wider than the cell, AppleWorks displays a series of number symbols (for example, #####). You do not need to enter commas or dollar signs—in fact, you cannot use these characters. You can reformat the value (remove decimal places or add currency symbols) or widen the column later. See “Value Formats” or “Setting Column Width” in Chapter 14.

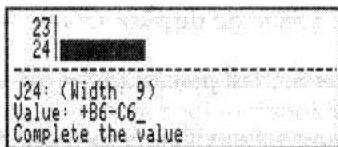
Building a New Worksheet

Entering a Formula or Function

- 1 Move the cell pointer to the cell where you want the formula.
- 2 Type open parenthesis, a plus sign (+), a minus (-) sign, an @ sign (to start with a function), or a numeral from 0 through 9 to start the formula.

If you want to start the formula with a cell reference, you must type an open parenthesis, a minus sign, or a plus sign to tell AppleWorks you're not typing a label. Figure 13-6 illustrates the process of entering a formula.

Figure 13-6
Entering a formula



- ◆ **Can't remember the function you need?** Press ⌘ -F for a pop-up menu of the available functions. Selecting a function from the menu automatically enters it into your formula and displays a summary of the required arguments below the entry line.

- 3 When you have finished typing the formula, press Return.

AppleWorks enters the formula into the worksheet, calculates it, and displays its result immediately.

- ◆ **Beware the circular reference!** A circular reference happens when two or more cells refer to each other, for example: $A1 = B2 * 3$ and $B2 = A1 + 4$. You can have several calculations in between, so that it's not immediately apparent that two calculations depend on each other. One way to spot a circular reference is to press ⌘ -K a few times to force recalculation. If the value of a cell keeps changing, you probably have a circular reference. You may want to rethink the layout of your worksheet so that circular references are not used.

Referring to Another Cell

When typing in a formula, there are several ways to enter a cell reference (the reference to another cell). Do not press Return until you have finished entering the formula.

You can enter a cell reference in the following ways:

- Type the cell location directly (for example, BK52).
- Use the \uparrow \downarrow \leftarrow \rightarrow keys to move the cell pointer and point to the cell you want to refer to. To continue typing a formula after pointing, enter one of the arithmetic operators (+, -, /, *, or ^ for exponentiation), a comma, or a closing parenthesis, and then enter the next number or cell reference.
- To enter a list of cells, type an open parenthesis, type the first cell reference (or point), and then type a comma (.). Continue typing cell references (or pointing) and placing a comma between each. When you have finished typing the list of cell references, close the list with a closing parenthesis.
- To enter a range of cells, type an open parenthesis, type the first cell reference (or point to a cell), and then type a single period (.). AppleWorks places three periods after the cell reference. Type (or point to) the closing cell reference of the range, press Return, and type the closing parenthesis. A range can be horizontal, vertical, or both, as when defining a block (A1...D5).

You can often combine lists and ranges, for example: (A1, B12, D15...D25).

Referring to Cells in Other Worksheets

You can refer to cells in other worksheets on the Desktop by prefixing the cell or range reference with the name of the other worksheet, in quotes, followed by a colon, as in ("Otherfile":A1) or ("Otherfile":A1...B5).

When referencing other worksheets in a list, the name applies only to the cell references it immediately precedes—"Otherfile":A1, B5 refers to cell A1 in Otherfile and cell B5 in the current worksheet. ("Otherfile":A1...B5, DS9) refers to the range (A1...B5) in Otherfile and the cell DS9 in the current worksheet. Specify the other worksheet's name before each cell reference if you want each cell reference to be taken from the other spreadsheet.

Building a New Worksheet

- ◆ **Order of operations** AppleWorks performs calculations from left to right; you can control the mathematical precedence (the order in which calculations are performed) with parentheses.

For example, AppleWorks evaluates the formula $5*2+3$ left to right in the order it's written: first multiplying $5*2=10$, then adding $10+3=13$. Changing the formula to $5*(2+3)$ tells AppleWorks to evaluate the part of the formula in parentheses first: $2+3=5$, then multiply by the value outside: $5*5=25$.

In complex formulas, AppleWorks first evaluates the formulas within the innermost parentheses.

If You Get an Error

If ERROR or NA appears in a cell, you have made an error somewhere in the formula. Common errors include dividing by zero, numbers out of range, reference to an empty cell, referencing a label instead of a number, and @LOOKUP errors.

Editing an Existing Cell

- 1 Move the cell pointer to the cell you want to edit.
- 2 Press \odot -U to edit the contents of the entry.

AppleWorks displays the cell entry for editing (Figure 13-7).

Figure 13-7
Editing a cell

AppleWorks displays a copy of the cell contents on the line above the cursor for reference. The flashing cursor appears on the first character of the cell contents.

| File: Home Budget | | EDITING MODE | | Escape: Review/Add/Change | |
|-------------------|---------------------|--------------|--------|---------------------------|---|
| A | B | C | D | E | F |
| 83 | | | | | |
| 84 | | | | | |
| 85 | | | | | |
| 86 | | | | | |
| 87 | | | | | |
| 88 | | | | | |
| 89 | PERCENTAGE ANALYSIS | | | | |
| 90 | | | | | |
| 91 | Income Analysis | | | | |
| 92 | Employment | 78.98% | 80.52% | 81.48% | |
| 93 | Investment | 15.92% | 16.23% | 15.43% | |
| 94 | Other | 5.10% | 3.25% | 3.09% | |
| 95 | | | | | |
| 96 | Expense Analysis | | | | |
| 97 | General | 36.88% | 21.71% | 22.08% | |
| 98 | Household | 38.73% | 42.89% | 43.47% | |
| 99 | Transportation | 21.39% | 14.34% | 14.53% | |
| 100 | Investments | 18.99% | 21.05% | 20.00% | |

+E73/E77
E73/E77
Type entry or use \odot commands

2883K Avail.

Inserting a Row or Column

3 Type characters or delete characters to edit the cell contents.

4 When you have finished editing the cell contents, press Return.

AppleWorks enters the revised cell contents and recalculates the worksheet. If AppleWorks cannot evaluate the formula because of an error, the former cell contents will be used instead.

1 Move the cell pointer where you want to insert rows or columns.

2 Press ⌘-I for Insert.

AppleWorks asks which you want to insert, "Rows" or "Columns."

3 Press R for "Rows," C for "Columns."

AppleWorks asks how many rows or columns you want to insert. You can insert up to 255 rows and 126 columns if the cell pointer is in cell A1, as long as your data does not go over the row and column limits of the Spreadsheet (127 columns, 999 or 9,999 rows).

4 Type the number of rows or columns you want to insert, then press Return, or just press Return to insert one.

AppleWorks inserts the number of rows or columns above or to the left of the cell pointer, moving the rows below downward or moving the columns to the right over. Formulas which reference cells moved by the insertion are automatically updated to reference the cells' new location.

The Delete command removes a row or column; AppleWorks closes up the space around the deleted information.

1 Move the cell pointer to the row or column where you want to start deleting.

2 Press ⌘-D for Delete.

AppleWorks asks which you want to delete, "Rows" or "Columns."

Deleting a Row or Column

Building a New Worksheet

3 Press R for "Rows," or C for "Columns."

AppleWorks highlights the row or column the cell pointer is currently in and asks you to highlight the rows or columns to delete.

4 Press Return to delete one row or column, or use the ↑ ↓ ← → keys to highlight other rows or columns, then press Return.

AppleWorks deletes the rows or columns. Formulas which reference cells moved by the insertion are automatically updated to reference the cells' new location.

Blanking Cells

Blanking a cell differs from deleting in that AppleWorks does not remove the cells that you blank or close up the space around them; it merely erases the contents of the cells.

1 Move the cell pointer to the cell, row, or column where you want to start blanking cells.

2 Press ⌘-B for Blank.

AppleWorks asks which you want to blank: the "Entry" (cell pointer location), "Rows," "Columns," or "Block" of cells.

3 Select the type of range you want to blank.

AppleWorks asks you to highlight the cells you want to blank.

4 Highlight the cells you want to blank, then press Return.

AppleWorks blanks the cells. Cell formats are lost as well.

Displaying Worksheet Formulas (Zoom)

You can display all the formulas on a worksheet "in place." This makes it easy to trace through a worksheet to see what formulas depend on what cells.

To display formulas, press ⌘-Z for Zoom. AppleWorks displays the formulas. Press ⌘-Z for Zoom again to display the original worksheet.

Figure 13-8 shows a worksheet with formulas displayed.

Figure 13-8
Worksheet with formulas

| | File: Home Budget | REVIEW/ADD/CHANGE | Escape: Main Menu |
|--|---|-------------------|-------------------|
| 88 | =====A=====B=====C=====D=====E=====F=====G===== | | |
| 89 | PERCENTAGE ANALYSIS | | |
| 90 | | | |
| 91 | Income Analysis | | |
| 92 | Employment | +E67/F70 | +F67/F70 +G67/G70 |
| 93 | Investment | +E68/E70 | +F68/F70 +G68/G70 |
| 94 | Other | +E69/E70 | +F69/F70 +G69/G70 |
| 95 | | 0 | 0 0 |
| 96 | Expense Analysis | | |
| 97 | General | +E73/E77 | +F73/F77 +G73/G77 |
| 98 | Household | +E74/E77 | +F74/F77 +G74/G77 |
| 99 | Transportation | +E75/E77 | +F75/F77 +G75/G77 |
| 100 | Investments | +E76/E77 | +F76/F77 +G76/G77 |
| 101 | | 0 | 0 0 |
| 102 | Expense as % of revenue | +E77/E70 | +F77/F70 +G77/G70 |
| 103 | | | |
| 104 | | | |
| 105 | | | |
| ----- | | | |
| E92: (Width:11, Value: Layout-P2, Protect-U) | | | |
| +E67/E70 | | | |
| Type entry or use ⌘ commands _ ⌘-? for Help | | | |

- ◆ **A good way to document your worksheets** You can print a Zoomed worksheet for a record of your formulas by pressing ⌘-H. Make sure your printer is on, is hooked up properly, has paper in it, and is ready to receive information (on line). ⌘-H prints the screen image.

Moving and Copying Data

When you move worksheet data, you remove it from one location and place it in another. When you copy worksheet data, you make a duplicate of the data from one location and place it in a new location. The original worksheet data stays in the same location. AppleWorks can move or copy worksheet data within the same document, to other worksheets, or to other Desktop files in the Word Processor and Data Base modules of AppleWorks.

To move worksheet data into other worksheets or to Word Processor and Data Base files, you must first move the worksheet data onto the Clipboard. For an explanation of the Clipboard, see "Desktop and Clipboard" in Chapter 1.

When Formulas Move

Moving and copying labels and values are straightforward processes. A label is text and a value is a number; each means the same thing no matter where on the worksheet it appears.

A formula is different from a label or a value in that the formula (usually) refers to other cells. If you move or copy within the same worksheet a formula that refers to other cells, you must tell AppleWorks whether you want the formula's cell references "offset" in the same direction as you have copied the formula.

For example, say you have the formula @SUM(A1...A4) in cell A5. If you copy that formula to cell C5, do you still want it to sum the cells from A1 through A4? Or do you want it to sum the cells from C1 through C4 to match its new position in cell C5? This is the difference between copying with no change (keeping the original, or absolute, cell references) and "copying relative" (offsetting the cell references in the direction you're copying, in this case, from A to C). You can mix absolute and relative cell references in a single copy operation (for example, if many formulas must refer to a single interest rate figure).

For the specific steps to move and copy formulas, see "Copying Formulas" later in this Chapter.

- ◆ **Moving or copying formulas "From the clipboard"** AppleWorks always moves or copies formulas relative when going "From clipboard." If the original formula referred to a cell two rows up and one column over, the formula in its new position will reference the same relative cell (two up, one over) when you move or copy it "From clipboard" no matter where on the worksheet you put it.

Moving a formula "Within worksheet" always maintains the original (absolute) cell references. For copying a formula within the same worksheet, see "Copying Formulas" in this Chapter.

Moving or Copying Within a Worksheet

- 1 Move the cell pointer to the upper left of the rows, columns, or block of worksheet data you wish to move or copy.**

If you plan to move or copy a single cell, move the cell pointer to that cell.

- 2 Press ⌘-M to Move or ⌘-C to Copy the worksheet data.**

AppleWorks asks whether you want to move the worksheet data "Within worksheet," "To clipboard," "Append to clipboard," or "From clipboard."

- 3 Select "Within worksheet," then press Return.**

AppleWorks asks whether you want to move rows, columns, or a block of data. Choose "Rows" to move or copy all data in one or more highlighted rows (out to the far right of the worksheet, if there's data there). Choose "Columns" to move or copy all the data in one or more highlighted columns, from top to bottom (as long as there is data there). Choose "Block" to move or copy the contents of only those cells you highlight. You can move or copy one or more cells by choosing "Block."

Moving and Copying Data

4 Select "Rows," "Columns," or "Block," then press Return.

AppleWorks tells you to highlight the worksheet data you want to move or copy. Figure 13-9 shows a block being highlighted.

Figure 13-9
Highlighting a block of cells

| File: Home Budget | | COPY | | Escape: Review/Add/Change | | | | | |
|--|-------------------|------------|------------|---------------------------|-----|-----|--------------|--|--|
| -----A-----B-----C-----D-----E-----F-----G----- | | | | | | | | | |
| | | | | JAN | FEB | MAR | | | |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | INCOME | | | | | | | | |
| 5 | Employment Income | | | | | | | | |
| 6 | Pay Check 1 | \$2,000.00 | \$2,000.00 | \$2,000.00 | | | | | |
| 7 | Pay Check 2 | \$1,000.00 | \$1,000.00 | \$1,000.00 | | | | | |
| 8 | Other | \$100.00 | \$100.00 | \$300.00 | | | | | |
| 9 | | | | | | | | | |
| 10 | Investment Income | | | | | | | | |
| 11 | Interest | \$50.00 | \$50.00 | \$50.00 | | | | | |
| 12 | Rental | \$500.00 | \$500.00 | \$500.00 | | | | | |
| 13 | Other | \$75.00 | \$75.00 | \$75.00 | | | | | |
| 14 | | | | | | | | | |
| 15 | Other Income | \$200.00 | \$125.00 | \$125.00 | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |
| 18 | EXPENSES | | | | | | | | |
| ----- | | | | | | | | | |
| G15: (Width:11, Value, Layout-M2) | | | | | | | | | |
| 125 | | | | | | | | | |
| Use cursor moves to highlight Block, then press Return | | | | | | | 2883K Avail. | | |

5 Use the \uparrow \downarrow \leftarrow \rightarrow keys to highlight the rows, columns, or a block of worksheet cells you want to move or copy, then press Return.

AppleWorks tells you to select the new location, then press Return.

6 Place the cell pointer at the location where you want the upper left of the highlighted cells moved, then press Return.

AppleWorks removes the highlighted cells from their old location and moves them to the new location. The data in the cells you have moved replaces any data that may already be in their new location.

- ◆ **If you mix formulas with labels and values in a move or copy operation** AppleWorks treats formulas as described here if the operation is a move. If the operation is a copy, AppleWorks copies labels and values as described here, and treats formulas as described in "Copying Formulas," later in this Chapter.

Printing to the Clipboard

You can print to the Clipboard from the Spreadsheet. The primary use for printing to the Clipboard is to transfer formatted information, with all its row and column alignment, from the Spreadsheet to the Word Processor.

Printing to the Clipboard preserves the formatting of the information you move by substituting a number of space characters for each tab character that appears in the information (5 space characters per tab is the preset).

See Chapter 14, "Formatting the Worksheet," for more information about printing to the Clipboard.

Moving or Copying Data to the Clipboard

Move or copy worksheet data to the Clipboard if you plan to transfer it to another worksheet, to a Word Processor document, or to a Data Base file.

AppleWorks moves and copies formulas to the Clipboard along with other kinds of data.

- 1 Move the cell pointer to the upper left of the worksheet data you wish to move.**
- 2 Press ⌘-M to Move or ⌘-C to Copy the worksheet data.**

AppleWorks asks whether you want to move the worksheet data "Within worksheet," "To clipboard," "Append to clipboard," or "From clipboard."

- 3 Select "To clipboard" or "Append to clipboard" and press Return.**

AppleWorks asks whether you want to move rows, columns, or a block of data. Choose "Rows" to move or copy all data in a highlighted row (out to the far right of the worksheet, if there's data there). Choose "Columns" to move or copy all the data in a highlighted column, from top to bottom (as long as there is data there). Choose "Block" to move or copy one or more cells you highlight.

Moving and Copying Data

- 4 Select "Rows," "Columns," or "Block," then press Return.

AppleWorks tells you to highlight the worksheet data you want to move.

- 5 Use the \uparrow \downarrow \leftarrow \rightarrow keys to highlight the rows, columns, or block of worksheet cells you want to move, then press Return.

AppleWorks removes (for Move) or copies (for Copy) the highlighted cells and places them on the Clipboard. When moving entire rows or columns to the clipboard, AppleWorks closes up the space taken by the rows; when moving a block, the cells are blanked.

Moving or Copying Data from the Clipboard

To move or copy data from the Clipboard, the Clipboard must first hold worksheet, word processor, or data base data you have moved there from another worksheet, from another module of AppleWorks, or from another location in the same worksheet.

When you move data from the Clipboard, you remove it from the Clipboard. If you copy data from the Clipboard, you can continue to copy that data from the Clipboard as many times as you wish.

- ◆ **Move or copy?** If you move information to the Clipboard, you can copy it off; likewise, if you copy information to the Clipboard, you can move it off.

- 1 Place the cell pointer at the location you want the upper left of the Clipboard data moved or copied to, and press ⌘-M for Move or ⌘-C for Copy.

AppleWorks asks whether you want to move data "Within the document," "To clipboard," "Append to clipboard," or "From clipboard."

- 2 Select F for "From clipboard," then press Return.

If you have one or more formulas on the Clipboard, AppleWorks asks if it should bring from the Clipboard "Formulas and values" or "Values only."

If you select "Formulas and values," AppleWorks brings any formulas from the Clipboard with relative cell references only. If you select "Values only," AppleWorks brings only the results of the formulas' calculations.

3 Select "Formulas and values" or "Values only," then press Return.

Whether or not the Clipboard holds a formula, AppleWorks brings the worksheet data from the Clipboard.

- ◆ **Blocks replace what's there** If you move or copy a block from the Clipboard, it replaces any data that may be in the cells you're moving or copying to. If you move or copy rows or columns from the Clipboard, AppleWorks inserts them by moving existing rows downward or existing columns rightward. Depending on available memory, you can move or copy (and thus insert) rows and columns until you have pushed existing data up against the limits of the spreadsheet.

Moving worksheet data from the Clipboard usually requires no forethought—but the Clipboard might hold a word processor document or data base records. Here's how AppleWorks moves that type of data from the Clipboard into a worksheet:

- Each data base category occupies a single spreadsheet column. Data from each record occupies a separate row.
- Each line of text from your word processing document becomes a single separate label in the spreadsheet. If you want your word processing text to occupy different columns, insert a tab character in the original word processing line. For example:

| | | Category A | Category B |
|-------------------------|----------------|-------------------|-------------------|
| Bob Smith (space) \$200 | <i>becomes</i> | Bob Smith \$200 | |
| Bob Smith (tab) \$200 | <i>becomes</i> | Bob Smith | \$200 |

Copying Formulas

Formulas in a given worksheet may be exactly the same as others (absolute cell references to the same cells) or just similar (same formula, but cell references relative to the position of the formula).

For example, in the worksheet in Figure 13-10, the formulas in rows 8, 16, and 18 are relative to their positions.

Figure 13-10
Similar formulas

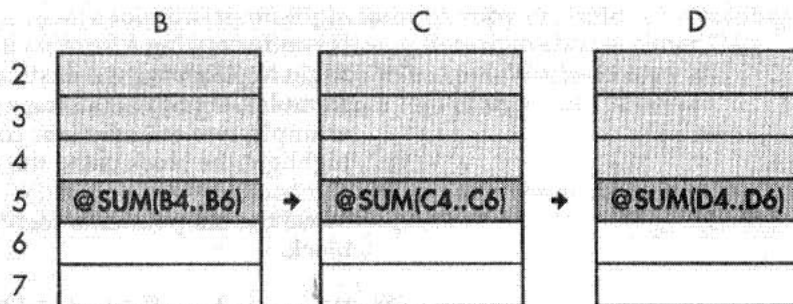
| File: Home Budget | REVIEW/ADD/CHANGE | Escape: Main Menu |
|-------------------|-----------------------|-----------------------------------|
| 70 | TOTAL | @SUM(E67...@SUM(F67...@SUM(G67... |
| 71 | | |
| 72 | Expense Summary | |
| 73 | General | @SUM(E20...@SUM(F20...@SUM(G20... |
| 74 | Household | @SUM(E28...@SUM(F28...@SUM(G28... |
| 75 | Transportation | @SUM(E40...@SUM(F40...@SUM(G40... |
| 76 | Investments | @SUM(E48...@SUM(F48...@SUM(G48... |
| 77 | TOTAL | @SUM(E73...@SUM(F73...@SUM(G73... |
| 78 | | |
| 79 | Net Income | +F70-F77 +G70-G77 |
| 80 | Cumulative Net Income | +E79 +E80+F79 +F80+G79 |
| 81 | | |
| 82 | | |
| 83 | | |
| 84 | | |
| 85 | | |
| 86 | | |
| 87 | | |

E79: (Width:11, Value, Layout-M2, Protect-V)
+E70-E77
Type entry or use ⌘ commands _ ⌘-? for Help

You could enter the formulas in F79, G79 and so forth one by one. Of course, instead of referring to January's figures in column F, they must refer (respectively) to February's figures (column G), March's figures (columns D), and so forth. This would entail a lot of work if for all 12 months' worth of formulas.

You can copy any AppleWorks formula with no change, or use AppleWorks' fast way to enter a set of similar formulas, called making relative copies (offsetting the cell references in the direction you're copying). You can mix absolute and relative cell references in a single copy (for example, if many formulas must refer to a single interest rate figure, those references must be absolute, but references to other cells in the same formula could be relative). Figure 13-11 illustrates relative copies.

Figure 13-11
Relative copies



Copying a Formula Within a Worksheet

- 1 Move the cell pointer to the cell whose formula you want to copy.

If you plan to copy several cells at once, move the cell pointer to the cell at the top or left of the row, column, or block.

- 2 Press **⌘-C** for Copy.

AppleWorks asks if you want to copy "Within worksheet," "To clipboard," or "From clipboard."

- 3 Select "Within worksheet," then press **Return**.

AppleWorks tells you to highlight the source cells. The source cells hold the formulas that AppleWorks is going to copy.

- 4 Press **Return** to select the cell indicated by the cell pointer as the source, or use the **⬆** **⬇** **⬅** **➡** keys to highlight a range or block of source cells (starting from the cell originally indicated by the cell pointer), then press **Return**.

You can copy one source cell into a range or block of destination cells, or a range of source cells into a range or block of destination cells. If you're copying three source cells across, for example, your destination range must also be three cells wide. You cannot move a three-cell source range into a two-cell destination range, for example.

Copying Formulas

- 5 Move the cell pointer to the upper left of the location into which you want to begin copying formulas.

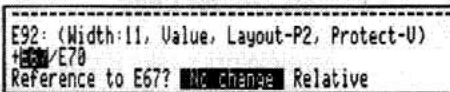
If you're copying a formula into a range, press period (.) to begin highlighting the destination range or block for your formulas. If you're copying a multidimensional block (for example, two rows by four columns), do not press the period; highlight the block using the \uparrow \downarrow \leftarrow \rightarrow keys.

Move the cell pointer to highlight the destination range or block.

- 6 When you have finished highlighting whatever destination range or block you wish, press Return.

AppleWorks displays the formula as shown in Figure 13-12. For each variable or each formula you are copying, you must tell AppleWorks to copy the cell reference with "No change" or "Relative" (Figure 13-12).

Figure 13-12
Copying a formula



E92: (Width:11, Value, Layout-P2, Protect-U)
+E67/E78
Reference to E67? **No change** Relative

- 7 As AppleWorks highlights each variable, press N for "No change" or press R for "Relative."

You can mix absolute and relative references in a single formula (for example, if you want one reference in many formulas to refer to the same cell containing an interest rate).

If you are copying more than one formula at a time, AppleWorks asks about the cell reference for each formula. You can avoid this in multiple-formula copy operations by holding down the ⌘ key when pressing Return to choose either “No change” or “Relative.” This tells AppleWorks to copy all remaining formulas as either “No change” or “Relative” references.

When you have finished with all cell references, AppleWorks enters the formula on the worksheet.

Blank Page

Blank Page

Chapter 14

Formatting the Worksheet

Formatting the Worksheet

As you build your worksheet, you'll want to set cell formats to determine how the worksheet data appears on the screen and in print. Some formats are global; that is, they apply to the entire worksheet. Other formats apply to particular cells or ranges of cells. For example, you may want all numeric cells to be two decimal places, but want cells in a particular area to have currency symbols, too. Available formats include: decimal places, currency symbols, percentages, column width, justification, and protection.

Cell protection can prevent people from making casual changes to your worksheet. This is valuable for preparing templates—worksheets prepared with formatting and formulas, and ready for you to enter your own data.

You set global formats with the ⌘-V (for Standard Values) command. Set cell- or range-specific formats with ⌘-L (for Layout).

- ◆ **Checking Standard Values** If you simply want to see the current settings of Standard Values, press ⌘-V. AppleWorks displays the current settings of Standard Values along with the menu. Press Escape to exit the menu without changing any settings.

You can also set AppleWorks' recalculation order (to calculate down columns or across rows), sort worksheet data, fix rows and columns so that they don't scroll off the screen, and split a worksheet into two on-screen windows—to see two parts of the worksheet at once.

Formatting with Standard Values

With Standard Values, you can set a standard format for values, labels, and column width everywhere in your worksheet. For example, if you set Standard Values of dollars and two decimal places, AppleWorks will show all numbers as a dollar amount with two decimal places—except for those cells you have formatted differently with the ⌘-L Layout command.

You can also turn Protection on or off for the worksheet. When you turn cell protection on, AppleWorks activates any protection settings you have made with the Layout command.

Figure 14-1 is a map of the ⌘-V (Standards) menu. Table 14-1 describes the formats you can apply globally to your worksheet.

Figure 14-1
Map of Standard Values

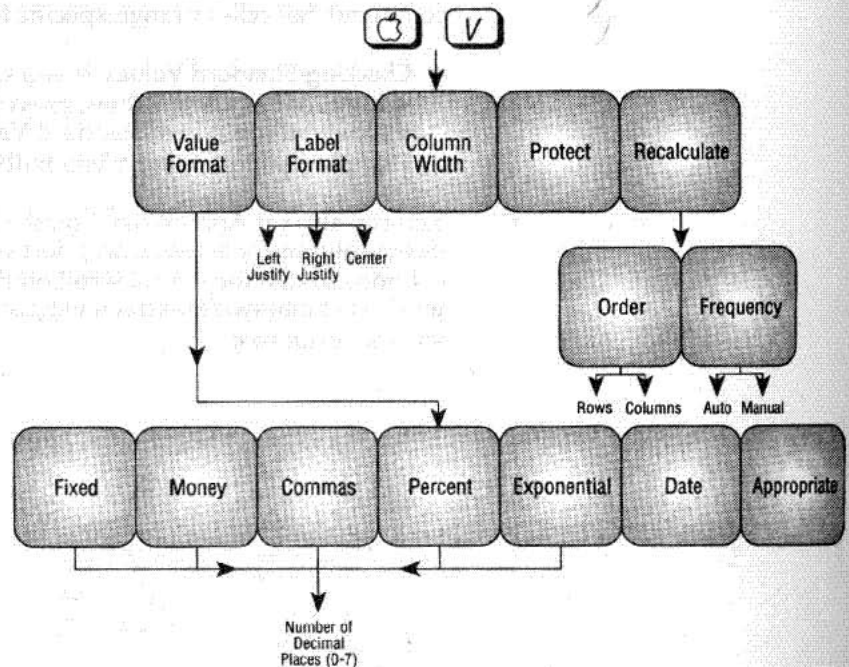


Table 14-1
Standard Values formats

Value Formats

| | |
|-------------|--|
| Fixed | A fixed number of decimal places from 0-7 |
| Money | Dollar sign, commas separate thousands, decimal places from 0-7, negative values in parentheses |
| Commas | Commas separate thousands, decimal places from 0-7, negative values in parentheses |
| Percent | Decimals converted to whole numbers (0% -100% with trailing percent symbol (%), decimal places from 0-7 |
| Date | Converts a Julian date (a simple integer) to its corresponding Gregorian date (the kind we use) |
| Exp | Exponential (scientific) notation; useful for very large or very small numbers |
| Appropriate | AppleWorks accepts the figure the way you type it in, adds up to 7 decimal places as necessary in calculations |

Label Formats

| | |
|---------------|--|
| Left Justify | Aligns a label on the left of each cell |
| Right Justify | Aligns a label on the right of each cell |
| Center | Centers a label within each cell |

Column Width*

| | |
|-------|---|
| ⌘-← | Narrows columns |
| ⌘-→ | Widens columns |
| 1...9 | Begins entering exact column width (1-70) |

*Default column width is 9 characters

Protection

| | |
|-----|---|
| No | Turns protection off everywhere on the worksheet |
| Yes | Turns protection on anywhere you have set it with the ⌘-L command |

Recalculation

| | |
|-----------|---|
| Order | Controls whether AppleWorks calculates across rows or down columns. Default setting is down columns. |
| Frequency | Controls whether AppleWorks recalculates automatically every time you make a new entry on the worksheet, or only when you press ⌘-K |

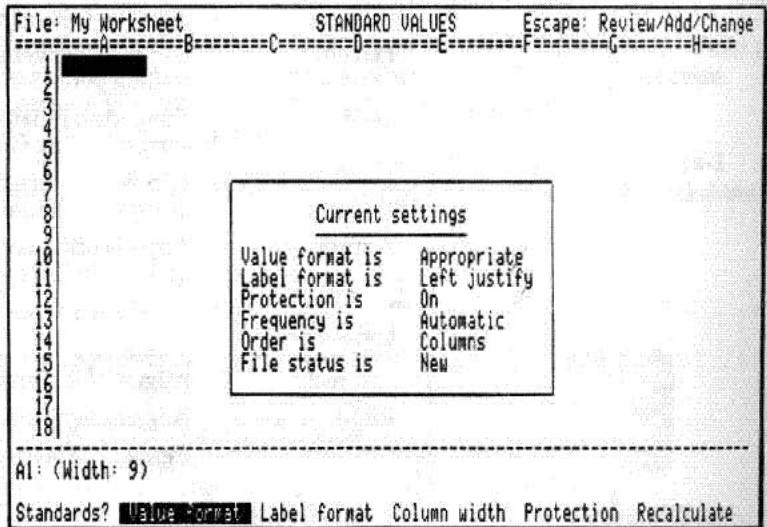
Formatting with Standard Values

Setting Standard Value Formats

1 Press ⌘-V for Standard Values.

AppleWorks displays the Standards menu, as shown in Figure 14-2.

Figure 14-2
Standards menu



2 Select "Value format," then press Return.

AppleWorks lists the value formats from which you can choose. See Table 15-1 for an explanation of each of the value formats.

3 Select the value format you want, then press Return.

If you choose "Appropriate," AppleWorks controls the value formatting and returns you to the Review/Add/Change screen of the worksheet. If you choose "Fixed," "Money," "Commas," "Exp," or "Percent," AppleWorks asks for the number of decimal places.

4 Enter the number of decimal places from 0-7, then press Return.

AppleWorks sets the value format for the worksheet.

Setting Standard Label Formats

- 1 Press ⌘-V for Standard Values.

AppleWorks displays the Standards menu.

- 2 Select "Label format," then press Return.

AppleWorks gives you the choice of "Left justify," "Right justify," or "Center" for aligning the contents of the highlighted cells.

- 3 Select "Left justify," "Right justify," or "Center," then press Return.

AppleWorks aligns the labels of cells you haven't set with ⌘-L .

Changing Column Width

- 1 Press ⌘-V for Standard Values.

AppleWorks displays the Standards menu.

- 2 Select "Column width," then press Return.

- 3 Change the column width, then press Return.

Press ⌘-← to narrow the column one character width; press ⌘-→ to widen the column one character width; or simply type the desired width and press Return.

The default column width of an AppleWorks worksheet is nine characters.

Turning Cell Protection On and Off

- 1 Press ⌘-V for Standard Values.

AppleWorks displays the Standards menu.

- 2 Select "Protection," then press Return.

AppleWorks asks you whether you want to set "Protection? No Yes."

Formatting with Standard Values

- 3 Select **Yes** to turn protection on or **No** to turn protection off, then press **Return**.

When cell protection is on, AppleWorks activates any cell protection you have set with the ⌘-L command. Only those cells for which you have set protection are protected by turning protection on with the Standard Values command.

See "Setting Protection" later in this Chapter.

- ◆ **You can still individually cancel protection** Even when you have cell protection turned on for the entire worksheet, you can still remove protection from one or more cells. See "Setting Protection."

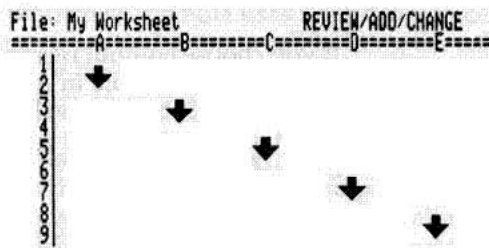
Recalculation Order

The Recalculation option on the Standard Values menu controls the direction in which AppleWorks recalculates formulas: down columns or across rows. In either case, AppleWorks recalculates from left to right. AppleWorks worksheets are preset to recalculate down columns. Figure 14-3 illustrates the two ways AppleWorks can recalculate a worksheet.

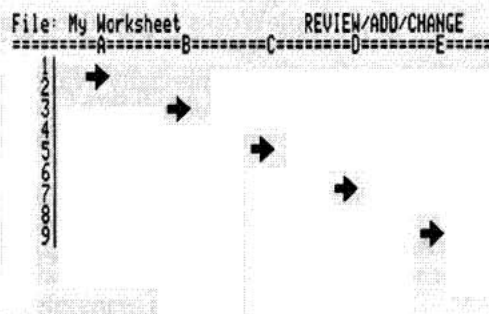
- ◆ **Calculate or Recalculate?** We generally say *recalculate* because AppleWorks *calculates* a formula immediately when it's first entered (even if you've switched the Frequency option to Manual). It then automatically—or when you tell it to—*recalculates* the worksheet later.

Figure 14-3
Recalculation order

Recalculation by column



Recalculation by row



Recalculation Order

Recalculation order is important because some worksheets perform better one way or the other, and because you can use recalculation order to organize your worksheet.

For example, if you're creating a worksheet that mostly totals columns (with very little calculation among the columns), the column recalculation order is best. If you're constructing a worksheet that mostly totals rows (an expense summary with categories down the left and days across the top), the row recalculation order may be best.

- ◆ **What you're trying to avoid** Consider a worksheet where a calculation in A5 depends on the results of a calculation in cell B1.

If you choose column recalculation, AppleWorks tries to calculate the formula in A5 before it obtains a result in B1. (AppleWorks uses the value 0 in place of any uncalculated result; it uses the actual result from the previous calculation, if one is available.)

If you choose row recalculation in this example, AppleWorks properly figures out B1 before it gets to A5 and comes up with the right answer on the initial calculation. You can force AppleWorks to calculate again by pressing ⌘-K for Calculate.

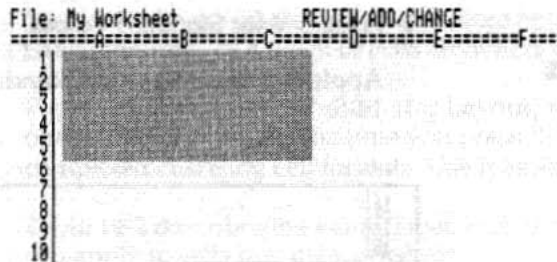
Some commercially available loan or amortization tables and templates require that you press ⌘-K to recalculate them two or three times. (See the NT option on Page 331 to make this easier.)

For the most efficient worksheet put the factors that affect the worksheet generally into the area of the worksheet that is recalculated first—the upper left. Figure 14-4 illustrates recalculation areas.

Figure 14-4

Recalculation areas

Put the most frequently used values in the shaded region



For example, rather than multiply each of many projected retail sales amounts by a sales tax figure of 5 percent, use a cell in the upper left of the worksheet to hold the sales tax percentage. Where a worksheet formula uses a sales tax percentage, create a formula that refers to the single cell holding the sales tax percentage. That way, if the sales tax amount changes, you need only change one location on your worksheet.

No matter how AppleWorks recalculates the worksheet, it always does the upper left first. If you place critical data there, you make your worksheet more efficient, you eliminate manual recalculations, and you can easily find the factors that affect your entire worksheet model.

- ◆ **Beware the circular reference!** A circular reference happens when two or more cells refer to each other. For example: $A1 = B2 * 3$ and $B2 = A1 + 4$. Circular references can be much more complex—you can have several calculations in between, so that it's not immediately apparent that two calculations depend on each other. One way to spot a circular reference is to press ⌘-K a few times to force recalculation. If the value of a cell keeps changing, you probably have a circular reference. You may want to rethink the layout of your worksheet so that circular references are not used.

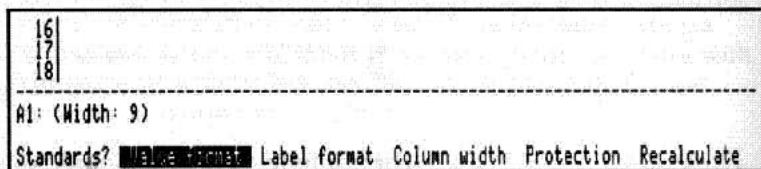
Recalculation Order

Setting Recalculation Order

Figure 14-5
Standards menu

1 Press ⌘-V for Standard Values.

AppleWorks displays the Standards menu, as shown in Figure 14-5.



2 Select "Recalculate," then press Return.

AppleWorks asks you whether you want to set "Order" or "Frequency."

3 Select "Order," then press Return.

AppleWorks asks whether you want to recalculate by "Rows" or "Columns."

4 Select "Rows" or "Columns," then press Return.

Choosing Automatic or Manual Recalculation

1 Press ⌘-V for Standard Values.

AppleWorks displays the Standards menu, as shown in Figure 14-5.

2 Select "Recalculate," then press Return.

AppleWorks asks you whether you want to set "Order" or "Frequency."

3 Select "Frequency," then press Return.

AppleWorks asks whether you want to recalculate automatically each time you change a cell, or manually only by pressing ⌘-K for calculate.

4 Select "Automatic" or "Manual," then press Return.

- ◆ **Number of times to recalculate** See NT on Page 331 for a way to control the number of times recalculation is performed.

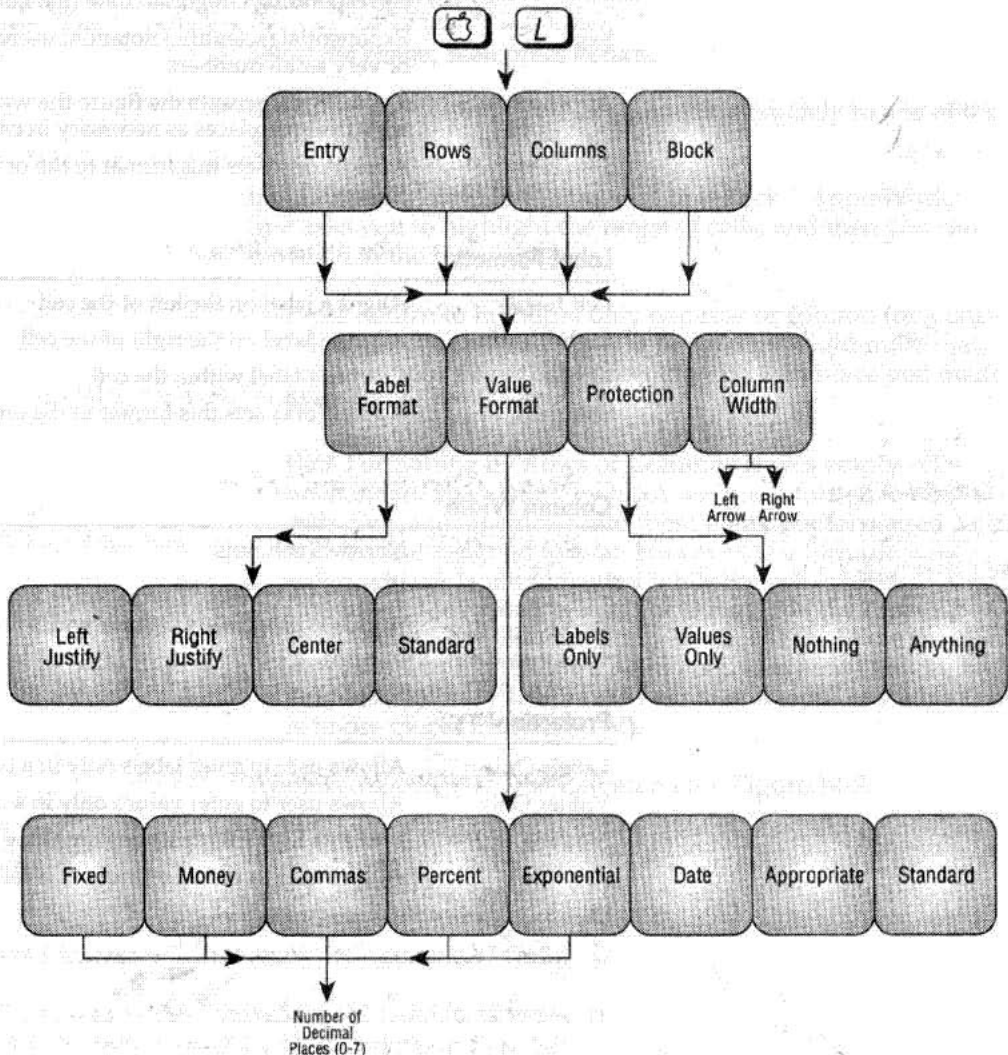
Formatting Specific Cells

You can format a single cell, one or more entire rows, one or more entire columns, or a block of cells anywhere on the worksheet.

Figure 14-6 is a map of the ⌘-L (for Layout) menu. It shows the options you have from the time you press ⌘-L until you have completed changing cell formats. Use it as an overview.

Table 14-2 describes the value, label, and protection formats you can apply to cells in your worksheet.

Figure 14-6
Menu map of the
Layout command



Formatting Specific Cells

Table 14-2
Worksheet cell formats



Value Formats

| | |
|-------------|--|
| Fixed | A fixed number of decimal places from 0-7 |
| Money | Dollar sign, commas separate thousands, decimal places from 0-7, negative values in parentheses |
| Commas | Commas separate thousands, decimal places from 0-7, negative values in parentheses |
| Percent | Decimals converted to whole numbers (0% -100% with trailing percent symbol (%)), decimal places from 0-7 |
| Date | Converts a Julian date (a simple integer) to its corresponding Gregorian date (the kind we use) |
| Exp | Exponential (scientific) notation; useful for very large or very small numbers |
| Appropriate | AppleWorks accepts the figure the way you type it in, adds decimal places as necessary in calculations |
| Standard | AppleWorks sets this format to the one set in Standard Values |

Label Formats

| | |
|---------------|---|
| Left Justify | Aligns a label on the left of the cell |
| Right Justify | Aligns a label on the right of the cell |
| Center | Centers a label within the cell |
| Standard | AppleWorks sets this format to the one set in Standard Values |

Column Width*

| | |
|---|---|
|  | Narrows columns |
|  | Widens columns |
| 1...9 | Begins to enter exact column width (1-70) |

*Default column width is 9 characters

Protection*

| | |
|-------------|--|
| Labels Only | Allows user to enter labels only in a cell |
| Values Only | Allows user to enter values only in a cell |
| Nothing | Prevents user from entering anything in a cell |
| Anything | Allows user to enter anything in a cell |

*Turn on Protection with Standard Values first

Setting a Format

1 Move the cell pointer to where you want to set the value format.

Move the pointer to the cell, row, or column from which you want to start highlighting the rows, columns, or block of cells to format.

2 Press **⌘-L** for Layout.

AppleWorks asks for the range of cells for which you want to set the Layout—an entry (one cell), one or more rows, one or more columns, or a block of cells.

3 Select the range, then press Return.

If you choose “Entry,” you can move immediately to one of the four changes you can make.

If you choose “Rows,” “Columns,” or “Block,” AppleWorks first asks you to highlight the range of cells, and then you can move on to the five changes.

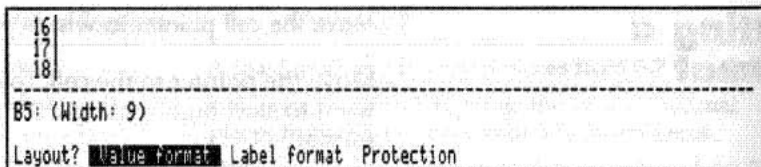
- Press Return to highlight only one row or column (or a one-cell block), or use the **⬆** **⬇** **⬅** **➡** keys to highlight more than one row, column, or cell, depending on the choice you made in step 3.
- Hint** Formatting by Rows or Columns leaves empty cells unchanged. Formatting by block assigns a format to empty cells. Subsequent entries into these blank but formatted cells will use the assigned format. However, if a formula which enters a blank is implemented while the cell is block-formatted, formatting is lost. For example, if the formula `@IF(A1=0,"",100)` is entered into a cell, the first time the `@IF` evaluates true (yielding a blank) cell formatting is lost. The only way to make sure of the format of the cell in such a case is to use global formats (**⌘-V**).

AppleWorks displays the Layout menu, Figure 14-7.

Formatting Specific Cells

Figure 14-7

Layout menu



- ◆ **Important** The next four sections, "Setting a Value Format," "Setting a Label Format," "Setting Protection," and "Changing Column Width," all assume that you have begun with "Setting a Format," above.

Setting a Value Format

If you have highlighted one or more rows or columns, the value format only affects cells displaying values.

- 1 From the **Layout** menu, press **Return** to choose "Value format."

AppleWorks lists the value formats from which you can choose. See Table 15-2 for an explanation of each of the value formats.

- 2 **Select the value format you want, then press Return.**

If you choose "Appropriate," AppleWorks controls the value formatting and returns you to the Review/Add/Change screen of the worksheet. If you choose "Standard," AppleWorks formats according to the Standard Value settings. If you choose "Fixed," "Money," "Commas," "Exp," or "Percent," AppleWorks asks for the number of decimal places. If you choose Date, you get a choice of date formats.

- Enter the number of decimal places from 0-7, then press **Return**, or select a date format.

AppleWorks formats the cells you have specified.

Setting a Label Format

Label formats only affect cells displaying labels.

- 1 From the **Layout** menu, select **"Label format,"** then press **Return**.

AppleWorks gives you the choice of **"Left justify," "Right justify," "Center,"** or **"Standard."** If you choose **"Standard,"** AppleWorks aligns the cell contents according to the **Standard Values** setting.

- 2 Select **"Left justify," "Right justify," "Center,"** or **"Standard,"** then press **Return**.

AppleWorks justifies the contents of the cells you have specified.

Setting Protection

Use the **⌘-L** **Layout** command to tell AppleWorks which cells you want to protect, and how you want to protect them. Use the **⌘-V** **Standard Values** command to tell AppleWorks to turn protection on or off. See **"Formatting with Standard Values"** in this Chapter.

- 1 From the **Layout** menu, select **"Protection,"** then press **Return**.

AppleWorks gives you the choice of preventing people from casually entering labels or values. You can lock out any entry by choosing **"Nothing,"** and can allow any entry by choosing **"Anything."**

To **"unprotect"** a cell, select **"Anything."**

- 2 Select the kind of protection you want, then press **Return**.

AppleWorks sets the protection for the cells you have specified.

Changing Column Width

- 1 From the **Layout** menu, select **"Columns,"** then press **Return**.

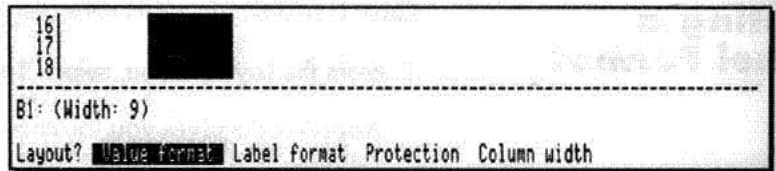
AppleWorks asks you to highlight the columns you want to change.

- 2 Highlight the columns you want to change, then press **Return**.

AppleWorks displays the **Layout** menu as shown in Figure 14-8. It now includes **"Column width."**

Formatting Specific Cells

Figure 14-8
Layout menu with
Column Width choice



3 Select "Column width," then press Return.

4 Change the width of the column, then press Return.

Press $\text{⌘}+\text{←}$ to narrow the column one character width; press $\text{⌘}+\text{→}$ to widen the column one character width; or simply type the desired column width and press Return.

The default width of an AppleWorks worksheet column is nine characters.

Arranging a Worksheet

You may want to arrange (sort) a worksheet—for example, if you have entered a large number of categorized receipts and want to sort by type of receipt, or if you want to sort entries by numerical size.

When AppleWorks arranges a worksheet, it sorts the contents of entire rows by the contents of a single column. You can arrange up to 1000 rows at a time. AppleWorks asks you to specify which rows you want to arrange.

- ◆ **By more than 1000 rows** It is not possible to arrange more than 1000 rows at a time using the Spreadsheet. However, you may copy the data into a Data Base file, arrange it, and copy it back to the Spreadsheet. You will lose all formulas during this operation, and you cannot copy more than 60 spreadsheet columns worth of data, since the maximum number of categories in a data base is 60.

To arrange a worksheet :

- 1 Move the cell pointer to the column by which you want to arrange the worksheet and to the top or bottom of the rows you want to arrange.**

- 2 Press ⌘-A for Arrange.**

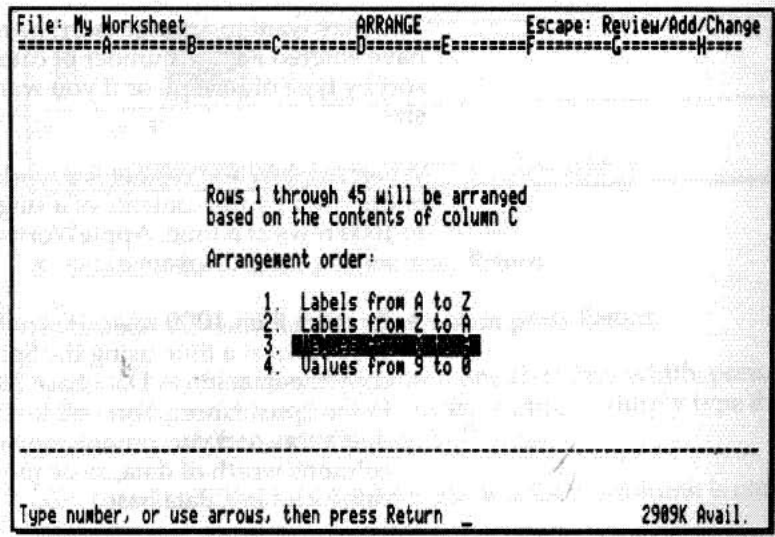
AppleWorks highlights the row that the cell pointer is in, and asks you to highlight the rows that you want AppleWorks to arrange.

- 3 Press the ↑ or ↓ key to highlight the rows that you want to arrange, then press Return.**

AppleWorks confirms the rows you want to arrange, and asks how you want to arrange them (see Figure 14-9).

Arranging a Worksheet

Figure 14-9
Arranging a worksheet



4 Select the arrangement order, then press Return.

AppleWorks sorts the rows you have specified by the value in the column you have specified.

- ◆ **Arranging your worksheet by multiple columns** The Spreadsheet can arrange your worksheet data by one column at a time. Start arranging with the least important of the columns, then arrange by the next most important, and so forth, until you finish by arranging the worksheet by the most important column. For example, if you want to arrange a worksheet so that the most profitable sales region appears first, and within that region, the most profitable territory appears first, you would first arrange by territory, then by region.

Staying Within Borders

When you use the @SUM function (for example) to add up a range of cells in a column, you may run into problems if you rearrange the rows involved. If what was originally the last cell in a row of cells becomes the third cell, you will have a different range for the @SUM. To avoid this problem, put a visual border of dashed lines (====) above and below the cells you want to add up and have the cells within the border be the top and bottom of the range in the @SUM. In order not to change your @SUM calculation when you are going to rearrange rows, you must highlight the rows within (not including) your border.

For example, if you want to add up the numbers in cells F4 to F15, put a border in cells F3 and F16 and write the formula as @SUM(F3..F16). When you rearrange the rows, do not extend the highlighting above row 4 or below row 15.

After arranging a worksheet the following conditions usually apply:

- Any formulas in cells among those you have arranged still refer correctly to the cells that they did before you arranged them, whether the cells referred to are within or outside of the group of cells you arranged; specific cell references, however, may have changed.
- Any formulas in cells outside of the group of cells you have arranged may no longer refer correctly to cells within the group you have arranged.

Freezing Titles in Place

Most worksheets include column titles across the top of the worksheet (months, years, and so forth) and row titles down the left side (expense categories, line items). When you scroll through a large spreadsheet, one or both of these titles can move off the screen. By freezing titles—top, left side, or both—you keep your bearings because titles remain on the screen while you scroll around the rest of the spreadsheet.

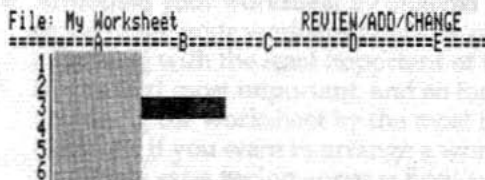
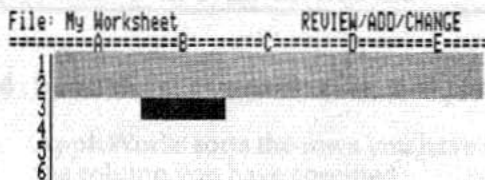
Figure 14-10 illustrates frozen titles.

- ◆ **Titles are different from windows** Titles can freeze one or more of the leftmost, topmost (or both) rows and columns so that the rest of the worksheet scrolls while they stand still. Splitting the worksheet into windows, however, creates two independently working worksheets in the same file that are identical in content—you can even freeze titles separately in each window.

Figure 14-10

Frozen titles

Either, or both, of the shaded areas can be “frozen” on the spreadsheet screen.



Staying Within Borders

When you use the **GO TO** function (for example, to scroll up a page of data), the content you display can have problems if you freeze the rows survived. If what you originally had had a row of cells because the third cell, you will have a different number of **GO TO**. To avoid this problem, put a shaded border of colored lines (row and below the cells you want to stay on and the cells within the border to the top and bottom of the window for **GO TO**, in order not to interrupt your **GO TO** calculation when you are going to rearrange rows, you would highlight the row within first including your borders.

Freezing Titles

To freeze titles in place:

- 1 **Move the cell pointer to the cell to the right of or below where you want to freeze titles.**

AppleWorks freezes the row above the cell pointer and the column to its left (otherwise the cell pointer would be trapped).

- 2 **Press ⌘-T for Titles.**

AppleWorks asks whether you want to freeze "Top," "Left Side," or "Both."

- 3 **Select which titles you want to freeze, then press Return.**

AppleWorks freezes the rows or columns you have specified.

Thawing Frozen Titles

- 1 **Press ⌘-T for Titles.**

- 2 **Press Return to select the only available choice, "None."**

AppleWorks thaws the frozen titles.

Worksheet Windows

You can view two parts of the same worksheet by using the AppleWorks windows. This is beneficial when you have a large worksheet and want to change numbers in one part while watching the results in another—perhaps distant—part of the worksheet.

Windows split the screen either vertically or horizontally (but not both). Each window can work independently of the other. For example, you may freeze titles in one window, but not in the other. Cell formatting and protection, however, stay in either window as you set them for the worksheet.

Jump the cell pointer from window to window by pressing ⌘-J for Jump. You can scroll the windows independently or together (called “synchronized windows”). Synchronization connects rightward and leftward movement in a worksheet split top and bottom; it connects upward and downward movement in a worksheet split side-by-side.

Figure 14-11 shows a split screen.

- ◆ **Titles are different from windows** Titles can freeze one or more of the leftmost, topmost, or both rows and columns so that the rest of the worksheet moves while they stand still. Splitting the worksheet creates two independently working worksheets in the same file that are identical in content—you can even freeze titles separately in each window.

Figure 14-11

A split screen

| File: Home Budget | | REVIEW/ADD/CHANGE | | | Escape: Main Menu | | |
|--|-------------------|-------------------|------------|------------|-------------------|--|--|
| A=====B=====C=====D=====E=====F=====G===== | | | | | | | |
| | | JAN | FEB | MAR | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | INCOME | | | | | | |
| 5 | Employment Income | | | | | | |
| 6 | Pay Check 1 | \$2,000.00 | \$2,000.00 | \$2,000.00 | | | |
| 7 | Pay Check 2 | \$1,000.00 | \$1,000.00 | \$1,000.00 | | | |
| 8 | Other | \$100.00 | \$100.00 | \$300.00 | | | |
| 9 | | | | | | | |
| A=====B=====C=====D=====E=====F=====G===== | | | | | | | |
| 10 | Investment Income | | | | | | |
| 11 | Interest | \$50.00 | \$50.00 | \$50.00 | | | |
| 12 | Rental | \$500.00 | \$500.00 | \$500.00 | | | |
| 13 | Other | \$75.00 | \$75.00 | \$75.00 | | | |
| 14 | | | | | | | |
| 15 | Other Income | \$200.00 | \$125.00 | \$125.00 | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| E11: (Width-11, Value, Layout-M2) | | | | | | | |
| Type entry or use ⌘ commands | | | | | ⌘-? for Help | | |

Splitting a Worksheet into Two Windows

- 1 Move the cell pointer to the cell to the right of or below where you want to split the window.

AppleWorks splits the screen above or to the left of the cell pointer's location on the screen—not on the worksheet (you can move around the worksheet after you split the window). A good rule of thumb is to keep the cell pointer toward the middle of the screen when splitting windows.

- 2 Press ⌘-W for Windows.

AppleWorks asks whether you want to split the screen into windows "Side by side" or "Top and bottom."

- 3 Select which way you want to split the screen, then press Return.

AppleWorks splits the screen.

Worksheet Windows

Joining or Synchronizing Windows

1 Press ⌘-W for Windows.

AppleWorks asks whether you want to make the two windows "One" (rejoin them) or "Synchronize" them (scroll them together). Top and bottom windows synchronize for right and left scrolling; side-by-side windows synchronize for up and down scrolling. If you have already synchronized the windows, AppleWorks asks whether you want to "Un synchronize" them.

2 Select "One" or "Synchronize" (or "Un synchronize"), then press Return.

AppleWorks either joins, synchronizes, or unsynchronizes the two windows.

Printing

You can print all or part of a worksheet on a printer, to the Clipboard, or to a file on disk.

When you print a worksheet on the printer that is larger than one page, AppleWorks figures out for you how to divide the worksheet into pages. AppleWorks starts printing in the upper left corner of the worksheet. It works its way down the worksheet, printing as many characters across as will fit on a page until it reaches the last row. Then it moves one page width to the right and prints down from the top again. AppleWorks continues in this way until it has printed all the data on your worksheet (or the portion you have specified).

When you print a worksheet to the Clipboard for use with the Word Processor, AppleWorks replaces the Tab character with an equivalent number of space characters. This preserves the formatting of your columns. Otherwise, when you copied your worksheet information into a document, the tabs between the columns would affect the alignment of your data. Contrast this with copying worksheet data to and from the Clipboard, which retains Tab characters.

When you print a worksheet on the disk, AppleWorks puts an ASCII text file on a disk you specify, and names it using the filename you supply when you print a file onto the disk. You can use such an ASCII text file to exchange data with many other programs.

Whether you print on paper, the Clipboard, or a disk, you can print the entire worksheet, a specific number of rows, a specific number of columns, or a block of cells. AppleWorks does not print column letters or row numbers.

Printing

Setting Worksheet Printer Options

AppleWorks saves the printer options you set along with your worksheet. Printer options are preset for 8.5-inch x 11-inch paper.

1 Press **⌘-O** for Printer Options.

AppleWorks displays the Printer Options screen. Figure 14-12 shows the Printer Options screen and its presets.

Figure 14-12
Printer Options screen

| File: Home Budget | | PRINTER OPTIONS | | Escape: Review/Add/Change | |
|---|------------|--------------------|-------------|----------------------------------|--|
| -----Left and right margins----- | | | | -----Top and bottom margins----- | |
| PW: Platen Width | 8.0 inches | PL: Paper Length | 11.0 inches | | |
| LM: Left Margin | 0.0 inches | TM: Top Margin | 0.0 inches | | |
| RM: Right Margin | 0.0 inches | BM: Bottom Margin | 0.0 inches | | |
| CI: Chars per Inch | 17 | LI: Lines per Inch | 6 | | |
| Line width | 8.0 inches | Printing length | 11.0 inches | | |
| Char per line (est) | 136 | Lines per page | 65 | | |
| -----Formatting options----- | | | | | |
| SC: Send Special Codes to printer | | No | | | |
| PH: Print report Header at top of each page | | Yes | | | |
| PT: Print Titles at top of each page | | No | | | |
| Single, Double or Triple Spacing (SS/DS/TS) | | SS | | | |
| -----Recalculation options----- | | | | | |
| RP: Recalculate before Printing | | No | | | |
| NT: Number of Times to recalculate | | 1 | | | |
| Type a two letter option code _ | | | | 2887K Avail. | |

2 Type in the two-character printer option code for the option you want to change, then press Return.

Formatting option codes change from Yes to No when you type in the two-character code. To change the spacing code, for example, type in SS, DS, or TS for single, double, or triple spacing. AppleWorks calculates line width, characters per line, printing length, and lines per page.

- ◆ **Printer option minimums, standards, and maximums** Table 4-1 (page 4-20) lists minimum, standard, and maximum values for these printer options.

◆ **Other printer options** The following options are also available:

- PT (Print titles)** Determines whether or not titles are printed on each page of the spreadsheet
- PH (Print Header)** Determines whether AppleWorks prints a header consisting the name of the file, a date that you enter at the time you print the file, and the page number on each page
- RP (Recalc before Printing)** Determines whether or not AppleWorks automatically recalculates the spreadsheet before printing it
- NT (Number of Times)** Determines how many times AppleWorks recalculates the spreadsheet whenever it is recalculated (before printing, on ⌘-K, or automatically).

If you type in any of the margin codes, AppleWorks asks for the new value for the option.

3 Type in the new value for the option, then press Return.

AppleWorks changes the option.

4 When you have finished changing printer options, press Escape to return to your worksheet.

AppleWorks can send printer control codes to your printer at the beginning of the print operation. You can use them for setting printer features such as compressed print. AppleWorks sends the special codes you set here only when you print a worksheet. You do not need to enter them in the description of your printer (if you do, do not enter them here).

Consult your printer manual for a list of printer codes you can use.

1 Press ⌘-O for Printer Options.

AppleWorks displays the Printer Options screen.

Entering Special Printer Control Codes

Printing

2 Type SC for Special Codes, then press Return.

AppleWorks tells you what, if any, special codes are set. If there are any, AppleWorks asks you if they are correct. Answer No, and AppleWorks removes the codes.

3 Type in the special codes you want to send to the printer at the start of each print operation.

To enter a code, just type the keystrokes. For example, if your printer manual calls for an Escape-E, press Escape, then press Shift-E (uppercase and lowercase are often important to special printer codes). If your printer manual calls for Control-N, hold down the Control key and type N.

4 When you have finished entering your codes, press ⌘-Return.

AppleWorks returns you to the Printer Options screen.

5 Press Escape to return to the worksheet.

- ◆ **Oops!** AppleWorks enters every character you type—including backspace and Return. If you make a mistake, press ⌘-Return and then type SC for a chance to retype your codes.

Printing a Worksheet on the Printer

1 Make sure the printer is connected to your computer, turned on, is ready to receive information (on line), and has paper in it.

2 While working with the worksheet on the Desktop, press ⌘-P for Print.

AppleWorks displays the Print menu shown in Figure 14-13.

Figure 14-13

Print menu

| | | | | |
|----------------------------------|---------------|----------|----------|----------|
| 23] | Entertainment | \$250.00 | \$250.00 | \$250.00 |
| ----- | | | | |
| E6: (Width:11, Value, Layout-M2) | | | | |
| 2000 | | | | |
| Print? Rows Columns Block | | | | |

- 3 Select the portion of the worksheet you wish to print by choosing one of the four Print options, then press Return.

If you choose "Rows," "Columns," or "Block," AppleWorks asks you to highlight the part of the worksheet you want to print. When you have highlighted the part you want to print, press Return.

AppleWorks displays a screen where you can choose between sending the file to a printer, sending it to the Clipboard, or creating an ASCII or DIF file on disk (Figure 14-14).

Figure 14-14

Print destinations

| | | |
|---|-------|---------------------------|
| File: Home Budget | PRINT | Escape: Review/Add/Change |
| ----- | | |
| The information that you identified is 73 characters wide. | | |
| The Printer Options values allow 136 characters per line. | | |
| Where do you want to print the report? | | |
| 1. ImageWriter I | | |
| 2. The Word Processor Clipboard (Replace) | | |
| 3. The Word Processor Clipboard (Append) | | |
| 4. A text (ASCII) file on disk | | |
| 5. A DIF (TM) file on disk | | |
| ----- | | |
| Type number, or use arrows, then press Return | | 2887K Avail. |

- 4 Select your printer, then press Return.

AppleWorks asks you to type in the report date, then press Return, or just press Return to enter no date. AppleWorks is preset to use the ImageWriter I and ImageWriter II as its standard printers. If your printer is different, see Appendix C, "Printer Configuration."

Printing

- 5 Type in the date, then press Return; or just press Return.

AppleWorks asks you how many copies you want to print, and proposes one. (It's usually faster to photocopy your printout.)

- 6 Enter the number of copies you want to print, then press Return.

When you have finished entering the information that AppleWorks requests, AppleWorks prints the worksheet.

Printing a Worksheet to a Disk file

- 1 While working with the worksheet, press ⌘-P for Print.

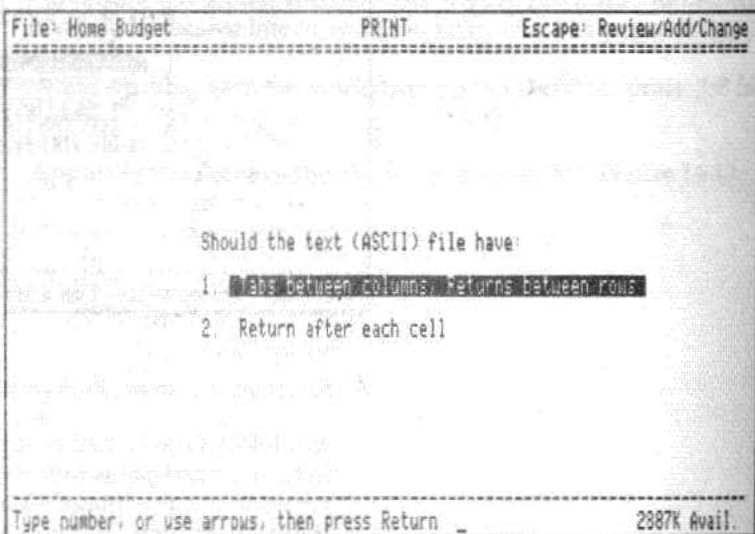
AppleWorks displays the Print menu shown in Figure 14-13.

- 2 Select the portion of the worksheet you wish to print by choosing one of the four Print options, then press Return.

If you chose "Rows," "Columns," or "Block," AppleWorks asks you to highlight the portion of the worksheet to be printed. After highlighting the part you want to print, press Return.

AppleWorks displays a screen where you can choose between sending the file to a printer, sending it to the Clipboard, or creating an ASCII or DIF file on disk (Figure 14-15).

Figure 14-15
Print-to-disk options



- ◆ **Clipboard** Print to the Clipboard if you want to bring an entire worksheet into the Word Processor.

3 Select "A text (ASCII) file on disk," or "A DIF (TM) file on disk," then press Return.

DIF is a special file format that many different programs can read. It preserves the row and column organization of your spreadsheet file, but does not save formulas. Just about every program can read ASCII files.

- If you choose "A text (ASCII) file on disk" AppleWorks asks if the file should have "Tabs between columns, Returns between rows" or "Return after each cell." Select one, then press Return.

"Tabs between categories, Returns between records" saves the ASCII file on the disk with a tab character after the displayed (not formula) contents of each cell in a single row and with a Return character signifying the end of each row.

"Return after each category" saves the ASCII file on the disk with a Return character after the displayed (not formula) contents of each cell. This is the format that earlier versions of AppleWorks used.

- If you choose "A DIF (TM) file on disk," AppleWorks asks you the DIF order in which you want to save: by "Rows" or "Columns." Select one, then press Return.

If you select "Rows," AppleWorks saves the worksheet cells in DIF format down the first column, then down the second column, and so forth. If you select "Columns," AppleWorks saves the worksheet cells in DIF format from left to right along the first row, then along the second row, and so forth.

Whether you selected "A text (ASCII) file on disk" or "A DIF (TM) file on disk," AppleWorks asks for the pathname of the file you're printing to the disk.

Printing

- 4 Type in the pathname of the file you want to print to disk, then press Return.

For example:

```
/DISKNAME/FILENAME
```

where DISKNAME is the name of the disk on which you are printing, and FILENAME is the name of the file you want to print to the disk. Without the diskname, AppleWorks prints to the current disk.

- When you have finished entering the information that AppleWorks requests, AppleWorks prints the worksheet to disk using the pathname that you supplied.

Chapter 15

Spreadsheet Functions

cover most of the critical features. The calculations may be performed manually, by spreadsheet, or computer. Finding the largest number in a list, determining two labels, logical determining the truth of a statement, according to the rules of logic, financial calculating the net present value of an investment, or adjusting for changing rates, such as an error has been into your spreadsheet.

1. For all data, formulae, and graphs, it is possible to create or edit functions, such as formulas, cell references, strings, and lists—up to 255 characters long. The functions, then, are used to do working party calculations.

2. The spreadsheet will automatically calculate the value of a formulae, for example, $2 \times 3 + 4$, in a formula, that adds up a list of numbers, such as 100, 200, 300, 400, is a formula, meaning that it will calculate the value of the formula, and display the result in the cell that contains the formula.

3. The spreadsheet will automatically calculate the value of a formula, such as $2 \times 3 + 4$, in a formula, meaning that it will calculate the value of the formula, and display the result in the cell that contains the formula.

4. The spreadsheet will automatically calculate the value of a formula, such as $2 \times 3 + 4$, in a formula, meaning that it will calculate the value of the formula, and display the result in the cell that contains the formula.

5. The spreadsheet will automatically calculate the value of a formula, such as $2 \times 3 + 4$, in a formula, meaning that it will calculate the value of the formula, and display the result in the cell that contains the formula.

6. The spreadsheet will automatically calculate the value of a formula, such as $2 \times 3 + 4$, in a formula, meaning that it will calculate the value of the formula, and display the result in the cell that contains the formula.

7. The spreadsheet will automatically calculate the value of a formula, such as $2 \times 3 + 4$, in a formula, meaning that it will calculate the value of the formula, and display the result in the cell that contains the formula.

8. The spreadsheet will automatically calculate the value of a formula, such as $2 \times 3 + 4$, in a formula, meaning that it will calculate the value of the formula, and display the result in the cell that contains the formula.

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11. The spreadsheet will automatically calculate the value of a formula, such as $2 \times 3 + 4$, in a formula, meaning that it will calculate the value of the formula, and display the result in the cell that contains the formula.

12. The spreadsheet will automatically calculate the value of a formula, such as $2 \times 3 + 4$, in a formula, meaning that it will calculate the value of the formula, and display the result in the cell that contains the formula.

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Spreadsheet Functions

A function is a code telling AppleWorks to perform a calculation of some kind on one or more values. The calculation may be arithmetic (adding, for instance), comparative (finding the largest number in a list, comparing two labels), logical (determining the truth of a statement according to the rules of logic), financial (calculating the net present value of an investment), or advisory (announcing that somehow an error has crept into your calculations).

A formula puts functions to work. A formula may include several functions, plus numbers, cell references, ranges, and lists—all working together. A function, then, is just one of the working parts of a formula.

The simplest formulas just add necessary information to a particular function. For example, @SUM is a function that adds up a list or range of cells. @SUM(A3...A9) is a formula meaning that AppleWorks should add the values in cells A3 through A9 (a range), and display the result in the cell that holds the formula.

The information in parentheses—the data that AppleWorks needs to begin applying the function—is sometimes known as an argument. Before AppleWorks can do anything with the function, you must provide the argument in parentheses. Types of arguments include:

- **Value** Number or label or a cell reference or formula that evaluates to a number or label
- **Reference** A cell reference, such as B1 or DW24
- **Range** A series of adjacent cells in a single column or row, such as (A9...A19) or (B45...H45)
- **List** A list of single values, labels, cell references, or ranges (you can usually mix them) separated by commas, such as (B9, H19, A1...A13)

Spreadsheet Functions

You can refer to cells in other worksheets on the Desktop by prefixing the cell or range reference with the name of the other worksheet, in quotes, followed by a colon, as in ("Otherfile":A1) or ("Otherfile":A1...B5).

When referencing other worksheets in a list, the name applies only to the cell references it immediately precedes—"Otherfile":A1, B5 refers to cell A1 in Otherfile and cell B5 in the current worksheet. ("Otherfile":A1...B5, DS9) refers to the range (A1...B5) in Otherfile and the cell DS9 in the current worksheet. Specify the other worksheet's name before each cell reference if you want each cell reference to be taken from the other spreadsheet.

You can also use any function as an argument by placing it in a cell and referring to the cell or by including it between parentheses. For example, if cell C6 held the function @MAX(A1...A10)—to find the maximum number in a range—you could state an @ABS (convert to the absolute value) function as @ABS(C6) or @ABS(@MAX(A1...A10)).

◆ **Entering functions** You type in a function the same way you type in any formula. For an explanation of how to type in a function, see "Building a New Worksheet" in Chapter 13. If you forget the exact name of the function you want, press C-F to choose from a pop-up list.

Arithmetic Functions

Table 15-1 lists the AppleWorks arithmetic operators. AppleWorks performs calculations from left to right; you can control mathematical precedence (the order in which calculations are performed) with parentheses.

For example, AppleWorks evaluates the formula $5*2+3$ left to right in the order it's written: first multiplying $5*2=10$, then adding $10+3=13$. You can control the precedence (the order) with parentheses. Changing the formula to $5*(2+3)$ tells AppleWorks to evaluate the part of the formula in parentheses first: $2+3=5$. Then AppleWorks multiplies the value inside the parentheses by the value outside: $5*5=25$.

In complex formulas, AppleWorks first evaluates the formulas within the innermost parentheses.

Table 15-1
Arithmetic operators

- ^ Exponentiation (raising to a power). Multiplies a number by itself. Place the exponentiation sign after a number and follow it with the number of times you want to multiply the first number by itself. For instance, to represent $8*8*8$, you would write 8^3 .
- * Multiplication (times)
- / Division (divided by)
- + Addition (plus)
- Subtraction (minus). Also used to negate (change the sign of) a value. For example, if $A1=-1$, $-A1=1$.

Arithmetic Functions

The following is a list of arithmetic functions you can use in AppleWorks:

@ABS(value)

Returns the absolute, or unsigned, value of the argument *value*.

@ABS(-10) is 10. @ABS(10) is 10.

@AVG(list or range)

Returns the average of the values in the list or range. This is the same as the formula @SUM()/@COUNT(). AppleWorks ignores any blank cells and any labels in a range; it treats a blank cell or label as 0 in a list. @AVG(H1, 8, H5) or @AVG(D1...D10, H1)

@DATE(year, month, day)

Returns the Julian date represented by the specified month, day, and year. (See "Julian Dates and Date Math," later in this Chapter, for further details.)

@EXP(value)

Returns *e* raised to the power of *value*; *e* is the mathematical constant 2.7182818.... This function is the inverse of @LN.

@EXP(1) = 2.7182818. @EXP(@LN(5)) = 5.

@INT(value)

Returns the integer, or whole number, portion of the argument *value*. @INT(5.36) = 5.

@LN(value)

Returns the natural logarithm of *value*. *Value* must be positive, or AppleWorks returns ERROR. This function is the inverse of @EXP.

@LN(2.7182818) = 1. @LN(EXP(5)) = 5.

@LOG(value)

Returns the base 10 logarithm of *value*. *Value* must be positive. This function is the inverse of the exponentiation operator (^).

@LOG(1) = 0. @LOG(10) = 1. @LOG(100) = 2.

@MAX(list or range)

Returns the largest value in the list or range. @MAX(12, D1...D5, H2, H5)

@MIN(list or range)

Returns the smallest value in the list or range. @MIN(12, D1...D5, H2, H5)

@MOD(value, divisor)

Returns *value* modulo *divisor*—a modulo operation returns the number “left over” after a division. @MOD returns the remainder of the number *value* when divided by *divisor*.
@MOD(7, 2) = 1; @MOD(6, 2) = 0.

@PI

Returns the number 3.1415927....

@ROUND(value, decimal places)

Returns *value* rounded to the nearest *decimal places* places. *Value* and *decimal places* can be values or expressions that evaluate to values. @ROUND can handle positive or negative decimal place arguments:

| | |
|----------------------|-----------|
| @ROUND(213.4532, 3) | = 213.453 |
| @ROUND(213.4532, 2) | = 213.45 |
| @ROUND(213.4532, 1) | = 213.5 |
| @ROUND(213.4532, 0) | = 213 |
| @ROUND(213.4532, -1) | = 210 |
| @ROUND(213.4532, -2) | = 200 |
| @ROUND(213.4532, -3) | = 0 |

@SQRT(value)

Returns the square root of the argument. The square root of a value is the number that, multiplied by itself equals the value. @SQRT(25) = 5. @SQRT(-1) returns ERROR (AppleWorks only deals in real numbers, not imaginary ones).

@SUM(list or range)

Returns the sum of all the values in the list or range. Any labels in the list or range are treated as 0. If A1...A5 contains the numbers 10, 5, 3, 4, and 6, then @SUM(A1...A5) = 28.

Trigonometric Functions

The following is a list of trigonometric functions you can use in AppleWorks:

@ACOS(*value*)

Returns the angle in radians (arccosine) whose cosine is *value*. *Value* must be in the range -1 to 1. The angle will be between 0 and π . @ACOS(0.36) = 1.2025284.

@ASIN(*value*)

Returns the angle in radians (arcsine) whose sine is *value*. *Value* must be in the range -1 to 1. The angle will be in the range $-\pi/2$ to $\pi/2$. @ASIN(0.36) = 0.3682679.

@ATAN(*value*)

Returns the angle in radians (arctangent) whose tangent is *value*. The angle will be in the range $-\pi/2$ to $\pi/2$. @ATAN(0.36) = 0.345556.

@ATAN2(*X value*, *Y value*)

Returns the angle in radians (arctangent) whose x and y coordinates are *X value* and *Y value*. The angle will be in the range $-\pi$ to π , excluding π . If both *X value* and *Y value* are 0, @ATAN2 returns ERROR. @ATAN2(1, 1) = 0.7853982.

@COS(*value*)

Returns the cosine of *value*, which is an angle expressed in radians. @COS(0.36) = 0.9358968.

@DEG(*value*)

Converts *value*, which is an angle expressed in radians, to degrees. @DEG(0.36) = 20.62648.

@RAD(*value*)

Converts *value*, which is an angle expressed in degrees, to radians. @RAD(36) = 0.6283185.

@SIN(*value*)

Returns the sine of *value*, which is an angle expressed in radians. @SIN(0.36) = 0.352742.

@TAN(*value*)

Returns the tangent of *value*, which is an angle expressed in radians. **@TAN(0.36) = 0.3764029.**

Financial Functions

AppleWorks has a battery of financial functions that can make it easy to do complex, iterative (done in repetitive steps), financial calculations without having to set up complex worksheet templates.

In the AppleWorks financial functions, you must make sure that the rates, terms, and payments are all for equivalent periods. For example, when working with an annual interest rate and monthly payment, you must divide the interest rate by 12 to maintain equivalency.

- ◆ **Outgoing and incoming values** In the AppleWorks financial formulas, you must represent outgoing cash (or other values) as a negative number and represent incoming cash as a positive number.

Rate of Return, Net Present Value, and Rate Functions

@IRR(*cashflow range, guess value*)

Calculates the internal rate of return of a series of cash flows (*cashflow range*). *Guess value* sets the initial interest rate of the iteration. If you don't enter a guess value, AppleWorks assumes it to be 0.1 or 10 percent. Usually a value between 0 and 1 will yield a meaningful result with the IRR calculation.

The internal rate of return is the interest rate that gives the series of cash flows a net present value of 0. @IRR uses an iterative (repeating) method to perform its calculations. It repeats its calculation 20 times or until the values converge within 0.0000001. If the values converge, it returns the value; if they don't converge, @IRR returns ERROR. If @IRR returns ERROR, try supplying a different value for the guess value. If the cashflow range contains a label, @IRR returns ERROR.

For example, if the cells A1...A6 hold the values 2000, -2500, 1500, -2500, 2000, and -1250, then the function @IRR(A1...A6, 0.1) = 21.07%.

@NPV(rate value, range)

Calculates the net present value of a series of varying future cash flows (*range*) discounted at the interest rate given by *rate value*. @NPV only accepts a range as its second argument. If any of the cells in the range contain a label, @NPV returns ERROR. (Use the function @PV for regular future cash flows; for example, \$500 per month over 24 months. Use @NPV for varying cash flows; for example \$500, \$700, \$200, etc.)

@NPV is based on the following formula:

$$\text{npv} = \frac{\text{val}_1}{(1 + \text{rate})^1} + \frac{\text{val}_2}{(1 + \text{rate})^2} + \dots + \frac{\text{val}_n}{(1 + \text{rate})^n}$$

@NPV calculates the current value of a future flow of cash, represented in a range of cells. For example, when you're contemplating various investments, you may wonder how much each one would be worth in today's dollars. In other words, if you could jump into the future, collect all your money from one investment, and return with it, how much would it be worth in today's terms, compared to another investment? For this, you need to know the net present value of each investment.

For example, you loan your brother \$2000, and he agrees to make variable payments each year until he has paid back a total of \$2500 in 5 years. But if inflation during that period is 5 percent, the last money you receive in the fifth year won't be worth anywhere near what it would be worth today.

To find out how much that \$2500 would be worth in today's dollars, put the varying payment amounts in each cell from A1 through A5 (in this case, 400, 500, 600, 450, 550), then enter the formula @NPV(0.05, A1...A5). Remember that each payment (the cash flow) and the interest rate must refer to the same period. AppleWorks calculates that you'd be getting back the equivalent of \$2153.93 in today's money.

Financial Functions

@RATE(*term*, *pv*, *fv*)

Returns the interest rate on an annuity based on its *term*, present value *pv*, and future value *fv*. The @RATE function calculates the interest rate for simple investments, such as stock purchases, municipal bonds, or certificates of deposit (CDs), where there is one purchase and one sale, and interest rates may vary. Usually, for more complex types of annuities (loans, leases, and savings accounts) the interest rate is fixed and known.

The formula that @RATE uses is:

$$\left(\frac{fv}{-pv} \right)^{\frac{1}{term}} - 1$$

Say you buy 1000 shares of stock at \$48 per share; 18 months later you sell them at \$54.25 per share. To determine the annual rate of return on your investment, enter:

$$\text{@RATE}(18/12, -48000, 54250) = 8.5\%$$

The term is entered as 18/12 to convert it from months (18) to years. You could have entered it as 1.5. Also notice that since you purchased the stock (outgoing money), the present value (second argument) must be negative. The third argument is positive because it represents money you received.

- ◆ **Outgoing and incoming values** In the AppleWorks financial formulas, you must represent outgoing cash (or other values) as a negative number and represent incoming cash as a positive number.

Annuity Functions

AppleWorks' four rate and payment functions (@PV, @FV, @TERM, and @PMT) are powerful and flexible functions. They can calculate values for a variety of financial situations from a home or car loan, savings account, car leases (where payments are usually made in advance and the future value is usually nonzero) to values of short-term municipal bonds or certificates of deposit.

The formula from which the four primary functions are derived is:

if $\text{rate}=0$

$$pv + pmt \times \text{term} + fv = 0$$

if $\text{rate} \neq 0$

$$pv \times (1 + \text{rate})^{\text{term}} + pmt \times (1 + \text{rate} \times \text{type}) \times \frac{(1 + \text{rate})^{\text{term}} - 1}{\text{rate}} + fv = 0$$

In AppleWorks' rate and payment functions, you must make sure that the rates, terms, and payments are all for equivalent periods. For example, when working with an annual interest rate and monthly payment, you must divide the interest rate by 12 to maintain equivalency.

- *Rate* is an interest rate for a given period.
- *Term* is the number of periods.
- *Payment* is the periodic payment per period.
- *pv*, *fv* specify beginning and ending values to the series of cash flows. AppleWorks treats both of them as 0 if you do not specify them.
- *Type* specifies whether the payment occurs at the beginning or end of the period. Loans are usually paid at the end of a period; leases at the beginning. Type 0 means payment at the end of the period; type 1 means payment at the beginning. If the interest rate is high, payment at the beginning or end of a period can make a great difference. AppleWorks assumes *type* is 0 unless you specify otherwise.

Optional arguments appear in brackets: [].

Financial Functions

@PV(rate, term, payment [, fv, type])

Returns the present value based on the rate, term, and payment of an annuity.

@TERM(rate, payment, pv [, fv, type])

Returns the term of an annuity based on its rate, payment, and present value (loan amount).

@FV(rate, term, payment [, pv, type])

Returns the future value of an annuity based on its rate, term, and payment.

@PMT(rate, term, pv [, fv, type])

Returns the periodic payment on an annuity, based on its rate, term, and present value.

Here's how to apply these four functions:

@PV and a Simple Loan

You loan your brother \$2000, and he agrees to pay you back in equal amounts of \$500 until he has paid back a total of \$2500 in 5 years. But if inflation during that period is 5 percent, the \$500 you receive in the fifth year won't be worth anywhere near what it would be worth today. To find out how much that \$2500 would be worth in today's dollars, create the formula @PV(0.05, 5, 500)—the rate of inflation (5%), the term of the loan (5 years), and the payment per period (\$500). AppleWorks replies that what you're really loaning your brother is a *negative* \$2164.73 in terms of the present value of the money.

- ◆ **Outgoing and incoming values** In the AppleWorks financial formulas, you must represent outgoing cash (or other values) as a negative number and represent incoming cash as a positive number.

@PMT, @TERM, and Buying a Car

Suppose you are buying a car for \$12,000. You put \$3000 down, and pay \$228.26 at the end of every month for a total of 4 years (48 months) with a 10% annual interest rate.

Your monthly payment would be:

$$\text{@PMT}(.1/12, 48, 3000-12000) = \$228.26$$

We round the payment to the nearest penny, since you can't write checks for fractions of a cent. At the rate of \$228.26 per month, it will take you this many months to pay off the loan:

$$\text{@TERM}(.1/12, -228.26, 12000-3000) = 48.00084$$

(The fraction of a month is due to the fact that we rounded off the monthly payment.) Multiplying the monthly payment by the loan term tells you how much you'll pay the bank, in total:

$$228.26 * 48.0008394 = \$10,956.67$$

The total amount you will pay on the loan, including interest, will be \$10,956.67. Including your down payment, you are paying \$13,956.67 for the \$12,000 car.

- ◆ **Staying on equal terms** You must make sure in your calculations that all rates and periodic payments (or cash flows) are for equivalent periods. The example above, for instance, divides the 10 percent interest (0.1) by 12 (months) because the payment figure (228.26) is a monthly payment. If you applied a single annual payment, you could use the 0.1 figure.
- ◆ **Outgoing and incoming values** In the AppleWorks financial formulas, you must represent outgoing cash (or other values) as a negative number and represent incoming cash as a positive number.

Financial Functions

@FV and Calculating an IRA

Assuming an annual interest rate of 10% on an IRA, if you deposit \$2,000 and plan to deposit \$2,000 at the end of every year for 30 years, the @FV function would look like:

$$\text{@FV}(.1, 30, -2000, -2000) = \$363,886.85$$

If you made the deposit at the *beginning* of the year instead of at the end, you would use a type argument of 1 and get an extra \$32,898.80 of interest over the 30 years:

$$\text{@FV}(.1, 30, -2000, -2000, 1) = \$396,785.65$$

- ◆ **Outgoing and incoming values** In the AppleWorks financial formulas, you must represent outgoing cash (or other values) as a negative number; represent incoming cash as a positive number.

Another example of figuring future value with @FV is: say you invest \$48,000 in a money market fund which has been returning an 8.5% annual interest rate. You plan to sell in 18 months and want to know what your money would be worth then. To determine the future value of that investment, enter:

$$\text{@FV}(.085, 18/12, 0, -48000) = \$54,248.26$$

Logical Functions

Logical functions let you test equality or inequality with true/false statements. Logical operators can compare values, labels, or cell references (including those containing text or other functions). AppleWorks compares label values alphabetically.

Logical values are often called Booleans. A Boolean true is nonzero (usually 1). A Boolean false is 0. AppleWorks returns the Boolean values for true and false, 1 and 0. Text comparisons always return 1 or 0.

Logical operators appear in Table 15-2.

Table 15-2
Logical operators

| Statement | Operator | Truth meaning | Logical |
|------------|----------|---------------------------------|---|
| $A < B$ | $<$ | A is less than B | True if the first value is less than the second. Otherwise, false. |
| $A \leq B$ | \leq | A is less than or equal to B | True if the first value is less than or equal to the second. Otherwise, false. |
| $A > B$ | $>$ | A is greater than B | True if the first value is greater than the second. Otherwise, false. |
| $A \geq B$ | \geq | A is greater than or equal to B | True if the first value is greater than or equal to the second. Otherwise, false. |
| $A = B$ | $=$ | A equals B | True if the first value is equal to the second. Otherwise, false. |
| $A \neq B$ | \neq | A does not equal B | True if the first value is not equal to the second. Otherwise, false. |

Logical Functions

The following is a list of logical functions you can use in AppleWorks:

@AND(logical value, logical value[,...])

@AND can accept any number of arguments. Returns true if all *logical values* are true. For example: @AND(A1>56, A2<=12) returns true if both A1 is greater than 56 and A2 is less than or equal to 12.

@FALSE

Returns the value false (0).

@IF(logical value, true value, false value)

Tests the *logical value*. If the *logical value* is true, @IF returns *true value*. If the *logical value* is false, @IF returns the *false value*. For example: @IF(A17 >56, 2, 1). If A17 is greater than 56, @IF returns 2; if it is not greater than 56, @IF returns 1.

@IF can operate on text. For example, @IF(logical value, true, false) returns the word "true" as its true value and the word "false" as its false value. It could just as easily return "buy" and "sell."

Logical values can also contain @AND and @OR in combination with operators. For example: @IF(@OR(A17>56, A18=1), 2, 1). If either (A17>56) or (A18=1) is true, then @IF returns the value 2; otherwise it returns the value 1.

@IF(@AND(A17>56, A18=1), 2, 1) If both (A17>56) and (A18=1) are true, then @IF returns the value 2. If either is false, it returns the value 1.

@ISBLANK(reference)

Returns the value true if the cell *reference* is empty; otherwise returns false.

@ISERROR(reference)

Returns true if the cell *reference* has the value ERROR; otherwise returns false.

@ISNA(reference)

Returns true if the cell *reference* has the value NA; otherwise returns false.

@NOT(*value*)

Returns the Boolean value 1 (true) if *value* = 0; returns the Boolean value 0 (false) for any nonzero argument. For example:

| | | | | |
|----------|---|---|---|-------|
| @NOT(44) | = | 0 | = | false |
| @NOT(0) | = | 1 | = | true |
| @NOT(1) | = | 0 | = | false |

Using @NOT(@NOT(*value*)) is a good way to “normalize” a value to zero or one. Any nonzero value will be converted to 1.

@OR(*logical value*, *logical value* [,...])

@OR can accept any number of arguments. Returns the value true if any of the *logical values* are true. For example:

@OR(A1>56, A2<=12) returns true if either A1 is greater than 56 or A2 is less than or equal to 12.

@TRUE

Returns the value true (1).

String Functions

AppleWorks lets you operate on character strings (labels) stored in cells.

@FIND(*start*, *string1*, *string2*)

Searches for *string1* inside *string2*, starting at position *start*. Returns the position of *string1* in *string2*, or zero if *string1* is not found in *string2*. Useful with @MID to extract parts of strings delimited by commas or spaces. For example, if cell D59 held "Dan Verkade," @FIND(1," ",D59) would return 4.

@JOIN(*string1*, *string2* [*string3*...])

Joins (concatenates) two or more strings. For example, if a first name was stored in C1 and a last name was stored in C2, you could use @JOIN(C1," ",C2) to concatenate the two cells into a single name.

@LEN(*string*)

Returns the length of *string*.

@LOWER(*string*)

Returns *string* in all lower case. Useful for ensuring consistency of data or for comparing two strings without regard for their case in an @IF function (simply use @LOWER on both strings).

@MID(*start*, *length*, *string*)

Returns a middle portion of a string, starting with position *start* and continuing for *length* characters. The first position of the string is numbered 1. For example, if cell B5 held "Washington, D.C.," @MID(5,3,B5) would return "ing."

@TEXT(*value*)

Returns *value* as a string. Useful for combining separate numeric data into a complex formatted number using the @JOIN function.

@UPPER(*string*)

Returns *string* in all upper case. Useful for ensuring consistency of data or for comparing two strings without regard for their case in an @IF function (simply use @UPPER on both strings).

@VAL(*string*)

Returns the numeric value of an ASCII string. This function is useful with @FIND and @MID to convert data items like Social Security numbers and phone numbers from a string data type (a label) to numbers so they can be used in formulas.

Julian Dates & Date Math

AppleWorks supports a feature called *Julian dates*, which allow us to perform mathematical operations on dates. With Julian dates, you can easily calculate the difference between two dates by subtracting them, or figure out the date of the day x days in the past or the future.

A Julian date is simply the number of days since January 1, 1904 (which is an arbitrary date which we have chosen to be day zero). January 1, 1993, to pick a day at random, is day 32508. The highest Julian date supported by AppleWorks is 65535, which is June 5, 2083.

Once the date is in Julian format, it's easy to do date math—simply add or subtract date values at will. Also, it's possible to sort a range of dates into chronological order when they're in Julian format.

AppleWorks provides two ways to enter a Julian date into a spreadsheet cell. First, simply typing @ (followed by Return) into a cell enters the current Julian date. Second, the @DATE function (see "Arithmetic Functions," earlier in this Chapter) converts an arbitrary date to Julian format.

◆ **Formula vs. value** Since @DATE is a function, it is recalculated each time you recalculate the spreadsheet. To speed up recalculation of dates that won't change, first enter @DATE into a cell, then re-enter the value placed in that cell by @DATE. (Or move the cell to the clipboard and back, selecting "Values only" on the way back.) This way, AppleWorks won't have to re-convert the date each time you recalculate the spreadsheet.

AppleWorks also provides the date value format (see Chapter 14, "Formatting the Worksheet"). Formatting a cell with the date value format converts the Julian date stored in the cell to a human-readable (Gregorian) date. The date is still stored as a number between 0 and 65535 for calculation purposes, but it is displayed as a "standard" date.

Search & Other Functions

AppleWorks' two major searching functions, @CHOOSE and @LOOKUP, allow you to return values from tables. This section also covers a few miscellaneous functions which didn't fit in anywhere else.

@ALERT(string)

Displays the string in the center of the screen and sounds a beep. Used with the @IF function, @ALERT can be used to ensure that certain spreadsheet values have an appropriate value. For example, @IF(A70<16,0,@ALERT("You must be 16 to drive")) displays the message "You must be 16 to drive" if the value of cell A70 is less than 16.

@CHOOSE(value, list)

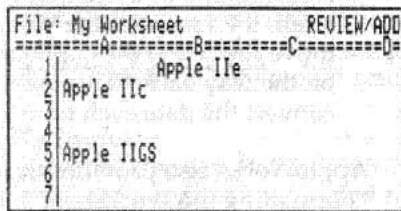
Uses value as an index (or pointer) into a list of adjacent cells. Value may be a reference to a cell containing a value or an expression that evaluates to a value. The list of cells may be left to right along a row, top to bottom down a column, or a list of individual cell references, labels, values, or expressions. You cannot specify a range for @CHOOSE.

For example: the expression @CHOOSE(2, "Apple IIc," "Apple IIe," "Apple IIGS") would return the second item in the list, "Apple IIe." Figure 15-1 illustrates @CHOOSE.

Figure 15-1

@CHOOSE

@CHOOSE (2, A2, B1, A5) = Apple IIe



The screenshot shows a spreadsheet window titled "File: My Worksheet" with a "REVIEW/ADD" button in the top right corner. The spreadsheet grid has columns labeled A, B, and C, and rows numbered 1 through 7. The following table represents the data visible in the spreadsheet:

| | A | B | C |
|---|------------|-----------|---|
| 1 | | | |
| 2 | Apple IIc | | |
| 3 | | Apple IIe | |
| 4 | | | |
| 5 | Apple IIGS | | |
| 6 | | | |
| 7 | | | |

@COUNT(list or range)

When you supply a range, returns the number of cells containing values in a range, ignoring blank cells and cells with labels. When you supply a list, returns the number of cells, even those which have labels or are blank.

@ERROR
Displays ERROR.

@LOOKUP(value, range)
Searches successively through *range* for the largest entry that is less than or equal to *value*. Returns a corresponding value from a second range adjacent to *range* (on the left or below).

For example, if the range B1 to B4 held the numbers 49, 51, 53, and 55, and the range C1 to C4 held the values 1, 2, 3, and 4, and you had the expression @LOOKUP(52, B1...B4), then AppleWorks would search along the range B1...B4, until it came to the largest entry that was less than or equal to 52—in this case, 51. It would then look at the adjacent range, in this case C1 through C4, and find the corresponding value, label, or formula and return it. In this case, AppleWorks would return the second item in the range, "2."

Figure 15-2 illustrates @LOOKUP.

Figure 15-2
@LOOKUP
@LOOKUP(51, B1...B4) = 2

| File: My Worksheet | | REVIEW/ADD | |
|--------------------|---|------------|---|
| | A | B | C |
| 1 | | 49 | 1 |
| 2 | | 51 | 2 |
| 3 | | 53 | 3 |
| 4 | | 55 | 4 |
| 5 | | | |
| 6 | | | |
| 7 | | | |

@NA
Displays "NA" for Not Available.

Alphabetical Function List

Table 15-3 is a comprehensive listing of all AppleWorks spreadsheet functions.

Table 15-3
Functions in
Alphabetical Order

| Name | Function (Arguments) | Example | Effect |
|------------|--|--|--|
| Absolute | @ABS (<i>value</i>) | @ABS(-10) | Returns the absolute value of the argument <i>value</i> . @ABS(-10) is 10. |
| Alert | @ALERT (<i>string</i>) | @ALERT ("You must be 16 to drive") | Displays <i>string</i> in the middle of the screen and sounds a beep. Use with @IF to alert users to out-of-range entries. |
| Arcosine | @ACOS (<i>value</i>) | @ACOS(0.36) | Returns the angle in radians (arccosine) whose cosine is <i>value</i> . Value must be in the range -1 to 1. The angle will be between 0 and π . Example yields 1.2025284. |
| And | @AND (<i>logical comparisons</i>) | @AND (B1=5, D1=3) | Returns true if all logical values are true. Example yields 1 if B1 is 5 and D1 is 3; otherwise yields 0. |
| Arcsine | @ASIN (<i>value</i>) | @ASIN(0.36) | Returns the angle in radians (arcsine) whose sine is <i>value</i> . Value must be in the range -1 to 1. The angle will be in the range $-\pi/2$ to $\pi/2$. Example yields 0.3682679. |
| Arctangent | @ATAN (<i>value</i>) | @ATAN(0.36) | Returns the angle in radians (arctangent) whose tangent is <i>value</i> . The angle will be in the range $-\pi/2$ to $\pi/2$. Example yields 0.3455556. |
| Arctangent | @ATAN2 (<i>X value, Y value</i>) | @ATAN2(1,1) | Returns the angle in radians (arctangent) whose x and y coordinates are <i>X value</i> and <i>Y value</i> . The angle will be in the range $-\pi$ to π , excluding π . If both <i>X value</i> and <i>Y value</i> are 0, then @ATAN2 returns ERROR. Example yields 0.7853982. |

Table 15-3
 Functions in
 Alphabetical Order
 (continued)

| Name | Function (Arguments) | Example | Effect |
|----------|---|------------------------------|---|
| Average | @AVG(<i>list</i> or <i>range</i>) | @AVG(B1,B3) @AVG(I2...I5) | Returns the average of values in the list or range. |
| Choose | @CHOOSE (<i>value</i> , <i>list</i>) | @CHOOSE (B2, D1...D8) | Uses <i>value</i> as an index (or pointer) into a list of adjacent cells. <i>Value</i> may be a reference to a cell containing a value or an expression that evaluates to a value. The list or range of cells may be left to right along a row, top to bottom down a column, or a list of individual cell references, labels, values, or expressions. |
| Cosine | @COS(<i>value</i>) | @COS(0.36) | Returns the cosine of <i>value</i> , which is an angle expressed in radians. Example yields 0.9358968. |
| Count | @COUNT (<i>list</i> or <i>range</i>) | @COUNT (I2...I10) | Returns the number of cells in the range with a value; number of cells in a list. |
| Date | @DATE(<i>year</i> , <i>month</i> , <i>day</i>) | @DATE(1968, 10,11) | Returns the Julian date for the specified Gregorian date. Example returns 23660. |
| Degree | @DEG(<i>value</i>) | @DEG(0.36) | Converts <i>value</i> , which is an angle expressed in radians, to degrees. |
| Error | @ERROR | @ERROR | Displays ERROR. |
| Exponent | @EXP(<i>value</i>) | @EXP(3) | Returns e raised to the power of <i>value</i> ; e is the mathematical constant 2.7182818. This function is the inverse of @LN. Example yields 20.08553. |
| False | @FALSE | @FALSE | Returns the value false (0). |

Alphabetical Function List

Table 15-3

Functions in Alphabetical Order (continued)

| Name | Function (Arguments) | Example | Effect |
|-------------------------|---|-----------------------------|---|
| Find | @FIND(<i>start</i> , <i>string1</i> , <i>string2</i>) | @FIND(1, " ", "Motor City") | Returns the position of <i>string1</i> in <i>string2</i> (ignoring matches to the left of <i>start</i>), or zero if the string is not found. Example returns 6. |
| Future Value | @FV (<i>rate</i> , <i>term</i> , <i>payment</i> , [<i>pv</i> , <i>type</i>]) | @FV(.1/12, 30, -3000) | Returns the future value of an annuity based on the rate, term, and payment period. Example yields 101,770.5. |
| If | @IF (<i>logical value</i> , <i>true value</i> , <i>false value</i>) | @IF(A23>B6, 33, 44) | Tests the <i>logical value</i> . If the <i>logical value</i> is true, @IF returns the <i>true value</i> . If the <i>logical value</i> is false, @IF returns the <i>false value</i> . Can make comparisons on text. |
| Integer | @INT(<i>value</i>) | @INT(55.5) | Returns the integer portion of the argument <i>value</i> . @INT(55.5) = 55. |
| Internal Rate of Return | @IRR (<i>cashflow range</i> , <i>guess value</i>) | @IRR(D1... D12, .085) | Calculates the internal rate of return of a series of cash flows. The internal rate of return is the interest rate that gives the series of cash flows a net present value of 0. @IRR is an iterative calculation. <i>Guess value</i> sets the starting value of the iteration. |
| Is Blank | @ISBLANK (<i>reference</i>) | @ISBLANK (A12) | Returns the value true if the cell referenced is empty; otherwise returns false. |
| Is Error | @ISERROR (<i>reference</i>) | @ISERROR (A1) | Returns true if the cell referenced is ERROR; otherwise returns false. |
| Is Not Available | @ISNA (<i>reference</i>) | @ISNA(A1) | Returns true if the cell referenced is NA; otherwise returns false. |

Table 15-3
Functions in
Alphabetical Order
(continued)

| Name | Function (Arguments) | Example | Effect |
|-------------|--|--------------------------|--|
| Join | @JOIN (<i>string1</i> , <i>string2</i> [, <i>string3</i> ...]) | @JOIN(A1, " ",B1) | Joins (concatenates) two or more strings. Useful for combining separate data elements in a single cell. |
| Length | @LEN(<i>string</i>) | @LEN("Dan") | Returns the length of <i>string</i> . Example returns 3. |
| Middle | @MID(<i>start</i> , <i>length</i> , <i>string</i>) | @MID(5,3, "Quadriga") | Extracts a substring from the specified string. Example returns "rig". |
| Natural Log | @LN (<i>value</i>) | @LN(2.4) | Returns the natural logarithm of <i>value</i> . <i>Value</i> must be positive. This function is the inverse of @EXP. |
| Logarithm | @LOG(<i>value</i>) | @LOG(100) | Returns the base 10 logarithm of <i>value</i> . <i>Value</i> must be positive. This function is the inverse of the exponentiation operator (^). Example yields 2. |
| Lookup | @LOOKUP (<i>value</i> , <i>range</i>) | @LOOKUP (B2,D1...D12) | Searches successively through <i>range</i> for the largest entry that is less than or equal to <i>value</i> . Returns corresponding value from a second range adjacent to <i>range</i> . |
| Lower Case | @LOWER (<i>string</i>) | @LOWER ("Randy") | Converts <i>string</i> to lower case. Example returns "randy." |
| Maximum | @MAX(<i>list or range</i>) | @MAX | Returns the largest value in the list or range. |
| Minimum | @MIN(<i>list or range</i>) | @MIN (A1...A27) | Returns the smallest value in the list or range. |
| Modulo | @MOD (<i>value</i> , <i>divisor</i>) | @MOD(7,2) @MOD(6,2) | Returns <i>value</i> modulo <i>divisor</i> —the remainder of the number <i>value</i> when divided by <i>divisor</i> . @MOD(7,2) = 1; @MOD(6,2) = 0. |

Alphabetical Function List

Table 15-3

Functions in
Alphabetical Order
(continued)

| Name | Function (Arguments) | Example | Effect |
|-------------------|--|-----------------------------|---|
| Not Available | @NA | @NA | Displays "NA" for Not Available. |
| Not | @NOT(<i>value</i>) | @NOT(BK27) | Returns false if <i>value</i> is true; otherwise returns true. |
| Net Present Value | @NPV(<i>rate value, range</i>) | @NPV(I2,I3, L2...L27) | Calculates the net present value of a series of future cash flows discounted at the interest rate given in <i>rate value</i> . The <i>range</i> can be a series of even or uneven payments. |
| Or | @OR(<i>logical comparisons</i>) | @OR(A1>56, A2<=12) | Returns true if any logical value is true. Example yields 1 only if A1>56 and A2<=12, otherwise yields 0. |
| Pi | @PI | @PI | Returns the number π , 3.1415927... |
| Payment | @PMT(<i>rate, term, pv [fv,type]</i>) | @PMT(0.1/12, 48,-9000) | Returns the periodic payment on an annuity based on the rate, term, and present value. Example yields 228.26. |
| Present Value | @PV(<i>rate, term, payment [fv, type]</i>) | @PV(0.05, 5,500) | Returns the present value based on the rate, term, and payment of an annuity. Example yields -2164.73. |
| Radians | @RAD(<i>value</i>) | @RAD(36) | Converts <i>value</i> , which is an angle expressed in degrees, to radians. Example yields 0.6283185. |
| Rate | @RATE (<i>term, pv, fv</i>) | @RATE(18/12, -48000, 54350) | Returns the interest rate on an annuity based on its term, present value, and future value. Example yields 0.086. |

Table 15-3

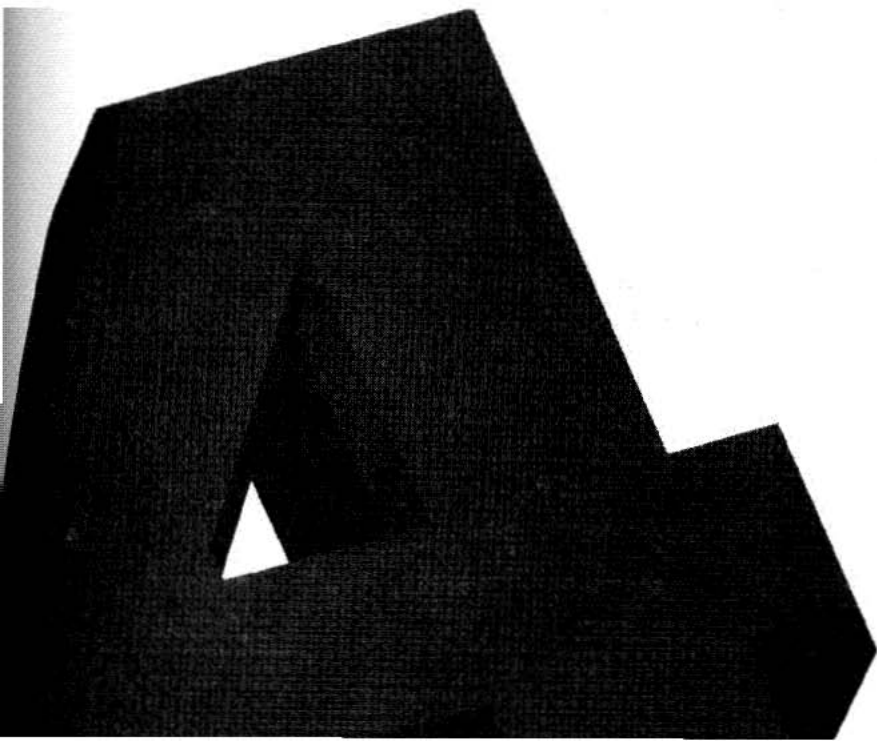
Functions in
Alphabetical Order
(continued)

| Name | Function (Arguments) | Example | Effect |
|-------------|---|---------------------------------|--|
| Round | @ROUND (<i>value</i> , <i>decimal places</i>) | @ROUND (23.764,2) | Returns <i>value</i> rounded to the nearest <i>decimal places</i> places. <i>Decimal places</i> can be a value or an expression that evaluates to a value. Example yields 23.76. |
| Sine | @SIN(<i>value</i>) | @SIN(0.36) | Returns the sine of <i>value</i> , which is an angle expressed in radians. Example yields 0.352742. |
| Square root | @SQRT (<i>value</i>) | @SQRT(5) | Returns the square root of the argument <i>value</i> . @SQRT(5) = 2.236068. @SQRT(-1) returns ERROR. |
| Sum | @SUM(<i>list or range</i>) | @SUM (A1...D1) | Returns the sum of all the values in the list or range. Any labels in the list or range are treated as 0. |
| Tangent | @TAN(<i>value</i>) | @TAN(0.36) | Returns the tangent of <i>value</i> , which is an angle expressed in radians. Example yields 0.3764029. |
| Term | @TERM (<i>rate,payment</i> , <i>pv l fv,type</i>) | @TERM (0.1/12,-228, 9000) | Returns the term of a loan based on its rate, payment, and present value. Example yields 48. |
| True | @TRUE | @TRUE | Returns the value true (1). |
| Upper Case | @UPPER (<i>string</i>) | @UPPER ("Jerry") | Converts <i>string</i> to upper case. Example returns "JERRY." |
| Value | @VAL (<i>string</i>) | @VAL(B5) | Returns the numeric value of (<i>string</i>) for use in a calculation. |

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Appendices



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Appendix A

Other Activities

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Other Activities

The Other Activities option on the Main Menu lets you “do housekeeping” with disks, files, and directories; change settings to get the most out of AppleWorks and your printer; and change how AppleWorks works to better suit your needs.

You can use the Other Activities option to:

- change the current disk drive
- access File Activities to list, delete, rename, lock, unlock, copy, and move disk files
- access Disk Activities to copy, erase, verify, format, rename, or compare disks, or to copy or create subdirectories
- access Clipboard Options to directly edit one of AppleWorks’ three Clipboards

Other Activities also includes the Standard Settings option. Standard Settings is where you tell AppleWorks what kind of printer you have, where you usually keep your data files, and other advanced settings, such as AppleWorks’ preloading characteristics, time, and date formats. Appendix B covers “Standard Settings” (the things you can do with the Standard Settings option). You’ll find printer information in Appendix C, “Printer Configuration.”

Changing the Disk or Prefix

The current disk is the disk drive where AppleWorks looks for your data files. This can be the drive your AppleWorks disk is in, or it can be another drive. If you have two 5.25" disk drives, you'll probably want to keep your data on Disk 2. A *ProDOS prefix* tells AppleWorks that you're storing your data files in a particular directory or subdirectory on a disk.

By setting the current disk or ProDOS prefix, you can ensure that when AppleWorks saves a file on disk, it's saved to the disk and directory you want.

- ◆ **Current disk drive versus standard location of data disk** The current disk drive and pathname tell AppleWorks where you want your files stored now. You can also give AppleWorks a standard (or preset) location for your data disk that AppleWorks will use each time you start it, unless you tell it otherwise. To change the standard location of your data disk, see Appendix B, "Standard Settings."

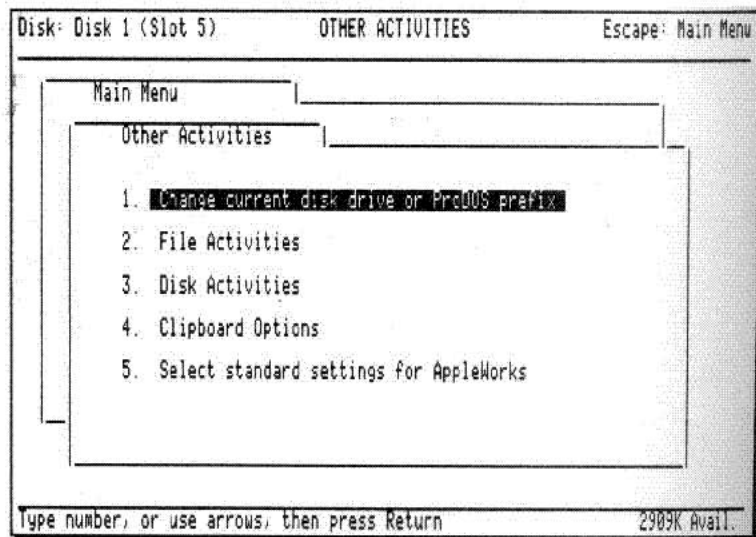
Changing the Current Disk Drive

- 1 From the Main Menu, select "Other Activities," then press Return.

AppleWorks displays the Other Activities screen, as shown in Figure A-1. The option "Change current disk or ProDOS prefix" is already highlighted.

Figure A-1

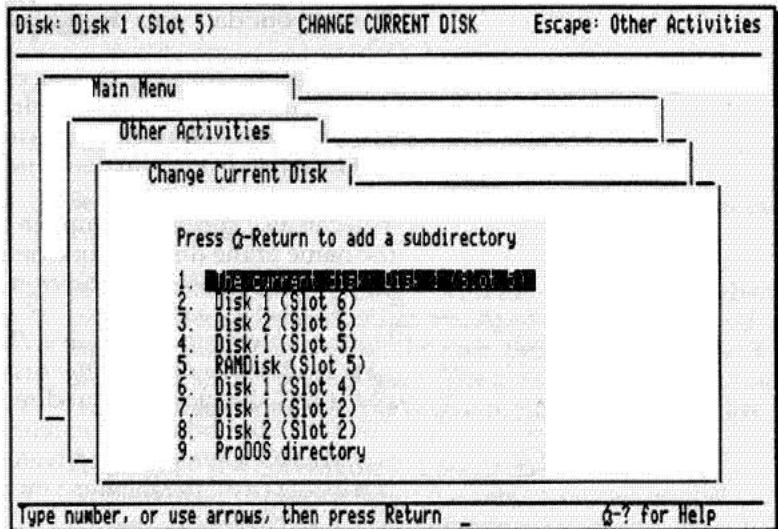
Other Activities menu



2 Press Return to choose "Change current disk drive or ProDOS prefix."

AppleWorks displays a list of disk drives you can use, as shown in Figure A-2.

Figure A-2
Selecting a disk drive



3 Select the disk drive you want to use, then press Return.

AppleWorks changes the current disk and returns you to the Other Activities screen. The new disk drive and slot number appear in the upper left of the screen.

Changing the Disk or Prefix

Changing the ProDOS Prefix

The ProDOS prefix tells AppleWorks that you're storing your data files on a particular disk or in a subdirectory, instead of on a particular drive.

For example, the prefix /APPLEWORKS tells the AppleWorks program that you're storing your data files on the AppleWorks program disk. The prefix /MYDISK tells AppleWorks you're storing your data on a disk you named /MYDISK.

If you tell AppleWorks to look on a specific *disk drive* for your files, it will look on the disk in that drive no matter what the name of the disk is. If you tell AppleWorks to look for a specific *disk by name*, it will find the disk no matter which drive it is in.

You can also specify a complete pathname as a prefix, including the name of the disk and one or more subdirectories. The prefix then tells AppleWorks where on the disk you have stored your file.

For example, in the pathname /MYDISK/BUSINESS/MEMOS, /MYDISK is the name of the disk. Among the other listings in the /MYDISK directory is a subdirectory called /BUSINESS. The /BUSINESS subdirectory can have many listings too. One of them is /MEMOS, another subdirectory. In the /MEMOS subdirectory is a listing of all the memos you have written with the AppleWorks Word Processor.

The ProDOS prefix names the current disk and directory that AppleWorks looks for when you add a new file from the current disk, and where AppleWorks saves files. This menu option does not display the contents of that directory.

You change the ProDOS prefix and pathname from the drive list.

1 From the Main Menu, select "Other Activities," then press Return.

AppleWorks displays the Other Activities screen. The option "Change current disk drive or ProDOS prefix" is already highlighted.

2 Press Return to choose "Change current disk drive or ProDOS prefix."

AppleWorks displays a list of disk drives you can use.

3 Use the drive list options to select a new ProDOS prefix.

- Select "The current disk" to accept AppleWorks' default or current setting.
- Select a disk by highlighting it with the \uparrow and \downarrow keys, then press ⌘ -Return instead of Return. AppleWorks displays a list of the subdirectories on the disk. Select one using the \uparrow and \downarrow keys, then press Return. The current disk is set to the chosen directory and AppleWorks returns to the drive list.
- Highlight "The current disk" and press ⌘ -Return. AppleWorks displays a list of the subdirectories on the current disk or in the current directory. Select one using the \uparrow and \downarrow keys, then press Return. The chosen directory is appended to the current pathname and AppleWorks returns to the drive list. Repeat this procedure to add more subdirectories.
- Press ⌘ -A to add a subdirectory, as described above. AppleWorks returns to the drive list.
- Press ⌘ -D to drop the last subdirectory from the current pathname and stay in the drive list.

Changing the Disk or Prefix

- Press ⌘-P to display the list of pathnames you have defined under "Standard Settings" (see Appendix B). From this list, select the desired pathname and press Return to choose one of the pathnames and use it immediately, or ⌘-Return to select the pathname and return to the drive list for further editing. Press ⌘-1 through ⌘-8 from the drive list to change directly to one of the stored pathnames without seeing the pathname list.
- Highlight "ProDOS directory" and press Return to specify a ProDOS directory by typing a pathname. This is useful when you know exactly where you want to go and just want to get there as quickly as possible.
- ◆ **AppleWorks Veterans** To select a pathname "point-and-shoot" style as in AppleWorks 3.0, press ⌘-Return while "ProDOS directory" is highlighted. AppleWorks displays the subdirectories of the current disk or directory, if any. Use ⌘-> (or Return) to enter a highlighted subdirectory, or ⌘-< to "back out" of a subdirectory. (Do not use the Shift key with ⌘-> or ⌘-<.) Press Tab to switch to another disk. Press ⌘-P (for Path) when you are inside the desired disk or directory. AppleWorks accepts the current disk and proceeds to the next screen.
- 4 **When the desired disk or directory is displayed next to "Current disk," highlight "Current disk" and press Return to proceed.**

Press Escape to exit the drive list and leave the current disk unchanged.

File Activities

AppleWorks' File Activities screen lets you maintain and manage the files stored on your disks.

To get to the File Activities screen:

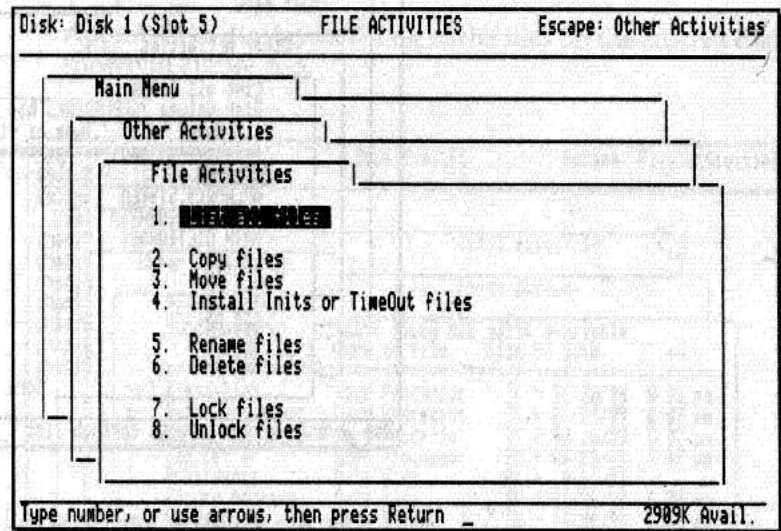
- 1 From the Main Menu, select "Other Activities," then press Return.

AppleWorks displays the Other Activities screen.

- 2 Select "File Activities," then press Return.

AppleWorks displays the File Activities screen, Figure A-3.

Figure A-3
File Activities screen



- ◆ **Shortcut** You can also press Tab to move to the File Activities menu if you are at the Disk Activities menu. Or, from anywhere in AppleWorks, press ⌘-Q followed by ⌘-F to move directly to the File Activities menu.

All the instructions in this section assume you are starting from the File Activities screen.

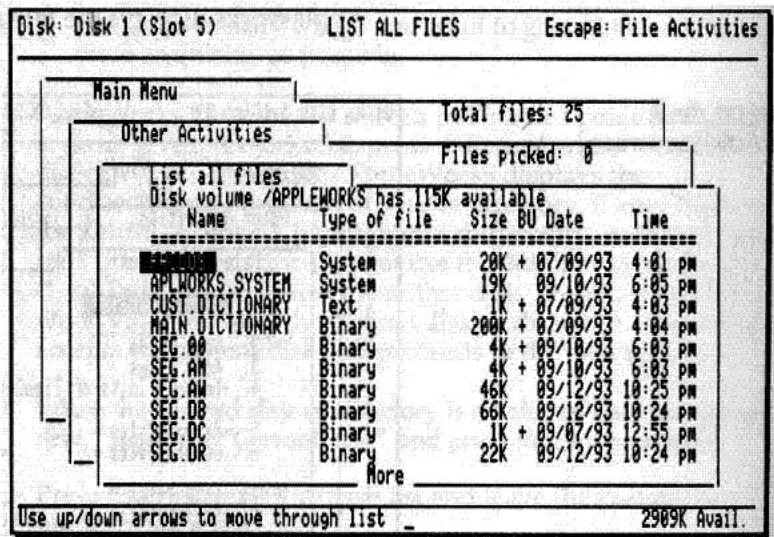
File Activities

Listing Files on the Current Disk

It's often useful to be able to read through a directory of files on a disk, for example, to see if a file is available or whether you have already used a particular filename.

To list all files on the current disk, select "List all files" and press Return. AppleWorks lists the files on the current disk drive and ProDOS path, if any. (Press ⌘-Return on "List all files" if you want to look at a disk or directory other than the current disk.) Figure A-4 shows what the list looks like.

Figure A-4
Listing all files on a disk



Use the ↑ and ↓ keys to scroll through the list. You can also press ⌘-1 or ⌘-9 to jump to the top or bottom of the list.

- **Changing the list order** Press ⌘-A to arrange the file list to find the file you're looking for more easily. AppleWorks will ask you whether you want to arrange by Name (files displayed alphabetically regardless of type), Type (files grouped into types and alphabetized within type—the standard method), Size (largest files first), or Date (most recently modified files first). Changing the list order only affects the way you view files in AppleWorks, not the actual order of the files on the disk.

Press Escape to return to the Other Activities screen.

Renaming, Deleting, Locking, and Unlocking Files

AppleWorks lets you perform a number of operations on your files, including:

- **Renaming** Changes the name of a file on the disk
- **Deleting** Permanently removes a file from the disk
- **Locking** Keeps files from being accidentally deleted
- **Unlocking** Reverses the effect of locking

These operations are performed from the File Activities menu, and all work similarly. Here's how to use them:

- 1 **Select "Rename Files," "Delete Files," "Lock Files," or "Unlock Files" from the File Activities menu and press Return.**

AppleWorks displays a listing of the files on the current disk, as shown in Figure A-5.

Figure A-5
Choosing files



- ◆ **To work on a different disk** If the files you want to work on are not on the current disk or in the current directory, use ⌘-Return to select the operation. AppleWorks displays the drive list to allow you to choose a different disk or directory. See "Changing the ProDOS Prefix," earlier in this Appendix, for more information on the options available at the drive list.

File Activities

2 Select the files you wish to perform the operation on.

If you want to perform the operation (rename, delete, lock, or unlock) on more than one file at a time, press the \rightarrow key when you have highlighted one file to select it, then press the \uparrow or \downarrow key to move to another file. Press the \rightarrow key to select another file. (The \leftarrow key deselects a file.)

To select all the files in the list, press $\text{⌘}-\rightarrow$. To deselect all files, press $\text{⌘}-\leftarrow$.

3 When you have finished selecting all the files you wish to work on, press Return.

For each file that you have selected, AppleWorks asks whether you “really want to do this.” To skip the file without performing the operation, select No, then press Return. To perform the operation on the file and proceed to the next, select Yes, then press Return. When AppleWorks has asked you about every file, you return to the File Activities menu.

If you are renaming files, AppleWorks will ask you to type the new name for each file you have selected. The name must conform to ProDOS naming standards—it must begin with a letter and may contain up to fifteen letters, numbers, and periods in any combination. Press Return when you are satisfied with the new name, or press Escape to skip the file.

- Expert mode** If you are *certain* you want to perform the chosen operation on the selected files and don't want AppleWorks asking whether you “really want to do this” for each file, press $\text{⌘}-\text{Return}$ instead of Return when you have finished selecting files. AppleWorks will skip the queries.

Copying and Moving Files

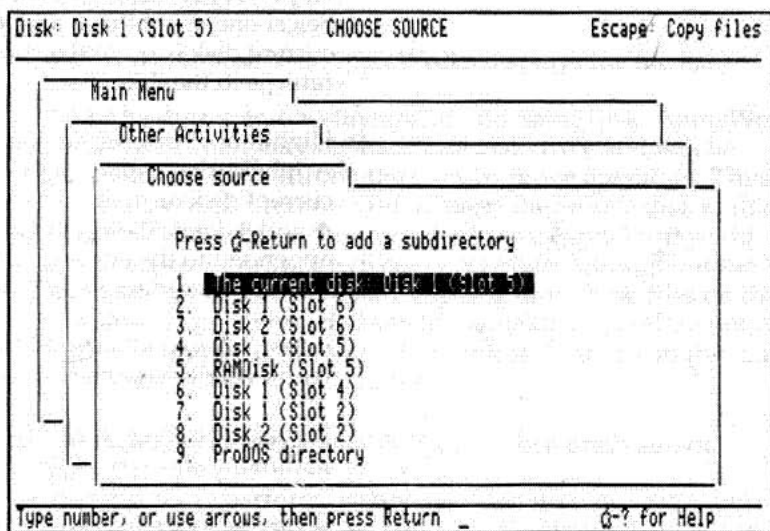
AppleWorks can copy or move files from one disk to another. When you copy a file, the original file remains in place—you end up with two copies of the file. When you move a file, AppleWorks first performs a copy operation, then deletes the original file, so you end up with only one copy of the file, but on a different disk or in a different directory from where it started.

The two operations work identically. Here's how to do them:

- 1 Select "Copy files" or "Move files" from the File Activities menu.

AppleWorks displays the Choose Source screen, Figure A-6.

Figure A-6
Choose Source screen



File Activities

2 Choose the disk (or ProDOS directory) which contains the files you want to copy or move and press Return.

- Select "The current disk" to accept AppleWorks' default or current setting, or to accept your changes after changing the current disk with the options below.
- Select a disk by highlighting it with the \uparrow and \downarrow keys, then press Return. AppleWorks exits the drive list and uses the main directory of the specified disk. (Press \odot -? to see the names of the disks in the drives.)
- Select a disk as above, but press \odot -Return instead of Return. AppleWorks displays a list of the subdirectories on the disk. Select one using the \uparrow and \downarrow keys, then press Return. The current disk is set to the chosen directory and AppleWorks returns to the drive list.
- Highlight "The current disk" and press \odot -Return. AppleWorks displays a list of the subdirectories on the current disk or in the current directory. Select one using the \uparrow and \downarrow keys, then press Return. The chosen directory is appended to the current pathname. Repeat this procedure to add more subdirectories.
- Press \odot -A to add a subdirectory, as described above. AppleWorks returns to the drive list.
- Press \odot -D to drop the last subdirectory from the current pathname and stay in the drive list.
- Press \odot -P to display the list of pathnames you have defined under "Standard Settings" (see Appendix B). From this list, select the desired pathname and press Return to choose one of the pathnames and use it immediately, or \odot -Return to select the pathname and return to the drive list for further editing. Press \odot -1 through \odot -8 from the drive list to change directly to one of the stored pathnames without seeing the pathname list.
- Highlight "ProDOS directory" and press Return to specify a ProDOS directory by typing a pathname. This is useful when you know exactly where you want to go and just want to get there as quickly as possible.

3 Choose the disk (or ProDOS directory) to which you want to copy or move the files and press Return.

Use the procedures described in step 2 if you want to select a subdirectory.

When you have chosen the destination ("copy to") disk or directory, AppleWorks displays both the source and destination disks or directory and asks you if this is correct.

4 Choose Yes if the source and destination selections are correct.

If you choose No, AppleWorks returns to the Choose Source screen for another try.

When you choose Yes, AppleWorks displays the file list.

If the source and destination are the same disk, AppleWorks assumes that you only have one disk drive and will be switching disks during the copy or move operation. Thus, AppleWorks prompts you to insert the Source disk at this point (the disk you are copying from). AppleWorks will prompt you to switch disks as necessary throughout the entire operation. If you are copying or moving files on the same disk (not two disks in the same drive), and do not wish to be prompted to switch disks, press ⌘-Return at the first "Insert Source disk" prompt.

5 Select the file or files you wish to copy, then press Return.

If you want to perform the operation on more than one file at a time, press the → key when you have highlighted one file to select it, then press the ↑ or ↓ key to move to another file. Press the → key to select another file. (The ← key deselects a file.)

To select all the files in the list for deletion, press ⌘-→ . To deselect all files, press ⌘-← .

File Activities

6 AppleWorks asks if you want to "Automatically replace existing files."

If you select Yes, AppleWorks will "copy over" files on the destination disk which have the same name as a file being copied, *without* asking your permission first. In other words, the existing file on the destination disk will be replaced with the new version being copied. If you select No, AppleWorks will ask your permission before replacing any files.

7 AppleWorks asks if you want to "Keep original file dates."

If you select Yes, the copied files will have the same date as the original files. If you select No, the copied files will have today's date.

After you have answered this question, the copy or move operation will begin.

8 Follow the AppleWorks prompts until the operation is completed.

AppleWorks will display the name of each file as it is copied or moved.

If you are copying with a single drive, AppleWorks will ask you to insert the Source or Destination disks as needed. Do so and press Return.

If AppleWorks finds a file on the Destination disk with the same name as a file being copied from the Source disk, and you have told AppleWorks not to automatically replace existing files, AppleWorks will ask your permission to replace the existing file with the file being copied. Answer Yes or No.

When the copy operation is completed, AppleWorks returns you to the File Activities screen.

Subdirectories

AppleWorks—through ProDOS—stores a file in a directory (list of files). In addition to listing individual files, a directory can also hold one or more subdirectories. Each subdirectory is a directory in its own right. For a full discussion of subdirectories, see your ProDOS manual.

- ◆ **Limits for disk space** ProDOS imposes a maximum of 51 files or subdirectories in a root directory (the main directory for a disk). The number of files or subdirectories in any subdirectory is not limited (except by the amount of storage you have on the disk). AppleWorks requires an extra file for safe saving.

A ProDOS pathname combines the name of the disk with the name of any subdirectories on the disk to tell AppleWorks where on the disk you have stored your file.

For example, in the pathname /MYDISK/BUSINESS/MEMOS, /MYDISK is the name of the disk. Among the other listings in the /MYDISK directory is a subdirectory called /BUSINESS. The /BUSINESS subdirectory can have many listings too. One of them is /MEMOS, another subdirectory. In the /MEMOS subdirectory is a listing of all the memos you wrote.

- ◆ **5.25" disk users** As a practical matter, you may wish to use separate data disks rather than create an extensive subdirectory system, because of the storage limitations of the disks and the slower access resulting from the use of subdirectories.

Subdirectories

Creating a Subdirectory

Here's how to create a new subdirectory:

- 1 From the Main Menu, select "Other Activities," then press Return.

AppleWorks displays the Other Activities screen.

- 2 Select "Disk Activities" then press Return.

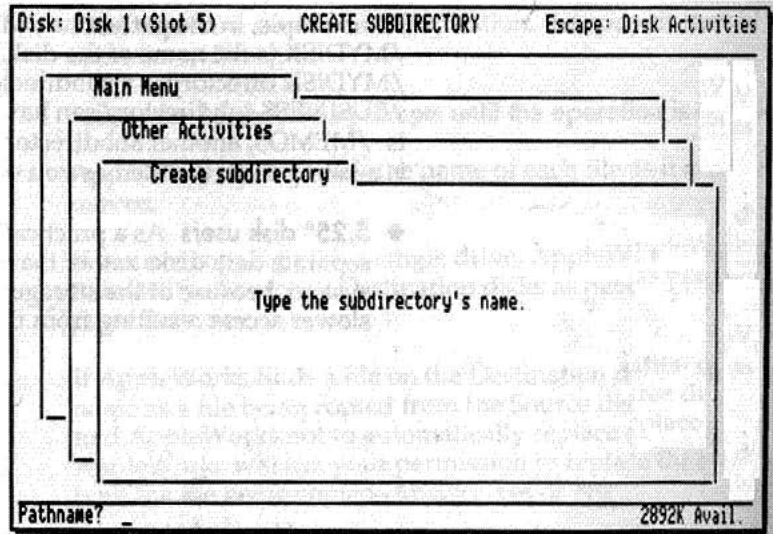
AppleWorks displays the Disk Activities screen.

- 3 Select "Create a subdirectory," then press Return.

AppleWorks asks you to type the subdirectory's pathname, as shown in Figure A-7.

Figure A-7

Typing in the pathname of the new subdirectory



4 Type in the pathname from the name of the disk to the directory you want to create.

If you don't specify a disk name, AppleWorks will create the directory on the current disk or inside the current path. You can also specify a complete pathname (like /MYDISK/BUSINESS/MEMOS) if you want to create a subdirectory on a disk other than the current disk.

If you type a complete pathname, the disk you name in the pathname must be in a disk drive.

5 Press Return when you are satisfied with the pathname.

When AppleWorks has created the new subdirectory, it tells you the subdirectory has been successfully created and asks you to press the Space bar.

6 Press the Space bar.

AppleWorks prompts you for the next directory to be created. Press Escape if you have no more directories to create, or return to Step 4 to create another directory.

As a safety precaution, AppleWorks does not let you delete a subdirectory which contains files.

Subject to that restriction, you can delete or rename a subdirectory in much the same way as you delete or rename any other file. (See "File Activities.") Simply select the disk or directory that contains the directory you want to delete. For example, if you want to delete the /MYDISK/BUSINESS/MEMOS subdirectory, you would select /MYDISK/BUSINESS as the directory to delete from.

There's one trick involved. Since pressing Return on a subdirectory would normally "open" it and display its contents, you must select the directory you want to delete or rename using the ⬅ key, even if you are deleting or renaming only one directory. Then press Return and proceed to rename or delete as usual.

AppleWorks' Disk Activities menu (next section) includes options for copying directories and their contents.

Deleting or Renaming a Subdirectory

Copying a Subdirectory

Disk Activities

AppleWorks lets you work on whole disks. The operations you can perform include copying, verifying, erasing, formatting, and comparing disks. Additionally, you can copy directories and rename disks from this screen.

To get to the Disk Activities screen:

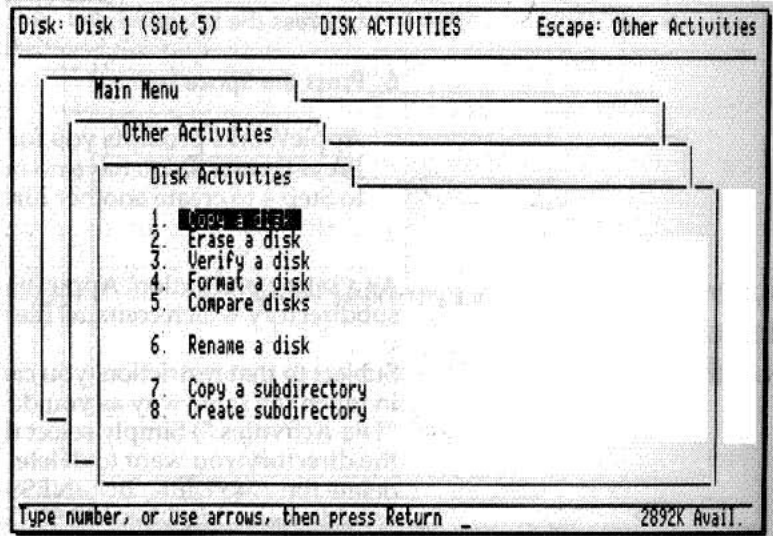
- 1 From the Main Menu, select "Other Activities," then press Return.

AppleWorks displays the Other Activities screen.

- 2 Select "Disk Activities," then press Return.

AppleWorks displays the Disk Activities screen, Figure A-8.

Figure A-8
Disk Activities screen



- ◆ **Shortcut** You can also press Tab to move to the Disk Activities menu if you are at the File Activities menu. Or, from anywhere in AppleWorks, press ⌘-Q followed by ⌘-D to move directly to the Disk Activities menu.

All the instructions in this section assume you are starting from the Disk Activities screen.

Copying a Disk

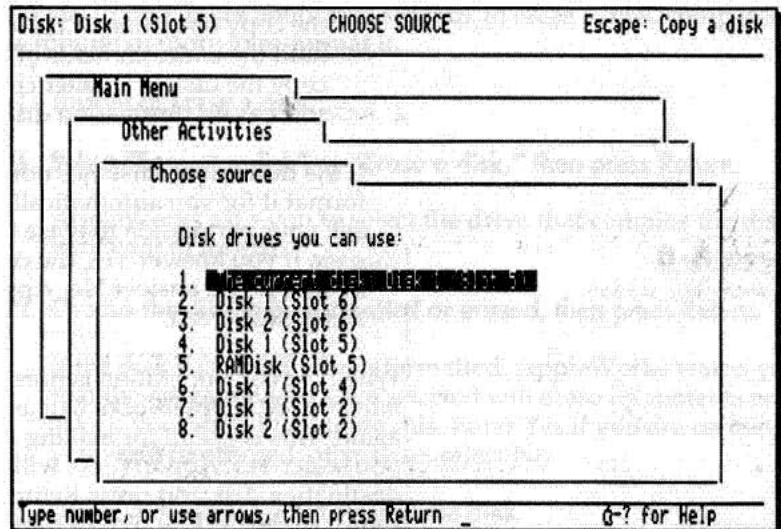
You can copy a disk for backup purposes. To copy a disk:

1 Select "Copy a Disk," then press Return.

AppleWorks asks you to choose the source ("copy from") drive, shown in Figure A-9.

Figure A-9

Selecting the source disk



2 Select the source drive, then press Return.

AppleWorks asks you to choose the destination ("copy to") drive. It can be the same drive as the source drive, or it can be a different drive, but it must be the same *type* of drive (3.5" or 5.25") as the source drive.

3 Select the destination drive, then press Return.

AppleWorks displays the source and destination locations and asks you to verify that they are correct. Select No to return to the Choose Source screen to try again.

Disk Activities

4 Select Yes to begin the copy operation.

If you have selected the same disk drive for the source and destination drives, AppleWorks will prompt you to insert the source disk, then, later, the destination disk. Follow the on-screen prompt and press Return.

AppleWorks uses all available Desktop memory to perform the copy operation. If there is not enough free memory to hold the entire contents of the source disk, AppleWorks will copy the disk in smaller chunks and prompt you to insert the source and destination disk as needed.

If the destination disk has not been formatted, AppleWorks will format it for you automatically. Otherwise, AppleWorks will ask your permission to erase the contents of the destination disk. If you answer Yes, the contents of the destination disk will be lost; if you answer No, AppleWorks will return to the Disk Activities screen.

When the copy operation is finished, *and if the entire source disk fit into memory*, AppleWorks will ask if you want to copy the disk again. This is useful for making several copies of the same disk. If you select Yes, AppleWorks will prompt you to insert the next destination disk and press Return. Otherwise, AppleWorks will return to the Disk Activities screen.

◆ **Shortcut** Select No and press ⌘-Return at the “Copy this disk again” prompt to switch to compare mode, without re-reading the source disk. This is useful after making a number of copies to verify that the copies were duplicated properly.

Formatting or Erasing a Disk

When you buy a pack of blank disks, the disks must be *formatted* before data can be stored on them. An unformatted disk is *blank*; a formatted disk is merely *empty*.

AppleWorks can format a disk to prepare it for use. Additionally, it can erase all the files on an existing disk and prepare it for re-use. This latter operation is much faster than deleting all the files using AppleWorks' delete function or even reformatting the disk. In fact, it only takes about two seconds to erase a disk, compared to a minute or more to re-format it.

To format or erase a disk:

1 Select "Format a disk" or "Erase a disk," then press Return.

AppleWorks asks you to select the drive that contains the disk you want to format.

2 Choose the disk to be formatted or erased, then press Return.

If the disk has already been formatted, AppleWorks warns you that the operation you have selected will erase its contents and asks if you really want to do this. Enter Yes if you are certain you want to proceed; otherwise, select No.

AppleWorks asks you to name the disk.

3 Type the name for the new disk and press Return.

The disk name must be a legal ProDOS name; that is, it must start with a letter, and may contain up to fifteen letters, numbers, and periods in any combination.

AppleWorks will format or erase the disk, then ask you to press the Space bar.

4 Press the Space bar to return to the Disk Activities screen.

Disk Activities

Verifying a Disk

The "Verify a disk" function ensures that all blocks on a disk are readable. The optional read/write test can be used on new disks to ensure that they are reliable. Both tests are non-destructive; they will not damage your disks or the files stored on them.

To verify a disk:

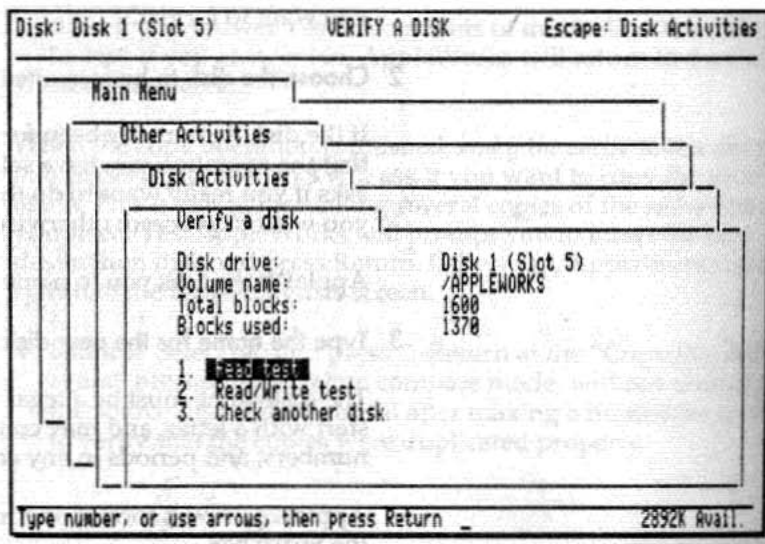
- 1 Select "Verify a disk," then press Return.

AppleWorks displays the drive list.

- 2 Choose the disk to be verified, then press Return.

AppleWorks displays the Verify a Disk screen, Figure A-10.

Figure A-10
Verify a disk



- 3 Select the type of test you want to perform, then press Return.

AppleWorks begins the verification procedure. If a problem is detected, AppleWorks will tell you. When the operation is complete, you will return to the Verify a Disk screen.

- 4 Select another test, use the "Check another disk" option to choose another disk to be verified, or press Escape to exit.

Comparing Two Disks

After making a backup copy using "Copy a disk," you may want to use this option to verify that the backup disk contains the same data as the original disk. It is also useful when you have numerous backup disks and want to know which one, if any, is the same as your original disk.

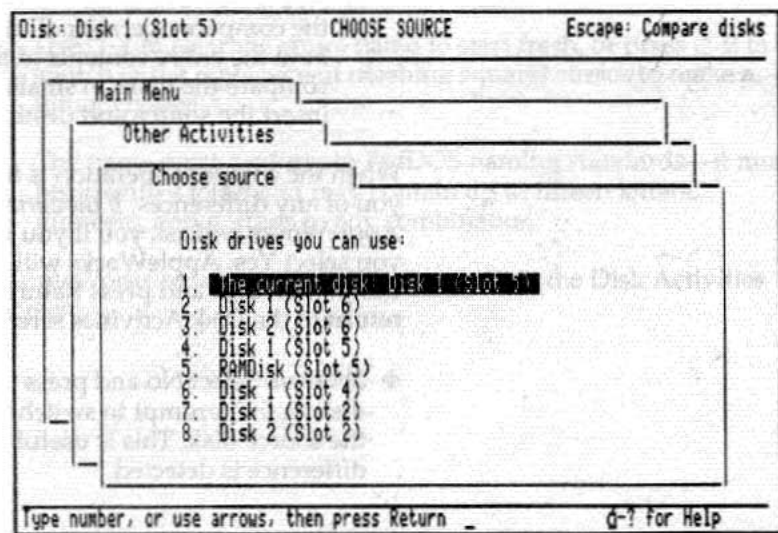
To compare two disks:

1 Select "Compare disks," then press Return.

AppleWorks asks you to choose the source ("original") drive, as shown in Figure A-11.

Figure A-11

Choosing the source drive



2 Select the source drive, then press Return.

AppleWorks asks you to choose the destination ("compare to") drive. It can be the same drive as the source drive, or it can be a different drive, but it must be the same *type* of drive (3.5" or 5.25") as the source drive.

Disk Activities

3 Select the destination drive, then press Return.

AppleWorks displays the source and destination locations and asks you to verify that they are correct. Select No to return to the Choose Source screen to try again.

4 Select Yes to begin the compare operation.

If you have selected the same disk drive for the source and destination drives, AppleWorks will prompt you to insert the source disk, then, later, the destination disk. Follow the on-screen prompt and press Return.

- AppleWorks uses all available Desktop memory to perform the compare operation. If there is not enough free memory to hold the entire contents of the source disk, AppleWorks will compare the disks in smaller chunks and prompt you to insert the source and destination disk as needed.

When the compare operation is finished, AppleWorks will inform you of any differences. *If the entire source disk fit into memory,* AppleWorks will ask you if you want to compare the disk again. If you select Yes, AppleWorks will prompt you to insert the next destination disk and press Return. Otherwise, AppleWorks will return to the Disk Activities screen.

- ◆ **Shortcut** Select No and press ⌘-Return at the "Compare this disk again" prompt to switch to copy mode, without re-reading the source disk. This is useful to update a backup copy when a difference is detected.

Renaming a Disk

Use "Rename a disk" to change a new disk's after formatting it, or any time you want to reformat the disk.

1 Select "Rename a disk" and press Return.

AppleWorks asks you to choose the disk to be renamed from a list. (Press ⌘-? to see the names of the disks, to make choosing the correct drive easier.)

2 Select the disk you want to rename and press Return.

AppleWorks asks you for a new name for the disk.

3 Enter the new name and press Return.

Use ⌘-Y to clear the entire name to start fresh, or press ⌘-E to switch to the replacement (flashing square) cursor to make a minor change.

The name must conform to ProDOS naming standards—it must begin with a letter and may contain up to fifteen letters, numbers, and periods in any combination.

AppleWorks renames the disk and returns to the Disk Activities screen.

Disk Activities

Copying a Subdirectory

AppleWorks lets you copy an entire subdirectory full of files at one time. AppleWorks will copy every file in that subdirectory, except for other subdirectories (and their contents).

To copy a subdirectory:

1 Select "Copy a subdirectory," and press Return.

AppleWorks displays the drive list and asks you to select the source directory.

2 Choose the source directory.

Use the drive list options described under "Changing the ProDOS Prefix" earlier in this Appendix to select a prefix, or choose "Current disk" or a different disk from the list.

You must select the *parent directory* of the directory you want to copy. For example, if you want to copy the subdirectory /MYDISK/BUSINESS/MEMOS, you must select the ProDOS path /MYDISK/BUSINESS as the source. If you are copying a subdirectory located "one level" deep on a disk, select the disk as the source.

AppleWorks asks you to select the destination.

3 Select the destination and press Return.

Select the directory where you want to place the copied subdirectory. If you want the subdirectory to appear in a disk's main directory, for example, select the disk as the destination.

AppleWorks displays the source and destination locations and asks you to verify that they are correct. Select No to return to the Choose Source screen to try again. Select Yes to continue.

4 Use the ↑ and ↓ keys to highlight the subdirectory you want to copy, then press Return.

AppleWorks begins the copy operation.

- If the source and destination are the same disk, AppleWorks assumes that you only have one disk drive and will be switching disks during the copy operation. Thus, AppleWorks prompts you to insert the Source disk at this point (the disk you are copying from). AppleWorks will prompt you to switch disks as necessary throughout the entire operation. If you are copying files on the same disk (not two disks in the same drive), and do not wish to be prompted to switch disks, press ⌘-Return at the first "Insert Source disk" prompt.

When the copy operation is complete, AppleWorks returns to the Disk Activities screen.

Clipboard Options

AppleWorks lets you edit the contents of its three clipboards directly. To edit a clipboard:

- 1 **From the Main Menu, select "Other Activities," then press Return.**

AppleWorks displays the Other Activities screen.

- 2 **Select "Clipboard Options," then press Return.**

AppleWorks displays the Clipboard Options screen.

- 3 **Select the Clipboard you want to edit—the Word Processor clipboard, the Data Base clipboard, or the Spreadsheet clipboard—then press Return.**

AppleWorks displays the clipboard in the appropriate module, and allows you to edit it just as if you were editing a file. See the appropriate Chapters for information on using the Word Processor, Data Base, and Spreadsheet.

- ◆ **Quick clipboard edit** Press ⌘-Q followed by ⌘-C to edit the active clipboard—that is, whichever clipboard was moved to or copied to most recently.

- 4 **Edit, print, and otherwise fiddle with the Clipboard's contents.**

Press Escape, or use ⌘-Q, when you're done editing.

- ◆ **Using the Clipboard while editing** AppleWorks actually moves the Clipboard data to a temporary Desktop file while you edit it, then moves it back to the Clipboard when you're done. Therefore, the Clipboard is available for your use while editing, although it starts out empty and its contents are replaced with the edited clipboard contents when you're finished. You can also import data from other modules' clipboards by holding down ⌘ when selecting "From clipboard" in a Move or Copy operation, as usual.

Appendix B

Standard Settings



Blank Page

Standard Settings

You can customize AppleWorks in several ways, to make it better suited to the way you work. You can:

- tell AppleWorks which modules to preload at startup
- determine the standard way AppleWorks verifies spelling in the Word Processor
- change the standard date and time formats
- configure the way AppleWorks uses add-ons like TimeOut, Inits, and macros
- predefine up to eight ProDOS directories for easy access
- configure the mouse, cursor, screen blanker, and auto-save
- tell AppleWorks the standard location of your data disk
- set a number of other useful preferences
- configure your printer(s)

The Standard Settings screen in AppleWorks provides access to all these options. This Appendix covers all of these settings except for printer configuration, which is described in Appendix C.

Standard Settings

To get to the Standard Settings screen:

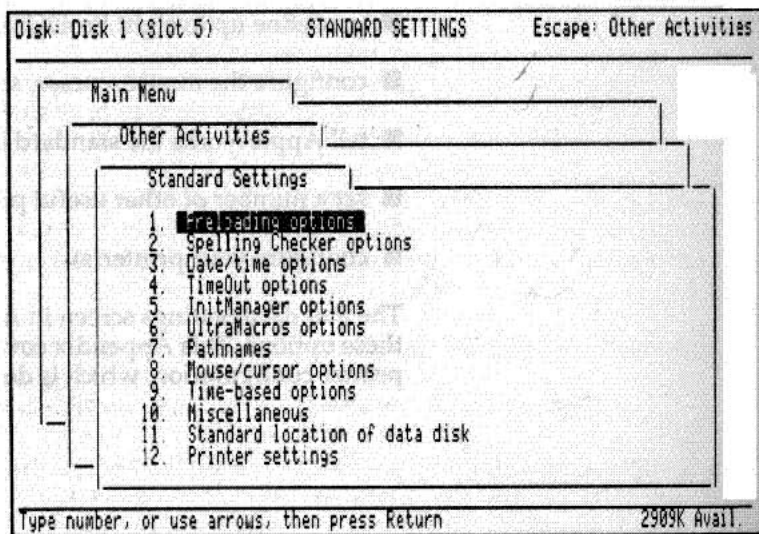
- 1 From AppleWorks' main menu, select "Other activities" and press Return.

AppleWorks displays the Other Activities screen.

- 2 From the Other Activities screen, select "Select standard settings for AppleWorks" and press Return.

AppleWorks displays the Standard Settings screen, Figure B-1.

Figure B-1
Standard Settings screen



- **Shortcut** Press ⌘-Q followed by ⌘-S to go to the Standard Settings menu from anywhere in AppleWorks.

All of the instructions in this Appendix assume that you are starting from the Standard Settings screen.

Preloading Settings

Preloading means that, at startup, AppleWorks gets one or more of its modules from the disk and puts them in the computer's memory. Without preloading, AppleWorks brings modules and features into memory as they are required. This means you may end up swapping disks as you move from module to module, especially if you are using 5.25" disks or have only a single 3.5" drive. With preloading, disk swapping is minimized.

Preloading is most useful with floppy disks. If you have installed AppleWorks on a hard drive or a RAM disk, you will never need to switch disks, and AppleWorks will be able to load each segment as it is needed without delay. AppleWorks always tries to keep program segments in memory once they are loaded, so you will not notice much advantage to preloading AppleWorks from these kinds of drives.

You can preload one, two, or all three modules of AppleWorks. AppleWorks always preloads the Desktop (the Main Menu and other features used by all modules). AppleWorks is preset to preload all modules if you use 3.5" disks and preload no modules if you use 5.25" disks. If you do not have at least 320K of RAM, AppleWorks will not preload any modules regardless of preloading settings.

Preloading does not reduce your Desktop space. As you use more and more Desktop memory for your files, AppleWorks automatically removes program segments from memory to make room for them. When a needed program segment cannot be found in memory, AppleWorks will get program modules from disk as needed, just as if preloading were not activated at all.

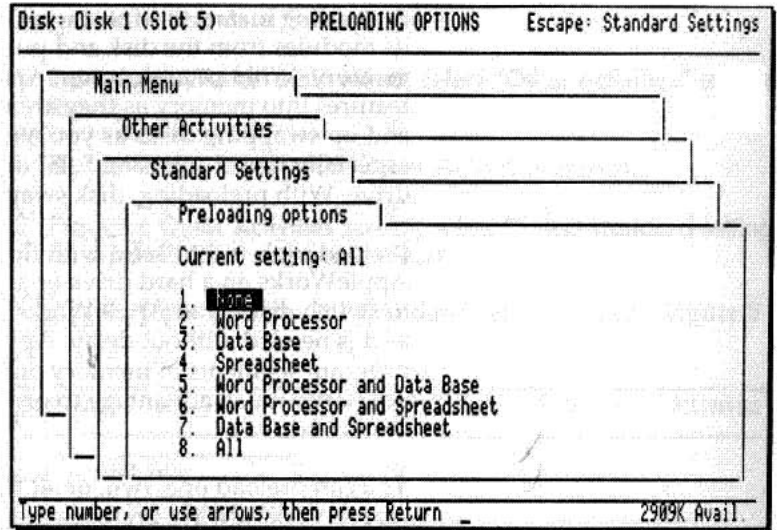
To change AppleWorks' preloading settings:

- 1 From the Other Activities screen, select "Change preloading," then press Return.

AppleWorks displays the Preloading screen, as shown in Figure B-2. The current preloading setting is displayed at the top of the menu.

Preloading Settings

Figure B-2
Preloading menu



2 Select the module(s) you want to preload, then press Return.

AppleWorks returns you to the Standard Settings menu. The next time you start AppleWorks (or the next time you start your computer using the AppleWorks disk), it will use the new preloading setting.

Spelling Checker Settings

You can change the following settings for the spelling checker:

- the Custom Dictionary you want to use
- the default spelling checker method, either "In context" or "From a list"
- how AppleWorks displays its spelling summary, and whether AppleWorks summarizes at all

These settings only set AppleWorks' defaults. You can always change them temporarily from within the Word Processor. (For more details, see Chapter 5.)

You can also change the following options:

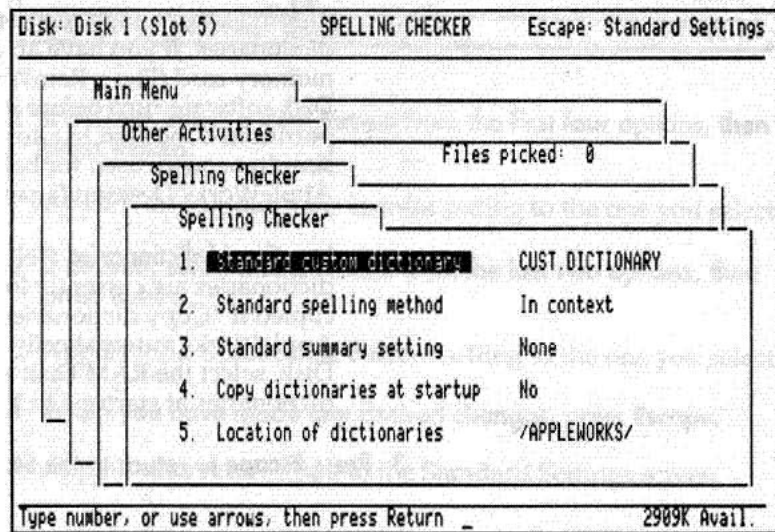
- whether AppleWorks automatically copies its dictionaries to a RAM disk at startup
- where AppleWorks looks for its dictionaries

To change the spelling checker settings:

- 1 From the Standard Settings menu, select "Select standard Spelling Checker settings," then press Return.

AppleWorks displays the Spelling Checker menu, Figure B-3.

Figure B-3
Spelling Checker menu



Spelling Checker Settings

2 Select the spelling option you want to change, then press Return.

- Standard Custom Dictionary** Sets the Custom Dictionary that AppleWorks will automatically use during spell checking. (You can select a different dictionary later when you check spelling.) AppleWorks displays a file list to let you choose your dictionary.
- Standard spelling method** Selects between "In Context" and "From a List" as the preset method of spell checking. You can change the method later when you check spelling.
- Standard summary setting** Selects how you want AppleWorks to present the spelling summary. You can have no summary, a summary printed to the Clipboard, the summary displayed on the screen, or a displayed summary only, with no spelling correction. You can change the summary setting later when you check spelling.
- Copy dictionaries at startup** Determines whether AppleWorks copies the dictionaries to a RAM disk at startup. AppleWorks copies the dictionaries from the program disk to the dictionary location you specify (below).

If you have an Apple IIGS, use the Control Panel to set up a RAM Disk large enough to hold the dictionary. If you have an Apple IIe or IIc with a standard-slot memory card (like Apple's), use the Lockout program included on the Install disk to leave enough memory on the RAM card for the dictionaries. If you have an Apple IIe or IIc with an aux-slot memory card (like a RamWorks), make sure that the RAM Disk software runs before AppleWorks and that you have partitioned the card to allow the memory to be simultaneously used for both a RAM Disk and the AppleWorks Desktop (again using the Lockout program).

- Location of dictionaries** Tells AppleWorks where the dictionaries are currently located, or where they should be copied if "Copy dictionaries at startup" is Yes. To have AppleWorks automatically copy the dictionaries to a RAM Disk, select the RAM Disk with this option and set "Copy dictionaries at startup" to Yes.

3 Press Escape to return to the Standard Settings menu.

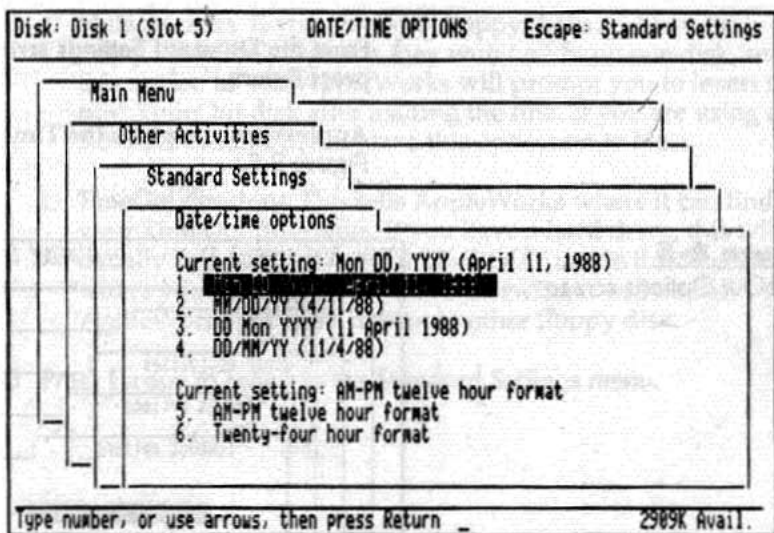
Date/Time Options

AppleWorks lets you choose from a variety of formats for dates and times. To change AppleWorks' default date or time format:

- 1 From the Standard Settings screen, select "Date/Time options," then press Return.

AppleWorks displays the Date/Time Options screen, shown in Figure B-4, showing the available formats, an example of each format, and the current date and time formats.

Figure B-4
Date/Time Options screen



- 2 If desired, select a date format from the first four options, then press Return.

AppleWorks updates the current setting to the one you selected.

- 3 If desired, select a time format from the last two options, then press Return.

AppleWorks updates the current setting to the one you selected.

- 4 When you have made any desired changes, press Escape.

AppleWorks returns you to the Standard Settings screen.

TimeOut Options

TimeOut is a built-in feature of AppleWorks 4.0 which allows you to add new modules to AppleWorks. These modules work inside of AppleWorks, and use standard AppleWorks commands. Dozens of TimeOut programs are available, ranging from a Thesaurus to a Graph utility for the spreadsheet. Most are published by Beagle Bros and distributed by Quality Computers.

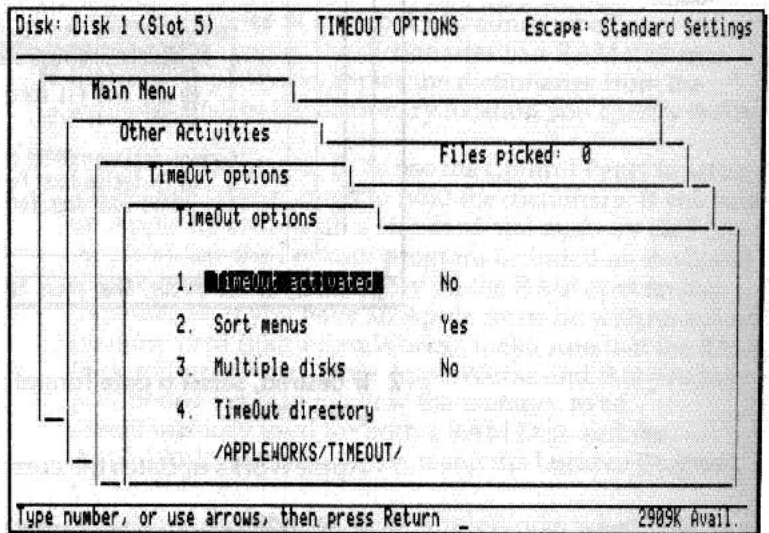
For more information on using TimeOut applications, see Appendix D, "TimeOut, Inits, and Macros."

To set the TimeOut options:

- 1 From the Standard Settings screen, select "TimeOut options," then press Return.

AppleWorks displays the TimeOut Options screen, shown in Figure B-5.

Figure B-5
TimeOut Options screen



2 Select the TimeOut option you want to change, and press Return.

- TimeOut activated** TimeOut is de-activated when you receive AppleWorks 4. Set this option to Yes if you want to use TimeOut applications or pre-compiled macro sets.
- Sort menus** If this option is set to Yes, AppleWorks will alphabetize your TimeOut menus. If this option is set to No, the TimeOut menus will appear on your menus in the same order they are stored on your disk.
- Multiple disks** If you are using floppy disks and have so many TimeOut programs they won't all fit on one disk, set this option to Yes. AppleWorks will prompt you to insert the next TimeOut disk after loading the first. If you are using a 3.5" disk or hard drive, leave this option set to No.
- TimeOut directory** This tells AppleWorks where it can find your TimeOut programs. If you have a hard drive, this will usually be a directory called TIMEOUT inside the directory where you keep AppleWorks. Otherwise, it will be the AppleWorks program disk or another floppy disk.

3 Press Escape to return to the Standard Settings menu.

InitManager Options

InitManager is a built-in feature of AppleWorks which allows you to add patches or other new features to AppleWorks. These additions are stored in small files called Inits, which can be added and removed from your program disk whenever you want. Most of the current Inits are additional "dot commands" for UltraMacros, but more are on the way from third-party developers.

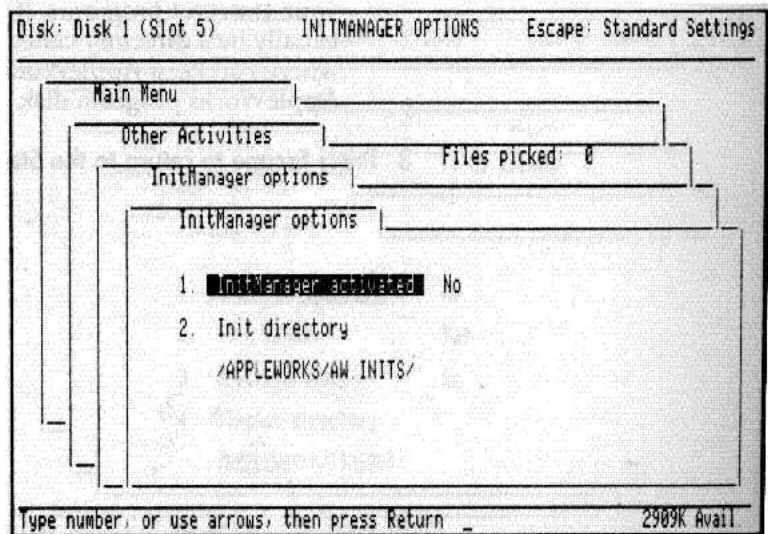
For more information on using Inits, see Appendix D, "TimeOut, Inits, and Macros."

To set the InitManager options:

- 1 From the Standard Settings screen, select "InitManager options," then press Return.

AppleWorks displays the InitManager Options screen, shown in Figure B-6.

Figure B-6
InitManager Options screen



2 Select the InitManager option you want to change, and press Return.

- InitManager activated** To allow AppleWorks to run on computers which only have 128K, InitManager is deactivated when you receive AppleWorks 4. Set this option to Yes if you are using Inits or macros.
- Init directory** This tells AppleWorks where it can find your Inits. If you have a hard drive, this will usually be a directory called AW.INITS inside the directory where you keep AppleWorks. Otherwise, it will be a directory on the AppleWorks program disk or another floppy disk.

3 Press Escape to return to the Standard Settings menu.

UltraMacros Options

UltraMacros is an AppleWorks feature which allows you to “play back” pre-recorded sequences of keystrokes and commands by pressing one key combination. This is the basis of AppleWorks’ one-touch command capabilities.

By itself, AppleWorks can only play back macros. To record or compile your own macro sets, you must purchase UltraMacros, which is published by Beagle Bros.

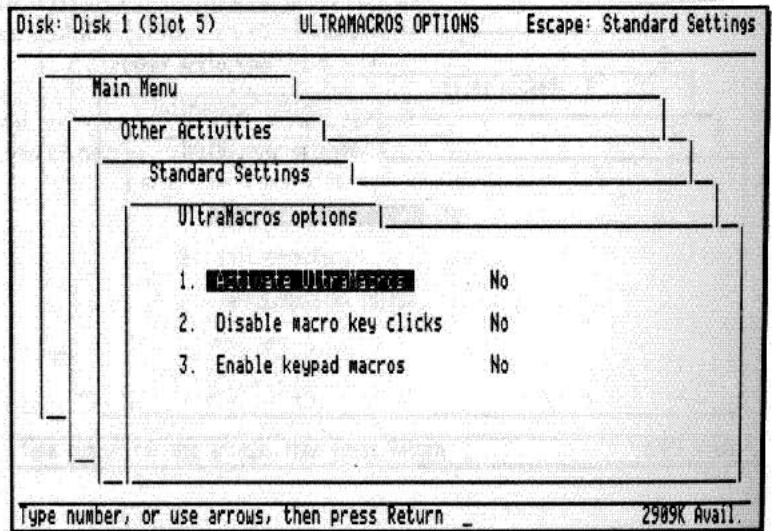
For more information on using macros, see Appendix D, “TimeOut, Inits, and Macros.”

To set the UltraMacros options:

- 1 From the Standard Settings screen, select “UltraMacros options,” then press Return.

AppleWorks displays the UltraMacros Options screen, shown in Figure B-7.

Figure B-7
UltraMacros Options screen



2 Select the UltraMacros option you want to change, then press Return.

- Activate UltraMacros** To allow AppleWorks to run on computers which only have 128K, UltraMacros is deactivated when you receive AppleWorks 4. Set this option to Yes if you want to use macros and have at least 256K RAM and an *enhanced* Apple IIe or better.
- Disable macro key clicks** When a macro is running, AppleWorks automatically makes a clicking noise for each key that you press to remind you that a macro has control of your computer. Set this option to Yes to turn these clicks off.
- Enable keypad macros** If you have an Apple IIGS and want to use the numeric keypad to trigger BA (both-Apple) macros, set this option to Yes.

3 Press Escape to return to the Standard Settings menu.

- ◆ **Pre-compiled macros** Pre-compiled macro sets are distributed as TimeOut applications. Make sure you activate TimeOut in the TimeOut options as well.
- ◆ **Dot commands** Many macros use a feature called Dot Commands. Make sure Inits are turned on to avoid getting a "Dot Command Error."

Pathnames

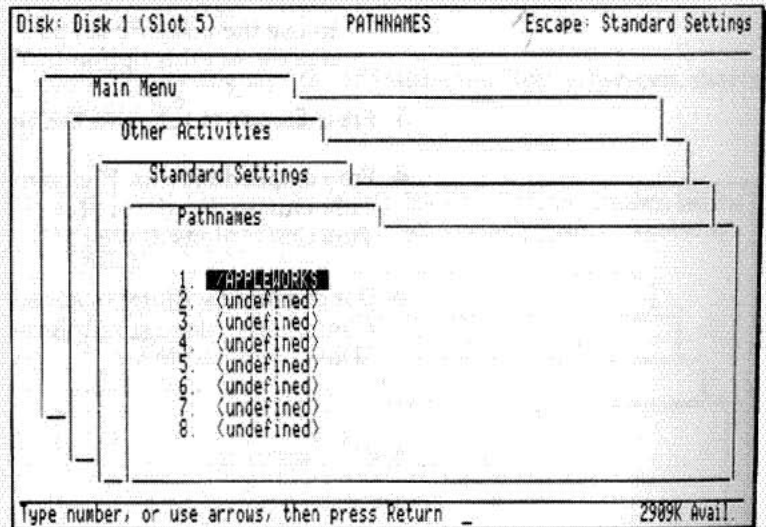
AppleWorks lets you define eight pathnames so that you can use them *instantly* when adding files to the Desktop or working with files or disks. This QuickPath feature can save you plenty of time, especially if you have a hard drive. (Press ⌘-P anytime AppleWorks asks you to choose a disk for the pathname list, or press ⌘-1...⌘-8 to switch directly to a specific pathname.)

To define your pathnames:

- 1 From the Standard Settings menu, select "Pathnames," then press Return.

AppleWorks displays the Pathnames screen, Figure B-8.

Figure B-8
Pathnames screen



- 2 Select the pathname you want to change or define, then press Return.

AppleWorks asks you to edit or type the pathname.

- 3 Enter the pathname, or edit it as desired, then press Return.

AppleWorks returns you to the Pathnames screen.

- 4 Choose another pathname to change or define, or press Escape to return to the Standard Settings screen.

Mouse & Cursor Options

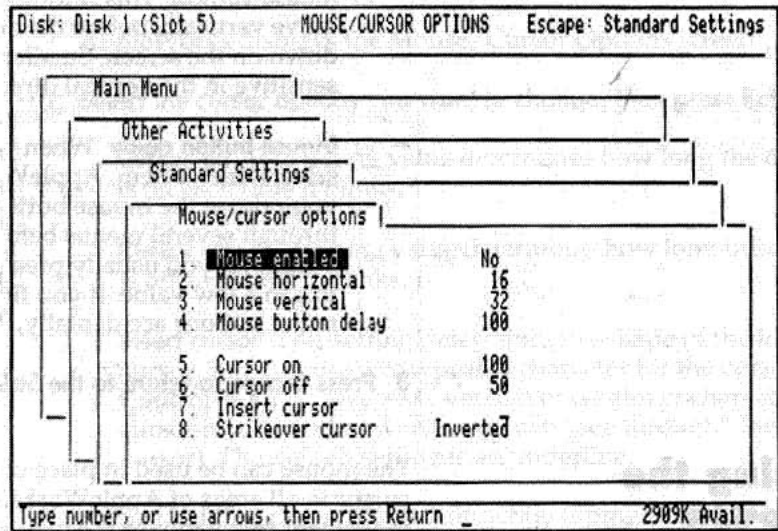
AppleWorks lets you use a mouse for maneuvering through the program and moving the cursor. AppleWorks also lets you change the cursor characters if the default underline (insertion) and box (replacement) cursors are not to your liking.

Configuring the Mouse

1. From the Standard Settings screen, select "Mouse/cursor options," then press Return.

AppleWorks displays the Mouse/Cursor Options screen, as shown in Figure B-9.

Figure B-9
Mouse/Cursor
Options screen



Mouse & Cursor Options

2 Select the option you want to change, and press Return.

- Mouse enabled** Set this option to Yes if you have a mouse. Set it to No if you do not have a mouse, or if you do not want to use the mouse inside AppleWorks.
- Mouse horizontal** This setting controls how far the mouse must move horizontally before the cursor is moved one space left or right on the screen. Smaller values make the mouse more sensitive in the horizontal direction.
- Mouse vertical** This setting controls how far the mouse must move vertically before the cursor is moved one space up or down on the screen. Smaller values make the mouse more sensitive in the vertical direction.
- Mouse button delay** When you press the mouse button to select a menu item, AppleWorks pauses for a moment to let you release the mouse button. (Otherwise, it might trigger through several menus before you release the mouse button.) If you usually press the mouse button quickly, set this to a low value. If you find yourself triggering multiple menu options accidentally, increase this value.

3 Press Escape to return to the Standard Settings screen.

Using the Mouse

The mouse can be used in place of the **↑ ↓ ← →** keys to move the cursor in all areas of AppleWorks, including menus. The movement of the mouse is actually translated into keypresses, which means that you can, for example, hold down the **⌘** key while moving the mouse to move the cursor by whole screens.

Pressing the mouse button generates a Return if you're in a menu (thereby activating that menu item). If you're working with a file in one of AppleWorks' modules, pressing the mouse button repeats the last vertical mouse movement you made, giving you a simple way to zip speedily through a file.

One of the most convenient uses of the mouse is in the data base, for defining single record layouts and label reports. Moving the mouse in conjunction with the **⌘** key allows you to easily drag categories to their proper locations.

Cursor Options

AppleWorks lets you change the cursor blink rate and the shape of the cursor.

If you activate the mouse, you will notice that the cursor seems to stop blinking. In actuality, it is merely blinking very slowly. You will want to adjust the "Cursor on" and "Cursor off" settings described below to return to a normal blink rate.

To change the cursor:

- 1 **From the Standard Settings screen, select "Mouse/cursor options," then press Return.**

AppleWorks displays the Mouse/Cursor Options screen.

- 2 **Select the cursor options you want to change, then press Return.**

- Cursor on** This timing value determines how long the cursor is on each time it blinks.
- Cursor off** This timing value determines how long the cursor is off each time it blinks.
- Insert cursor** This setting determines the shape of the insert cursor. You can use any typeable character for the cursor, or Control-@ for a "reversed" version of whatever character the cursor is on (in other words, you can "see through" the cursor). The default setting is an underline.

Try holding down ⌘ and Shift while typing a letter (or the @, [,], _ and \ keys) to access MouseText characters. For example, ⌘-Shift-A would select the ⌘ character.

- Strikeover cursor** This setting determines the shape of the strikeover (replacement) cursor. You can use any typeable character for the cursor, or Control-@ for a "reversed" version of whatever character the cursor is on (in other words, you can "see through" the cursor). The default setting is reversed (Control-@).

Try holding down ⌘ and Shift (or the @, [,], _ and \ keys) while typing a letter to access MouseText characters. For example, ⌘-Shift-@ would select the ⌘ character.

Time-Based Options

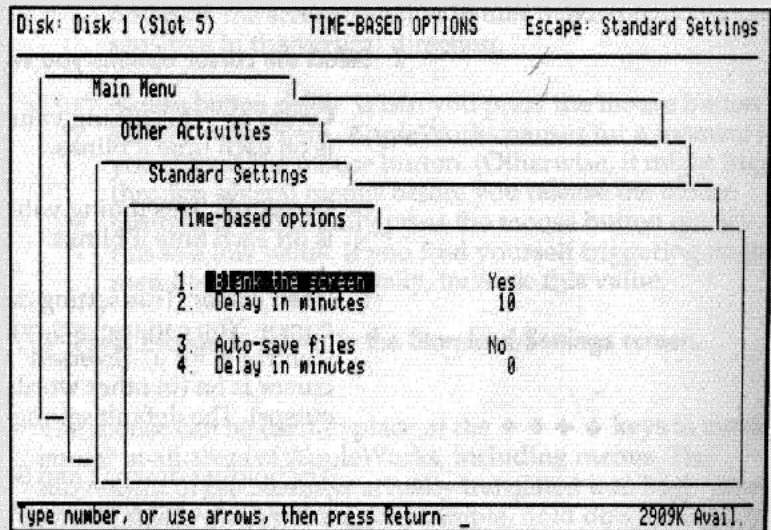
If you have a clock, AppleWorks can automatically blank your screen after a certain number of minutes (to prevent screen burn-in) and automatically save your files every so many minutes.

To change these time-based options:

- 1 From the Standard Settings screen, select "Time-based options" and press Return.

AppleWorks displays the Time-Based Options screen, shown in Figure B-10.

Figure B-10
Time-Based Options screen



2 Select the option you want to change, then press Return.

- Blank the screen** If this option is set to No, AppleWorks never blanks the screen. If this option is set to Yes, AppleWorks blanks the screen after a period of inactivity specified below.
- Delay in minutes** This option tells AppleWorks how many minutes of inactivity (time without keypresses or mouse movement) must pass before the screen is blanked.
- Auto-save files** If this option is set to No, AppleWorks only saves your files when you specifically tell it to. If this option is set to Yes, AppleWorks saves files at the interval specified below.

If you use Auto-Save, you may also want to activate the option to make backups of files (under Miscellaneous options). This way, if Auto-Save saves a file you have changed but did not intend to save, you will have a chance to recover the original version.

- Delay in minutes** This option tells AppleWorks how many minutes should elapse between auto-saves. AppleWorks auto-saves at the specified interval, even if you manually press ⌘-S in the meantime.

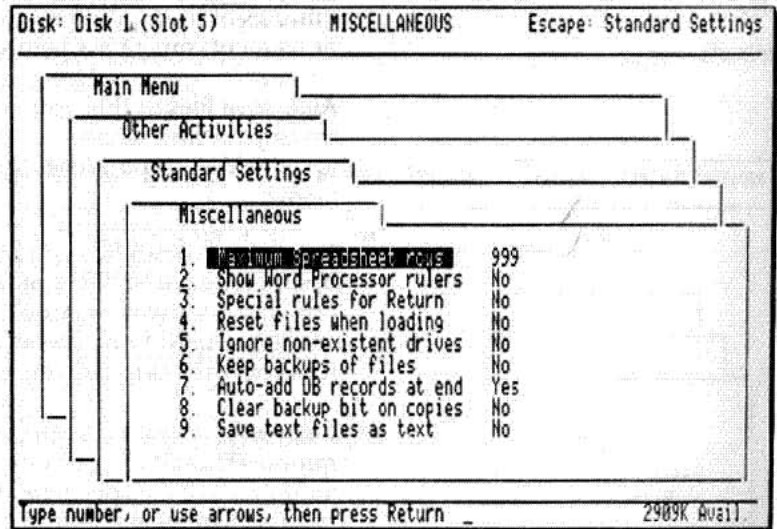
- **Accuracy** The time-based options are accurate to within one minute. Any time AppleWorks sees the minute change, it counts that as a minute. For example, if you tell AppleWorks to blank the screen after a minute, then press a key at 1:30:58 PM, the minute will change two seconds later. AppleWorks will see that the time is now 1:31, one minute later than the last keypress, and blank the screen. Thus, a time interval of 10 minutes really means "anywhere between 9 and 10 minutes."

Miscellaneous Settings

A number of other useful settings are lumped together under the heading of Miscellaneous settings.

To change the Miscellaneous settings, select Miscellaneous from the Standard settings menu and press Return. AppleWorks displays the Miscellaneous screen, shown in Figure B-11.

Figure B-11
Miscellaneous settings screen



The following settings are found on the Miscellaneous screen:

- **Maximum Spreadsheet rows** (999/9999) Normally AppleWorks lets you have 999 rows in a spreadsheet. However, if you have more than 128K RAM, you can expand it to 9,999 rows. Doing so can significantly slow down switching in and out of large spreadsheets. You must restart AppleWorks for this change to take effect.
- **Show Word Processor rulers** (Yes/No) Previous versions of AppleWorks displayed the non-descript words "Tab Ruler" in the Word Processor whenever a new ruler was defined. Set this option to Yes to see the actual settings of the rulers as you scroll through your document.

- **Special rules for Return** (Yes/No) Previous versions of AppleWorks always inserted a Return character when you pressed the Return key, even if you were using the blinking rectangle (replacement) cursor. Set this option to Yes to have AppleWorks simply move to the beginning of the next line when you press Return with the replacement cursor, without inserting the Return.
- **Reset files after loading** (Yes/No) Set this to Yes if you want to always be at the top of your files when they are loaded. Set it to No if you want AppleWorks to remember your position in the document (as of the last save).
- **Ignore non-existent drives** (Yes/No) If this option is set to Yes, AppleWorks scans your drives when it starts up and removes any non-existent or unusable drives from its drive list. This can make the Change Disk menu more accurate, and sometimes eliminate delays when entering the menu or pressing ⌘-?.
- **Keep backups of files** (Yes/No) Set this option to Yes to have AppleWorks keep the previous version of the file when you save a new version. The old version is renamed to have the letter "z" at the beginning (for example, a file called Letter would be renamed zLetter).
- **Auto-add DB records at end** (Yes/No) Normally, AppleWorks automatically adds new records when you try to move past the end of the file. If this option is set to No, AppleWorks will not let you add records at the end of a file (you must use ⌘-I to insert records instead). This can prevent you from accidentally adding dozens of blank records with casual ⌘-↓ keystrokes.
- **Clear backup bit on copies** (Yes/No) The "backup bit" is a part of each file's directory entry which tells whether the file needs to be backed up or not. Normally, you would want the bit to be clear, since you don't need to backup your backups. If you use a hard drive backup program, however, and want to back up files you have copied, set this to No. AppleWorks displays the backup bit in the file list (a plus sign indicates that a file has been changed since the last backup).
- **Save text files as text** (Yes/No) If this option is set to Yes, AppleWorks remembers which word processor files were loaded as ASCII text files and saves the files back to that format when you save. Saving files as text removes all formatting.

Standard Data Disk Location

To set the standard location of the data disk:

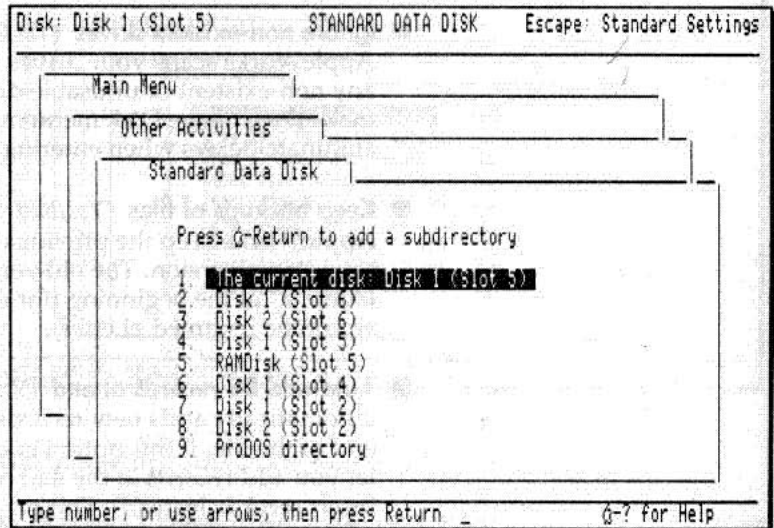
- 1 From the Standard Settings screen, select "Select standard location of data disk," then press Return.

AppleWorks asks if you want to change the directory.

- 2 Answer Yes and press Return.

AppleWorks displays the disk drives and directories you can use, as shown in figure B-12.

Figure B-12
Location of data disk



- 3 Use the drive list options below to select standard disk or directory for your data files.

- Select "The current disk" to accept AppleWorks' default or current setting, or to accept the new prefix after changing it as described below.
- Select a disk by highlighting it with the ↑ and ↓ keys, then press Return. AppleWorks exits the drive list and uses the main directory of the specified disk. (Press ⌘-? to see the names of the disks in the drives.)

- Select a disk as above, but press ⌘-Return instead of Return. AppleWorks displays a list of the subdirectories on the disk. Select one using the ⬆ and ⬇ keys, then press Return. The current disk is set to the chosen directory and AppleWorks returns to the drive list.
- Highlight "The current disk" and press ⌘-Return. AppleWorks displays a list of the subdirectories on the current disk or in the current directory. Select one using the ⬆ and ⬇ keys, then press Return. The directory is appended to the current pathname and AppleWorks returns to the drive list. Repeat this procedure to add more subdirectories.
- Press ⌘-A to add a subdirectory, as described above. AppleWorks returns to the drive list.
- Press ⌘-D to drop the last subdirectory from the current pathname and stay in the drive list.
- Press ⌘-P to display the list of pathnames you have defined under "Standard Settings" (see Appendix B). From this list, select the desired pathname and press Return to choose one of the pathnames and use it immediately, or ⌘-Return to select the pathname and return to the drive list for further editing. Press ⌘-1 through ⌘-8 from the drive list to change directly to one of the stored pathnames and skip the list.
- Highlight "ProDOS directory" and press Return to specify a ProDOS directory by typing a pathname. This is useful when you know exactly where you want to go and just want to get there as quickly as possible.
- ◆ **AppleWorks Veterans** To select a pathname "point-and-shoot" style as in AppleWorks 3.0, press ⌘-Return while "ProDOS directory" is highlighted. AppleWorks displays the subdirectories of the current disk or directory, if any. Use ⌘-> (or Return) to enter a highlighted subdirectory, or ⌘-< to "back out" of a subdirectory. (Do not use the Shift key with ⌘-> or ⌘-<.) Press Tab to switch to another disk. Press ⌘-P (for Path) when you are inside the desired disk or directory. AppleWorks accepts the current disk and proceeds to the next screen.

When the standard data disk location is set as you like, choose "The current disk" and press Return. AppleWorks returns you to the Standard Settings menu.

Blank Page

Appendix C

Printer Configuration

These instructions describe in detail how to install the printer and how to configure it. You can use a setup program to configure the printer.

Apply the parallel printer cable to the printer and the parallel port on the computer.

Apply the power cord to the printer and the power outlet. The power cord is attached to the printer and the power outlet. The power cord is attached to the printer and the power outlet.

Use the printer driver software to install the printer. The printer driver software is located on the CD-ROM that came with the printer.

Use the printer driver software to install the printer. The printer driver software is located on the CD-ROM that came with the printer. The printer driver software is located on the CD-ROM that came with the printer. The printer driver software is located on the CD-ROM that came with the printer.

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Printer Configuration

AppleWorks comes set up to print with an ImageWriter I or ImageWriter II printer in slot 1. (With the Apple IIc, printers are assigned to port 1.) You can assign your printer to any slot or port.

AppleWorks can work with many other printers, serial and parallel. Make sure you have the proper peripheral card—or are using the correct port—to attach your printer to your Apple II. Follow the printer manufacturer's directions when attaching the cable and setting up the printer.

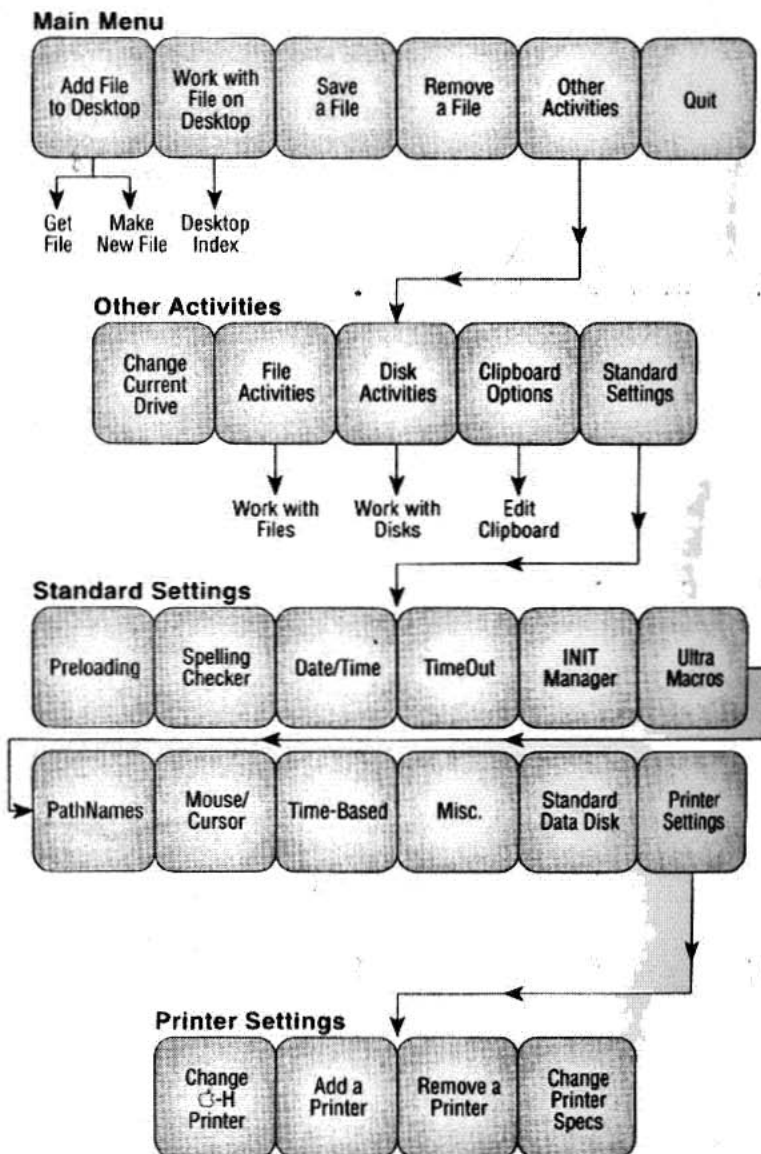
You can install up to five printers, custom or otherwise. These can be five different printers connected to five different Apple II slots, five different setups for the same printer, or a mix of the two. For example, you might have only one physical printer, attached to slot 1. But you might define three different setups for that printer: one to produce compressed print for your spreadsheets, one to print color (if you have a color printer), and one for normal printing.

Installing a Printer

Figure C-1 is a map of the Main Menu and all its subsequent menu options. The next section, "Displaying the Printer Information Menu" explains how to move from the Main Menu to the Printer Information menu; remaining sections assume you're starting from the Printer Information menu.

Figure C-1

Map of the Main Menu and subsequent menu options

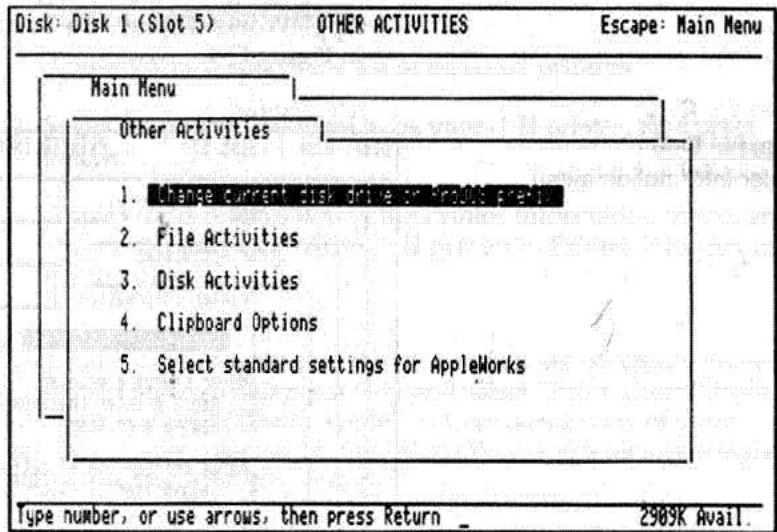


Displaying the Printer Information Menu

Figure C-2

Other Activities menu

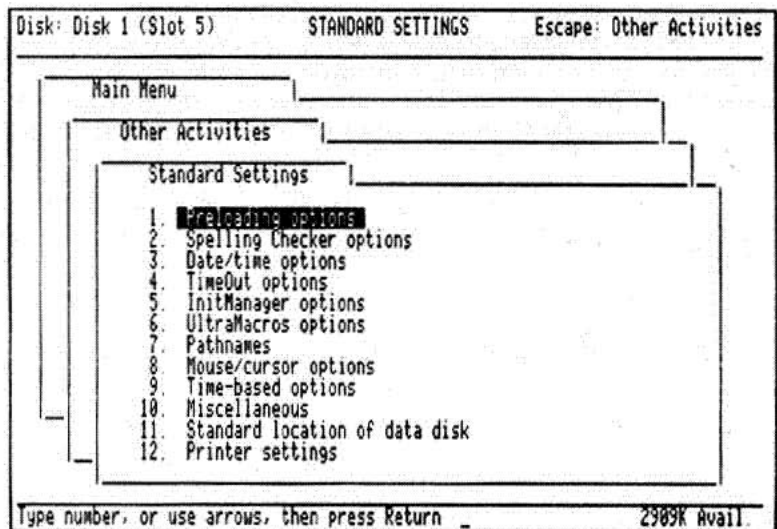
- 1 From the Main Menu, select "Other Activities" and press Return. AppleWorks displays the Other Activities menu (Figure C-2).



- 2 Select "Select standard settings for AppleWorks" & press Return. AppleWorks displays the Standard Settings menu (Figure C-3).

Figure C-3

Standard Settings menu

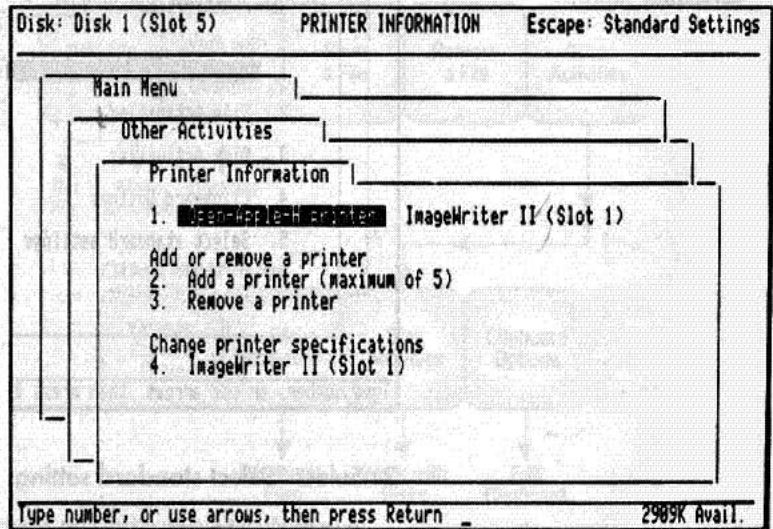


Installing a Printer

- 3 Select "Specify information about your printer(s)," then press Return.



AppleWorks displays the Printer Information menu, as shown in Figure C-4.

Figure C-4
Printer Information menu




Configuring the -H Printer


Switching to a Different -H Printer

The -H printer controls which of your printers (or printer setups) AppleWorks uses to print the screen image when you press -H.


- 1 From the Printer Information menu, select "Open-Apple-H printer," then press Return.


AppleWorks displays the list of installed printers.

- 2 Select the printer you want to be your -H printer, then press Return.

AppleWorks returns you to the Printer Information menu, and shows you the name of the -H printer in Printer Information menu option 1.

Using -H

To print a copy of what's on the screen, first set up your printer as described above. Then press -H and select "Print screen" from the menu which appears. AppleWorks makes a copy of your screen onto the selected printer. AppleWorks veterans expressively call this action a "screen dump."

You can also copy the screen image to the Word Processor clipboard for inclusion in a document. Selecting "Copy to clipboard" from the -H menu copies a printable representation of the screen to the clipboard, removing MouseText and other special characters.

Selecting "Image to clipboard" copies the entire contents of the screen, *including* MouseText and special characters, to the clipboard. You may have difficulty printing this version; however, it looks nicer on the screen than "Copy to clipboard." (Set the left and right margins to zero for the best screen display.)

Removing a Printer

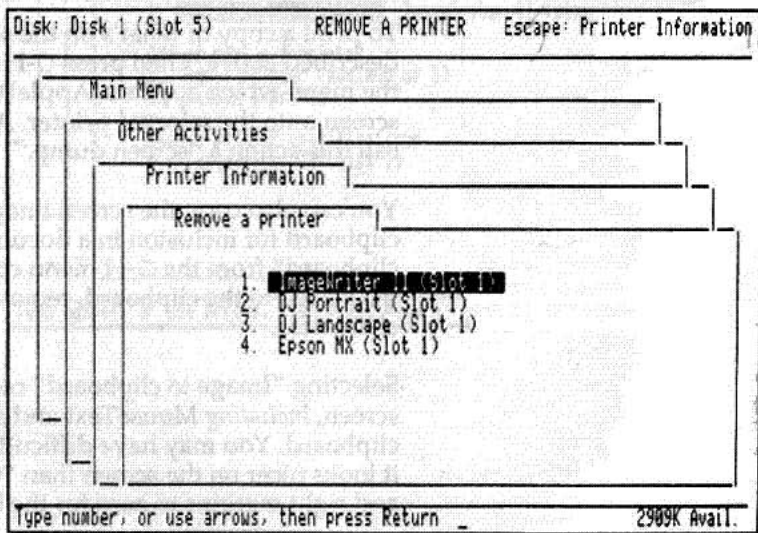
AppleWorks comes set up to print with an Apple ImageWriter printer. If you don't have one, you may wish to remove (de-install) this printer to make room for other printers, or for other printer setups for your printer.

If you remove a printer, you must reinstall it to be able to use it again.

- 1 From the Printer Information menu, select "Remove a printer," then press Return.

AppleWorks displays a list of printers you have already installed, as shown in Figure C-5.

Figure C-5
Removing a printer



- 2 Select the printer you want to remove, then press Return.

AppleWorks removes the printer and returns you to the Printer Information menu.

- ◆ **5.25" disk users** AppleWorks asks you to insert the AW DB disk in drive 1 at this time. This is the AppleWorks Data Base & Printers disk.

Adding a Printer

This section takes you through adding a printer—including adding a custom printer—to AppleWorks. While it is not difficult, there are many different setting combinations. Make sure you follow the step-by-step instructions carefully.

If you don't have an Apple ImageWriter I or II or if you have more than one printer, you'll want to add the printer you do have. If your printer is not on AppleWorks' list, check the printer manual to find out whether it can emulate a printer that is on the list.

If you have an Apple LaserWriter, ask your Apple dealer for the software from Apple Computer that can make a LaserWriter work like an ImageWriter when using AppleWorks.

If you have a Hewlett-Packard DeskJet 500 or similar printer, you will want to install both the portrait (vertical) and landscape (horizontal) versions of the driver so that you can print in both orientations.

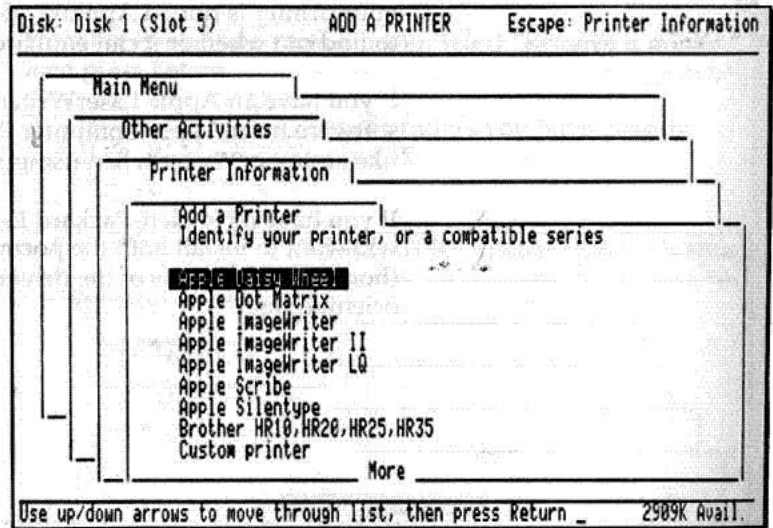
Adding a Printer

Adding a Printer

- 1 From the Printer Information menu, select "Add a printer," then press Return.

AppleWorks displays a list of printers it supports as shown in Figure C-6. You can add a maximum of five printers, including any custom printers.

Figure C-6
AppleWorks' printer list



- 2 Select the printer you want to add to AppleWorks, then press Return.

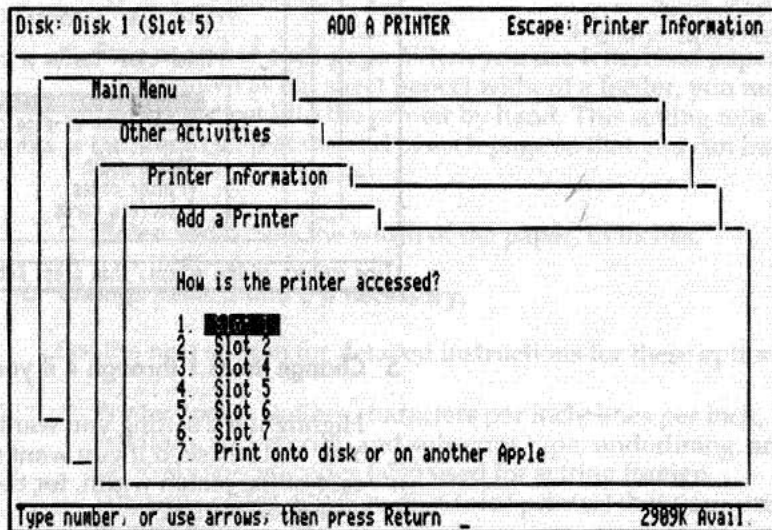
AppleWorks asks you to name the printer. The name you give a printer determines the way it will appear on the menu when you print a document and does not have to be the same name that appears on the "Add a Printer" list. For example, if you have two printers, one kept loaded with letterhead and the other with labels, you might want to add two printers called "Letterhead" and "Labels."

Even if you have only one *physical* printer, you may want to define more than one printer in AppleWorks, entering different printer codes for each to activate special features (draft vs. letter quality, for example).

3 Type the name of the printer, then press Return.

AppleWorks asks how you access the printer—what slot or port it is in, or whether you want AppleWorks to print to the disk or onto another Apple computer (via a serial cable or network card) when you choose this printer. See Figure C-7.

Figure C-7
Accessing the printer



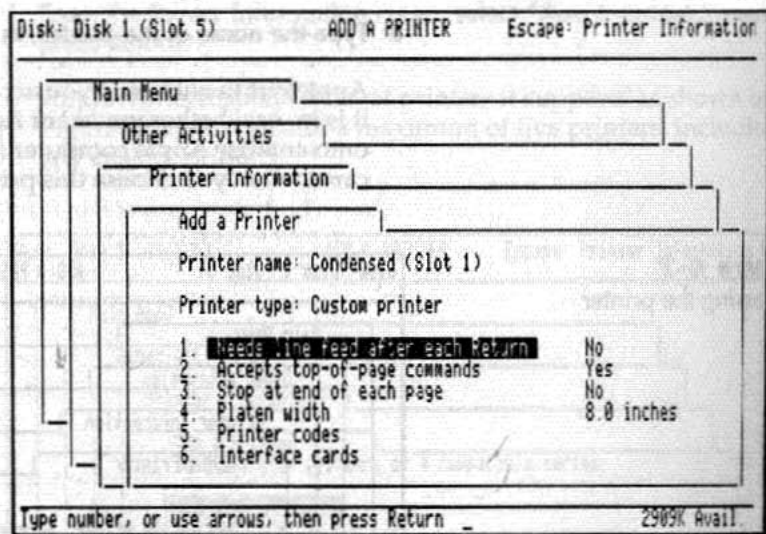
◆ **Apple IIc users** This screen will show available ports, not slots.

4 Select the slot or port that the printer is connected to (or select "Print onto disk or on another Apple"), then press Return.

AppleWorks asks you to make or confirm several printer settings. Usually, these settings are already correct and you can skip to step 6. However, if you are defining a custom printer or wish, you can change any of the settings shown in Figure C-8.

Adding a Printer

Figure C-8
Changing the
printer description



5 Change items 1 through 4 if you wish.

Highlight the setting you want to change, then press Return. You will be asked if you want to change the setting, or, in the case of the platen width, for the new value. Enter your answer and press Return.

- Needs line feed after each Return** Some printers must be told specifically to move down to the next line when they return to the left side of the paper. For other printers, the command to return to the left side also tells them to move down one line. If all your printing is on one line, set this option to Yes. If your printing is double-spaced when you've told AppleWorks to single-space, set this option to No.

- Accepts top-of-page commands** A top-of-page command tells a printer to eject enough paper to bring the print head to the top of the next page, ready to begin printing. You must switch this option to No for printing mailing labels. (In fact, we suggest leaving it set to No at all times, unless you encounter problems with page spacing. In that case, you might add your printer twice, once with this option On and again with it Off.)
- Stop at end of each page** When you use letterhead paper (also known as cut sheet paper) without a feeder, you must put each sheet into the printer by hand. This setting tells the printer to stop at the end of each page so that you can insert the next.
- Platen width** Sets the width of the paper, in inches.

6 Change items 5 and 6 if necessary.

See the next section for detailed instructions for these options.

- Printer codes** Defines characters per inch, lines per inch, boldface, superscript, and subscript type, underlining, and up to six special codes (also used for setting foreign language codes or colors on a color printer) that your printer may require.
- Interface cards** Sends a control code to a peripheral card.

7 When you have finished making your printer description changes, if any, press Escape.

AppleWorks saves your configuration and returns you to the Printer Information menu.

- ◆ **5.25" disk users** AppleWorks asks you to insert the AW DB disk in drive 1 at this time. This is the AppleWorks Data Base & Printers disk.

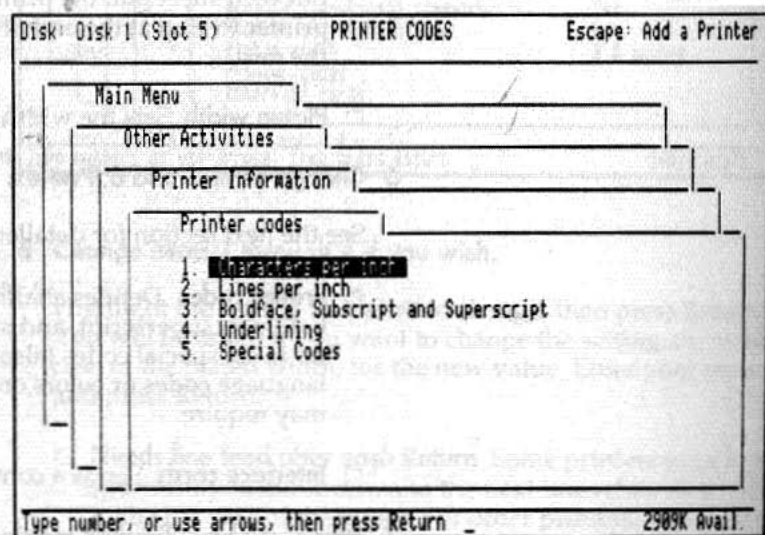
Adding a Printer

Setting or Changing Printer Codes

To set or change the printer codes, select "Printer codes" from the Add a Printer screen that shows the printer name and type. AppleWorks displays the screen in Figure C-9.

Changing printer codes is not something you normally need to do if your printer is supported by AppleWorks. If your printer is not on the list, check the data base file called Printer Codes on the 3.5" AppleWorks Startup disk, or on the 5.25" AppleWorks Sample disk (side 2), for codes you may use. Your printer's manual may also contain the necessary information.

Figure C-9
Printer codes



What the printer codes mean:

- **Characters per inch (cpi)** Sets the pitch of the printer (how many characters it can print in a horizontal inch). AppleWorks can accept settings from 4 to 24 characters per inch; standard settings for most printers are 10 or 12 cpi. Note: Characters per inch pertains to monospaced typefaces (each character takes up the same amount of space on the line). If you are using a printer with proportionally spaced fonts, the characters per inch setting has no effect.

- **Lines per inch (lpi)** Sets how many lines AppleWorks prints in a vertical inch. You can set AppleWorks for either 6 or 8 lpi; the standard setting is 6 lpi.
- **Boldface, subscript, and superscript** Sets the printer codes that start and stop boldface printing, subscript (text dropped half a line and often printed in smaller characters), and superscript (text raised half a line and often printed in smaller characters).
- **Underlining** Sets the method and, if appropriate to your printer, the printer codes that start and stop underlined text.
- **Special codes** Six printer codes that you can set to control any six functions of your printer, such as foreign language typefaces or colors.

You change each of the five sets of printer codes approximately the same way. AppleWorks asks you to type in the exact printer code for most (but not all) of the menu options.

Consult your printer manual and the ASCII table at the end of this Appendix for a list of printer codes you can use.

1. Press **Escape** to return to the **Printer Codes** menu.
2. Press **Escape** to return to the **Change a Printer** menu.
3. Press **Escape** to return to the **Printer Information** menu.
4. Press **down arrow** repeatedly until you reach the **AVY** (ASCII) code to change at this time. This is the AppleWorks **Change a Printer** menu.

Adding a Printer

To change printer codes:

- 1 **Select the printer code that you want to change from the Printer Codes menu, then press Return.**

AppleWorks asks you to type in a number (characters per inch, lines per inch), select one of the codes to set (boldface, special codes), or select a method of handling the feature (underline). Some codes (underline, boldface, special codes) require a second level of selection.

Those menu options that do not require you to enter a printer control code return you to the Printer Codes menu. For example, the menu option combination that runs "Underline" to "Print character, backspace, underline" returns you to the Printer Codes menu without asking you to type printer codes.

- If the printer code you're setting already has a code in place, AppleWorks asks if the code is OK. If it is, select Yes, then press Return; if you want to set it to something different or if you want to remove the code (set it to "None"), select No, then press Return. AppleWorks changes the code to None.

2 Enter the printer control code.

To enter a code, just type the keystrokes. For example, if your printer manual calls for a Escape-E, press Escape and then Shift-E (uppercase and lowercase are often important to special printer codes). If your printer manual calls for Control-N, hold down the Control key and type "N." Do not type a space unless the control codes you're entering call for a space in your codes.

- ◆ **Oops!** AppleWorks enters every character you type—including backspace and return. If you make a mistake, press ⌘-Return and then select "Printer codes" again for a chance to retype.

3 When you have finished entering a printer control code, press ⌘-Return.

AppleWorks returns you to the Printer Code menu item of the code you just entered.

- ◆ **AppleWorks Veterans** Versions of AppleWorks prior to 3.0 used Shift-6(^) to end entry of a printer code. This has been replaced by ⌘-Return since some printer codes require the "^" character.

4 Press Escape to return to the Printer Code menu.

5 Press Escape to return to the Change a Printer menu.

6 Press Escape to return to the Printer Information menu.

- ◆ **5.25" disk users** AppleWorks asks you to insert the AW STARTUP disk in drive 1 at this time. This is the AppleWorks Startup & Printers disk.

Adding a Printer

Setting or Changing Interface Card Control Codes

Consult your interface card manual to find out if your printer interface card requires control codes. If you're not sure whether it does or not, first try printing a small file with no interface card control codes. If all goes well, you probably don't need any code at all. If the AppleWorks screen is "drawn over" as you print, you may need to change this setting.

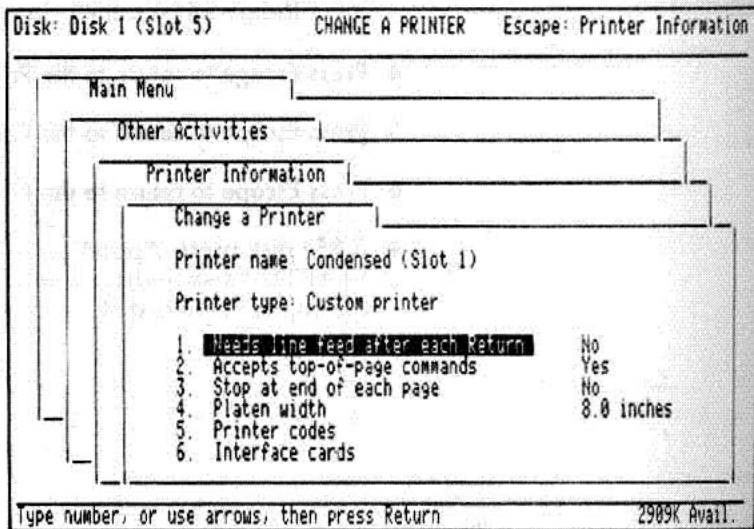
As a convenience, control codes for several interface cards have been collected into an AppleWorks Data Base file named Interface Codes on the Sample Files disk. If your card is not listed or the listed code doesn't seem to work, try *Control-I 255 N*, *Control-I 0 N* (that's a zero) and *Control-I N*.

To change the interface card control codes:

- 1 From the Printer Information menu, select "Change printer specifications" for the printer you want to change, Press Return.

AppleWorks displays the Change a Printer menu, Figure C-10.

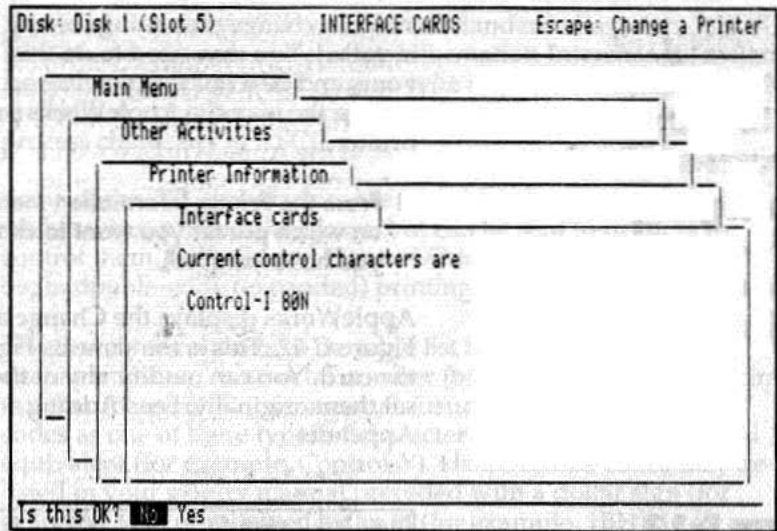
Figure C-10
Change a Printer menu



- 2 Select "Interface cards," then press Return.

AppleWorks displays the control characters for the printer's interface card, as shown in Figure C-11.

Figure C-11
Changing the interface
card control characters



- If the interface card code you're setting already has a code in place, AppleWorks asks if the code is OK. If it is, select Yes, then press Return. If you want to set it to something different, or if you want to remove the code, select No, then press Return. AppleWorks changes the code to "None."

3 Enter the interface card control code.

To enter a code, just type the keystrokes. For example, if your printer manual calls for a Escape-E, press Escape and then Shift-E (uppercase and lowercase are always important to special printer codes). If your printer manual calls for Control-N, hold down the Control key and type "N." Do not type a space unless the control codes you're entering call for a space in your codes.

- ◆ **Oops!** AppleWorks enters every character you type—including backspace and return. If you make a mistake, press ⌘-Return and then select the code again for a chance to retype.
- 4 **When you have finished entering the code, press ⌘-Return.**

AppleWorks returns you to the Change a Printer menu.

Changing Printer Settings

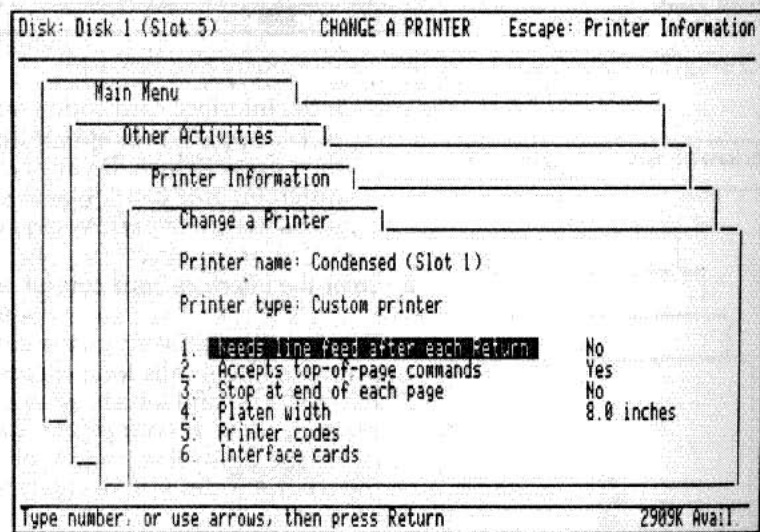
You can change the settings of any printers you have already installed. You may need to do this if you install a printer similar to yours and find out that you can add a special function or need to change the way the AppleWorks printer codes function with your printer.

Changing Information about an Existing Printer

- From the Printer Information menu, select option 4-8 (depending on which printer you want to change, and how many printers you have installed).

AppleWorks displays the Change a Printer menu, as shown in Figure C-12. This is the same as Figure C-7, with a different title on the card. You can modify any of these settings the same way you set them originally. See "Adding a Printer" earlier in this Appendix.

Figure C-12
Changing a printer



ASCII Codes

Table C-1 lists the ASCII codes for all standard characters. ASCII, the American Standard Code for Information Interchange, assigns a number to each symbol you can type or print. Your Apple and virtually every other microcomputer and printer in the world process characters in ASCII.

Some of the ASCII characters are invisible. These characters aren't visible when printed the screen, but can be sent to printers to control them. For example, Control-O tells an ImageWriter to begin double-wide (expanded) printing.

The first three columns of the table list the character code as a decimal number, as an octal number (base 8), and as a hexadecimal number (base 16). Printer manuals usually list printer control codes as one of these types of character codes or as its keyboard equivalent (for example, Control-Y). Hexadecimal codes may be listed in your printer manual preceded with a dollar sign (for example, \$1B) or followed by an H (for example, 1BH). In all cases, you enter these codes into AppleWorks by typing the keystroke found in the Keyboard column.

Your printer may support special codes for characters above decimal 127. These may or may not correspond to the characters that AppleWorks prints for these codes; ASCII codes above 127 are officially "undefined," which means that printer manufacturers can define them however they like. Many use these codes for a "symbol" or graphic character set which matches the set that the IBM PC can display. You can't enter such ASCII codes from the Apple keyboard.

ASCII Codes

Table C-1
ASCII Codes

| Decimal | Octal | Hexadecimal | ASCII | Keyboard |
|---------|-------|-------------|-------|------------------|
| 0 | 000 | 00 | NUL | Control-@ |
| 1 | 001 | 01 | SOH | Control-A |
| 2 | 002 | 02 | STX | Control-B |
| 3 | 003 | 03 | ETX | Control-C |
| 4 | 004 | 04 | EOT | Control-D |
| 5 | 005 | 05 | ENQ | Control-E |
| 6 | 006 | 06 | ACK | Control-F |
| 7 | 007 | 07 | BEL | Control-G |
| 8 | 010 | 08 | BS | Control-H |
| 9 | 011 | 09 | TAB | Tab/Control-I |
| 10 | 012 | 0A | LF | Control-J |
| 11 | 013 | 0B | VT | Control-K |
| 12 | 014 | 0C | FF | Control-L |
| 13 | 015 | 0D | CR | Return/Control-M |
| 14 | 016 | 0E | SO | Control-N |
| 15 | 017 | 0F | SI | Control-O |
| 16 | 020 | 10 | DLE | Control-P |
| 17 | 021 | 11 | DC1* | Control-Q |
| 18 | 022 | 12 | DC2 | Control-R |
| 19 | 023 | 13 | DC3 | Control-S |
| 20 | 024 | 14 | DC4 | Control-T |
| 21 | 025 | 15 | NAK | Control-U |
| 22 | 026 | 16 | SYN | Control-V |
| 23 | 027 | 17 | ETB | Control-W |
| 24 | 030 | 18 | CAN | Control-X |
| 25 | 031 | 19 | EM | Control-Y |
| 26 | 032 | 1A | SUM | Control-Z |
| 27 | 033 | 1B | ESC | Escape/Control-[|
| 28 | 034 | 1C | FS | Control-/ |
| 29 | 035 | 1D | GS | Control-] |
| 30 | 036 | 1E | RS | Control-^ |
| 31 | 037 | 1F | US | Control-_ |

Table C-1
ASCII Codes
(continued)

| Decimal | Octal | Hexadecimal | ASCII | Keyboard |
|---------|-------|-------------|-------|-----------|
| 32 | 040 | 20 | SPACE | Space Bar |
| 33 | 041 | 21 | ! | ! |
| 34 | 042 | 22 | " | " |
| 35 | 043 | 23 | # | # |
| 36 | 044 | 24 | \$ | \$ |
| 37 | 045 | 25 | % | % |
| 38 | 046 | 26 | & | & |
| 39 | 047 | 27 | ' | ' |
| 40 | 050 | 28 | (| (|
| 41 | 051 | 29 |) |) |
| 42 | 052 | 2A | * | * |
| 43 | 053 | 2B | + | + |
| 44 | 054 | 2C | , | , |
| 45 | 055 | 2D | - | - |
| 46 | 056 | 2E | . | . |
| 47 | 057 | 2F | / | / |
| 48 | 060 | 30 | 0 | 0 |
| 49 | 061 | 31 | 1 | 1 |
| 50 | 062 | 32 | 2 | 2 |
| 51 | 063 | 33 | 3 | 3 |
| 52 | 064 | 34 | 4 | 4 |
| 53 | 065 | 35 | 5 | 5 |
| 54 | 066 | 36 | 6 | 6 |
| 55 | 067 | 37 | 7 | 7 |
| 56 | 070 | 38 | 8 | 8 |
| 57 | 071 | 39 | 9 | 9 |
| 58 | 072 | 3A | : | : |
| 59 | 073 | 3B | ; | ; |
| 60 | 074 | 3C | < | < |
| 61 | 075 | 3D | = | = |
| 62 | 076 | 3E | > | > |
| 63 | 077 | 3F | ? | ? |

ASCII Codes

Table C-1
ASCII Codes
(continued)

| Decimal | Octal | Hexadecimal | ASCII | Keyboard |
|---------|-------|-------------|-------|----------|
| 64 | 100 | 40 | @ | @ |
| 65 | 101 | 41 | A | A |
| 66 | 102 | 42 | B | B |
| 67 | 103 | 43 | C | C |
| 68 | 104 | 44 | D | D |
| 69 | 105 | 45 | E | E |
| 70 | 106 | 46 | F | F |
| 71 | 107 | 47 | G | G |
| 72 | 110 | 48 | H | H |
| 73 | 111 | 49 | I | I |
| 74 | 112 | 4A | J | J |
| 75 | 113 | 4B | K | K |
| 76 | 114 | 4C | L | L |
| 77 | 115 | 4D | M | M |
| 78 | 116 | 4E | N | N |
| 79 | 117 | 4F | O | O |
| 80 | 120 | 50 | P | P |
| 81 | 121 | 51 | Q | Q |
| 82 | 122 | 52 | R | R |
| 83 | 123 | 53 | S | S |
| 84 | 124 | 54 | T | T |
| 85 | 125 | 55 | U | U |
| 86 | 126 | 56 | V | V |
| 87 | 127 | 57 | W | W |
| 88 | 130 | 58 | X | X |
| 89 | 131 | 59 | Y | Y |
| 90 | 132 | 5A | Z | Z |
| 91 | 133 | 5B | [| [|
| 92 | 134 | 5C | \ | \ |
| 93 | 135 | 5D |] |] |
| 94 | 136 | 5E | ^ | ^ |
| 95 | 137 | 5F | _ | _ |

Table C-1
ASCII Codes
(continued)

| Decimal | Octal | Hexadecimal | ASCII | Keyboard |
|---------|-------|-------------|-------|----------|
| 96 | 140 | 60 | , | , |
| 97 | 141 | 61 | a | a |
| 98 | 142 | 62 | b | b |
| 99 | 143 | 63 | c | c |
| 100 | 144 | 64 | d | d |
| 101 | 145 | 65 | e | e |
| 102 | 146 | 66 | f | f |
| 103 | 147 | 67 | g | g |
| 104 | 150 | 68 | h | h |
| 105 | 151 | 69 | i | i |
| 106 | 152 | 6A | j | j |
| 107 | 153 | 6B | k | k |
| 108 | 154 | 6C | l | l |
| 109 | 155 | 6D | m | m |
| 110 | 156 | 6E | n | n |
| 111 | 157 | 6F | o | o |
| 112 | 160 | 70 | p | p |
| 113 | 161 | 71 | q | q |
| 114 | 162 | 72 | r | r |
| 115 | 163 | 73 | s | s |
| 116 | 164 | 74 | t | t |
| 117 | 165 | 75 | u | u |
| 118 | 166 | 76 | v | v |
| 119 | 167 | 77 | w | w |
| 120 | 170 | 78 | x | x |
| 121 | 171 | 79 | y | y |
| 122 | 172 | 7A | z | z |
| 123 | 173 | 7B | { | { |
| 124 | 174 | 7C | | |
| 125 | 175 | 7D | } | } |
| 126 | 176 | 7E | ~ | ~ |
| 127 | 177 | 7F | DEL | Delete |

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Appendix D

TimeOut, Inits, and Macros

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TimeOut, Inits, and Macros

AppleWorks 4 is expandable—that is, you can add new features to AppleWorks with third-party enhancements. Enhancements can be added in four main ways:

- **TimeOut applications** TimeOut applications are “desk accessories” for AppleWorks. For example, there’s a thesaurus, a grammar checker, a sideways spreadsheet printer, a graph program, and literally dozens of other TimeOut programs available. TimeOut applications appear on the TimeOut menu, which is accessed by pressing ⌘-Escape.
- **Inits** Inits are small programs loaded at AppleWorks startup that change the way a built-in AppleWorks feature operates. Most Inits that were written before AppleWorks 4 have been “absorbed” into AppleWorks 4, but more are on their way from third parties.
- **Macro sets** Macro sets are pre-compiled programs written with UltraMacros. An UltraMacros program can be as simple as a playback of a sequence of keystrokes, or as complex as an offline telecommunications message processor.
- **Patches** Patches are programs that actually modify part of the AppleWorks code. In the past this was necessary to add popular features and to fix program bugs. AppleWorks 4 incorporates the most popular AppleWorks patches as standard equipment, but we have no doubt that more third-party patches will be available in the future. Patches are not discussed in this manual, and you use them at your own risk. Always make patches to a *backup* copy of AppleWorks.

Make sure that the AppleWorks add-ons you use are compatible with AppleWorks 4. If you’re not sure, contact the publisher of the add-on software, or, if that’s not possible, install the add-ons on a *backup* copy of AppleWorks and test it thoroughly before adding it to your everyday work environment.

TimeOut Applications

Activating TimeOut

Before you can use TimeOut applications, you must activate TimeOut. We recommend TimeOut only for users with more than 128K RAM. A high capacity disk drive (3.5" disk or hard drive) is also a useful addition. While you can use TimeOut applications on a lesser configuration, you may end up with much less Desktop space for your files (depending on which TimeOut applications you install).

To activate TimeOut:

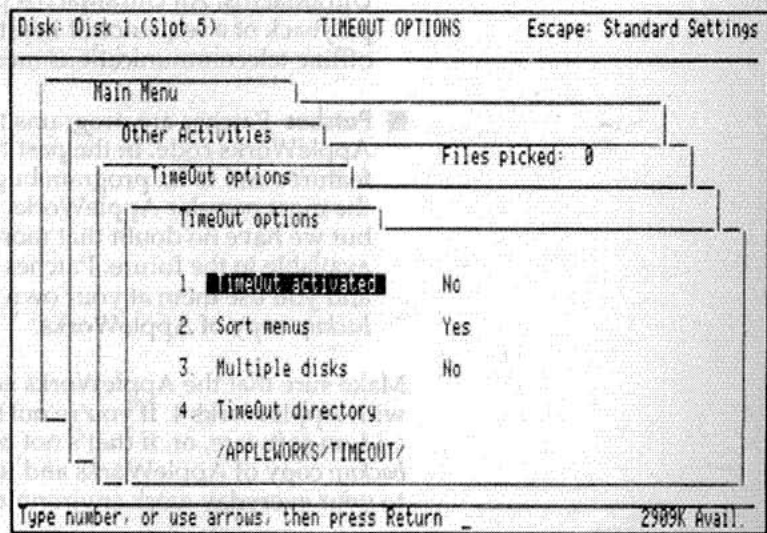
- 1 Press **⌘-Q** followed by **⌘-S** to define Standard Settings.

AppleWorks displays the Standard Settings screen.

- 2 Select "TimeOut options" and press Return.

AppleWorks displays the TimeOut Options screen, Figure D-1.

Figure D-1
TimeOut Options screen



- 3 If "TimeOut activated" is set to No, press Return to change it to Yes.

AppleWorks activates TimeOut.

- 4 If you have installed AppleWorks on a hard drive, change the "TimeOut directory" option to the directory where your TimeOut applications are stored.

This is usually a subdirectory called TimeOut in your AppleWorks subdirectory. For example, if your hard drive was called /HARD1 and you installed AppleWorks into a subdirectory called AW4, the pathname would be /HARD1/AW4/TIMEOUT.

AppleWorks displays the drive list to let you select a disk or a pathname. See "Selecting a Disk or Directory" in Chapter 2 for more information on using the drive list to select a disk or pathname.

If you are running AppleWorks from copies of the original disks, you probably do not need to change these options.

- 5 Set "Sort menus" and "Multiple disks" according to your preference.

See Appendix B, "Standard Settings," for more information on the function of these options.

- 6 Press ⌘-Q followed by Escape to return to the AppleWorks main menu.

- ◆ **Important Note** TimeOut applications are loaded when AppleWorks starts up. Therefore, after activating TimeOut, you must quit and restart AppleWorks for TimeOut applications to be loaded.

TimeOut Applications

Installing TimeOut Applications

Most TimeOut applications you buy commercially come with an installer program which will handle the task of putting the TimeOut applications into your TimeOut directory. If the program you want to install has such an installer, use it.

If the application you want to install is a single file (with no extra files, such as fonts, dictionaries, etc.), you can use the TimeOut installer built into AppleWorks.

To use the built-in TimeOut installer:

1 Press ⌘-Q followed by ⌘-F for File Activities.

AppleWorks displays the File Activities screen.

2 Select "Install Inits or TimeOut files" and press Return.

AppleWorks displays the drive list to let you choose the disk or directory which contains the TimeOut application files. (TimeOut application files have names which begin with "TO.") See "Selecting a Disk or Directory" in Chapter 2 for more information on using the drive list to select a disk or pathname.

AppleWorks asks you to verify your selection.

3 Select Yes and press Return.

AppleWorks displays a list of the files on the selected disk or directory.

4 Select the files you want to install.

If you want to install a single file, highlight it and press Return. If you want to install more than one file, highlight each and press the → key to mark it (use the ← key to unmark files). Use ⌘-→ to mark all files, and ⌘-← to unmark all files. Press Return when you have marked all the files you wish to install.

5 Press Return to begin installation.

AppleWorks copies the files into your TimeOut directory (as specified under TimeOut Options). Afterward, AppleWorks returns to the File Activities screen.

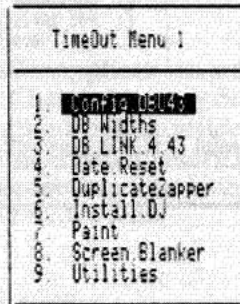
- ◆ **Important Note** TimeOut applications are loaded when AppleWorks starts up. Therefore, after installing new TimeOut applications, you must quit and restart AppleWorks for the TimeOut applications to be loaded.

After installing and loading your TimeOut applications, be sure to configure them using the TimeOut Utilities included with AppleWorks. Some TimeOut applications need to be told where they should look for their auxiliary files (fonts, dictionaries, etc.) or have other settings that should be customized to your taste. See "TimeOut Utilities," later in this Appendix, and the documentation for the TimeOut application in question, for more information on configuring your TimeOut applications.

Once TimeOut applications have been loaded, they can be accessed by pressing ⌘-Escape. This displays the TimeOut menu, as shown in Figure D-2.

The TimeOut Menu

Figure D-2
TimeOut Menu



The TimeOut menu is available anywhere in AppleWorks, even while you are editing a file (in fact, some TimeOut applications must be activated while you are "in" a file of the appropriate type).

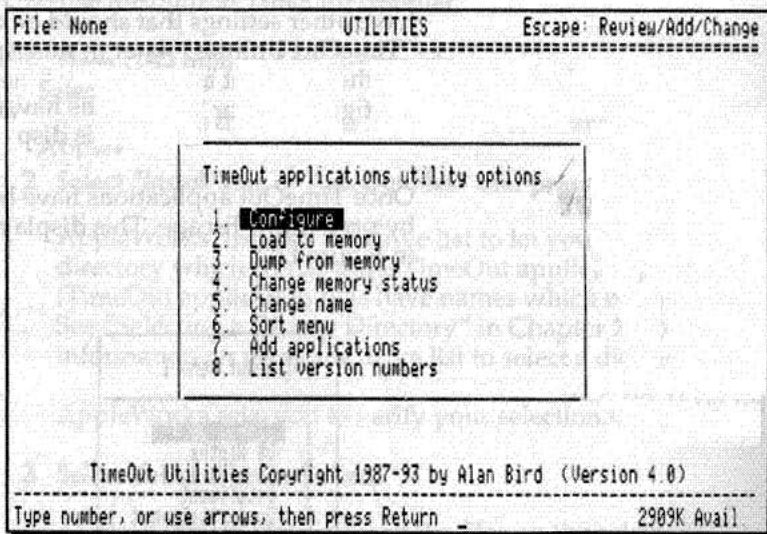
To select a TimeOut program from the TimeOut menu, simply highlight it and press Return.

If you have more than thirty TimeOut applications, AppleWorks will create a second (and third, and fourth...) TimeOut menu as necessary. Press Tab to move from one TimeOut menu to the next. Press ⌘-Tab to move backward through the TimeOut menus.

TimeOut Utilities

The TimeOut Utilities application has several functions that make using your TimeOut applications more flexible. To use the TimeOut Utilities, make sure TimeOut is activated (see previous section) and that your TimeOut directory is set properly. Start up AppleWorks and press ⌘ -Escape to call up the TimeOut menu, then highlight "Utilities" and press Return. The TimeOut Utilities application will appear, as shown in Figure D-3.

Figure D-3
TimeOut Utilities



Configure

The Configure option allows you to set new defaults for your TimeOut applications. Configurable options might include printer type, default font, location of files needed by the application, etc. Not all applications have such options; check the application's manual for details.

To configure an application, select Configure from the Utilities menu. Then select the application you want to configure. You will then see a menu indicating what options may be configured for that particular application. You should also see the current value for each option in brackets [].

Select an option that you would like to change. Enter or select the new value for that option. Make sure that the TimeOut applications disk is in a drive so that the application can be updated with the new value. The next time you use the application, it will use the new value that you have supplied.

After you are finished updating configurable options, press Escape to return to the Utilities main menu.

TimeOut applications are either disk-resident or memory-resident (see "Change Memory Status" below). If an application was configured as disk-resident when you started up AppleWorks, you can load it into memory using the Load to memory option. Select this option from the Utilities menu and select the application you would like to load.

If you receive a message from AppleWorks indicating that it was unable to complete an option because of insufficient desktop memory, you may need to dump one or more memory-resident TimeOut applications. Select Dump from memory from the Utilities menu and choose the application you would like to dump. The amount of free memory indicated in the lower right corner of the screen increases with each application you dump. Applications that are dumped are returned to disk-resident status for the remainder of the AppleWorks session.

Load to Memory

Dump from Memory

TimeOut Utilities

Change Memory Status

This option allows you to indicate whether a TimeOut application is disk- or memory-resident. Note that this only indicates how the application will be treated when you start up AppleWorks. To load an application into memory or to return it to the disk for the current AppleWorks session, you will need to use the Load to memory option or the Dump from memory option.

Memory-resident applications take memory away from your Desktop, even when you're not using them, but they can be accessed instantly. Disk-resident applications do not use Desktop memory when they're not being used, but they may take a few seconds to appear when you select them from the TimeOut menu. If you are using 3.5" or 5.25" disk drives and have plenty of memory, you will probably want to have your most-frequently used TimeOut applications memory-resident. If you run AppleWorks from a RAM Disk or a hard drive, you will probably want to leave most or all of them disk-resident since these types of disk drives are so fast.

Change Name

This option allows you to change the name of the applications as they appear in the TimeOut menu. If the new name you enter is longer than the old name, the name change will not be reflected in the TimeOut menu until the next time you start up AppleWorks.

Sort Menu

When you activate TimeOut from the TimeOut Options screen, you can choose whether or not you want the TimeOut menu automatically sorted by application name. If you choose not to have the menu sorted, you can still sort it after starting up AppleWorks by selecting Sort Menu from the Utilities menu.

Add Applications

This selection allows you to add TimeOut applications to AppleWorks at any time while you are running AppleWorks. A new TimeOut menu is created for the additional applications.

If your system has a limited amount of memory, you may not want to use all your applications at once. You can keep your applications on separate disks or in different subdirectories, and add them after starting up AppleWorks. Every time you add applications, a new TimeOut menu is created. Each menu can contain no more than 30 applications. If the disk has more than 30 applications, you will need to move some to a different disk or subdirectory to access them.

The limit of 30 applications applies only to the Add Applications feature in the Utilities. You can have as many applications as you want when AppleWorks loads applications at startup.

To add applications, select Add applications from the Utilities main menu, insert the disk containing the applications to be added, then specify the location of the disk.

There is no limit to the number of new TimeOut menus you can create. To switch from one TimeOut menu to another, press ⌘-Escape to bring up the current TimeOut menu, then press Tab. If you continue to press Tab, AppleWorks cycles through all of the available TimeOut menus, eventually returning to the first menu.

You also use the Tab key to switch between TimeOut menus while using options 1-4 from the Utilities main menu. For example, if you select Configure and get the wrong TimeOut menu, press Tab until the correct one appears.

List Version Numbers

Use this option to find the version numbers of your TimeOut applications. If you need assistance, you should check the version numbers before calling the publisher of the software.

Inits

Activating Inits

Before you can use Inits, you must activate the InitManager. To activate the InitManager:

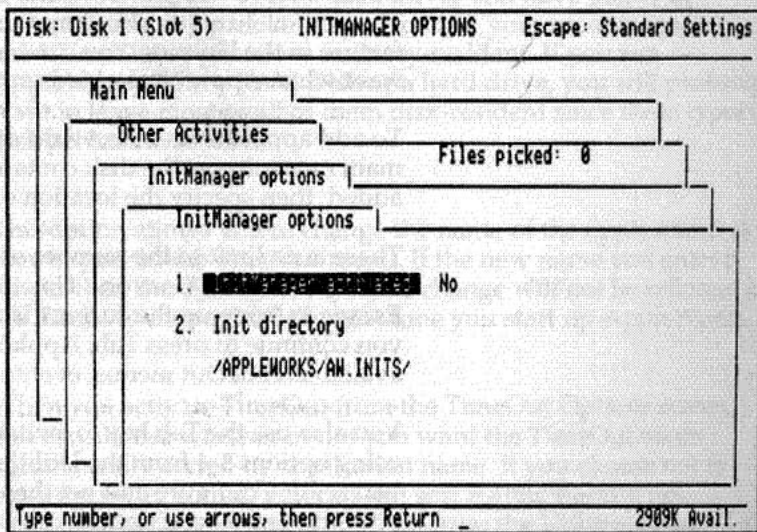
- 1 Press **⌘-Q** followed by **⌘-S** to define Standard Settings.

AppleWorks displays the Standard Settings screen.

- 2 Select "InitManager options" and press Return.

AppleWorks displays the InitManager Options screen, as shown in Figure D-4.

Figure D-4
InitManager Options screen



- 3 If "InitManager activated" is set to No, press Return to change it to Yes.

AppleWorks activates the InitManager.

- 4 If you have installed AppleWorks on a hard drive, change the "Init directory" option to the directory where your Inits are stored.

This is usually a subdirectory called AW.Inits in your AppleWorks subdirectory. For example, if your hard drive was called /HARD1 and you installed AppleWorks into a subdirectory called AW4, the pathname would be /HARD1/AW4/AW.INITS.

AppleWorks displays the drive list to let you select a disk or a pathname. See "Selecting a Disk or Directory" in Chapter 2 for more information on using the drive list to select a disk or pathname.

If you are running AppleWorks from copies of the original disks, you probably do not need to change these options.

- 5 Press ⌘-Q followed by Escape to return to the AppleWorks main menu.

- ◆ **Important Note** Inits are loaded when AppleWorks starts up. Therefore, after activating the InitManager, you must quit and restart AppleWorks for Inits to be loaded.

Installing Inits

You can use the Init installer built into AppleWorks to install most Inits. (Exceptions to this rule will have their own installer and instructions.)

To use the built-in Init installer:

1 Press ⌘-Q followed by ⌘-F for File Activities.

AppleWorks displays the File Activities screen.

2 Select "Install Inits or TimeOut files" and press Return.

AppleWorks displays the drive list to let you choose the disk or directory which contains the Init files. (Init files have names which begin with "I.") See "Selecting a Disk or Directory" in Chapter 2 for more information on using the drive list to select a disk or pathname.

AppleWorks asks you to verify your selection.

3 Select Yes and press Return.

AppleWorks displays a list of the files on the selected disk or directory.

4 Select the files you want to install.

If you want to install a single file, highlight it and press Return. If you want to install more than one file, highlight each and press the → key to mark it (use the ← key to unmark files). Use ⌘-→ to mark all files, and ⌘-← to unmark all files. Press Return when you have marked all the files you wish to install.

5 Press Return to begin installation.

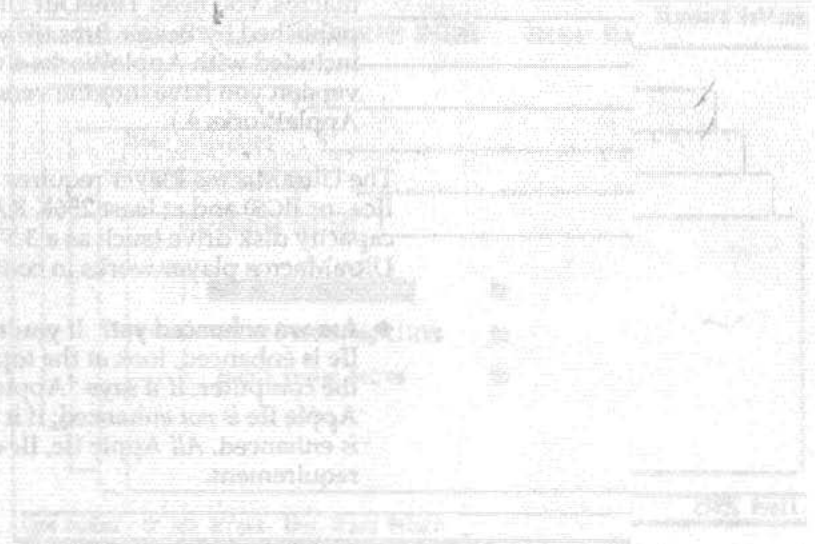
AppleWorks copies the files into your Init directory (as specified under InitManager Options). Afterward, AppleWorks returns to the File Activities screen.

- ◆ **Important Note** Inits are loaded when AppleWorks starts up. Therefore, after activating the InitManager, you must quit and restart AppleWorks for Inits to be loaded.

Configuring Inits

Most Inits do not have any user-configurable options, since the majority have only one function. Those that do have configuration options, however, can be configured by holding down the **⌘** key while you start up AppleWorks. When an Init which has configuration options loads and sees the **⌘** key being held down, it displays a menu allowing you to configure it.

Configuration options vary from program to program. See the documentation that came with the Init in question to find out whether it is configurable and what options are available.



3. If "Applications (Init)" is set to No, press Return.

AppleWorks will now use the UltraDrive Player.

AppleWorks will now use the UltraDrive Player.

UltraMacros

UltraMacros is a sophisticated programming language that lets enterprising AppleWorks users automate tasks, ranging from simple playback of repetitive keystrokes to full-fledged applications that run inside AppleWorks.

Luckily, you don't need to know anything about creating macros to use them. AppleWorks 4 includes a built-in UltraMacros Player that allows you to use "canned" macros and programs created by other AppleWorks users.

- ◆ **A macro to call your own** To record or program your own macros, you need TimeOut UltraMacros (version 4.3 or later), published by Beagle Bros. (If you have version 4.2, the updater included with AppleWorks 4 will magically transform the version you have into the version 4.3 required for use with AppleWorks 4.)

The UltraMacros Player requires an *enhanced* Apple IIe or later (IIc, IIc+, or IIGS) and at least 256K RAM. We also suggest a high-capacity disk drive (such as a 3.5" disk or a hard drive) because the UltraMacros player works in combination with TimeOut.

- ◆ **Are we enhanced yet?** If you're not sure whether your Apple IIe is enhanced, look at the top of the screen when you turn on the computer. If it says "Apple][" with square brackets, your Apple IIe *is not* enhanced; if it says "Apple //e" with slashes, it *is* enhanced. *All* Apple IIc, IIc+, and IIGS computers meet this requirement.

Activating the UltraMacros Player

To activate the UltraMacros player:

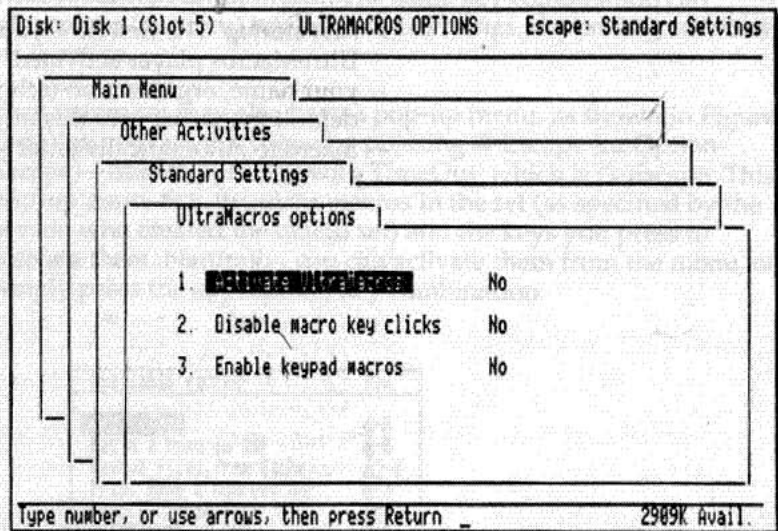
- 1 Press **⌘-Q** followed by **⌘-S** to define Standard Settings.

AppleWorks displays the Standard Settings screen.

- 2 Select **"UltraMacros options"** and press **Return**.

AppleWorks displays the UltraMacros Options screen, Figure D-5.

Figure D-5
UltraMacros Options screen



- 3 If **"Activate UltraMacros"** is set to **No**, press **Return** to change it to **Yes**.

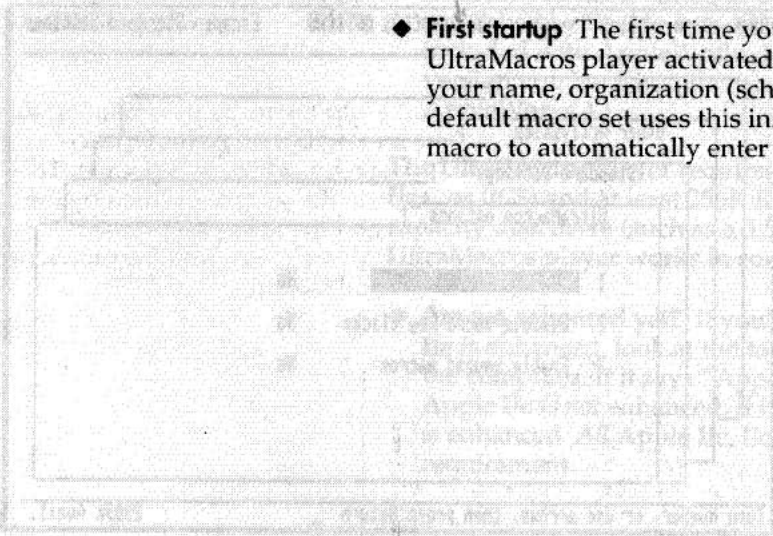
AppleWorks activates the UltraMacros Player.

- 4 Press **⌘-Q** followed by **Escape** to return to the AppleWorks main menu.

UltraMacros

After activating the UltraMacros player, you will also want to activate the InitManager and TimeOut as described earlier in this Appendix. UltraMacros "dot commands" (used by many macros) are stored as Inits; without them, many macros simply will not work. Most pre-compiled macro sets are distributed as TimeOut applications, so you need TimeOut activated to use them.

- ◆ **Important Note** The UltraMacros player is loaded when AppleWorks starts up. Therefore, after activating UltraMacros, you must quit and restart AppleWorks for the UltraMacros player and the default macro set to be loaded.
- ◆ **First startup** The first time you start AppleWorks with the UltraMacros player activated, AppleWorks will ask you for your name, organization (school or company), and address. The default macro set uses this information in its "start a letter" macro to automatically enter your return address.



Using Macros

Macros can be triggered by pressing the **⌘** (or Option) key in combination with some other key or keys. This is the *Solid-Apple* key, not the Open-Apple key used by other AppleWorks commands. (Older Apples have a **⌘** key; newer Apples have an Option key. This is the same key, just with two different names.)

A collection of macros is called a *macro set*. The set of macros loaded automatically when AppleWorks starts up is called the *default macro set* or just the *default set*. Macros you get from third parties comprise additional macro sets.

The set concept is important. The same key combination can trigger two (or more) totally different things, depending on which set is active.

Each macro set may also have a pop-up menu, as shown in Figure D-6. You activate this menu by pressing **⌘-Escape** (or Option-Escape)—note the parallel with TimeOut, which is **⌘-Escape**. This pop-up menu lists the main macros in the set (as specified by the person who created the macro set) and the keys you press to activate them. Naturally, you can activate them from the menu, or simply press the appropriate key combination.

Figure D-6
UltraMacros **⌘-Escape** menu

| Available macros | Key |
|--------------------------|------------|
| WORD FILES | ⌘-A |
| Begin a memo in AWP | ⌘-B |
| Remove files from Cache | ⌘-U |
| Print Name & Address AWP | ⌘-J |
| Launch cached Task | ⌘-L |
| Print Name in AWP | ⌘-N |
| ADB MRL Quick Column | ⌘-W |
| Triple Menu | ⌘-T |
| QuickerPath | ⌘-Q |
| Address an envelope | ⌘-E |

Using the Default Set

Documentation for the default macro set was not available at this manual's press time. For details on using the default macros, see the file *Default.Set.Doc* on the AppleWorks Sample Files disk. This file is an AppleWorks Word Processor document which can be printed out for reference.

UltraMacros

Using Third-Party Macro Sets

Each macro set will come with its own instructions and will have its own "personality." However, here are some general rules of thumb:

- Most macro sets are stored as TimeOut applications. To activate a different macro set, press ⌘-Escape and choose the desired macro set from the TimeOut menu.
- If a macro set is designed to do one function, such as eliminating duplicate records from a data base, the macro will usually "run" automatically when you select it from the TimeOut menu. When the macro set has done its thing, the default macro set will be re-loaded.
- If a macro set is designed to be a kind of "toolbox," with a number of macros for performing related functions (for example, a set of macros for creating and formatting an outline in the Word Processor), choosing the macro set from the TimeOut menu will simply make that set the active set. Press ⌘-Escape (or Option-Escape) to display that set's menu. Most such sets will have an option to re-launch the default set (the standard keypress for going back to the default set is ⌘-⌘-L or ⌘-Option-L, also known as "Both-Apple" L).
- Some complex macro systems consist of more than one set of macros. In such cases, the additional sets may be stored in a format called "task files." AppleWorks does not display task files in the TimeOut menu, so these are effectively "hidden" from you. Usually, there will be an option on the macro set's menu for launching one task file or another—or else the macro set will automatically switch to different task files on an as-needed basis.

Remember, there is *no substitute* for reading the instructions, especially with macro sets! Macro programmers may have slightly different ideas of the way things ought to work, so take the time to familiarize yourself with each new macro set that you acquire.

Other UltraMacros Features

In addition to adding macro-playback capability to AppleWorks, the UltraMacros player also adds the following features to AppleWorks:

- **⌘-, or Option-,** Moves the cursor to the previous blank space to the left of the current cursor position.
- **⌘., or Option.,** Moves the cursor to the next blank space to the right of the current cursor position.
- **⌘-' or Option-'** Types the date in a format like "October 11, 1993" (handy for dating letters or Data Base and Spreadsheet reports). The exact format is determined by AppleWorks' Standard Settings.
- **⌘-" or Option-"** Types the date in a format like "10/11/93" (handy for dating transactions in the Spreadsheet). The exact format is determined by AppleWorks' Standard Settings.
- **⌘-= or Option-=** Types the time in a format like "1:42 pm." If you don't have a clock, the time will always be 12:00 AM.
- **⌘-+ or Option-+** Types the time in a format like "13:42" (24-hour or military format).
- **⌘-0 (zero)** Displays a prompt and lets you type a string up to 60 characters long.
- **⌘-0 or Option-0 (zero)** Types out the string defined by ⌘-0. For example, if you were writing a biology report and needed to type "pneumococcus" several times, you might press ⌘-0 and enter "pneumococcus." Then you could type that word simply by pressing ⌘-0 or Option-0.
- **⌘-Return or Option-Return** Searches a menu or file list for a menu item that starts with the text string defined by ⌘-0. For example, if you had a hundred TimeOut programs, it might become frustrating to find TimeOut SideSpread. So you let the computer do the work. Press ⌘-0, type "Side," then press Return. Then hit ⌘-Escape, followed by ⌘-Return or Option-Return. AppleWorks zips through the menus and stops at the first menu item that begins with "Side"—likely SideSpread.

UltraMacros

- **⌘-:** Changes the character under the cursor to upper case and moves the cursor one position to the right. Hold it down to change the case of lots of text.
- **⌘-;** Changes the character under the cursor to lower case and moves the cursor one position to the right. Hold it down to change the case of lots of text.
- **⌘-^** Reads the character under the cursor into the **⌘-0** macro.
- **⌘-&** Reads the current disk or pathname into the **⌘-0** macro.
- **⌘-*** Reads the complete pathname of the highlighted file into the **⌘-0** macro. Only works when a list of files is being displayed.
- **⌘-- (hyphen)** Reads the contents of the current cell in the Spreadsheet, the current category in the Data Base, or the current line in the Word Processor into the **⌘-0** macro.
- **⌘-<** Stores the first thirteen characters of the **⌘-0** macro in a special unused area the file you're in. Use this in conjunction with **⌘->** to define a different **⌘-0** macro for each file you work with.
- **⌘->** Retrieves thirteen characters from the special unused area of the file you're in and stores them into the **⌘-0** macro.
- ◆ **About the **⌘-0** macro** The **⌘-0** (or Option-0) macro is a special macro. You can define it yourself from the keyboard. However, since many other macros also use **⌘-0** for temporary storage, you should not rely on its value remaining the same for very long—especially if you use another macro in the meantime.

DIF and ASCII Files

For more information on these files, see Appendix E.

The DIF (Data Interchange Format) file is a plain text file that contains data from a spreadsheet program. The data is organized into rows and columns, with each row representing a record of data. The columns are separated by commas, and the rows are separated by line feeds. This format is widely used for exchanging data between different spreadsheet programs, such as Lotus 1-2-3 and Microsoft Excel. It is also used for importing and exporting data from databases and other applications.

DIF stands for Data Interchange Format, a program-independent way of exchanging spreadsheets and other tabular data. It is a specially formatted ASCII file.

Each ASCII and DIF file is a plain ASCII text file that can be read by any text editor.

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DIF and ASCII Files

You can add a new file to the Desktop by creating it from an existing ASCII file. You can save a Desktop file by saving it in ASCII format or, in some cases, DIF format.

ASCII stands for *American Standard Code for Information Interchange*. An ASCII file can contain any the characters that can be printed on the screen, plus some invisible characters called control codes. (See the ASCII table at the end of Appendix C for a listing.) Most word processors can save data in this format, making it easy to exchange files with other computers. Text files are not AppleWorks files, but AppleWorks can understand them.

DIF stands for Data Interchange Format, a program-independent way of exchanging spreadsheet (or other tabular) data. A DIF file is a specially formatted ASCII text file.

Both ASCII and DIF files appear as ASCII or Text files in the disk directory.

Word Processor

Creating a Word Processor Document from an ASCII File

AppleWorks allows you to import a text (ASCII) file into the Word Processor. Simply add it to the Desktop as you would any Word Processor file, via the "Add files to the Desktop" option on the Main Menu. AppleWorks displays the file's type as Text. (See Chapter 2, "AppleWorks' Main Menu," if you need a refresher course on adding files to the Desktop from disk.)

- ◆ **AppleWorks Veterans** Older versions of AppleWorks required you to create a word processing document from a text file by choosing "Make a New File for the Word Processor," then selecting "From a text (ASCII) file on disk." This procedure still works with AppleWorks 4.0, but it is no longer necessary, since AppleWorks can now load text files from the "Add Files" list. However, it still has its place because the old method lets you add *any* type of file, not just text files.

Saving a Word Processor Document as an ASCII File

AppleWorks can save a word processor document as a text file. See the section "Printing a Document" in Chapter 4, "Formatting a Document," for step-by-step instructions and an explanation of the available options.

- ◆ **Easy Exporting** AppleWorks has a standard setting which makes exporting text files easier. When "Save text files as text" (in AppleWorks' Miscellaneous Standard Settings) is set to Yes, AppleWorks remembers when you create a word processor file from a text file and converts the file back to text format when you save it.

If you would like to keep imported files in AppleWorks word processing file format once they have been added to the Desktop, make sure "Save text files as text" is set to No.

See Appendix B for more information on these settings.

Data Base

You can create an AppleWorks data base file from a non-AppleWorks ASCII text file or a DIF (text) file. AppleWorks can import data base ASCII text files that have:

- a tab character between each category, and a Return at the end of each record
- some other character (such as a comma) between each category, and a Return at the end of each record
- a return after each category only
- ◆ **60 categories maximum** AppleWorks can import data bases that have up to 60 categories (often called "fields" if you are importing a file from another program). If the data base you're importing has more than 60 categories, AppleWorks imports the first 60 categories, but ignores any categories after that.

Creating a Data Base from an ASCII File

- 1 From the Main Menu, select "Add files to the Desktop," then press Return.
- 2 From the Add Files menu, select "Data Base," then press Return.

AppleWorks gives you the choice of creating a file "From scratch" or "From a text (ASCII) file."

- 3 Select "From a text (ASCII) file," then press Return.

AppleWorks displays a list of files on the current disk and path from which you can select the text file.

- 4 Select the text file you want to import, then press Return.

AppleWorks asks whether the text file has "Tabs between categories, Returns between records," "Characters between categories, Returns between records," or a "Return after each category."

- ◆ **If you're not sure** I look at the Data Base ASCII text file in the Word Processor (see previous page). You should be able to tell at a glance whether the files use tabs or some other character between categories, or whether it is a single long column of categories.

Data Base

- 5 **Select the way you want AppleWorks to interpret the tab and return characters in the text file, then press Return.**

If you choose "Tabs between categories," AppleWorks adds the file to the Desktop and figures out the number of categories.

If you choose "Characters between categories," AppleWorks asks you which character it should look for to separate the categories. In many files, this will be a comma. Type the character, then press Return. AppleWorks adds the file to the Desktop and figures out the number of categories.

If you choose "Return after each category," AppleWorks first asks "How many categories, 1-60?" Type in the number of categories in the text file, then press Return. AppleWorks adds the file to the Desktop.

- 6 **Type a new name for the file, then press Return.**

After the file has been added to the Desktop, you will probably want to rename the categories (which are given default names), change the screen layout, and define category rules. See Chapters 7-9 for more details on these operations.

Saving a Data Base as an ASCII or DIF File

AppleWorks can save a data base as a text file or as a DIF file. This is useful if the data needs to be used by another program or if it must be readable by an older version of AppleWorks. (Older versions of AppleWorks cannot load files with rules or which have more than 30 categories.) See the sections "Printing a Table Report" in Chapter 11, "Creating a Table Report," and "Printing Labels" in Chapter 12, "Creating a Label Report," for step-by-step instructions and an explanation of the available options:

Spreadsheet

You can only create an AppleWorks worksheet file "From scratch." However, you can save worksheets as text or DIF files. DIF was originally developed to transfer spreadsheet data, and most spreadsheets on other computers can read them.

Saving a Worksheet as an ASCII or DIF File

AppleWorks can save a worksheet as a text file or as a DIF file. This is useful if the data needs to be used by another program. However, only the value of each cell will be saved, not the formula or function that determined that value. See the section "Printing" in Chapter 14, "Formatting the Worksheet," for step-by-step instructions and an explanation of the available options.

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Limits & Capacities Appendix F

Limits and Capacities

Table F.1
General Appendix

| Item | Limit | Capacity |
|---------------|-------|----------|
| 1. General | 1000 | 1000 |
| 2. Specific | 500 | 500 |
| 3. Additional | 200 | 200 |
| 4. Total | 1700 | 1700 |

Table F.2
General Appendix

| Item | Limit | Capacity |
|---------------|-------|----------|
| 1. General | 1000 | 1000 |
| 2. Specific | 500 | 500 |
| 3. Additional | 200 | 200 |
| 4. Total | 1700 | 1700 |

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Limits & Capacities

Table F-1
General AppleWorks

| Limit or Capacity | Value |
|--|--|
| Maximum number of printers | 5 |
| Maximum number of files on the Desktop | 36 (3 Desktops) |
| Maximum number of files on a disk | 51 at the root directory, 255 in subdirectories |
| Desktop size | 20K for 128K IIe/IIc 60K for 256K IIs |
| Clipboard size | Limited only by available memory |

Table F-2
Word Processor

| Limit or Capacity | Value |
|------------------------------------|--|
| Maximum document size | 16,250 lines, about 300 pages (deduct 1 line for each page, including forced page breaks) |
| Practical document sizes | 128K IIe or IIc: 300 lines (5 pages) 256K IIs: 1000 lines (17 pages) |
| Number of rulers in a document | Limited by memory |
| Number of words in dictionary | Approximately 83,000 |
| Maximum words in Custom Dictionary | Limited by disk space |
| Maximum page length | 24 inches |
| Maximum page width (platen width) | 13.5 inches |
| Size of Custom Dictionary | Limited by disk space (smaller is faster) |

Limits and Capacities

Table F-3
Data Base

| Limit or Capacity | Value |
|--|---|
| Maximum characters per category | 60-77 (up to screen width, depending on length of category name) |
| Maximum characters per record | 2560 |
| Maximum categories per record | 60 |
| Maximum records in data base | 16,250 |
| Practical number of records in data base | 128K: >200 @100 characters/ record, >50 @400 characters/record 256K: >900 @ 100 characters/record, >225 @400 characters/record |
| Maximum number of reports (table/label) | 30 |
| Number of arranging categories | Up to 3 at a time |
| Maximum number of categories in report | 63 |
| Maximum number of grouped subtotals | 3 |

Table F-4
Spreadsheet

| Limit or Capacity | Value |
|---|---|
| Accuracy | 14 places |
| Number of rows | 999 or 9999 rows |
| Number of columns | 127 (DW) columns |
| Total empty cells | 1,269,873 cells |
| Largest practical worksheet | 128K: 1500 cells 256K/IIGS: 5,000 cells 256K/IIe: 7,500 cells |
| Maximum column width | 70 characters |
| Minimum column width | 1 character |
| Maximum number of characters per cell | 70 characters (depends on column width) |
| Maximum size of label/formula in one cell | 70 characters |
| Maximum number of characters per row | 10K characters |

Glossary

Glossary



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Glossary

Apple IIe Extended 80-Column Text Card A peripheral card that plugs into the Apple IIe's auxiliary slot and allows the computer to display either 40 or 80 characters per line while extending the computer's memory capacity by 64 Kilobytes (64K). AppleWorks 4 needs 128K and 80 columns.

Apple command A command you use by pressing the key with the symbol ⌘ (located to the left of the Space bar) at the same time as another character. That other character is often the first letter of the name of the command. For instance, ⌘-C lets you copy.

appropriate format The way you actually entered the data in a spreadsheet, with exactly the number of decimal places you typed in, or as many places as are needed to represent that value accurately. For instance, if your formula asked AppleWorks to divide 2 into 1, the result would be 0.5, but if you divided 4 into 1, it would be 0.25. Allows the number of places after the decimal point to vary, or float. You set this format for all cells using ⌘-V or for a small group using ⌘-L.

argument The values on which a Spreadsheet function operates. For example, in the function @SUM (A1...C1), the argument is the values in cells A1 through C1. The function @SUM operates on those values and provides you with the result.

Arrange A command (⌘-A) that sorts records in a data base or cells in a spreadsheet. In the Data Base, the sorting is done on the basis of one to three categories. In the Spreadsheet, it's done on the basis of one column.

Arrange on several categories In the Data Base module of AppleWorks, you can sort up to three categories at once. To arrange on several categories, arrange your data base by the most important category to the least important. You do not need to specify all three categories.

ASCII A way of coding characters; the American Standard Code for Information Interchange. AppleWorks can read an ASCII file and use it as the basis for your AppleWorks document; and you can save your file in ASCII. Remember when you save a file in ASCII, all formatting codes are thrown away.

back up To make a duplicate copy of a disk or file. You should make back-up copies of AppleWorks, giving the disks the same names as the originals (APPLEWORKS). For safety's sake, store the originals and work with a copy.

baud Bits per second. A way of measuring the speed at which data can be transmitted. (Not all the bits are data—some indicate the beginning or end of data, and others are inserted to verify the accuracy of the transmission.)

boldface An option to print the text in extra heavy type, like this. In the Word Processor you can use the BB and BE printer options to turn boldface on and off.

Calculate A command (⌘-K) telling AppleWorks to recalculate all the values in the Spreadsheet or page breaks in the Word Processor—now.

calculated category In the Data Base, a category that performs some calculation on the data in other categories to its left.

category In the Data Base, a type of information, such as Names or Addresses. When you start a new data base, AppleWorks allows you to name your categories and then create records with information under each category. You can add, change, or delete categories. In Multiple Record Layout, a category's name appears at the top of the column.

cell In the Spreadsheet, the space at the intersection of a row and a column.

cell indicator In the Spreadsheet, a message at the lower left of your screen, indicating the coordinates of the cell you have highlighted, the contents, and any special layouts.

cell layout The way you format text or values within the cell. You can set standard formats for cells throughout the worksheet, using ⌘-V, or local formats for individual cells or groups of cells, using ⌘-L.

cell pointer In the Spreadsheet, works similar to a cursor. It allows you to move around a worksheet file and select cells to copy, move, or edit.

cell reference A type of value in a spreadsheet; it points to or refers to the contents of another cell. For example, the cell reference +C3 typed in the cell E3 means "Take whatever value you find in cell C3 and put it here in E3."

Center (1) In the Word Processor, a printer option that aligns all text exactly half way between the left and right margins. (2) In the Spreadsheet, a layout format that aligns the text of a label in the center of a cell.

Characters Per Inch A printer option that controls the number of characters to be printed in each inch. Can be anywhere from 4 (widely spaced) to 24 (very dense)—depending on what your printer is capable of.

Clipboard An area in the computer's memory in which AppleWorks saves whatever material you have just moved or copied to it and from which you may take that material and paste it into a document. The Clipboard can only contain one passage at a time. The amount of information the Clipboard can hold depends on the amount of memory you have.

code A combination of keystrokes, such as those transmitted to a printer to turn on a particular style or turn it off.

column (1) In the Data Base in Multiple Record Layout, each column represents a category; the category name appears at the top. (2) In a Word Processor document, each column is one character wide; your cursor position is recorded at the bottom of the screen, by row and column. (3) In the Spreadsheet, columns are lettered from A to DW; the standard width is nine characters.

commas format In the Spreadsheet, a value format that inserts punctuation marking off thousands; set using ⌘-V or ⌘-L.

control character A nonprinting character that controls or modifies the way information is printed or displayed.

coordinates In the Spreadsheet, the column letter and row number that give the location of a cell. For instance, A2 is the cell in the first column in the second row. You see these coordinates at the bottom of the screen, as the first item in the cell indicator. You use the coordinates as pointers in formulas.

copy A command (⌘-C) that makes a copy of the highlighted section of your document. You can then paste this section in somewhere else in the same document or in another document.

copy-protect To prevent someone from duplicating the contents of a disk. Compare write-protect.

Glossary

current drive The disk drive, disk, or subdirectory AppleWorks will go to first to find a file or to save one. You can change the current disk by selecting option 5, "Other Activities," on the Main Menu.

cursor The blinking underline (the insert cursor) or solid rectangle (the replacement cursor) that indicates where what you type will appear. When you type with the insert cursor, your character appears at the cursor location, and all text to the right moves over to make room. When you type with the replacement cursor, the character takes the place of the character lit up by the cursor, and the cursor moves one character to the right. You can change cursors by pressing ⌘-E.

Custom Dictionary In the Word Processor, a dictionary that contains words that do not appear in the Main Dictionary. You can add terms or special words to this dictionary, so when AppleWorks checks your spelling it will check these words too. See Main Dictionary.

custom printer A printer that is not on AppleWorks' original list of printers. If you want to add such a printer to your list, you have to provide AppleWorks with information about how it works.

Data Base The part of the AppleWorks program you use to work with information you might otherwise keep in lists or on file cards.

data format The way data is encoded for transmission from your computer to the printer. If you add a custom printer, you need to tell AppleWorks which data format your printer expects.

Delete key A key that backs over and erases the previously typed character. (Labeled Backspace on some computers.)

Desktop Part of the computer's memory; specifically, that area available for your AppleWorks files and the Clipboard. AppleWorks can handle up to 12 documents on the Desktop at any one time. The total size of the Desktop varies depending on how many desk accessory programs you have attached to AppleWorks and how much memory the computer has. To check the remaining space in your Desktop, press ⌘-Q and look at the lower right of the screen.

Desktop Index The list of files on the Desktop. Press ⌘-Q to see the Desktop Index.

destination volume The disk to which you are sending a file, or onto which you are copying information from a source disk.

DIF A way of formatting a Data Base or Spreadsheet file; the Data Interchange Format. AppleWorks can read a DIF file as the basis for a new Data Base or Spreadsheet file; and AppleWorks can save a Data Base or Spreadsheet document as a DIF file for some other program to use.

directory A list of all files and subdirectories on a disk. You can use the Other Activities menu in AppleWorks or the file commands in your System Utilities disk to list the files on a disk.

disk controller card A peripheral card that connects one or two disk drives to the computer and controls the operation of the drives.

display The information that appears on your screen.

document A file that has been brought onto the Desktop to be used in the Data Base, Word Processor, or Spreadsheet.

drive A disk drive.

edit To change or modify. For example, to insert, remove, replace, or move text in a word processor document.

embedded Contained within. For example, printer options are embedded in word processor text.

entry In one data base record, the information that belongs to a particular category. In the Spreadsheet, the information in a cell.

fanfold paper Computer paper—one continuous sheet of paper, perforated and folded like the letter Z so that it lies in a stack.

file The electronic form of a document stored on a disk.

filename The name you give your document; it appears on the disk directory or in a subdirectory when you save the file. Must begin with a letter; may contain uppercase or lowercase letters, numbers, and periods. Maximum length: 15 characters. The filename is the last segment of a pathname.

Glossary

Find A command (⌘-F) that looks for information you specify. In the Word Processor and Data Base, AppleWorks can find any combination of characters up to 30 characters. In the Spreadsheet, AppleWorks can find a specific label or a cell for which you provide coordinates, but not a number.

fixed decimal format In the Spreadsheet, a value format that displays all values with a fixed number of places after the decimal point. You set the format using ⌘-V or ⌘-L.

footer In the Word Processor, identifying lines you can have AppleWorks put at the bottom of each page when it prints the document. A footer might include the name of the document and the page number. You specify a footer from the Printer Options screen.

format a disk To prepare a disk to receive data. You must format a disk before you can save files on it.

form letters A series of standard letters, personalized with data from different records in your data base, such as names and addresses.

formula An equation. By writing formulas to define relationships between the various numbers in your worksheet, you can try out different numbers and the formulas will recalculate all the totals for you.

forward reference In a spreadsheet formula, a reference to a cell that is below and to the right of the cell with the formula. If the forward reference also contains a formula, this formula will not be calculated until after the formula in the original cell. So, to accurately calculate a formula containing forward references, you need to make a second pass at calculating, by pressing ⌘-K.

function An arithmetic or logical operation that can be used to make up formulas combining the values in different cells. For most functions, you have to supply an argument—a value or values on which the function operates. @SUM is a function. (B4.. B8) is the argument it needs. @SUM(B4...B8) is a formula.

group In the Word Processor, to designate information that you want to be kept all on one page in printing. Use the GB printer option to mark the beginning of the information you want kept together, GE to mark the end.

group totals Totals for groups of entries in any column for which you have asked for a column total; the group total appears whenever the entry in a category that you specify changes. For instance, every time you have a new customer name, you might ask for a group total in the category Amount Due. (Group totals are also called subtotals.)

header In the Word Processor, identifying lines you can have at the top of each printed page of your document. You set it from the Printer Options screen in each application.

highlight To mark a section of your document by pressing arrow keys to move the lit-up background over a section of your document. You can then apply a particular command or setting to that section.

indent In the Word Processor, a printer option, IN, that moves the second and following lines of a paragraph in from the left margin.

insert cursor A blinking underline that shows you where what you type will appear. Every time you type a character, the text on the right will move one character to the right to make room.

integration The ability to pass data from one application to another, and to move from one application to another without leaving the program. AppleWorks is an integrated program.

justify In the Word Processor, to align text along left and right margins; in a labels-style report in the Data Base, to align one category so that its entry follows the one on its left, with only one space between; in the Spreadsheet to align information on the left or right side of a cell.

K (kilobyte) 1024 bytes or characters. A byte is 8 bits; a bit is, essentially one change of state, one off or one on signal. It usually takes a byte to code a single character, such as the letter m. A thousand characters is about 200 words—an average paragraph. You can find out how long a document is, or how much room you still have on your Desktop, whenever you save a document.

label Non-numeric information in the Spreadsheet that identifies what the numbers stand for; a title.

label report A type of data base report arranged vertically as a series of labels or index cards.

Glossary

layout (1) The way the records in your data base are displayed. In Single Record Layout you see one record with full details of each entry. In Multiple Record Layout, you may not see as much information in each entry, but you can compare many records at once. (2) In the Spreadsheet, a command (⌘-L) that formats the values or labels in an entry, a block of entries, or particular rows or columns. Distinguished from ⌘-V, which sets standard values for the format of all current entries that have not been previously formatted with ⌘-L.

line feed A code telling the printer to move to the next line.

load To transfer information or a program from a peripheral storage medium, such as a disk, into the computer's main memory for use.

Mail Merge A printer option in the Word Processor, allowing you to merge information from the Data Base (such as names and addresses) with a form letter.

Main Dictionary In the Word Processor, a dictionary of 83,000 words that AppleWorks uses to check your spelling. See Custom Dictionary.

memory The computer's random-access memory. Whatever memory is free is devoted to the Desktop, which includes any documents you are working on, plus the material you are storing on the Clipboard.

menu A list of choices presented by the program; you can select one by typing its number or by using an arrow key to move the highlighting onto the option and then pressing Return.

money format In the Spreadsheet, a value format that displays the dollar sign in front of any number you enter; set using ⌘-V or ⌘-L.

Move A command (⌘-M) that removes the highlighted section of your document. You can then paste this section in somewhere else in the same document or in another document.

Multiple Record Layout A way of laying out your data base records in columns so that you can see several records at once.

no change copy In the Spreadsheet, a copy of a cell in which the references to other cells are kept the same. Compare relative copy.

page (1) When printing, the physical piece of paper. (2) In the Word Processor, an indication of where the text will fall on the physical pieces of paper. To see pagination, press ⌘-K.

page break An indication of where one page will stop and the next begin. You can have AppleWorks display these by pressing ⌘-K.

parity A way of verifying that data has been accurately transmitted. You need to make sure that AppleWorks is using the method your printer expects.

paste To take whatever is on the Clipboard and put it into a document, beginning at the cursor location. You can copy or move a passage from the Clipboard, pasting it into the document, by pressing ⌘-C or ⌘-M.

pathname A description of the location of a file; it provides AppleWorks with a path straight to the file. A complete pathname consists of the name of the disk, the name of the subdirectory the file is in, if any, and the name of the file. A slash precedes each part of a pathname. For instance, a memo named Bob in the subdirectory Memos on the disk June would have this pathname:

/June/Memos/Bob

platen width The distance the print head on your printer can travel from left to right; hence, the greatest width you can print.

port A connector that works like an electrical outlet, transmitting data from your computer to your printer; usually, you plug a cable into a port.

prefix See ProDOS prefix.

printer codes Instructions telling your printer to perform a function, such as boldfacing. You can have AppleWorks send special codes to the printer before printing your data base or spreadsheet.

printer options Formatting and style choices you can make that affect how your document is printed. Printer options are available in each part of the program; in the Word Processor and Spreadsheet, press ⌘-O from Review/Add/Change; in the Data Base, press ⌘-O from the Report Format display.

Glossary

print to disk To insert all printer codes into a document, as if it were being sent to a printer, but, instead, to store that version of the document as a file on disk for future printing.

print to screen To preview a document before printing, you may print it to the screen; lines and page breaks will be exactly as they will be during printing, but some effects, such as superscript, will not be seen on screen; they must wait for your printer.

ProDOS The operating system under which AppleWorks runs; stands for Professional Disk Operating System. ProDOS is an enhancement of the earlier DOS 3.3. Using the ProDOS User's Disk or the System Utilities disk, you can convert DOS 3.3 files so they can be used in the ProDOS environment by AppleWorks.

ProDOS prefix The first part of a pathname; it leads AppleWorks to a particular disk and, if needed, subdirectory. It does not include the name of a particular file. You can set a ProDOS prefix as the current location for AppleWorks to find files or save them.

program disk A disk that contains an application such as AppleWorks. In some cases, you need to put in a startup disk first.

program selector Allows you to run a new program by selecting it from a list instead of typing its name and location.

prompt An instruction on the screen which asks you for some information or a decision.

proportional spacing A way of placing characters so that the spacing depends on the width of each individual character. Instead of each character being centered in an allotted space, that is always the same size no matter what the character, each character is centered in a space that varies in size—narrower for narrow characters, such as i, wider for wide characters, such as m. This book uses proportional spacing; the Apple II display does not.

protection setting A setting that specifies exactly how you want to protect an entry in a spreadsheet, allowing someone to enter only a label, only a value, neither, or anything. Use ⌘-L to set the protection. Specifying a setting does not actually turn the protection on. To turn it on, use ⌘-V.

RAM (random access memory) The part of the computer's memory which is volatile; when you turn off the computer, whatever you had in RAM is lost.

record In the Data Base, all the information about a particular person or item.

record layout In the Data Base, the way the information in records will be displayed.

relative copy In the Spreadsheet, a copy of a cell in which references to other cells are changed to reflect the new position. Compare no change copy.

replacement cursor A blinking rectangle that indicates where what you type will appear. When you are using the replacement cursor, the character you type replaces what was there before.

report A document displaying some or all of the information in your data base or worksheet. A report may be displayed on the screen, stored on the Clipboard for use in another document or in a form letter, or printed out.

report format The way you arrange the information in your Data Base report. You can have up to 20 different formats—or types of reports—for a single data base. First you choose a report style (table or labels), then you fine tune the format. When you save the data base, the format is saved with it, but not the contents, which change as you enter new data. So the next time you select the same report format, you may find new information in it.

report header The title and page number, and, if you want, the date; it appears at the top of each page of your data base or spreadsheet report.

report style One of two basic ways information can be displayed in a Data Base report. One style is a table; the other is a series of labels.

Review/Add/Change The name of the display where you can browse through the information in a file, change it, add to it, or delete it.

Root directory The directory at the base of a file catalog. Begins with a slash (/), it is the first element in every absolute pathname.

ruler A device in AppleWorks that divides a document into eighths. The ⌘-1 through 9 commands let you move the cursor through the file by eighths. See tab ruler.

Glossary

save To preserve a copy of a file on a disk.

scroll To move information up or down, or left and right, as if you were unrolling a scroll of paper behind the screen.

selection rules The rules by which you choose which records you want displayed in your data base. Set your record selection rules with ⌘-R.

Single Record Layout A way of laying out your data base records that dedicates the screen to one record at a time. You can switch from Multiple Record Layout to Single Record Layout by pressing ⌘-Z.

sort See Arrange.

source In the Spreadsheet, the cells you are copying from.

space character The character entered in your document when you press the Space bar.

spelling summary In the Word Processor, counts the words in your document, tells you the number of unknown words, and how many corrections you made. It contains a list of unknown words with the corrected spellings. The spelling summary is independent of the method you choose for verification.

Spreadsheet The application that allows you to work with numbers and formulas, usually in rows and columns.

standard location The first place AppleWorks looks for a file or saves a file—unless you have specified a different location as the current location.

Standard Values (1) In the Data Base, information you want AppleWorks to enter into all new records from now on. (2) In the Spreadsheet, a standard way you want all information displayed.

start up To get the computer going. If you have 5.25-inch drives, you put in the startup disk first and then turn on the computer. When you need to work with a specific module—for example, the Word Processor—you need to put that disk in the drive. If you have a 3.5-inch drive, you have just one disk—the start up information and all the program modules are on the same disk.

subdirectory A file that holds the names of other files, in much the way that a folder holds a series of memos. A disk has a directory—a list of its files. Some of those files are called subdirectories because they too are a list of files; in a way, a subdirectory is a directory within a directory. You can specify a subdirectory as a location from which AppleWorks should read files and to which it should save files.

subscript Characters that are printed slightly below the normal line.

subtotals Totals for small groups of entries in any column for which you have asked for a column total; the subtotal appears whenever the entry in a category that you specify changes. For example, every time you have a new customer name, you might ask for a subtotal in the category Amount Due. (Subtotals are also called group totals.)

superscript Characters that appear slightly above the normal line.

table report A type of Data Base report arranged in rows and columns.

tab ruler Each AppleWorks Word Processor document starts with one preset ruler. The tab ruler displays the current tab stops. If you use only this ruler, it affects the entire document. Modifying a tab ruler affects any tabs from the position of the ruler to the end of the document. Creating a new tab ruler affects tabs from the position of the cursor to the end of the document. See tab stop.

tab stop An invisible marker, similar to tab stops on a typewriter, used to align text in the Word Processor. You can align text to the left, right, center, or to a decimal point using different tab stops. See tab ruler.

text file A file consisting of nothing but text (no formatting) in ASCII codes.

Titles A command (⌘-T) that allows you to freeze certain cells of your worksheet or categories in your data base, so they remain visible, even if you scroll to other parts of the document. In the Spreadsheet, you can freeze rows at the top or columns on the left. In the Data Base you can freeze categories on the left.

top-of-page A command telling the printer to move from the bottom of one page to the top of the next. The printer usually assumes that means each page is 11 inches long.

Glossary

underline A line put under a character during printing.

value A number in a cell in a spreadsheet. May be entered as a number, or a pointer (referring to the value in another cell), or a formula (in which case, the result of the calculation will appear in the cell). Distinguished from a label.

volume A general term for a storage device, such as a flexible disk. If you have a hard disk drive, it may allow you to carve up the space into a series of volumes, or storage areas.

volume name The name for your diskette, hard disk drive, or storage area within a hard disk. It begins a pathname. For example, if your diskette is named Blank16, then your pathname would begin /Blank16. And if your hard disk drive, named Hard, has an area or volume on it called Memos, your pathname would begin /Hard/Memos.

window A view into your spreadsheet; the window command (⌘-W) allows you to view two sections of your worksheet at the same time.

Word Processor The part of the AppleWorks program you use to write text—letters, reports, poems, memos, and so forth.

word wrap The automatic continuation of text from the end of one line to the beginning of the next. Word wrap lets you avoid pressing the Return Key at the end of each line as you type.

wraparound See word wrap.

write-protect To prevent someone from writing on a disk. Your original of the AppleWorks 5.25-inch program disk is write-protected; that means you cannot write to it. Solution: Make a copy that is not write-protected, and use the copy.

Zoom A command that moves you back and forth between ways of displaying your document. In the Word Processor, ⌘-Z displays or hides printer options. In Review/Add/Change of the Data Base, ⌘-Z moves you back and forth between Single Record Layout and Multiple Record Layout. In a labels-style report, ⌘-Z shows just the category names or the actual records. In the Spreadsheet, ⌘-Z shows or hides the formulas behind values.

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