Apple /// Computer Repair Information

ProFile Hard Disk Setup

1982

MODULE P2
REVISION JANUARY 1982

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ProFile Hard Disk Setup

Objective

GIVEN: An Apple ///
ProFile Disk Drive with Interface Card
Power and Interface Cables
ProFile Driver Software Diskette
Demonstration Program Diskette
Business Basic Software Diskette—version 1.1
System Utilities Diskette (Apple ///)—version 1.1
Blank Diskettes
External Drive for the Apple ///

ACTION: Unpack the ProFile drive, install the interface card in the Apple ///, connect the interface and power cables, run the ProFile demonstration program, install the driver software on a copy of Business Basic, install the driver software on System Utilities diskette, configure a "basic" boot diskette that includes the ProFile driver, transfer files to ProFile, run a program from ProFile and delete files from ProFile.

CRITERION: No damage. The demo program must run when the ProFile is set up with the Apple ///. Software configured with the ProFile Driver must successfully boot up in the Apple /// and access the ProFile or appear on the device listing.

Must be able to run Fontdemo program from the ProFile and then delete files copied to the ProFile.

CRITERION TEST DESCRIPTION: Demonstrate your competency with working with the ProFile and the driver to your course manager. Your course manager will check to see if you have properly set up the ProFile and configured the software.

HERE'S WHAT TO DO:

1. Obtain the required materials from your course manager.

2. Read through Module P2.

3. Perform the required procedures.

4. Practice until ready for the Criterion Test.

5. Notify your course manager when ready for the Criterion Test.

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ProFile Diagram

Interface Card

Controller Card

HDA

Power Supply

Analog Card

FIGURE 1

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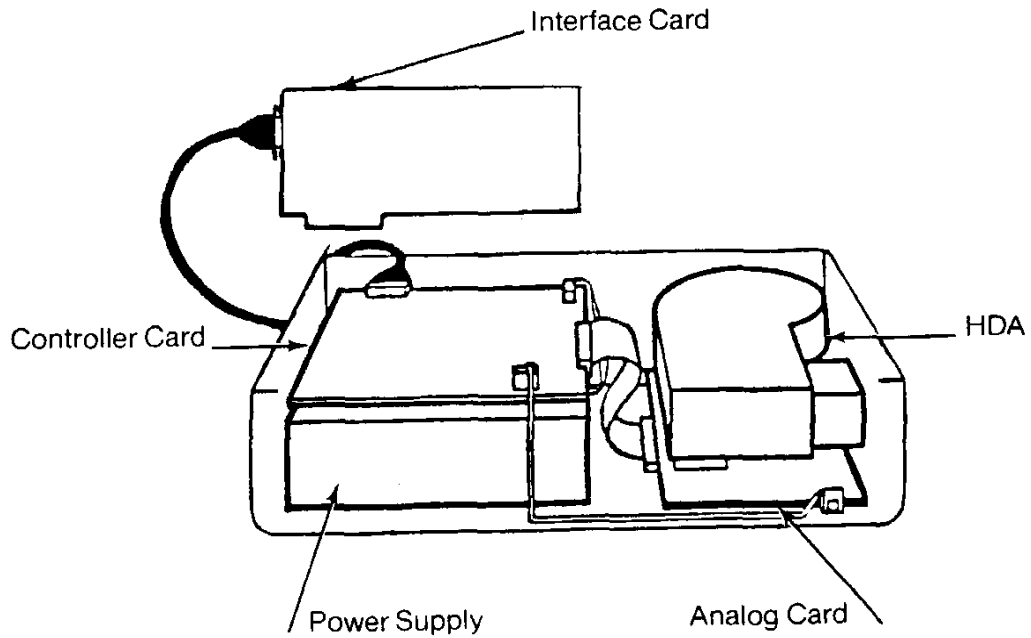
Introduction

The ProFile disk Storage System consists of a fixed-media, random-access, dual 5¼ inch disk drive and a disk controller card packaged together in a lightweight, compact cabinet. (Figure 1). ProFile is a Winchester type drive. This means that the read/write heads, the disks and the activator mechanism are all part of an assembly enclosed in a sealed, protective, nonremovable housing. The ProFile drive is completely portable and may be stacked on top of the Apple /// or on a desktop close to the computer.

As a general rule, the ProFile should be placed on a hard surface where it is convenient to operate and air flow through the bottom is not restricted.

CAUTION: Never under any circumstances place the ProFile drive on a thick carpet or any other surface that might obstruct the air vents on the bottom of the unit.

ProFile differs from a "floppy" disk drive in that the ProFile media, consisting of rigid disks rather than flexible diskettes, cannot be interchanged. The main advantage ProFile has over a "floppy" drive is much greater data storage capacity (5 megabytes), higher reliability and improved performance.

ProFile is controlled by the Apple ///'s Sophisticated Operating System, usually called "SOS". The SOS automatically keeps track of files, saves and retrieves information and does a multitude of other housekeeping tasks.

NOTE: Before beginning this module you should be aware of the "Type" command. When the instructions call for you to type instructions into the computer it will be enclosed in quotes (" "). Type only what is within the quotes and not the quotes themselves.

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Section A: Installing The ProFile Drive

Unpacking the Drive

NOTE: Be very careful when you remove the ProFile from the carton. Extensive damage may result if the unit is accidentally jarred, bumped or handled roughly.

1. To remove the drive from the shipping carton, first lift off the thick foam lid that protects the top of the drive. Notice that the drive is packaged in a cardboard container with hand cutouts on each side. Reach down with both hands, grasp the container by the hand cutouts and carefully pull it straight upward and out of the shipping carton.

2. Place the container on a flat surface in the area where you plan to operate the drive. Open the container and remove the entire assembly which consists of the drive and strapped on foam and caps. Place the assembly on the desk or surface where you intend to use it.

3. As an added precaution against possible damage, you should leave the foam end caps strapped to the drive until you have initially applied power and checked out the drive.

4. Place the drive near the Apple ///.

NOTE: The ProFile chassis sits on six feet which raise it sufficiently to allow cooling air to circulate through the bottom of the unit. Be careful not to set the drive on a thick carpet or any other surface which might obstruct air flow to the unit.

5. Check the switch on the left rear of the back to make sure the power on the Apple /// is off. Remove any peripheral connections in the back of the Apple.
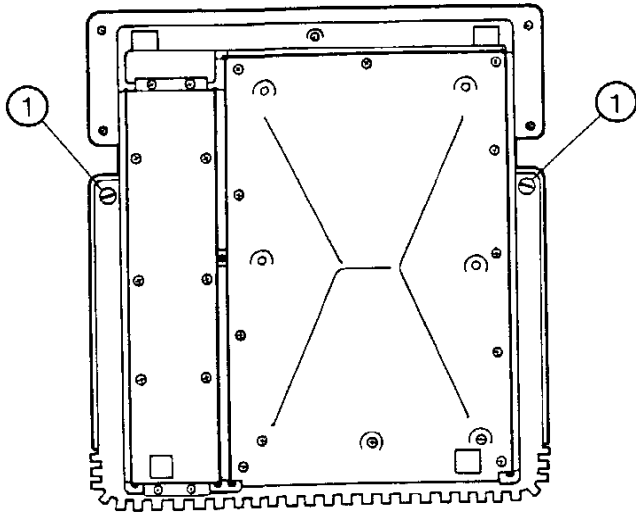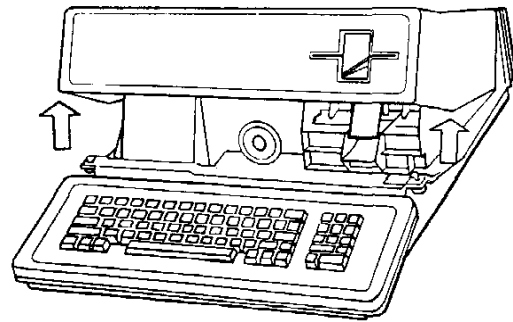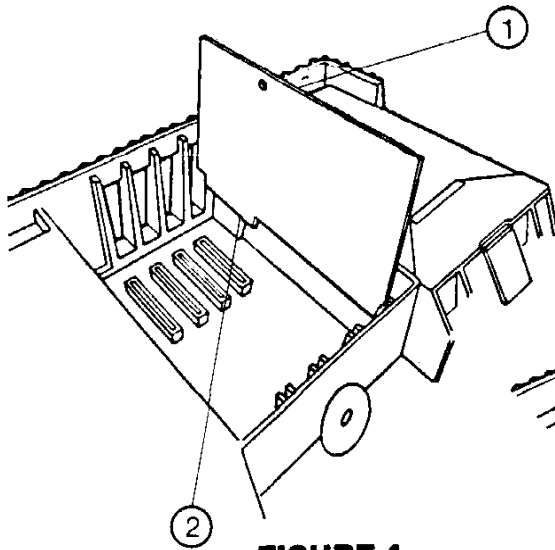
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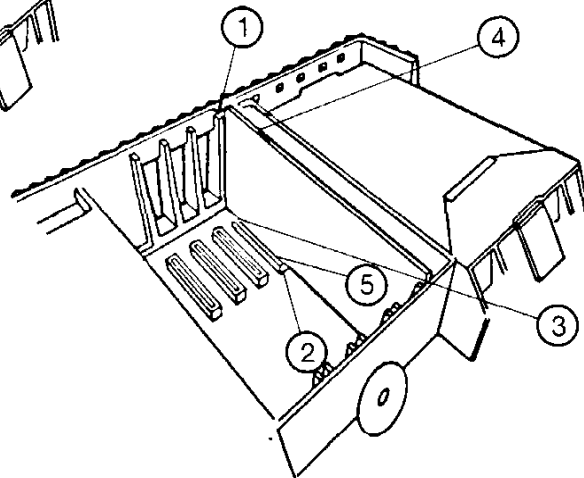P2-7

FIGURE 2

FIGURE 3

FIGURE 4

FIGURE 5

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6. Lift the front of the computer and loosen the two captive screws located on the underside of the left and right corners of the face of the computer. (Figure 2, Item 1). Turn each screw about one quarter turn counterclockwise with a flat blade screwdriver.

7. Lower the Aple back down to the table. Tilt the cover forward and lift straight up to remove it. (Figure 3).

8. Remove any peripheral or dummy cards from slot 4 of the Apple. Rock the card slightly toward the keyboard, then pull it straight up and out of the well.

9. Grasp the ProFile interface card by the edge opposite the gold edge contacts. (Figure 4, Item 1).

NOTE: Never grasp the card by the gold fingers on the edge connector. (Figure 4, Item 2). The efficiency of the card decreases if it is dirty or scratched. Also, do not touch any of the components.

10. With the Apple /// facing you, hold the interface card with its edge connector pointing down. The component side of the card should be facing to the right.

11. Slide the front of the edge connector into the card guide behind slot 4. (Figure 5, Item 1). Make sure the card enters the card guide straight up and down.

12. Slide the interface card into slot 4. (Figure 5, Item 2). Slide the card down until the edge connector begins to enter the connector slot. (Figure 5, Item 3).

NOTE: As you slide the card down into the slot, you will notice that the card may tighten up in the slot. At this point you may have to rock the card back and forth by gently pushing down on the end of the card next to the back of the Apple /// (Figure 5, Item 4), then on the front again until the card is completely in the slot. You can tell the card is fully inserted when the top of the edge connector is flush with the top edge of the slot. (Figure 5, Item 5).

13. If the interface card doesn't seem to fit, remove it completely and try again. Make sure the card enters the guide straight up and down.
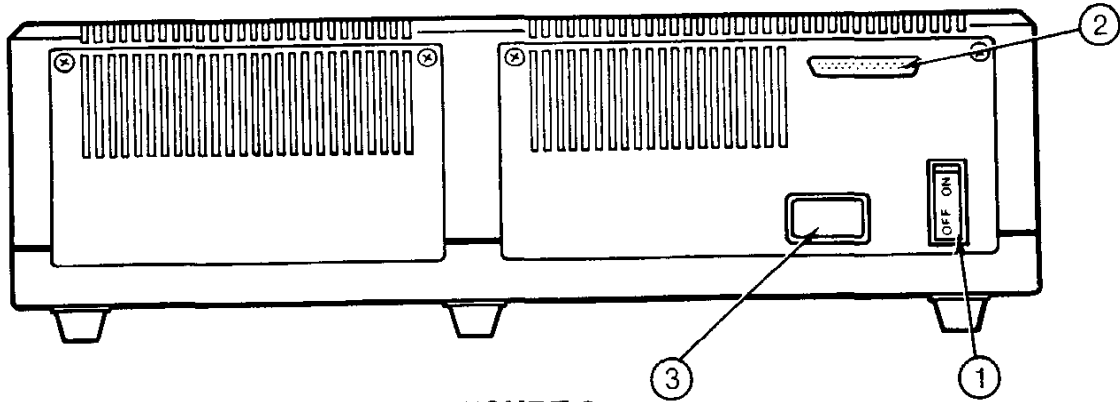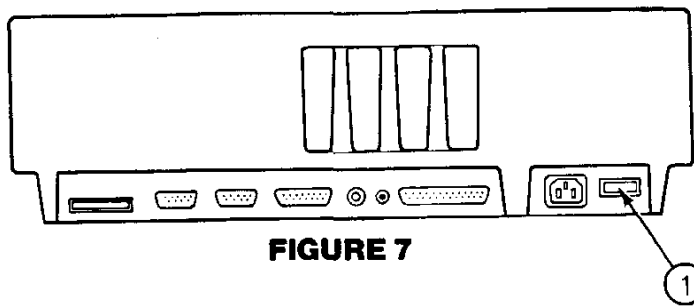
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FIGURE 6
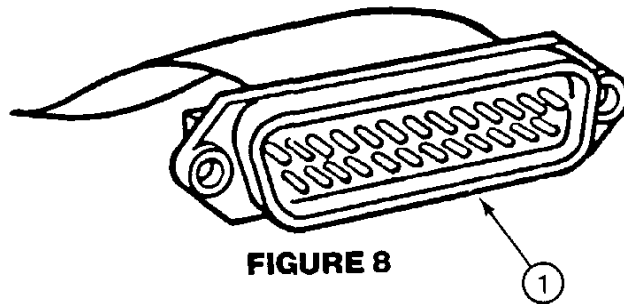
FIGURE 7

FIGURE 8

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ProFile Hard Disk Setup

Connecting the Power Cords:

14. Before connecting any cables, make sure that the power switch on the back of the ProFile is off. (Figure 6, Item 1). The power switch on the back of the Apple /// should already be off. (Figure 7, Item 1).

15. Turn both the Apple and the ProFile around so their backs are facing you.

16. Hold the interface card down with one hand and push the "D"-type cable connector (Figure 8, Item 1) onto the 25-pin conenctor on the interface card.

NOTE: Some ProFile drives may come with flat, ribbon type cables. These cables have the same connector and pin configurations.

17. Attach the other end of the cable securely to the D-type mating connector on the back of the ProFile cabinet. (Figure 6, Item 2).

18. Connect the mating plug on the power cord onto the recessed 3-pin AC power connector on the back of the ProFile cabinet (the plug can go on in only one direction). (Figure 6, Item 3).

NOTE: Always connect the power cable to the ProFile drive before connecting it to the the power source.

19. Connect the other end of the power cord to the AC power receptacle. The ProFile is now completely connected and ready to be powered up.

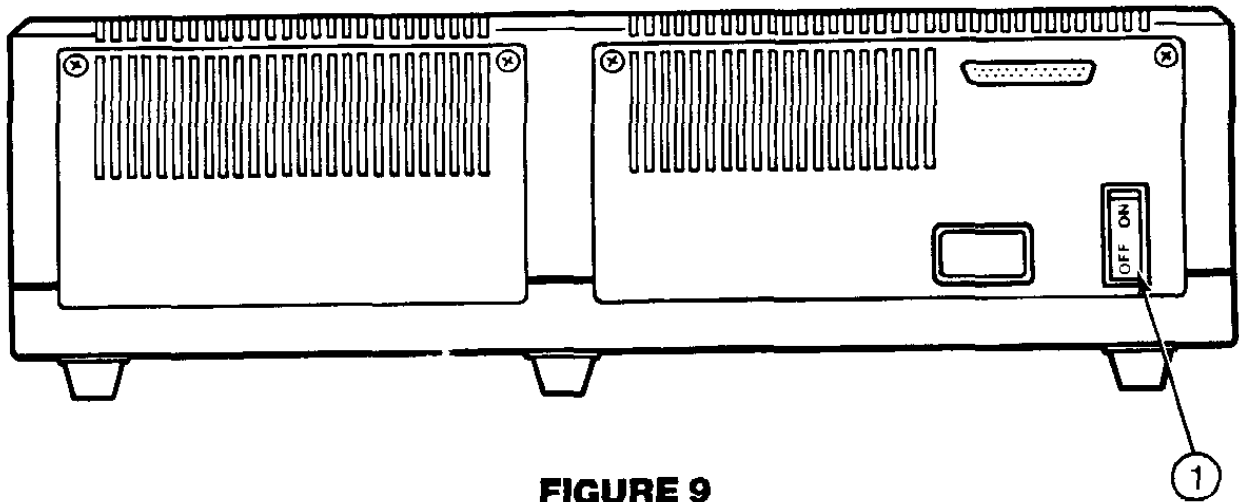   Also plug in the computer if this has not already been done.

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FIGURE 9

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Running The ProFile Demonstration Program:

20. Turn the AC power switch on the ProFile to the "on" position. (Figure 9, Item 1). Do not turn the Apple /// on before turning on the ProFile.

    When the ProFile is turned on, the following takes place:

    A. The LED comes on for about 2 seconds and then goes out for 20 seconds while the drive comes up to operating speed.

    B. The LED starts to flash while the drive performs a surface analysis of its disks.

    After approximately 40-60 seconds, the LED on the ProFile will come on and stay lit which indicates that the power up and surface analysis is complete and the drive is ready for operation. Failure of the LED to remain on indicates a possible hardware malfunction.

NOTE: Under certain circumstances, it could take the drive up to 3 minutes to complete its power up and surface analysis.

To minimize the possibility of equipment failure, do not turn off the drive unless you do not intend to use it for extended periods of time.

21. Insert the ProFile demo diskette into the built-in drive in the Apple /// and gently close the drive's door.

22. Turn on the video monitor, then reach back behind the Apple and turn the power switch on to boot up the demo program in the Apple.

23. As the demo diskette boots up, the built-in drive's red light will come on and the drive will start to whir. The demo program will come up in a short time. Let the demo run through once.

IMPORTANT: If the ProFile LED has not stopped flickering before you attempt to access the drive by booting up your driver software, you will see an I/O error message on the monitor because you attempted to access the drive before it had completed its power up sequence.

When this happens, hold the CONTROL key down and press the RESET to reboot the software after the ProFile steady light indicates that it is fully powered up.

24. Turn off the Apple and remove the demonstration diskette from the built-in drive.

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Section B: Structuring The Software That Will Allow The ProFile To Operate With The Apple ///

Introduction:

At this point, you have set up the ProFile and have connected it to the Apple ///. Now the next step is to communicate through the Apple /// to the peripheral device ProFile. How is this done?

The Apple /// does not communicate with its peripheral devices in the same way the Apple II communicates with peripheral devices hooked up to it. When you insert a peripheral interface card into the Apple II and attach the required interface cables to the external device, your Apple II system is set up to communicate with the attached peripheral. We can say that the Apple II is "hardware configured".

How does the Apple /// communicate with its peripheral devices? Well, the Apple ///'s Sophisticated Operating System (SOS) uses special programs called "device drivers" to communicate with all peripheral devices. Whether a given device is built in or added later, SOS uses a device driver to exchange information. The Apple /// is "system configured".

Peripheral Devices and the Apple ///:

Peripheral devices such as ProFile, the keyboard, video scan, speaker and communications ports are the eyes and ears and other senses of the computer. Software called "device drivers" connect these senses to SOS. A device driver performs four necessary functions:

1. It processes data generated by your programs and sends it to the device as output.
2. It processes data generated by the device and sends it to your programs as input.
3. It enables your programs and SOS to control the operation of the device and of the driver itself.
4. It enables your programs and SOS to read the status of the device and of the driver itself.

NOTE: Not all drivers perform all of these functions. Some can process data in only one direction, such as the printer driver which only processes output.

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The ProFile Device Driver:

In this part of the module, Section B, the procedures are given for structuring (configuring) certain user programs to include the ProFile device driver software so that the Apple /// will be able to communicate with the ProFile. However, before you begin Section B, you should know some more about device drivers.

Programs such as Business Basic, Pascal, VisiCalc, The System Utilities, etc. that you want to use with the Apple /// and ProFile already contain a file named SOS.DRIVER when you receive them. In order for the program software to communicate with the ProFile through Apple ///, the specific driver software for ProFile itself (on a separate diskette) must be added to that SOS.DRIVER file already on the program diskette.

For example, the program Business Basic for Apple /// already contains the file SOS.DRIVER. However, it does not contain the specific driver for ProFile—the PROFILE.DRIVER. You must add PROFILE.DRIVER to the existing SOS.DRIVER file on the Business Basic diskette so that you can run that program on the Apple /// and access the ProFile as required.

Adding the ProFile Device Driver:

How do you go about adding a device driver? The information stored in the SOS.DRIVER file that already exists on a user program such as Business Basic is called its "system configuration"—configuration in this case means structure. This information can be modified by using a special-purpose editor on the Apple /// System Utilities diskette. This special-purpose editor is called the System Configuration Program or SCP and it is a tool used to create and modify SOS.DRIVER files. The SCP can be used to add, remove and modify device driver files so as to change the configuration of the operating system itself for each particular user program. You will need to do this any time you want to add or remove a peripheral device such as ProFile from a user program such as Business Basic.

Now, every user program diskette may already contain a different system configuration in its SOS.DRIVER file. Although the system parameters for your Apple /// will probably be the same in each one, the drivers are likely to be different. On each diskette supplied by Apple, there is a different set of drivers appropriate to your use of the programs on each diskette. The more drivers there are in a given configuration, the more disk space and memory the drivers will occupy. If you don't need some of these drivers, you may delete them to save space. Likewise, if you need a driver, you can add it to the system configuration on the particular program diskette in question.

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Exactly how do you go about using the System Configuration Program on the System Utilities diskette to modify (reconfigure) an existing SOS.DRIVER file on a particular program? Specific steps required for configuring two user programs are outlined in the following procedures:

Procedure I: This details steps for configuring the user program Business Basic's existing SOS.DRIVER file to include the PROFILE.DRIVER software.

Procedure II: This procedure includes directions for configuring the System Utilities' SOS.DRIVER file to include the PROFILE.DRIVER software. In this procedure, no existing drivers will be deleted.

Procedure III: In Procedure III you will configure a "basic" boot diskette that contains the ProFile Driver and certain system utilities files. Next you will transfer certain Business Basic files to the ProFile. Then you will use the "basic" boot diskette to boot up the Apple ///, access ProFile, run the Fontdemo from the ProFile and then delete those files transferred to the ProFile earlier.

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Procedure I: Adding the ProFile Driver Software to Business Basic

A. Copying the Business Basic Diskette—the configuration of the program will be completed on this copy. You will use the System Utilities device handling option to copy the entire contents of the Business Basic diskette onto another.

Since you are going to use two drives in this procedure, go to step 12. If you had only the one internal drive with your Apple ///, then steps 1-11 would apply.

IMPORTANT: If you decide to copy Business Basic or any other program onto a diskette already containing a program rather than copying onto a blank diskette, make sure that the previously copied diskette was formatted on the Apple ///, not the Apple II.

If you attempt to copy onto an Apple II formatted diskette using the Apple ///, the copy will not reboot in the Apple ///.

1. Insert the System Utilities diskette into the built-in drive.

2. Boot the Apple ///—turn on the power or hold down the CONTROL key and press RESET if power is already on.

3. Type "D" to select Device Handling commands.

4. Type "C" to select Copy One Volume onto Another.

5. Remove the System Utilities diskette and insert the Business Basic (boot) diskette into the built-in drive.

6. Type ".D1" and press RETURN. This designates Drive 1 as the device in which the diskette is located.

7. Accept .D1 by pressing RETURN to indicate that you will copy to another volume in the internal drive 1.

8. Press RETURN.

9. Remove the Business Basic diskette from the built-in drive. To complete this procedure, you will need to use the destination (blank), System Utilities and source (Business Basic) diskettes as follows:

   a. Insert the destination (blank) diskette. Press the space bar.

   b. Remove the blank diskette and reinsert the System Utilities diskette. Press the space bar.

   c. Remove the System Utilities diskette and insert the blank. Press the space bar and the blank will be formatted.

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10. When the monitor indicates that the format has been successful, you can now swap the destination (blank) and source (Business Basic) diskettes in the built-in drive until you see the message "Copy Successful" displayed on the monitor.

11. Remove the new copy of the Business Basic diskette from the built-in drive and lable it "Business Basic Copy".

12. If you have an external Apple /// drive, the copy procedure would be as follows:

   a. Make sure the power on the Apple /// is off. Install the external drive.

   b. Boot the System Utilities diskette in the Apple ///.

   c. Type "D" for Device Handling commands.

   d. Type "C" for Copy a Volume.

   e. Remove the System Utilities diskette from the built-in drive. Insert the source (Business Basic) diskette.

   f. Press the right arrow key to move the cursor over to the 2. Type "1" and press RETURN. This selects the diskette in the internal drive (.D1) as the diskette that will be copied.

   g. Insert the destination (blank) diskette into the external drive.

   h. Press RETURN. You have selected the diskette in the external drive (drive 2 or .D2) as the diskette to be copied to.

   i. Press RETURN.

   j. At this point you will have to type "Y" to destroy any previous contents on the diskette you wish to copy to if it already contains a program.

NOTE: If the diskette you wish to copy to has already been formatted, the copy procedure will not start. However, if your diskette is blank (never has been formatted), you must do the following:

Remove the Business Basic diskette from the built-in drive and insert the System Utilities diskette as indicated on the monitor. Press the space bar to format the diskette.

Remove the System Utilities diskette from the built-in drive and reinsert the Business Basic diskette as the monitor indicates. Press the space bar to copy the diskette. When the copy is successful, the message "Copy successful" will appear on the monitor.

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k. When the copy procedure is complete, remove the Business Basic diskette from the external drive and lable it "Business Basic Copy". Remove the original copy of Business Basic from the internal drive.

NOTE: You will use this Business Basic copy for the rest of Procedure I. Set the original Business Basic with all its original files intact aside for the time being.

B. Determine the Blocks Required for the ProFile Driver and the Blocks Available on the Business Basic Diskette—this is the way for a user to find out how many blocks may currently be available on the Business Basic program that you want to add the ProFile driver software to. By finding out how many blocks are required for the ProFile driver and how many blocks are available on Business Basic, you can decide how many more blocks will have to be freed up so that the ProFile driver can be added.

Procedure:

1. At this time, the System Utilities diskette has already been booted up in the Apple ///'s built-in drive. Insert the ProFile driver diskette into the built-in drive. Press ESCAPE twice to return to the main menu.

2. Type "F" to select the File Handling commands.

3. Type "L" to select List Files.

4. Move cursor over to the 2 and type in "1". Press RETURN.

5. Press RETURN to accept all directory levels. Press RETURN again to send listing of the files to the console. Note number of blocks required for the ProFile driver listed under the heading PHYS. (9 blocks).

6. Remove the ProFile Driver diskette from the built-in drive. Insert the copy of the Business Basic diskette you just made into the built-in drive.

7. Press ESCAPE to return to the File Handling menu.

8. Type "L" to List Files.

9. Move cursor over the 2, type in '1", press RETURN.

10. Press RETURN twice to display the directory of the files on the Basic diskette. Type "Y" to continue listing. Read the number of blocks available on the Business Basic diskette on the last line following the listing of files. (You will notice that only 2 blocks are still available).

In step 5 you determined that the ProFile driver requires 9 blocks. In step 10 you found out that only 2 blocks are currently available on the Business Basic diskette that you would like to add the driver to. Therefore, you will need to make more room on the Business Basic copy so you can add the ProFile driver. You will do this by deleting certain driver(s) as explained in the following procedures.

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C. Delete a Driver—in this section you will have a chance to practice deleting a driver from the existing SOS.DRIVER file on the Business Basic copy. You will first use the System Configuration Program on the System Utilities diskette to first read the SOS.DRIVER file on the Business Basic copy loaded into the system and then next delete and existing driver from its driver file.

Procedure:

1. Insert the System Utilities diskette into the built-in drive and press the ESCAPE key twice to get back to the main menu.

2. Type "S" for the Systems Configuration Program (SCP) option. You will see the SCP menu on the screen.

3. Select "R" for the Read a Driver File option. The Apple will tell you that no drivers are loaded.

4. Remove the System Utilities diskette and insert your copy of the Business Basic diskette. Press RETURN to select .D1/SOS.DRIVER. A listing of all drivers currently in the SOS.DRIVER file will appear on the screen.

NOTE: At this point, if you had determined in section B that your boot diskette had enough room for the ProFile Driver, you could now go to section D which gives the procedures for adding the ProFile Driver to the boot diskette. However, if you determined that your program diskette did not have enough room for the ProFile Driver (as is true in this example), then you will have to delete one or more drivers from SOS.DRIVER file of your boot diskette. These procedures are described below:

5. Press ESCAPE to display the SCP menu.

6. Remove your copy of the Business Basic diskette and insert the System Utilities diskette.

7. Type "D" to select a Delete a Driver.

8. Now you need to select the number of the file to be deleted. This time type 3—to select the file PRINTER. Press RETURN.

9. Type "Y" for yes. You will see that the file PRINTER is no longer listed.

10. Press ESCAPE to display the SCP menu.

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D. To Add the ProFile Driver—in section D of Procedure I, you will return to the System Configuration Program, Read a Driver file, and then add the ProFile device driver software to the SOS.DRIVER file of the copy of Business Basic you loaded into the system earlier.

Procedure:

1. Type "R" for Read a Driver File. Remove the System Utilities diskette from the built-in drive and insert the ProFile device driver diskette.

2. Type ".D1/PROFILE.DRIVER" and press RETURN. Notice that the driver named .PROFILE has been added to the bottom of the current configuration list.

3. Remove the ProFile Driver diskette from the built-in drive.

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E. Change System Parameters—using the System Configuration Program again, you will set the peripheral slot assignment for the Business Basic program.

Procedure:

1. Insert the System Utilities diskette in the built-in drive.

2. Press ESCAPE and the SCP menu will be displayed.

3. Type "C" to select the Change System Parameters option. The System Parameter Display will now be shown.

4. Select the option entitled "Peripheral Slot Assignments" by typing its option number. The screen will display a list of all presently installed device drivers and their current peripheral slot assignments. The ? mark following the .PROFILE driver indicates that a slot is not yet assigned to this driver.

5. Type the number appearing to the left of the .PROFILE driver and press RETURN. This selects ProFile as the driver that will be given a slot assignment. Next, you will be asked to enter the number of the slot you wish assigned to your driver.

6. Type "4" and press RETURN. (Slot 4 is the peripheral slot in the Apple /// where you installed the ProFile interface card.)

7. The ? mark is now replaced by the peripheral slot number which you just assigned.

8. Press ESCAPE twice to display the SCP menu.

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F. Generate a New System— using the Generating New System option on the System Configuration Program, you will attempt to generate the new Business Basic program that would now include the ProFile driver software.

NOTE: You will notice that your first effort will not be successful to due to the fact that the driver file on the program is too large. You will then delete an additional driver and then generate a new system.

Procedure:

1. Type "G" to select the Generate New System option.

2. Remove the System Utilities diskette and insert your copy of the Business Basic diskette.

3. Press the right arrow key to move the cursor over to the 2. Type in a "1". Press RETURN.

4. Type "Y" (for yes) indicating that you wish to delete the existing SOS.DRIVER file and generate a new one.

5. If the message "File is Write Protected" is displayed on the screen, type "Y" (for yes) indicating that you wish to delete the file anyway.

NOTE: At this point, if the message "System Generated" were to appear on the screen, you would now have successfully added the ProFile Driver to the boot diskette and you could proceed to section G. However, if the message "Driver File Too Large" or "No Room on Volume" appears on the screen (as in this example), then you must delete another driver file as described below.

CAUTION: Do not power down the Apple /// at this point. If you do, all the information you have just entered into memory will be lost and you will have to start the procedures for deleting and adding the driver all over again. Go on to step 6 below and complete the steps until you see the message "System Generated" on the monitor. Then you can reboot the newly configured diskette.

6. Press ESCAPE to display the SCP menu.

7. Remove your copy of the Business Basic diskette and insert the System Utilities diskette.

8. Type "D" to select Delete a Driver.

9. Select the number of the file to be deleted. This time delete the file RS232. Press RETURN.

10. Type "Y" for yes. You will see that the file RS232 is no longer listed.

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11. Press ESCAPE to display the SCP menu.

12. Type "G" to select the Generate New System option.

13. Remove the System Utilities diskette and insert your copy of Business Basic.

14. Move the cursor over to the 2 and type in a "1". Press RETURN.

15. Type "Y" (for yes) indicating you wish to delete the existing SOS.DRIVER file and generate a new one.

16. This time you should see the message "System Generated: .D1/SOS. DRIVER on the monitor. This means that you have successfully added the ProFile driver to your boot diskette.

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G. Verify the Driver Software—you will reboot the newly configured Business Basic diskette in the Apple /// and access the ProFile. In this way you can be sure the ProFile driver software is present.

1. If the ProFile is not already powered up, turn it on and wait for it to completely warm up (the LED will remain on.)

2. Hold down the CONTROL key and press RESET to reboot the newly configured Business Basic diskette in the Apple ///'s internal drive.

3. When the diskette has booted, type "CAT .PROFILE" (make sure there is a space after the CAT). Press RETURN.

4. This command will display the directory of the ProFile drive.

NOTE: The command that will display the directory of the ProFile varies depending on the programming language being used.

5. Remove the Business Basic diskette from the drive.

GO ON TO PROCEDURE II.

Procedure II: Adding the ProFile Driver to the System Utilities

NOTE: At this point, you have successfully reconfigured or restructured a copy of the user program Business Basic to contain the ProFile driver software. Now, when you boot that diskette in the Apple ///, the system will be able to communicate with the ProFile.

In this next section, you will again add the ProFile driver software to a program. In this case, it will be the System Utilities program. You have already used the System Utilities software when you made the copy of Business Basic and you used the System Configuration Program on the System Utilities diskette for the purpose of deleting and adding drivers, changing system parameters and generating a new system.

To install the driver software on the System Utilities without deleting any files, it is necessary to create a version of the Utilities diskette that has more available space by going to a two-stage boot. With a two-stage boot, some of the files you need to start the system are on a separate diskette that is used only for the first stage of the boot operation.

To make the two-stage boot, complete the following:

A. Format Two Blank Diskettes:

1. Insert the System Utilities diskette into the built-in drive. Put the blank diskette into the external drive.

2. Reboot the System Utilities diskette in the internal drive by pressing CONTROL RESET.

3. Type "D" for Device Handling commands.

4. Type "F" for Format a Volume.

5. Accept .D2 by pressing RETURN.

6. Type UTILITY1 and press RETURN. This will name the volume UTILITY1.

NOTE: If you are using a diskette that already contains a program rather than a totally blank diskette, you will see a message asking you if the contents can be destroyed before the copy procedure begins. If this happend, type Y to indicate yes.

7. When the message "Formatting Successful" appears on the monitor, remove the diskette from the external drive and label it UTILITY1.

8. Insert another blank diskette into the external drive, press RETURN.

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9. Type "UTILITY2" and press RETURN to name this volume UTILITY2.

10. When the message "Formatting Successful" appears, remove the diskette and label it UTILITY2.

11. Press ESCAPE twice to display the main menu.

B. Copy Files to UTILITY1

NOTE: If you are using only one drive complete steps 1-15 below. If you are using an external drive, go to step 16.

1. Type "F" for File Handling commands.

2. Type "C" for Copy Files.

3. Insert the System Utilities diskette into the built-in drive.

4. Type ".D1/SOS.KERNEL" and press RETURN.

5. Type ".D1/SOS.KERNEL" and press RETURN.

6. Swap the destination (UTILITY1) and source (referred to as System Utilitaies or just Utilities) diskettes in the built-in drive as directed by the monitor screen until the file transfer is complete.

7. Remove the UTILITY1 diskette and reinsert the System Utilities diskette. The monitor will indicate when the transfer is complete.

8. Type ".D1/SOS.INTERP" and press RETURN.

9. Type ".D1/SOS.INTERP" and press RETURN.

10. Swap the destination (UTILITY1) and source (referred to as System Utilities or just Utilities) diskettes in the built-in drive as directed by the monitor screen until the file transfer is complete.

11. Remove the UTILITY1 diskette and reinsert the System Utilities diskette.

12. Type ".D1/SOS.DRIVER" and press RETURN.

13. Type ".D1/SOS.DRIVER" and press RETURN.

14. Swap the UTILITY1 and System Utilities diskettes in the built-in drive as directed until the file transfer is complete.

15. Remove the UTILITY1 diskette from the built-in drive and set it aside out of the way.

TURN PAGE

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16. If you have an external drive set up with your Apple *III*, copy files onto the UTILITY 1 diskette as follows:

   a. The System Utilities diskette is already booted up in the built-in drive. Type "F" for File Handling commands.

   b. Type "C" for Copy Filed.

   c. Type ".D1" and press the up arrow key. All files on the System Utilities diskette will be shown on the upper right section of the monitor. You will also see a /= appear after the .D1 you just typed in. (You will not use the Wildcard program to copy certain files to a diskette in the external drive.

   d. Insert the UTILITY1 diskette into the external drive.

   e. Press the right arrow key. You will notice that a right arrow symbol has appeared to the left of SOS.KERNEL. This means that you have selected the file SOS.KERNEL to be copied.

   f. Press the down arrow key. Press the right arrow key. You will see the right arrow symbol beside SOS.DRIVER which means you have selected that file to be copied.

   g. Press the down arrow key, then press the right arrow key to select the file SOS.INTERP to be copied.

NOTE: In the Wildcard program, the up and down arrow keys move the cursor freely up and down. The right arrow key selects a specific file to be copied whereas the left arrow key will delete a selected file.

   h. Press RETURN. Press RETURN again to select .D2/= as the destination device.

NOTE: As files are copied, you will see that information displayed on the monitor.

   i. When all three files have been copied onto the UTILITY1 diskette in the external drive, remove the UTILITY1 diskette from the external drive and insert UTILITY2.

   j. Type ".D1" and press the up arrow key. Again, you will see the files listed in the upper right-hand corner.

CAUTION: Do not press return before you type in ".D1" and press the up arrow key. If you do, you will copy all the files on the System Utilities diskette.

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k. Using the down and right arrow keys as before, select the following files: SYSTEM.PASCAL, SYSTEM.MISCINFO, and SYSTEM.STARTUP.

l. When you have selected the above three files, press RETURN. Press RETURN again to select .D2/= as the destination device. All three files you just selected will be copied to the diskette in the external drive.

m. When all three files have been copied, remove UTILITY2 from the external drive. Reinsert UTILITY1 into the external drive.

TURN PAGE

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C. Add the ProFile driver to UTILITY1.

1. With the (original) System Utilities diskette still in the built-in drive, press ESCAPE twice and select the System Configuration Program from the main menu by typing "S".

2. Select "R" for the Read a Driver File option. The Apple will tell you that no drivers are loaded.

3. Move the cursor over the 1, type "2" and press RETURN. A listing of all drivers currently in the SOS.DRIVER file on the UTILITY1 diskette will be displayed on the screen.

4. Remove the UTILITY1 diskette from the external drive and insert the ProFile driver diskette.

5. Type ".D2/PROFILE.DRIVER" and press RETURN. Notice that the driver named .PROFILE has been added to the bottom of the current configuration list.

6. Remove the ProFile driver diskette from the external drive.

7. Insert the UTILITY1 diskette in the external drive.

8. Press ESCAPE and the SCP menu will be displayed.

9. Type "C" to select the Change System Parameters option. The System Parameter Display will now be shown.

10. Select the option entitled "Peripheral Slot Assignment" by typing its option number. The screen will display a list of all presently installed device drivers and their current peripheral slot assignments. The ? mark following the .PROFILE driver indicates that a slot is not yet assigned to this driver.

11. Type the number appearing to the left of the .PROFILE driver and press RETURN. You will now be asked to enter the number of the slot you wish assigned to your driver.

12. Type "4" and press RETURN. (Slot 4 is the peripheral slot in the Apple /// where you installed the ProFile interface card.)

13. The ? mark is now replaced by the peripheral slot number which you just assigned.

14. Press ESCAPE twice to display the SCP menu.

15. Type "G" to select the Generate New System option.

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16. Accept .D2/SOS.DRIVER by pressing RETURN.

17. Type "Y" (for yes) indicating that you wish to delete the existing SOS.DRIVER file and generate a new one.

18. When the message "System Generated" appears on the screen, you will know that the ProFile driver has been successfully added to your UTILITY1 diskette.

D. Booting Up with UTILITY1 and UTILITY2

1. Remove the original System Utilities dikette from the built-in drive. Remove UTILITY1 diskette from the external drive. Boot up the UTILITY1 diskette in the built-in drive. (Press CONTROL RESET).

2. When the message "Put Pascal system disk in built-in drive. Press RETURN" appears on the monitor, remove the UTILITY1 diskette from the built-in drive and insert UTILITY2.

3. Press RETURN.

4. The boot process will continue until the display shows the System Utilities main menu.

E. Verify the Driver Software

1. With both UTILITY1 and UTILITY2 booted up in the Apple ///, select Device Handling from the main menu by typing "D".

2. Type "L" to list files.

3. Press RETURN.

NOTE: If you have an external drive attached to the Apple ///, you wil hear noises coming from the external drive due to the fact that the program is checking to see if any diskette is loaded there. This is a normal part of the procedure.

4. After a short time, a listing of the devices on the diskette will appear on the monitor. The ProFile driver will be listed.

5 .Remove the UTILITY2 diskette from the built-in drive. You will reboot these two diskettes at the beginning of the next procedure.

GO ON TO PROCEDURE III.

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Procedure III: Making a Basic Boot Diskette Containing Three SOS Files and ProFile Driver Software, Transferring Certain Business Basic Files to ProFile, Running a Program from ProFile and Deleting Files from the ProFile.

1. Reboot UTILITY1 and UTILITY2 in the internal drive. (Press CONTROL RESET).

2. Place a blank diskette in the external drive.

3. Type "D".

4. Type "F".

5. Press RETURN. This will identify the external drive as the device (.D2) that contains the diskette to be formatted.

6. Type "BASIC.BOOT" and press RETURN. This names the diskette to be formatted BASIC.BOOT.

7. Type "Y" if you wish to delete an existing file on the diskette in the external drive if you didn't use a blank diskette.

8. The diskette in the external drive will now be formatted. When this process is completed, you will see FORMATTING successful appear on the monitor.

9. Press ESCAPE twice to return to the main menu.

10. Type "F". Type "C".

11. Remove UTILITY2 from the internal drive. Insert the original Business Basic diskette into the internal drive.

12. Type ".D1" and press the up arrow key. You will see the Business Basic files listed on the right side of the monitor.

13. Use the right and down arrow keys to select the following files: SOS.KERNEL, SOS.DRIVER and SOS.INTERP.

14. When all three files have been selected, press RETURN.

15. Press RETURN again to copy the three files to the diskette in the external drive.

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16. The monitor will display the file names as they are copied.

17. When all three files have been copied, remove the original Business Basic diskette from the internal drive. Insert UTILITY2 back into the internal drive.

18. Press ESCAPE twice to return to the main menu.

19. Type "S". Type "R".

20. Remove the UTILITY2 diskette from the internal drive. Insert the ProFile driver diskette.

21. Move the cursor over to the 1. Type in a "2". Press RETURN. You will now read in the SOS.DRIVER file from the diskette now in the external drive. (You will see the current Driver Configuration appear on the monitor).

22. Type ".D1/PROFILE.DRIVER" and press RETURN. You will now read the PROFILE.DRIVER file from the internal drive. (You will see that .PROFILE has been added to the Current Driver Configuration shown on the monitor).

23. Press ESCAPE to return to the SCP menu.

24. Remove the ProFile driver diskette from the internal drive. Insert UTILITY2.

25. Type "C" to select "Change System Parameters".

26. Type the option number beside "Peripheral Slot Assignments".

27. Type the number appearing to the left of .PROFILE and press RETURN. You have selected .PROFILE as the driver whose peripheral slot assignment will be changed.

28. Type "4" and press RETURN. You have assigned slot 4 to .PROFILE.

29. Press ESCAPE twice to return to the SCP menu.

30. Type "G" to select "Generate a New System".

31. Press RETURN to accept .D2/SOS.DRIVER.

32. Type "Y" to delete existing SOS.DRIVER.

33. Type "Y" again to delete even though file is write protected.

34. The new system will now be generated.

TURN PAGE

35. When the process is complete, remove the diskette from the external drive. Label it BASIC.BOOT.

NOTE: This diskette now contains the files SOS.KERNEL, SOS.DRIVER and SOS.INTERP. The ProFile driver software has also been added.

36. Insert the original Business Basic diskette into the external drive. Press ESCAPE.

37. Type "Q", type "F" and then type "C".

38. Type ".D2" and press the up arrow key.

39. Select the following files: DOWNLOAD.INV, FONTDEMO, STANDARD, APPLE, BYTE and POMAN.

40. Press RETURN.

41. Type ".PROFILE" and press the up arrow.

42. Press return once to copy selected files to ProFile.

43. Remove the original Business Basic from the external drive. Remove UTILITY2 from the internal drive.

44. Reboot the new BASIC.BOOT in the internal drive. (Press CONTROL RESET).

45. Type "PREFIX$=.PROFILE" and press RETURN.

46. Type "CAT" and press RETURN. The contents of the ProFile will be displayed on the monitor.

47. Type "RUN FONTDEMO" and press RETURN. (Make sure there is a space between RUN and FONTDEMO). The FONTDEMO program will be run from the ProFile.

48. Remove the new BASIC.BOOT diskette from the internal drive. Reboot UTILITY1 and UTILITY2 in the internal drive. (Press CONTROL RESET).

49. Type "F" and then type "W".

50. Type ".PROFILE" and press the up arrow.

51. Select DOWNLOAD.INV, FONTDEMO, STANDARD, APPLE, BYTE and ROMAN.

52. Press RETURN.

53. Type "N".

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54. Press ESCAPE.

55. Type "D" to select "Delete Files".

56. Press the up arrow. Select the same six files again.

57. Press RETURN.

58. Type "Y" to update the directory.

59. Press ESCAPE. Type "L" to "List Files".

60. Type ".PROFILE" and press RETURN.

61. Press RETURN twice more.

62. Type "Y" as many times as necessary to continue listing until you can see that the six files have been deleted from the ProFile.

PRACTICE

Before going to your course manager for the Criterion Test you may wish to review the ProFile skills taught in this module.

THIS IS THE END OF MODULE P2.