

How do you specify which folder you want to use to save and retrieve files? Traditionally, you do it by typing a *pathname*. A file's pathname is simply a list of the names of the directories the file is in. The names are separated by slashes. When the computer sees a pathname, it starts with the volume name and works its way down to folders inside folders, ending the pathname with the name of the file itself.

Let's try a simple example. If you had a file called MYFILE on your Q1 partition in a directory called AWFILES, the pathname of that file would be **/Q1/AWFILES/MYFILE**. This tells ProDOS to look in /Q1's volume directory for a subdirectory called AWFILES, and to look in that subdirectory for the file called MYFILE. If MYFILE was inside a folder called DOCUMENTS which was inside AWFILES, the pathname of the file would be **/Q1/AWFILES/DOCUMENTS/MYFILE**.

APPLEWORKS AND PATHNAMES

AppleWorks versions prior to 3.0 require you to type in the pathname of the subdirectory or directory *containing* the file you want to use, not the pathname of the file itself. This pathname becomes the "working directory" for all of the program's functions. When you ask AppleWorks to add a file to the desktop, the program displays a list of all the files in the working directory and allows you to select one.

Thus, to load /Q1/AWFILES/MYFILE into AppleWorks, first tell AppleWorks that you want to use a "ProDOS Path" as your data disk, then type in **/Q1/AWFILES** when asked for the pathname. A subsequent *Add Files To Desktop from Current Disk* would list all the AppleWorks files in /Q1/AWFILES, including MYFILE and any other files in that directory. Select MYFILE as usual to load it. To change to a different directory, choose "ProDOS Path" again and type another pathname.

If you tell AppleWorks to use "Drive 1 (Slot 7)" as your data disk, AppleWorks will only look at /Q1—the main directory of the drive—which may or may not contain any AppleWorks files. It certainly does not contain MYFILE, the file you're looking for. Most likely you'll get the misleading message "No AppleWorks Files On This Disk", which really means that there aren't any AppleWorks files in the *directory* AppleWorks was looking at.

AppleWorks 3.0 allows you to select "Drive 1 (Slot 7)" and get a list of subdirectories *and* AppleWorks files. You wouldn't see MYFILE, but you *would* see AWFILES, since AWFILES is a subdirectory in the main directory of /Q1. You would then select AWFILES to get a list of all the files it contains, including MYFILE. If you select a subdirectory and then realize it's not the one you wanted, you can type ⌘-< and AppleWorks will "back out" to the previous (or *parent*) directory, /Q1 in this case. This "point-and-shoot" method of selecting pathnames is a *lot* easier than typing pathnames. Most of today's programs offer some equally easy-to-use method of selecting files from subdirectories.

Although you can use upper and lower case letters and spaces in AppleWorks filenames, outside of AppleWorks the names will appear all in uppercase, with periods substituted for spaces. AppleWorks keeps track

of the spaces and lower-case letters in a special part of the file's directory entry. (It isn't really important exactly how AppleWorks does this trick, but just in case you're interested, AppleWorks uses the file's auxiliary type to store an "uppercase/lowercase" flag for each character in the filename.)

Although ProDOS stores all filenames in upper case, you can type pathnames in upper or lower case, or in any combination. ProDOS generally doesn't care whether you use upper or lower case.

TREE DISPLAYS

EasyDrive, from Q Labs and *Copy II Plus*, from Central Point Software both use a tree-style display to allow you to select subdirectories. The disk's main directory appears in the upper left hand corner of the screen. To the right, listed vertically, are the subdirectories contained within the volume directory. To the right of each of these subdirectories are any subdirectories *they* contain, and so on. Here's a small sample.

```
/Q1---+----> SYSTEM -----+----> DESK.ACCS
      |                               +----> FONTS
      |                               +----> SYSTEM.SETUP
      +----> AWFILES
```

In this example, SYSTEM and AWFILES are both subdirectories of Q1. The SYSTEM subdirectory contains three more subdirectories (and possibly other files which aren't subdirectories): DESK.ACCS, FONTS, and SYSTEM.SETUP. Selecting a directory from this "tree" display makes that directory the "working directory."

By the way, in a tree display, the volume directory is also known as the "root." Directories that don't contain any other directories (such as FONTS in our example) are known as "leaves." It's a strange kind of tree that has its root at the top of the screen, so you might want to consider it a kind of "inverted" or "fallen" tree.

THE PREFIX

To avoid typing a file's entire pathname, you can use a ProDOS feature called the *prefix*. ProDOS uses the prefix to keep track of the current working directory. If you don't put a slash at the beginning of the pathname you type, ProDOS adds the prefix to figure out the file's *complete pathname*. (A pathname which starts with a slash is called a complete pathname because it lists every directory the file is in, starting with the disk it's on. A *partial pathname* doesn't start with a slash and lists only some of the directories the file is in.)

Let's try another example. If the prefix were set to /Q1/AWFILES/, typing **MYFILE** would be sufficient to specify /Q1/AWFILES/MYFILE. ProDOS notes that there's no slash at the beginning of "MYFILE" and adds the prefix. (That's an important point: even a simple filename is really a partial pathname.) If the prefix were simply "/Q1/", you'd have to type "AWFILES/MYFILE" to specify the same file. Once again, ProDOS would add the prefix to the beginning of what you typed to get the complete pathname.

If you *had* included a slash at the beginning of the above pathname (e.g., *"/AWFILES/MYFILE"*), ProDOS wouldn't have used the prefix at all. Instead, it would have looked for a *disk* called */AWFILES*. See how much difference a slash can make!

If the prefix were set to */Q1/SYSTEM*, you'd have to type *MYFILE's* complete pathname to access it, because the prefix doesn't point in the same direction as the file you want to access. (It points to the same volume, but sidetracks into a different folder.) Same thing if the prefix were set to */Q2* or to some other disk entirely. *The prefix is only useful when it's the same as the first part of the complete pathname of the file you want to specify.*

Pathnames are unique identifiers for your files. ProDOS won't let you have two disks with the same name *online* (in drives) at the same time, nor will it allow you to have two files with the same name in the same directory. If you give a new file the same name as an existing one, the new file will take the place of the old one (you'll get a warning message first to make sure that's what you really want to do). Similarly, if you have two disks with the same name online, you may be asked to remove or rename one of them. Otherwise, ProDOS has the potential to become confused about which disk you mean.

Most programs that allow you to point to directories on your disks (such as AppleWorks 3.0 and *EasyDrive*, both of which we mentioned earlier) are actually changing the prefix for you as you point and shoot. This all happens behind the scenes, and you don't need to be aware of it for it to work. But some programs still make you type pathnames, and some programs that do have point-and-shoot file selection allow you to type a pathname manually if you like—which can be just the ticket when you know *exactly* where you want to be on your Q Drive and just want to get there with a minimum of hassle.

Pathnames are your friends! Become acquainted with them.

Sneeze is a public-domain program by Karl Bunker which provides you with the capability to navigate through your disks and directories, launch BASIC and SYS programs, print or display text and AppleWorks word processing files, display graphics files, and copy files. When the Q Drive is configured for an Apple IIe, Sneeze becomes the drive's startup program, meaning that you'll see it every time you boot up your computer—unless, of course, you've installed *EasyDrive* or *ProSel*.

When Sneeze appears, you'll see a list of the files on your Q Drive. The main keys you'll use for navigating through your Q Drive include:

Up/Down Arrows: Move the "light bar" up and down

Return: "Opens" the highlighted file

Escape: Closes the current directory and displays the parent directory

Tab: Change to a different disk (a list of your disks will be displayed)

The Return key is a "smart" command. That is, it looks to see what kind of file is highlighted and performs an appropriate action. If you press Return while a directory (folder) is highlighted, the folder will be opened and its contents displayed. In the case of a program (SYS or BAS), the program will be launched. (When you quit the program, you will return to Sneeze.) If the file is a text, AppleWorks word processing, or graphics file, it will be displayed on the screen.

CHAPTER SIX

USING SNEEZE

If, after running a BASIC program, you find yourself at the Applesoft] prompt, type BYE and press Return to get back to Sneeze.

You'll find Sneeze an invaluable aid for navigating through your Q Drive, even if you never use it for more than a launcher. For further instructions on using its more advanced features, please see the "Sneeze.Docs" file on your Q Drive. (Just highlight it and press Return to display it, or highlight it and press P to print it.)

The Apple IIgs uses a sophisticated operating system known as GS/OS (pronounced Gee Ess Oh Ess—just like it's spelled). It's considerably more flexible and sophisticated than ProDOS 8, while at the same time presenting a visual interface (the Finder desktop and icons) which is easier to use than text-based interfaces where you have to press keys and type things. You can run ProDOS 8 programs like AppleWorks too—GS/OS will automatically switch to ProDOS 8 when necessary.

The IIgs Finder displays the Q Drive as an icon. Finder icons look like the things they represent—for example, file folders for subdirectories, or sheets of paper for document files. Q Drive partitions are displayed as small boxes resembling the Q Drive. Each partition has its own icon. Double-clicking an icon (moving the mouse pointer on top of the icon and clicking the button twice in quick succession) “opens” the icon and displays a window representing the volume directory.

WORKING WITH WINDOWS

All Finder windows can be moved by dragging the Title Bar (position the mouse pointer on the bar at the top of the window, hold down the mouse button while moving the mouse, and release the mouse button). You can scroll the window horizontally and vertically to reveal more files than will fit on one screen by clicking on the Scroll Arrows. To scroll faster, click the gray areas of the scroll bars. To go even faster, drag the white box.

CHAPTER SEVEN

GS/OS AND THE FINDER

To close the window, click the box at the upper left corner of the window (the Close or “go away” box). To open the window to its maximum size, click the box at the upper right corner of the window (the Zoom box). (To restore the window to its original size, click the Zoom box again.) To resize the window to any arbitrary size, drag the box at the lower right of the window (the Resize or “grow” box).

Within the window, your files are displayed as icons. Clicking on an icon highlights it; double-clicking opens it. *Opening* means different things for different types of files. If the file is a GS/OS or ProDOS 8 program, opening the program means running it. If it's a folder (subdirectory), opening means displaying another window to show the contents of that folder. Opening a data file associated with a specific program (such as AppleWorks GS) often causes that program to be run and to open the file for use in that program, *if* the computer knows which program the file goes with. Attempting to open other files will result in the message “An application can't be found for this document.”

If you have more than one window open, you can find the active window by looking for the one with stripes in its title bar. (Inactive windows have plain title bars, and don't have the Close and Zoom boxes.) It helps to

think of windows as sheets of paper on your desk. The top sheet—the active window—is the one you're working on. To make an inactive window the active window and bring it to the top of the stack, just click anywhere in that window.

BASIC FINDER TACTICS

To change how files are represented in the active window, pull down the View menu. (Position the mouse cursor on the word "View" at the top of the screen and hold it down.) You can view files by icon (the usual way), by small icon (useful if you have a lot of files in a folder), or arranged by name, date, type, or size (useful if you're looking for a specific file in a large group of files). To select one of these views, continue to hold down the mouse button as you move the pointer downward. When the desired view is selected, release the mouse button. The active window will change to the selected view.

To close all open windows and return to the basic "clean slate" Finder desktop, pull down the File menu and select "Close All".

In the Finder, you often manipulate files by selecting them and then choosing an operation from the pull-down menus. Select icons by clicking them once with the mouse. When an icon is selected, it appears black with a white outline. Selecting one icon unselects any other icons that are selected. To select a group of files, you can use "Select All" in the File pull-down menu, which selects all the icons in the active window. Hold down the Shift key while clicking icons to select and unselect individual icons while leaving any other selected icons alone.

To move an inactive window without making it active, just hold down the ⌘ key while dragging it.

Look for keyboard equivalents for many pull-down menu commands, indicated by a ⌘ symbol in the pull-down menu. Just hold down ⌘ and type the letter to execute the command—for example, ⌘-N for new folder. Command keys are real time-savers.

If you've been snooping around in the folders already on your Q Drive, you probably already noticed that GS/OS supports lower case letters in file names. These filenames will usually appear in uppercase if you're using a ProDOS 8 program. (For the technically curious—GS/OS does not use *exactly* the same method AppleWorks uses to display lower case letters, but it's similar.)

Now that you've mastered basic Finder tactics, here are step-by-step instructions for performing specific tasks in the Finder. Once you're familiar with the maneuvers below, you should have a good understanding of how the Finder works.

COPYING A FILE FROM ONE DISK TO ANOTHER

Start with all windows closed. Open the icon of the disk containing the file you want to copy. (If the file you want to copy is in a folder, open folder icons until you get to the appropriate folder.) Now drag the file icon onto the icon of the drive you're copying to. An outline or shadow of the

file you're dragging will follow the mouse pointer. When the drive icon is black, release the mouse button. (If you want to copy the file into a folder, open the icon of the drive you're copying to and find the folder, then drag the file icon onto the folder icon.) Although you moved the icon from one disk to another, the Finder makes a copy—you end up with two files with the same name and same icon, not one.

MOVING A FILE FROM ONE FOLDER TO ANOTHER

Follow the steps outlined above, except drag the file from a window to a folder *on the same drive*. The Finder moves the file to its new home instead of making a copy of it.

COPYING OR MOVING MULTIPLE FILES

Select the files you want to copy or move, either by holding down the Shift key while clicking each file or by dragging a rectangle around them. Then drag one of the files. The outlines of all the files will follow. Position the mouse pointer (not necessarily the file you're dragging) on top of the device or folder icon you wish to copy or move to.

BY THE WAY...

An icon and its window represent the same directory. So you can drag the files on top of the destination icon, *or* into the window associated with that icon. Naturally, you can't drag a folder into its own window, and dragging files from a window onto the icon associated with that window does nothing. Copying or moving a folder moves everything in that folder, including the folders inside it and all their contents.

DELETING FILES

Select the files you wish to remove, then drag them to the trash can icon at the lower right hand corner of the screen. When the trash can is highlighted, release the mouse button. The trash can will bulge. The files you put into the trash aren't actually deleted until the trash is emptied. The trash can is really just a place to put files which you are planning to delete. It's emptied automatically when you launch a program, when you use "Shut Down", or when you select "Empty Trash" on the Special menu.

You can open the trash can like any other icon if you decide you don't want to delete some of the files you put in it. Just select the items you don't want to delete and then select "Put Away" from the File menu.

RENAMING A FILE

Select the file (or volume icon) you wish to rename. (If it's already selected, unselect it by clicking elsewhere then re-select it.) Once the icon is highlighted, simply type the new name and press Return. If you decide you don't want to rename it, just click elsewhere on the desktop.

CREATING NEW FOLDERS

Select "New Folder" from the File menu. A folder called Untitled will be created in the active window. (You may need to scroll the window to find it.) It's highlighted and ready to name—just type the new name as if you were renaming an existing folder.

EJECTING DISKS

You can eject disks in the usual way with the eject button on the 3.5" drive. If you do this, the Finder will "dim" the disk icon. The Finder is now keeping track of the disk and will tell you to put the disk back in if you try to use it. If you only have one 3.5" drive, this helps you copy files to and from a disk that isn't in the drive.

To completely remove a disk from the Finder desktop, drag the disk icon to the trash can. (Don't worry, you're not "trashing" the disk!) The Finder will eject it. (If you've already ejected the disk manually, you can drag the dimmed icon to the trash to make the Finder forget about it.)

A HANDY TRICK

You can drag frequently-used files and programs out of their windows and onto the desktop. These icons will remain on the desktop even when you close the windows they were in. You can open these icons the same way you'd open any other icons, but you won't have to open all the folders to get to them.

FORMATTING DISKS

To format a blank disk for use by the IIGs, just insert the disk. The IIGs will ask you whether you want to initialize or eject the blank disk—select "Initialize." Enter a name for the new disk in the next dialog, then click "OK" to go ahead and initialize the disk.

To reformat an existing disk, click the disk, pull down the Special menu, and select "Initialize disk" (for a full reformat) or "Erase disk" (for a quick reformat). We suggest using "Initialize disk".

SHUTTING DOWN

When you're through using your IIGs, select "Shut Down" from the Special menu. In the window which appears, make sure "Turn off system power" is selected, and click OK. The IIGs will empty the trash, save the positions of all Finder windows, eject your 3.5" disks, and clean up the IIGs memory. Then the Finder will tell you it's safe to turn off your IIGs's power.

You don't always need to shut down in the Finder. In most cases you can turn off the computer in the middle of whatever program you're running. Quitting the program you're using and shutting down the IIGs just insures that you've remembered to save your work and didn't leave any disks in your drives.

GETTING ORGANIZED

Since the Q Drive has a much larger capacity than a floppy drive, it can be difficult to remember where you put everything. It's best to think of a logical scheme before you actually store anything on your Q Drive. Here are some tips: some obvious, some not.

Keep the names of subdirectories concise but clear; you never want to have to bang your head into the wall trying to remember the cryptic way you abbreviated "AppleWorks". The only thing worse is trying to remember the *half-dozen* cryptic ways you abbreviated "AppleWorks", so be consistent too. Use periods to separate words in filenames, e.g., MY.REPORT. Make up (and use) a standard set of abbreviations for common words—e.g., RPT for report, ADR for address, and so forth.

One common organizational scheme is to create a subdirectory for each program you install on your Q Drive. Then, within that subdirectory, create additional subdirectories for the different types of files you will be using with that program. For example, you might create a WORKS subdirectory to hold your AppleWorks program. Within that directory, you might create additional directories called LETTERS, BUDGET, DATABASE, and so on for the different categories of files you use in AppleWorks. You'll find it easy to remember that the pathname to your December, 1990 budget file is /Q1/WORKS/BUDGET/DEC90.

CHAPTER EIGHT

HARD DRIVE MANAGEMENT

If you have a lot of one type of program, make a directory for the category, then make another directory inside it for each program. For example, create a GAMES subdirectory, then create a subdirectory for each game within it. You can use any ProDOS utility program (such as the Apple System Utilities on the Q Drive), the IIgs Finder, or even programs like AppleWorks to create subdirectories.

When installing a program onto your Q Drive, always be sure to read the manual to see if there are any special considerations for hard drive installation. Some older or copy-protected software may not be hard drive installable, or may require special handling. See the next chapter for more information on installing programs.

A hard drive manager can help keep track of your subdirectories. Most have an Index or Find function which makes it easy to locate a file in a hurry. Some also have features to automate installing programs on your Q Drive, along with utilities for hard drive maintenance and troubleshooting. We suggest Q Labs' *EasyDrive* for IIe users, and the *Salvation—Supreme* or *ProSel 16* packages for IIgs users.

BACKUPS

It's extremely unlikely that you'll have a problem with your Q Drive, and it needs very little maintenance. Errors don't crop up any more frequently on the Q Drive than on floppies, but you've got more to lose if something goes wrong. Thus, regular backups are a necessity.

You can perform backups manually by copying your data files to floppies (you don't need to copy your program files because you already have backups of them—the original program disks). But this gets frustrating if you have many data files. That's where the *Backup II* utility, included on the disks that came with your SCSI card, comes in. It'll cram as much data as possible onto your floppy disks, making backing up a little less painful. IIGS System 6 also includes a backup program called Archiver. More powerful backup programs are one component of a good hard drive management system.

How often should you back up? It depends on how much you use your computer and how important your files are to you. You might want to back up your most vital data daily, or even every time you save (by saving to floppy as well as to the Q Drive). Full hard drive backups can be performed weekly or monthly, though we wouldn't recommend waiting longer than that. How long would it take you to recreate all the work saved on your Q Drive if you lost it all? *Think about it.*

OTHER MAINTENANCE

To guard against errors that can sneak up on you then suddenly cause catastrophe, you should verify your Q Drive at least weekly. A full disk verify (Verify under the Disk menu in the Finder, for example) will read every single block on your Q Drive to assure that they're all readable. A file verify (Validate under the File menu in Finder) of all the files on the drive will ensure that there are no ProDOS directory structure errors that could cause data loss in the future. (These errors can arise due to occasional software or hardware "glitches.") Most hard drive managers include a utility specifically designed to detect and correct many of these types of errors before they become a problem.

You should also perform optimization, also known as de-fragmentation, on a regular basis. As you delete files from your Q Drive, the blocks they used are made available for re-use for other files. As you save new files, they will be placed wherever there's room. This can cause the blocks of the file to be widely separated physically on the drive, slowing access to the file because of excessive head movement. The problem can be especially bad when you add extra files to a directory, because ProDOS will add a block to the directory itself wherever there's room, potentially slowing access to *all* the files in the directory.

Most hard drive managers have an optimizer utility which reorganizes the files on the hard drive so that all the blocks for each file are next to each other. This can dramatically improve access speed if your Q Drive is badly fragmented.