

FIRST CLASS

P E R I P H E R A L S

SIDER D4

Subsystems For The Apple II

INSTALLATION / USER GUIDE

SIDER D4

Subsystems for the Apple II Supporting ProDOS, and GS/OS

Installation / Users Guide

Part Number 104061-04

REVISION C

PREFACE

The following manual contains instructions for installing the FIRST CLASS PERIPHERALS SIDER Sider D4 hard drive subsystems on the APPLE IIe and APPLE IIGS. The instructions in the manual assume you have a working knowledge of the APPLE system.

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COMPUSERVE APPLE VENDORS FORUM
(When in COMPUSERVE enter 'GO APP VEND'
and you will find us under sub-topic 6)

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1. HARDWARE INSTALLATION

The hardware section of this manual is written to guide you through a successful first time installation of the Sider D4 subsystem on your Apple IIe or Apple IIGS. Most instructions are identical for both the IIe or IIGS. Where there are differences, there will be special sections detailing proper procedures.

To install your new subsystem, you'll find the following helpful:

A quarter-inch, HEX nut driver.

A pair of needle nose pliers.

Your Apple Corporation, OWNER'S GUIDE manual.

1.1 INVENTORY CHECK LIST

First Class Peripherals makes every effort to make the installation process as simple as possible. Having the complete package is a big part of that goal. Please inspect the materials in the Sider's shipping carton to assure you have received all the required items.

- | | |
|---------------------------------|----------------------|
| 1- Sider D4 subsystem. | 1- Power cord. |
| 1- Host adapter interface card. | 1-Owner's manuals |
| 1- Flat ribbon cable. | 1- Terminator. |
| 1- Dual 25 pin data cable. | 2 Program diskettes. |
| 2- Hex nut screws | 1- 3-1/2 inch |
| | 1- 5-1/4 inch |

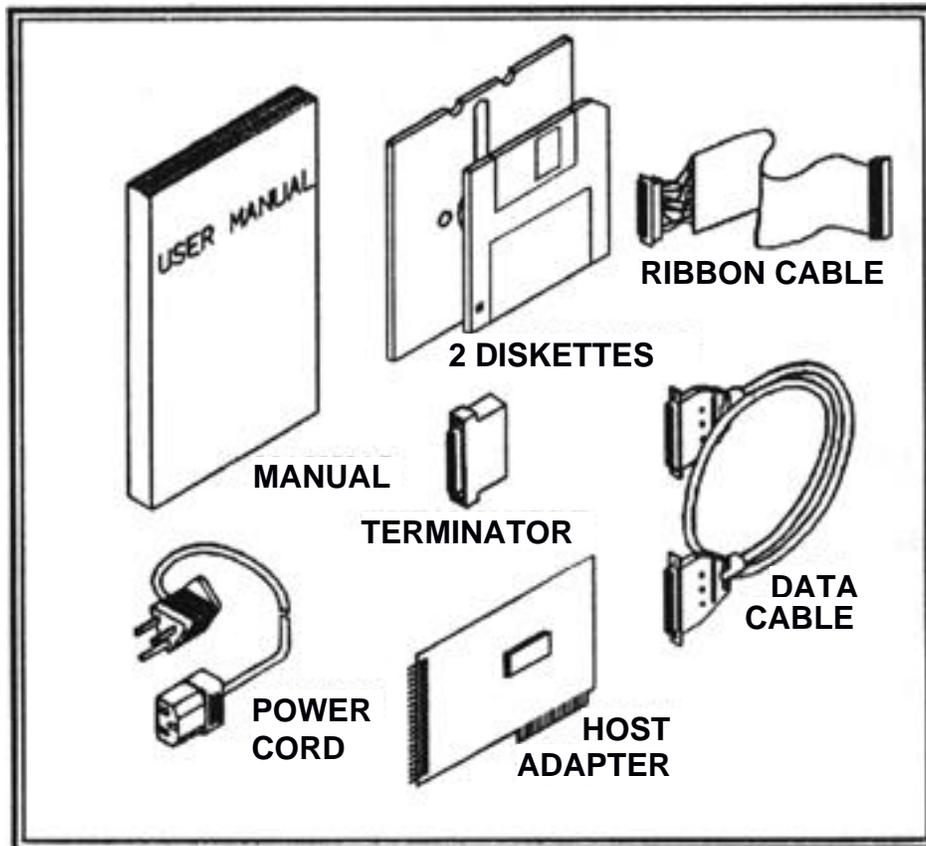


FIG. 1-1 INVENTORY LIST

1.2 INSTALLATION PROCEDURE

Before proceeding, make sure you have turned your computer's power off as well as the power to your other peripherals. Follow each step in order.

1. Locate the SIDER 's host adapter and inspect it for proper configuration as shown below. The host adapter jumpers W1 and W2 should be in an open position or removed. To set in an open position, each plastic jumper should connect with only one of the two pins. W1 and W2 should never be in the closed position or connecting both pins if the Sider has a warning label on the rear panel. For use with other models of the Sider host adapter see the **HARDWARE APPENDIX**.

NOTE: If you are using your Sider in conjunction with older Sider products, please see the **HARDWARE APPENDIX for important host adapter configuration information concerning the Apple's power structure**

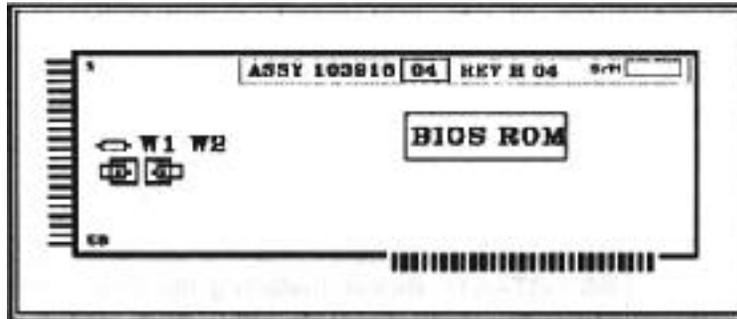


FIG. 1-2 HOST ADAPTER SETTINGS

2. With the host adapter properly configured, locate the Sider's flat ribbon cable which has a 50 pin connector on one end and a 25 pin D-SUB connector on the other. (This cable is normally rainbow colored).

3. Connect the 50 pin side of the ribbon cable to the front of the host adapter as shown in FIG. 1-3.

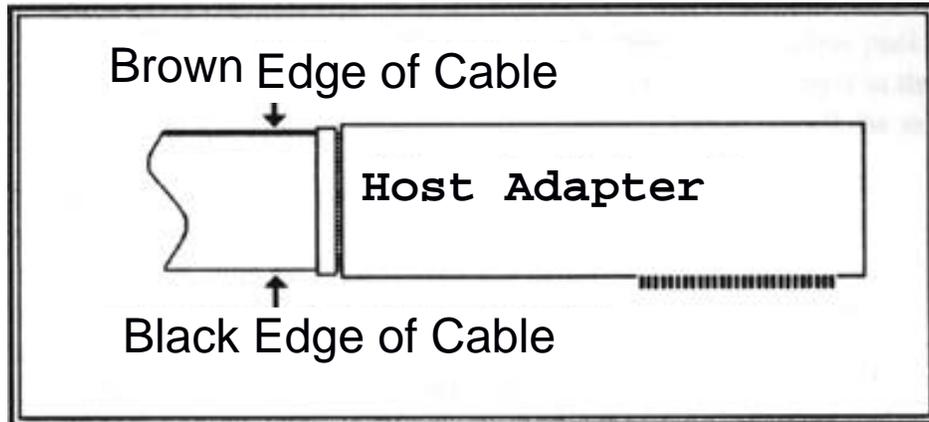


FIG. 1-3 CONNECTING THE RIBBON CABLE

NOTE: Before connecting the cable to the host adapter, check that the cable is orientated properly. Pin 1 of the board must mated with pin 1 of the cable. Pin 1 of the board is located at the top of the board. Pin 1 of the cable will be colored red on a gray cable or colored brown on the rainbow colored cable

IMPORTANT! Before installing the Sider host adapter or any expansion card in the Apple make certain **ALL POWER IS OFF! THIS SHOULD INCLUDE BOTH THE COMPUTER AND THE SIDER**

4. Pop-out one of the pass-through port covers on the rear of the Apple. Connect the end of the ribbon cable with the 25 pin D-SUB female connector to the rear plate of the Apple. We suggest using a hex nut driver to attach the 25 pin connector with the hex nuts provided as shown in the figure below.

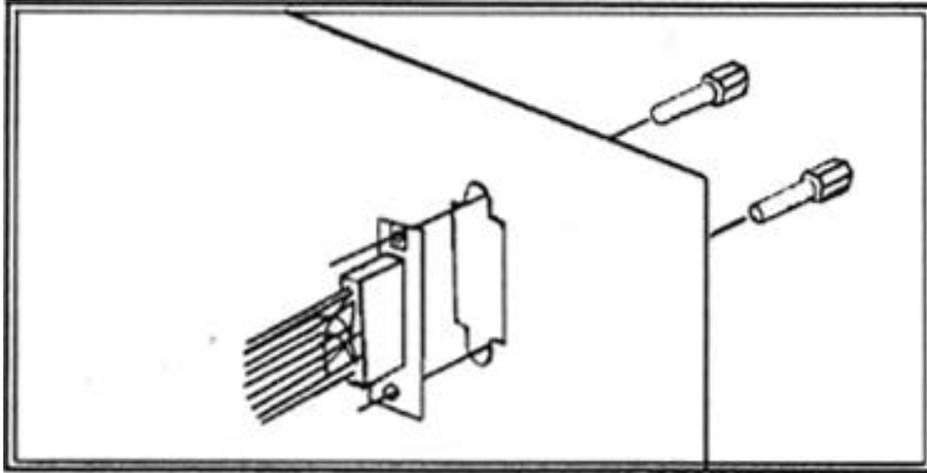


FIG. 1-4 ATTACHING THE 25 PIN CONNECTOR

5. To install the host adapter, identify slot 7. (The farthest standard slot from the power supply.) We recommend this slot because it is not normally used for other expansion cards such as modems, printers, floppies etc. Using slot 7 will make the Sider the boot device on the IIe. On the 1105, using slot 7 will make it the boot device if the CONTROL PANEL is set to SCAN. You should NEVER use slot 3 on either machine. It is designed for video cards.

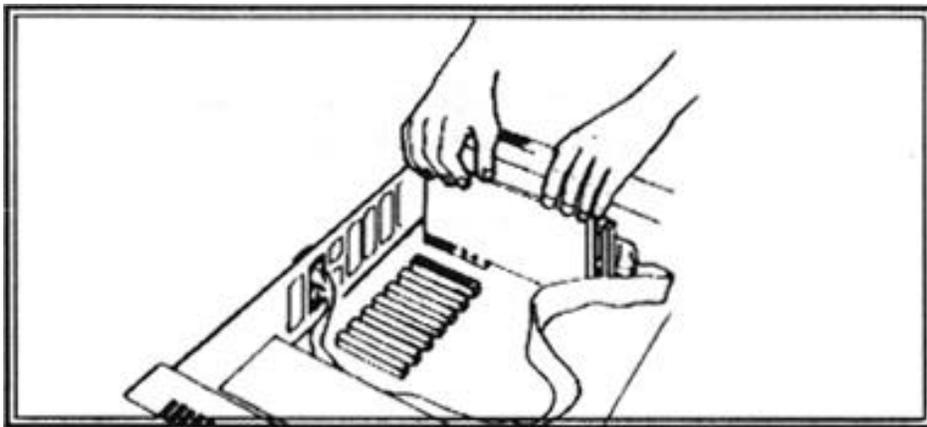


FIG. 1-5 INSTALLING THE HOST ADAPTER

NOTE: The Sider D4 is not designed to work off any of the built-in I/O ports on the Apple IIGS. You Must use the host adapter supplied. Also, if you are using an Apple IIGS, see instructions for using the CONTROL PANEL in the software section of this manual.

6. Check the device address window on the top rear of the Sider D4 to assure the jumper is positioned over the H0 position as shown in FIG. 1-6. If it is not, use the needle nose pliers to move the jumper to the proper position.

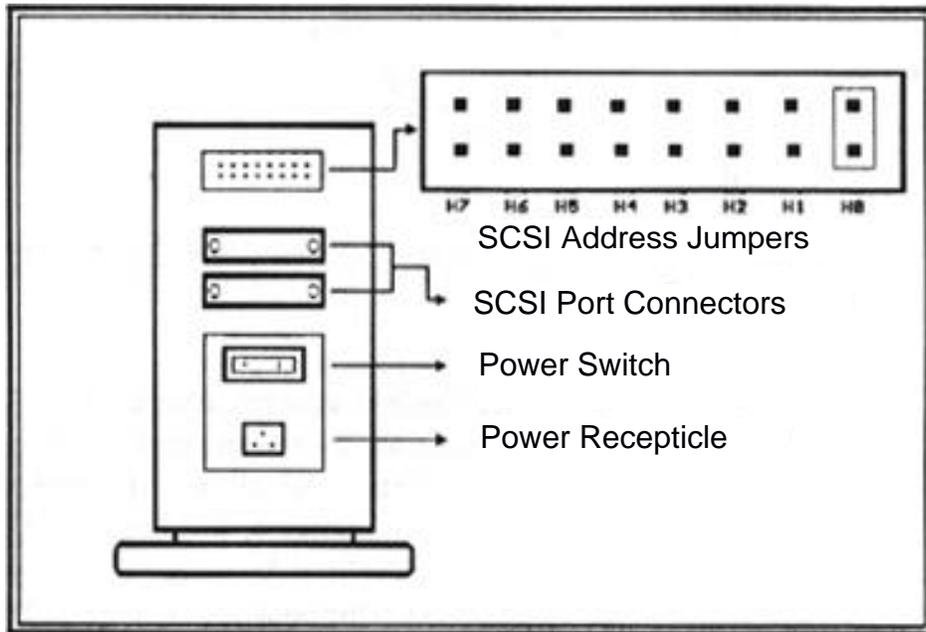


FIG. 1-6 REAR PANEL OF SIDER

NOTE: The Sider D4 is currently designed to be a stand alone hard drive/ It can not be daisy chained with other hard drives, It can be daisy chained with the Sider tape backup subsystem.

7. With the host adapter installed, next attach the Sider to the Apple. Place the Sider next to the Apple with at least 3 inches of clearance for top and sides to allow proper ventilation.

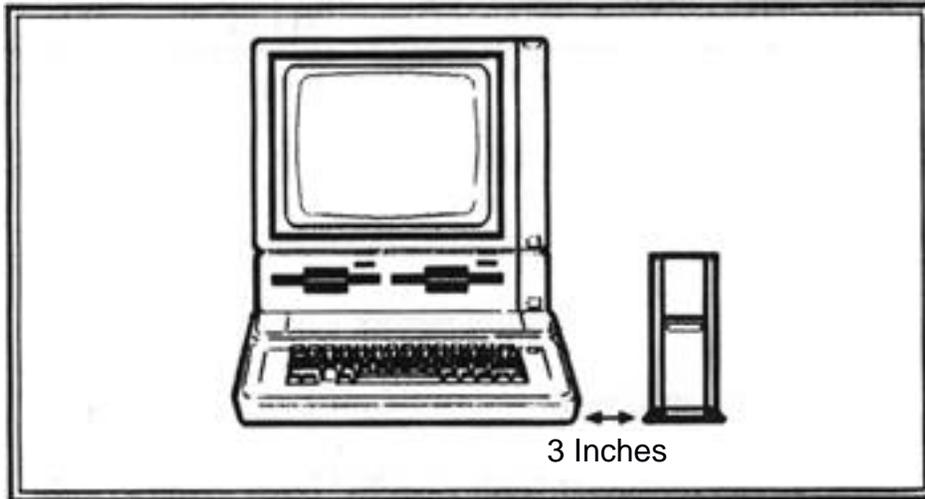


FIG. 1.7 PLACING THE SIDER

8. Attach one end of the data I/O cable to the 25 pin connector you installed on the rear of the computer. Attach the other end to either one of the two 25 pin connectors on the rear of the Sider.

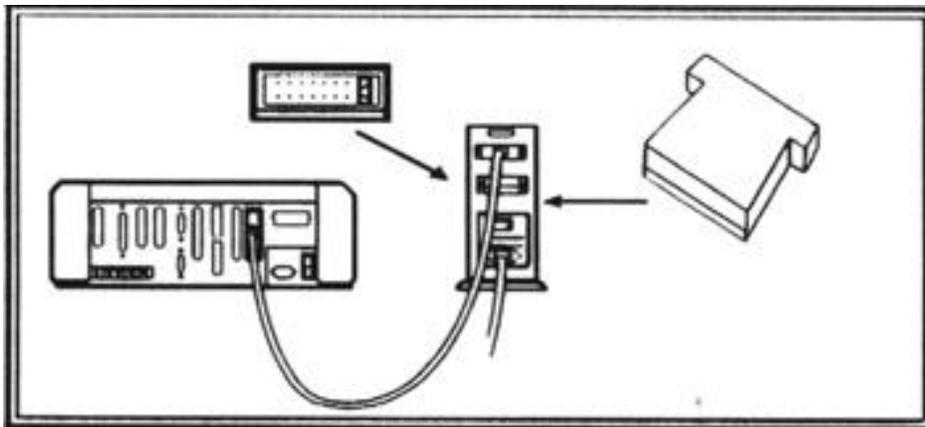


FIG. 1-8 CONNECTING THE SIDER

9. Locate the Sider's terminator plug and attach it to the other of the two connectors on the rear of the Sider.
10. The last step in installing the Sider is to attach the power cord to the rear of the unit. The Sider's power switch should be in the OFF position before applying power.

The Sider can be added to your power strip or surge protector equipment. We recommend surge protecting all your computer equipment to lessen the damaging effects of irregularities in your community's power source.

NOTES

1.3 HARDWARE INSTRUCTIONS SUMMARY

- 1- Turn off power to the computer and peripherals.
- 2 - Check the jumpers on the host adapter.
- 3 - Connect the ribbon cable to host adapter.
- 4- Connect the ribbon cable to rear of computer.
- 5 - Insert host adapter in Apple's mother board.
- 6 - Check the device address jumpers.
- 7 - Connect data I/O cable to the rear of computer.
- 8 - Connect data I/O cable to the rear of Sider.
9. Connect terminator to the rear of Sider.
- 10- Insert the power cord.

Having completed the above instructions you are ready to use the Sider. Turn to the Software Overview section for instructions on running your programs from the Sider and an initial check-out procedure.

IMPORTANT OPERATING INFORMATION

The CMOS memory in the Apple has is very voltage sensitive. The Sider must communicate with the Apple's motherboard through its host adapter. The read and write channels of the Sider use a fraction of a volt to transmit information. This can cause the Apple RESET option to only partially function. The solution is to power-off the Sider when doing a RESET. You should also make certain the power is off to the Sider before adding or removing any cards from the Apple.

NOTES

2. SOFTWARE OVERVIEW

Each Sider D4 hard drive subsystem comes with a powerful collection of software tools and utilities to ensure maximum benefit from your hard drive investment. These software programs are distributed under the name of 'SiderFile Disk Utilities'.

SiderFile is designed to work with, and extend the features of the Apple ProDOS operating system. Your Sider hard drive has both the SiderFile utilities and the Apple ProDOS operating system pre-installed on it at the factory.

The Siderfile package contains three types of benefits to you:

1. It is built around an easy to use menu system. This system is know as the 'Program Selector' and allows you to design your own menu of commonly used application programs. Items can be selected and run from the menu by simply using the arrow keys or mouse to highlight a menu item and pressing return. It is also intelligent. When you are done with an application and exit from it, the Program Selector menu automatically reloads and allows you to select your next operation. Information pertaining to the Program Selector is found in section 4.2
2. It offers a powerful file management program called the SiderFile Utility. This program appears in the program selector menu and offers over eighteen time saving utilities. Its functions include everything from copying and cataloging files to un-erasing and password protecting them. The program is screen oriented and will prompt you with simple and understandable requests for information. Information about the SiderFile Utility is found in section 3
3. First Class Peripheral's SiderFile package also includes the ProSel family of data management tools. These utilities have gained national recognition for their ability to aid ProDOS users in recovering from or preventing data catastrophes. SiderFile includes all of the current ProSel programs ranging from the data de-fragmenting tool, to the

advanced block/byte editor. Also included are intelligent back-up and restore programs. Discussion of the ProSel utilities is found in chapter 4 & 5.

The combination of these three pans make up the SiderFile package. The Sider family of hard drives for Apple II computers are right choice for the wise investor.

2.1 STARTING UP THE SIDER

The Sider D4 supports the APPLE ProDOS operating system. It was preformatted at the factory with ProDOS-8 and the Sider-File software package and is ready to use. The storage area of the drive is divided into two (2) ProDOS partitions. Each of these partitions is 19 megabytes.

To use the Sider, check that all the connectors are securely attached, then power on your Apple and Sider. The computer will load the SiderFile Program Selector from the hard disk and its menu will appear. To learn more about SiderFile, refer to the SiderFile and ProSel sections of this manual.

If your Apple does not boot the operating system from the Sider, check the following:

Can you hear the drive spinning?

- Is the Sider plugged in, turned on and connected to the computer?

Is the Host Adapter card in slot 7?

- If you have an Apple IIgs, make sure the CONTROL PANEL is properly set up for the slot you put the Sider's host adapter in (See the Special Instructions for IIGS, see section 2.5).

If these conditions are correct, the drive may simply need re-formatting. To re-format the Sider and prepare it to store your files and programs, proceed to Section 2.3.

2.2 RUNNING THE SIDER FOR THE FIRST TIME

We recommend a quick checkout of your hard drive before you load it with your programs and data. As a precaution against any format or block alterations which may have occurred in shipping, we suggest running ProSel's MR.FIXIT. This program will analyze data blocks on the Sider and notify you if any need reinitializing or de- allocation.

To proceed with this initial check-out, follow these steps:

1. Turn on the Sider and your computer. After a moment the SiderFile Program Selector menu will appear. Information about this menu is contained in section 4.2 of this manual.

NOTE: If you are using a IIGS and the Sider did not boot refer to section 2.5 to check the CONTROL PANEL.

2. Use the arrow keys or mouse to move the highlighter to select the 'Utilities Directory' and press return.

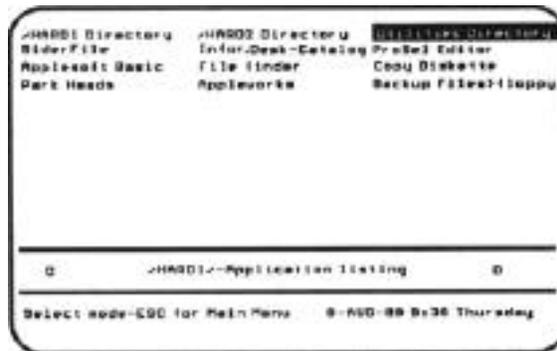


FIG. 2-1 SiderFile's PROGRAM SELECTOR

3. The screen will display the names of the ProSel utilities. Move the highlighter and select Mr.Fixit. Mr.Fixit is a utility used to determine the condition of the data areas of the hard drive. Detailed information about its operation can be found in section 5.11 of this manual.

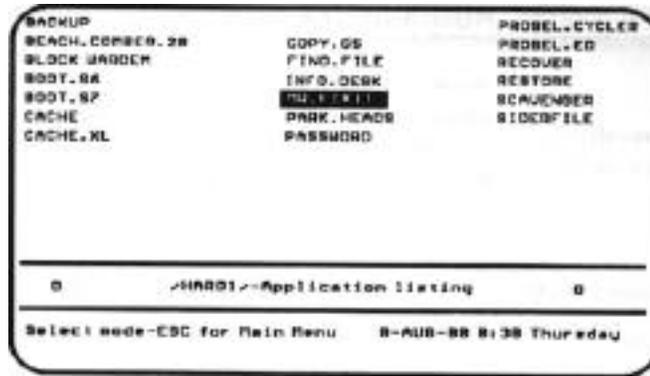


FIG. 2-2 ProSel UTILITIES MENU

4. The Mr.Fixit screen will prompt you for some operational information. Enter the slot number your Sider's host adapter card is installed in. Normally this would be '7'.
5. Enter the partition volume number to be analyzed at the DRIVE: prompt. This would be '1'.

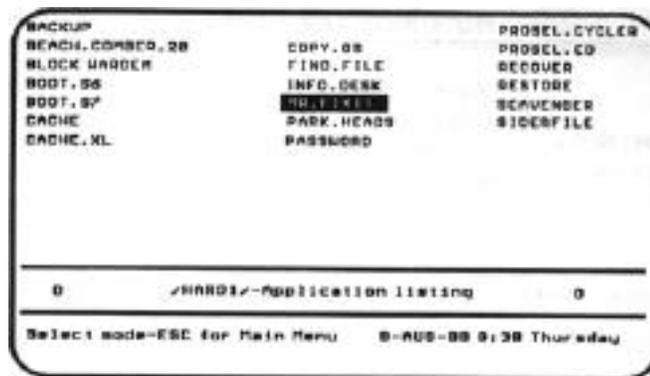


FIG. 2-3 MR.FIXIT INPUT SCREEN

6. Next, specify the type of test to be performed. For our purposes, press 'B' for Bad Block Lock Out.

7. Enter 'F' for Fix when prompted to do so. This will cause the program to attempt to correct any format problems which might have occurred during shipment.
8. The output slot lets you choose whether the test information will be sent to your screen or printer. Select 3 to display to the screen.
9. As MR.FIXIT works, you will notice a block counter in the upper right hand corner of the screen indicating which block is being tested. The Sider D4 has two volumes of 39,072 blocks each. The counter will increment until it reaches that figure.

NOTE: MR.FIXIT will display block information on the screen as it finds areas to be corrected. A quality standard which we recommend you use is, on average, there should be no more than one bad block per megabyte of storage capacity (i.e. up to 40 on a forty megabyte drive).

10. When the test completes, you will be prompted whether you want to run MR.FIXIT again. Enter a 'Y'
11. Run MR.FIXIT a second time to check the second ProDOS volume on the Sider. All of the inputs will be the same as before except when prompted for a drive number you should enter a '2' not a '1.'

After the second pass finishes enter a 'N' to exit the program and return to the ProSel program selector menu. The drive is now ready for use. We recommend you proceed to the SiderFile section of this manual to learn about some of the unique features of the Sider's software.

2.3 SOFTWARE INSTALLATION

The SiderFile software package and ProDOS-8 operating system come installed on the Sider. You should not need to reinstall them unless the format was disturbed in transit or you are re-formatting for some other reason. The next pages of instructions guide you through re-installing the operating system and SiderFile package on your hard drive. If you have successfully completed the initial check out with the MR.FIXIT program, please proceed to the SiderFile instructions in chapter 3.

NOTE: To install and have ProDOS-16 load from the Sider each time you boot the computer, refer to section 2.8 for instruction on how to install ProDOS- 16 and the Finder.

2.4 DISKETTE INFORMATION

The SiderFile software is distributed on two diskettes as well as installed on the hard drive. One is a 5-1/4 inch 140kb, double sided 'floppy', the other is a 3-1/2 inch floppy. Both diskettes contain exactly the same programs. We provides each type to make installation as simple as possible. If you have a 3-1/2 inch drive, use our 3-1/2 inch Sider diskette. If not, use the 5-1/4 inch diskette.

The diskettes contain the following utilities

- * The Sider installation utilities.
- * The SiderFile file management utilities.
- * The ProSel disk utilities.
- * The ProDOS-8 operating system.

VOLUME Names on floppies

- | | |
|-----------------|---|
| /FLOPPY/ | This is the ProDOS volume label for the 3-1/2 inch diskette. |
| /FLOPPY/ | This the ProDOS volume label for the front side of the 5-1/4 inch diskette. |
| /EXTRAS/ | This is the ProDOS volume label for the reverse side of the 5-1/4 inch floppy diskette. |

2.5 INSTALLATION PROCEDURE

Installing the Sider's software on the APPLE IIe and the APPLE IIGS requires slightly different instructions. We have divided the following section into two parts; one for APPLE IIe owners and one for APPLE IIGS owners. The first Section will cover the APPLE IIGS installation.

IMPORTANT INFORMATION: For optimal results, the Sider hard drive, like all hard drives, should be turned on and given at least 30 minutes to stabilize at operating temperature before a format is issued. This precaution helps insure maximum reliability when the drive is in operation.

APPLE IIGS Installation

1. Hold down the 'OPTION' key on the Apple IIGS keyboard and while doing so, turn on the power to the Apple and Sider. The system menu should appear.

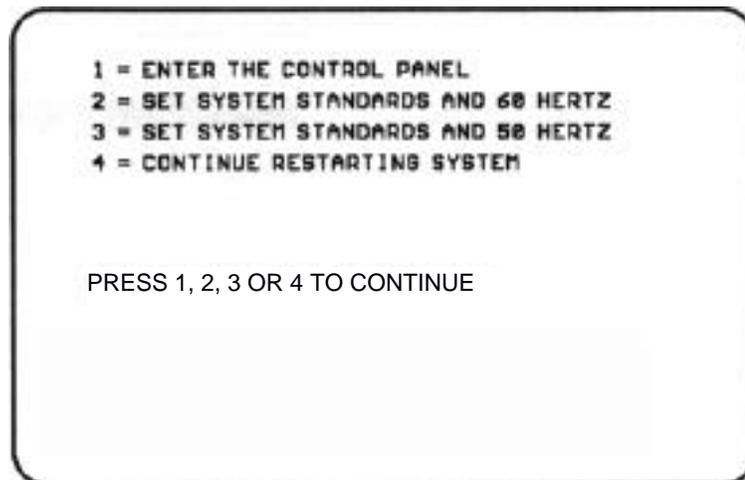


FIG. 2-4 APPLE IIGS SYSTEM SCREEN

- 2a. From the system menu, select option 1 to enter the CONTROL PANEL.

- 2b. When in the CONTROL PANEL, use the arrow keys to move the highlighter to the SLOTS menu option. Press the return key to select it.

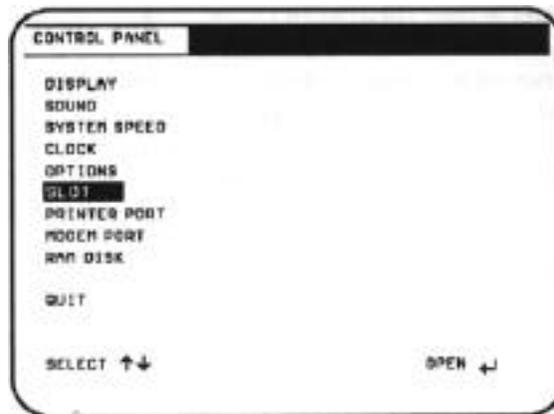


FIG. 2-5 APPLE'S CONTROL PANEL

- 2c. With the SLOTS screen displayed, use the up/down arrow keys to move the highlighter to the SLOT 7 indicator. Use the right/left arrow keys to toggle the assignment of SLOT 7 to read "YOUR CARD".

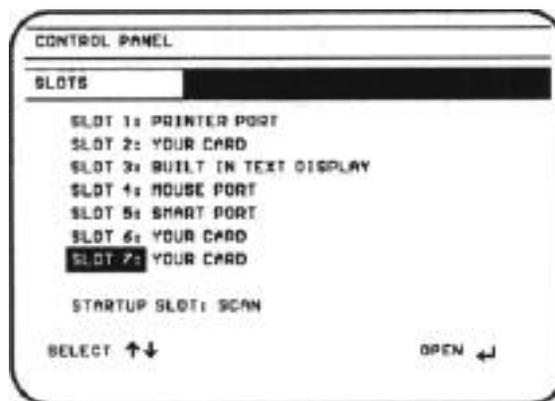


FIG. 2-6 APPLE'S SLOTS SCREEN

- 2d. Next move the highlighter to the "STARTUP SLOT" indicator. Use the right/left arrow key to toggle the assignment to read "SCAN" then press return.

If you choose to use a slot other than seven, perform the same procedure changing the slot number to the one you selected. With the slot assignment indicating 'YOUR CARD' press the return key to save the information and return to the system menu.

If you have questions about using the control panel or the other options available in it, refer to your Apple Owner's Guide for more information or contact your Apple dealer's service staff.

- 3a. With the system menu still displayed, place your COPY of the Sider utilities into floppy drive I. Select "QUIT" from the CONTROL PANEL which will cause the system to boot from the Sider diskette.
- 3b. When the Sider software is booted, the screen will display the Sider welcome message and be waiting for your instructions to continue.

End of Special APPLE IIGS Instructions

At this point, skip past the instructions for the Apple IIe and proceed to the instruction labeled 4.

APPLE //e Installation Instructions

1. Place the 5-1/4 Sider Utility diskette in floppy drive I and turn on the power to your Apple //e and Sider.
2. The floppy drive should load and the Sider installation software; if it does proceed to instruction 4. The first time you startup the Apple IIe with the Sider attached, the computer may try and boot off the uninitialized Sider which will cause the Apple to hang.

NOTE: If the floppy does not boot, press the CONTROL and RESET keys at the same time to release the computer and display a cursor on the screen.

At the prompt type the following
PR#6 (return)

3. At this point the Sider diskette should boot and the Sider welcome message appear on the screen.

End of Special APPLE //e Instructions

4. To continue with the setup procedure, type in the word "yes" where prompted and press return. Typing only the letter y will cause the software to abort. If this happens, simply rerun the D4MAT.SYSTEM program or restart the Apple.
5. The next screen will prompt you to enter the slot number in

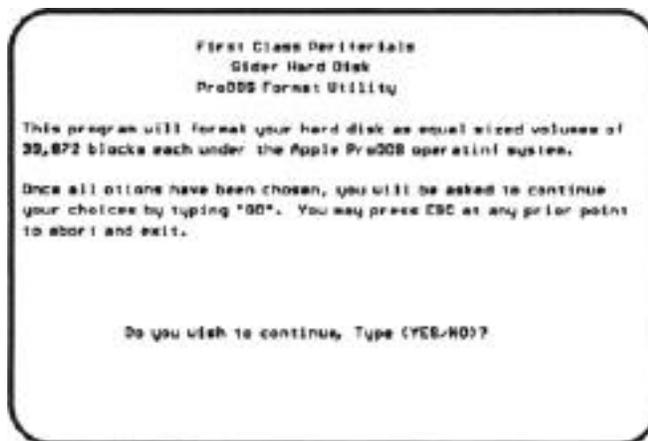


FIG. 2-7 INSTALLATION SCREEN

which your Sider host adapter card is installed. If you followed our recommendation, type in a '7' at the prompt followed by return.

- Next, select names for each ProDOS volume on the Sider. Type in names for each volume or press return to accept the defaults. For ease of installing, we strongly recommend selecting the default name. There are two equal sized volumes on the Sider D4 (approx. 19 MB & 19 MB). There are no options for variable partition sizes.

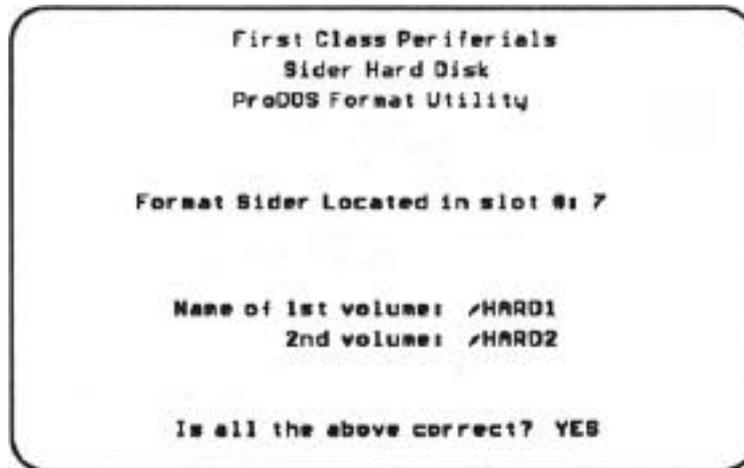


FIG. 2-8 NAME ProDOS VOLUMES

You will be prompted whether to proceed using the choices you have made. Type 'YES' and press return.

- The program gives you one last chance to exit the format sequence. Pressing return will exit the program with the Sider untouched. To proceed, type in "GO" and press return.

An initializing message will appear and a block counter will increment as the drive is verified. The counter will go through two cycles of 39,072 blocks each. This process takes about 30 minutes and runs unattended.

NOTE: The SiderFile software is designed to perform an initialization format, assign volume labels, and initialize the partitions on the Sider. If you are using this software on a drive which already has data stored on it ALL DATA WILL BE ERASED from the drive.

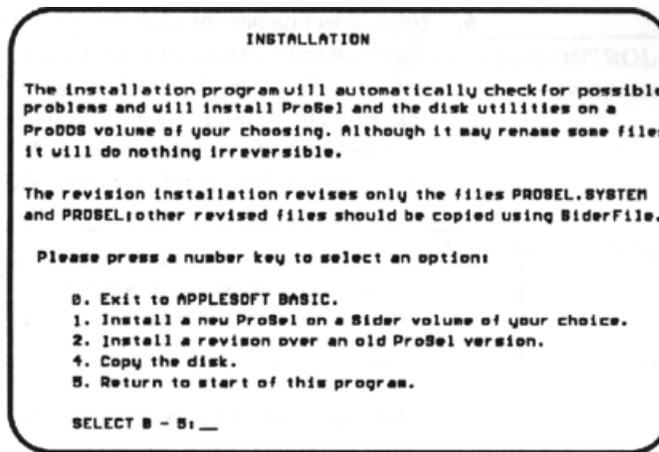


FIG. 2-9 INSTALLATION MENU

8. When the initialization completes, press any key to continue. The formatter program will then load the ProSel installer. A series of introductory screens will be displayed, press a key at each to proceed. After the introductory screens, an Installation Menu will appear.
9. Select option '1' from the menu to install the SiderFile utilities to the hard drive. You will be prompted to enter the volume name where the utilities will be copied to. The default will be the first partition on the Sider. Enter your response or simply press return to accept the default and continue.
10. Next you will be asked to enter your screen display size. Type 80 or 40 as appropriate, and press return. The screen will then display the SiderFile files as they are copied to the Sider. If you are using the 5-1/4 floppy diskette, mid-way through the copying process, you will be prompted to remove the diskette and turn it over. After doing so, press return to continue the installation process.

NOTE: If ProSEL is already on the Sider this install option will abort and return to the operating system

When the copying completes, the message 'INSTALLATION COMPLETE' will display at the bottom of the screen. Press any key to continue.

This completes the SiderFile software installation process. The SiderFile program selection menu will appear each time you start your system. If you would rather use Apple's ProDOS directly see the installation instructions on the next pages. If you are finished using your Sider, park the read/write heads. See explanation in the Summary Information section.

2.6 SOFTWARE INSTALLATION SUMMARY

1. Power on unit.
IIGS - enter the CONTROL PANEL.
or
//e - get a system prompt.
2. IIGS - Set PANEL for "YOUR CARD" in slot 7.
or
//e - Boot floppy drive with PR#6 command.
3. Run the Sider utility program.
4. Enter the slot number in which the Sider's host card is installed.
5. Name ProDOS volumes on SIDER.
6. Start the SIDER initialization routine.
7. Transfer the SiderFile package to the Sider.

SUMMARY INFORMATION

At this point the Sider is completely installed and ready to be used for storing your application programs and files. For information about the SiderFile package of utilities, how to use them and how they can help you, see the ProSel and SiderFile sections of this manual.

We suggest studying your APPLE ProDOS manual to better understand such ProDOS command and structures as PREFIX, PATHNAME and SUBDIRECTORIES. A strong working knowledge of ProDOS will maximize the value of your Sider investment.

The life of the Sider hard drive can be extended through proper use and care. It is important that you take the time to PARK the Read/Write heads before you power off. This helps insure data will not be jeopardized during spin down or power up. You should also assure proper ventilation and cooling for your Sider

and computer. Heat is one of the biggest enemies of computers and computer products.

2.7 PARKING THE HEADS

To park the Sider's read write heads, return to the Program Selector's main menu. Use the arrow keys to select the Park Heads menu option. When selected the program will automatically run. The activity indicator light on the Sider will blink. A message will appear on the screen indicating the heads were parked. You may now power off the computer and Sider drive.

2.8 GS/OS INSTALLATION

These instructions assume you currently have a version of ProDOS installed on your Sider. Apple's GS\OS is designed around a hard drive or a two floppy configuration. If you are using only one 3-1/2 drive you will be required to interchange the floppies many times.

1. Place the GS/OS SYSTEM.DISK into your first 3-1/2 inch floppy drive. (If you have a second 3-1/2 floppy place a copy of the GS/OS SYSTEM.TOOLS in it also.) From the SiderFile Program Selector menu choose the UTILITIES DIRECTORY option. From the second menu select the option to BOOT.S5.
2. This will cause the GS/OS SYSTEM.DISK to load into memory. When the desk top displays, eject the GS/OS SYSTEM.DISK and replace it with the GS/OS TOOLS diskette. (This is not necessary if you are using two floppy drives.) You will be prompted to swap the SYSTEM.DISK and the TOOLS disk as the process continues. When the TOOLS diskettes icon appears, use the mouse to point to and double click on it to open.
3. With the TOOLS folder open. use the mouse to move the arrow to and click on the INSTALLER's folder icon.

4. When opened, the installer will display a list of possible configuration options. If using only one floppy, you will be again prompted to shuffle the SYSTEM.DISK and the TOOLS disk. When loaded, a window of options will display. Use the mouse to move the scroll bar down until the 'INSTALL EVERYTHING POSSIBLE' menu item displays. Click on (highlight) this menu item.
5. Next click on the VOLUME assignment option and change the volume from /SYSTEM.DISK to /HARD1. When you have properly setup the configuration information, click on the INSTALL button to have the necessary GS/OS files copied to the Sider /HARD1 volume.

NOTE: If you are using a single floppy drive system you will be prompted to frequently exchange the SYSTEM.DISK and the TOOLS diskette. This interchanging should take place at least fifteen (15) times before GS/OS is completely installed to the hard drive.

6. When the copy process completes, select QUIT to return to the OS/OS desk top. Use the CONTROL-OPEN APPLE-RESET keys to reboot the computer and Sider. The GS/OS desk top should load and the available device icon should display.

2.9 ProDOS 16 INSTALLATION

If you would like your computer to boot Apple's ProDOS 16 rather than the ProSel program selector, follow these instructions for installing ProDOS 16. It should be noted that ProSel will run in ProDOS 16 and can be used to aid you in many ProDOS functions even if you choose not to use its menu system.

1. Boot the Apple Has using the ProDOS 16 SYSTEM DISKETTE. Use the mouse to double click on the SYSTEM.DISK icon.
2. Double-click on the SYS.UTIL folder to open the folder.

3. Move the mouse and double-click on the SYSUTIL.SYSTEM icon to start the program.
4. Use the arrow keys to select the COPY FILES option and then press return. Next select the "SLOT AND DRIVE" option, then press return.
5. You will be prompted "WHERE IS YOUR SOURCE DISK?". Enter the slot and drive number of the floppy drive that your SYSTEM disk is in (usually slot 5, drive 1) then press return.
6. Again, select the "SLOT AND DRIVE" option and press return. When prompted 'WHERE IS YOUR DESTINATION DISK?', enter the slot and drive number of the Sider drive (usually slot 7, drive 1) and then press return.
7. The screen will prompt you for which files you want to move from the source disk to the hard drive. You should select ALL and press return. The copying will continue and the SYSTEM disk will be copied to the Sider.

NOTE: If you have already installed the SiderFile package, you will be informed that the ProDOS and BASIC.SYSTEM files are already on the hard drive. When you are notified of each, type 'YES' to delete them from the Sider and copy the new ones from your ProDOS-16 diskette.

8. When finished, the message, 'COPYING COMPLETE" will appear. This indicates the procedure was successful. Press return to display the Main Menu.
9. The Sider should now boot ProDOS 16 each time you start your computer.

2.10 ProDOS 1.1.1 INSTALLATION

ProDOS 1.1.1 is installed on your system at our factory or each time you re-format the disk with the formatter program. If you do not wish to use the SiderFile menu system and would rather continue to use the Apple ProDOS filer system you can uninstall it by following these instructions.

1. Boot your Apple with the ProDOS USER'S DISK.
2. Select option [F] from the menu to access the FILER menu. With the FILER menu on the screen select [F] a second time to access the FILE COMMANDS option. From the FILE COMMANDS menu select [C] to COPY FILES. You are now ready to copy the ProDOS files to the Sider.
3. The COPY FILES screen will prompt you to enter pathnames for the files you want to copy to the Sider. For the source pathname, you should simply enter an equal sign (=).

EXAMPLE:

```
COPY PATHNAME: =      (return)
TO PATHNAME: /HARD1/= [return],[return]
```

Next you will be prompted to enter the "TO PATHNAME" which refers to the volume on the Sider you want the files copied to. Enter '/HARD1)/=' as shown above. If you used a volume name other than /HARD I when you initialized the Sider, remember to substitute it for /HARD1 in the above example.

- 4.. The files from the floppy drive will be copied to the root directory of the Sider drive. When the copying is complete press the [ESC] key twice to return the program to the FILER menu.

NOTE: If you have already installed ProSel, you will be informed that the ProDOS and BASIC.SYSTEM files are already on the hard drive. When prompted, enter 'YES' to delete them from the Sider and copy them from your diskette.

5. You must make sure the PROSEL.SYSTEM is not the first SYSTEM file on the Sider. Move ProSel to a subdirectory or delete it from the hard drive. At this point the Sider is ready to have your various application programs copied to it. Refer to the installation instructions in your applications user guides for information about installing them on a hard drive.

NOTES

3. THE SiderFile UTILITY

SiderFile is a powerful disk management tool designed to aid you in managing files on the Sider. Its functions include: copying, locking, unlocking, and deleting of files. SiderFile is a menu driven program. There are two menus listing the tools available. The 'TAB' key will toggle you between the menus. To use SiderFile's graphic displays you must have an Apple IIGS or an Apple IIe with the enhanced (mousetext) ROMS.

Below is a list of the items in the SiderFile menus:

FIRST MENU:

- Q - Quit**
- X - Catalog**
- C - Copy files**
- T - Type files**
- L - Lock files**
- U - Unlock files**
- D - Delete files**
- E - Exhume files**
- V - Verify files**
- R - Rename files**
- TAB - Menu Change**
- S - Sort directories**
- F - Change file date**
- / - Create directory**
- N - Show volume name**
- B - Toggle Bell, NOW: ON**
- P - Toggle prompting NOW: ON**

SECOND MENU:

- TAB - Main menu**
- Q - Quit program**
- M - Move files**
- F - Format a disk**
- W - Wipe a volume**
- C - Compare directories**
- D - Disable unused devices**

The SiderFile utilities perform functions on files or groups of files. To insure accuracy, the program requires full and proper pathnames to be specified. The '?' key can be used instead of a pathname, as a short-cut method of selecting volumes and directories. Most commands are displayed graphically and the highlighter can be moved within the display to select various options.

3.1 COMMANDS AVAILABLE

Control-D	Is used to DELETE the character the cursor is (D) currently under.
Control-X (^X)	When prompted for a source pathname, pressing ^X will change the default pathname to the previously selected pathname. Pressing it again will change it back to the current pathname.
Open Apple	Used to insert characters into inputs on the screen. Normally, typing will overwrite existing text. To use, moving to the desired location and hold down the OPEN APPLE key and type. The new text will be inserted into the existing text.
Closed Apple OPTION	Pressing the CLOSED APPLE key on the IIE or the OPTION key on the IIGS allows you to change the SLOT and DRIVE number currently being used. With the slot or drive number displayed, you can type in any other valid drive or slot number and change the default. This key can be used when the cursor is under the first character of the default pathname within a function.
Mouse Button (?)	The QUESTION MARK or mouse button can be used to display volumes on all drives in the system. Any time a default pathname is displayed on the screen, pressing the '?' key will cause the system to display all available volumes. Using the mouse or arrow keys allows you to change the default directory.

Arrows/Mouse	Either the mouse or arrow keys are used to move the highlighter to various options and to move the cursor within an input field. If a list of files is too large to be displayed on a single screen the arrow keys/mouse can scroll the screen.
Delete	The DELETE key can be used to delete one character to the left of the cursor.
TAB	The tab key is used for two functions. First, TAB will toggle you back and forth between the two menus. Second, when in an input field, TAB will move the cursor to the right most position.
ESC	Used to exit from a utility to the main menu.
Control Reset	When in a utility, the control-reset will return you to the SiderFile menu. Never use this when any information is being read from or written to the disk. Interrupting a read or write may cause unrecoverable damage to files or directories. If you press 'control-reset', there will be a brief read from the disk.

3.2 SIDERFILE FUNCTIONS

SiderFile helps you use the directory structure of ProDOS. It is divided into individual tools which are displayed in the Main Menu. The following section will discuss each utility and how to use it.

NOTE: Most of the menu options are limited to directories containing at most 204 files. More than 110 files will cause the file names to be improperly displayed.

NOTE: In organizing your files, it is best not to exceed 100 files in any one directory. The greater the number of files in a directory, the harder it is to locate them when you list that directory. When a pathname is requested, you are shown an existing one. You can accept that name by just pressing return.

3.2.1 X - Catalog

Catalog is used to list the files in a volume. When selected, a default pathname will be displayed. At the default, you can do the following:

- Press return to display the directory of the default pathname listed.
- Type in a new pathname.
- Use any of the SiderFile function keys ('?', 'tab', 'del', etc.) to change the pathname.

If you press '?' all of the on-line ProDOS volumes will be displayed. To change the volume, use the mows/mouse to highlight the directory you need. If there are no files in a directory the program will return to the main menu. Pressing return will return you to the main menu.

3.2.2 C - Copy Files

This is a file copier which can move single files, groups of files or volumes. It retains both create dates and modification dates of files. It is compatible with all types of files including sub-directories. If you select a subdirectory files to be copied, you will be asked if you want the files INSIDE it to be copied. If not, only the new directory is created, but no files are copied to it.

When using the copy utility, you will first be prompted for the source and destination pathnames. Press return to accept the default pathname or change the pathname by typing in a new one or use any of the appropriate SiderFile function keys.

After entering the pathname, a listing of the files in the source directory will display. The following is a summary of methods used to select files to be copied.

HOW TO SELECT FILES TO BE COPIED.

- CONTROL-A** Typing a ^A will cause all files to be selected.
(^A) This will include files in any subdirectories displayed. If you have selected some files manually, pressing ^A will cause all currently selected files to be deselected and all previously unselected files to become selected.
- CONTROL-C** After selecting files to be copied, typing ^C
(^C) will: (1)-copy all files which are on the source drive but not currently on the destination; (2)-if the same file is both on the source and destination drive, then ^C causes the duplicate to be copied only if its time and date is more recent than the one on the destination drive. This option is helpful when updating application software.

CONTROL-E (AE) The ^E command is similar to ^C command. The ^E only copies files if(1)- The files selected are both on the source and destination volumes, and (2)-the file on the destination has an older time and date mark. ^E will not copy a selected file if it does not exist on the destination volume. If DEL command is used following the ^E command, the files which are copied to the destination path will also be deleted from the source path.

ARROWS/ MOUSE These will move the highlighter to various files in the list. Pressing the space bar/mouse button will place a check mark next to the file or subdirectory. An item with a check is 'selected' and will be included in the copying activity. You can select any group of files you want copied.

To use the copy function, move the highlighter to the files you want copied and select them with the space bar/mouse. When ready to copy, press RETURN. If you decide not to copy any files press ESCAPE to return to the SiderFile menu. You can easily select/deselect ALL files by pressing (Control-A).

COPYING WITH PROMPTING 'ON'

When copying a group of selected files, if PROMPTING is set to ON (see main menu) it will cause the copy process to stop if; (1)- the file being copied exists on the destination volume; (2)- if a file is locked on the destination volume; or (3)- prompt you before copying the files contained within a subdirectory. You will be prompted whether you want existing files overwritten or subdirectories copied.

COPYING WITH PROMPTING 'OFF'

If prompting is OFF, the copy process will run unattended. No warning before overwriting is given. Files in all selected directories will be copied. When copying subdirectories without prompting infinite replication can occur.

When the copying is completed, you will be asked if you want to copy the same group of files to another volume with the same directory name. If you press DELETE at this point, the delete routine will re-display your selections. If you press RETURN, the original files will be deleted from the source volume.

NOTE: This prompting does not display if the files inside a subdirectory have been copied, because the needed data is no longer in memory.

3.2.3 T_Type Files

This option is designed to display text files to the screen, When selected, you are asked to enter the pathname of the directory which contains the file you want displayed. You can use the '?' to aid you in selecting the pathname. After the correct directory is selected, press RETURN to catalog the directory. Use the arrow keys/mouse to highlight the file to be typed.

A listing of the contents of the file will display. If the file is not a data file, the contents will display, but will be unreadable.

CONTROL-P (AP) This will cause the listing of the file to be sent to the printer instead of the screen.

RETURN This will cause the listing to stop and the utility to return to the SiderFile main menu.

S This will cause the listing to slow down as it displays. Pressing the SPACE BAR twice will resume normal listing speed,

SPACE BAR Will cause the listing to freeze. Pressing it a second time will cause it to continue to display.

ESC Will take the program back to the SiderFile main menu.

3.2.4 L Lock Flies

This is used to lock a single file, groups of files or volumes. It is compatible with all types of files including subdirectories. If you select a subdirectory file to be locked, all files within the subdirectory will be locked.

When using the lock utility, you will be prompted for the pathname of the directory containing the file(s) to be locked. Enter a pathname or use any of the appropriate SiderFile function keys to aid you in changing the pathname.

After entering the pathname, a listing of files currently not locked will be displayed.

The following is how to select files to be LOCKED.

CONTROL-A Typing ^A will cause all displayed files to be selected. This will include files in any lower subdirectories displayed. If you have selected some files manually, pressing AA will cause all currently selected files to be deselected and all previously unselected files to become selected.

**ARROWS/
MOUSE** These will move the highlighter to various files in the list. Pressing the space bar/mouse button will place a check mark next to the file or subdirectory. An item with a check is 'selected' and will be included in the locking activity.

To use the LOCK function, highlight the files you want locked and select them with the space bar/mouse. When you have finished selecting files, press RETURN. If you decide not to LOCK any files press ESCAPE to return to the SiderFile menu. You can easily select/deselect ALL files by pressing (Control-A).

3.2.5 U Unlock Files

This is used to UNLOCK a single file, groups of files or volumes. It is compatible with all types of files including subdirectories. If you select a subdirectory file to be unlocked, all files within the subdirectory will be unlocked.

When using the UNLOCK utility, you will be prompted for the pathnames of the directory containing the file(s) to be unlocked. Enter a pathname or use any of the appropriate SiderFile function keys to aid you in changing the pathname.

After entering the pathnames, a list of files which are currently locked will be displayed.

The following is how to select files to be unlocked.

CONTROL-A Typing a **^A** will cause all files in the current directory to be selected. This will include files in any lower subdirectories displayed. If you have selected some files manually, pressing **^A** will cause all currently selected files to be deselected and all previously unselected files to become selected.

ARROWS/ These will move the highlighter to various files
MOUSE in the list. Pressing the space bar/mouse button will place a check mark next to the file or subdirectory. An item with a check is 'selected' and will be included in the unlocking activity.

To use the unlock function, highlight the file(s) you want unlocked and select them with the space bar/mouse. When you have finished selecting files, press RETURN. If you decide not to unlock any files press ESCAPE to return to the SiderFile menu. You can easily select/deselect ALL files by pressing (Control A).

3.2.6 D_Delete Flies

This is used to DELETE single files, groups of files or volumes. It is compatible with all types of files including subdirectories. If you select subdirectoty files to be deleted, you will receive an error message if the subdirectory is not empty. This is a safety feature to help prevent accidental deletion of whole sudirec-tones.

When using the DELETE utility, you will be prompted for the pathnames of the directory containing the file(s) to be deleted. Enter a pathname or use any of the appropriate SiderFile function keys to aid you in changing the pathname.

After entering the pathnames, a list of files in the directory will be displayed.

The following is how to select flies to be DELETED.

CONTROL-A Typing a **^A** will cause all files to be selected. This will include files in any subdirectories displayed. If you have selected some files manually, pressing **^A** will cause all currently selected files to be deselected and all previously unselected files to become selected.

ARROWS/ These will move the highlighter to various files
MOUSE in the list. Pressing the space bar/mouse button will place a check mark next to the file or subdirectory. An item with a check is 'selected' and will be included in the deleting activity. You can select any group of files you want deleted.

To use the DELETE function, move the highlighter to the files you want deleted and select them with the space bar/mouse. When you have finished selecting files, press RETURN. If you decide not to DELETE any files press ESCAPE to return to the SiderFile menu. You can easily select/deselect ALL files by pressing (Control-A).

3.2.7R- Rename A Fuel Volume

This utility is used to change the name of a file OR the name of a volume.

To rename a file simply:

- Enter the pathname of the directory containing the file to be renamed.
- Use the arrows/mouse to move the highlighter to the file to be renamed.

Use the space bar/mouse to select the file.

- After pressing RETURN, the file name is displayed at the bottom of the screen and can be changed from the keyboard.

In order to change a VOLUME name, you must select some file (any file in the volume) as if you wanted to rename it. When the file's name displays, use the arrow keys/mouse to move the cursor back and change the volume name. When the change has been made move the cursor to the right-most position of the file's name and press RETURN to save the change. This will change the volume name and display the file again with the new volume name. Press ESC to return to the menu.

3.2.8 E_Exhume Flies

(Works only with ProDOS 1.4 and later!)

This function attempts to restore files which have been deleted, provided the file has not been overwritten.

To use the exhume utility:

Enter the pathname where the deleted file ~a&

- All deleted files which can be detected will be displayed. If the file you need is not displayed, check that you are in the right directory. If the file does not display, it can not be recovered with this function.
- Use arrow keys/mouse to move highlighter to select the file(s) to un-delete and the space bar/mouse to select them.
- Pressing RETURN will attempt the un-delete.

It might be helpful to describe the principle EXHUME works on. When a file is deleted from a disk it really isn't. What is deleted is part of the file's name. This deletion tells the operating system it is all right to use the space formally used by the deleted file to store new files. What all this means is the ability of EXHUME to work depends on whether new information has been stored to the drive since the old file was erased. If you know you have accidentally deleted a file(s) DON'T SAVE ANY NEW DATA until you have tried to recover the file(s) deleted! If other data gets stored in the middle of the old file, a FILE DAMAGED error will display when you try to exhume the old file.

NOTE: You MUST NOT use the EXHUME function with files that were deleted under a ProDOS prior to 1.4. The ProDOS 1.4 file on the ProSel disk is a patched version. You must be sure to copy this file to your boot disks if you intend on using EXHUME. Booting from ProDOS 1.3 then using EXHUME on your 1.4 drive will cause errors. You MUST NOT use EXHUME on files deleted by COPY II+. It does not delete files in the same way as ProDOS 1.4 does.

3.2.9 V - Verify Flies

This will read specified files and test for bad blocks. This utility does not attempt any repair of damaged blocks; rather it will display block information. ProSel's Mr.FIXIT program contains tools that attempt to fix block problems. See chapter 5 for more information.

The following commands are available:

DEL If a bad block is found in the current file the verify will pause, and DEL will cause the verify to leave that tile and begin verifying the next selected file or exit if no other files are selected.

RETURN If a bad block is found in the current file the verify will pause; RETURN will cause the verify to continue in the current file.

HOW TO USE:

- Enter the pathname where the file(s) you want verified is stored.
- Move the highlighter and select the file(s) you want verified.
- Press return to begin the verifying process.

During verification, if an error occurs, the block will be shown at the bottom of the screen and the program will wait for a keypress. Some block errors are in blocks used to address files. In these cases, the errors may cause the program to abort. Directories are not themselves verified, but files INSIDE directories can be. ('This is automatic if prompting is OFF).

<p>NOTE: This can be a powerful tool in diagnosing problems. If an application is having problems with a data file, verify files to test all blocks.</p>

3.2.10 S Sort Directory

This is a powerful directory sorting utility. It allows you to select a directory and sort the files within it by the following five criteria:

A - Sort Alphabetically

C - Sort By Creation Date

M - Sort By Modification Date

T - Sort By File Type

**P - Sort By File Type And Alphabetically
Within A Type**

You can also use the Open-Apple key in conjunction with arrow keys to move file names around by hand. The mouse button can be used in place of the open Apple key to move files around the screen.

When you are done sorting or arranging the files, press RETURN to save the information. If you decide not to change the directory press ESCAPE to abort. When you press RETURN you are given one more chance to abort before the sorted directory is written to disk.

NOTE: If you sort the main directory, be sure you leave PROSEL SYSTEM as the first 'SYSTEM' file and PRODOS as the first file. Otherwise ProSel will not boot correctly.

3.2.11 C Change File Date

This routine allows you to change the creation and modification dates on any file.

How to use:

- Specify the full pathname and filename for the file when prompted. You must type out the entire name. The wildcard methods do not apply to this function.
- The file's existing date will display; you will be allowed to modify it. You do not have to type the dashes or colon shown in the date, any non-alpha/numeric character (such as a space) will do. You must type the data in the correct position on the screen.
- Press the RETURN key to save the new information or ESC to abort.

This routine allows you to make creation dates for files having no dates or correct dates of files whose dates are altered by other programs.

3.2.12 / - Create Directory

This allows you to create new sub-directories while in SiderFile. It can be used to create multiple sub-directories.

How to use:

- When prompted for the name of the directory to be created, enter the full pathname. Typing an invalid pathname will result in an error and will cause the program to terminate and return to the SiderFile main menu.
- Use the arrow keys to move the cursor within the input field.
- Press return to create the new directory.

NOTE: You do not have to be in a volume to create a directory in it. You can use this utility to create directories and subdirectories. Example: Assume your hard drive only has the root directory /HARD1. If you ran create directory and specified /HARD1/DIR1/SUB3 as the directory to create, the program would create both a /DIR1 directory and a subdirectory to it named /SUB3.

3.2.13 N - Show Volume Names

This looks at all mounted ProDOS devices, then displays the following volume information: slot number, drive number, volume name, number of free blocks, number of used blocks, and total blocks, creation date.

3.2.14 B - Toggle Bell

If this is OFF, the bell that is heard at some prompts will be defeated. Current status is shown in the main menu.

3.2.15 P - Toggle Prompting

This refers to the questions the program asks during such operations as copying or verifying files. These prompts are a safeguard to notify you that files are about to be over written or whole subdirectories will be included in a particular function. With prompting ON, you will be required to type in confirmation that you intend on letting the program do the over writing, etc. With prompting OFF, the warning messages are disabled and the program assumes you always want to over write existing files when copying and include subdirectory files in a functions operation.

**THE FOLLOWING COMMANDS APPEAR ON THE
SIDERFILE'S SECOND MENU:**

3.2.16 M - Move Files

This option will move files from within a volume. It can not move files from one volume to another. MOVE differs from a standard copy in that files are deleted from the source and copied to the destination. This is very fast and can move whole directories.

How to use:

- You will be prompted for the pathname of where the files to be moved are currently located.
- Type in the path or use the SiderFile function keys (ie. ?, TAB, DEL, etc.) to change the default.
- Next enter the destination pathname.
- With two valid pathnames entered, a catalog of the source path will display. Use the arrow mouse to select the files to be moved. Then press return.

NOTE: Both pathnames must be in the same volume (ie. both on /HARD1 or both on /HARD2.

NOTE: MOVE does not write new files, but moves the directory pointers of the files from the source directory to the destination directory.

3.2.17 F - Format A Disk

This command is like the FORMAT A VOLUME command from Apple's Filer utility. It will re-initialize any ProDOS volume. Formatting a volume always destroys any files in the volume and re-initialize the directory areas. Reformatted volumes can not be unformatted or files recovered with the EX-HUME function.

How to use:

- Select FORMAT A DISK from the menu. You will be asked for the slot and drive number of the disk you want formatted.
- Next you will be prompted to enter a volume name. Pressing return will accept the default.
- When formatting a floppy, you are prompted to enter the number of tracks to be included in the format; 35 is standard, use 40 only if you know your drive is capable of these non-standard tracks.

3.2.18 W - Wipe A Volume

This will erase all files on a designated volume. This is like formatting a volume but is much faster. It can be used on floppies (even ones with extra tracks), Unidisks, hard disks and some /RAM volumes. The /RAM drivers supported are the Checkmate Multiram driver, the AE Ramworks driver, and the /RAM driver supplied on the ProSel disk. Files removed by the WIPE utility can not be EXHUMED. It gives you a chance to change your mind before the action is taken.

3.2.19 C - Compare Directories

This will compare the files' names of two directories (not the contents of the files). This function will look at two directories. It will list in one column the files which are in the first directory but not in the second, and in the second column the files which are in the second but not the first. File names which are in both directories but of different file types are shown with their types, and those with different modification dates are shown with their dates. A listing of files can be sent to the printer.

3.2.20 D - Disable Unused Devices

This utility will look at all storage devices on line and temporarily disable access to any device which is either turned off or does not have a ProDOS volume in it. This can make many of the SiderFile and ProSel utilities run faster.

NOTE: You must exit SiderFile to reactivate a disabled drive
--

NOTES

4. AN OVERVIEW OF SiderFile's ProSel

The SiderFile package is a set of utilities designed to aid you in using your computer. They have two main parts. The first is the Program Selector, which allows you to create a menu system which displays the various programs on a disk. This menu allows you to use the arrow keys or mouse to select and run your programs by simple highlighting them and pressing return. The second part consists of a group of utilities used to manage programs and data and aid you in customizing your computer to your individual needs.

ProSel is an enhancement to the Apple ProDOS operating system; as such it only works with that operating system. There is a great deal ProSel can do, but you do not need to fully understand its capabilities to benefit from its most basic features.

One of SiderFile's most valuable feature is its ability to simplify ProDOS commands. Training is a costly and time consuming process. The SiderFile package simplifies computing to the point where office personnel can spend their time learning and using programs and not figuring out how to get to them.

There are two versions of the SiderFile package on the installation disk. One is for 80 column displays and the other for 40. The installation programs will ask which you want and then install accordingly. The 40 column version has more space for application specification, but allows fewer of them. Also the 40 column version is a little faster. The 80 column version is more visually appealing. Choose the one that suits your needs. If your needs change, you can change the version installed by running the INSTALL.REVISION program later.

4.1 INSTALLING THE SiderFile PACKAGE

SiderFile's Program Selector and the ProSel utilities are automatically installed on the Sider during its original setup. The Program Selector can also be used on 800k diskettes and memory card /RAM volumes.

If you have uninstalled SiderFile or are re-installing it, the following is a step by step procedure for loading the needed files.

1. Turn on your Apple computer and Sider hard drive. Boot the SIDER diskette called/FLOPPY.
2. The Sider formatter program will load and its initial screen will appear. When asked to proceed with the formatting, enter 'NO' to quit the formatter.
3. The ProSel installer will then load. A series of introductory screens will display. Press any key to proceed through the introductory information until the following menu screen appears.

FIG. 4-1 INSTALLATION MENU

EXPLANATION OF OPTIONS

Option 0 This option will exit the installation program and transfer you to Applesoft Basic.

Option 1 This option is used to transfer SiderFile package to a volume which does not currently have it. If the volume you choose to install the utilities on already has the ProSel system files on it this option will abort.

To install, select '1'. You will be prompted to specify the volume you want ProSel installed on. We *strongly* recommend the default. Next enter the screen type you have. The screen will then display the tiles as they are transferred. If you are using the 5 1/4 inch diskette, you will be prompted to remove the/FLOPPY diskette, turn it over and reinsert it, then press return. After the copying is complete, press return and the Program Selector menu will display.

This will establish the files PROSEL.SYSTEM, PROSEL, and BASIC.SYSTEM on the root directory of the specified volume. If you do not want BASIC.SYSTEM there you can delete it later. It is suggested you leave it there until you are familiar with the operation of the SiderFile package. It will also create the sub-directory UTIL and install most of the ProSel utilities in it.

Option 2 This option is used to update the version of the SiderFile package you are using. If you have an older version of ProSel and you purchase a newer one, use this option to over-write the older version of ProSel.

Selecting 2 will prompt you to confirm your intentions by typing 'OK'. You will be prompted to specify which volume you want updated (/HARD1/ is the default). Next you are asked to specify the frequency the screen

will turn itself off during periods of no use. After copying the updated files, the ProSel main menu will display.

NOTE: The default screen refresh is fifteen minutes. You can use this option to increase or decrease that value.

- Option 4** This option is used to copy disks. It will prompt you for the source and destination slot and drive number, for the information being copied.
- Option 5** This will return you to the start of the SiderFile package installation program. The program will prompt you if you want to run the formatter.

NOTE: If you use 800k disks, you may want to install the Program Selector on all disks that have application files. This can be done by simply copying the files PROSEL.SYSTEM and PROSEL from one disk to another after the first installation. The INSTALL.PROSEL program installs a number of other utilities and you may not want these on some disks.

4.2 USING SiderFile's MENU SYSTEM

Siderfile's menu system is designed to simplify interactions with ProDOS and assist you in organizing your programs. The Program Selector works by storing commands in a way similar to a macro or batch file. When you select a menu item, the commands saved within it are executed. These saved instructions included such things as the name of the program, which directory it is stored in and where supporting files are stored



FIG. 4-2 PROGRAM SELECTOR MENU

When you boot up, the screen will display the Program Selector menu. Initially it comes with several application specifications already set up. These items are supplied to demonstrate the system. You will probably want to change them later. Use the arrow keys/mouse to highlight and select the menu item you want to run. Typing an alphabetic key while at the menu will move the highlighter to the next file beginning with that character. If no file begins with the letter, the highlighter will move to the first item on the screen.

While using your application programs, the Program Selector becomes inactive. Your application program will function as it normally would. When you exit the application, once again ProSel will load and the "program selector" menu will appear.

Any time the Program Selector menu is on the screen, you can press the ESC key to go to the menu editor to modify the list.

When you exit the editor, you will return to the modified Program Selector menu.

4.3 THE BUILT IN EDITOR

The Editor is used to add, correct and delete items from the Program Selector menu. It also is a tool used to define command information which the computer uses when a given program is selected.

4.3.1 Available Functions:

- QUIT** This returns you to the Program Selector mode.
- EDIT** Used to change the information stored in a menu item.
- DELETE** This is used to remove items from the program selectors menu. It does not remove the actual program files.
- ADD** This is used to add items to the program selector menu. This includes defining prefix, path-name and startup information.
- SAVE** This saves any changes you have made while in the editor.
- ESC** This is used to leave the EDITOR and return to the program selector menu. It can be pressed at any time. Exiting in this manner will not save any changes but will leave all items as they were before entering the editor.

4.3.2 How To Use Each Function

- EDIT** This displays a list of the programs currently in the program selector menu. By using the arrow keys/mouse to move the highlighter to select any one of the entries to edit. Once selected, the editor will display the contents in the following format.

EXAMPLE:

Screen title: My Own Program
Prefix: /HARD1
/PROGRAMS
Pathname: PROJECT.SYSTEM
Startup: (empty)

Use the arrow keys to move the cursor to the position you want to change. The syntax for an application title is 19 or fewer characters. Spaces and control characters are allowed. If you don't need to make changes to a given field, simply use the arrow key to trace over the current entry. See the ADD instructions for explanations of syntax and other options.

DELETE This first displays the list of programs currently in the program selector menu. Use the arrow keys/mouse to move the highlighter to select any one of the entries to delete. Pressing the return key will remove the entry from the menu. It will not remove the application program or files it called up from the drive. Use ESCAPE if you entered delete mode by mistake. Once deleted an entry must be ADDED to be returned to the menu.

ADD The ADD command is used to add a new item to the program selector menu. When ADD is selected the screen will display the basic input information shown below.

Screen title:
Prefix:
Pathname:
Startup:

You can now enter the information pertaining to the application you would like the Program Selector to perform for you. Input information for each field will be explained here.

SCREEN TITLE: This is the name which will appear in the program selector's menu. It can contain up to 19 characters (letters, numbers, symbols, spaces). The titles you enter will be displayed in alphabetical order when displayed by the

program selector. If you want to control the order in which menu items appear, use leading control characters in the title. Control characters are allowed in the titles (and not shown except when editing the title) they can be used to force the sorting to place the items in what appears not to be alphabetical order. Thus, if there is a group of applications you want to appear first in the list, just start their titles name with a control-A, etc. You cannot use control H or U or others that would be intercepted by the firmware on input.

NOTE: This is not needed if you format the screen with the external editor PROSEL.ED.

PREFIX This is needed to describe where the application program is saved on your disk. In the case of the Sider the root directory's prefix is /HARD1 (unless user modified). Most applications would be in sub-directories, not in the root. In entering the prefix you would enter both the root directory and the appropriate sub-directory(s) as follows.

EXAMPLE:

Prefix /HARD1/PROGRAMS (root+1 sub-directory)
or
Prefix /HARD2/ACCNT/COST (root+2 sub-directories)

The editor automatically adds the "/" to the end of the prefixes you supply. The prefix must be a valid full path-name and the application file must be of SYS type. If the entry is not a SYS type it will cause an error. The editor, however, will have no knowledge of this. The startup file may be of any type supported by the interpreter. Presumably, BASIC.SYSTEM 1.1 would support any file for which the "-" syntax is acceptable.

In prefixes, pathnames and startup names, the character "?" can be used as a substitute for the volume name (INCLUDING "/" ON BOTH ENDS) containing the active ProSel file. There are two reasons for this convention. The obvious one is that it saves a great deal of space in the application list. The other, mainly applicable to 800K drives, is that it allows disk swapping.

NOTE: The PROSEL file should be on the boot disk when you quit an application. If it is not, a "File/path not found" message will appear on the screen. If this occurs, you should insert a disk containing ProSel and hit a key. Similarly, the character "]" can be used in lieu of BASIC.SYSTEM (no slashes).

PATHNAME~ This is used to tell the Program Selector where the system file for the application being ran are located.

EXAMPLE:

Pathname: APLWORKS.SYSTEM

If the pathname starts with a "/" it is taken as the "full pathname". (Eg., that you are specifying a pathname that begins with a Volume name, such as /HARD2.) Otherwise the prefix you give will be appended to the default pathname that you have booted from. This would be /HARD I if you are working with a Sider.

If the a single "/" character is used as the "pathname", then when selected from the menu, the program selector will search the directory specified in the PREFIX field. All the SYS files in that directory are then displayed and you can use the mouse (or mows) to select one of those to be executed, Hitting ESC at this point will reload the main menu.

STARTUP Startup specifies where the system files are. If the single character '3' is entered for STARTUP and the PATHNAME specified BASIC.SYSTEM, then the directory corresponding to the PREFIX will be displayed. However, the BAS files and BIN files will be displayed and can be executed. In this case, the file selected will become a "startup" program for BASIC.SYSTEM.

NOTE: BAS files will be shown in upper case and BIN files in lower case. Not all BIN files are executable. The PREFIX does not have to correspond to the directory containing the BASIC.SYSTEM file, as long as the full pathname is used to specify where to find the BASIC.SYSTEM file.

EXAMPLE 2:

Screen title: MYSTART hello
Prefix: MYVOL/PROGRAMS
Pathname: /HARD1
/BASIC.SYSTEM
Startup: MYSTART

This second example causes BASIC.SYSTEM to run the MYSTART BASIC program directly instead of executing the usual STARTUP program. If the Startup line had been left blank then STARTUP would be executed as usual.

NOTE: This works only with BASIC.SYSTEM 1.1 which is automatically installed on your Sider during the ProSel auto installation.

SAVE This saves the edited information, as you have changed it, under the title /XXX/PROSEL where XXX represents the name of the volume where the program selector is stored.

If you make changes and do not use the Save command, the changes made will only execute one time. Unsaved Changes will be erased upon entering the next application program. If you find yourself in the editor by accident, simply select the quit command to return to the "program select" mode.

CAUTION: Both PROSEL.SYSTEM and PROSEL MUST be in the main directory. Other files can be anywhere. You should NOT LOCK the file PROSEL or the save will not work. Note that the SAVE command never creates the file, It only overwrites an existing one, it cannot be used to transfer that file to another disk.

The program selector can support up to 54 items in its menu. (The limit is 48 for the 40-column version).

The SAVE option uses a file to store the program selector menu in. This file is named PROSEL.80 or PROSEL.40 depending on your screen size. There are only 2600 bytes in PROSEL.80 and 2900 bytes in ProSel.40 in this file. If adding or editing an existing entry results in the sum of the data in the file exceeding its limit, the excess will be deleted. If your needs require a large number of titles in the program selector, you should use modest lengths for each. Editing existing titles can also reduce the overall size of the program selector file.

Then using the 40 column version of ProSel, as you exceed 46 “program selector” menu items, the next 2 entrees may not display properly. The only remedy is to use the 80 column version.

REMARKS

Some application programs may not support the ProDOS “quit protocol”. Apple’s own CONVERT is such a program. If, like CONVERT, they allow quitting via a direct specification of pathname, to accomplish this specify the pathname /MYVOL/PROSEL.SYSTEM, which will invoke the program selector. The reason for this non-support is that these programs were written while ProDOS was still being developed and did not yet have a well defined quit procedure.

It is possible to have BASIC.SYSTEM 1.1 on one directory and have it boot a startup program in a second directory. The following is an example of this:

Screen title:	MYPROGRAM
Prefix:	/HARD1
Pathname:	BASIC.SYSTEM
Startup:	/HARD2/MYPROGRAM

In this example, BASIC.SYSTEM would be loaded from the volume: /HARD1 and would run the program: MY PROGRAM in the volume: /HARD2. Using this technique, you would not need to have the BASIC.SYSTEM in both volumes.

NOTE: If you get an "Invalid pathname" or "File/Path not found" error when selecting an application, the prefix or pathname fields in the program selector's data base has an error. Go to the editor and edit it.

4.4 ADDITIONAL CAPABILITIES

4.4.1 Displaying Flies / Volumes

From the program selector menu, typing "1" or "2" will list the SYS and DIR files in the root directories of drive 1 and 2 respectively. Using the arrow keys/mouse you can run a listed program, or press ESC to return to the program selector menu. Subdirectories are listed in lower case; selecting one will read the SYS/DIR files in that sub-directory.

Typing a 3,4, 5,6 or 7 key followed by "1" or "2" will cause the device in the slot indicated and the volume 1 or 2 to be selected. For example, if you press "6" then "1", the disk in slot 6, drive 1 will be read and its SYS/DIR files displayed. If you have drives in slots 1 or 2, the keys "8" and "9" are translated to slots 1 & 2.

4.4.2 Screen Saver Function

If the program selector menu has been on the screen for more than 15 minutes with no activity, ProSel will cause the screen to blank. Any keypress will bring it back. To change the default from 15 minutes, see section 4.1 under option 2.

4.4.3 Using ProSel On Multiple Volumes

If you use 800K drives, you should copy the program selector to each of your 3.5 disks so that as you change disks each new volume will have the menu system on it. The menu is small enough to make this possible. When running the menu from a floppy, each time you change diskettes, simply type "51" to read in the new volume information. (assuming the disk is in slot 5, drive 1). When the list of files is displayed highlight and select the PROSEL.SYSTEM. and press return.

If you are using a number of diskettes you can have each volume renew itself automatically without typing "51" if you create a "program selector" item that has the single character "?" as prefix and "PROSEL.SYSTEM" as pathname. For this provision to work correctly you must use the "7" syntax throughout your application list for the volume name.

4.5 ProSel ON THE APPLE IIGS

On the Apple Has, the SiderFile package can also run ProDOS-16 application programs (programs of file type \$B3, or "S 16"). In order for this to work, the machine must be booted into ProDOS-16 from a boot disk with Apple's START program replaced by the START program on the EXTRAS disk, and with the files PROSEL.SYSTEM and PROSEL on the main directory.

To setup the program selector with ProDOS-16 on a 3.5 floppy drive, copy PROSEL.SYSTEM and PROSEL to the main directory of the boot disk. Next, copy START from the EXTRAS diskette to the SYSTEM sub-directory of the boot disk.

NOTES

5. AUXILIARY PROGRAMS

The SiderFile package has many useful utility programs in it. Most of these are installed on the hard drive during the initial installation process and will appear in either the SiderFile Program Selector menu or in the sub menu 'Utilities Directory'. The following section list these utilities in alphabetical order and describes their function and how to use them. These programs are part of the ProSel family of utilities. They can be very helpful in working with problems that might come up while using your computer but it is not necessary to understand them all to use your Sider.

5.1 BACKUP

PURPOSE:

The BACKUP program is used to backup the Sider's volumes to your floppies.

SPECIAL REQUIREMENTS:

It will work with 5-1/4 inch floppies, 3-1/2 inch floppies, and/or any other ProDOS formatted disk media. It requires 128K of RAM memory to function.

HOW TO USE:

To backup, you will of course need a supply of floppies. The program can tell you how many disks will be needed. Simply format one blank diskette with ProDOS. Place it in floppy drive one, from the program selection menu choose "Utilities Directory", select from the utilities directory the '~backup menu' item. Run the BACKUP program, it will inform you how many floppies you will need. Exit the program and prepare the required diskettes.

NOTE: The program has a safeguard to protect you from accidentally backing up to your Sider. It requires that the backup media have less than 4096 blocks. If you have a Sider tape unit, see its' SiderFile utility section for instructions on using its' backup software.

The backup disks MUST BE ProDOS formatted before starting the BACKUP program. When formatting these floppies use volume names like BACKUP.01, BACKUP.02, etc. If you use disks with other volume names, the program will ask if you want to destroy the existing volume, and rename the volume.

The backup program will use both floppy drives alternately, unless you specify only one is to be used. The BACKUP screen looks like this:

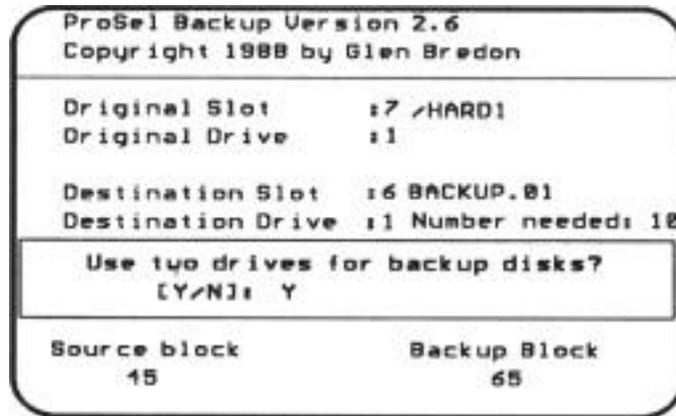


FIG. 5-1 BACKUP SCREEN

When you run the BACKUP program, you will be prompted to enter the Original Slot and Drive. This should be the slot and drive of the device being backed up. The program will read the volume name from the specified device and display it (example: /HARD1). Next, specify the destination slot and drive. The Program can use both floppy drives; simply enter the assignment of the first. Select whether to use the single drive option or to have the floppies alternate. (alternate default = Yes).

The backup procedure will start as soon as you answer this question. The first backup disk should be in the specified drive. While this first diskette is being backed up, insert the second diskette into the alternate drive, and soon. The total number of diskettes required is shown as "Number needed xx".

If the disk you have inserted is not named properly (i.e. BACKUP.xx) the process will pause and ask if you want to overwrite the existing volume. The diskette will be renamed and the backup process will then continue. You can choose to abort the back-

up process by hitting "N" at this time. If you have inserted the wrong disk, replace it and hit "Y"

If the program does not recognize a backup diskette as ProDOS formatted or if no diskette is in the drive, then the process will pause and you will be asked to "Reinsert/replace backup disk". Possibly the disk was not well centered. Try replacing the disk and type C for continue. The escape key aborts the backup process.

If the program is unable to read a block from the hard disk or is unable to write a block to the backup disk, it will retry four times and then inform you of the problem. The block that is causing the problem is shown at the bottom of the screen in inverse. You can choose to ignore this error and continue the backup process. (Make a note of the problem block if you do this. That block will not be transferred correctly.) If the problem is a write error, then you should abort the process by hitting the ESC key and start the backup process over after replacing the diskette in error. Don't take chances with faulty media.

NOTE: To insure maximum reliability we recommend formatting the backup disks on the same drive to be used by the backup program. Ordinarily this means formatting odd numbered disks on drive 1 and even numbered ones on drive 2.

TECHNICAL NOTE: When using a backup program which requires the 'backup bit' of the file name to be cleared, you can use the MODIFY.BACKUP to accomplish this. Our backup and restore programs do not use this bit.

5.1.1 Backing Up To A /RAM Drive

You can backup a volume to a FILE on a ProDOS disk device. This is used when saving the contents of a /RAM disk. To instruct BACKUP to store information to a file, type a 0 when prompted for the destination slot or for the source slot when you RESTORE. You will then be prompted for the pathname of the file to be used. If the file exists (of the proper file type - which

is \$F6) then it will be overwritten unless it is locked. If it does not exist, it will be created. To exit the program, press ESCAPE.

NOTE: The entire file must be contained on the destination volume. The file will be exactly 20 blocks longer than the number of used blocks on the volume to be backed up, plus 1 for every 256, so that it is easy to check that there will be room.

The instructions for backing up and restoring from a file to the \RAM volume can be stored as a menu item in the program selector. It can also be modified to be the “startup” device. In the case of BACKUP, you also need to place the name of the volume to be backed up at relative byte \$8A in the BACKUP file, with a leading length byte (see the section on AUTOMATIC BACKUP). This is most easily done by running the MODIFY.BACKUP program. If done correctly, selecting these applications will automatically backup/restore the /RAM disk to/from the file.

5.1.2 Backing Up To Slot 5 or 2

Normally, Backup/Restore alternates disk activity between drives 1 and 2 of the slot indicated. The program also supports Apple Has configurations which have two 3-1/2 inch drives assigned to slots 5 and 2. To enable this, you must make a simple patch. This is done by running the MODIFY.BACKUP program and modifying both BACKUP and RESTORE. Tell the program the flint backup disk location (eg., slot 5, drive 1) and the second (eg., slot 2, drive 1). The program also allows selection of other defaults.

5.2 BEACHCOMBER

PURPOSE:

BEACH COMBER is a ProDOS volume de-fragmenter. It will rearrange the data on a drive such that all directories are at the beginning of the disk, and all files will have contiguous data blocks. This makes for much more efficient file access. Normally this program need only be run once every 3 to 6 months.

There are three version of BEACH COMBER; BEACH COMBER.10, BEACH COMBER.20 and BEACH COMBER.32.

BEACH COMBER.10 is used on ProDOS volumes of ten megabytes. The program requires 128kb of RAM space. The program does not need, or use, any storage space on the disk. It is limited to volumes that have no used blocks above 10MB. It is also limited to 255 tree files.

BEACH.COMBER.20 is for twenty megabyte drives and requires a /RAM volume with 512 or more contiguous blocks (i.e. 256K free) to work. It will work with the has /RAM5, with the ProSe! ram driver and the AE Prodrive, but not with the Checkmate driver which *has* "illegal blocks".

BEACH.COMBER.32 is for 32 megabyte volumes and ONLY works on a has with more than 512K free ram (checked by the program). It does NOT use /RAM5 so it is best to have a small RAMS set up or none at all.

HOW TO USE:

THERE ARE ONLY TWO RULES TO USING BEACH COMBER:

1. First, run Mr.FIXIT twice, taking the test and bad block scan options to make sure the disk Is OK.
2. ALWAYS make a BACKUP before running the Beach Comber program!!!!

CAUTION: This program re-organizes data on your drive by reading it into memory, deleting it from the drive, then writing it back to the drive in an optimal pattern. Any internally or externally caused error (ie. power fluctuations) during this process can render a part or the whole drive unreadable. You ABSOLUTELY MUST have a full backup before using it!!!! Destruction can occur if the disk contains bad blocks or damaged data in a directory. We cannot be held responsible for the faults created by other utilities.

The program will ask for a slot and drive number of the volume to be optimized. It will then read and display the volume name of the selected device and pause for an input.

```
BEACH COMBER 20 ver. 2.6
Copyright 1988 by Glen. E. Bredon

CAUTION: This program is dangerous
and might ruin your volume. You
should have a backup before using
it. Press ESCAPE to exit now.
MAX vol. size 20 MB.

Clean up volume in slot      :7
Drive      :1
RAM volume in slot         :5
Drive      :2
```

FIG. 5-2 BEACHCOMBER INPUT SCREEN

The time needed to complete the operation depends on the amount of data on the drive. The actual time can range from a minute to more than an hour. About 5 to 12 minutes per megabyte is typical for the first run. Later runs may take much less, depending on what areas of the disk have been changed and how extensive the changes were. If you absolutely must abort the program, you can use the escape key. The program will take a few moments to react to this key because it will only quit at a time when the disk is "clean", and must also do some last moment writing to disk at this point. If you later want to continue,

the program will quickly arrive at the spot where it stopped, for the simple reason that it has little to do before that spot. NEVER interrupt the program with RESET; this will probably make much of the volume unusable, even though the program does its best to recover.

The program reads through the files in the directory 4 times. The program counts trees on pass 0 and will exit without harm if the 255 limit exceeded.

NOTE: The program goes through directories and files in the same order as the INFO.DESK program. Thus, to speed later uses of this program, you can put directories containing files, such as data files, late in this order (i.e., late in the main directory.) Put application directories early.

First pass reads data *from* the disk (errors at this phase will not affect disk contents). The second pass relocates the directory. The program uses a complex algorithm for this pass, and any obscure bugs are likely to be reported.

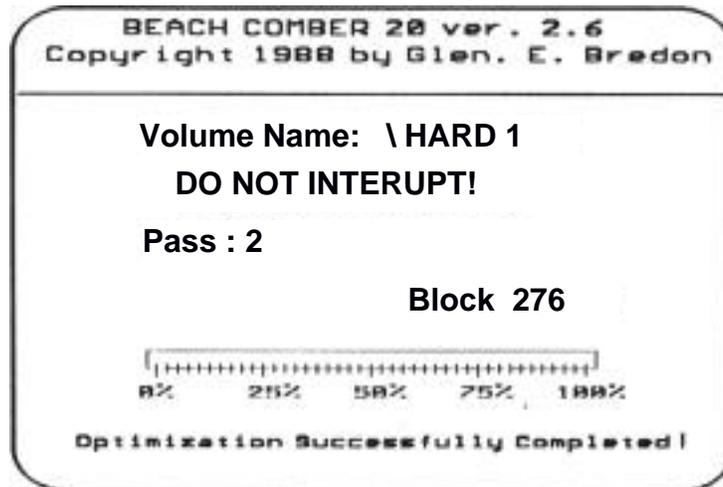


FIG. 5-3 PROCESS SCREEN

The third pass relocates all files except tree files. This pass takes the greatest amount of time. During this pass, the screen will show the current block being processed. Finally, the last pass

relocates tree files. (This refers to the files themselves, not to their directory entries, which will not be changed.)

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5.3 BLOCK WARDEN

PURPOSE:

The BLOCK. WARDEN program can be used to display and edit blocks of data. It requires either a IIGS or the Apple 80-column card and a/c or enhanced/e.

HOW TO USE:

When BLOCK WARDEN loads a screen resembling Fig. 5-4 will appear. This screen displays the individual bytes of a data block. A second block is loaded but not displayed. Pressing “/” will toggle between the two blocks. Block Warden has two modes; READ/WRITE (R/W) and EDIT. When first loaded, Block Warden is in R/W mode.

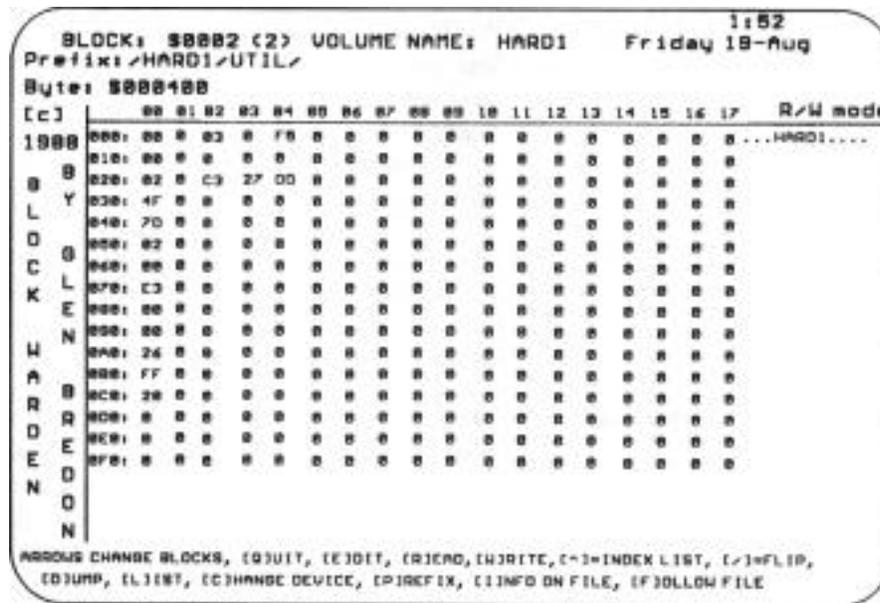


FIG. 5-4 BLOCK WARDEN

At the bottom of the screen you will notice a list of available commands which can be used while in the READ/WRITE mode. The following is a brief description of how each works.

5.3.1 Read / Write Mode

ARROWS	Used to read the next or previous block and can be used to page through the entire disk.
[Q]uit	The Q key will ask if you want to quit; if so it will return to the Program Selector.
[R]ead	The R command allows you to specify the next block to be read. (All block input is in hex.)
[W]rite	The W command allows you to change data in a block. (Press RETURN for no change.) As safety precaution, it asks if you really want to write block.
[C]hange	The C command allows you to change the slot and drive parameters. Note this command does not immediately read from the disk you change to, so you can transfer a block from one disk to another. Subsequent reads, however, will be made to the new disk.
[P]refix	The P command allows you to specify the prefix. This is commonly used with the F and I commands, but it can be used for changing devices.
[F]ollow	The F command asks for a pathname (full or partial) to be followed. After issuing this command the file name being followed will show at the top of the screen. It reads only the data blocks of a file, so cannot be used to look at the file's index blocks. Hitting the ESCAPE key will cancel the follow mode. This facility supports all file types including directory files and sparse files. While following a file you may toggle between EDIT and R/W modes.
[E]dit	Is used to switch from READ/WRITE mode to EDIT mode. More information about EDIT is found in the next section.

[L]ist

The L command disassembles the current buffer contents. A TXT file lists in ASCII. This can be forced for any file type by typing a quotation mark. The ASCII equivalents of bytes appear after the disassembly. Forty lines are listed on each page. You are asked for a starting byte (0-1 FF) for disassembly. If you press RETURN, the starting byte will be 0. If you press the right up arrow, the next page of the disassembly is shown. Press any other key to cancel this mode. If you are following a file the right or up arrow keys will cause the next block of the file to be listed.

While in the List mode you can print the screen by typing Open-Apple-D (The default printer is slot 1. If you have used [D]ump and changed the printer assignment, the new slot will be used). The disassembly supports the whole 65816 opcode set. The "M and X flags" attempt to follow the program logic, as in the Merlin-pro assembler. At the start of each page these flags can be reset by simultaneously pressing the RETURN and OPEN APPLE keys to set M=0 or RETURN and the CLOSED APPLE keys to set X=0.

[D]ump

The D command dumps the buffer to the printers assigned to the slot you entered. You can abort the command by hitting the ESCAPE key.

[A]

The ^ command sends a list to the printer of all possible "index blocks" starting with block 7. This is intended as a last ditch attempt to repair a damaged directory. It would be better if you have an up to date list made by the INFO.DESK program. Note: If block 2 is bad (the volume name is shown as "?") this command will not work - it will print ALL the blocks on the disk. Block 2 must be repaired first to the extent that it has a valid volume name and the correct number of blocks (bytes

\$29,2A of block 2). The printing of a list can be aborted by hitting the ESC key. The list will include some blocks that are not really index blocks, mostly partially full blocks at the ends of files.

[/] Flip is used to toggle between the two data blocks in memory.

5.3.2 Edit Mode

In edit mode the arrow keys move the cursor (shown in inverse). Any key other than a control character will be regarded as a change to the editing buffer. (In hex mode, it is disregarded if not a valid hex digit.)

ESC The ESC key returns to R/W mode.

Control X The (Control-X) key cancels any changes you may have made on the current block. (This is done by rereading the block.)
^X

TAB The TAB key toggles between hex and ascii editing modes. You can tell what the current mode is by seeing where the cursor is placed. In ascii editing mode, the high bit of a typed character will be off unless you press the Open Apple key at the same time, in which case the high bit will be on. Control characters can be inserted into the buffer only in hex editing mode.

Control F The (Control-F) key is a lead-in to character find mode. If the cursor is in the hex portion of the screen then the cursor will disappear and you are expected to type two hex digits. (An invalid digit causes this mode to be canceled.) The resulting byte then becomes the “find character” and the next occurrence of it in the buffer will be found and the cursor moved there. (If none exists the cursor returns to the first byte and the “Find mode” message is
^F

BLOCK WARDEN

erased.) After this first find, subsequent ^F commands find further instances of the find

character in the buffer. 'Ibis mode can be cancelled with the RETURN key. If the [Control-F] key is issued when the cursor is in the ascii portion of the display then an ascii find character will be gathered. (High bit of the find character will be off unless Open Apple is pressed when the character is typed.)

Control S
^S

The (**Control-S**) key selects global search mode. When used the first time this brings up a request to input a search string. If the string you give begins with "\$" then it will be taken as a hex string for the search. If FOLLOW mode is in effect then only the followed file will be searched for the string, otherwise the entire disk, from the present position, will be searched. The ascii search is not sensitive to the high bit of characters, nor is it case sensitive. (Thus, for example, a search string of Junk will find both "JUNK" and "junk".) You can cancel a search in progress with the ESC key while the disk is reading, or during input of the search string. (On the Ultraterm version, use (Control-C) for the latter.)

Strings that cross block boundaries can be located with this option. The program will beep when a string is found. When found, press ^S in the EDiT mode to continue searching. You can cancel by pressing RETURN in EDIT mode. Searching for the same string can be restarted by typing another [Control-S] in EDIT mode and pressing RETURN when the default string is shown.

If the volume name at the top of the screen, is "I?" this means the program encountered an error determining the name. This indicates there is something wrong with block 2 (the first block shown). It could also mean, the disk is not a ProDOS disk.

5.4 BOOT.S6/BOOT.S7

This function is used simply to cause the computer to boot from Slot 6 or Slot 7 respectively

5.5 CACHE/CACHE.XL

PURPOSE:

ProCACHE is used to speed up I/O communication to the Sider. It uses RAM memory to store a copy of the hard drive's address table and command information. With this information stored in memory, when a read or write command is issued, the system does not have to search the disk for important I/O information before the command can complete. The ProCACHE program will work on both Sider hard drives and 3-1/2 floppies.

<p>CAUTION: At this time the Cache programs are incompatible with Soft switch from Roger Wagner Publishing and MUST NOT be used at the same time as that utility</p>
--

HOW TO USE:

ProCACHE will ask which device to cache, the default is the device the program was run from. It then asks for the slot and drive assignment of the RAM volume. If the /RAM volume is suitable, it locks out a range of blocks on the volume for use as a cache. It then monitors blocks read from the device being cached (eg., the hard disk) and places frequently used blocks in the ram cache. This enhances disk operations substantially.

<p>NOTE: Cache is compatible with ProDOS 1.1.1, 1.2, 1.3 and 1.4 but does not work with earlier versions.</p>
--

ProCACHE requires the RAM volume to have a sufficient number of CONTIGUOUS blocks (262 blocks or more). An error message: "Not enough room on the ram volume" will display if there is insufficient room. The name of the RAM volume must start with "RAM" (i.e. "RAM", "RAM5"...). This avoids assigning a non-RAM disk device as a cache. If a non "RAM..." volume name is selected an error: "Ram volume not found" will display.

ProCACHE's operation is transparent to the user. The programs function can be unintentionally interrupted by programs which disables RAM volumes or overwrites them with disregard for its contents.

NOTE: Do not copy or restore a disk to the rant volume. while ProCACHE is active. If using a Ramworks type card, the "use extra memory" option of the Volume copy program should not be used. Before using other cache programs, you must reboot or restart ProDOS first. If the RAM volumes driver is rerun it will attempt to reinstall a new volume over the existing one.

ProCACHE uses the disk's volume name to reference its activities, we do not recommend caching floppies. If you do, you must reboot each time you change the floppy in the cached drive. You should not have two floppies with the same names and exchange them while running ProCACHE. When using ProCACHE on the hard drive, the volume label must be HARD1. If your hard disk is not named HARD 1, you can rename it or use Block Warden to change the default in ProCACHE. It is after the pair of \$FFs following the startup name and begins with a length byte. You **MUST NOT** do this with removable media.

If the RAM volume being used gets disconnected, the SYSTEM DEATH message: INSERT SYSTEM DISK AND RESTART - ERR OF displays. Some versions of Appleworks, disconnect devices in slot 3 which may disable the RAM drive. You can patch your Appleworks to fix this as follows: Run Block.Warden, set the prefix to the Appleworks directory, type F to follow and specify APLWORKS.SYSTEM. Type E for edit mode. Type AS to search. Type \$29 70 C9 30. It should stop with the cursor on the 29 of such a string. Move the cursor to the 70 and type F3 to change the 70 to F3. Move the cursor to the 30 and type B3 to change the 30 to B3. Type ESC to go to R/W mode. Type W to write, then RETURN to accept the block shown and Y to accept the write.

When installed and active, the ProCACHE program will slow down the I/O access to 5-1/4" floppy disks. If you will be using the floppies a lot, you should turn ProCACHE off by rebooting.

The program cannot be used to cache 5-1/4 inch floppy drives and attempting to do so will yield an error message.

The program CACHE.XL is an alternative version of CACHE which uses twice as much ram area for caching but disables the 5-1/4" floppy drives (reboot or rerun ProDOS to access them). Generally the regular CACHE is to be preferred but if you find too much reloading of files then you might use CACHE.XL instead.

5.6 CLOCK.DRV PROGRAM

This program is only for the AE "//C SYSTEM CLOCK". Do not use this if you do not have the Apple IIc. The original clock driver had a conflict with the //c mouse. Consequently, it did not work correctly with ProSel. Newer versions of it corrected part of the problem but the year still had to be set by hand. The present driver knows the year and it will work up to 1992. (It will work beyond that by a simple modification.) To use this driver just boot into ProSel and select it as an application. This need only be done once per computer session.

5.7 COPY/COPY.GS

PURPOSE:

This is a volume copy program for ProDOS disks. Its features are:

- It is fast, especially on partially full disks.
- It continues even if errors are encountered.
- It can copy one hard disk volume to another (if the two volumes are the same size). The Sider 40 MB are divided into equal parts. You could backup /HARD1 to /HARD2.
- It allows single drive or dual drive copies.
- It will use the Multiram or Ramworks card when doing a single drive copy (unless you tell it not to do so). Even if you do not have such a card the program will use most of the extra 64K in a//e or//c.

- If only one pass is required then you have the option of copying to subsequent disks without reading again from the original.

HOW TO USE:

When running COPY, you will be prompted to enter the slot and drive numbers of the original and duplicate drives. COPY first checks if the drives selected are active, if not, the program will restart. Next COPY checks to see if the source and destination volumes are the same size. It is impossible to accidentally copy from a floppy to a Sider. Once selected, the drive assignments remain active for subsequent copies.

COPY displays the volume names and creation dates of both the source and destination drives, it will warn you that the destination volume will be destroyed. If you change your mind, it will exit (via a Quit call). During the copy, the block currently being read or written is displayed at the bottom of the screen in inverse. Only blocks listed as used in the bit map are copied.

If a read or write error occurs the program retries four times. If it is still unable to do the read or write, the program will tell you the error and ask if you want to continue. If the error is on the destination disk, we recommend using a different disk. If you want to continue anyway (and try to fix the bad block by other means) you should make a note of the block on which the error occurred and then type C for continue.

When the copy is done you will be asked if you want to do another copy. The same original and destination drives are used. If the volume is /HARD1, /HARD2, etc, the copy will be named /COPY1, /COPY2, etc., and vice-versa. This prevents duplication of volume names when using one Sider to back up another.

Affect on the /RAM volume: If you don't use the single drive, use extra memory option then there is no effect. If you only have the standard /RAM volume, then use of the extra memory option will cause all data in the [RAM drive to be destroyed, and /RAM will be reformatted on exit. Other /RAM drives will also lose their data, and will be reformatted provided they accept a format request. (The supplied RAM.DRIVE does not accept formatting - there is no room in the driver - and so it is left disconnected and RAM.DRIVE will have to be rerun after the exit from COPY.)

COPY allows the copying of a small volume to a volume of a larger size, provided that has been formatted. This allows for copying of 800k disks using the Apple memory card, by first copying the disk to the RAM disk and then to another(formatted) 800k disk. For this to work you must have 1 mb on the Apple memory card. You are asked (if the program determines that the situation is one it can handle) whether you want the size increased to the size of the destination disk. You would want this if you are copying a floppy to a Unidisk, but not if you are copying a floppy to the Apple memory card with a view to copying that back out to other floppies. If you do not select this option then the destination volume will have the same size as the original. You should reformat the /RAM drive (turn the computer off and on) after using it to copy disks in this way. On the IIGS, you must have at least 800K on the /RAM5 volume to copy 3.5" disks. After copying to /RAM5, you must reverse the slot and drive specifications and copy the other direction. Alternatively you can use the program COPY.GS which looks for free memory and uses it provided it is a single drive copy.

CAUTION: The RAM disk method also works with the ProSel RAM driver and the AE ProDrive version 5.3 at east. You should NOT use this method with other RAM drivers.

5.8 FIND.FILE

PURPOSE:

Locate files on a particular drive and return information pertaining to the file including the directory where it can be found.

HOW TO USE:

The following is a list of functions available when using FIND.FILE:

RETURN	Continues searching other directories, if any, for occurrence of the stated file name.
SPACE	Will cause the scrolling of the listing of the to pause.
ESC	Exits the program and returns to the program selector.
D	Displays to the screen the contents of the file in HEX and ASCII formats. Option for printer.
T	Types the file to the screen. Control characters may be inverse video and may not print. Option for printer.
L	Works with Basic files. Produces formatted listing of programs where all statements are shown on separate lines, loops and conditional are indented.
R	If the file found is a SYS file will run the file.
* or =	Are 'wild cards'. Can be used anywhere in a file name to represent unspecified characters.

FTND.FILE will prompt you for a slot and drive and a file name. It will search through the entire disk. If found, the directory containing the file and data concerning it will be displayed. Next, you will be prompted to enter one of the above commands. If the

file can not be found or disk is damaged you will be notified and returned to the program selector menu.

To run BASIC program from FIND.FILE, you must tell it were the BASIC.SYSTEM file is. This is done by editing the program selector's menu item for FIND.FINDER. Specifying the full pathname of the BASIC.SYSTEM file as the startup of FIND.FILE. Initial installation places BASIC.SYSTEM in the main directory. If you move BASIC.SYSTEM to another location, however, you will need to edit the program selection listing for "File finder". When a BASIC program is run this way, the prefix will be set to the directory containing the program. This directory does not have to contain BASIC.SYSTEM.

FIND.FILE can also find files containing a specified text string.

5.9 INFO.DESK

PURPOSE:

This program will print the entire tree structure of a selected Sider volume. The output can be sent to the 80 column screen, to a printer, or to a disk file.

HOW TO USE:

There are four main parts to the program that give you different types of documentation of the files on your disk. The first part provides useful directory listings of your files on the Sider. The other 3 parts provide information of a technical nature.

1. Catalog.

This option is usually the only one you will use. It prints a tree structured catalog of the entire volume. Sub-directory contents are indented two spaces. All the usual catalog information is printed except the time of day and the access (locked) status. Access status is printed if the line length is set to 90 or more.

<p>NOTE: by using this option, you will be able to get a complete picture of all the files on each of your sider volumes.</p>

2. Block usage by files.

This mode tells you just what blocks on the disk are used by each file. The printout gives the number of blocks in each file (as in mode 1). Then comes the Index field. This contains the number of the index block. This field is empty for directory files and for seedling files (which have no index block).

Next come the actual data blocks. If two numbers in this list are separated by periods then they represent a range of blocks all belonging to that file.

In case of a tree file (file length = \$20000 = 131072) the first entry in the Index column is the master key block and this will be indicated by the text ' (Master index blockY next to the block number. Following this, on subsequent lines, are the index blocks pointed to by the master index block, and their associated data blocks.,

The information provided by this mode can be invaluable if you should ever have to attempt a repair by a disk zap program.

3. File usage by blocks.

This mode is the "reverse" of mode 2. It shows which files belong to the blocks on the disk. Most of the disk operations are done prior to any printing, so be patient. The printout consists of ranges of blocks in numerical order followed by the file names (the full pathname less the volume name) which use these blocks. This routine must build two large tables and there may not be sufficient room to handle very large volumes. In that case a partial table will be printed. You can tell whether this happened by comparing the number of files with that given by one of the other modes.

4. Bit map.

This mode prints the volume bit map. Used blocks are shown with 'x' and free ones with ".". (You can change these.)

At any time during printout the space bar will stop, then step, the process, and ESC will abort it. When printing to the screen is finished, the program waits for a keypress before clearing the screen and asking if you want to do another.

5.10 MAKE.PPSYS

PURPOSE:

This program will make a file *PPSYS* that allows you to call up the Pinpoint accessories directly from ProSel.

HOW TO USE:

Directions (follow very carefully):

1. Install Pinpoint first if not already done.
2. Copy the file MAKE.PPSYS to the directory containing a Pinpoint modified version of BASIC.SYSTEM and set the prefix to that directory.
3. Type CREATE PPSYS,TSYS
4. Type BLOAD MAKE.PPSYS
5. Type CALL 8192
6. Type BSAVE PPSYS,TSYS,A\$2000,L\$3200
7. DO NOT TRY TO EXECUTE PPSYS . THIS MUST BE DONE FROM ProSel.
8. Make an application specification for this in ProSel. For example, if the file PPSYS and your Pinpoint accessories are in a sub-directory called PINPOINT then use:

Screen title:	Pinpoint utilities
Prefix:	?PINPOINT=
Application:	PPSyS
Startup:	<none>

9. You can then delete the file MAKE.PPSYS at your leisure.

5.11 MR.FIXIT

PURPOSE:

This program is used to test and attempt to repair data blocks on your hard drive or floppies. The program allows you to choose several types of testing to be performed. It also allows you to print out a copy of the test results. You can and should use this program even when you are not having problems. Often finding a data block error early can mean important information can be repaired instead of lost.

HOW TO USE:

MR.FIXIT has four modes: a Test mode in which nothing is altered on the disk, a Fix mode which attempts to correct defects found in the directory structure, etc, a Main directory mode which attempts to reconstruct the main directory and a Bad blocks mode which scans for bad blocks and, if desired, places them in a bad block file. The Fix and Main directory modes are very dangerous and can change a bad situation to a worse one, so never use them without first using the test mode and never use them without an adequate backup that you can fall back on.

The program tests and, if fix mode is active, fixes the following defects on any *ProDOS* volume:

1. Header pointers of all active files.
2. Parent pointers and parent entry numbers of all sub-directories.
3. Backwards directory links.
4. Used blocks marked free in the bit map.
5. Illegal characters in file names.
6. Entry length (the program assumes this should be 27).
7. Number of entries per block (assumes this should be 13).
8. File count in each directory.

9. Incomplete deletes (deleted files with non-zero 'name length).
10. Incorrect directory storage types.
11. File and directory block counts.
12. File and directory dates and times.

In file names (point 5) lower case characters are converted to upper case, high bits are stripped, and other illegal characters are replaced by periods, illegal dates and times are zeroed.

The following items are checked and reported, but not acted upon:

13. Blocks used by two or more files.
14. Block number out of range (past volume size).
15. Unknown storage types.

Some errors result in files or directories being skipped over. You will be told if this occurs. It happens because of information damaged in such a way that the situation cannot be handled, or the damage is such that the supposition is that the remaining data is invalid.

Some block read/write errors cannot be handled and will result in termination of the program.

Sometimes in the error printout you may see a directory name printed twice. This indicates the correction refers to the directory "header" rather than the "parent block".

MR.FIXIT will also look for blocks that are marked used on the volume bit map but are not used by any file. You will be given the option, in Fix mode, of releasing these blocks. Sometimes areas of a volume are marked off without belonging to any file and in this case you should not ask that these blocks be freed. Examples are the UNODOS area on a Unidisk or a Pascal area. As a general rule, if the number of blocks indicated as being marked, but unused, is large, then you should assume that they

are marked for a reason and should not free them. (UNODOS, for example, marks exactly 400 blocks.)

The most important block on a ProDOS volume is block 2. Since it is accessed much more often than any other block, it is also the most likely to be damaged. If it is, you will probably see a message in MR.FIXIT that block 2 is too damaged for the program to function. There is a special provision for attempting a repair of the main directory, and it is accessed automatically when you request Fix mode and block 2 has extensive damage. You can also force this mode by selecting M at the Test/Fix prompt. You will be asked if the program should assume that the "bit map" is valid (default = Yes). Ordinarily you should select Y unless there is some reason to believe the bit map is damaged. (For example, if you are trying to resurrect the sub-directories after a disk has been "wiped" by SiderFile then the bit map will NOT be valid and you must select N at this prompt.)

When this mode has been selected by M or automatically because block 2 has been determined to be substantially damaged MR.FIXIT will tell you that this attempt is being made, and will give a few particulars along the way. Although the routine can resurrect most sub-directory pointers, it cannot do anything for standard (non-sub-directory) files in the main directory. While this routine is operating, every block on the volume will be read. This may take some time, so be patient. When it is finished, you will get the "Another?" message. Note that this routine does not do the other repair jobs mentioned above. You can run through the disk test again to check if those things are all right. You should realize, however, that this main directory repair routine expects most of the rest of the volume to be reasonably valid and normal. (For example, it assumes that the "bit map" starts on block 6 if the main directory header has been damaged. This is true for almost all disks, but not for some RAM volumes; this routine should not be attempted on a RAM volume or any other volume you suspect is organized in an unusual way.

If you select the Bad block mode then you will be asked if you want only to test or to fix. If you select test then the volume will simply be scanned for bad blocks and the results reported. If you select fix then there will be an attempt to place the bad blocks found in a bad blocks file. This file will be created in the main volume directory (so be sure there is room for it). If a bad block

is a data block and not a directory or index block then several attempts will be made to read it and relocate it. If it cannot be read then a fake block is substituted and marked with the message "DAMAGED BLOCK".

MISTER FIXIT can be used to resurrect the sub-directories in the main directory and all other files that are not in the main directory. (It is not possible to retrieve the vital pointers for other files in the main directory, although those files may still be intact on the disk somewhere.) This can be used on a disk that has been inadvertently "wiped" by SiderFile or "deleted" by COPY][+ or a large volume that has been "formatted" by filer (i.e., as long as the disk was not physically formatted). To do this, first use the option M of MR.FIXIT to repair the main directory. Then use the T mode to check the types of remaining errors. (There should be a LOT of block free errors, and a file count error.) Then use the F mode to fix the remaining errors if there are no fatal errors. You must remember that this program makes decisions that sometimes may be inappropriate and may leave some undetected problems. MISTER FIXIT can be automated by putting the desired key sequence after a semicolon in the startup position.

5.12 PARK.HEADS

PURPOSE:

This is an “application” that allows you to park the heads on a Sider hard disk.

HOW TO USE:

Its entry in the menu looks like:

Screen title: Park Heads
Prefix: /HARD1 /UTIL
Pathname: ARK.HEADS
Startup: (empty)

Select the program for the utility files using the ProSel “program selector”. If you run this program the beads on the Sider will be moved to an insider cylinder and you can then turn off the Sider. With the Sider off you may then press Open-Apple Control-Reset to reboot to your floppy drive if you need to run some older DOS 3.3 or copy-protected software. Always wait for the message that the heads have been parked to appear on the screen before turning either the Apple or the Sider off.

5.13 PASSWORD PROTECTION

PURPOSE:

To restrict access to information on a drive.

HOW TO USE:

The program PASSWORD can be used to give a light password protection to your hard disk. To use it, copy it to some directory (preferably the main hard disk directory). DO NOT LOCK the file PASSWORD, or you will not be able to change passwords. Then specify PASSWORD as the startup inside PROSEL.SYSTEM:

[To do this, get into BLOCK.WARDEN and type F for follow and then PROSEL.SYSTEM to follow that file. Type E to go to edit mode. There should be two bytes EE after the first three bytes. Type the right arrow key 6 times. At this point a box should appear to ask you for the STARTUP. Just type the word PASSWORD. Then type ESC to go to R/W mode, type W, then RETURN, then Y to the question “do you want to write..”. If

you put PASSWORD in a directory other than the main directory, say MYDIR, then you should type MYDIR/PASS WORD for the startup.]

Before doing this, you can test how it works, without danger, by just selecting PASSWORD as an application from ProSel.

The first time you get into PASSWORD it will say "password accepted" (because there is none) and ask you to type a password. REMEMBER WHAT YOU TYPE!!! When you have completed this you will go right into ProSel. The next time you boot up - or select PROSELSYSTEM - you will be asked to type the password. You get three tries. If you type it correctly then you go into ProSel, otherwise, after the three tries, the computer locks up and you will have to hit reset to reboot. Passwords are not case sensitive.

It is easy to change the password. Just hold the open-apple key down when you type the RETURN at the end of inputting the current password and the program will prompt for a new one.

You can tell the PASSWORD program to run another program before going to ProSel by putting the name of such a program in the "startup" position inside the PASSWORD file. Do this using BLOCK WARDEN in a similar manner to that described above for putting a startup in the PROSEL.SYSTEM file.

Don't expect too much of this "protection". It will not impede anyone with even moderate knowledge of the machine. But it can be useful if you just want some protection from idle pecking at your keyboard when you are away from your desk for a few minutes. Note that you can bring up the password screen just by selecting PROSEL.SYSTEM from the main directory.

5.14 PIN.PATCHER

This small program will take a Pinpoint (1.2 or 2.0) modified BASIC.SYSTEM file and make a patch which will allow specification of other STARTUP programs when you select BASIC.SYSTEM (as modified by Pinpoint) from ProSel.

5.15 PRINT.NAMES

The program PRINT.NAMES on the /FLOPPY disk is a utility that allows you to print out the application specifications in the PROSEL file. This list can be sent to a printer if you want. This may help you are having trouble getting some application to load properly.

5.16 PROSEL.CYCLER

PURPOSE:

This utility allows you to have more than one version of SiderFile 's ProSel utilities on your hard drive. This may be helpful if you use the same hard drive with different computer configurations (ie. one with a 40 column monitor and the other an 80 column).

HOW TO USE:

- 1 Use the SiderFile utility to copy the file PROSEL (or PROSEL.80, etc., from /FLOPPY) to some temporary directory, and then rename the ProSel file PROSEL.2.
2. Copy PROSEL.2 to the main directory.
3. If you want another copy, rename PROSEL2 in the temporary directory to PROSEL.3 and copy that to the main directory.
4. Continue, if desired, up to PROSEL.9..

<p>NOTE: This leaves no PROSEL. 1; that is what the current ProSel file will become if you switch to another copy.</p>
--

5. Make an application in ProSel which points to the cycler.
For example, if the cycler is in the directory UTIL then use:

Screen title: ProSol Cycler
Prefix ?
Application: UTILIPROSEL.CYCLER
Startup: (none)

6. When this is saved, select this item from ProSel. This will bring up the second copy of ProSel.
7. Go to step 7 for this copy of ProSel, and continue until you return to the original copy of ProSel.
8. Delete the temporary copy of ProSel (see step 2).

<p>NOTE: the external or internal ProSel editor will always edit the copy of ProSel that is active at that time.</p>

If you hit the Open Apple key when executing the cycler, you will get a menu showing all options and can select the version of ProSel you want to go to next, instead of cycling through all versions. This is convenient if you use more than 3 or 4 versions. The CYCLER.EDITOR can be used to change the names shown on the screen in this menu mode of the cycler, and it also lets you redefine the function of the Open Apple key, so that the menu becomes the default, and lets you select 40 or 80 column mode for the cycler display.

If you call the cycler from ProSel with a specification in the menu giving a startup name consisting of a digit (1-9) then the cycler will bypass the menu and will bring up the version of the PROSEL file corresponding to this digit.

5.17 PROSELED

PURPOSE:

The program PROSELED is a more powerful editor which can be used to customize the menu item in the SiderFile program selector menu. This editor can be used to arrange the menu entries in any fashion, thus overriding the default of alphabetical ordering. It will also allow somewhat longer screen titles (24 characters instead of 19).

If you change the program selector menu to include names longer than 19 characters, it will no longer work on a 40 column screen.

HOW TO USE:

When the external editor is run it will read the existing "program selector" information and display it in a similar format to the internal editor.

Moving Menu Items

Use the arrow keys to rearrange the names. Place the cursor on the menu item to be moved, hold down the Open Apple key while moving the name with the arrow keys. Note that moving a name one position swaps it with the one it is moved onto. Thus it is easiest to move it down to an empty area before trying to move it to another column.

Editing Menu Items:

To edit an entry, place the cursor on the entry to edit and hit RETURN key. This brings up another editing screen which shows the entire application specification. Use the Arrow keys to move the cursor, the TAB key to toggle insert mode, and ESC when done. The RETURN key has the same effect here as a down arrow, namely it moves to the next item.

To enter a new program selector" item move cursor to an unused entry and "edit" the empty line.

If an "application" title begins with a space then ProSel (version 2.3 and up) will ignore it. Thus you can put titles of groups of applications on the screen by using a space followed by the title of the group (eg., "WORD PROCESSORS").

When you quit from the external editor (ESC key) you will be asked if you want to save the changes.

5.18 SELECT.SYSTEM

PURPOSE:

This is an alternate version of the SiderFile program selector. It is entirely memory resident and can be used by non-hard disk systems.

HOW TO USE:

To use select.system, make it the first “.SYSTEM” file on your boot disk. When booted or when you quit an application, SELECT.SYSTEM will read all disk drives and display the list of volume names. Use the right and left arrows (only) to select the one you want and then press RETURN. The directory from that drive will then be read and the sub-directory file names are displayed as well as the SYS file names. You can select a sub-directory - then its sub-directories and SYS tiles will be displayed
- and so on.

You can press TAB to switch the highlighted name between the SYS and DIR pails of the screen.

If you press RETURN when a SYS tile is highlighted, that file will be mn with the prefix set to the present directory.

If you press ESC then one level of the prefix is ‘popped’. If that leaves no prefix, then all the drives *are* polled again just as at the start.

This program must reside in a limited space, hence error checking is minimal and there are few options.

SELECT.SYSTEM can be modified to automatically load an application of your choosing in the same way PROSEL.SYSTEM can. See the ProSel Appendix.

5.19 RAM.DRV

PURPOSE:

This utility is used to designate part of your ram memory to be used as a temporary ProDOS volume. The RAM.DRV utility is a /RAM volume driver which can be used with both the Checkmate Technology Multiram and Applied Engineering Ramworks cards. This RAM driver is compatible with Merlin-pro version 2.30 and higher.

HOW TO USE:

RAM.DRV is compatible with the “main memory” option of Merlin-pro, which is recommended for use with speed up cards. it is space efficient leaving many more free blocks on the ram disk. However if another /RAM driver better suits your needs, then you don't have to use this one.

RAM.DRV is similar to other ram drivers, but was written as a SYS program (exiting through the QUIT protocol) and thus can be used as a startup program from the SiderFile program selector.

This /RAM driver does not use any of Apple's standard auxiliary 64k space. This decreases the possibility of compatibility problems when using programs which use an auxiliary memory. There are no conflicts with double hires graphics.

The /RAM volume will be assigned to slot 3 drive 1 rather than drive 2. This is done to avoid problems with programs that do not handle slot 3, drive 2 devices. Ordinarily running the ram drive programs will not re-format /RAM if certain ID bytes indicate the /RAM volume is still there. This check is not always reliable, and you can force re-format by holding down the closed Apple key when running the ram drive programs.

The driver has a “bank lockout” that can reserve ram banks for other usage. This is done via the byte at \$2048 (currently 0 -- it follows two FPs to make it easy to locate) in the RAM.DRV file. The driver will not use any ram banks numbered equal to or below the contents of this byte.

The files RAM.DRIVE.16 and RAM.DRV.16 are compatible drivers that can be used if (and only if) you have a an Apple IIGS

or a 65802/816 processor installed in your Ile. If you try to use them without this hardware, they will tell you. Their advantage is speed, particularly if you have a IIGS.

To users of older version of these RAM drivers: The present versions do not have 'illegal' blocks. Therefore, a floppy can be copied directly to the ram drive via the COPY program. However, this change makes the present version incompatible with older ones. This will affect you if you have backed up /RAM to a file or to backup floppies. In order to switch over to the new driver, you will have to restore using the old driver, then use the SiderFile utility to copy the entire /RAM volume to a temporary directory on a hard disk or 800k disk. Then do a cold reboot, run the new /RAM drive, use the SiderFile utility to copy all the tiles back into /RAM, then use BACKUP to write a new backup file, or backup disks. If this is not feasible then continue to use the old versions of the driver.

5.20 RAMDRV.HEADER

PURPOSE;

RAMDRV.HEADER is a "header" that can be attached to the Multiram or Ramworks /RAM drivers so that they can be used in the same manner as described for the RAM.DRV, for automatic restoration of the /RAM volume on boot up.

HOW TO USE:

Get out your /RAM driver of choice. Notice its length in the catalog and add 256 to it - this will be the length of the modified driver. BLOAD your JRAM driver to address \$2100. Then BLOAD RAMDRV.HEADER. Then CREATE RAMDRV,TSYS (or whatever name you want) and BSAVE RAMDRV,TSYS,A\$2000,L? where you put in the length calculated above. [NOTE that this final file MUST be a SYS file.]

Follow the directions above for using this with the BACKUP and RESTORE programs.

CAUTION: You must never backup using one ram driver and try restoring to another ram driver. This **WILL NOT WORK** and may cause other damage!

NOTES: The program does not manipulate the “backup bits” unless it is altered to do so (see above). This has no real purpose if you do only full volume backups. In fact this program does not manipulate the data on the disk in any way. You will find that a restored volume is identical to what it was when the backup was made, right down to the create dates on your files.

You can test these programs using only scratch floppies to see how they work before you commit yourself to using them on hard disk. To do this just specify one of the floppy drives as the original and the other floppy drive as the destination.

5.21 RESTORE.FAKE

Is identical to RESTORE except that it writes nothing to any disk. It substitutes reads for writes. You can use it as a test program just to see how RESTORE works, with no possibility of destroying any information on your hard disk. It allows you to verify that the backup was successful.

5.22 RECOVER

PURPOSE:

Ibis is a utility that allows you to recover a specific file from the backup disks created by the BACKUP program. This can be very useful if you should ever be in a position where your hard disk is down or some files on it are now inaccessible.

HOW TO USE:

To use this you must have two working disks one of which must be of the type used for making the backups. One of these drives will be used for reading the backup disks and the other will be used to write the recovered file.

The program will ask for the slot and drive that you will use for the backup disks.

It then asks for the pathname of the file you want to recover. This name **MUST NOT** include the volume name. Thus if you should want to recover /HARD1/APPLEWORKS/LETTER, what you type here must be: APPLEWORKS/LETTER.

Then you always must specify the FULL pathname of the filename you want the recovered data written to. If the file already exists you will be asked if it should be deleted. If you answer YES and the file is locked then the program will abort.

Next you will be asked to insert BACKUP.01 and press a key. It may ask for many more of the backup disks. Be prepared for a lot of swapping if the file is large or high up in the hard disk.

If the operation is successful the program will ask if you want to retrieve another file. If recovery is not successful then some error message will also appear.

<p>NOTE: RECOVER cannot be used to recover files from the file created by the 'backup to a file' option.</p>

5.23 RESTORE

PURPOSE

This program is used to restore the hard disk volume to its condition when the backup was made. CAUTION: Any additions since the backup will be lost. The primary purpose of RESTORE is recovery from a disaster that has destroyed the hard disk volume. (If the hard disk needs reformatting, do that BEFORE using RESTORE.) Obviously you should have a copy of the RESTORE program on a floppy disk. While operating, the screen of RESTORE looks like this:

The date shown is the date that the backup was made. It will show only if you had a clock when the backup was made.

HOW TO USE:

When you enter the program you specify the original slot and drive, which is the slot/drive of the backup floppies and defaults to slot 6, drive 1. The destination slot/drive is that of the hard disk. You MUST specify the correct slot and drive for the hard disk. On the Sider hard disk, drive 1 corresponds to the volume /HARD1 and drive 2 to /HARD2. If you backup from drive 1 (HARD 1) and then try to restore to drive 2 (HARD2), you will get an error message reading "Incorrect volume size/name". If the volume size is correct (see below) then you will see the expected volume name on the screen after "Destination slot" (here it would be /HARD1). If you still want to backup to that volume, you will have to exit the program, rename the destination volume and rerun RESTORE. This is a safety feature to prevent accidentally overwriting the wrong volume!!!!

The RESTORE program demands the backup disks to have the correct names. If one comes along with the wrong name, the program will pause and ask you to insert the correct disk. (For this type of error the C[ontinue] key and R[etry] key are equivalent) The disk name "BACKLUP.xx" is displayed after "Original slot" and the currently active drive is shown after "Original drive". When you change that disk and press C or R the program will look at the replaced disk and make sure it is now correct. (If not, you get the message again.) Hitting ESC at this time will abort the restoration process and will leave your

hard disk with incorrect data. You can, of course, rerun RESTORE from floppy and try again.

You must restore to a volume of the same size as the one backed up. The program will not accept a different size. If you have to reformat the hard disk, make sure you create the same size volume. The installation program for the D4 will always divide the hard disk into two, equal sized volumes. Thus, a backup from either volume can be restored to either /HARD1 or /HARD2. They are both the same size.

If you want to change volume sizes, you will have to use another backup utility to do it. This is a consequence of the way this program works and is partly responsible for its speed. The current version will allow restoration to a larger volume (you are asked if it is ok) as long as the number of "bit map blocks" is the same and the old and new numbers of blocks are both multiples of eight. A new "bit map block" is needed for every 2MB of disk space, so this allows a moderate increase in the size of the volume. If you use RESTORE on a volume you must be sure to use the same RAM driver for restoration as for the backup, and an increase in volume size will work only for the driver supplied and for the Ramworks and Checkmate RAM drivers.

If a read or write error occurs while attempting a restore, you will have the option of continuing, retrying or aborting. Selecting "retry" will attempt to read or write the problem block again. (You might try reinserting the disk before hitting the "R" key.) The continue option will skip the problem block (which will leave the destination block with incorrect data). If it is a read error, you should note the number shown in inverse under the beginning of "Restoring block" at the bottom of the screen. This is the block on the hard disk which will have incorrect information written to it. This block will contain the message "BAD RESTORE" written into the first few bytes. In a pinch you may be able to fix this block by hand. The block on the backup disk that could not be read is shown in inverse under "Source block" at the bottom of the screen.

5.24 SCAVENGE

This little program SCAVENGE, when executed, will look at all disk devices on line and remove from the ProDOS queue any that do not contain ProDOS disks. The purpose of this is to avoid access of empty drives by programs that poll all devices. If it does not find any drives to remove then it rebuilds the queue. Thus if you run this a second time it will re-enable all disk drives.

This program can be most useful with ProSel on a Sider. If you are not using your floppy drives, just run SCAVENGE from the utilities directory. If you are then using the SiderFile program and want to use the "7" option for searching pathnames, the system will no longer waste time polling your floppy drives.

NOTES

6. SiderFile's ProSel APPENDIX

6.1 RUNNING FROM A RAM VOLUME

SiderFile's Program Selector can be run from a memory card. There are three methods you can use to install these utilities to your RAM volume. All require you to first define the size and location of your RAM volume.

METHOD 1:

With the RAM volume defined, locate your SiderFile distribution diskette. Place it in your floppy drive. If you are running from the Sider, enter APPLESOFT basic and change the PREFIX to/FLOPPY. At the prompt type:

]-INSTALLPROSEL

Specify /RAM as the destination volume. Enter the other information as appropriate to your configuration. This method will install all of the complete SiderFile package including the ProSel utilities.

METHOD 2:

With the RAM volume defined, use the Program Selector to run the SiderFile utility. Use the COPY option to copy the following files from either the hard drive or the floppy to the /RAM volume:

**ProDOS
PROSEL.SYSTEM
PROSEL
BASIC.SYSTEM
FINDERDATA
FINDER.ROOT
UTIL**

Optional, will cause all the SiderFile and ProSel utilities to be copied.

It should be noted that the Program Selector will need to be edited such that the pathnames and prefixes reflect/RAM and the new root volume.

METHOD 3:

If you intend on using your /RAM volume frequently to run your SiderFile utilities this method will be the simplest in the long run. With the /RAM volume defined, use the SiderFile utility to copy over the files as you would in METHOD 2. In addition, you may copy to the /RAM volume any other files or programs you want installed in your /RAM volume.

With the files installed on the /RAM volume, use the Program Selectors editor to modify any of the menu items which designate /HARD1 as the volume to return to after running a program. When your /RAM volume is setup the way you want it, proceed with the following steps:

NOTE: If you want to use your hard disk or 800k floppy you should use the options for BACKUP/RESTORE to and from a FILE. See the section in BACKUP.DOC called BACKING UP AND RESTORING TO AND FROM A FILE.

1. Run the BACKUP program from the 'Utilities Directory' and backup the /RAM volume to floppies.
2. Use the SiderFile utility program to format a new floppy. Name it /RESTORE.RAM.
3. Use the SiderFile utility program to copy the following program from the floppy volume /FLOPPY to your new volume /RESTORE.RAM.

PRODOS	/FLOPPY
BASICSYSTEM	/FLOPPY
RAM.RESTORE	/EXTRAS
BOOT.PROSEL.R	/EXTRAS
RESTORE	/FLOPPY

4. Copy the RAM driver you are using to the /RESTORE.RAM diskette.

NOTE: Check that the driver you are using is the .BIN version. There is both a .BIN and .SYS version shipped with SiderFile.

5. If you are using a RAM volume named something other than /RAM, run AppleSoft Basic. From the system prompt, type the following:

```
PREFIX /RESTORE.RAM  
LOAD RAM.RESTORE  
LIST 500
```

[Modify line 500 to contain the name of your RAM driver and press return.]

```
SAVE RAM.RESTORE
```

6. While still in the RAM.RESTORE prefix type:

```
RENAME RAM.RESTORE,STARTUP
```

With a copy of what you want in RAM on diskettes, you can automate the restoration process by running the program RAM.RESTORE. (It uses both the BOOT.PROSEL.R and RESTORE programs. Do not use BOOT.PROSEL.R for anything else.)

To test the procedure turn your computer off and reboot. When re-booted, the RESTORE program will prompt you for a source slot.

If not, it may be necessary to change lines 510 and 520 of the RAM.RESTORE file to give full pathnames:

```
PRINT CHR$(4)"  
BRUN /RESTORE.RAM/BOOT.PROSEL.R  
OR  
520 PRINT CHR$(4)"/RESTORE.RAM/RESTORE"
```

When successfully loaded, the restore program will prompt you through the restore process. Remove the /RESTORE.RAM disk and insert the /BACKUP.01 diskette. Enter the destination slot and drive numbers of your RAM driver. For the SiderFile provided RAM driver it is slot 3 drive 1, other drivers may use drive 2.

Add BACKUP to your program selector" menu and run it whenever you add or change files on the RAM disk.

NOTE: The SiderFile package provides /RAM drivers for Multiram and Ramworks cards and is compatible with Merlin-pro version 2.3 and higher. You can use any RAM driver you want to with ProSel, it is not limited to the one on the disk.

6.2 AUTOMATIC BOOTING OF A RAM VOLUME

The SiderFile package supports the automatic loading of a RAM volume upon booting. To have the Program Selector load from the /RAM volume each time you boot take some modifications to the system files. This process should not be done to your originals since errors can render the copy unusable.

These are the steps to follow:

1. Install ProSel on the boot up disk.
2. Use BLOCK.WARDEN to place a STARTUP name in PROSEL.SYSTEM. If you have the Apple memory card then put in LmL/RESTORE, and skip step 3. Otherwise put in UTIL/RAM.DRV and use the SiderFile utility to copy RAM.DRV to the directory UTIL on your boot up disk.
3. Skip if you have an Apple memory card or clone. Use BLOCK.WARDEN to place a STARTUP name of UTIL/RESTORE in the RAM.DRV program. RAM.DRV has been set up to run the program you name as the STARTUP if there is one.
4. Use BLOCK.WARDEN to place the name of the FILE to be restored to the RAM volume in the STARTUP position of RESTORE. You might call such a file RAMFILE for example, or MISC/RAMFILE if it is in the sub-directory MISC.
5. To have RESTORE run a SYS program (eg. BASIC.SYSTEM) instead of returning to ProSel after loading the RAM volume, use BLOCK.WARDEN to enter the name of the desired SYS program at byte \$48 in the RESTOREprogram.

This must include a leading length byte just like startup specifications. This position in RESTORE follows the first pair of FFs and is terminated with another pair of FFs, to make it easy to locate. Even if this program name has been put in the indicated place in RESTORE, it will be ignored if there is no specification in the STARTUP position (item 4) This makes it possible to use the startup specification in ProSel to run this version of BACKUP while still being able to use the same copy of BACKUP (with nothing in the startup position) for its primary purpose of backing up a hard disk.

6. Load the files you want into the RAM volume and use BACKUP to backup the volume to the file you named in step 4.

If you have followed this procedure correctly then the next time you boot, the RAM volume should be loaded automatically from the file you created. If not, then you missed some detail. Check the names you have given for various files and make sure the files are really where they will be looked for. This provision will just ignore file specifications if the files are not found. There may be no error messages.

Remember that these instructions apply to loading the /RAM volume from a FILE on a hard disk or 800K disk. To load the /RAM volume from floppies requires a different, and somewhat easier, procedure which was described in the section "USING ProSel ON A /RAM vOLUME".

6.3 AUTOMATIC BACKUP OF A RAM VOLUME

BACKUP can also be instructed to automatically backup a RAM volume to a file and then (optionally) run another application such as PARK.HEADS. Thus a single selection from ProSel can automatically backup your RAM volume, and then park the heads of the hard disk.

To force this mode, the file name of the backup file should be placed in the startup position. [It is best to let ProSel do this via an application specification. That way BACKUP can be used in

other ways without making a completely separate version. If the startup position is empty then the rest of the operation described here will be ignored by the BACKUP program.]

Then the program name to be run after BACKUP is finished should be placed (with a length byte) following the first pair of FFs in BACKUP (byte \$48 of the file). Leave it zero if you want it to return to ProSel.

Then the volume name (including a length byte and a "/") of the volume to be backed up (eg., 4/RAM, where the 4 is in hex, the rest in ascii) must be placed following the second pair of FFs (byte \$8A) if this is left null then this mode will be IGNORED.

6.4 CHANGING STARTUP NAMES

BLOCK WARDEN has a feature to simplify entering STARTUP names in SYS files.

To change the default STARTUP file name in a SYS file, follow these steps:

1. In R/W mode, type F to follow a file, and specify the file name of the .SYS file to be moved (you may want to use the P command first to set the prefix of the file).
2. When the a block is read, select [E] to enter the EDIT mode.
3. Press the right arrow key six times to move the cursor to the startup position. A box will be displayed asking for the startup name. (If not, either the file is not of SYS type, you are not in follow mode, or the file does not support startups.)
4. Type the startup name ending with RETURN. When done you will see the name you entered has been placed in the edit buffer with the appropriate length bytes supplied automatically.
5. Type ESC for RAY mode, then the W command to write the buffer to disk, etc.

6.5 HOW TO GET RID OF PROBLEM FILES

Sometimes a glitch in the system will ruin a file to the extent that it cannot be deleted by ordinary means. There is a “secret” (meaning not shown on the screen) provision in the SiderFile sort routine that will allow you to get rid of such files. If you highlight the LAST file in the list and press Open-Apple DELETE then that file will be deleted from the list. Nothing happens on disk until you press return and ask for the “sorted” directory to be written to disk. To delete a file which is currently not the last one on the list you must first move it to the end, using the arrow keys with Open-Apple, and then press Open-Apple-DELETE.

This only gets rid of the file as far as the directory is concerned and does not free the blocks used by the file and release them to the system. To do that you should then use that provision in MR.FIXIT. Once this is done, the block will then be free for use with other files.

Please note that files deleted in this fashion are not recoverable. You must use it with extreme caution. Entire directories can be deleted this way, by using it on the name of the directory.

NOTE: For technical reasons this method does not work if there is only one file in a directory. However, the directory containing it can be deleted with this technique.

NOTES

7. SPECIFICATIONS

7.1 TECHNICAL INFORMATION

7.1.1 Sider Speciflcatlons

This section contains specifications for the Sider, including dimensions, subsystem requirements and fixed disk characteristics.

Dimensions and Requirements

Following are the physical dimensions and power requirements of the Sider.

Height _____ **7.5 Inches**
Width _____ **3.4 Inches**
Depth _____ **16.0 Inches**
Weight _____ **11.0 pounds**
Source _____ **110-126 vlts (factory config)**
Line Frequency _____ **50/60 (+1-2%)**
Power Consumption _____ **40 watts**

Subsystem Characteristics

The following section provides additional specification for the Sider fixed disk subsystem.

	Sider D4 A	SiderD4T
Formatted Capacity _____	40 Mbytes	40 Mbytes
Sectors per track _____	17	17
Bytes per Sector _____	512	512
Cyiinders _____	809	1024
Heads _____	6	5
Average Access Time _____	61 msec.	28 msec.
Average Latency _____	8.33 msec.	8.33 msec
Recording Format _____	MFM	MFM
Auto Head Parking _____	NO	YES
Actuator type _____	Stepper	Voice Coil

NOTES

8. HARDWARE APPENDIX

8.1 HOST ADAPTER CONFIGURATION

New Siders have been enhanced internally to be more versatile and use less power from the computer. Enhanced Siders have a warning label on the rear panel. Internally, they provide 5 volts power to the terminator network. Previous Siders derived this voltage from the Apple's motherboard through the host adapter. If there is no warning label, you should follow the setup instructions for the non enhanced Sider drives.

Below are illustrations of various Sider host adapters, locate yours and set the option jumpers as indicated. Many versions other the Apple host adapter have been manufactured. Some may have what is called a trace on the card in place of a jumper. If a board has a trace connecting the circuit, it should be remove or added as indicated in the following diagrams.

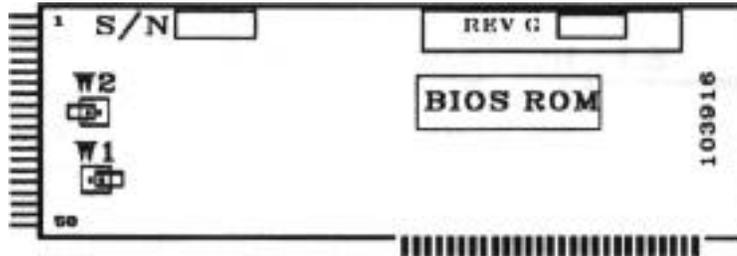
If you have a host adapter 103916 revision E setup as follows:

Solder Side

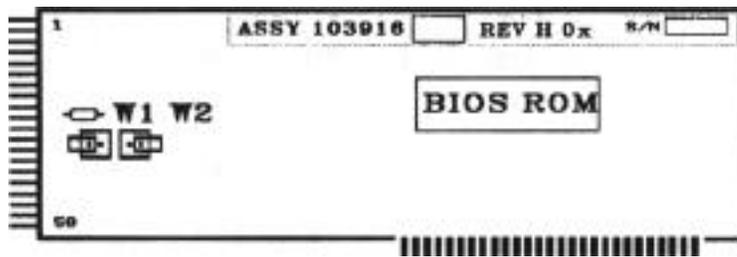
**Cut This
Wire**

**Sider with no warning label.....Board should not be modified.
Sider with warning label.....Cut the wire shown above.
Sider with no label daisy chained
to Sider with warning label.....Cut the wire shown above.
Sider with no warning label.....wire can not be cut.**

If you have a host adapter 103916 revision G, H00 or H01 setup as follows:



Sider with no warning labelJumpers should be on W1 and W2.
Sider with warning label.....Both W1 and W2 jumper must be off.
Sider with no label daisy chained
to Sider with warning labelBoth W1 and W2 jumper must be off.



A host adapter 103916 revision H03 OR H04 setup as follows:

Sider with no warning label.....Jumpers should be on W1 and W2.
Sider with warning label.....Both W1 and W2 jumper must be off.
Sider with no label daisy chained
to Sider with warning label.....Both W1 and W2 jumper must be off.

8.1.1 Important Information

If you use a host adapter set for the wrong revision of the drive, many problems can occur:

Example 1:

If a host adapter is being used with a Sider without a warning label and its jumpers are set for a Sider with a warning label the Siders terminator will not work and the drive normally will not work properly in the computer.

Example 2:

If a host adapter is being used with a Sider which has the warning label but its jumpers are set for a Sider without a warning label, 5 volts of power will travel from the Sider to the Apple's mother board. This may, cause problems with other boards in the system, cause the Apple to appear ON" even with the power off and could cause computer damage if a card were pulled out.

Example 3:

If you are daisy chaining a Sider product which have a warning label to one which does not, the host adapter should always be set for as if both drives have warning labels.

If you are Daisy Chaining products other than the Sider 40mg drives, an old drive Sider with a new one the new one needs to be on anytime you are using either drive.

NOTES

9. FCC AND WARRANTY

9.1 FCC COMPLIANCE

FIRST CLASS PERIPHERALS provides a shielded Data Cable (and Host adapter if required) that comply with the FCC Class B computing regulations. Use of a non-shielded Data Cable may result in RF radiation exceeding limits. It is possible, when not following these explicit instructions, to install the Sider so that it isn't in compliance with FCC Class B computing regulations.

This equipment generates and uses radio frequency energy and if it is not installed and used in strict accordance with the manufacturer's instructions, may cause interference with radio and television reception. All Siders have been type-tested and found to comply with the limits of Class B computing device in accordance with the specifications in Subpart J of part 15 of FCC rules, which are which are designed to provide reasonable protection against such interference in a residential installation. However, there are no guarantees that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, you are encouraged to try to correct the interference by one or more of the following -- reorient the receiving antenna; move the equipment away from the receiver plug the equipment into a different outlet so that the equipment and receiver are on different branch circuits.

If necessary, you should consult with an Authorized FIRST CLASS PERIPHERALS dealer or an experienced radio/television technician for additional suggestions. You may find the following booklet prepared by the FCC helpful:

'How To Identify And Resolve Radio-Tv Interference Problems'

Available from: U.S. Government Printing Office, Washington D.C., 20403: Stock No. 004-000-00345-4

9.2 LIMITED WARRANTY POLICY

FIRST CLASS PERIPHERALS warrants all of its products, including spare parts sold by FIRST CLASS PERIPHERALS, to be free from defects in material and workmanship for a period of one year from the date of delivery. This warranty is made to the original purchaser, and only the original purchaser may make any claim under the warranty. (Original purchaser is defined as the first person to install and place into use any FIRST CLASS PERIPHERALS product. Typically this person would be the end-user). No other party shall have any rights under this warranty shall be the repair or replacement of the defective product as described herein. Title to the product remains at all time in the purchaser.

FIRST CLASS PERIPHERALS disclaims all other representations and warranties, including but not limited to, any implied warranty of merchantability or fitness for a particular purpose. FIRST CLASS PERIPHERALS shall not be liable for any special, indirect, incidental or consequential damages, lost profits, costs or expenses, except as set forth in this policy, which may be modified or amended only by written contract.

IN-WARRANTY REPAIR

FIRST CLASS PERIPHERALS will repair at its factory or repair center, any product that within the warranty period is returned to FIRST CLASS PERIPHERALS and found to be defective in proper usage.

Warranty action is initiated by customer notification to FIRST CLASS PERIPHERALS of a product failure within the warranty period. In the rare event a failure should occur, the original customer must obtain a Returned Goods Authorization number (RGA) from FIRST CLASS PERIPHERALS and return the defective product in its original shipping carton or equivalent, making sure to include all accessories and proof of purchase, to the designated factory or repair center. One-way transportation charges are at the customer's expense. FIRST CLASS PERIPHERALS will return repaired or replaced product by UPS Ground service at the expense of FIRST CLASS PERIPHERALS. Requests for faster shipping service may be obtained provided the customer makes prior arrangements with

the FIRST CLASS PERIPHERALS sales department; such service is at the expense of the customer.

FIRST CLASS PERIPHERALS reserves the right to reject any warranty claim on any products that have been the subject of abuse, misuse, unauthorized repair, alteration, improper return handling or causes external to the product, including but not limited to: improper power application, improper environmental exposure or other improper use of the product.

FIRST CLASS PERIPHERALS, at its option, may replace the returned product with a new or refurbished unit of the same type and model as defined by the applicable specifications or published data sheet.

FIRST CLASS PERIPHERALS will return to original purchaser repaired or defective product within 3 working days of receipt by FIRST CLASS PERIPHERALS PROVIDED: 1) a RETURNED GOODS AUTHORIZATION NUMBER (RGA) has been obtained from FIRST CLASS PERIPHERALS; 2) the RGA number is written in large (3 inch) letters on the original shipping container; 3) all accessories are included and 4) all the aforementioned instructions have been met.

FIRST CLASS PERIPHERALS includes in its Limited Warranty Policy, the right to update in accordance with any field change order which FIRST CLASS PERIPHERALS determines is mandatory for reasons of product safety. All other field changes, revisions or updates not deemed mandatory by FIRST CLASS PERIPHERALS may be implemented at the discretion of FIRST CLASS PERIPHERALS or as required by contract.

Out-OF-WARRANTY REPAIR

FIRST CLASS PERIPHERALS will provide repair or replacement services for all products manufactured by or for FIRST CLASS PERIPHERALS and sold by FIRST CLASS PERIPHERALS, for a period of 3 years following date of original purchase unless product has been discontinued from FIRST CLASS PERIPHERALS active product list. The customer is obligated for cost of repair or replacement and its updated amendments, including freight and handling charges both ways.

To obtain OUT-OF-WARRANTY REPAIR SERVICE, the customer must: 1) obtain a RETURNED GOODS AUTHORIZATION NUMBER (RGA) from FIRST CLASS PERIPHERALS; 2) include the authorization number on the outside of the original shipping container or equivalent in large (3 inch) letters, and 3) include all accessories required for proper repair. In the rare event all required accessories are not included, FIRST CLASS PERIPHERALS will repair or replace only those parts which were received.

REPAIR WARRANTY

FIRST CLASS PERIPHERALS warrants any out of warranty product repaired in its factory or repair center to be free from defects in material and workmanship for a period of 90 days from the date of return delivery.

For additional sales ore repair information contact:

FIRST CLASS PERIPHERALS
3579 Hwy. 50 East
Carson City, Nevada 89701

10. GLOSSARY OF TERMS

Alternate Track:	A Track or area of the fixed disk used for reassigning information from a defective track.
APPLI-CARD:	An expansion card that supports the CP/M operating system, produced by Personal Computer Products, Inc. (PCPI)
Application Software:	Computer programs that perform problem-solving tasks such as accounting or word processing.
Back-up:	A copy of a primary data file or program to a secondary medium for safe storage.
Bit:	The smallest unit of information a computer can store, represented by the digits 0 and 1.
Boot:	Beginning with a permanently stored program in read only memory (ROM), the progressive loading of computer programs that perform self-diagnostics and search for other utility, operating system and application programs during start-up. With these programs, the computer 'pulls itself up by the bootstraps' each time you apply power to it, or reset it while its operating.
Byte:	A basic unit of information within a computer's memory, comprising eight bits and any value from 0 to 255. A byte represents a single character, such as a letter, number or punctuation mark.
Catalog:	See "Directory."
Configuration:	The combination of computer hardware devices and software programs that compose a computer system including computer, monitor, disk drives, printer and other peripheral devices.
Copy:	To reproduce a program or data from one storage medium to another medium without altering the original information.

CP/M:	Acronym for Control Program for Microcomputers. A Commonly used disk operating system.
Cursor:	A character, usually a blinking line or box on a computer screen, that indicates where the next character will be entered, replaced or deleted.
Cylinder:	Data on a fixed disk are recorded in circular patterns called tracks, which are divided into sectors. Usually several tracks from two to eight, depending on drive type, for example are in effect "stacked" one above the other. Such a "stack of tracks" is termed a cylinder.
Daisy-Chain:	Two Siders connected in a series to a computer, doubling the system's total fixed disk storage capacity.
Default:	A predetermined value or option used by the computer system when no other information has been specified.
Destination Slot:	The expansion slot inside a computer containing the expansion card to which or through which data is copied, transferred or altered.
Detailing:	The process of adjusting the size of the volumes in an operating system partition.
Device Drivers:	A device or complete set of instructions that controls communication between an operating system and peripheral device.
Diagnostics:	A program that identifies and diagnoses errors and defects in the computer's micro-circuitry or on the fixed disk.
Directory:	A file that lists the name of each file and information the computer uses to trace the file's physical location on the diskette and its current status. Called a catalog in DOS.
Controller Card:	A printed circuit card that connects one or two disk drives to a computer and controls their operation.
Disk Drive:	A device that writes information onto, and reads information from the surface of magnetic disk storage media.

Diskette:	A flexible, plastic disk coated with a magnetic substance on both sides. Data <i>is</i> stored magnetically on the disk's surface. The flexibility of the disk accounts for its name, "floppy disk."
DOS:	Acronym for Disk Operating System. The program that controls communication between the computer and one or more disk drives for data entry, storage and retrieval.
Expansion Card:	A printed circuit card that enhances the computer's capabilities through added memory, communication to a peripheral device, storage of a designated computer program, or all of the above.
Expansion Slot:	A numbered slot insider the computer in which an expansion card is installed to enhance the capabilities of the computer.
File:	A collection of information recorded as a unit on a storage medium.
File Name:	A name under which a file is stored.
Fixed Disk:	In the microcomputer world, this term is synonymous with "Winchester disk drive" or "hard disk drive." It refers to a physical drive whose medium is not removable. Because the medium is not removable, it must be backed up periodically to another medium which is removable, such as floppy diskette.
Flippy Diskette:	A two-sided diskette that must be removed from the disk drive and 'flipped" so the computer can read the opposite side.
Format:	The manner in which data is arranged on a disk storage medium, The format process erases all data stored on the medium during this process and prepares the medium to receive new data.
Host Adapter Card:	First Class Peripherals' expansion card that interfaces between the computer and the Sider.
I/O:	Acronym for Input/Output. The transfer of information into and out of a computer.

I/O Cable:	The communication link between a computer system and peripheral device.
Initialize:	Following the physical format of a disk storage medium, the computer <i>initialize</i> , or records, the directory, partition and volume parameters at strategic points on the medium.
K:	Acronym for kilobytes, 1,024 bytes.
Logical Drive:	Characteristics created with software that make more efficient use of the physical drive. The computer, in effect, communicates with multiple fixed disks rather than just one.
Medium:	A material and an associated technique for recording information. The most common media are floppy disks, fixed disks and tape in various forms.
Megabyte:	1,048,576 bytes.
Memory:	The area of the computer that stores data.
Operating System:	A group of computer programs that direct the operations of a computer system, particularly relating to disk drives, data storage and peripheral devices.
Partition:	A Set of cylinders on a physical drive, usually a fixed disk drive. The cylinder set defines a physical region on the fixed disk drive that may contain one logical drive.
Pascal:	A high-level disk operating system produced by Apple Computer, Inc.
Path Name:	The list of names leading from a root directory to a subdirectory, or from a source file to a destination file.
Peripheral Device:	Equipment externally connected to a computer system; e.g., the Sider.
Physical Drive:	The mechanical device that contains rotating disks with a magnetic recording medium; a fixed disk drive is a physical drive, sometimes referred to as a 'spindle. One or more logical drives may reside on one physical drive.
Program:	A Sequence of commands that instruct a computer or its peripheral devices to perform a task.

Prompt:	A character or set of characters, produced by an operating system or application program, signifying the space in which a command must be entered, so the computer can perform a specific task.
Root Directory:	The ProDOS data structure on a logical drive in which the name and attributes of files and subdirectories one level down from the root are recorded. The name of the root directory itself is the back slash symbol (). The root directory data structure is recorded on the logical drive and allows the operating system to locate files.
Screen:	The illuminated viewing surface of a monitor, or the visual representation of data on that viewing surface.
Sector:	A section of a track on a disk storage device that divides the data storage area into smaller, more manageable units: 256 bytes.
Sparing:	The search for and circumvention of defects on a fixed disk's surface during the format sequence.
Subdirectory:	A secondary ProDOS file that contains a list of additional subdirectories or file names and their attributes. A major component of ProDOS' tree-structured file system.
Terminator Plug:	The device that terminates the communication stream from the computer to the Sider. It is always attached to the last sider in a daisy-chain configuration.
Track:	Circular pattern on a fixed disk or floppy diskette, on which data is magnetically recorded and retrieved, equaling 32 sectors.
Tree-Structured Directory:	In ProDOS, an efficient file storage method. Graphically resembling a "family tree," the tree-structure begins with a root directory that contains a listing of subdirectory titles. The subdirectories, in turn, contain listings of other subdirectories of file names. The commands that lead the computer from the root directory through the subdirectories to a specific file are called path names.

- Unit:** The term by which the Pascal operating system identifies floppy disk drives and the volumes within Pascal partition on the Sider.
- Utility:** A utility is a computer program that supports operating systems and application programs, helping communicate with or control a given device in the configuration.
- Volume:** Volume represents two concepts: A physical drive's total available disk space is referred to as volume; also, subdivided areas of logical drive, or partition, are referred to as volumes (except under Pascal, which calls them "units").
- Wildcard:** A character represented by the equal sign (=), that specifies file names with identical prefixes. During the copy function, that wildcard designates that all files with the specific prefix in a given volume will be copied.