

The background of the cover is a light-colored, textured surface with several interlocking puzzle pieces. Two pieces are a vibrant teal color, while the others are a light grey or off-white. The pieces are arranged in a way that suggests a puzzle being solved or a system being put together.

Syτος Plus®
File Backup Manager

User's Guide

Sytos Plus[®] File Backup Manager

User's Guide

Sytron[®]

First Edition (August 1992)

Changes are made periodically to the information in this publication and are incorporated in new editions. Comments concerning the content of this publication are welcome. Please direct any comments to the following address:

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1 Introducing Sytos Plus

Overview

What is Sytos Plus?

Welcome to Sytos Plus® (pronounced SIGH-toss Plus). Sytos Plus gives you a complete backup system that is fast, reliable, and easy to use. And Sytos Plus does more than back up, move, restore, and compare your files. By working with many operating systems and hardware configurations, and by including unique ways to automate operations and distribute files, Sytos Plus offers all the power and versatility you need for backing up and protecting your files.

Sytos Plus lets you:

- Back up, move, restore, compare, and distribute your files.
- Modify the sample operations (called “Procedures”) included with Sytos Plus.
- Schedule Procedures and other files to run automatically.
- Automatically retry backing up files that are currently in use in a network environment.
- Use many options to customize Procedures, including compression, Quick File Access, and password protection.
- Preview a Procedure before running it.

How to Use the User's Guide

Guide Conventions

This guide uses the following conventions:

- Keys on standard keyboards are emphasized as follows:

Del or **Tab**

- Important statements that require your attention are bold and italicized. For example:

NOTE: *You should include the Log as part of your Procedure.*

- Tables are provided to help guide you, step-by-step, through operations.

DOS Tasks

This User's Guide assumes that you know how to complete key tasks with the DOS operating system, for example:

- Starting and running applications.
- Working with files and directories.
- Using DOS commands such as DISKCOPY and CHKDSK.
- Making changes to AUTOEXEC.BAT and CONFIG.SYS files.
- Running batch files.

Refer to your operating system manuals for details about these or other DOS-specific topics.

Key Terms

The following list of terms describes concepts mentioned in this User's Guide. Brief descriptions of those concepts are provided to help answer any questions you might have when installing Sytos Plus.

Backup Device

The unit that houses the backup media to which files are copied by Sytos Plus. Backup devices include tape drives, diskette drives, optical, and fixed disk drives.

Backup Sets

The files copied to backup media during one Backup or Move Procedure.

Configuration Settings

The DMA Channel, Interrupt (IRQ) Channel, and Address are specific settings in the backup device.

Device Driver

Software that runs a backup device such as a tape drive.

Procedures

The Sytos Plus operations that back up, move, restore, or compare files. Each Procedure contains lists of specified files, a selected backup device, and options that you specify for customization.

There are four types of Sytos Plus Procedures: Backup, Compare, Move and Restore.

Volume

One or more related Backup Sets including Appended Backup Sets. A Volume can span multiple tapes or diskettes.

Key Features

These key features of Sytos Plus provide the following benefits:

- **Preview feature** - simulates backup and restore operations.
- **Quick File Access (QFA)** - speeds up file retrieval time during selected Restore and Compare Procedures.

NOTE: *Not all backup devices support QFA.*

- **Software Error Correction Code (ECC)** - helps recover files from media damaged after a successful backup.
 - **Customizable overwrite options** - provide flexibility and file security during Restore.
 - **Customizable retry "busy file" option** - ensures complete backup in network environments.
-

Concepts

Several core concepts are important to your understanding of Sytos Plus: **Schedule; Full, Progressive and Incremental Backups; Attended and Unattended Backups; Create and Append Volume.** Their definitions follow.

Schedule

A process that enables an event (a Sytos Plus Procedure or other file - for example, a batch or executable file) to run automatically at a particular time. You can run a Schedule

just once, daily, weekly, monthly or at special custom intervals.

Full, Progressive and Incremental Backups

A **Full Backup** backs up your entire system. A **Progressive Backup** backs up only those files that have been changed or created since your last Full Backup without saving intermediate versions of files. An **Incremental Backup** backs up all files that have been changed or created since your last Full or Incremental Backup but also saves intermediate versions of changed files by doing an Append Volume.

Create and Append Volume

Creating a Volume sets up a new Volume during a Backup or Move Procedure (you can also Create a New Volume in advance by choosing the option from **Utilities**). **Appending a Volume** adds a Backup Set to an existing Volume during a Backup or Move Procedure. Several Backup Sets can be appended to a single Volume.

Attended and Unattended Backups

Attended Backups are performed while you are at the computer and able to answer Sytos Plus prompts when required. **Unattended Backups** are performed when no one is present at the computer to answer Sytos Plus prompts as the Procedure progresses. An Unattended Backup uses default settings to enable Sytos Plus to continue.

Four Procedures

Procedures are the foundation of Sytos Plus because they include all the instructions needed to back up, move, compare, or restore your files.

You can use file options discussed in *Chapters 5 through 8* with one or more of these Procedures:

- **Backup** copies your files to a backup device (for example, a tape drive).
- **Compare** ensures that the copied files from a Backup are identical to the originals.
- **Move** copies your files to a backup device, compares the backup data and then, if the compare is successful, deletes the originals.
- **Restore** copies backed-up files from a backup device (usually to your fixed disk).

Getting Help

Purpose

Help for Sytos Plus is available in the Help facility, in *Chapter 13: Troubleshooting*, and from Sytron Technical Support. A description of the Help facility follows.

Description

Sytos Plus offers several choices to receive help or information.

Immediate Help with F1

Help is available for windows, prompts, and error messages by choosing **Help** or by pressing **F1**. Within a window, you can highlight any item and choose **Help** or press **F1** to get context-sensitive help on that item. When a Help window pops up, you may also choose the functions at the bottom of the window to access the Help system.

NOTE: If Sytos Plus is in the process of erasing or formatting media, or processing a large file, there may be a delay in displaying a screen after you choose **Help** or **Stop Procedure** and when you add a Volume.

Four categories of Help are available from the function keys:

Help Type	Function
F1	Tells you how to request on-line help while working in Sytos Plus.
F2 Extended help	Gives you information about the active window on your screen.
F9 Help on keys	Shows you how to use the keyboard to move around windows and make selections with the function keys.
F8 Help index	Lists all the topics, in alphabetical order, for which help is available. (Highlight any item on the list and choose Enter to see information about that item.)

Other Help

Chapter 13: Troubleshooting provides a description of Common Problems and their symptoms and solutions, and a list of Error Messages.

You can also call the Sytron Technical Support number at (508) 898-0193 for additional help.

For a complete and updated list of all devices supported by Sytos Plus, call the Sytron Message Center at (508) 898-8008.



2

Installing Sytos Plus

Overview

Pre-installation Tasks

Now that you have been introduced to Sytos Plus, you can prepare to install the program. You need to perform several tasks: register your software, verify system requirements, protect your Sytos Plus software, review the README file, and configure hardware.

Registering Your Software



Registering your software with Sytron Corporation entitles you to advance notice on product updates and enhancements and technical support.

To register, fill out and mail the registration card provided with Sytos Plus.

Verifying System Requirements

Sytos Plus requires the following software and hardware to run properly.

Software Requirements

Sytos Plus runs on these operating systems and network environments:

- PC-DOS and MS-DOS[®] versions 3.0 and above.
- Novell[™] Advanced NetWare[™] versions 2.1 or later.
- IBM[®] PC LAN Program versions 1.12 or later.
- LANtastic[®] version 4.x Network Operating System.
- Other compatible networking environments such as 3COM[®].

Hardware Requirements

The following hardware is required to run Sytos Plus:

- An IBM Personal Computer, an IBM Personal System/2,[™] a COMPAQ[®] Personal Computer, or compatible.
- A fixed disk with at least 1.5Mb to install. Additional disk space is needed for Volume and Log utilities.
- At least 640Kb of conventional memory.

Providing 548Kb of expanded memory for Sytos Plus improves user interface performance. If you also have extended memory available, you can use a disk cache utility within extended memory. Using a disk cache can reduce the time needed to access files on your fixed disk, speeding up the operation of Sytos Plus. Refer to the disk cache utility's manual for more information about setting up your system for best performance.

- A Microsoft[®] compatible mouse (optional).

If you have a Microsoft mouse, be sure that you are using version 6.11.06 or later of the mouse driver,

MOUSE.SYS or MOUSE.COM.

If you have a PC Mouse Systems™ mouse, be sure that you are using version 5.5a or later of the mouse driver MSCMOUSE.SYS or MSCMOUSE.COM.

- A backup device (for example, a tape or diskette drive).

NOTE: *Sytos Plus is designed to operate with a variety of backup devices. Refer to your particular device's hardware reference manual for installation and setup instructions.*

You should become familiar with your backup device hardware options (for example, board switches and jumpers, if applicable) before installing Sytos Plus, in case you need to change their settings. Refer to Configuring Device Drivers in this section for examples of settings which may be unavailable because they are being used by other devices already installed in your system.

Protecting Your Sytos Plus Software

Take the following steps to protect your Sytos Plus software.

Step	Action
1	Make copies of the Sytos Plus diskettes using the DOS command DISKCOPY.
2	Label the copies with the information found on the Sytos Plus diskettes (for example, the product code printed on the diskette label).
3	Store the originals in a safe place.
4	Use the copies to install Sytos Plus.

"Write protect" your Sytos Plus disks. Write protecting the disks prevents anyone from accidentally writing over the data but still allows you to access the data later if necessary. Cover the 1/4-inch deep notch on your floppies with a small piece of tape if you're using 5 1/4-inch diskettes. If you're using 3 1/2-inch diskettes, slide the write-protect tab on the back of the diskette to the up position.

Reviewing the README File

Check the Sytos Plus diskettes using the DOS command DIR for a file called README.TXT. This file contains important information that could not be included in the printed documentation. Once you have reviewed the README file, you can print it and keep it with the User's Guide for future reference. The following table describes how to access the README file from the B: drive.

Step	Action
1	To view the contents of the README file, place the diskette into drive <B:>.
2	At the DOS command prompt, type <B:> and press Enter .
3	Type MORE < README.TXT and press Enter .
4	To print the file, at the DOS prompt type PRINT README.TXT and press Enter .

Configuring Hardware

Before you install Sytos Plus, you may need to modify your backup device configuration settings if there are other devices on your system already set to those values. Table 2-1 lists some common configurations for different types of hardware controller cards when they are installed on specific types of systems.

Use this information as a guideline when configuring your backup device. The chart provides examples of configurations which may be unavailable because they are being used by other devices already installed on your system. You can make a note of your system's settings for reference.

Whenever a change is made to the switches or jumpers on the backup device controller card, be sure to make the same changes to the backup device configuration settings within Sytos Plus. Refer to the *Beginning Installation* section to change your DMA, IRQ and Address settings, if needed.

The configuration utilities used to set up devices on PS/2 systems with Micro Channel Architecture informs you if there is a conflict with the hardware settings.

If you are running Sytos Plus on an EISA system, you may need to refer to Table 2-1 if there is a conflict with another device. However, if your particular system has an automatic configuration utility, you are informed of any conflicts when installing your backup device.

Configuring Device Drivers

Your backup device has default configuration settings. These settings should be sufficient for most system setups. However, if your system requires a special configuration, you should modify it as necessary.

For example, suppose your QIC interface backup device has settings of DMA 1, IRQ 3, and Address 300, but you already have a network card installed with those settings. If two devices in your system have been assigned the same configuration settings, your system cannot function correctly.

To modify the configuration settings to match your hardware settings, choose **Backup Device Setup** from the Utilities pull-down menu in Sytos Plus. For more information about setting up a backup device, refer to the **Utilities** section of *Chapter 11: Management Utilities*.

Refer to Table 2-1 for examples of DMA, Interrupt, and Address settings commonly used by other devices. You can make a note of your system settings in the blank column of this table.

If a diagnostic program comes with your backup device, it's a good idea to run it first to be sure your device is working correctly and to confirm the settings.

NOTE: *SCSI interface backup devices do not require settings in Setup backup device. DMA, IRQ and Address fields are blank.*

Please note the following when reviewing the chart:

- Although DMA 2 and IRQ 6 are used by the diskette drive, in most cases they can still be used by Sytos Plus backup devices.
- COM1 and COM2 are commonly assigned to a serial device such as a serial printer, modem, or mouse.
- LPT1 and LPT2 are commonly assigned to a local parallel printer.

Blank fields in the "Common Hardware Configuration" columns signify that there is not a common device specifically assigned those settings. However, your system may have a special configuration that uses these settings.

Common Hardware Configurations						Your System
		PC	PC XT	PC AT & 386 ATs	EISA	
DMA	1					
	2	Diskette Drive				
	3		Fixed Disk Drive			
IRQ	2	Expansion Card	Expansion Card	Reserved	Reserved	
	3	Serial Port 2 (COM2)				
	4	Serial Port 1 (COM1)				
	5	Fixed Disk Drive	Fixed Disk Drive	Parallel Port(LPT2)		
	6	Diskette Drive				
	7	Parallel Port (LPT1)				
Address (hex)	1F0-1F8			Fixed Disk Drive		
	200-20F	Game Controller				
	278-27F	Parallel Port (LPT2)				
	2F8-2FF	Serial Port 2 (COM2)				
	320-32F		Fixed Disk			
	378-37F	Parallel Port (LPT1)				
	3B0-3BF	Monochrome adapter				
	3D0-3DF	Color /graphics adapter				
	3F0-3F7	Diskette Drive				
	3F8-3FF	Serial Port 1 (COM1)				

Table 2-1. Common Hardware Configurations

Installing a Tape Drive on a Micro Channel System

If you use a Micro Channel (MC) system (for example, a PS/2) with a tape drive, you need to follow these steps to ensure that your tape drive is configured properly before installing Sytos Plus.

Step	Action
1	Shut down your system and install your tape system.
2	Reboot your system using the system's Reference Diskette.
3	Choose the Copy an Option Diskette command from the Main Menu. Use the Sytos Plus Install diskette as the Option Diskette.
4	Follow the instructions on screen to copy the files needed to run your tape drive (these are the Adapter Definition Files (ADF)). These files are located on the Sytos Plus Install diskette. You <i>should not</i> use the ADF file from the Option Diskette that you received with your tape system's adapter or any ADF file you may have received with SY-TOS, if you used SY-TOS in the past.
5	Choose Set Configuration from the Main Menu to complete the process.
6	If you have a SCSI adapter on an IBM controller board, choose View Configuration to check the settings.
7	Remove the Reference Diskette and press Enter to reboot your system.
8	Install Sytos Plus. Your tape drive is now configured to work with Sytos Plus.

Installing Sytos Plus

Before Installing Sytos Plus

The Sytos Plus installation utility (INSTALL.EXE) copies the contents of the Sytos Plus diskettes to your fixed disk. INSTALL also:

- Asks you to specify a disk and directory where to place the files.
- Creates sample Procedures, which you can use immediately upon entering Sytos Plus. The sample Procedures allow you to quickly begin running the most common types of operations.
- Asks you to assign a default Volume name and a default Backup device to the sample Procedures.

If you have any problems during installation, refer to *Chapter 13: Troubleshooting*. Once the installation process is complete, follow the instructions to:

- Modify the configuration settings of your chosen backup device if your system has special requirements.

Beginning Installation

Sytos Plus must be installed on a fixed disk. This example assumes that drive B: is your diskette drive. Follow these steps to complete the process:

Step	Action
1	Place the first Sytos Plus diskette into drive <B:>.
2	At the DOS command prompt, type <B:> and press Enter .

Step	Action
3	<p>At the DOS command prompt type INSTALL and press Enter.</p> <p>Sytos Plus prompts you through the next three steps before it copies or creates any files.</p> <p>NOTE: <i>If your system hangs or your screen is unreadable while installing Sytos Plus, rerun INSTALL in text mode by typing INSTALL /T.</i></p>
4	<p>Choose the DISK and DIRECTORY where you want to install the Sytos Plus files.</p>
5	<p>Choose a default BACKUP DEVICE to be used with Sytos Plus.</p> <p>NOTE: <i>Device names with the extension "AT" are used with PCs, XT's and non-Micro Channel systems. Names with the extensions "MC" are used with Micro Channel systems.</i></p> <p>Choose Driver Disk if your backup device does not appear on the list and you have another diskette that contains it.</p>
6	<p>Choose a default VOLUME NAME for the Sytos Plus sample Procedures.</p> <p>After you have completed the previous steps, you can confirm or change the settings you have specified. To change one of your choices, select the choice displayed to return to the appropriate screen.</p> <p>Once you have modified your selection, Sytos Plus returns you to the confirmation screen where you can repeat the above process for any other choices you would like to change.</p>
7	<p>When you are sure that the settings are the ones you want, select Accept these settings... and Sytos Plus is installed.</p>
8	<p>If applicable, let Sytos Plus modify your CONFIG.SYS file. Sytos Plus displays a message asking whether to modify CONFIG.SYS.</p>

Step	Action
9	Select Exit or press F3 to complete installation and exit the Install utility.

The Sytos Plus Directory

Sytos Plus creates a directory during installation. The directory is called \SYPLUS unless you provide a different name during installation.

NOTE: *Do not alter any of the Sytos Plus files, or Sytos Plus cannot continue to operate.*

The \SYPLUS directory includes:

- SYPLUS.EXE - the program executable file.
- README.TXT - text-based information file.
- SYFILES - a subdirectory containing the necessary files for Sytos Plus to operate.

The \SYPLUS\SYFILES directory includes five subdirectories:

- \SYFILES\SYDEF - Sample Procedures
- \SYFILES\SYJRN - Logs directory
- \SYFILES\SYLIB - Information for the Volume utility
- \SYFILES\SYLOG - Logical format directory
- \SYFILES\SYMAC - Procedures directory

Installing on a Network

Introduction



The following section contains information you should review before installing Sytos Plus in a network environment. Refer to *Chapter 12: Network Considerations* for additional information. Please consult your network system supervisor before installing Sytos Plus.

Sytos Plus should be installed on a workstation rather than on the file server. However, if your workstation does not have a fixed disk, Sytos Plus can be installed on the file server from a workstation.

NOTE: *You can only run Sytos Plus from the workstation to which the tape subsystem is attached.*

Be sure that the QIC backup device settings (for example, DMA) are not used by the network adapter card or other cards in your system. Sytos Plus cannot operate properly when backup device settings conflict with those of other cards.

To change the backup settings, select **Backup device setup** from the **Utilities** window. Make sure the settings on the backup device adapter card match the values specified in Sytos Plus. You may want to try the DMA 3, Interrupt 5 combination (if it is available for your card) for all computers except 8086 and 8088 models. The Address generally does not need to be changed.

NOTE: *You can run Sytos Plus from any workstation that has a backup device present.*

Selecting Network Drives Before Installation

Default Procedures created during Installation include all drives that are visible to Sytos Plus. For example, if you are logged onto a network, the default Procedure includes network drives and local drives.

If you have made any changes to the network configuration, including remapping any network drives after you have installed Sytos Plus, you have to change your default Procedure to reflect the change in drives.

Re-installing Sytos Plus

If Sytos Plus has already been installed on your system and you need to re-install it for any reason, the sample Procedures created during the previous installation are overwritten. If you have modified the sample Procedures according to your needs and did not save them with new names, rename them before re-installing to preserve them with your changes.

Use the following steps to re-install Sytos Plus. (This example assumes that Drive B: is your diskette drive.)

Step	Action
1	Select each Procedure you want to save using Load ... in the Procedures menu.
2	Rename your sample Procedures using Save as ... in the Procedures menu.
3	Go to Utilities: Backup Device Setup , review your settings and write them down.
4	Exit Sytos Plus.
5	Place the first Sytos Plus diskette into drive <B:>.
6	At the DOS command prompt line, type <B:>.

Step	Action
7	At the DOS command prompt line, type INSTALL and press Enter to re-install Sytos Plus.
8	Select Utilities: Backup device setup to reconfigure any backup devices that were previously customized for your system.
9	Use Utilities: Preferences to reset your Sytos Plus working environment. All existing Logs and Volumes are preserved.

Upgrading from SY-TOS and Earlier Versions of Sytos Plus

Checking Settings

If you are using a non-Micro Channel system, and you plan to use the same backup device with an upgraded version of Sytos Plus, you can check the device's settings easily. Perform one of the following actions:

- If you are upgrading from SY-TOS, run the SY-TOS utility ST-CONFIG and record the DMA, Interrupt, and Address settings in the Configure window,
- If you are upgrading an earlier version of Sytos Plus, use **Utilities: Backup device setup** within Sytos Plus to set up the backup device with the same settings (DMA, IRQ, Address).

Saving Modified Sample Procedures

Upgrading to a later version of Sytos Plus creates new sample Procedures. If you modified the sample Procedures that were included with your previous version of Sytos Plus, save them under a different name before installing a later version of Sytos Plus. Otherwise, they are replaced by the new sample Procedures. There is no change to your existing Volumes or Logs when upgrading.

Before Starting Sytos Plus

Overview

Before you start running Sytos Plus, take these preparatory actions:

- Run the DOS CHKDSK command to verify your hard disk integrity.
 - Modify your CONFIG.SYS file if necessary. The following section explains how to do this.
-

Run CHKDSK Command

Before you back up any files, run the DOS CHKDSK command. The CHKDSK command gives you a status report including the number of files on your disk, the amount of disk space in use, and any errors within the file system. You should correct any problems before running Sytos Plus so that your backup copies do not contain damaged files. Refer to your operating system manual for more information.

NOTE: *If you assign drive letters to other drives (for example, SUBSTituted or ASSIGNed drives), use care when performing Sytos Plus operations on these drives. You may inadvertently back up the same file multiple times or omit some files.*

Modify CONFIG.SYS

Before running Sytos Plus, check the CONFIG.SYS file to make sure that the BUFFERS and FILES statements are set to at least 20 and 40, respectively. If these statements are not in the file, you should include them. For example, these entries would appear in CONFIG.SYS as:

```
BUFFERS=20  
FILES=40
```

After editing the CONFIG.SYS file, reboot the system for the new values to take effect.

NOTE: Some SCSI host adapters require a device driver in the CONFIG.SYS file. This device driver should be loaded before you install Sytos Plus. Refer to your backup device manual for more information.

Running Sytos Plus

Purpose

There are several ways to run Sytos Plus: from any directory, interactively or from the command line prompt, as part of a batch file, and as a scheduled Procedure.

Run Options	Action
Run from any directory	<p>To run Sytos Plus from any directory, modify the PATH statement in your AUTOEXEC.BAT file to include the disk and directory where Sytos Plus resides. For example, your AUTOEXEC.BAT file could contain the following:</p> <pre>PATH=C:\;C:\DOS;</pre> <p>After adding C:\SYPLUS; to the PATH statement, the new line is:</p> <pre>PATH=C:\;C:\DOS;C:\SYPLUS;</pre>
Run from the command line prompt	<p>To run Sytos Plus from the operating system command prompt (and begin using the sample Procedures created during installation), type the following from the disk and directory where Sytos Plus is installed:</p> <pre>SYPLUS</pre>

Run Options	Action
Run as part of a batch file	<p>Depending on your backup strategy, you may want to include a specific Sytos Plus Procedure within a batch file. When the batch file is executed, Sytos Plus is invoked and a Procedure that you specify is loaded and run.</p> <p>To run a Sytos Plus Procedure (Full Backup, for example) from a batch file in unattended mode, you must include the following statement within the file:</p> <p>SYPLUS "FULL BACKUP"</p>

NOTE: *SYPLUS* runs Sytos Plus; the information in quotes is the name of the Procedure that you want to load and run. Make sure that you enclose the Procedure name in quotes but you need not type it in upper case.

Run as a Scheduled Procedure

The Sytos Plus Schedule allows you to set up Procedures or other files (for example, batch or executable files) to run at specific times. This feature is described in detail in *Chapter 10: Scheduling and Running Procedures*, but there are a few things to know before scheduling Procedures in the DOS environment.

- You must exit any application programs and return to your operating system command prompt before scheduled Procedures can run.
- If you are running in shell environments such as the DOS shell or Windows, you must exit the shell and return to the DOS command prompt for scheduled Procedures to run at their designated times.

Activating the Schedule Outside of Sytos Plus

To activate the schedule outside of Sytos Plus, follow these steps:

Step	Action
1	Include the following statement within the batch file or at the operating system command prompt by typing: SYPLUS /I
2	To remove the Schedule, include the following statement within the batch file or at the command prompt by typing: SYPLUS /R

Permanently Activating the Schedule

Once you turn off your computer, your operating system will no longer recognize the Sytos Plus Schedule. If you want the Schedule to be automatically activated each time you turn your computer on, you must modify your system's AUTOEXEC.BAT file by performing this action:

Step	Action
1	Insert the following statement in your AUTOEXEC.BAT file after the drive and pathname where Sytos Plus resides: SYPLUS /I For example, if Sytos Plus is located on C:\SYPLUS, you would add the following line to your AUTOEXEC.BAT file: C:\SYPLUS\SYPLUS /I



3

To Back Up Immediately

Overview

Introduction

This chapter provides step-by-step instructions to back up your files immediately, using sample Procedures provided by Sytos Plus.

Sytos Plus provides two Full Backup Procedures that use default settings:

- **Full Backup with Compare.** Backs up all files on your local hard drive to the default backup device, and then compares them to ensure they are identical to the original files. Full Backup with Compare takes longer to complete than Full Backup, but ensures that your files copied correctly to the backup media.
- **Full Backup.** Backs up all files on your local hard drive to the default backup device. Since Full Backup does not compare your files, it is faster than Full Backup with Compare.

NOTE: *Always Compare your backed up files, either by using the Full Backup with Compare, or by running a separate Compare Procedure immediately after running the Backup.*

In this chapter

This chapter includes the following topics:

Topic	See Page
Running a Full Backup with Compare	3-2
Running a Full Backup	3-4
Reviewing the Log	3-5
Default Settings Description	3-7

For additional information

At a later time, you can create a Backup Procedure that is customized to your needs. Refer to these chapters for additional information:

- *Chapter 5: Backing Up Data*, step-by-step instructions to create a Backup Procedure.
- *Chapter 14: Backup Strategies*, file backup strategies.
- *Chapter 15: Reference*, detailed descriptions of all menus and Sytos Plus settings.

Running a Full Backup with Compare

Description

The **Full Backup with Compare** Procedure can be run from the Sytos Plus Startup screen after you install Sytos Plus. **Full Backup with Compare** uses default settings, and backs up all files on all drives that were accessible to Sytos Plus

during installation. The default settings are listed at the end of this chapter.

The files are backed up to the device chosen as the default backup device during installation. The Procedure then compares the files on the backup device to ensure they are identical to the original files.

Use the following steps to back up and compare your files.

Step	Action
1	<p>Start Sytos Plus. Type the following at your operating system Prompt:</p> <p>SYPLUS</p> <p>and press Enter. The Sytos Plus Startup screen shown in Figure 3-1 appears.</p>
2	<p>Insert media into the default backup device.</p>
3	<p>Highlight Full Backup with Compare... at the top of the screen.</p>
4	<p>Press Enter to run the Procedure.</p> <p>The Full Backup with Compare Procedure backs up all of the files on all drives that were available when Sytos Plus was installed (for example, Drive C: and D:).</p>
5	<p>Review the Log for the completed Procedure to ensure that all files have been backed up as specified. Refer to instructions in this chapter for reviewing the Log.</p>

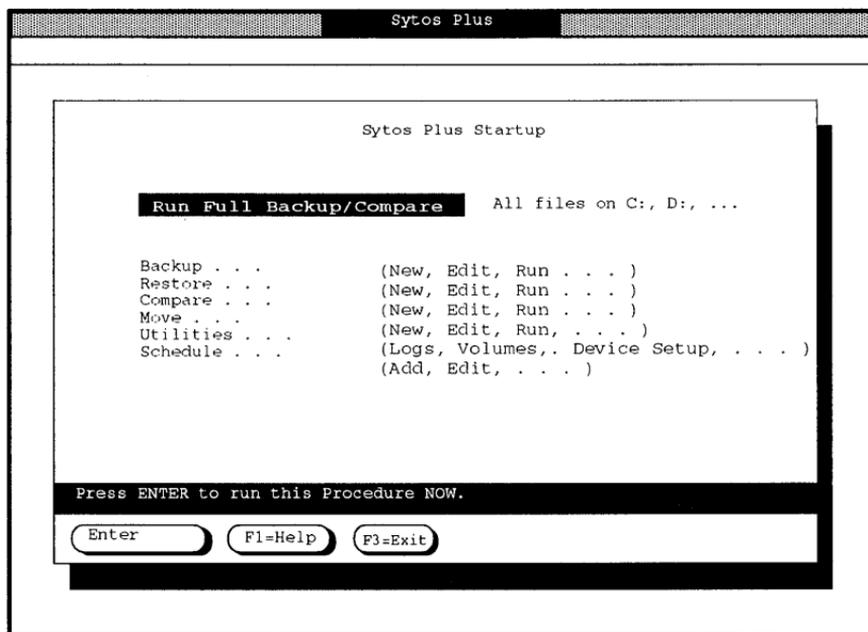


Figure 3-1 The Sytos Plus Startup screen

Running a Full Backup

Description

The **Full Backup** Procedure uses default settings, and backs up all files on all drives that were accessible when Sytos Plus was installed. The default settings are listed at the end of this chapter.

The files are backed up to the device specified as the default backup device during installation. If you have only one backup device, it is automatically selected as the default device.

Use the following steps to back up your files with the default Full Backup Procedure.

Step	Action
1	<p>Start Sytos Plus. Type the following at the system prompt:</p> <p>SYPLUS</p> <p>and press Enter. The Sytos Plus Startup screen shown in Figure 3-1 appears.</p>
2	<p>Insert media into the default backup device.</p>
3	<p>Highlight Backup... and press Enter. The Backup Procedures window shown in Figure 3-2 appears.</p>
4	<p>Highlight the Full Backup/No Compare Procedure.</p>
5	<p>Press Enter to run the Procedure.</p>
6	<p>Review the Log for the completed Procedure to ensure that all files have been backed up as specified. Refer to instructions in this chapter for reviewing the log.</p>

Reviewing the Log

Description

Review the Log for the completed Backup Procedure to ensure that the files were backed up as specified. Be sure that you have a complete and accurate backup of your files in case you need to Restore any of the files later.

Use the following steps to review the Log.

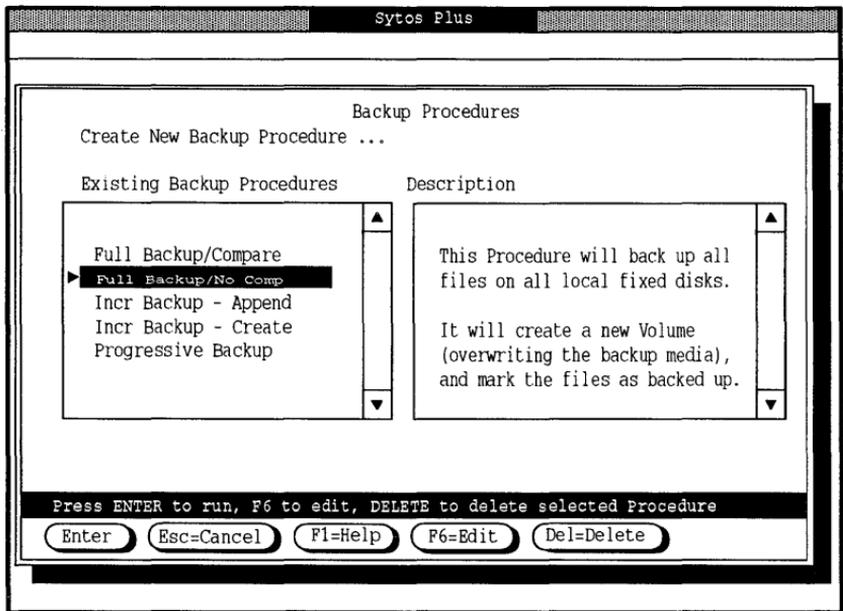


Figure 3-2 The Backup Procedures Window

Step	Action
1	Highlight Utilities... in the the Sytos Plus Startup screen and press (Enter) . The Utilities window appears with a list of available utilities.
2	Highlight Logs... and press (Enter) . The Log Utility window appears. Figure 3-3 shows an example of a Logs list. Highlight the Log for the completed Backup Procedure.
3	Choose (View) or press (F8) to view the highlighted Log.

Step	Action
4	<p>To print the contents of the Log, choose Print or press F4, then select one or both options at the pop-up window.</p> <ul style="list-style-type: none"> - A text file sends the contents to a disk file. Enter a complete path and filename. - The printer sends the contents to the printer.
5	<p>Choose OK or press F2 to return to the Log Utility window.</p>

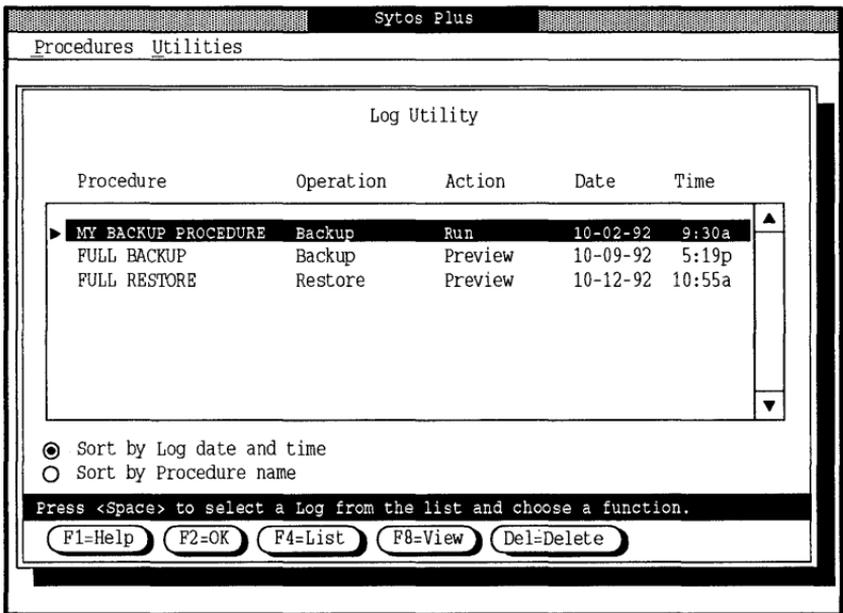


Figure 3-3 Selecting a Log

Default Settings Description

The following tables list the default settings for the Full Backup and Full Backup with Compare Procedures. For a

detailed description of the settings, refer to *Chapter 5: Backing Up Data*.

Volume Settings

By default, the Full Backup and Full Backup with Compare Procedures will do the following:

- Create a new Volume (overwriting the backup media).
- Assign the Volume name that you specified while installing Sytos Plus. If you did not specify a name the Volume is called UNNAMED VOLUME.

The Volumes option settings include:

Option	Full Backup	Full Backup with Compare
Password	NO	NO
Encryption	NO	NO
QFA (not supported by all backup devices)	YES	YES
ECC	YES	YES
Erase Media	NO	NO
Format Media	NO	NO

Backup Set Options

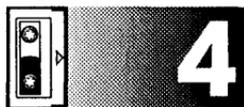
By default, the Backup Set is named by the Procedure as Full Backup or Full Backup with Compare.

The Backup Set option settings include:

Option	Full Backup	Full Backup with Compare
Retry Busy Files	NO	NO
Log	Send to File	Send to File
Mark as backed-up	YES	YES
Compression	NO	NO
Compare Files	NO	YES
Retention	NO	NO

NOTE: *Compression and QFA (under Volume options) are mutually exclusive. You cannot select both options at the same time.*

To Back Up Immediately



A Quick Tour of Sytos Plus

Overview

Introduction

The following sections and screen examples describe the basic elements of the Sytos Plus user interface (that part of Sytos Plus you see on the screen). Figure 4-1 presents a flowchart of the Sytos Plus startup screen and windows.

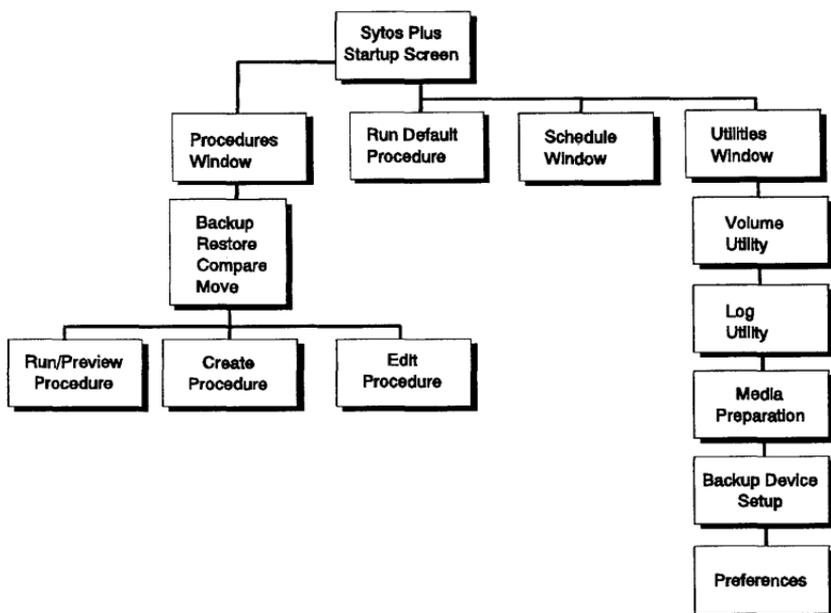


Figure 4-1 Overview Flowchart of Sytos Plus

User Interface Modes

The user interface operates in one of two modes automatically determined during installation.

Mode Options	Purpose
Graphics	For a system equipped with an EGA or VGA graphics card. This is the default.
Text	For a system equipped with a monochrome or CGA graphics card.

Sytos Plus works identically in both modes, but its appearance is slightly different. If you need to switch modes, go to **Utilities: Preferences** and toggle the Graphics mode check box on or off. Figure 4-2 shows examples of both modes.

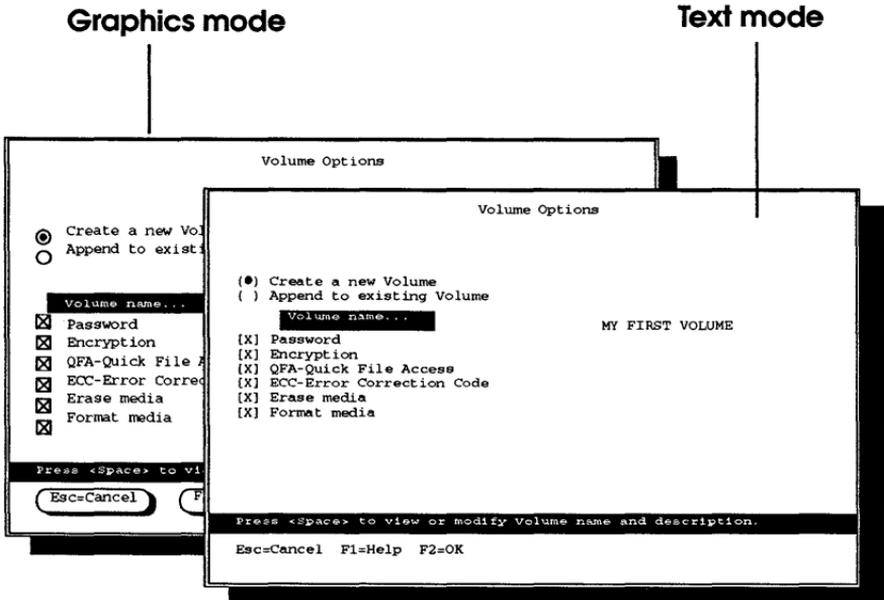


Figure 4-2 Graphics and text mode screens

Common User Access

The Sytos Plus user interface is based on the Common User Access (CUA) recommendations that represent the personal computer industry's standardization of user interfaces. User interfaces that follow these specifications are intuitive and the standard not only for Sytos Plus but for many other software products. The user interface has five basic elements.

Items	Purpose
Window	Displays information on screen.
Action Bar	Displays main function groups.
Pull-down Menu	Displays items within function group selected.
Function Key	Performs specific actions quickly.
Guidance Bar	A helpful line about the highlighted item.

Help, a standard informational tool, is available in all Sytos Plus windows as the function key **F1**.

Screen Elements

Pop-up Windows

Sytos Plus uses pop-up windows to display information and choices on your screen. As you make selections from one window, another window sometimes “pops up” on top of it with more information or choices. Figure 4-3 shows you an example of pop-up windows.

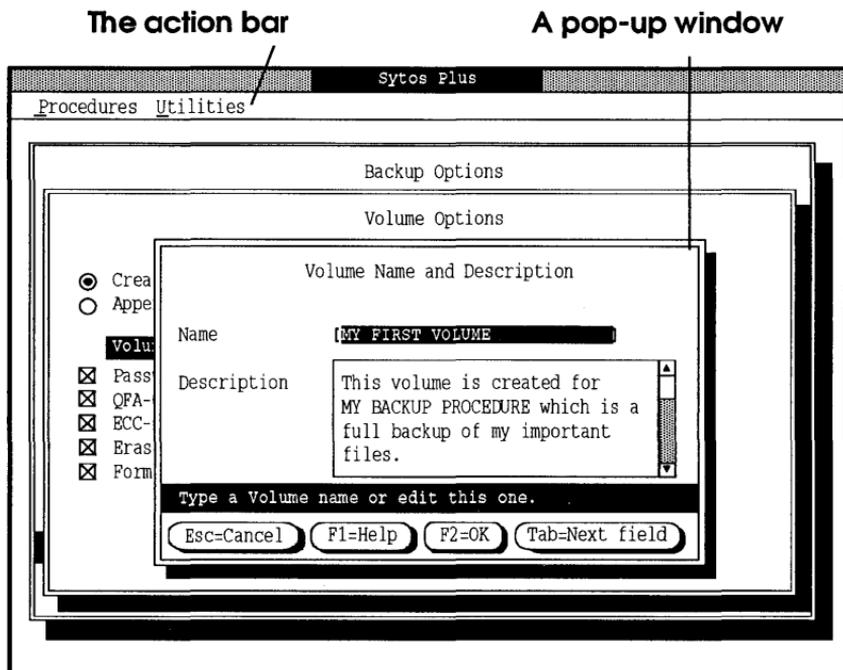


Figure 4-3 Pop-up windows and the action bar

The Action Bar

The action bar, shown in Figure 4-3, is available in the Create Procedure and Edit Procedure windows, and provides access to the Procedures and Utilities function groups.

Both items have a unique, underlined letter (accelerator key) which quickly selects the item from the action bar and shows its pull-down menu. For example, holding down the **(Alt)** key and typing **(P)** selects the Procedures menu. You may also choose **(Actions)** or press **(F10)** to move the cursor to the action bar and select an item from there.

Pull-down Menus

A pull-down menu displays the items within the function group you chose. Each item in the Procedures and Utilities menus have accelerator keys. Holding the **Ctrl** key and pressing the underlined letter selects the item (for example, pressing **Ctrl** + **L** pops up the **Load** window as if you had selected **Procedures** and then **Load** from the pull-down menu). Also, if an option ends with an ellipsis (...), it leads to another window. Figure 4-4 is an example of the Procedures pull-down menu.

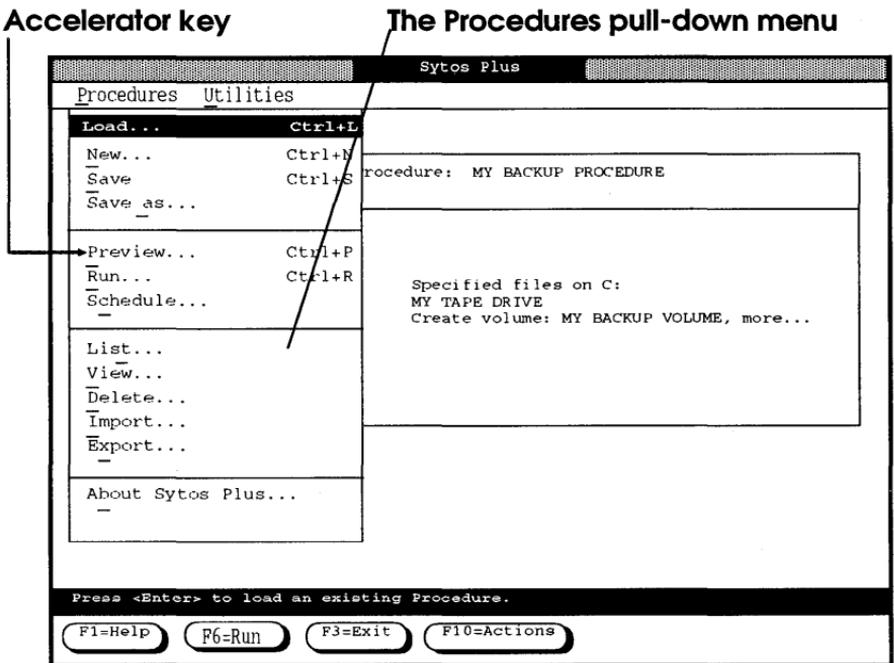


Figure 4-4 A pull-down menu

The Function Keys

The function keys at the bottom of each window as shown in Figure 4-5, perform actions quickly. Although each window has its own set of keys, most keys perform the same actions from

window to window. The following table lists the function keys and their actions.

Function Key	Action
F1 Help	Brings you specific help on the highlighted item.
F3 Exit	Ends your Sytos Plus session.
F6 Run Procedure	Runs the currently loaded Procedure.
F10 Actions	Moves the cursor to the action bar.

Function keys

Guidance bar

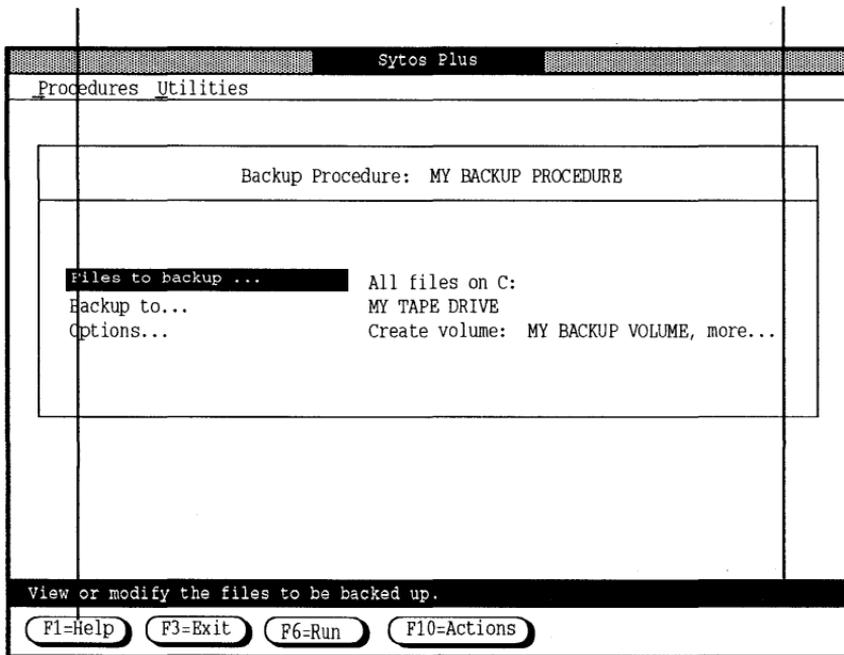


Figure 4-5 Function Keys and Guidance Bar

The Guidance Bar

The guidance bar as shown in Figure 4-5, runs directly above the function keys and contains helpful information about the highlighted item. Figures 4-6 and 4-7 illustrate examples of radio buttons, checkboxes, and a list.

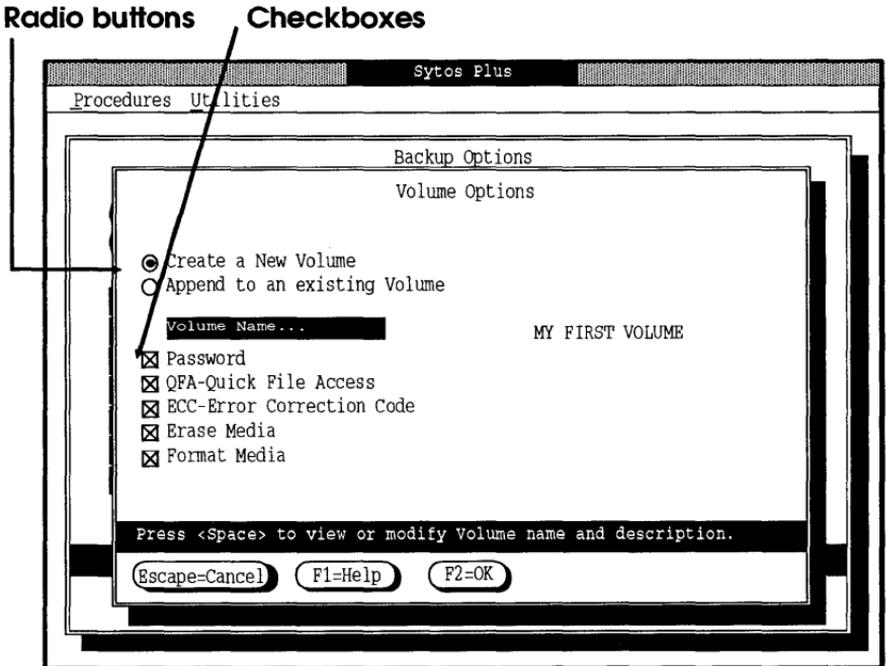


Figure 4-6 Radio buttons and checkbox selections

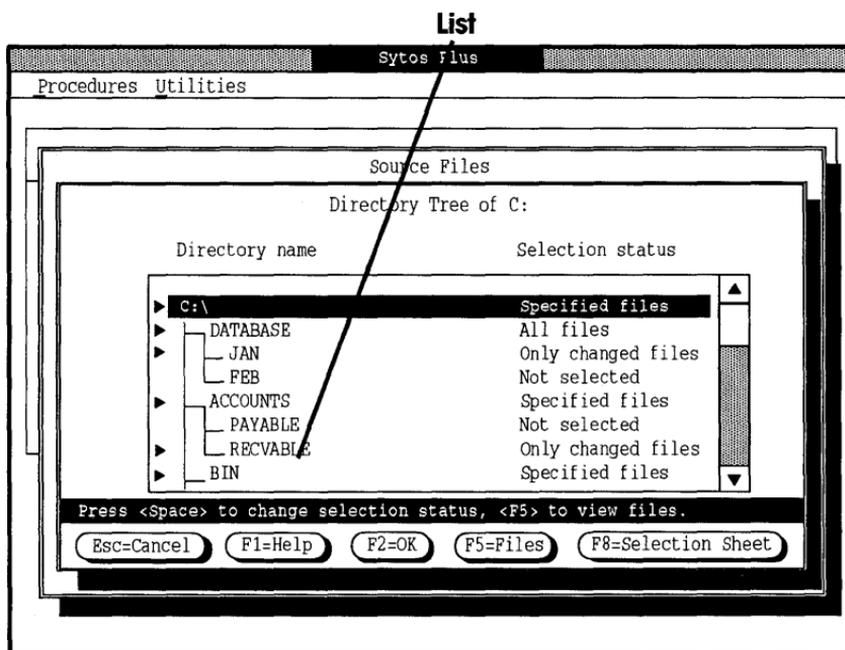


Figure 4-7 List-type selections

Making Selections

You have five methods to select items from windows in Sytos Plus. Figures 4-6, 4-7, and 4-8 are examples of selections.

Method	Definition
Radio button	A round button that appears in a dialog box. You can only select one item from a list of radio buttons.
Checkbox	Can be selected on or off individually from several options.
Lists	Presents a series of items (for example, names of files or backup devices) from which you can select.

Method	Definition
Options or settings with an ellipsis (...)	Opens another window.
Accelerator keys	These keyboard shortcuts speed up your work. For example, holding the (Ctrl) key and pressing (L) brings you directly to the Load window as if you had selected Procedures and then Load ... from the pull-down menu. You can see these keys next to their corresponding items in the menu.

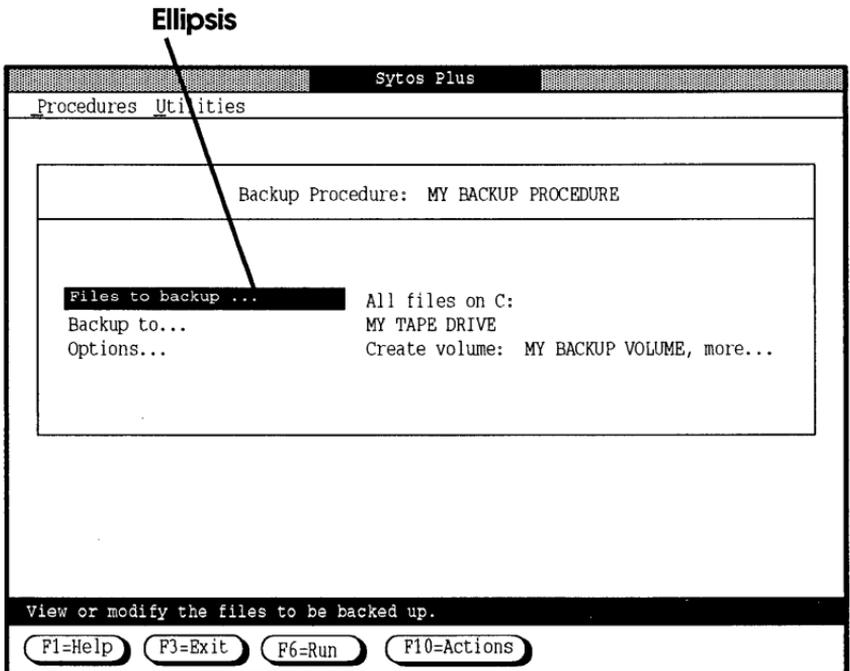


Figure 4-8 Selections with an ellipsis

Making Selections with a Keyboard or Mouse

You can use a keyboard and a mouse, together or separately, to make selections. Selections will always involve the same two-step process described in the following table.

Step	Purpose	Action
1	Highlight the item you want	Use the arrow keys (↑ ↓ ← →) or Click on the item (quickly press and release with the pointer).
2	Select the item	Press the Spacebar once or Click the mouse.

INFORMATION: To move forward and backward between different sections of a window, use **Tab** and **Shift Tab** (hold the Shift key down, while pressing Tab) or use the arrow keys.

Checking Your Selections

Verify that you made the right selection by noting these effects.

Selection	Verification
Radio button selection	A black dot appears in the button next to your selection
Checkbox selection	An [X] appears in the box next to your selection.
List selection	A checkmark ✓ or triangle appears next to your selection.
Option or setting with an ellipsis (...)	You proceed to the next window.

NOTE: *If an option is grayed-out (dimmed), it is not available to your system. If it is grayed out and selected, it is always selected for your backup device.*

Typing and Editing Information in the Windows

Occasionally you may type or edit information in windows (for example, when naming and describing a Volume). This information area is called an "edit field." Some windows have information that you might want to change; others have a blank space where you can type something new.

Typing in the Edit Field

Typing information in an edit field is similar to using a word processor. You can delete and insert information, and add paragraph returns (in multiple-line edit fields).

You can change information in an edit field three ways.

Task	Action
Clear a field	Type any character (if field is highlighted).
Insert information into a field	Move the cursor to the desired location and type.
Delete information in a field	Move the cursor to the desired location and backspace over the character to the left or press Delete to delete the character to the right.

Figure 4-9 displays an edit field with a Volume name entered.

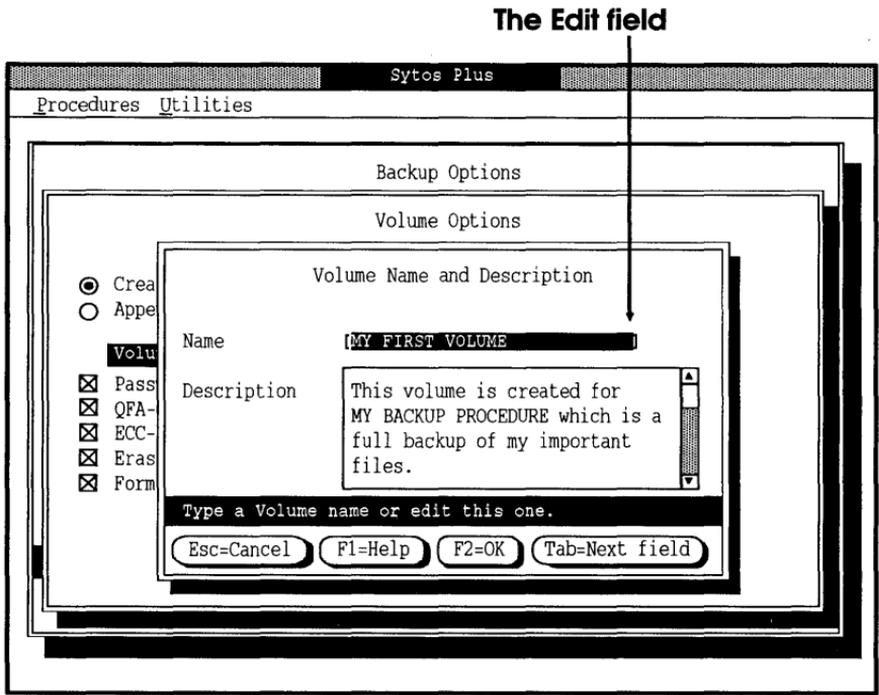


Figure 4-9 Typing a Volume name in the edit field

Leaving the Edit Field

When you finish typing, use **Tab** to move to the next field of the window or use **Shift** + **Tab** to move to the previous field.

Scrolling

When a window shows just part of the information it contains, a scroll bar appears (a vertical bar with arrows pointing up and down). The arrow indicates there is more of the window either up or down. A grayed-out arrow indicates you have reached the end of the window. Figure 4-10 displays an example of a pop-up window with a vertical scroll bar.

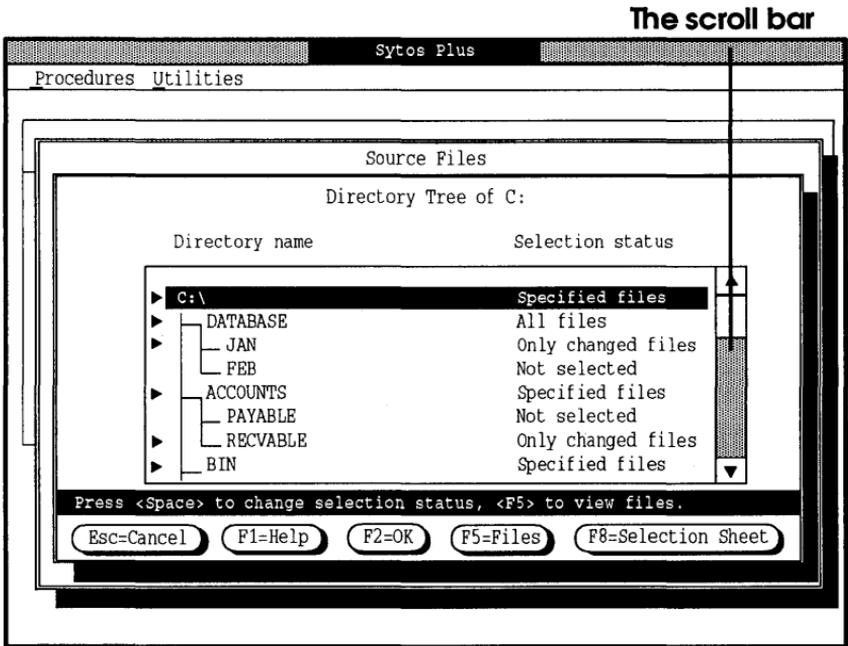


Figure 4-10 A vertical scroll bar

To see the rest of the information, use any of these six options.

Scroll Option	Action
Pg Up key	Scrolls one screen up.
Pg Dn key	Scrolls one screen down.
Home key	Scrolls to the top of the screen.
End key	Scrolls to the bottom of the screen.
Arrow keys: ↑ ↓ ← →	Scrolls in direction of the arrow.
The mouse click	Scrolls anywhere on the scroll bar.

Sytos Plus Startup Screen

When you begin a Sytos Plus session (by typing SYPLUS at the command line prompt), the Sytos Plus Startup screen is displayed.

Use the Startup Screen, shown in Figure 4-11, as a direct way to access Backup, Restore, Compare and Move Procedure screens, the Utilities menu, and the Schedule screen. You can also run the default Procedure directly from the Startup screen.

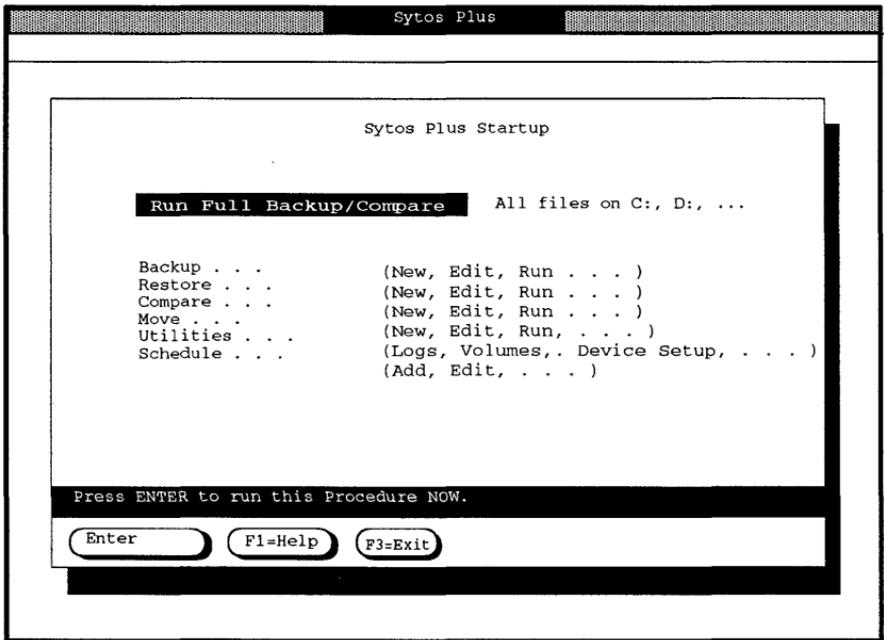


Figure 4-11 Startup screen

Starting from the Sytos Plus Startup Screen

The Sytos Plus Startup screen is your starting point for working in Sytos Plus. Your options to proceed are described in the following table.

Task	Action
Go from the Startup Screen directly to any of these screens: Backup, Restore, Compare, Move, Utilities, or Schedule.	Highlight the choice and press Enter .
Run the default Procedure.	Highlight the Procedure and press Return .

A Procedure Box

Each Procedure has a box that displays its own settings. Any item followed by an ellipsis (for example, **Files to backup...**) leads to a window where you can change the selections. The four elements described in the table are common to all Procedure boxes. Figure 4-12 shows each Procedure box setting.

Item	Setting Definitions
Title	The name and type of the loaded Procedure.
Files to (backup)...	The files to be included in the Procedure (Backup).
Backup to... (or Move to, Restore from, Compare from)	The device that stores backed-up files or: <ul style="list-style-type: none"> - stores moved files - copies backed-up files - restores from backed-up files - compares backed-up files to originals
Options...	The options selected for this Procedure, some specified by default and others chosen by you.

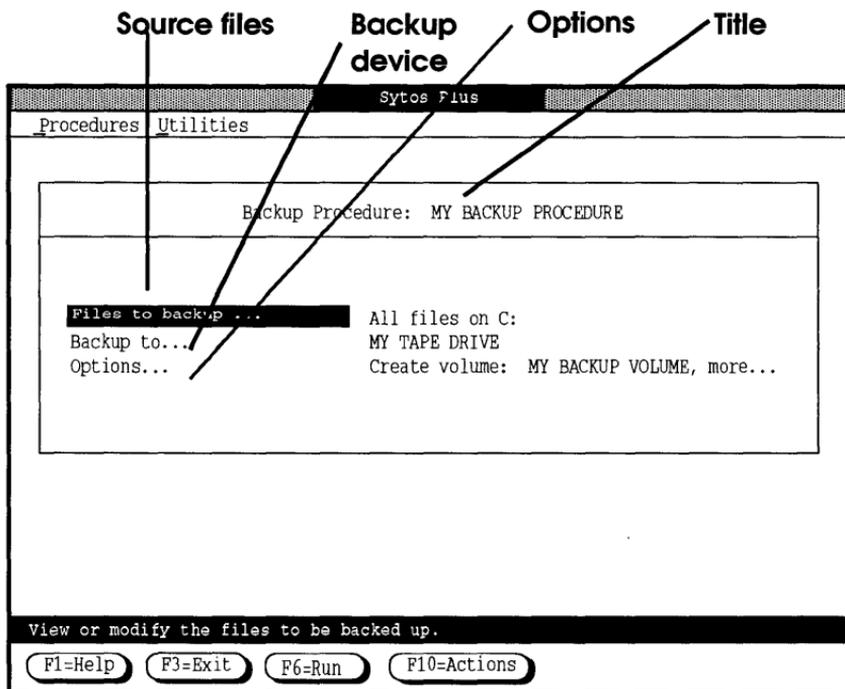


Figure 4-12 Procedure box settings

Messages

Pop-up messages appear throughout Sytos Plus to give you more information about an action just taken or to warn you of an error just discovered. An example of a pop-up error message is shown in Figure 4-13. For more information about error messages, refer to *Chapter 13: Troubleshooting*.



Figure 4-13 Pop up error message



5

Backing Up Data

Overview

Introduction

A Backup Procedure copies your files to a backup device for safekeeping. You can back up your files using a sample Procedure, or you can create a new Procedure. Creating a Backup Procedure involves selecting files, a backup device, and options.

For additional information

Refer to these chapters for additional information:

- *Chapter 3: To Back Up Immediately.* Step-by-step instructions to quickly back up your files using a sample Backup Procedure.
- *Chapter 14: Backup Strategies.* File backup strategies using Sytos Plus.
- *Chapter 15: Reference.* Descriptions of all settings.

In this Chapter

This chapter includes the following major topics:

Steps	Topic	See Page
1	Using a Sample Backup Procedure	5-2
2	Creating a New Procedure or Editing an Existing Procedure	5-4
3	Selecting Files For Backup	5-7
4	Selecting a Backup Device	5-16
5	Selecting Options	5-17
6	Saving a Backup Procedure	5-27
7	Previewing a Backup Procedure	5-29
8	Running a Backup Procedure	5-31
9	Reviewing the Sytos Plus Log	5-33

Using a Sample Backup Procedure

Description

Sytos Plus provides sample Procedures that you can run or modify. This section provides instructions to run a sample Backup Procedure. If you want to create a new Procedure, you can skip this section and go to "Creating a New Backup Procedure" or "Editing an Existing Procedure."

At the Sytos Plus Startup screen, you can:

- Immediately run the Full Backup with Compare Procedure by highlighting it and pressing **Enter**.
- Open the Backup Procedures List to run a different sample Procedure.

Use the following steps to open the Backup Procedures List and run a sample Procedure.

NOTE: *If you have disabled the Sytos Plus Startup screen from the command line, Sytos Plus opens directly into the Edit Procedure window. In the Edit Procedure window, you can access the Procedures list by selecting the **Procedures** menu, and then selecting **Load**.*

Step	Action
1	Choose Backup... from the Sytos Plus Startup screen. The Backup Procedures window shown in Figure 5-1 opens.
2	Highlight the Backup Procedure that you wish to run. The following Sample Procedures are provided: Full Backup/Compare Full Backup/No Compare Incremental Backup - Append Incremental Backup - Create Progressive Backup
3	Review the description displayed for the highlighted Procedure to be sure it is the Procedure you want to run.
4	Ensure that backup media is in the backup device specified for the Procedure.
5	Press Enter to run the Procedure.

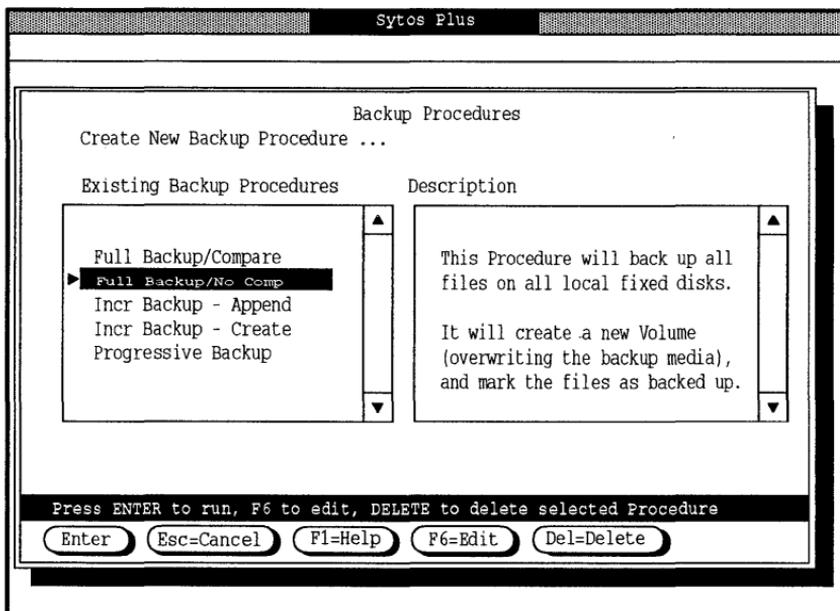


Figure 5-1 The Backup Procedures window

Creating a New Backup Procedure

Description

Opening a New Backup Procedure is the first step to creating a new Procedure. If you want to use an existing Procedure, you can skip this step and go to "Editing an Existing Procedure."

Use the following steps to create a new Backup Procedure.

Step	Action
1	Select Backup... from the Sytos Plus Startup screen. The Backup Procedures window shown in Figure 5-1 opens.

Step	Action
2	Press Tab until Create a New Backup Procedure... is highlighted.
3	Press Enter . The Create Procedure window shown in Figure 5-2 opens. Follow the instructions in this chapter to select files and settings for the new Backup Procedure.

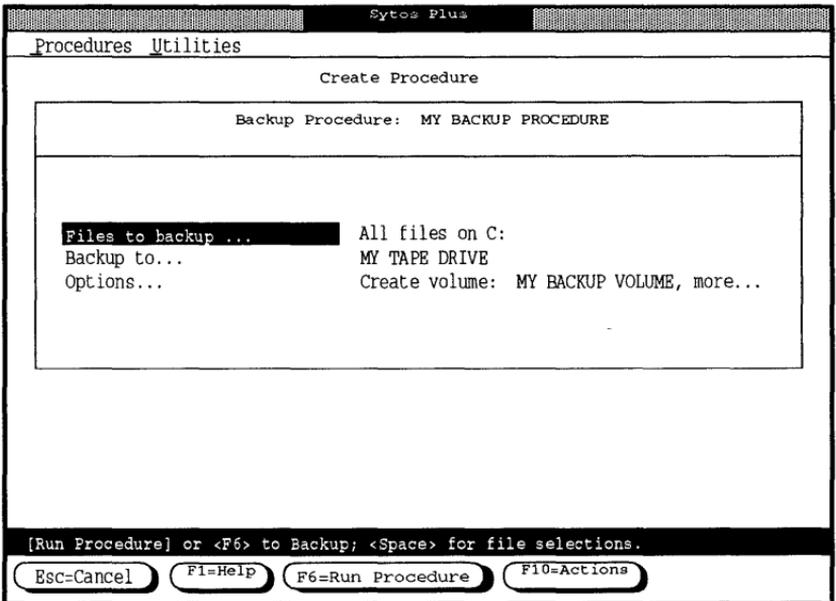


Figure 5-2 The Create Procedure window

Editing an Existing Backup Procedure

An existing Backup Procedure is a sample Sytos Plus Procedure, or one that you previously created. You can modify the settings of any existing Procedure.

Use the following steps to open an existing Procedure.

Step	Action
1	Select Backup... from the Sytos Plus Startup screen. The Backup Procedures window opens with a list of all your Procedures, as shown in Figure 5-3 .
2	Highlight the Procedure you want to load. The description is displayed in the Description box.
3	To edit the Procedure, choose Edit or press F6 .
4	The Edit Procedure window opens. Use the instructions in this chapter to change selections for the Procedure.

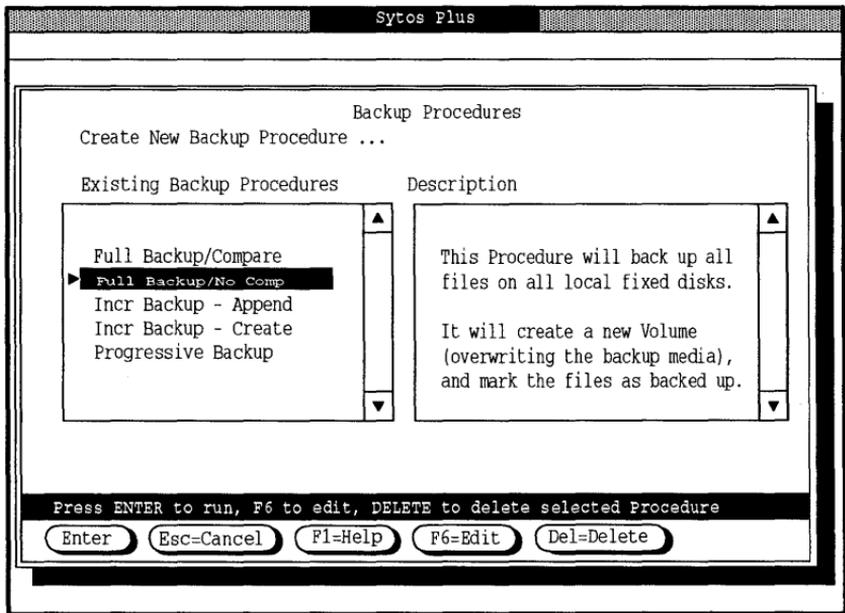


Figure 5-3 Loading an Existing Procedure

Selecting Files for Backup

Description

You can select files for backup from the Sytos Plus windows at the following levels:

- Source level (for example, your local C: drive)
- Directory Level
- Individual File level

Also, you can select files by DOS wildcard or a date range, using a Sytos Plus Selection Sheet.

Advantages of Using Selection Sheets

Using Selection Sheets for selecting files can be faster and more flexible than selecting files from windows:

- **Faster File Selection.** Selection Sheets contain abbreviated instructions for selecting files, so a one-line entry can equal multiple selections from the file selection windows. In addition, you can edit a Selection Sheet to modify selections made from these windows.
- **Selection of Future Files.** Selection Sheets can select files by date ranges or wildcards, so they can include files that haven't been created yet. From the Files window, you have to select each of these files individually and any files that you create in the future are not included.
- **File Selection with Wildcards.** With Selection Sheets, you can select groups of files using wildcards (for example, including C:*.DOC selects all the files on C: that end with the extension DOC).
- **File Selection with Date Ranges.** You can select files within certain date ranges using a Selection

Sheet, which is not an option when you select files from windows.

You can also specify a Selection Sheet file from the command line, as described in "Command Line Operations," in *Chapter 10: Scheduling and Running Procedures*.

Where to begin...

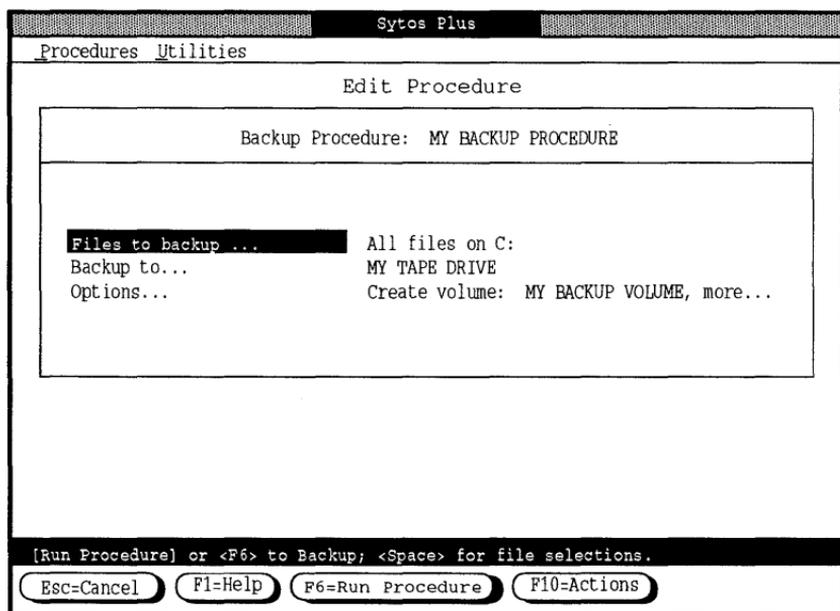


Figure 5-4 A loaded Backup Procedure

Start by highlighting **Files to backup...** in the Backup Procedure window, shown in Figure 5-4.

The message to the right of **Files to backup...** shows one of the following as the current file selections:

- **All files.** All files on the listed drives.
- **Only changed files.** Files that have been changed or created since your last Backup.

- **No files selected.** No files currently selected.
- **Specified files.** Specific files have been selected from the file selection windows and the Selection Sheet.

NOTE: *If you choose only specific directories or files from the file selection windows, you may have to check your Procedure later and update it to include any new directories or files.*

Selecting Files at the Source Level

Select **Files to backup...** and press **Enter** to pop up the Source Files window, shown in Figure 5-5.

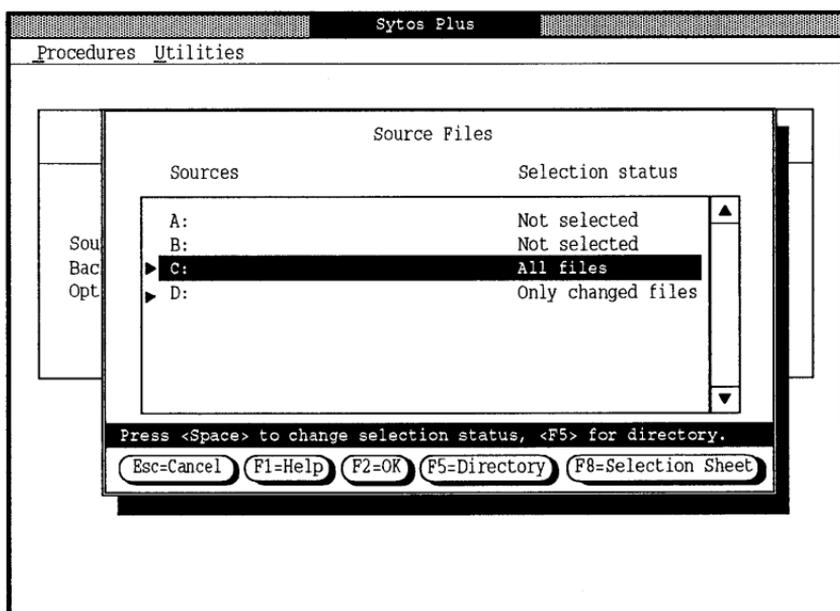


Figure 5-5 Selecting a Source and its files

Use the following steps to select a Source and its files:

Step	Action
1	<p>Highlight the Source and press [Spacebar] to select All files, Only changed files, or Not selected.</p> <p>If you see the message Specified files in this field, you or someone else has previously chosen specific files. Changing the Specified files setting cancels those selections. Check which files are selected before overriding the selections, by choosing [Selection Sheet] or pressing [F8].</p>
2	Repeat Step 1 for every Source you want to select.
3	Choose [F2] to accept the selections.

The example in Figure 5-5 shows that **All files** on the C: drive are selected to be included in this Procedure.

Selecting Files at the Directory Tree Level

To select a specific directory and its files, highlight its Source, (the drive where it is located) and choose **[Directory]** or press **[F5]** to pop up the Directory Tree Window. Figure 5-6 shows you an example of a Directory Tree window with a variety of files selected.

Follow these steps to select a directory and files:

Step	Action
1	Highlight a directory and press [Spacebar] to select All files, Only changed files, or Not selected.
2	Repeat Step 1 for every directory you want to select.
3	Choose [F2] to accept the selections and close the Directory Tree window. Choose [F2] again to close the Source Files window.

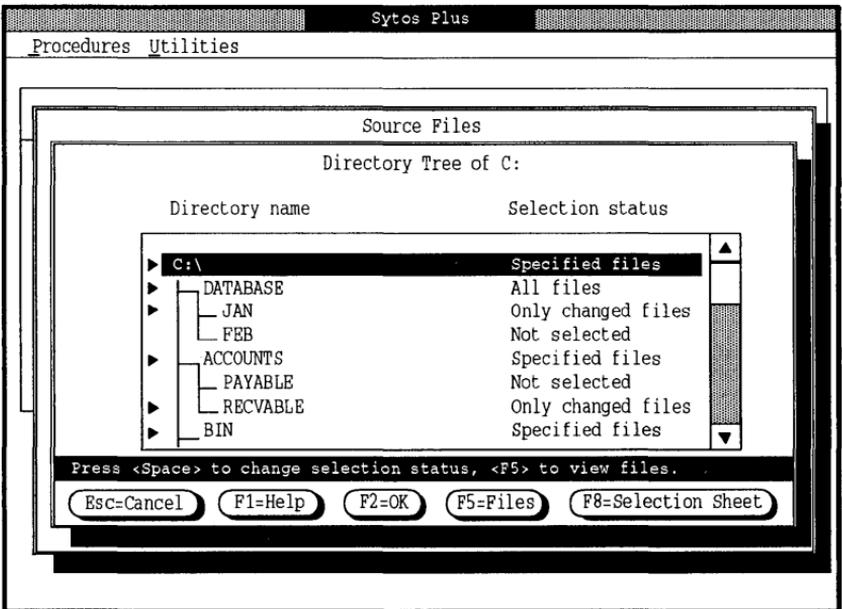


Figure 5-6 Selecting a directory and its files

Selecting Individual Files

To select a specific file, highlight its directory and choose **Files** or press **F5** to pop up the Files window. Figure 5-7 shows examples of files with a range of selections already made.

This window has several elements:

- **Filename** is the name of the file.
- Under **Chg**, a checkmark (✓) shows that the file has been changed or created since the last Backup
- **Attributes** lists the file's last modified date, time, and size.
- **Selection status** shows whether the file will always be **Selected**, selected **Only if changed**, or **Not selected** whenever this Procedure is run.

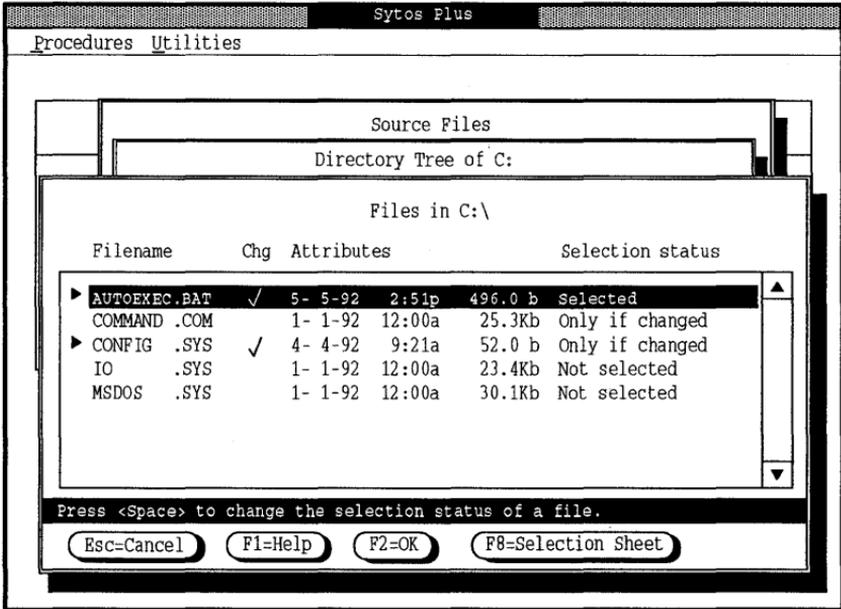


Figure 5-7 Selecting individual files

Use the following steps to select individual files.

Step	Action
1	Highlight the file and choose Selected , Only if changed , or Not selected using the Space bar.
2	Repeat Step 1 for every file you want to select.
3	Choose F2 to accept the selections and close the window. Choose F2 again to close the Directory Tree window, and once again to close the Source Files window.

Selecting Files Using Selection Sheets

A Selection Sheet allows you to select files and subdirectories using wildcards (for example, * and ?), by date ranges, or by changed status to bypass the process of selecting files from windows.

A Selection Sheet shows which files should be included in a Procedure. Figure 5-8 is an example of a Selection Sheet. When you choose files from the file selection windows, Sytos Plus builds a Selection Sheet in the background. By choosing **Selection Sheet** or pressing **F8** from any of the file selection windows, you can view or edit the Selection Sheet for your Procedure.

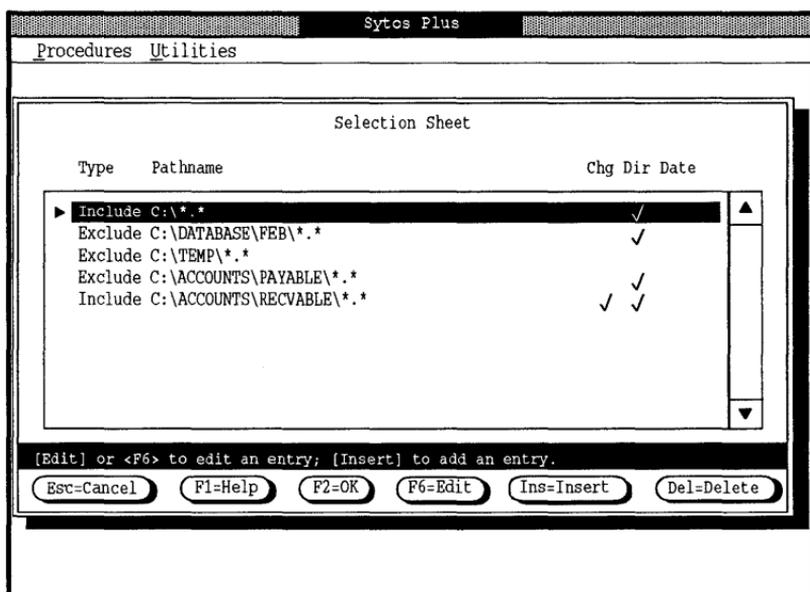


Figure 5-8 Example Selection Sheet

NOTE: When selecting files for a Procedure, Sytos Plus uses the Universal Naming Convention (UNC) for the filename wildcard "*". In some cases, using the wildcard may give you a greater number of files than you want backed up. For example,

*selecting filename *1.* or *1* gives you all filenames, not just those names containing a number 1. Using the wildcard "*" by itself gives you all files in that directory.*

Editing a Selection Sheet

The **Edit** command changes the highlighted entry. The **Insert** command adds a new entry above the highlighted one.

NOTE: *A Selection Sheet is read from top to bottom, and an entry inserted in the middle of the sheet may be affected by an entry below it. Insert new entries at the bottom of the Selection Sheet.*

Use the following steps to edit a Selection Sheet.

Step	Action
1	Choose Selection Sheet or press F8 from the file selection windows to see the Selection Sheet with its current file selections.
2	<p>Each line on the sheet represents one entry. Select an entry from the list and use the function keys at the bottom of the window to edit or delete the entry. Refer to Figure 5-8.</p> <p>If a pathname cannot fit in a column, the middle of the name is replaced with an ellipsis (...).</p>
3	<p>Choose Edit or press F6 to edit the highlighted entry; choose Insert or press Ins to insert a new one above the highlighted entry.</p> <p>Figure 5-9 shows you an example of an Edit window with some selections made.</p>

Sytos Plus

Procedures Utilities

Selection Sheet

Edit Selection Sheet Entry

Type

Include

Exclude

Date range

Any date

On: [10-09-92]

Before/on: [10-09-92]

After/on: [10-09-92]

Range: From: [10-09-92] To: [10-09-92]

Options

Dir: Include subdirectories

Chg: Only changed files

Select to include these files.

Esc=Cancel F1=Help F2=OK F8=View directory tree

Figure 5-9 Editing a Selection Sheet

Step	Action
4	<p>Edit the pathname(s).</p> <p>Pathname shows the files to which this entry applies. You may use wildcards to include groups of files. To save time entering a long pathname, choose View directory tree or press F8 to select a directory from the Directory Tree window.</p>
5	<p>Select the type of entry.</p> <p>Include means the files specified will be selected for the Procedure.</p> <p>Exclude means the files specified will <i>not</i> be selected for the Procedure.</p>
6	<p>Select one or both file options.</p> <p>Dir: Include subdirectories includes/excludes all subdirectories.</p> <p>Chg: Only changed files includes/excludes only files that have changed.</p>

Step	Action
7	Select one Date Range option for including/excluding files. (Enter specific dates for the last four options.) Any date On Before/on After/on Range
8	Choose OK or press F2 to accept the selections and return to the Selection Sheet window.
9	Repeat Steps 2 through Step 8 until you are satisfied with all the entries.
10	Check your entries, then choose OK or press F2 .

Selecting a Backup Device

Description

If you have only one backup device, Sytos Plus automatically selects it as the default backup device. If you have more than one backup device, use the following steps to select a different device.

Step	Action
1	Select Backup to... from the Edit Procedure window.
2	At the pop-up window, highlight a backup device from the list.
3	To confirm that the Volume you want is in the backup device, choose F8 to identify the Volume.

Step	Action
4	Select the backup device and choose F2 .

Selecting Options

Description

For any Backup Procedure, you can select options for:

- The Volume (the media, for example a tape, containing one or more Backup Sets).
- The Backup Set (the set of backed-up files each time a Procedure runs).

Figure 5-10 illustrates option settings for an example Backup Procedure.

Selecting Volume Options

You can specify whether the Backup Procedure should create a new Volume or append to an existing one.

At the Backup Options window, if you select **Volume options...**, a window pops up with several options. Figure 5-11 is an example of this window with several options selected.

Appending to an Existing Volume

Append to existing Volume adds the Backup Set to an existing Volume. You cannot change the Volume options specified when the Volume was created.

You should append Backup Sets to an existing Volume when updating an Incremental Backup. This allows you to keep successive versions of files in the same Volume.

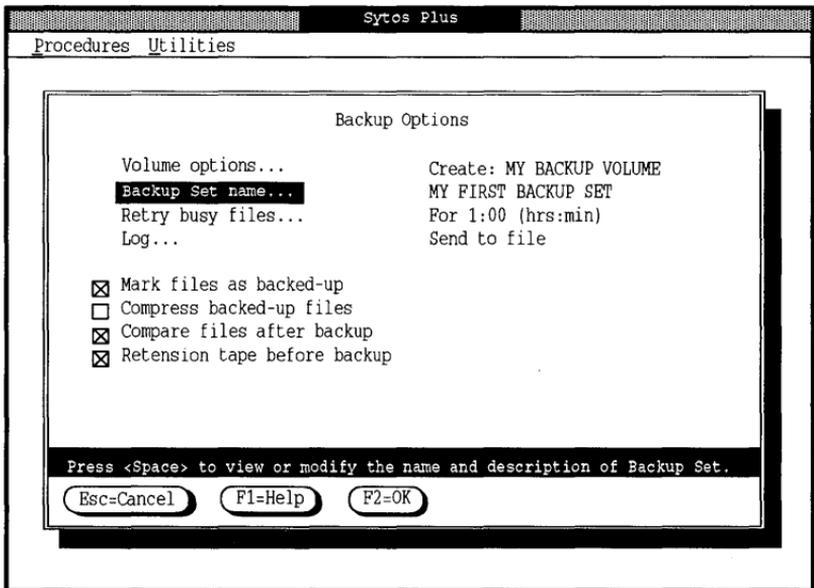


Figure 5-10 Selecting options for a Backup Procedure

Follow these steps to Append to an existing Volume:

Step	Action
1	Select Volume options... from the Backup Options screen.
2	Choose Append to the existing Volume . The Backup Set is added to the existing Volume, using option settings specified when the Volume was created. When you choose Append, the other options become grayed, and are not selectable.
3	Choose F2 to close the window.

Creating a New Volume

Create a new Volume prepares a new Volume for the Backup Set with the Volume options you specify.

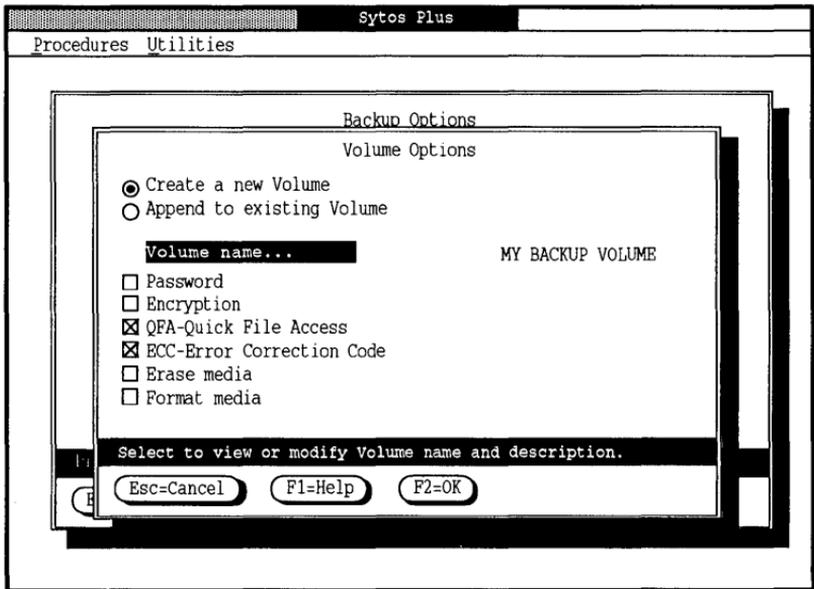


Figure 5-11 Selecting Volume Options

You should create a New Volume each time you run a Full Backup Procedure or Progressive Backup Procedure. **Create a New Volume** overwrites the current contents of the backup media.

Use the following steps to create a new Volume and select Volume options.

Step	Action
1	Select Volume Options... from the Backup Options screen.
2	Choose Create a new Volume... . The Volume options screen shown in Figure 5-11 appears.
3	Select the options for the Volume. Refer to the table on the following pages for a description of the Volume options.
4	When finished, choose F2 .

The following table describes available Volume options.

Option	Description
Volume name...	<p>Allows you to give the Volume a personalized name and description. Assign a meaningful name so that you can recognize the contents quickly and easily.</p> <p>For example, name the Volume so that it identifies the system that created it. If the media is moved away from the original system, you can determine which system these files belong to by using the Volume utility.</p> <p>"UNNAMED VOLUME" is the default name.</p>
Password	<p>Allows you to assign the Volume a password when the Procedure is run, allowing access only to those who know the password.</p> <p>If you specify a password during a Backup Procedure, you must specify the password to access those backed-up files later.</p> <p>IMPORTANT. <i>Without the password, you will not be able to restore the files.</i></p> <p>NOTE: <i>You should write-protect your media even if it is password-protected, as even a password does not prevent media from being erased or overwritten.</i></p>
Encryption	Not available.

Option	Description
<p>QFA-Quick File Access</p> <p>QFA is not available for all devices.</p>	<p>Enables Sytos Plus to find specific stored files quickly. When QFA is enabled, Sytos Plus records information during Backup about each file's location on the media. This information is stored in a special "directory" on the media. Sytos Plus refers to the directory to quickly locate files during Restore or Compare Procedures.</p> <p>This option is useful if much of your data is distributed, as it can increase performance when restoring or comparing files. However, because the QFA option records information on the media, it reduces the number of files you can back up to your media.</p> <p>QFA is especially important when using high-capacity storage media or backup devices, such as DAT drives.</p>
<p>ECC-Error Correction Code</p>	<p>Records special information on the backup media to assist with restoring files if the media becomes damaged after a successful Backup with Compare. Although recording this information takes up more space on your backup media, it is beneficial if that media ever becomes damaged.</p> <p>IMPORTANT: <i>We recommend selecting Error Correction Code (ECC) for all Backup and Move Procedures as added protection for your files.</i></p>
<p>Erase media</p>	<p>Makes your media appear blank to Sytos Plus. If your security procedures require, you may also erase tape using a commercial bulk eraser.</p>

Option	Description
Format media	<p>Prepares your media to receive Sytos Plus information, including low-level pre-formatting for those devices requiring it.</p> <p>New media for some backup devices may need formatting before being used.</p> <p>If you use a 4mm DAT backup device, you will need to format blank tapes before you create a new Volume. Formatting with this type of tape takes only a few minutes, overwriting any data on the tape. (With this type of device, formatting is much faster than erasing a tape.) To format media in advance, you can select Format media from the Utilities: Media Preparation window. To format media as part of a Backup Procedure, select Format media as a Volume option. The tape is formatted each time the Procedure runs.</p>

NOTE: *Sytos Plus erases or formats media automatically if the media requires it, which may take considerable time, depending on your backup device. To reduce the Procedure time, you can use the **Media preparation** utility, described in Chapter 11, to prepare media in advance.*

Selecting Options for the Backup Set

For every Backup Set, you may choose several options. Figure 5-12 shows you the variety of options available.

Use the following steps to choose options for the Backup Set.

Step	Action
1	Select Options... from the Procedure window to open the Backup Options window.
2	Choose the options you want to use. Refer to the list of options on the following pages for a description.
3	When finished choosing options, choose F2 .

Backup Set Options

The following table is a list of available options for Backup Sets.



Figure 5-12 Selecting options for a Backup Set

Option	Description
Backup Set name ...	<p>Allows you to give the Backup Set a personalized name and description. The Backup Set is called UNTITLED until you give it a name.</p> <p>If you are appending Backup Sets, you should assign each one a different name (for example, MONDAY-INC, TUESDAY-INC for daily Incremental Backups). Every Backup Set contains the date and time it was created.</p>
Retry busy files ...	<p>Checks inaccessible files (ones that are in use at the time of the Procedure) and backs them up when they are available. This option is useful if you work in a network environment.</p> <p>At the pop-up window, you can choose from the following options to retry files:</p> <ul style="list-style-type: none">- For this much time - an amount of time in hours and minutes that the Procedure tries to backup busy files.- Until this time - The Procedure tries to back up files until a specified time.- Until no longer busy- Don't Retry - the default option.

Option	Description
Log ...	<p>Creates a record of the Procedure and includes any problems that may occur. At the pop-up window, you can add other information to the Log, including:</p> <ul style="list-style-type: none"> - Selection Sheet for a copy of the Selection Sheet - Procedure Options to include a list of options selected for the Procedure - Processed Files for a complete list of all Processed files. <p>You should send the Log to a Sytos Plus text file rather than a printer when you run the Procedure. This prevents any printer problems (for example, paper jams) from interfering with the Procedure's progress. You can then use the Log utility to send it to a printer after the Procedure has run.</p> <p>IMPORTANT: <i>You should also select the Log option for all Procedures to give you a record of the results that you can review afterward. The Log is especially important for unattended Procedures because it is the only way to be sure the files you specified were processed correctly.</i></p>
Mark files as backed-up	<p>Specifies whether or not files should be marked as backed-up after the Procedure.</p> <p>If this option is selected, each file's archive attribute is set, indicating that the file has been backed up. If this option is not selected, each file's archive attribute is left untouched, whether set or unset.</p> <p>Turn this option ON for Full and Incremental Backups, and OFF for Progressive backups.</p>

Option	Description
<p>Compress backed-up files</p> <p>Compression is not supported on all devices.</p>	<p>Compresses the data on your backup media so more can fit.</p> <p>When you have many files to back up, you can use this option to fit them onto less media space than would normally be needed. Although this option may increase the backup time, it optimizes media space.</p> <p>Some backup devices provide hardware compression, in which case this option is selected and grayed.</p> <p>IMPORTANT: <i>Compressed files take up less space and any damage that occurs on the backup media could affect many files. Therefore, you should select Error Correction Code (ECC) when using the Compress backed-up files option as added protection for your files.</i></p>
<p>Compare files after backup</p>	<p>Automatically performs a Compare Procedure after the Backup to check that your backed-up files are identical.</p> <p>Compare files after backup is strongly recommended. Although this option increases the total Backup time, we <i>strongly</i> recommend it. (You could run a separate Compare Procedure to achieve the same results, but it's more convenient to select the Compare files option here.)</p> <p>Unmatched files: If the backed-up files and files on disk do not match after the Compare, it means that you do not have a good Backup. Rerun the Procedure with the Compare files option selected to be sure it completes successfully.</p>

Option	Description
Retension tape before backup	<p>Adjusts tape tension by fast-forwarding and rewinding the tape to make sure it's taut enough to record information properly. Retension by itself does not change the information stored on the tape.</p> <p>Use this option for tapes that are new or that have not been recently used.</p> <p>NOTE: <i>This option is not supported by DAT drives.</i></p>

Saving a Backup Procedure

Description

Save the settings for a new Procedure you have created, or save the modifications to an existing Procedure that you have edited.

- **Save** saves edits to an existing Procedure under the current name.
- **Save as . . .** allows you to assign a new name and description to a Procedure.

NOTE: *If you are setting up a complex Procedure, you may want to save your work periodically.*

Use the following steps to Save a new or edited Procedure.

Step	Action
1	Open the Procedures menu by typing [Alt] + [P] .

Step	Action
2	<p>To save edits made to an existing Procedure under the current name, select Save . . . from the Procedures menu.</p> <p>To assign a new name and description to a Procedure, select Save as . . . from the Procedures menu. Figure 5-13 illustrates an example of the Save a Procedure window.</p>
3	Enter a personalized name and description.
4	If you want this Procedure to be the default Procedure in the Sytos Plus Startup screen, check the Load as default Procedure checkbox.

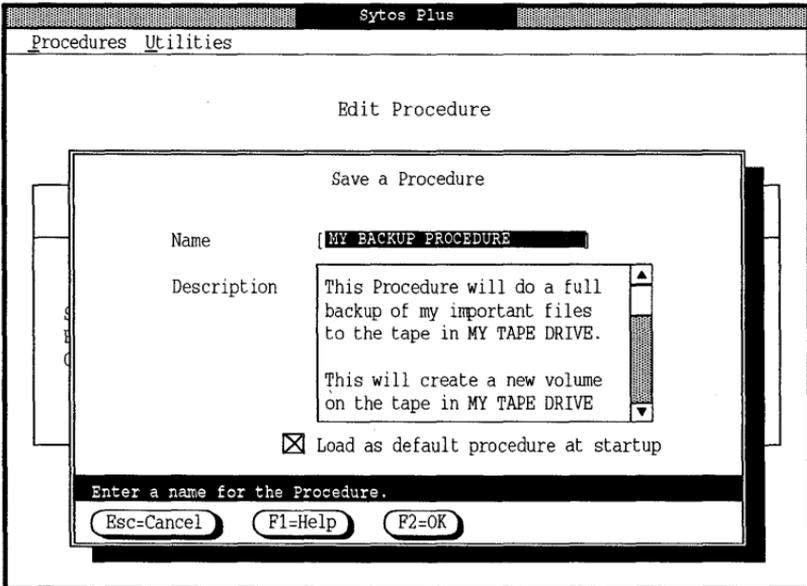


Figure 5-13 Saving a Procedure

Step	Action
5	Choose OK or press F2 to close the window and save the Procedure.

Previewing a Backup Procedure

Description

Preview test-runs the loaded Procedure without copying or deleting files. It does not affect files or their attributes in any way.

NOTE: You should use **Preview** before **Run** for new or edited Procedures or for those that have been imported from another system.

Preview tells you:

- The number of files that Sytos Plus attempts to back up.
- The space needed for the backed up files, so you can estimate the number of media you will need for the Procedure.

Since files are not actually processed, Preview does not tell you:

- If files are busy.
- If files are damaged.
- If files are unmatched during the Compare process.

Estimating the Number of Tapes or Diskettes Needed

You may want to estimate the number of tapes or diskettes Sytos Plus needs during a Backup Procedure by running a Preview of your Procedure. This gives you an idea of the

total size of the files that are processed. You can then compare this size to the capacity of your media and estimate the number of tapes or diskettes that you need.

Running the Preview

Use the following steps to Preview a loaded Backup Procedure.

Step	Action
1	Open the Procedures menu by typing [Alt] + [P] .
2	<p>Select Preview from the Procedures menu to start Previewing the loaded Procedure. The Preview status window opens.</p> <p>To stop the Preview before it is completed, choose [Stop Procedure] or press [F7].</p>
3	<p>To see more information about the files, select [View files] or press [F8] at the Status window.</p> <p>Viewing files during a Preview: If you view files while previewing a Procedure, the Procedure pauses, then resumes when you return to the Status window.</p> <p>At the pop-up window, select Log from the options and choose [OK] or press [F2]. The View Log window opens.</p> <p>NOTE: <i>Busy files, Damaged files and Unmatched files are grayed for a Preview. Unfound files is grayed unless the Preview reports unfound files.</i></p>
4	<p>At the View Log window, you may choose [Print] or press [F4] to send the text to a text file and/or the printer. Choose [Esc] to close the View Log window.</p>

Step	Action
5	When the Preview is complete, Sytos Plus displays a final status message. Choose OK or press F2 to close the prompt and return to the Preview status window.
6	Choose Cancel or press Esc to close the Preview status window.

Reviewing Status Window Information

During **Preview** and **Run**, a Status window pops up to give you detailed information about the Procedure in progress. *Chapter 15: Reference*, describes the Status window and the information it provides.

Running a Backup Procedure

Description

You can run your Backup immediately after editing or creating, and previewing the Backup Procedure. To schedule the Procedure to run later, refer to *Chapter 10: Scheduling and Running Procedures*.

Use the following steps to run your loaded Backup Procedure.

Step	Action
1	<p>Press F6, or select Run from the Procedures menu. (To open the Procedures menu, type Alt + P.)</p> <p>To stop the Procedure before it is completed, choose Stop Procedure or press F7. The Procedure may take a few moments to stop.</p> <p>Note that using Ctrl + C or Ctrl + Break does not stop the Procedure.</p>
2	<p>To see more information about the files, choose View files or press F8 at the Status window.</p> <p>Viewing files during a Procedure: If you view files while a Procedure is running, the Procedure pauses, then resumes when you return to the Status window.</p> <p>At the pop-up window, select an option and choose OK or press F2:</p> <p>Log Busy Files Damaged Files Unmatched files Unfound files</p> <p>The View Log window opens.</p>
3	<p>At the View Log window, you may choose Print or press F4 to send the text to a text file and/or the printer. Choose Esc to close the View Log window.</p>
4	<p>When the Procedure completes, Sytos Plus displays a final status message. Choose OK or press F2 to close the prompt.</p>
5	<p>Choose Cancel or press Esc to close the Status window.</p>

Reviewing the Sytos Plus Log

Description

Review the Log of a completed Backup Procedure to ensure that all files have been processed as specified.

The Log option allows you to:

- Review a completed Sytos Plus Procedure.
- Review possible error messages.
- Keep a text file or hardcopy printout that lists the files processed by selecting the **Processed Files** option under Log Options. The text file can accompany the backed-up files and provide a complete file listing of the contents of the media.

Once the Log has been reviewed and you are satisfied that the Procedure has completed successfully, you can delete the Log using the Log utility.

IMPORTANT: *If a Procedure is not successful for any reason, you can review the information in the Log to determine why it was unsuccessful, correct the problem, and then rerun the Procedure.*

It is important to review the Log to ensure that you have a successful and complete Backup, in case you need to Restore the files later. In the case where you have backed up files and later try to restore them because your original files have become damaged or deleted, your backup copy may be the only copy of those files.

Use the following steps to review the Log.

Step	Action
1	Highlight Utilities... in the Sytos Plus Startup screen and press Enter . The Utilities window appears with the list of available utilities.
2	Highlight Logs... and press Enter . The Log Utility window appears. Figure 5-14 shows an example of a Logs list. Highlight the Log for the completed Backup Procedure.
3	Choose View or press F8 to view the highlighted Log.

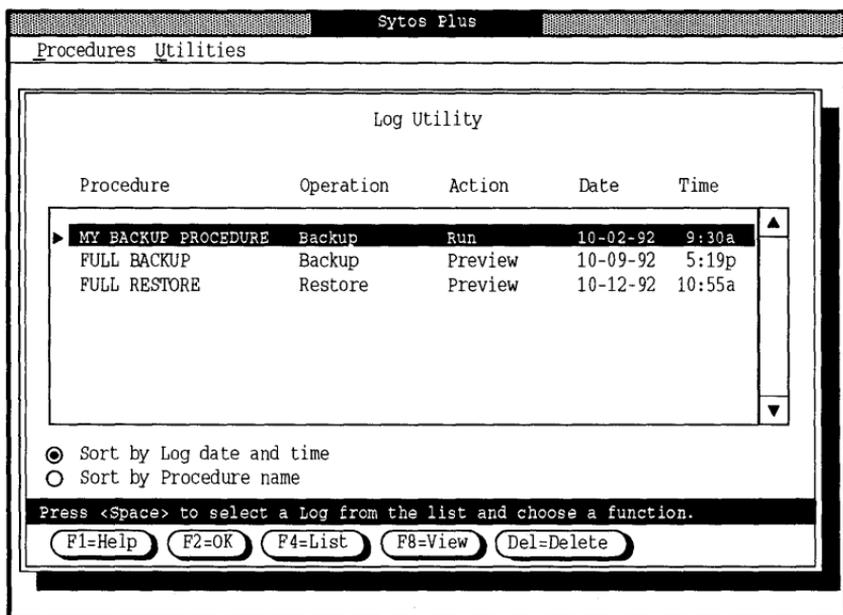


Figure 5-14 The Log Utility window

Step	Action
4	<p>To print the contents of the Log, choose Print or press F4, then select one or both options at the pop-up window.</p> <p>A text file sends the contents of the Log to a disk file. Type a complete path and filename.</p> <p>The printer sends the contents of the Log to the printer.</p>
5	<p>Choose OK or press F2 to return to the Log Utility window.</p>

Labeling Your Media

You should always clearly label your media with at least the following information: Volume name, creation date and time, and media sequence number. Media sequence number is important for Procedures which require several media (for example, when you use a diskette drive for a backup device). This information allows you to quickly and easily determine which is the correct media when Sytos Plus prompts you to insert the next media during a Compare or Restore Procedure.

If you insert media out of sequence, Sytos Plus prompts you for the correct one. This allows Sytos Plus to process the files completely. However, if the correct media has been damaged or lost you can proceed out of sequence.



6

Moving Data

Overview

Introduction

A Move Procedure transfers your files to a backup device by copying them and then deleting the originals. Creating a Move Procedure involves selecting files, a backup device, and options.

Concepts of Moving Files

Move Procedures store files that are not used regularly but still need to be available. A Move Procedure performs a Backup, then compares the backed-up files to their corresponding source files. If the backed up files compare correctly with the files on the hard disk, the Move Procedure deletes the files from the hard disk.

The **Compare files** option is preset to ensure that the files are copied correctly before being deleted. The Compare files option cannot be turned off for a Move Procedure.

CAUTION: *Because your source files are deleted at the end of a Move Procedure, always use **Preview** before **Run** to be sure the Procedure runs properly.*

Archiving Files

Use the Move Procedure when you have files on your system that you no longer use and want to archive. Archiving can free up system disk space, and can be done quickly and easily with one Procedure.

For example, a company accounting department might want to archive the year's financial records at year-end. They could run a Move Procedure, which automatically copies this information to the backup media and then removes the information from the system.

Before Moving Files ...

Because a Move Procedure deletes your original files, several points are worth noting:

- In case of backup media damage, it is very important that you have more than one copy of your files. Therefore, *before you move files off your system*, you should run a Backup Procedure to copy those files to another backup media, and store it permanently. If either media becomes damaged, you have another copy of the files. Make sure the **Compare files** and **Log** options are turned on for the backup.

When the Backup Procedure is completed, review the Log. Any files that did not back up or compare successfully may be damaged in some way. Check to see if you can find the problem. After correcting the problem, rerun the Backup. Do not run the Move Procedure until all files have been copied and compared successfully.

- If the Backup is not completely successful, the Move Procedure stops before comparing or deleting your files.

- If the Compare is not completely successful, the Move Procedure stops before deleting your files.

For additional information

Refer to these chapters for additional information:

- *Chapter 14: Backup Strategies.* File backup strategies and a description of sample Procedures provided by Sytos Plus.
- *Chapter 15: Reference.* Descriptions of all settings.

In this Chapter

This chapter includes the following major topics:

Steps	Topic	See Page
1	Creating or Editing a Move Procedure	6-4
2	Selecting Files to Move	6-7
3	Selecting a Backup Device	6-17
4	Selecting Options	6-18
5	Saving a Move Procedure	6-23
6	Previewing a Move Procedure	6-24
7	Running a Move Procedure	6-26
8	Reviewing the Log	6-28

Creating or Editing a Move Procedure

Description

The Sytos Plus Startup screen provides the starting point for you to create a new Move Procedure or edit an existing Move Procedure.

NOTE: *If you have disabled the Sytos Plus Startup screen from the command line, Sytos Plus opens directly into the Edit Procedure window. In the Edit Procedure window, you can access the Procedures list by selecting the **Procedures** menu, and then selecting **Load**.*

Creating a Move Procedure

Use the following steps to create a Move Procedure.

Step	Action
1	Start Sytos Plus. Type the following at your operating system prompt: SYPLUS and press Enter . The Sytos Plus Startup screen shown in Figure 6-1 appears.
2	Choose Move... from the Sytos Plus Startup screen. The Move Procedures List Screen shown in Figure 6-2 opens.
3	Press Tab until Create a New Move Procedure . . . is highlighted.

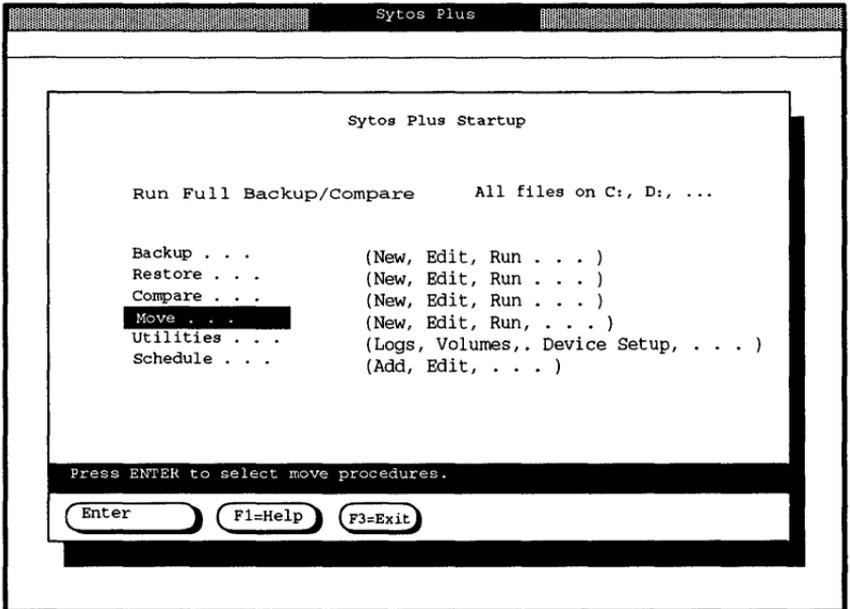


Figure 6-1 The Sytos Plus Startup screen

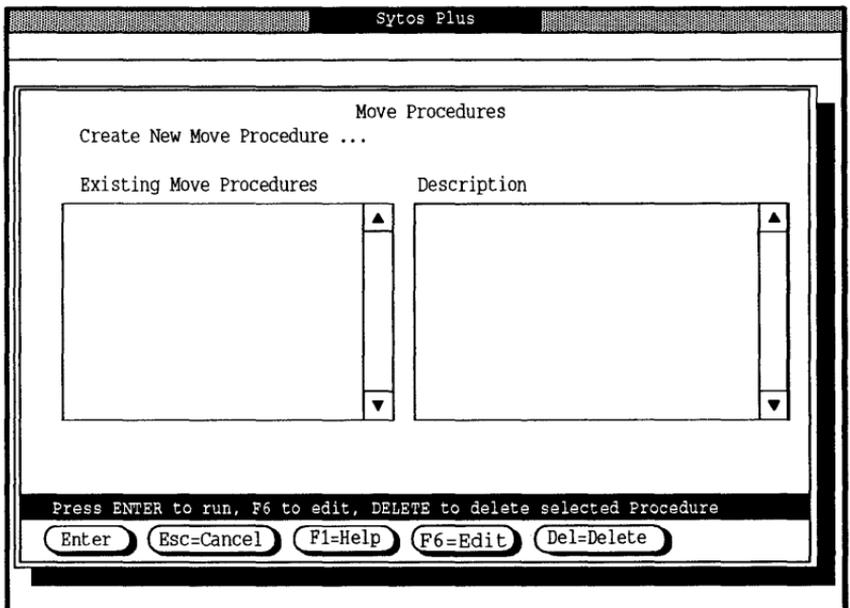


Figure 6-2 Move Procedures window

Step	Action
4	Press [Enter] . The Create Procedure window opens. To create a Move Procedure, follow the instructions in this chapter, beginning with "Selecting Files to Move."

Editing a Move Procedure

An existing Move Procedure is one that you or someone else created previously. If you have recently installed Sytos Plus, it is possible that you do not have any existing Procedures.

Use the following steps to open and edit a Move Procedure.

Step	Action
1	<p>Select Move... from the Sytos Plus Startup screen. The Move Procedures window opens with a list of all your Procedures, as shown in Figure 6-2 .</p> <p>If this is the first time you are using Sytos Plus, or no Move Procedures have been created, the list box is empty and you need to create a Move Procedure.</p>
2	<p>Highlight the Procedure you want to load.</p> <p>Review the description displayed for the highlighted Procedure to be sure it is the Procedure you want to run.</p>
3	Press [F6] or [Edit] . The Edit Procedure window opens with the Procedure loaded.
4	To edit selections for the Move Procedure, use the instructions in the following sections, "Selecting Files," "Selecting a Backup Device," and "Selecting Options."

Files that should not be moved

A Move Procedure deletes the original files after copying them to the backup media. You should not move:

- Operating system files. Your system cannot run correctly without them.
- Sytos Plus files. They cannot be moved, even if you specified them.

As a precaution, a Move Procedure does not delete your directory structure. To delete directories you no longer need, use the appropriate operating system commands or utilities.

Selecting Files to Move

Description

You can select files for a Move Procedure from the Sytos Plus windows in the following ways:

- At the Source level (for example, your local C: drive)
- At the Directory Level
- At Individual File level.

Also, you can select files by DOS wildcard or a date range, using a Sytos Plus Selection Sheet.

Advantages of Editing Selection Sheets

Using Selection Sheets for selecting files can be faster and more flexible than selecting files from windows:

- **Faster File Selection.** Selection Sheets contain abbreviated instructions for selecting files, so a one-line entry can equal multiple selections from the file selection windows. In addition, you can edit

a Selection Sheet to modify selections made from these windows.

- **Selection of Future Files.** Selection Sheets can select files by date ranges or wildcards, so they can include files that haven't been created yet. From the Files window, you have to select each of these files individually and any files that you create in the future won't be included.
- **File Selection with Wildcards.** With Selection Sheets, you can select groups of files using wildcards (for example, including C:*.DOC selects all the files on C: that end with the extension DOC).
- **File Selection with Date Ranges.** You can select files within certain date ranges using a Selection Sheet. This is not an option when you select files from windows.

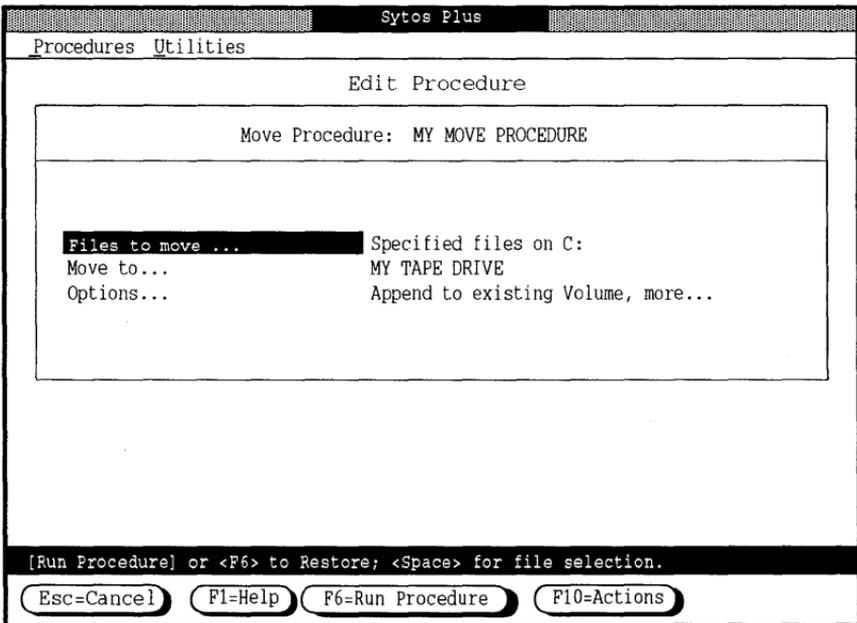


Figure 6-3 A loaded Move Procedure

Where to begin...

Start by highlighting **Files to Move...** in the Move Procedure window, shown in Figure 6-3.

The message to the right of **Files to Move...** shows one of the following as the current file selections:

- **All files.** All files on the listed drives.
- **Only changed files.** Files that have been changed or created since your last Move.
- **No files selected.** No files currently selected.
- **Specified files.** Specific files have been selected from the file selection windows and the Selection Sheet.

NOTE: *If you choose only specific directories or files from the file selection windows, you may have to check your Procedure later and update it to include any new directories or files.*

Selecting Files at the Source Level

Select **Files to Move...** and press **Enter** to pop up the Source Files window, shown in Figure 6-4.

Use the following steps to select a Source and its files:

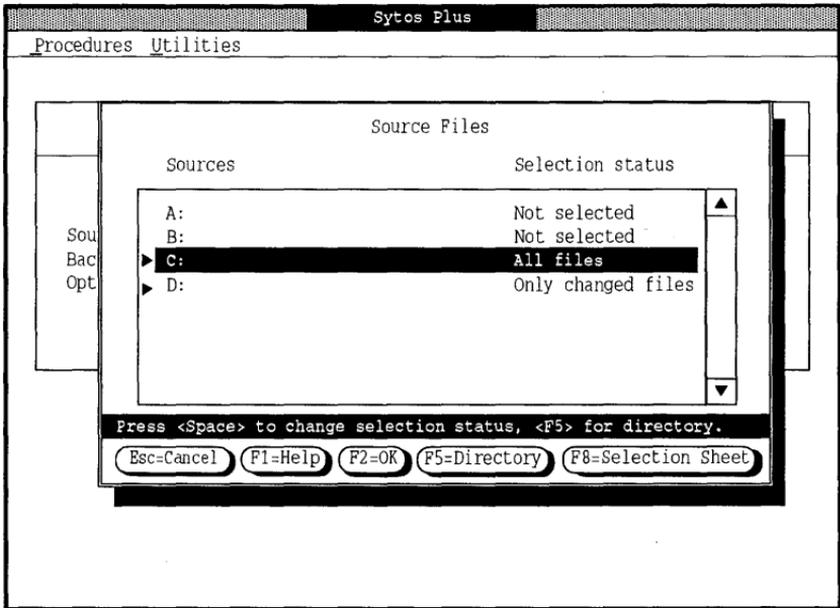


Figure 6-4 Selecting a Source and its files

Step	Action
1	<p>Highlight the Source and press [Spacebar] to select All files, Only changed files, or Not selected.</p> <p>If you see the message "Specified files" in this field, you or someone else has previously chosen specific files. Changing the Specified files setting cancels those selections. Check which files are selected before overriding the selections, by choosing [Selection Sheet] or pressing [F8].</p>
2	Repeat Step 1 for every Source you want to select.
3	Choose [F2] to accept the selections.

The example in Figure 6-4 shows that **All files** on the C: drive are selected to be included in this Procedure.

Selecting Files at the Directory Tree Level

To select a specific directory and its files, highlight its Source, (the drive where it is located) and choose **F5** to pop up the Directory Tree window. Figure 6-5 shows you an example of a Directory Tree window with a variety of files selected.

Use the following steps to select a directory and files:

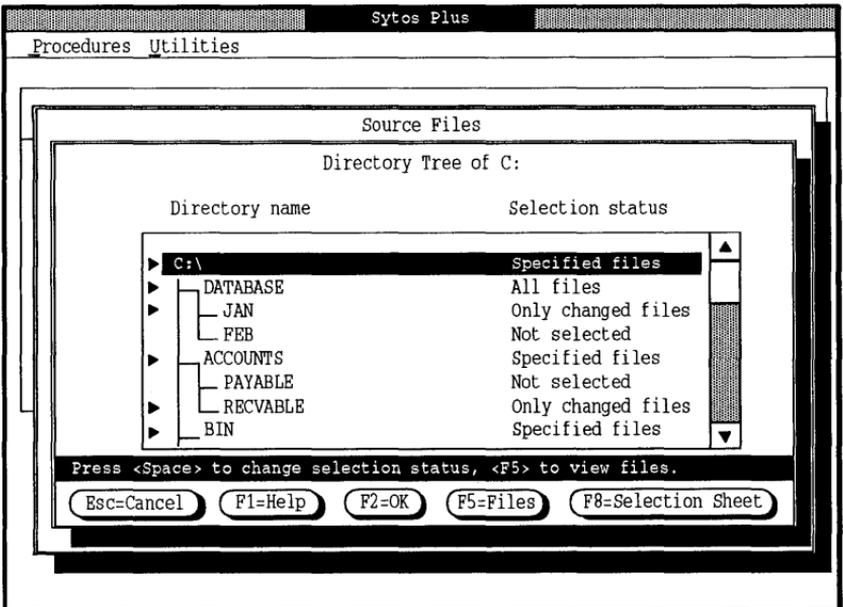


Figure 6-5 Selecting a directory and its files

Step	Action
1	Highlight a directory and select All files, Only changed files , or Not selected .
2	Repeat Step 1 for every directory you want to select.
3	Choose F2 to accept the selections and close the window.

Selecting Individual Files

To select a specific file, highlight its directory and choose **F5** to pop up the Files window. Figure 6-7 shows examples of files with a range of selections already made.

This window has several elements:

- **Filename** is the name of the file.
- Under **Chg**, a checkmark (✓) shows that the file has been changed or created since the last Backup.
- **Attributes** lists the file's last modified date, time, and size.
- **Selection status** shows whether the file is always **Selected**, selected **Only if changed**, or **Not selected** whenever this Procedure is run.

Use the following steps to select individual files.

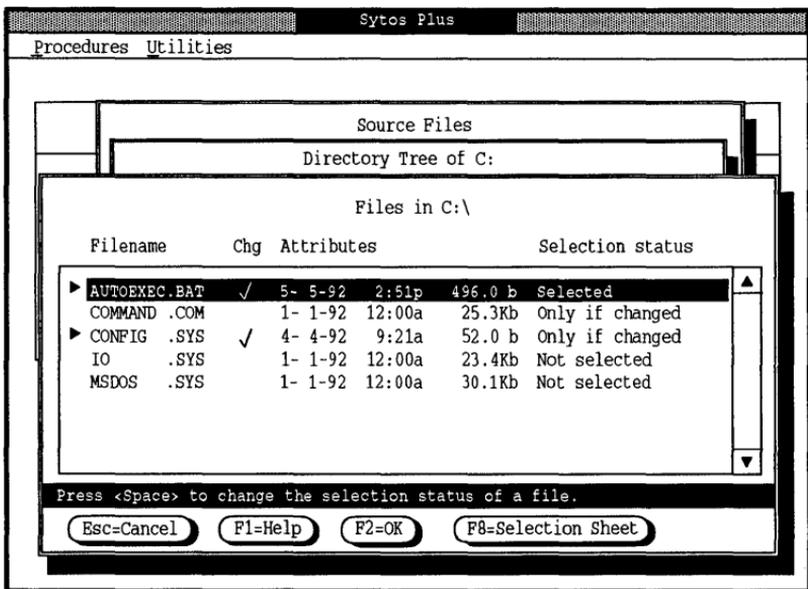


Figure 6-6 Selecting individual files

Step	Action
1	Highlight the file and choose Selected , Only if changed , or Not selected .
2	Repeat Step 1 for every file you want to select.
3	Choose F2 to accept the selections and return to the window. Choose F2 again to close the Directory Tree window, and once again to close the Source Files window.

Selecting Files Using Selection Sheets

A Selection Sheet allows you to select files and subdirectories using wildcards (for example, * and ?), by date ranges, or by changed status to bypass the process of selecting files from windows.

A Selection Sheet shows which files should be included in a Procedure. Figure 6-7 is an example of a Selection Sheet.

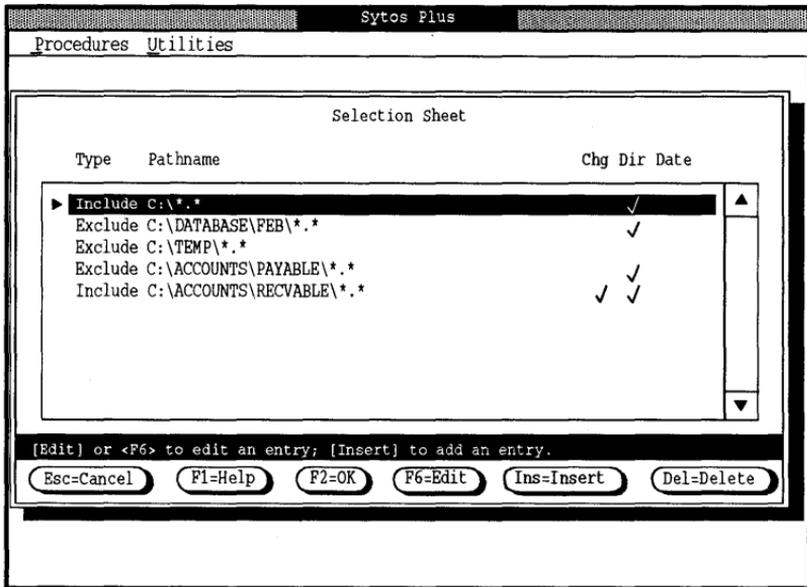


Figure 6-7 Example Selection Sheet

When you choose files from the file selection windows, Sytos Plus builds a Selection Sheet in the background. By choosing **Selection Sheet** or pressing **F8** from any of the selection windows, you can view or edit the Selection Sheet for your Procedure.

NOTE: When selecting files for a Procedure, Sytos Plus uses the Universal Naming Convention (UNC) for the filename wildcard "*". In some cases, using the wildcard may give you a greater number of files than you want to move. For example, selecting filename *1.* or *1* will give you all filenames, not just those names containing a number 1. Using the wildcard "*" by itself gives you all files in that directory.

Editing a Selection Sheet

The **Edit** command changes the highlighted entry. The **Insert** command adds a new entry above the highlighted one.

NOTE: A Selection Sheet is read from top to bottom, and an entry inserted in the middle of the sheet may be affected by an entry below it. Insert new entries at the bottom of the Selection Sheet.

Use the following steps to edit a Selection Sheet.

Step	Action
1	Choose Selection Sheet or press F8 from the file selection windows to see the Selection Sheet with its current file selections.
2	<p>Each line on the sheet represents one entry. Select an entry from the list and use the functions at the bottom of the window to edit or delete the entry. Refer to Figure 6-7.</p> <p>If a pathname can't fit in a column, the middle of the name is replaced with an ellipsis (. . .).</p>
3	Choose Edit or press F6 to edit the highlighted entry; choose Insert or press Ins to insert a new one above the highlighted entry. Figure 6-8 shows you an example of an Edit window with some selections made.
4	<p>Edit the pathname(s).</p> <p>Pathname shows the files to which this entry applies. You may use wildcards to include groups of files. To save typing time with long pathnames, choose View directory tree or press F8 to select a directory from the Directory Tree window.</p>
5	<p>Select the type of entry.</p> <p>Include means the files specified are selected for the Procedure.</p> <p>Exclude means the files specified are not selected for the Procedure.</p>

Step	Action
6	Select one or both file options. Dir: Include subdirectories includes/excludes all subdirectories. Chg: Only changed files includes/excludes only files that have changed.
7	Select one Date Range option for including/excluding files. (Type in specific dates for the last four options.) Any date On Before/on After/on Range

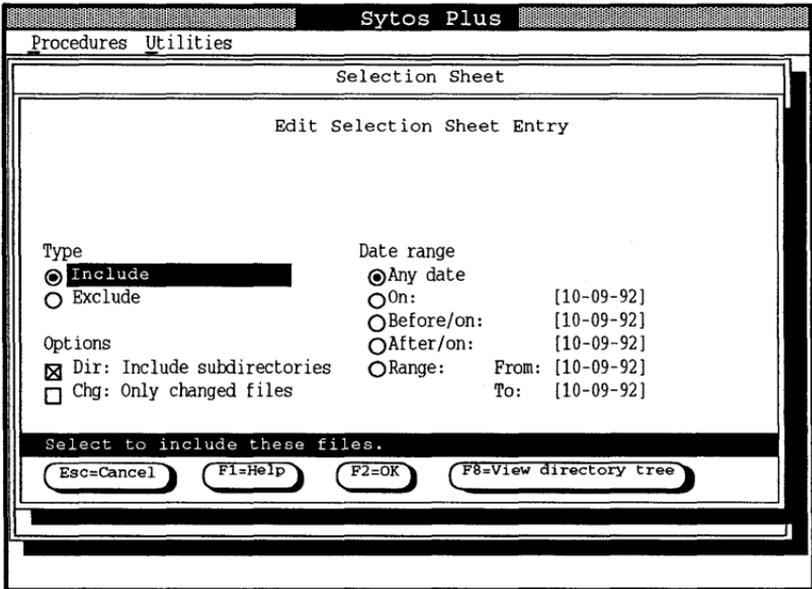


Figure 6-8 Editing a Selection Sheet entry

Step	Action
8	Choose OK or press F2 to accept the selections and return to the Selection Sheet window.
9	Repeat Step 2 through Step 8 until you are satisfied with all the entries.
10	Check your entries, then choose OK or press F2 .

Selecting a Backup Device

Description

If you have more than one backup device, use the following steps to select a backup device for the Move Procedure.

NOTE: *If you have only one backup device, Sytos Plus automatically selects it as the default backup device.*

Step	Action
1	Select Move to . . . from the main screen.
2	At the pop-up window, highlight a backup device from the list.
3	To confirm that the Volume you want is in the backup device, choose F8 to identify the Volume.
4	Select the backup device.
5	Choose F2 to accept the selection and return to the Edit Procedure window.

Selecting Options

Description

Options for a Move Procedure are the same as those available for a Backup Procedure, including options for:

- The Volume (the media, for example a tape, containing one or more Backup Sets).
- The Backup Set (the set of backed-up files each time a Procedure runs).

Figure 6-9 illustrates option settings for a Sample Move Procedure.

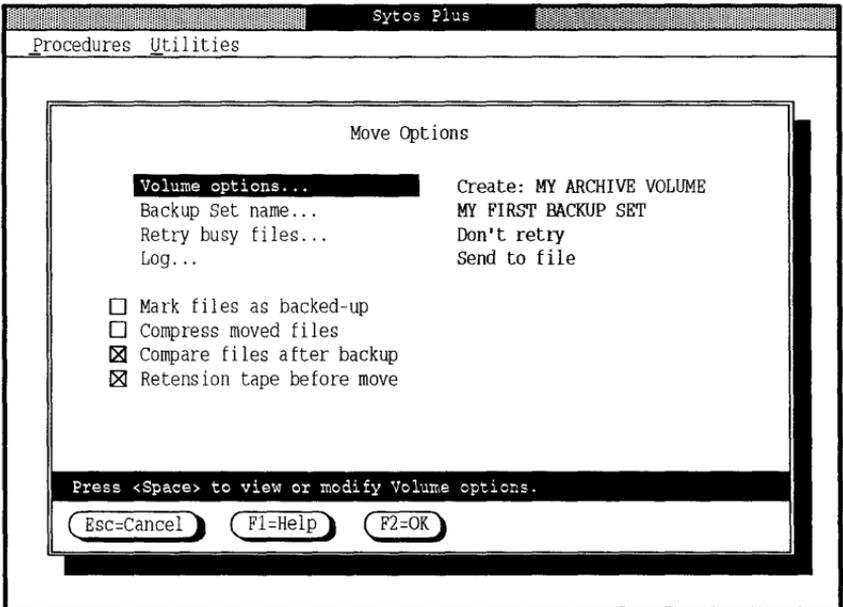


Figure 6-9 Selecting options for a Move Procedure

Selecting Volume Options

You can specify whether this Move Procedure should create a new Volume or append the files to an existing Volume.

At the Move Options window, if you select **Volume options**, a window pops up with several options. In Figure 6-10, you'll see an example of this window with several options selected.

Appending to an Existing Volume

Append to an existing Volume adds the Backup Set to an existing Volume. You cannot change the Volume options specified when the Volume was created.

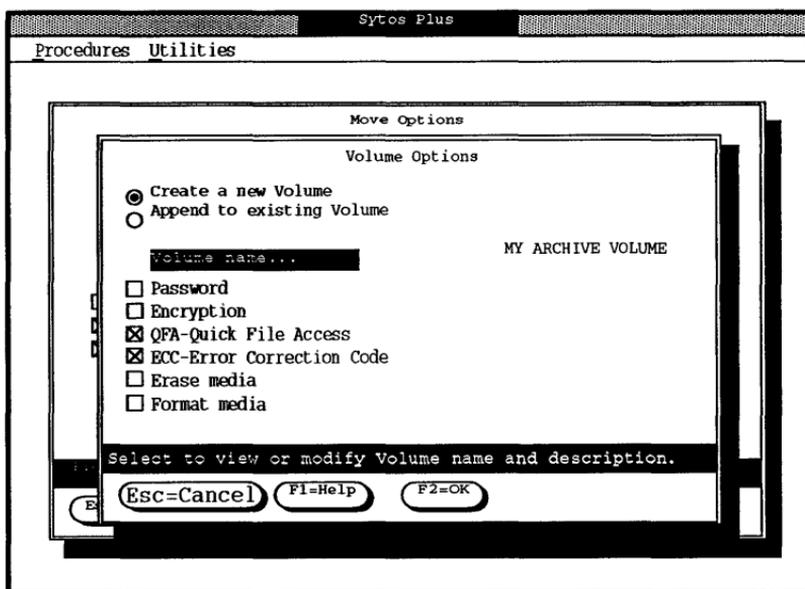


Figure 6-10 Selecting options for a Volume

You should append Backup Sets to an existing Volume when updating an Incremental Move. This allows you to keep successive versions of files in the same Volume.

Use the following steps to Append to an existing Volume.

Step	Action
1	Select Volume Options ... from the Move Options screen.
2	Choose Append to the existing Volume . The Backup Set of moved files is added to the existing Volume, using option settings specified when the Volume was created. When you choose Append, the other options become grayed, and are not selectable.
3	Choose F2 to close the window.

Creating a New Volume

Create a new Volume prepares a new Volume for the Backup Set with the Volume options you specified.

You should create a New Volume each time you run a Full Move Procedure. You should also create a new Volume for each Progressive Move Procedure. Create a new Volume overwrites the current contents of the backup media.

Use the following steps to create a new Volume and select Volume options.

Step	Action
1	Select Volume Options ... from the Move Options screen.
2	Choose Create a new Volume . The Volume options window appear.
3	Select the options for the Volume.
4	When finished, choose F2 to accept the selections and return to the Move Options window.

Volume Options

The available Volume options include:

- **Volume Name...**
- **Password**
- **QFA (Quick File Access)**
- **ECC (Error Correction Code)**
- **Erase media**
- **Format media**

Selecting Options for the Backup Set

For every Backup Set, you may choose several options. Use the following steps to choose options for the Backup Set.

Step	Action
1	Select the Backup set options from the Backup Options screen.
2	Choose the options you want to use. The options, listed below, are described in <i>Chapter 5: Backing Up Data</i> .
3	When finished, choose F2 .

Backup Set Options

The following options, described in detail in *Chapter 5, Backing Up Data*, are available for a Move Procedure:

- **Backup Set Name**
- **Retry busy files...**
- **Log...**
- **Mark files as backed-up**
- **Compress backed-up files**
- **Compare files after backup**
- **Retention tape before backup**

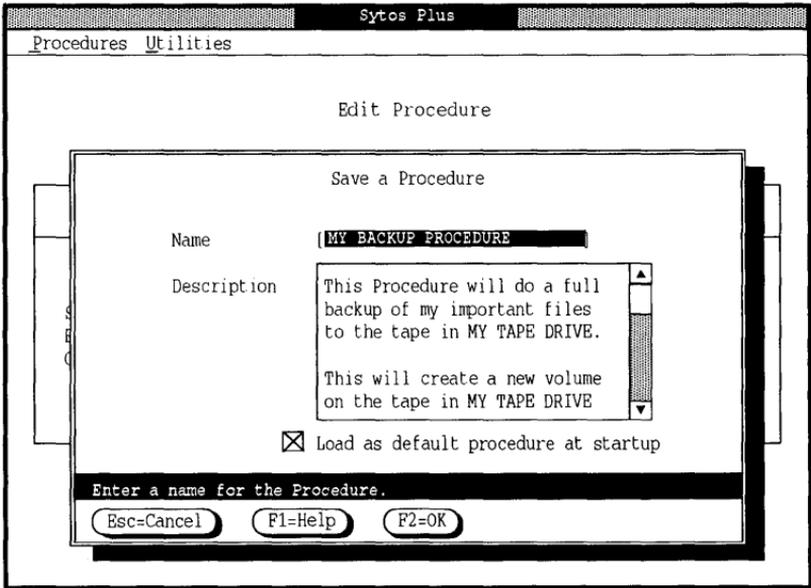


Figure 6-11 Saving a Procedure

Saving a Move Procedure

Description

Save the settings for a new Procedure you have created, or save the modifications to an existing Procedure that you have edited.

- **Save** saves edits to an existing Procedure under the current name.
- **Save as . . .** allows you to assign a new name and description to a Procedure.

NOTE: *If you are setting up a complex Procedure, you may want to save your work periodically.*

Use the following steps to Save a new or edited Procedure.

Step	Action
1	Open the Procedures menu by typing (Alt) + (P) .
2	<p>To save edits made to an existing Procedure under the current name, select Save... from the Procedures menu.</p> <p>To assign a new name and description to a Procedure, select Save as... from the Procedures menu. Figure 6-11 illustrates an example of the Save a Procedure window</p>
3	Enter a personalized name and description.
4	Choose (OK) or press (F2) to close the window and save the Procedure.

Previewing a Move Procedure

Description

Preview test-runs the loaded Procedure without copying or deleting files. It does not affect files or their attributes in any way.

NOTE: *You should use **Preview** before **Run** for new or edited Procedures or for those that have been imported from another system.*

Preview tells you:

- The number of files that Sytos Plus attempts to Move, and the space needed, so you can estimate the number of media you need for the Procedure.

Since files are not actually processed, Preview does not tell you:

- If files are busy.
- If files are damaged.
- If files are unmatched during the Compare process.

Estimating the Number of Tapes or Diskettes Needed

You may want to estimate the number of tapes or diskettes Sytos Plus will need during a Move Procedure by running a Preview of your Procedure. This will give you an idea of the total size of the files that will be processed. You can then compare this size to the capacity of your media and estimate the number of tapes or diskettes that you will need.

Running the Preview

Use the following steps to Preview a loaded Move Procedure.

Step	Action
1	Open the Procedures menu by typing (Alt) + (P) .
2	Select Preview from the Procedures menu. To stop the Preview before it is complete, choose (Stop Procedure) or press (F7) .

Step	Action
3	<p>To see more information about the files, choose View files or press F8 at the Status window.</p> <p>Viewing files during a Preview: If you view files while a previewing a Procedure, the Procedure pauses, then resumes when you return to the Status window.</p> <p>At the pop-up window, select Log and choose OK or press F2. The View Log window opens.</p> <p>NOTE: Busy files, Damaged files, and Unmatched files are grayed for a Preview. Unfound files is grayed unless the Preview reports unfound files.</p>
4	<p>At the View Log window, you may choose Print or press F4 to send the text to a text file and/or the printer. Choose Esc to close the View Log window.</p>
5	<p>When the Preview is complete, Sytos Plus displays a final status message. Choose OK or press F2 to close the prompt and return to the Preview window.</p>
6	<p>Choose Cancel or press Esc to close the Preview window.</p>

The Status Window Description

During **Preview** and **Run**, a Status window pops up to give you detailed information about the Procedure in progress. *Chapter 15: Reference*, describes the Status window and the information it provides.

Running a Move Procedure

Description

Use the following steps to run a loaded Move Procedure.

Step	Action
1	<p>Press F6 or select Run from the Procedures menu. (To open the Procedures menu, type Alt + P.)</p> <p>To stop the Procedure before it is complete, choose Stop Procedure or press F7. The Procedure may take a few moments to stop.</p> <p>Note that using Ctrl + C or Ctrl + Break does not stop the Procedure.</p>
2	<p>To see more information about the files, choose View files or press F8 at the Status window.</p> <p>Viewing files during a Procedure: If you view files while a Procedure is running, the Procedure pauses, then resumes when you return to the Status window.</p> <p>At the pop-up window, select an option and choose OK or press F2</p> <p>Log Busy Files Damaged Files Unmatched files Unfound files</p> <p>The View Log window opens.</p>
3	<p>At the View Log window, you may choose Print or press F4 to send the list to a text file and the printer. Choose Esc to close the View Log window.</p>
4	<p>When the Procedure completes, Sytos Plus displays a final status message. Choose OK or press F2 to close the prompt.</p>
5	<p>Choose Cancel or press Esc to close the Status window.</p>

Reviewing the Sytos Plus Log

Description

Review the Log of a completed Procedure to ensure that all files have been processed as specified.

The Log option allows you to:

- Review a completed Sytos Plus Procedure.
- Review possible error messages.
- Keep a text file or hardcopy printout that lists the files processed by selecting the **Processed Files** option under Log Options. The text file can accompany the backed-up files and provide a complete file listing of the contents of the media.

Once the Log has been reviewed and you are satisfied that the Procedure has completed successfully, you can delete the Log using the Log utility.

IMPORTANT: *If a Procedure is not successful for any reason, you can review the information in the Log to determine why it was unsuccessful, correct the problem, and then rerun the Procedure.*

It is important to review the Log to ensure that you have a successful and complete Move Procedure. In the case where you have moved files and later try to restore them because your original files have become damaged or deleted, your copy of the Move Procedure may be your only copy of those files.

Use the steps in the following table to review the Log.

Step	Action
1	Highlight Utilities... in the the Sytos Plus Startup screen and press Enter . The Utilities window appears, with a list of available utilities.
2	Highlight Logs... and press Enter . The Logs window appears. Figure 6-12 shows an example of a logs list. Highlight the Log for the completed Move Procedure.
3	Choose View or press F8 to view the highlighted Log.

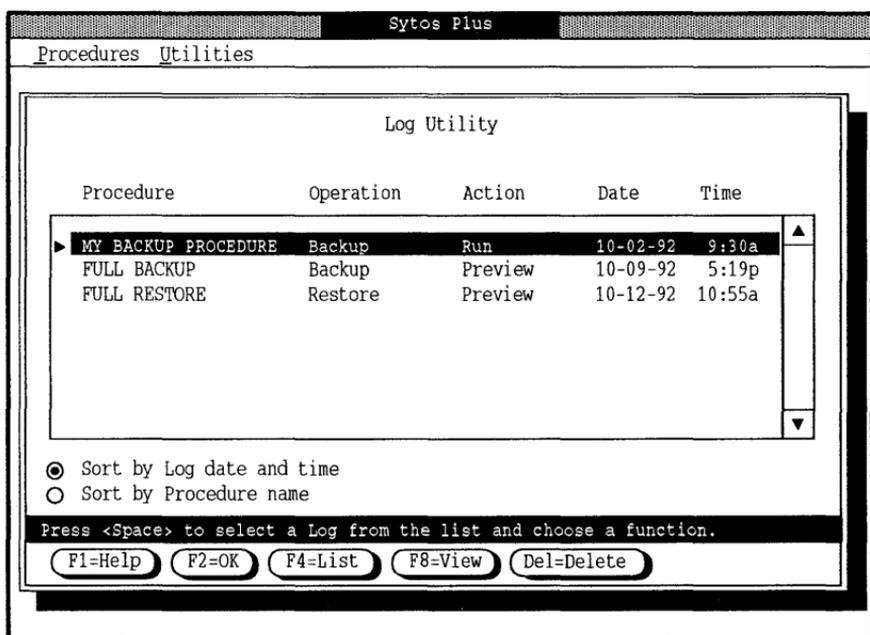


Figure 6-12 The Log Utility

Step	Action
4	<p>To print the contents of the Log, choose Print or press F4, then select one or both of the following options at the pop-up window.</p> <p>A text file sends the contents of the log to a disk file. Type a complete path and filename.</p> <p>The printer sends the contents of the log to the printer.</p>
5	Choose OK or press F2 to return to the Log Utility window.

Labeling Your Media

You should always clearly label media, as described in Chapter 5.



7

Comparing Data

Overview

Introduction

A Compare Procedure verifies that files were copied correctly during a Backup or Restore Procedure. It is important to Compare files and review the Log after a Backup or Restore Procedure is completed, to ensure that all files copied correctly. The Log will indicate whether any files did not match (copy correctly) during the Compare.

Creating a Compare Procedure involves selecting a backup device, Backup Sets, files, and options.

For additional information

Refer to these chapters for additional information:

- *Chapter 8: Restoring Data.* Step-by-step instructions for selecting files to restore or compare.
 - *Chapter 15: Reference.* Descriptions of all settings.
-

Concepts of Comparing Files

You can compare files using a separate Compare Procedure, for example after a Restore, or you can include Compare as an option during a Backup or Move Procedure.

IMPORTANT: You should **always** run a Backup or Restore **with Compare**, even though it takes longer, because you will know that your data is complete and accurate.

Using Compare after a Restore Procedure

A Compare Procedure is run separately after a Restore Procedure to compare the backed-up files to the restored files now on your system.

Using Compare during a Backup Procedure

To compare files during a backup, select **Compare files after backup** from the Backup Options window.

When you select **Compare files after backup** for a Backup Procedure, select **Log** as well. The Status line in the completed Status window shows the results of the Compare Procedure. There may be additional results from the Backup that you will want to check in the Log.

For example, if busy files were encountered during the Backup and therefore could not be backed up, they will not be listed as busy during the Compare Procedure. The busy files are not available to view from the Status window. If you select **Log**, you will see which files were busy during the Backup.

Using Compare for a Move Procedure

The Compare option is automatically set for Move Procedures, to ensure that the files have been copied correctly before being deleted. You cannot turn off the Compare option for a Move Procedure.

In this Chapter

This chapter provides step-by-step instructions to create and run a Compare Procedure, and includes the following topics:

Steps	Topic	See Page
1	Creating or Editing a Compare Procedure	7-3
2	Selecting a Backup Device and Backup Sets	7-6
3	Selecting Files to Compare	7-10
4	Selecting Options	7-11
5	Saving a Compare Procedure	7-14
6	Previewing a Compare Procedure	7-15
7	Running a Compare Procedure	7-17
8	Reviewing the Sytos Plus Log	7-18

Creating or Editing a Compare Procedure

Description

The Sytos Plus Startup screen provides the starting point for you to create a new Compare Procedure or edit an existing Compare Procedure.

NOTE: *If you have disabled the Sytos Plus Startup screen from the command line, Sytos Plus opens directly into the Edit Procedure window. In the Edit Procedure window, you can access the Procedures*

list by selecting the **Procedures** menu, and then selecting **Load** or **New**.

Creating a Compare Procedure

Use the following steps to create a Compare Procedure.

Step	Action
1	Start Sytos Plus by typing the following at your operating system prompt: SYPLUS and press Enter . The Sytos Plus Startup screen shown in Figure 7-1 appears.
2	Choose Compare... from the Sytos Plus Startup Screen. The Compare Procedures screen shown in Figure 7-2 opens.
3	Press Tab until Create a New Compare Procedure . . . is highlighted.
4	Press Enter . The Create Procedure window opens. To create a Compare Procedure, refer to instructions in this chapter beginning with the section "Selecting a Backup Device."

Editing a Compare Procedure

An existing Compare Procedure is one that you or someone else created previously. If you have recently installed Sytos Plus, it is possible that you do not have any existing Procedures.

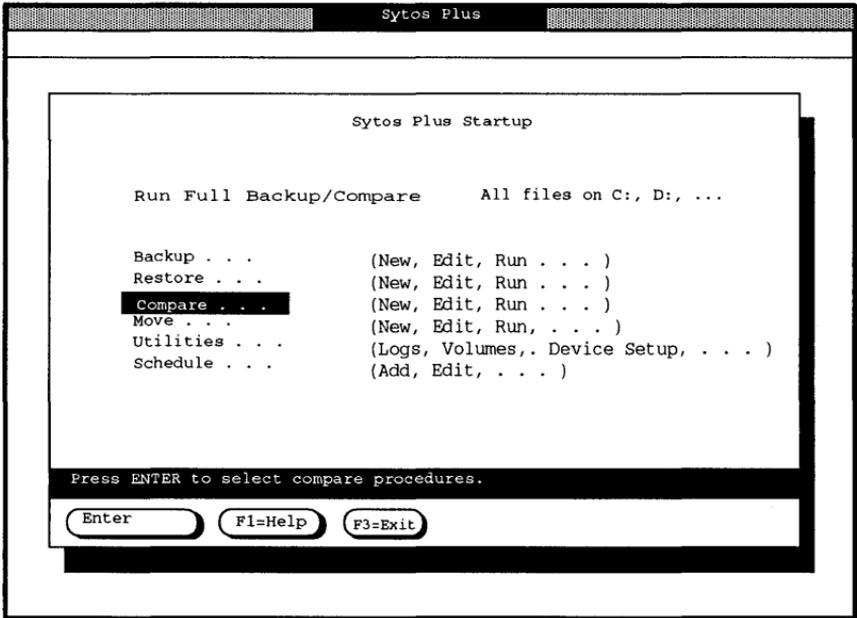


Figure 7-1 Sytos Plus Startup screen

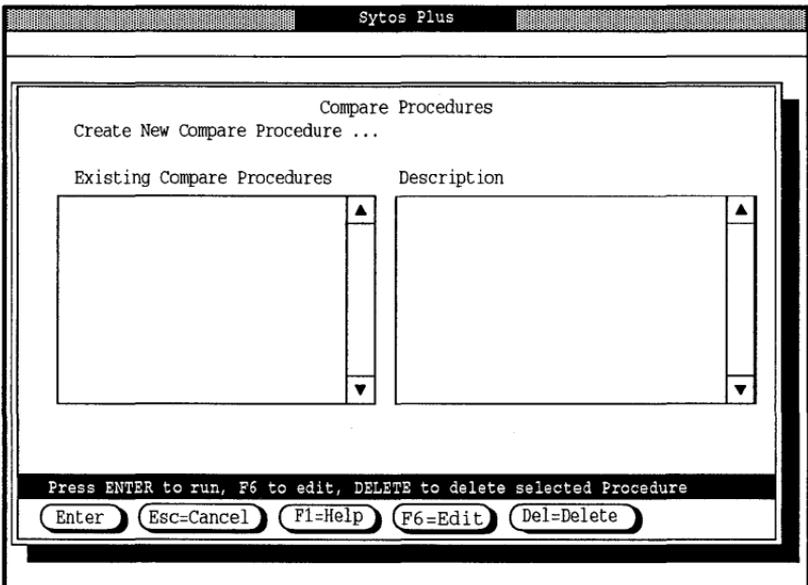


Figure 7-2 Compare Procedures window

Use the following steps to edit an existing Compare Procedure.

Step	Action
1	<p>Select Compare... from the Startup screen. The Compare Procedures window opens with a list of all of your Compare Procedures, as shown in Figure 7-2.</p> <p>If this is the first time you are using Sytos Plus, or no Compare Procedures have been created, the list box is empty.</p>
2	<p>Highlight the Procedure you want to load.</p> <p>Review the description displayed for the highlighted Procedure to be sure it is the Procedure you want to run.</p>
3	<p>Press F6 or Edit. The Edit Procedure window opens with the Procedure loaded.</p>
4	<p>Follow instructions in the next sections to select or edit settings for a Compare Procedure, "Selecting a Backup Device," "Selecting Files," and "Selecting Options."</p>

Selecting a Backup Device

Description

Before you can select files to compare, you need to specify the backup device where the files are located and specify the Backup Set(s) containing the files.

Step	Action
1	Insert the media containing the files you want to compare into the backup device.
2	Select Compare from . . . in the Edit Procedure window, shown in Figure 7-3.
3	At the pop-up window, highlight the backup device, containing the backup media.
4	<p>To identify the Volume currently loaded, choose View Volume Information or press (F8).</p> <p>When finished, choose Cancel or press (Esc) to return to the previous screen.</p>

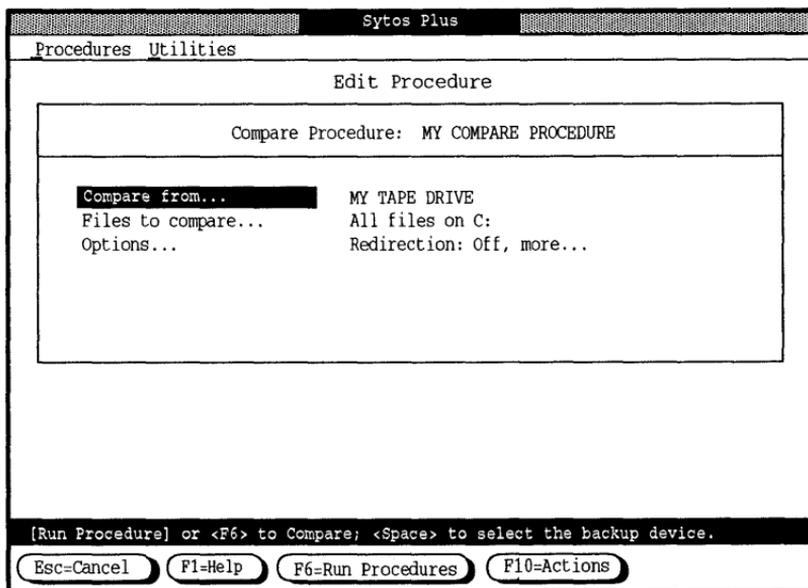


Figure 7-3 A loaded Compare Procedure

Step	Action
5	Use instructions in the following section to select Backup Sets.

Selecting Backup Sets

You can select all Backup Sets, the latest Backup Set, or specific Backup Sets from the Volume in the backup device.

Use the following steps to select Backup Sets.

Step	Action
1	In the Backup Device window, highlight the name of the backup device containing the Volume, and press Spacebar . A selection mark appears next to the device name.
2	<p>Press Enter to select between:</p> <ul style="list-style-type: none"> - All Backup Sets - Latest Backup Set <p>Specified Backup Sets shows you have selected Backup Set files from the Backup Sets window.</p> <p>When a backup device is not selected, the Backup Set field for the device is empty.</p>
3	To select specific Backup Sets, choose Backup Sets or press F5 to pop up the Backup Sets window. The list of Backup Sets displays each Backup Set name, and the date and time it was created. Figure 7-4 shows an example Backup Set window.

Step	Action
4	<p>To see more information about a particular Backup Set, highlight it and choose View Backup Set or press F8.</p> <p>When finished, choose Cancel or press Esc to return to the previous window.</p>
5	<p>Change the selections until you have chosen only those Backup Set(s) you want to Compare. To change selections, highlight the Backup Set and press Spacebar to select or deselect.</p>

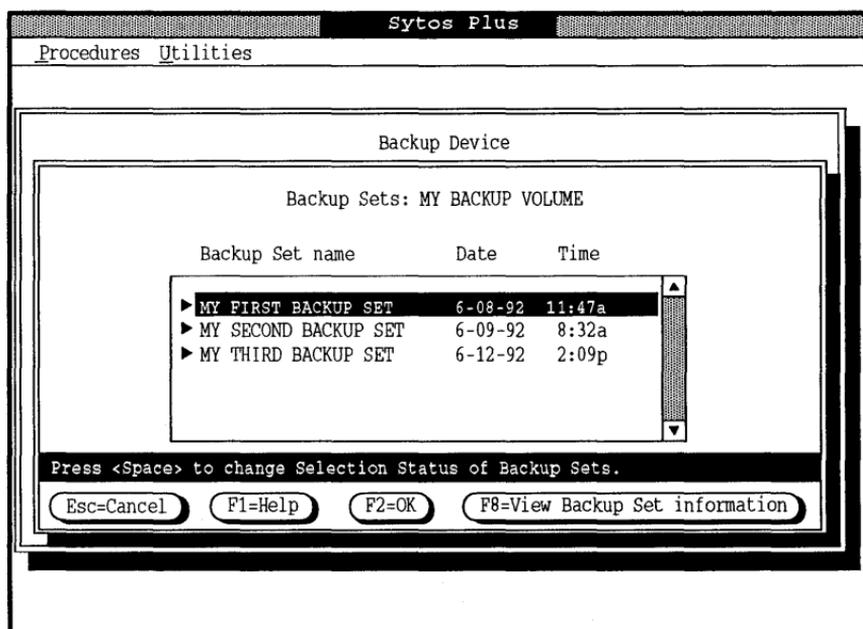


Figure 7-4 Selecting Backup Sets

Step	Action
6	Choose OK or press F2 to accept the Backup Set selections and close the window. NOTE: Backup Sets are compared consecutively from earliest to latest.

Selecting Files to Compare

Description

When you select files for a Compare Procedure, you select them from the Volume, rather than from the Source (hard disk). The files have the same names as the originals from which they were copied. For example, the backed up files will have the same source name, such as the C: drive, but they are actually on the Volume.

You can select files for a Compare Procedure in the following ways:

- At the Source level (for example, your local C: drive).
- At the Directory Level.
- At Individual File level.
- By DOS wildcard or a date range, using a Sytos Plus Selection Sheet.

Where to begin...

Selecting files to compare is similar to selecting files to restore. You select a backup device from which to compare files, Backup Set(s), and files just as you did for a Restore Procedure. Refer to "Selecting Files to Restore" in *Chapter 8: Restoring Data*.

When you run the Compare Procedure, Sytos Plus looks for the restored files on your system whose names are the same as those you have selected.

NOTE: *When comparing more than one Backup Set, any files that exist in different versions in multiple Backup Sets will not all match during the Compare. For example, when you Restore all Backup Sets, and then Compare them, only the latest version of a file in the Backup Sets needs to match the Restored file.*

Selecting Redirected Files for Compare

If you select files for a Compare Procedure after a Restore with redirection, you need to duplicate the entries you used for the Restore Procedure.

For example, if Joe gives you his sales report called:

C:\REPORTS\SALES.DOC

and you restore it as

C:\REPORTS\JOESFILE.DOC.

When you set up the Compare Procedure, you need to call the source pathname C:\REPORTS\SALES.DOC and call the redirected pathname C:\REPORTS\JOESFILE.DOC. This ensures that Sytos Plus knows which files it should compare. Otherwise, source files won't match redirected files because they now have different names.

Selecting Options

Description

Use the following steps to select options for a Compare Procedure.

Step	Action
1	<p>Select Options... from the Compare Procedure window. The Compare Options window shown in Figure 7-5 opens.</p> <p>Choose the options you want to use. Refer to the list of options on the following pages.</p>
2	<p>When finished, choose F2.</p>

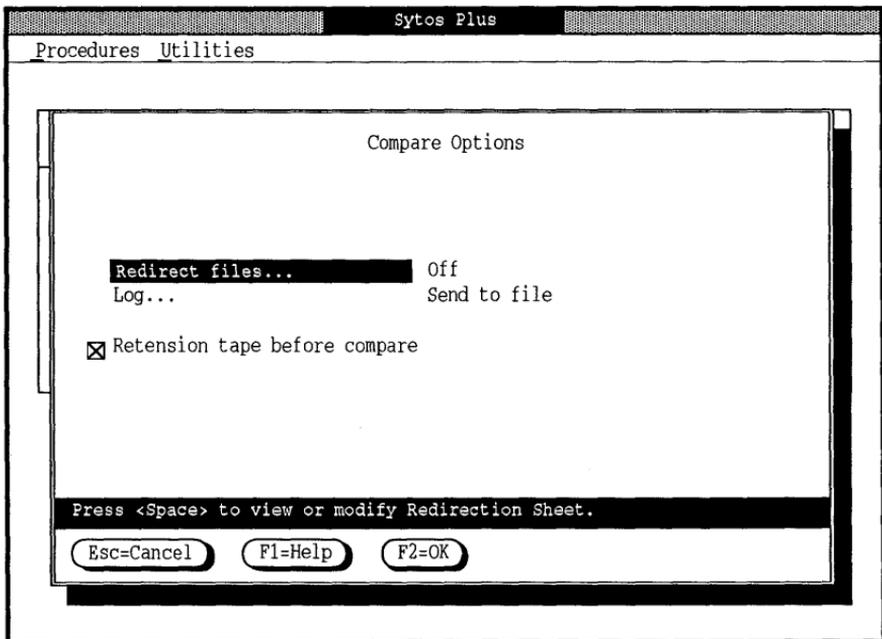


Figure 7-5 Compare Options

The options described in the following table are available to select for a Compare Procedure.

Option	Description
Redirect files...	<p>Allows you to compare files that were restored with redirection. At the pop-up window, you will need to use the same redirection settings specified during the Restore Procedure.</p>
Log ...	<p>Creates a record of the Procedure and any problems that occurred. At the pop-up window, you can add other information to the Log including:</p> <ul style="list-style-type: none"> - Selection Sheet for a copy of the Selection Sheet - Procedure Options to include a list of options selected for the Procedure - Processed files for a complete list of processed files. <p>We recommend sending the Log to a Sytos Plus text file rather than a printer when you run the Procedure. This will prevent any printer problems (for example, paper jams) from interfering with the Procedure's progress. You can then use the Log utility option in the Utilities menu to send the Log to a printer after the Procedure has run.</p> <p>IMPORTANT: We highly recommend selecting the Log option for all Procedures to give you a record of the results that you can review afterward.</p>
Retension tape before compare	<p>Adjusts the tape tension by fast-forwarding and rewinding the tape to make sure it is taut enough to compare information properly. Retension by itself does not change the information stored on the tape.</p> <p>Use this option for tapes that are new or that have not been used recently.</p> <p>NOTE: <i>This option is not supported by DAT Drives.</i></p>

Saving a Compare Procedure

Description

Save the settings for a new Procedure you have created, or save the modifications to an existing Procedure that you have edited.

- **Save** saves edits to an existing Procedure under the current name.
- **Save as . . .** allows you to assign a new name and description to a Procedure.

NOTE: *If you are setting up a complex Procedure, you may want to save your work periodically.*

Use the following steps to Save a new or edited Procedure.

Step	Action
1	Open the Procedures menu by typing (Alt) + (P) .
2	To save edits made to an existing Procedure under the current name, select Save . . . from the Procedures menu. To assign a new name and description to a Procedure, select Save as . . . from the Procedures menu. Figure 7-6 illustrates an example of the Save a Procedure window.
3	Enter a personalized name and description.
4	Choose (OK) or press (F2) to close the window and save the Procedure.

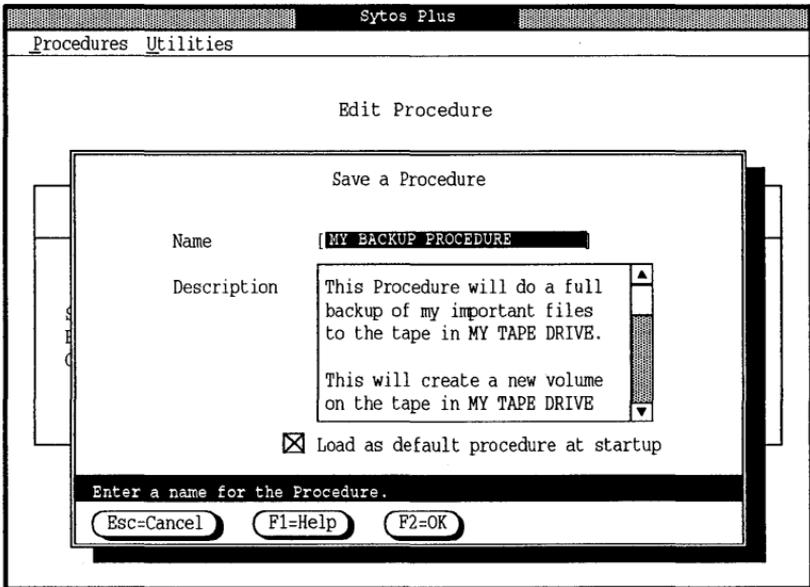


Figure 7-6 Saving a Procedure

Previewing a Compare Procedure

Description

Preview test-runs the loaded Procedure without copying or deleting files. It does not affect files or their attributes in any way.

NOTE: We recommend using **Preview** before **Run** for new or edited Procedures or for Procedures that have been imported from another system.

Preview tells you:

- The number of files that Sytos Plus will attempt to Compare.

Since files are not actually processed, Preview does not tell you:

- If files are busy.

- If files are damaged.
- If files are unmatched during the Compare process.

Running the Preview

Use the following steps to Preview a Compare Procedure.

Step	Action
1	Open the Procedures menu by typing [Alt] + [P] .
2	Select Preview from the Procedures menu to start previewing the loaded Procedure. The Preview status window opens. To stop the Procedure before it is completed, choose [Stop Procedure] or press [F7] .
3	To see more information about the files, choose [View files] or press [F8] at the Status window. Viewing files during a Preview: If you view files while previewing a Procedure, the Procedure pauses, then resumes when you return to the Status window. At the pop-up window, select Log from the options and choose [OK] or press [F2] . The View Log window opens. NOTE: <i>Busy files, Damaged files, and Unmatched files are grayed for a Preview. Unfound files is grayed unless the Preview reports unfound files.</i>
4	At the View Log window, you may choose [Print] or press [F4] to send the list to a text file and/or the printer. Choose [Esc] to close the View Log window.

Step	Action
5	When the Preview is complete, Sytos Plus displays a final status message. Choose OK or press F2 to close the prompt and return to the Preview status window.
6	Choose Cancel or press Esc to close the Preview status window.

The Status Window Description

During **Preview** and **Run**, a Status window pops up to give you detailed information about the Procedure in progress. *Chapter 15: Reference*, describes the Status window and the information it provides.

Running a Compare Procedure

Description

Use the following steps to run your loaded Compare Procedure.

Step	Action
1	<p>Press F6 or select Run from the Procedures menu. (To open the Procedures menu, type Alt + P.)</p> <p>To stop the Procedure before it is completed, choose Stop Procedure or press F7. The Procedure may take a few moments to stop.</p> <p>Note that using Ctrl + C or Ctrl + Break does not stop the Procedure.</p>

Step	Action
2	<p>To see more information about the files, choose View files or press F8 at the Status window.</p> <p>Viewing files during a Procedure: If you view files while a Procedure is running, the Procedure pauses, then resumes when you return to the Status window.</p> <p>At the pop-up window, select an option: Log Busy Files Damaged Files Unmatched files Unfound files</p> <p>The View Log window opens.</p>
3	<p>At the View Log window, you may choose Print or press F4 to send the text to a text file and/or the printer. Choose OK or press F2 to close the prompt.</p>
4	<p>Choose Cancel or press Esc to close the Status window.</p>

Reviewing the Sytos Plus Log

Description

Review the Log of a completed Procedure to ensure that all files have been processed as specified.

The Log option allows you to:

- Review a completed Sytos Plus Procedure.
- Review possible error messages.
- Keep a text file or hardcopy printout that lists the files processed by selecting the **Processed files** option under Log options. The text file can

accompany the backed-up files and provide a complete file listing of the contents of the media.

Once the Log has been reviewed and you are satisfied that the Procedure has completed successfully, you can delete the Log using the Log utility.

IMPORTANT: *If a Procedure is not successful for any reason, you can review the information in the Log to determine why it was unsuccessful, correct the problem, and then rerun the Procedure.*

Review the Log to ensure that your backup media or your system contains complete and correct information in case you need to access those files later.

If your Compare fails, you need to re-run your Backup or Restore Procedure.

Use the following steps to review the Log.

Step	Action
1	Highlight Utilities... in the Sytos Plus Startup screen and press Enter . The Utilities window appears.
2	Highlight Logs... and press Enter . The Log Utility window appears. Figure 7-7 shows an example of a logs list. Highlight the Log for the completed Backup Procedure.
3	Choose View or press F8 to view the highlighted Log.

Step	Action
4	<p>To print the contents of the Log, choose (Print) or press (F4), then select one or both of the following options at the pop-up window.</p> <p>A text file sends the contents of the Log to a disk file. Type a complete path and filename.</p> <p>The printer sends the contents of the Log to the printer.</p>
5	Choose (OK) or press (F2) to return to the Log Utility window.

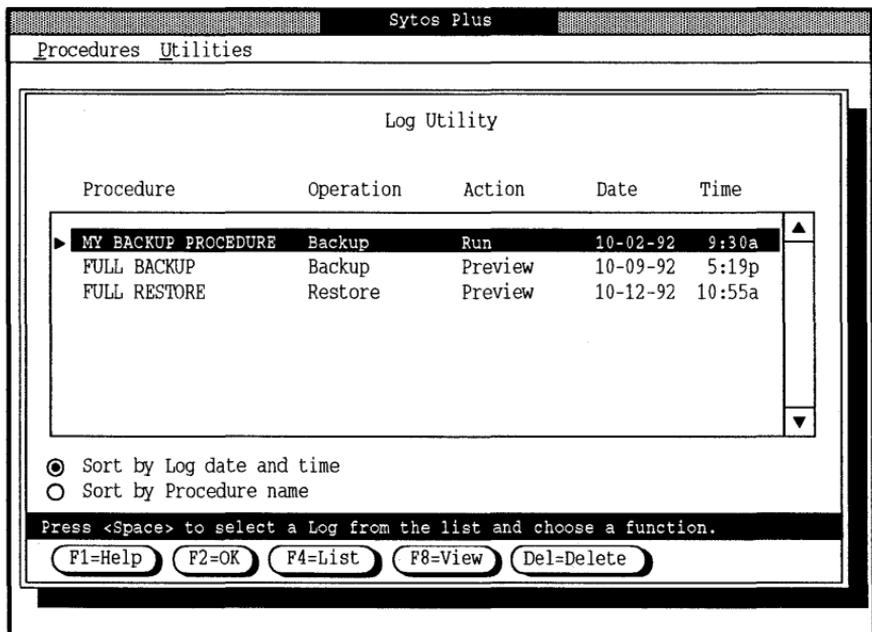


Figure 7-7 The Log Utility window



8

Restoring Data

Overview

Introduction

A Restore Procedure copies files from a backup device to your fixed disk. Restore Procedures are used most often when:

- You want to restore your files (for example, they have become damaged or were deleted accidentally).
- You want to copy files from another system.

Creating a Restore Procedure involves selecting a backup device, Backup Sets, files, and options.

For additional information

Refer to these chapters for additional information:

Chapter 9: Full System or Network Restore. Step-by-step instructions to accomplish a full restore of your system or network to its previous state.

Chapter 12: Network Considerations. For additional information if you are restoring files in a network environment.

Chapter 13: Backup Strategies. Backup strategies and how they affect restoring files.

Chapter 15: Reference. Detailed descriptions of all menus and settings.

Concepts of Restoring Files

Restore Procedures are used most commonly when you need to re-create files that have become damaged or have been deleted from their original location. However, Restore Procedures can also be used to distribute files across systems.

NOTE: *We do not recommend scheduling Restore Procedures, or running a Restore in Unattended mode. A Restore could overwrite your files.*

Restoring Files

Using a Restore Procedure, you can restore any amount of data that you have backed up: you can restore a single file, or restore your entire system or network to its previous state.

Distributing Files across Systems

Sytos Plus features assist you in transporting files to systems other than the one from which files were originally backed up. You first back up the desired files and then use Sytos Plus to restore them to another system. Using Sytos Plus, you can exchange files across operating systems.

IMPORTANT: *Be careful when restoring operating system program files to a fixed disk which is running a different version of the operation system. You may inadvertently overwrite configuration information with older information.*

Restoring Files to a Different Location

Restore Procedures offer a Redirect files option which allows you to change the names or locations of the files being

restored in order to place them in directories appropriate for that system.

In this Chapter

This chapter includes the following topics:

Steps	Topic	See Page
1	Using a Sample Restore Procedure	8-3
2	Creating or Editing a Restore Procedure	8-5
3	Selecting a Backup Device and Backup Sets	8-8
4	Selecting Files to Restore	8-10
5	Selecting Options	8-20
6	Saving a Restore Procedure	8-28
7	Previewing a Restore Procedure	8-29
8	Running a Restore Procedure	8-32
9	Reviewing the Sytos Plus Log	8-33

Using a Sample Restore Procedure

Description

Sytos Plus provides a sample Full Restore Procedure that you can run as is or modify. This section provides instructions to run the sample Full Restore Procedure. If you want to customize a Procedure, you can skip this section and go to "Creating or Editing a Restore Procedure."

Use the following steps to start Sytos Plus and run the sample Restore Procedure.

NOTE: *If you have disabled the Sytos Plus Startup screen from the command line, Sytos Plus opens directly into the Edit Procedure window. In the Edit Procedure window, you can access the Procedures list by selecting the **Procedures** menu, and then selecting **Load**.*

Step	Action
1	<p>Start Sytos Plus by typing the following at your operating system prompt:</p> <p>SYPLUS</p> <p>and press Enter. The Sytos Plus Startup screen shown in Figure 8-1 appears.</p>
2	<p>Choose Restore... from the Startup Screen. The Restore Procedures screen shown in Figure 8-2 opens. Highlight the sample Restore Procedure:</p> <p>Full Restore</p> <p>Review the description displayed for the highlighted Procedure to be sure it is the Procedure you want to run.</p>
3	<p>Insert the appropriate backup media, containing the files you wish to restore, into your backup device.</p>
4	<p>Press Enter to run the Procedure.</p>

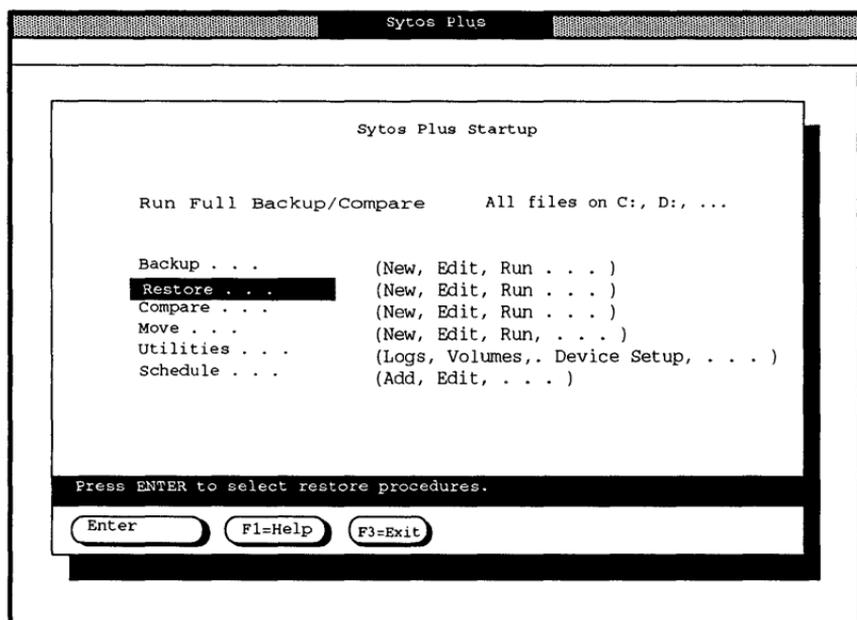


Figure 8-1 Sytos Plus Startup screen

Creating or Editing a Restore Procedure

Description

The Sytos Plus Startup screen provides the starting point for you to create a new Restore Procedure or edit a Restore Procedure.

NOTE: *If you have disabled the Sytos Plus Startup screen from the command line, Sytos Plus opens directly into the Edit Procedure window. In the Edit Procedure window, you can access the Procedures list by selecting the **Procedures** menu, and then selecting **Load** or **New**.*

Creating a Restore Procedure

Use the following steps to create a Restore Procedure.

Step	Action
1	Type the following at your operating system prompt: SYPLUS and press Enter . The Sytos Plus Startup screen shown in Figure 8-1 appears.
2	Choose Restore... from the Startup Screen and press Enter . The Restore Procedures window shown in Figure 8-2 opens.
3	Press Tab until Create a New Restore Procedure. . . is highlighted.
4	Press Enter . The Create Procedure window opens. To create a Restore Procedure, refer to instructions in this chapter beginning with the section "Selecting a Backup Device."

Editing a Restore Procedure

An existing Restore Procedure is a sample Sytos Plus Procedure, or one that you previously created. You can modify the settings of any existing Procedure.

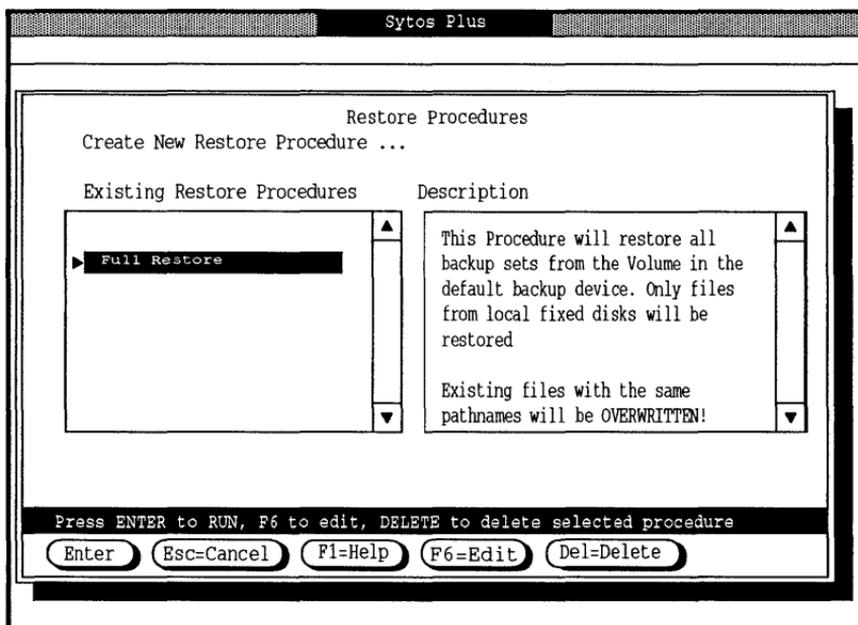


Figure 8-2 The Restore Procedures window

Use the following steps to modify a Restore Procedure.

Step	Action
1	Select Restore. . . from the Sytos Plus Startup screen. The Restore Procedures window opens with a list of Restore Procedures, as shown in Figure 8-2.
2	Highlight the Procedure you want to edit. Press F6 or Edit . The Edit Procedure window opens with the Procedure loaded.
3	Follow the instructions in the next sections to change the selections for the Procedure: "Selecting a Backup Device," "Selecting Files," and "Selecting Options."

Selecting a Backup Device

Description

Before you can select files to Restore, you need to specify the backup device where they are located and the Backup Set(s) containing the files.

Use the following steps to select the backup device from which to restore.

Step	Action
1	Insert the media, containing the files you want to Restore, into the backup device.
2	Select Restore from . . . in the Edit Procedure window.
3	At the pop-up window, highlight the backup device containing the media.
4	To identify the Volume currently loaded, choose View Volume Information or press F8 . When finished, choose Cancel or press Esc to return to the previous screen.
5	Use instructions in the following section to select Backup Sets.

Selecting Backup Sets

You can select all Backup Sets, the latest Backup Set, or specific Backup Sets from the Volume in the backup device. Use the following steps.

Step	Action
1	<p>In the Backup Device window, highlight the name of the device containing the Volume, and press [Spacebar]. A selection mark appears next to the device name.</p>
2	<p>Press [Enter] to select between:</p> <ul style="list-style-type: none"> - All Backup Sets - Latest Backup Set. <p>Specified Backup Sets shows that you have selected Backup Set files from the Backup Sets window.</p> <p>When a backup device is not selected, the Backup Set field for the device is empty.</p>
3	<p>To select specific Backup Sets, choose [BackupSets] or press [F5] to pop up the Backup Sets window. The list displays each Backup Set name, and the date and time it was created. Figure 8-3 shows an Example Backup Sets window.</p>
4	<p>To see more information about a particular Backup Set, choose [View Backup Set] or press [F8].</p> <p>When finished, choose [Cancel] or press [Esc] to return to the previous window.</p>
5	<p>Change the selections until you have chosen only those Backup Set(s) you want to Restore. To change selections, highlight the Backup Set and press [Spacebar] to select or deselect.</p>
6	<p>Choose [OK] or press [F2] to accept the Backup Set selections and close the window.</p> <p>NOTE: Backup Sets are restored consecutively from earliest to latest.</p>

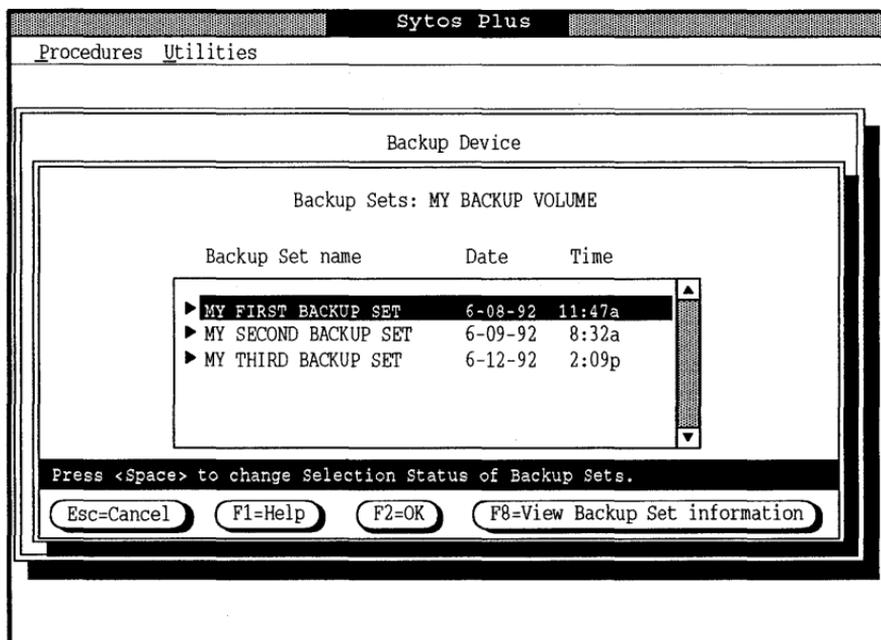


Figure 8-3 Selecting Backup Sets

Selecting Files to Restore

Description

When you select files for a Restore Procedure, you select them from the Volume on the backup media, rather than from the Source (hard disk). The files have the same names as the originals from which they were copied. For example, the backed up files will have the same source name, such as the C: drive, but they are actually on the Volume.

You can select files for a Restore Procedure from the Sytos Plus windows, in the following ways:

- At the Source level (for example, your local C: drive).
- At the Directory Level.
- At Individual File level.

- By DOS wildcard or a date range, using a Sytos Plus Selection Sheet.

Advantages of Using Selection Sheets

Using Selection Sheets for selecting files can be faster and more flexible than selecting files from windows.

- **Faster File Selection.** Selection Sheets contain abbreviated instructions for selecting files, so a one-line entry can equal multiple selections from the file selection windows. In addition, you can edit a Selection Sheet to modify selections made from these windows.
- **Selection of Future Files.** Selection Sheets can select files by date ranges or wildcards, so they can include files that haven't been created yet. From the Files window, you have to select each of these files individually and any files that you create in the future won't be included.
- **File Selection with Wildcards.** With Selection Sheets, you can select groups of files using wildcards (for example, including C:*.DOC selects all the files on C: that end with the extension DOC).
- **File Selection with Date Ranges.** You can select files within certain date ranges using a Selection Sheet. This is not an option when you select files from windows.

You can also specify a Selection Sheet file from the command line, as described in "Command Line Operations" in *Chapter 10: Scheduling and Running Procedures*.

Where to begin...

Start by highlighting **Files to Restore...** in the Restore Procedure window, shown in Figure 8-4.

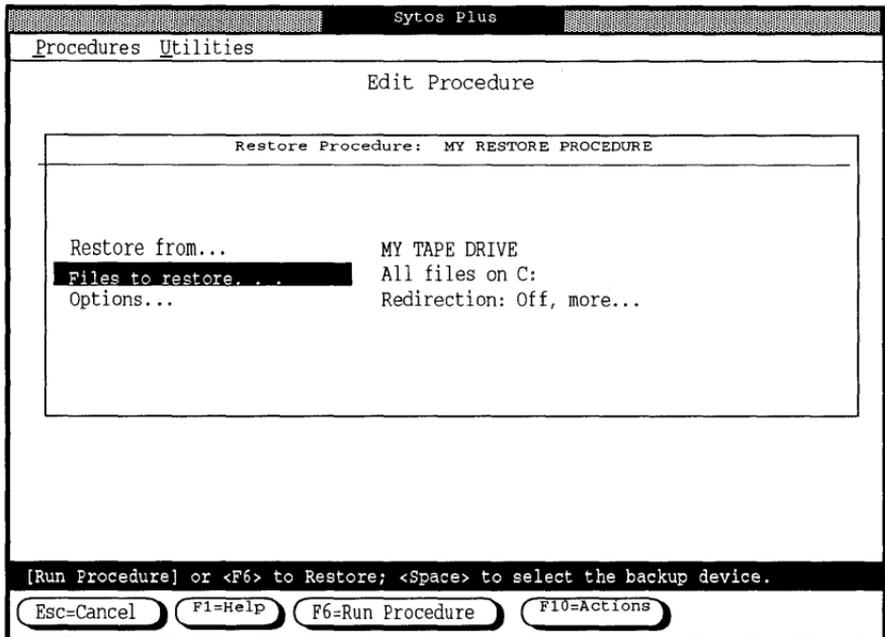


Figure 8-4 A loaded Restore Procedure

The message to the right of **Files to Restore...** shows one of the following as the current file selections:

- **All files.** All files on the listed drives.
- **Only changed files.** Files that have been changed or created since your last Backup.
- **No files selected.** No files currently selected.
- **Specified files.** Specific files have been selected from the file selection windows and/or the Selection Sheet.

Selecting Files at the Source Level

Select **Files to Restore...** to pop up the Source Files window, shown in in Figure 8-5.

Use the following steps to select a Source and its files:

Step	Action
1	<p>In the Source Files window, highlight the Source and press [Spacebar] to select All files, Only changed files, or Not selected.</p> <p>If you see the message Specified files in this field, you or someone else has previously chosen specific files. Changing the Specified files setting cancels those selections. Check which files are selected before overriding the selections by choosing [Selection Sheet] or pressing [F8].</p>
2	Repeat Step 1 for every Source you want to select.
3	Choose [F2] to accept the selections.

The example in Figure 8-5 shows that **All files** on the C: drive are selected to include in this Procedure.

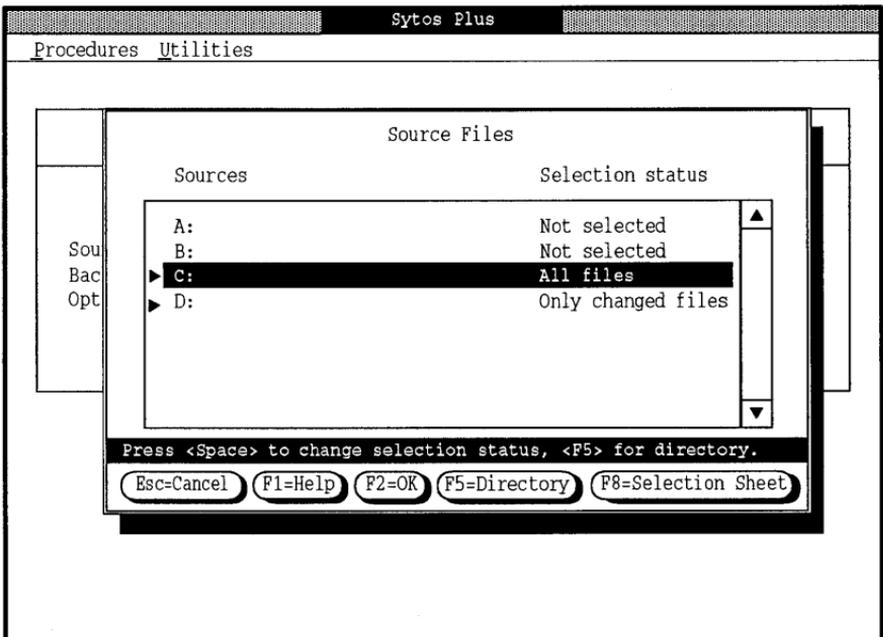


Figure 8-5 Selecting a Source and its files

Selecting Files at the Directory Tree Level

To select a specific directory and its files, highlight its Source, (the drive where it is located) and choose **Directory** or press **F5** to pop up the Directory Tree window. Figure 8-6 shows you an example of a Directory Tree window with a variety of files selected.

Use the following steps to select a directory and files:

Step	Action
1	In the Directory Tree window (Figure 8-6), highlight a directory and press Spacebar to select All files, Only changed files, or Not selected .
2	Repeat Step 1 for every directory you want to select.
3	Choose F2 to accept the selections and close the Directory Tree window.

Selecting Individual Files

To select an individual file, highlight its directory and choose **Files** or press **F5** to pop up the Files window. Figure 8-7 shows examples of files with a range of selections already made.

This window has several elements:

- **Filename** is the name of the file.
- Under **Chg**, a checkmark (✓) shows that the file has been changed or created since the last Backup.
- **Attributes** lists the file's date, time, and size.
- **Selection status** shows whether the file will always be **Selected**, selected **Only if changed**, or **Not selected** whenever this Procedure is run.

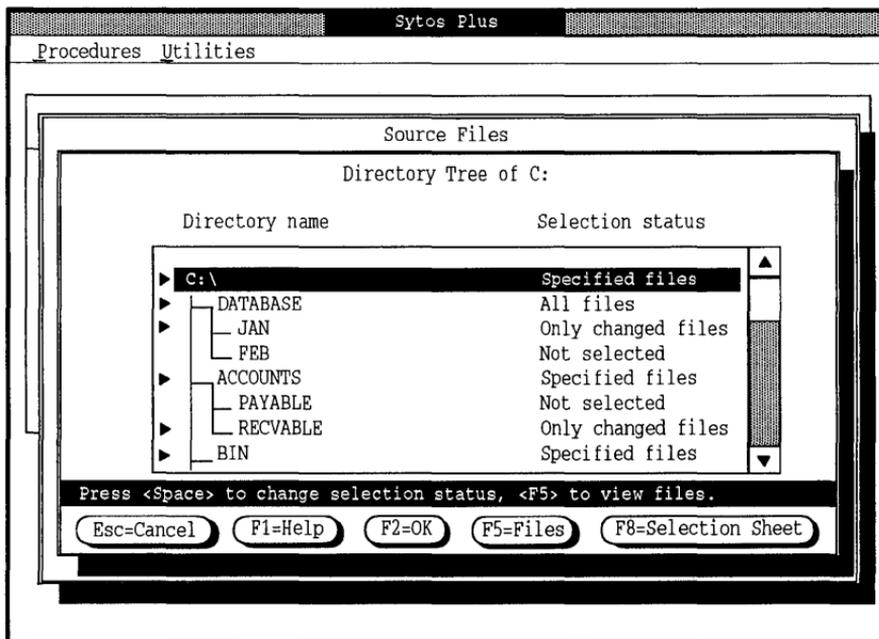


Figure 8-6 Selecting a directory and files

Use the following steps to select individual files.

Step	Action
1	In the Files window (Figure 8-7), highlight the file and choose Selected , Only if changed , or Not selected .
2	Repeat Step 1 for every file you want to select.
3	Choose (F2) to accept the selections and close the window. Choose (F2) again to close the Directory Tree window, and once again to close the Source Files window.

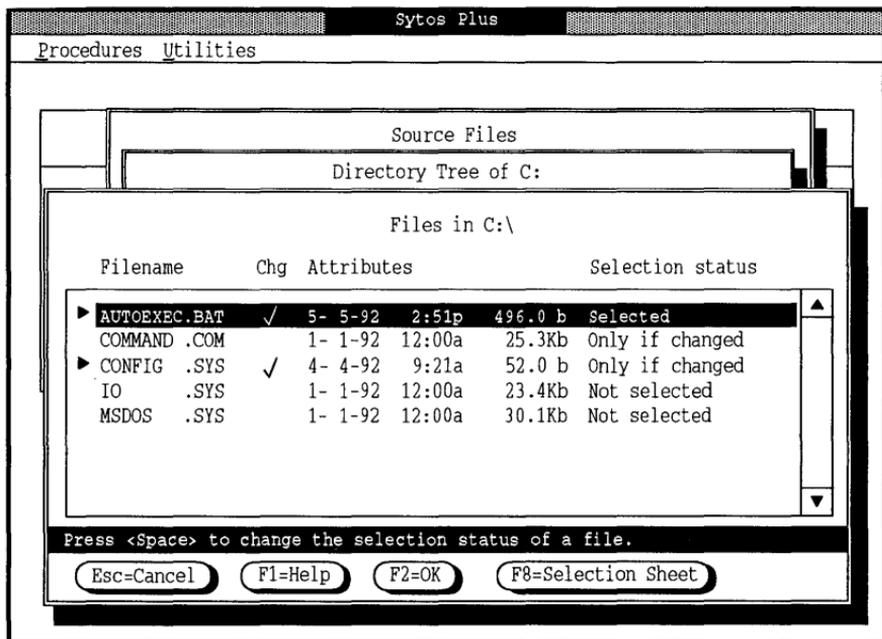


Figure 8-7 Selecting individual files

Selecting Files Using Selection Sheets

A Selection Sheet allows you to select files and/or subdirectories using wildcards (for example, * and ?), by date ranges, or by changed status to bypass the process of selecting files from windows.

A Selection Sheet shows which files should be included in a Procedure. Figure 8-8 is an example of a Selection Sheet. When you choose files from the file selection windows, Sytos Plus builds a Selection Sheet in the background. By choosing **Selection Sheet** or pressing **F8** from any of these windows, you can view or edit the Selection Sheet for your Procedure.

NOTE: When selecting files for a Procedure, Sytos Plus uses the Universal Naming Convention (UNC) for the filename wildcard "*". In some cases, using the wildcard may give you a greater number

of files than you want to select. For example, selecting filename **1.** or **1** will give you all filenames, not just those names containing a number 1. Using the wildcard *"*"* by itself gives you all files in that directory.

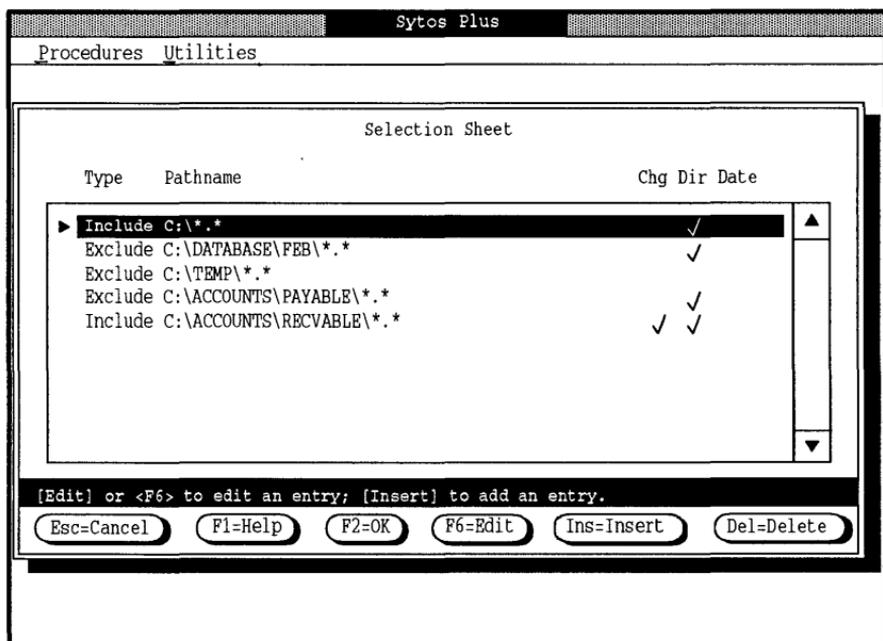


Figure 8-8 Example Selection Sheet

Editing a Selection Sheet

The Edit command changes the highlighted entry. The Insert command adds a new entry above the highlighted one.

NOTE: A Selection Sheet is read from top to bottom, and an entry inserted in the middle of the sheet may be affected by an entry below it. Insert new entries at the bottom of the Selection Sheet.

Use the following steps to edit a Selection Sheet.

Step	Action
1	<p>From any of the file selection windows, choose Selection Sheet or press F8 to see the Selection Sheet with its current file selections.</p>
2	<p>Each line on the sheet represents one entry. Select an entry from the list and use the function keys at the bottom of the window to edit or delete the entry. Refer to Figure 8-8.</p> <p>If a pathname can't fit in a column, the middle of the name is replaced with an ellipsis (. . .).</p>
3	<p>Choose Edit or press F6 to edit the highlighted entry; choose Insert to insert a new one above the highlighted entry.</p> <p>The Edit Selection Sheet window opens. Figure 8-9 shows you an example of an Edit window with some selections made.</p>
4	<p>Edit the pathname(s). Pathname shows the files to which this entry applies. You may use wildcards to include groups of files. To save typing time with long pathnames, choose View directory tree or press F8 to select a directory from the Directory Tree window.</p>
5	<p>Select the type of entry.</p> <p>Include means the files specified will be selected for the Procedure.</p> <p>Exclude means the files specified will <i>not</i> be selected for the Procedure.</p>
6	<p>Select one or both file options.</p> <p>Dir: Include subdirectories includes/excludes all subdirectories.</p> <p>Chg: Only changed files includes/excludes only files that have changed.</p>

Sytos Plus	
Procedures	Utilities
Selection Sheet	
Edit Selection Sheet Entry	
Type	Date range
<input checked="" type="radio"/> Include	<input checked="" type="radio"/> Any date
<input type="radio"/> Exclude	<input type="radio"/> On: [10-09-92]
	<input type="radio"/> Before/on: [10-09-92]
	<input type="radio"/> After/on: [10-09-92]
Options	<input type="radio"/> Range: From: [10-09-92]
<input checked="" type="checkbox"/> Dir: Include subdirectories	To: [10-09-92]
<input type="checkbox"/> Chg: Only changed files	
Select to include these files.	
<input type="button" value="Esc=Cancel"/> <input type="button" value="F1=Help"/> <input type="button" value="F2=OK"/> <input type="button" value="F8=View directory tree"/>	

Figure 8-9 Editing a Selection Sheet entry

Step	Action
7	Select one Date Range option for including/excluding files. (Enter specific dates for the last four options). Any date On Before/on After/on Range
8	Choose OK or press F2 to accept the selections and return to the Selection Sheet window.
9	Repeat Steps 2 through Step 8 until you are satisfied with all the entries.
10	Check your entries, then choose OK or press F2 .

Selecting Options

Description

You can use the default options, or change them to meet your requirements.

NOTE: *We recommend always selecting the Log option. The Log records the results of a Procedure that you can review.*

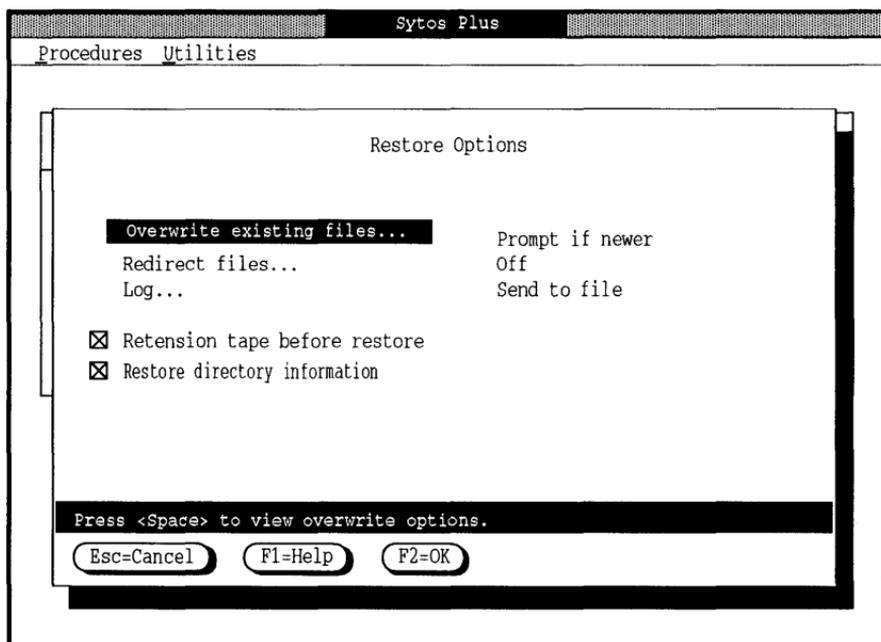


Figure 8-10 Selecting options for a Restore Procedure

Use the following steps to select options for a Restore Procedure.

Step	Action
1	<p>Select Options... from the Restore Procedure screen. The Restore Options window shown in Figure 8-10 opens.</p> <p>Choose the options you want to use. Refer to the list of options on the following pages.</p>
2	<p>When finished, choose F2.</p>

The options described in the following table are available for a Restore Procedure.

Option	Description
<p>Overwrite existing files...</p>	<p>Determines what Sytos Plus should do if a file being restored encounters a file on your system with the same name.</p> <p>The default setting is Prompt before overwriting new files.</p> <p>At the pop-up window, choose one option:</p> <p>Overwrite existing files - always overwrites existing files without prompting.</p> <p>Never overwrite existing files - never overwrites existing files.</p> <p>Prompt before overwriting new files - prompts before overwriting files on the hard drive that are newer than the files that are being restored.</p> <p>Prompt before overwriting existing files - prompts before overwriting any file on disk that has the same name as the file being restored.</p> <p>When restoring files to a server, make sure that users are not using files that you want to restore, since files that are open cannot be overwritten.</p>

Option	Description
<p>Redirect files...</p>	<p>A powerful data distribution tool that allows you to copy files to another name or location when they are restored; for example, to restore files from another system that were backed-up from drives that do not exist on your system.</p> <p>Redirection is described in the next section, "Restoring Files to a Different Location."</p>
<p>Log ...</p>	<p>Creates a record of the Procedure and any problems that may have occurred. At the pop-up window, you can add other information to the Log, including:</p> <ul style="list-style-type: none"> - Selection Sheet for a copy of the Selection Sheet - Procedure Options to include a list of options selected for the Procedure - Processed Files for a complete list of all Processed files. <p>We recommend sending the Log to a Sytos Plus text file rather than a printer when you run the Procedure. This will prevent any printer problems (for example, paper jams) from interfering with the Procedure's progress. You can then use the Log utility option in the Utilities menu to send the Log to a printer after the Procedure has run.</p> <p>IMPORTANT: <i>We highly recommend selecting the Log option for all Procedures to give you a record of the results that you can review afterward.</i></p>

Option	Description
Retension tape before restore	<p>Adjusts the tape tension by fast-forwarding and rewinding the tape to make sure it is taut enough to compare information properly. Retension by itself does not change the information stored on the tape.</p> <p>Use this option for tapes that are new or that have not been recently used.</p> <p>NOTE: <i>This option is not supported by DAT drives.</i></p>
Restore directory information	<p>Allows you to restore directory information (for example Trustees and access rights) along with file information.</p> <p>If you do not select the Restore directory information option, only your file information is restored. This option also restores empty directories.</p> <p>NOTE: <i>Sytos Plus may not be able to restore all directory information between NetWare 286 and NetWare 386 servers because the NetWare attributes are different.</i></p>

Restoring Files to a Different Location

By specifying redirection during a Restore Procedure, you can divert files to different disks, directories, or filenames than those originally specified when the files were backed up.

Redirecting files would be useful in the following situations:

- You've been given copies of files from another site and need to restore them, tailored to your office's file system.

- You plan to copy someone else's files to your system but need to rename them so they will not overwrite files and directories you already have whose names are the same as those to be copied.
- You want to restore older files for reference but need to give them different names so they will not overwrite newer files with the same names that are already on your system.
- You created a new disk partition after you backed up and want to restore files from the old disk to the new one.

NOTE: *If you select files for a Compare Procedure after a Restore with redirection, you will need to duplicate the entries you used for the Restore Procedure.*

When using the Redirection option during Restore Procedures, be sure you specify exact pathnames of the files you intend to restore. This is especially important in a networking environment because files with the same names may exist in different locations within the network.

Use the following steps to redirect files:

Step	Action
1	Select Redirect files . . . from the Restore or Compare options window. Figure 8-11 is an example of some redirection settings.
2	Each line shows one entry with its current settings. Highlight an entry from the list to edit or delete. Refer to the next section for instructions.
3	Repeat Step 2 until you are satisfied with all the entries. If a pathname cannot be entirely displayed because of its length, the middle of the name will be replaced with an ellipsis (. . .).
4	Choose OK or press F2 to accept the selections.

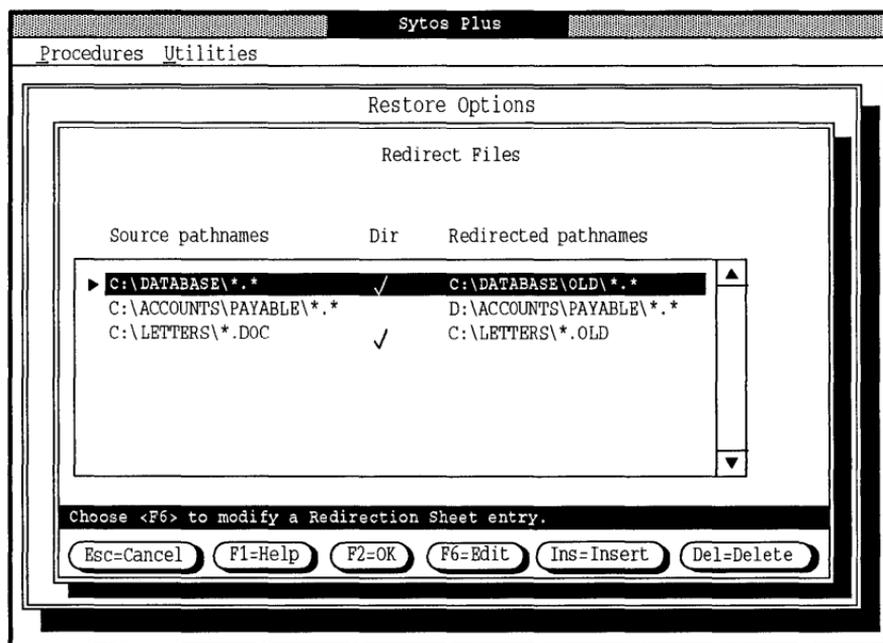


Figure 8-11 Example Redirection Sheet

NOTE: We recommend previewing the Procedure first and then reviewing the Log to be sure of the Redirection results (for example, to check if any files will be overwritten). To view redirection settings in the Log after Preview or Run, you will need to select **Selection Sheet** when setting up the Log for the Procedure.

Edit and Insert Commands

The Edit and Insert commands change the highlighted entry in the Redirection Sheet, or add a new one to the list. Use the following steps to edit or insert a Redirection Sheet entry.

Step	Action
1	<p>Choose Edit or press F6 to edit; choose Insert or press Ins to insert.</p> <p>Figure 8-12 is an example of an Edit window with its redirected entries.</p>
2	<p>Edit the source pathname if necessary, using wildcards if you wish.</p>
3	<p>Edit the redirected pathname, using wildcards if you wish.</p>
4	<p>Select or de-select Dir: Include subdirectories. When selected, all the subdirectories of the source pathnames are also redirected.</p> <p>NOTE: If any directory specified in a redirected pathname doesn't exist, Sytos Plus creates it during the Restore Procedure.</p>

Step	Action
5	Choose OK or press F2 . Only those files you have specified will be redirected. All other files involved in the Restore Procedure will be restored with their original pathnames.

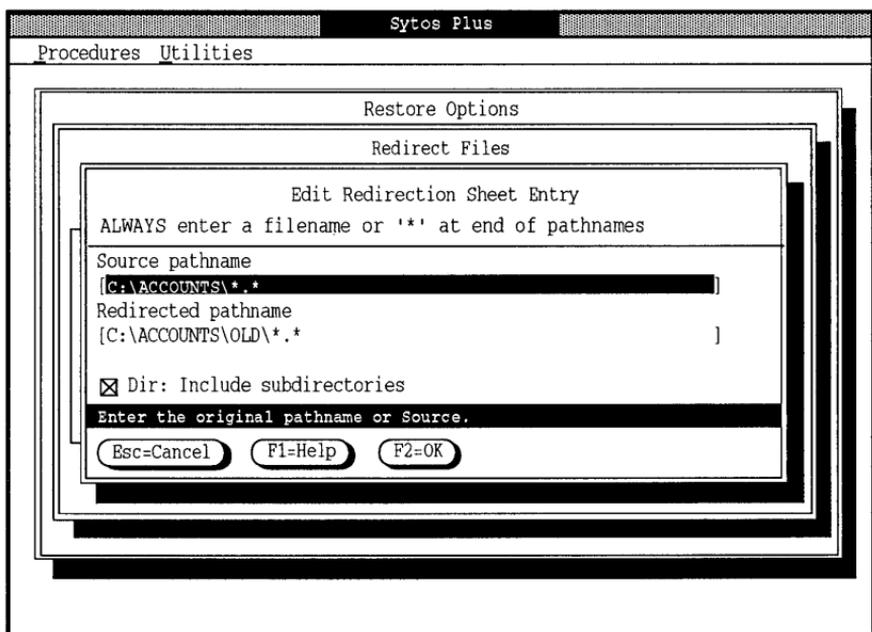


Figure 8-12 Editing a Redirection Sheet entry

Redirecting All Files in a Directory

To redirect all files in a directory, you **must** include * at the end of the source pathname and the redirected pathname. Otherwise, Sytos Plus will search only for files that match the names you have entered.

For example, to redirect all files from C:\FILES to C:\NEWFILES, your settings will be:

- Source pathname: C:\FILES*
- Redirected pathname: C:\NEWFILES*
- Dir: Include subdirectories: Checked

This specification looks for all files in the “FILES” directory and its subdirectories and redirects them to a “NEWFILES” directory (creating it if necessary) along with the original subdirectories.

The following is an example of incorrect settings:

- Source pathname: C:\FILES
- Redirected pathname: C:\NEWFILES
- Dir: Include subdirectories: Checked

This specification looks for the file called “FILES” on the C: drive and in any subdirectories and renames it “NEWFILES.”

Saving a Restore Procedure

Description

Save the settings for a new Procedure you have created, or save the modifications to an existing Procedure that you have edited.

- **Save** saves edits to an existing Procedure under the current name.
- **Save as . . .** allows you to assign a new name and description to a Procedure.

Use the following steps to Save a Procedure that you have edited.

NOTE: *If you are setting up a complex Procedure, you may want to save your work periodically.*

Step	Action
1	Open the Procedures menu by typing Alt + P .
2	<p>To save edits made to an existing Procedure under the current name, select Save from the Procedures menu.</p> <p>To assign a new name and description to a Procedure, select Save as . . . from the Procedures menu. Figure 8-13 illustrates an example of the Save a Procedure window.</p>
3	Enter a personalized name and description.
4	If you want this Procedure to be the default Procedure in the Main screen, check the Load as default procedure at startup checkbox.
5	Choose OK or press F2 to close the window and save the Procedure.

Previewing a Restore Procedure

Description

Preview test-runs the loaded Procedure without affecting the files or their attributes in any way.

NOTE: We recommend using **Preview** before **Run** for Procedures that are new, edited, or have been imported from another system.

*Review the Log to be sure of redirection results. To view redirection settings in the Log after Preview, select **Selection Sheet** when setting up the Log for the Procedure.*

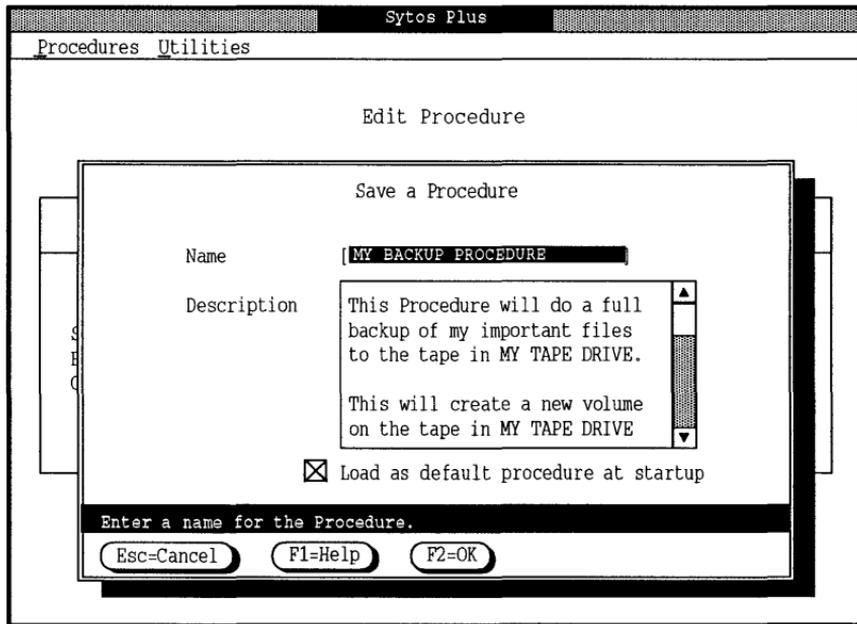


Figure 8-13 Saving a Procedure

Preview tells you:

- The number of files that Sytos Plus will attempt to Restore.

Since files are not actually processed, Preview does not tell you:

- If files are busy.
- If files are damaged.
- If files are unmatched during the Compare process.

NOTE: *If Sytos Plus files are selected for a **Restore**, you may notice a discrepancy in the number of files processed in a **Preview** and those processed during a **Restore**. The only way to restore Sytos Plus files is to select the **Redirect files...** option to restore them to a different directory.*

Running the Preview

Use the following steps to Preview a Restore Procedure.

Step	Action
1	Open the Procedures menu by typing (Alt) + (P) .
2	<p>Select Preview from the Procedures menu to start previewing the loaded Procedure. The Preview status window opens.</p> <p>To stop the Preview before it is completed, choose (Stop Procedure) or press (F7).</p>
3	<p>To see more information about the files, choose (View files) or press (F8) at the Status window.</p> <p>Viewing files during a Preview: If you view files while previewing a Procedure, the Procedure pauses, then resumes when you return to the Status window.</p> <p>At the pop-up window, select Log from the options and choose (OK) or press (F2). The View Log window opens.</p> <p>NOTE: <i>Busy files, Damaged files, and Unmatched files</i> are grayed for a Preview. <i>Unfound files</i> is grayed unless the Preview reports unfound files.</p>
4	At the View Log window, you may choose (Print) or press (F4) to send the text to a text file and/or the printer. Choose (Esc) to close the View Log window.
5	When the Preview is complete, Sytos Plus displays a final status message. Choose (OK) or press (F2) to close the prompt and return to the Preview status window.
6	Choose (Cancel) or press (Esc) to close the window.

Reviewing Status Window Information

During **Preview** and **Run**, a Status window pops up to give you detailed information about the Procedure in progress. *Chapter 15: Reference* describes the Status window and the information it provides.

Running a Restore Procedure

Description

Use the following steps to run your loaded Restore Procedure.

IMPORTANT: *You should not schedule a Restore Procedure. A Restore Procedure could overwrite files that you do not want to overwrite.*

Step	Action
1	<p>Press F6 or select Run from the Procedures menu. (To open the Procedures menu, type Alt + P.)</p> <p>To stop the Procedure before it is completed, choose Stop Procedure or press F7.</p> <p>Note that using Ctrl + C or Ctrl + Break does not stop the Procedure.</p>

Step	Action
2	<p>To see more information about the files, choose View files or press F8 at the Status window.</p> <p>Viewing files during a Procedure: If you view files while a Procedure is running, the Procedure pauses, then resumes when you return to the Status window.</p> <p>At the pop-up window, select an option and choose OK or press F2:</p> <p>Log Busy Files Damaged Files Unmatched files Unfound files</p> <p>The View Log window opens.</p>
3	<p>At the View Log window, you may choose Print or press F4 to send the text to a text file and/or the printer.</p>
4	<p>When the Procedure completes, Sytos Plus displays a final status message. Choose OK or press F2 to close the prompt.</p>
5	<p>Choose Cancel or press Esc to close the Status window.</p>

Reviewing the Sytos Plus Log

Description

Review the Log of a completed Procedure to ensure that all files have been processed as specified.

The Log option allows you to:

- Review a completed Sytos Plus Procedure.
- Review possible error messages.

- Keep a text file or hardcopy printout that lists the files processed by selecting the **Processed Files** option under Log options. The text file can accompany the backed-up files and provide a complete file listing of the contents of the media.

Once the Log has been reviewed and you are satisfied that the Procedure has completed successfully, you can delete the Log using the Log utility.

IMPORTANT: *If a Procedure is not successful for any reason, you can review the information in the Log to determine why it was unsuccessful, correct the problem, and then rerun the Procedure.*

It is important to review the Log to check that the information you restored is complete and accurate.

Use the following steps to review the Log.

Step	Action
1	Highlight Utilities... in the the Sytos Plus Startup screen and press (Enter) . The Utilities window opens.
2	Highlight Logs... and press (Enter) . The Logs window appears. Figure 8-14 shows an example of a logs list. Highlight the Log for the completed Backup Procedure.
3	Choose (View) or press (F8) to view the highlighted Log.
4	To print the contents of the Log, choose (Print) or press (F4) , then select one or both of the following options at the pop-up window. A text file sends the contents of the Log to a disk file. Type a complete path and filename. The printer sends the contents of the Log to the printer.

Step	Action
5	Choose OK or press F2 to return to the Log Utility window.

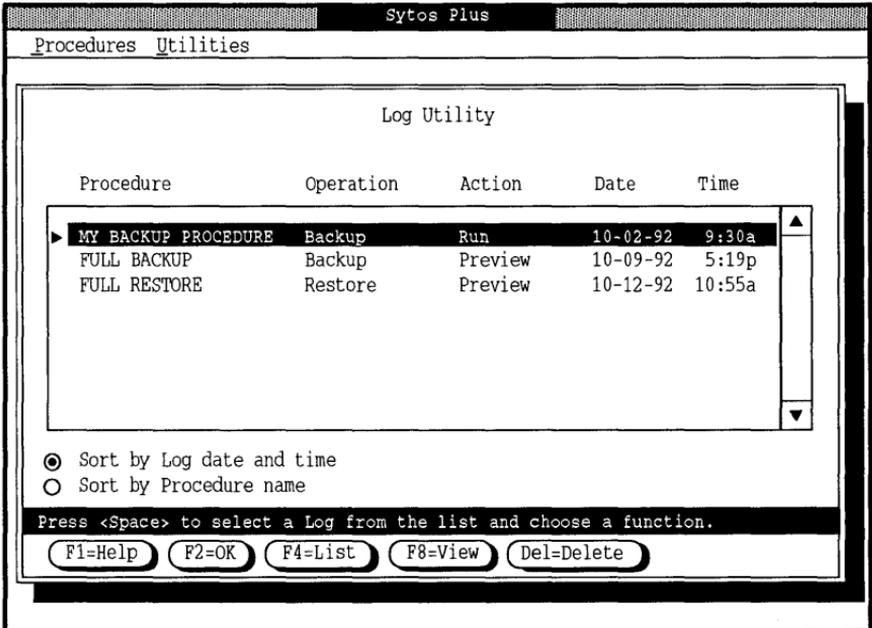


Figure 8-14 The Log Utility window



9

Full System or Network Restore

Overview

Introduction

A Full Restore is the process of restoring your workstation or network to its previous condition:

- In an emergency, for example after a hard disk or server failure.
- After you have replaced, reformatted, or upgraded a hard disk or server.

In this Chapter

This chapter provides the following instructions for a Full Restore:

Topic	See Page
Restoring a Workstation	9-2
Restoring a Network Server	9-6
Restoring to an Upgraded Server	9-8

Before You Begin

Before you run a Full Restore:

- If you are restoring a network, make sure no other users are logged in when you restore network system files.
- If you are upgrading, or changing the server configuration in any way, certain network files should not be restored. These files are listed under "Restoring to an Upgraded Server," in this chapter.

CAUTION: *Do not run a Restore Procedure in scheduled or unattended mode.*

Restoring a Workstation

Description

If you need to restore a workstation to its original state, for example after replacing the hard drive, use the instructions in this section.

Restoring to an Upgraded Workstation

If you have upgraded or changed your operating system, some files should not be restored, because they may overwrite system configuration information.

For some files, you should decide whether you want to use the version currently on your system or restore an earlier one. For example, if you modified CONFIG.SYS since your most recent backup, restoring an earlier version of CONFIG.SYS may overwrite some settings that you wish to keep.

Files that should not be restored



If you have upgraded or changed your operating system, exclude the following files from the Full Restore Procedure. To exclude files, use either the file selection windows or a Selection Sheet to select the files, and then choose **Exclude**.

DOS Files

The DOS files reside in the root directory of the backed-up system boot drive, usually C:\.

- COMMAND.COM
- IO.SYS (a hidden MS-DOS file)
- MSDOS.SYS (a hidden MS-DOS file)
- IBMBIO.COM (a hidden PC-DOS file)
- IBMDOS.COM (a hidden PC-DOS file)
- the entire DOS directory

WINDOWS Files

The Windows files reside in the root directory of the backed up Windows drive.

- SPART.PAR (a hidden Windows file)
- 386SPART.PAR (a hidden Windows file)
- the entire Windows directory, if already re-installed

Files that should be redirected

Decide whether or not you want to restore the following files. If you are not certain, use the Redirection option to restore the files to a different location. Review the files later to see if you want to keep them.

NOTE: *By default, Sytos Plus prompts you each time a file is encountered on the hard disk that is the same as one being restored.*

DOS Files

The DOS files reside in the root directory of the DOS boot drive (usually C:\).

- CONFIG.SYS
- AUTOEXEC.BAT

WINDOWS Files

The Windows directory and subdirectories should be restored only if Windows has not been re-installed or is still installed from before the Restore.

If you restore the Windows operating system, and Windows was configured with a permanent swap file before the last backup, re-create the Windows permanent swap files after running your Restore. Refer to your Windows documentation for information on swap files.

Workstation NetWare Files

- NET3.COM, NET4.COM, NET5.COM, NETX.COM
- XMSNET3.COM, XMSNET4.COM, XMSNET5.COM, XMSNETX.COM
- EMSNET3.COM, EMSNET4.COM, EMSNET5.COM, EMSNETX.COM
- IPX.COM

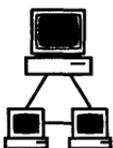
Steps to Restore the Workstation

Use the following steps to restore a workstation to its previous state.

Step	Action
1	<p>Repartition the hard drive.</p> <p>Re-create the original partitions on the hard drive if they do not already exist. Refer to your Operating System manual for instructions.</p> <p>NOTE: <i>At a minimum, make the partitions the same size as they were originally, so that they are large enough to restore the amount of information you have backed up.</i></p>
2	<p>Format your partitions and re-install DOS. Refer to your Operating System manual for instructions.</p>
3	<p>Reboot your system to initialize the operating system.</p>
4	<p>Re-install Sytos Plus to a directory that is different from the one to which you originally installed. This allows the previous version of Sytos Plus to be completely restored.</p> <p>Refer to <i>Chapter 2: Installing Sytos Plus</i> for instructions.</p>
5	<p>If CONFIG.SYS was modified during the Sytos Plus installation, reboot your system in order for the changes to CONFIG.SYS to take effect.</p>
6	<p>Start Sytos Plus and insert the tape containing your last FULL BACKUP into the backup device.</p> <p>NOTE: <i>Exclude the files listed in the previous section.</i></p>
7	<p>Run the FULL RESTORE Procedure provided by Sytos Plus and restore the latest FULL BACKUP.</p>
8	<p>Restore Incremental or Progressive Backups if applicable.</p>

Step	Action
9	Delete the version of Sytos Plus that you installed in Step 4 and use Sytos Plus from the original directory so you have access to your existing Logs, Volumes, and Procedures. Your system is now restored to its original state.

Restoring a Network Server



Use the following steps to restore a server to its previous state.

NOTE: *Sytos Plus will prompt you when a file exists on disk with the same name as one that is being restored.*

Step	Action
1	Re-install the NetWare Operating System.
2	Bring up the file server. Log in as supervisor from the workstation from which you normally run Sytos Plus.
3	If Sytos Plus was installed on the server, re-install Sytos Plus from the workstation, to a directory different from the one to which you originally installed. This is so that the previous version of Sytos Plus can be completely restored.
4	Start Sytos Plus at the workstation. Use a Selection Sheet to restore only the SYS:\SYSTEM directory from the backup media, as described in the following steps.

Step	Action
5	<p>Load the Full Restore Procedure provided by Sytos Plus and select Files to Restore... . Choose Cancel or press Esc if you receive the following message:</p> <p>"Volume not in Utility"</p> <p>NOTE: The Volume does not have to be added to the Volume utility.</p>
6	<p>Select F8 or Selection Sheet.</p>
7	<p>In the Selection Sheet, select the following files to restore:</p> <p>[servername] /SYS:\SYSTEM*.*</p> <p>Run the Restore Procedure.</p> <p>NOTE: If other files are selected to include, edit the Selection Sheet to exclude those files, so that only the SYS:\SYSTEM directory is restored.</p>
8	<p>Reboot the file server to initialize the system files you have just restored. Login again as supervisor from the same workstation.</p>
9	<p>Run a FULL RESTORE for the latest FULL BACKUP.</p> <p>Restore all of the desired files (including the SYS:\SYSTEM directory), choosing to RESTORE all directory trustees and access rights from the backup media. Select the Restore Directory information option from the Restore options.</p> <p>Any trustees added to a directory after the Backup Procedure (which therefore do not exist on the backup media) will not be overwritten when the directory information is restored to disk. If, after the Restore Procedure, you no longer want these new trustees to exist, they must be removed using the appropriate NetWare utility.</p>

Step	Action
10	Restore any Incremental or Progressive Backups, if applicable.
11	If you re-installed Sytos Plus on the server in Step 2, delete that version of Sytos Plus. Use Sytos Plus from the original directory so you have access to your existing Logs, Volumes, and Procedures.
12	Reboot the fileserver. Your server is now restored to its original state.

Restoring to an Upgraded Server

If you change or upgrade your hardware configuration before restoring your server, certain files should not be restored. Review the list of files that should not be restored if you have:

- Added or changed the Network Controller
- Changed Network Card Settings
- If you changed any system components on a NetWare 2.x server.

CAUTION: *You should not upgrade or reconfigure the server while trying to recover from a disaster.*

Files that should not be restored



The following files should not be restored, because they will overwrite updated files that were created when you re-installed the network operating system.

- **AUTOEXEC.NCF.** This file is generated when the NetWare 3.xx server is installed, and contains specific hardware setup information. If you made any changes to the hardware configuration, restoring the older AUTOEXEC.NCF file results in system conflicts, and the system will not boot.

Redirect the AUTOEXEC.NCF file to a different location during the Restore. You can later review the file to see if there is any configuration information that you want to include in the current AUTOEXEC.NCF file.

- **NET\$OS.EXE.** This file is generated when the NetWare 286 server is installed, and contains specific hardware setup information for NetWare 2.x servers.
- **NetWare Directories.** If you have upgraded the NetWare Operating System, exclude the following directories from the Restore, because they contain NetWare utility files that change between upgrades:

- SYS: SYSTEM

- SYS: PUBLIC

- SYS: LOGIN

NOTE: *If you want to restore NetWare bindery files containing the user security information that was configured before the backup, individually select the NetWare bindery files from the SYS:SYSTEM directory. Refer to Chapter 8: Restoring Data.*



10

Scheduling and Running Procedures

Introduction

Description

There are several ways to run Sytos Plus Procedures:

- **As a scheduled Procedure.** The Sytos Plus Schedule allows you to set up Procedures to run at a specific time. The Schedule also allows you to include other files (for example batch or executable files) to run at specific times.
- **As a command line operation.** You can run Sytos Plus from your operating system command line within batch files.
- **Interactively** from the operating system command prompt, as described in *Chapter 2: Installing Sytos Plus*.

In this Chapter

This chapter includes the following topics:

Topic	See Page
Choosing Attended or Unattended Run Mode	10-2
Scheduling Procedures	10-5
Running Sytos Plus from the Command Line	10-13

Choosing Attended or Unattended Run Mode

Description

When you run Sytos Plus as a scheduled Procedure or from the command line, you can specify one of the following run modes:

- **Attended Run Mode.** Instructs Sytos Plus to stop and wait for user input at all prompts.
- **Unattended Run Mode.** Instructs Sytos Plus to continue without waiting for user input.

Attended Run Mode

Attended Procedures wait for user input in all situations, for example, when you are prompted to type information that Sytos Plus requires in order to continue the Procedure.

Attended mode can be useful, for example, if a system administrator would like to set up scheduled Procedures to be watched over by someone else, such as the individual in charge of that particular system.

Unattended Run Mode

During unattended Procedures, Sytos Plus does not wait for your response at prompts that provide choices. Instead, Sytos Plus accepts the default choice. The default actions Sytos Plus takes when running in unattended mode determine whether the Procedures continues or does not continue.

Unattended mode is useful for scheduling a Procedure to run at night when no one is in the office. In this case, you will return to work in the morning and simply have a completed Backup Procedure.

NOTE: *In either case, but especially for unattended Procedures, we recommend you include the Log as part of the Procedure and review it as soon as the Procedure has completed.*

Situations when Defaults Allow the Procedure to Continue

If a new password needs to be entered when running a Procedure in unattended mode, the Procedure continues without assigning a password unless you selected one through **Unattended Security** in **Utilities: Preferences**. In that case, the Volume is assigned the default Unattended Security password.

If the media already contains information and you are creating a new Volume, the media is overwritten (regardless of your **Media overwrite** setting in **Utilities: Preferences**).

If you selected one of the Restore options for overwriting, the following occurs:

- **Prompt before overwriting existing files:**
Duplicate files found will not be overwritten.

- **Prompt before overwriting newer files:** Prompts if the files on the system are newer than the ones being restored. This is the default setting.

If an error occurs while reading a file from the fixed disk, the Procedure continues and records in the Log that the file is damaged.

If disk space runs out for the Log or the Volume utility, the Procedure continues without recording any more Volume or Log information.

Situations When Defaults Stop the Procedure

If an existing password is required, the Procedure is canceled if the password on the Volume in the drive does not match the password required, or if you did not select an Unattended Security password in **Utilities: Preferences**.

If new media needs to be inserted, the Procedure stops at that stage and waits until new media is inserted.

If any other severe error occurs, such as the message, "Device Not Responding," the Procedure is canceled. The error is entered into the Log, if you selected the Log option. You should turn on the Log for unattended Procedures.

Specifying Run Mode

When Scheduling Procedures

Run Mode is chosen as an option when scheduling a Procedure, not when creating the Procedure. Unattended is the default setting; de-select Unattended if you want to run a Procedure in Attended Mode. Refer to "Scheduling Procedures," in this chapter.

From the Command Line

During command line operations, you must specify a switch to inform Sytos Plus whether you want to run Attended or Unattended. Unattended is the default setting. Refer to "Running Sytos Plus from the Command Line," in this chapter.

Scheduling Procedures

Description

You can schedule a Sytos Plus Procedure or other files to run automatically at a particular time—just once, daily, weekly, monthly, or at special ongoing intervals.

This is convenient if you want to schedule your backups during off-peak hours, when your system is not in use, or files that are used during the day are not being used.

Scheduling Procedures in the DOS Environment

Before scheduling Procedures in the DOS environment:

- Exit any application programs and return to your operating system command prompt in order for scheduled Procedures to run.
- If you are running in a shell environment such as the DOS shell, exit the shell and return to the DOS command prompt for scheduled Procedures to run at their designated times.

TIP: *When you are at the DOS prompt, press Return once or twice to be certain that no letters or spaces have been entered after the prompt.*

- If you are running DOS 5.0, task-switching is disabled while Sytos Plus is accessing the backup device.

The Schedule waits for an active process to finish before executing. If another program or process is running, such as Windows, Sytos Plus waits for this process to finish, and then executes the scheduled event.

Using the Schedule under DOS 5.0

Attended or unattended events scheduled under the Sytos Plus Schedule will not execute if the DOSKEY feature is loaded. Check your AUTOEXEC.BAT file and REM out the line that loads the DOSKEY.COM file. Note that it does not matter whether DOSKEY.COM is loaded in high memory or low memory. In either case, the events will not run until DOSKEY.COM is removed and your system is rebooted.

Activating the Schedule

The schedule shuts down when you turn off your computer and is reactivated when you start Sytos Plus. To activate the schedule automatically when you turn on your computer, include the Schedule command in your AUTOEXEC.BAT file.

Insert the following statement in your AUTOEXEC.BAT file after the drive and pathname where Sytos Plus resides. For example, if Sytos Plus is located on C:\SYPLUS, you would add the following line to your AUTOEXEC.BAT file:

```
C:\SYPLUS\SYPLUS /I
```

Scheduling Several Events in One Day

If another event is scheduled to start and the previous one is still running, the later one will be delayed until the earlier one finishes.

It is possible that an event scheduled to run daily will run twice on the same day. This can occur if the scheduled

event is delayed until the next day because it was pre-empted by another event.

For example, an event is scheduled to run daily at 11 p.m. It is Thursday, and other programs are running that delay the event from running until 1 a.m. Friday. If you look at the Schedule, Friday at 9 a.m., a check mark appears next to the event indicating that the event has already run that day. However, the event will run again later that day at 11 p.m. as scheduled.

Using the Schedule on a Network

You must be logged on to the Network before the Schedule is loaded. If the Schedule is loaded before you log on to the Network, it will not run properly and you will have to reboot.

How to Schedule a Procedure

Use the following steps to schedule a Procedure.

NOTE: *If you have disabled the Sytos Plus Startup screen, the Edit Procedure window opens when you start Sytos Plus. You can select **Schedule...** from the Procedures menu.*

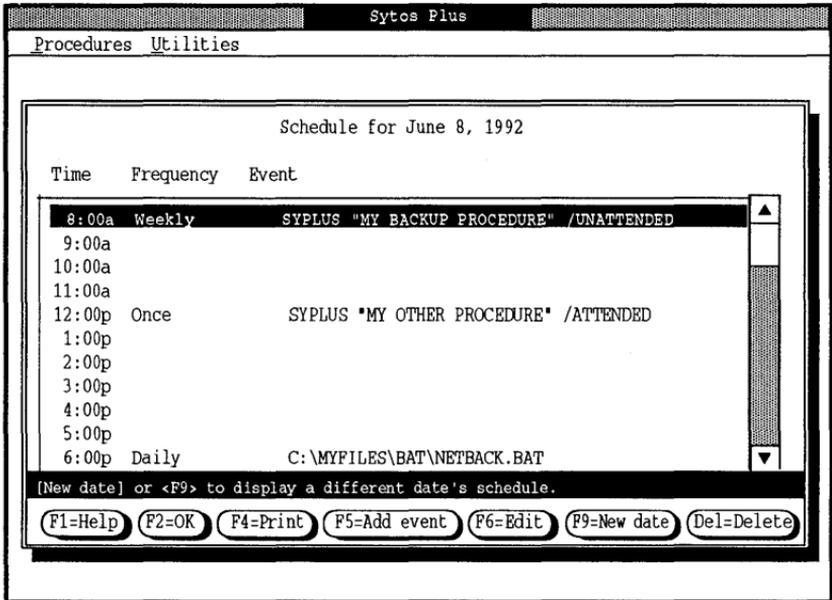


Figure 10-1 An example schedule

Step	Action
1	<p>Select Schedule . . . from the Sytos Plus Startup screen. A window pops up with the current day's scheduled events. Figure 10-1 shows an example of a schedule.</p> <p>The schedule date is shown at the top.</p> <p>Time shows when the event will begin to run.</p> <p>NOTE: <i>Sytos Plus determines the date and time from your computer's settings, so ensure they are set correctly.</i></p> <p>Frequency shows how often the event will run: once, daily, weekly, monthly, or at special ongoing intervals.</p> <p>Event displays the name of the Procedure and its run mode (attended or unattended) or name of a file.</p>

Step	Action
2	To print or change the schedule, choose the appropriate function key at the bottom of the window: Print , Add Event , Edit , New Date , or Delete . To use the function keys, refer to instructions in the following sections.
3	Repeat Step 2 as needed for each Event that you want to add, edit or delete.
4	Choose OK or press F2 to accept your selections.

Printing the Schedule

Use the following steps to send a list of all scheduled events for this day to a text file and/or the printer.

Step	Action
1	Choose Print or press F4 . At the pop-up window, select one or both options. <ul style="list-style-type: none"> - A text file sends the list to a disk file. (Use the default or type a complete path and filename appropriate to your operating system.) - The printer sends the list to your printer.
2	Choose OK or press F2 .

Adding an Event to the Schedule

Use the following steps to add an event to this day's schedule.

Step	Action
1	Choose Add event or press F5 .
2	<p>At the pop-up window, select the type of event you want to schedule and choose OK or press F2.</p> <p>A Sytos Plus Procedure is any Procedure that appears on your list of available Procedures to load.</p> <p>Other file can be a batch or executable file you wish to run; for example, a batch file you've created for running a Procedure from your operating system prompt.</p>
3	At the pop-up window, specify the settings you want for this event as described in Steps 4 through 10. Figure 10-2 shows you an example of this window.
4	<p>Depending on what you selected in Step 2, the first line will be one of the following:</p> <p>Procedure . . . with a default Procedure listed. If you select this line, a pop-up window appears for you to choose another Procedure.</p> <p>File pathname. Type the name of the file.</p>
5	<p>Enter a new schedule date if you wish.</p> <p>TIP: <i>To schedule an event to run every business day, and not on the weekend, schedule the event on Monday, Tuesday, Wednesday, Thursday, and Friday, as a weekly event.</i></p>
6	Enter the time for the event to run (applicable to all but special ongoing events).

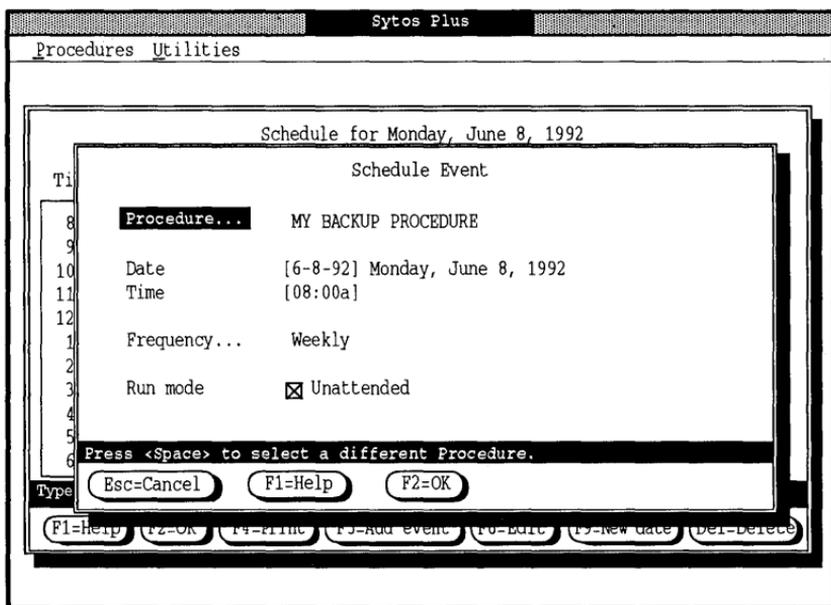


Figure 10-2 Scheduling a Sytos Plus Procedure

Step	Action
7	<p>Select the frequency of the event.</p> <p>Select Frequency . . . and press Enter. At the pop-up window, select daily, weekly, monthly, once only or special.</p> <p>If you select special, you'll need to enter times for Once every, Daily start, and Daily stop.</p>
8	<p>Choose OK or press F2.</p> <p>NOTE: The special frequency option provides a convenient way to schedule an event to run several times daily. You can schedule other events to run between the ongoing intervals.</p>

Step	Action
10	Specify the run mode. To run an event with no one present, select Unattended . Unattended is the default setting.
11	Press F2 or OK to accept the selections and return to the Schedule window.

Editing the Schedule

The Edit function allows you to modify the highlighted event. Use the following steps.

Step	Action
1	Select the event whose schedule you want to edit.
2	Choose Edit or press F6 . At the pop-up window, you will see the current schedule settings for this event (see Figure 10-2).
3	Change the settings for event name, date, time, frequency, and run mode as needed, as described in the section, "Adding an event," earlier in this chapter.
4	Choose OK or press F2 .

Selecting a Schedule for a Different Day

New Date changes the date so you can create or edit a schedule for another date. Use the following steps.

Step	Action
1	Choose [New date] or press [F9] . At the pop-up window, type the date you want to display.
2	Choose [OK] or press [F2] .

Removing an Event from the Schedule

The Delete function removes the event from the schedule. (The Procedure or other file remains untouched; only its entry in the schedule is removed.)

Step	Action
1	Highlight an event.
2	Choose [Delete] or press [Del] to remove the highlighted event from the schedule.

Running Sytos Plus from the Command Line

Sytos Plus can be run from your operating system command line or within batch files. You can name any existing Procedure to be run.

To include a Sytos Plus Procedure as part of your batch or file, type the following:

```
SYPLUS "PROCEDURE NAME"
```

NOTE: Be sure to include the quotation marks. SYPLUS invokes Sytos Plus; the information in quotes is the name of the Procedure that you wish to run. Sytos Plus runs in unattended mode if a command line switch is not specified.

Batch Processor Exit Codes

Sytos Plus sets exit codes to represent certain conditions encountered during batch file processing. By using these codes with the DOS internal `IF ERRORLEVEL` command, you can verify quickly that the process finished without error, or you can determine if any problems occurred. You may check the Log for details.

Sytos Plus sets the following exit codes:

Exit Code	Description
0:	Procedure completed — All files processed (no unfound, unmatched, damaged, or busy files found).
1:	Procedure completed — All files not processed (one or more busy files found).
2:	All other cases — All files not processed (one or more unfound, unmatched, or damaged files were found or you canceled the Procedure).

Refer to your Operating System's User Guide for more information about using the `IF ERRORLEVEL` command in batch processing.

Command Line Switches

The following table provides a description of the available commands that can be used with Sytos Plus on the command line. For example, to specify that a Sytos Plus Procedure be run unattended from the command line, type the following within your batch or script file:

```
SYPLUS "PROCEDURE NAME" /U
```

Switch	Result
SYPLUS /U	Runs Sytos Plus in Unattended Mode. This is the default.
SYPLUS /A	Runs Sytos Plus in Attended Mode.
SYPLUS /I	Installs the Sytos Plus Schedule. This does not start Sytos Plus.
SYPLUS /R	Removes the Sytos Plus Schedule.
SYPLUS /P	Previews the Procedure listed in quotation marks on the same command line.
SYPLUS /F	With a filename, substitutes a specified Selection Sheet File for the Selection Sheet of the Procedure listed on the command line. Refer to "Using Text Files for Selection Sheets and Redirection Sheets," in this chapter.
SYPLUS /D	With a filename, substitutes a specified Redirection Sheet File for the Redirection Sheet of the Procedure listed on the command line. Refer to "Using Text Files for Selection Sheets and Redirection Sheets," in this chapter.
SYPLUS /T	Runs Sytos Plus in text mode.
SYPLUS /EON	Causes Sytos Plus to open with the Edit Procedure window. This mode is saved until changed.
SYPLUS /EOFF	Causes Sytos Plus to open with the Sytos Plus Startup screen. This mode is the default, and is saved until changed.

To get a list of available switches from the command line, enter, for example, "SYPLUS /?". Sytos Plus displays a message and then a list of the available command line switches.

Using Text Files for Selection Sheets and Redirection Sheets

From the command line, you can specify a text file which temporarily replaces the Selection Sheet for any Procedure, or the Redirection Sheet for a Restore Procedure. After the Procedure runs, the original Selection Sheet or Redirection Sheet for the Procedure remains intact.

The text file is an ASCII file that you create and save. The text file can be used again.

Creating a Selection Sheet File

Use the following steps to create a Selection Sheet file.

Step	Action
1	Use a text editor to create a file with the pathnames of the files you want to select for your Procedure. You can use wildcards (* or ?) for the file names.
2	Add any of the following file options (in upper or lower case) after the pathname and one space: S - Include subdirectories C - Only changed files E - Exclude files specified on this line
3	You may add comments at the end of any line containing the pathname, or on a separate line. The greater than character (>) must precede the comment.

Step	Action
4	Save the Selection Sheet File with a unique name and extension (for example, SELECT.TXT). You should save it under the directory where Sytos Plus is installed.

Sample Selection Sheet

The following is an example of a Selection Sheet file:

```
C:\PROJECTS\PLANS\ * C
D:\ADMIN\*.DOC S
```

Using a Selection Sheet File

Use the following steps to use a Selection Sheet file.

Step	Action
1	<p>Enter a command line with the Procedure name and the name of your Selection Sheet file, as shown:</p> <pre>SYPLUS "PROCEDURE NAME" /FFILENAME</pre> <p>(FILENAME is the name of your file) and press <input type="button" value="Enter"/>.</p> <p>NOTE: The Procedure name must be enclosed within quotation marks, and there is no space between /F and the Filename. For example,</p> <pre>SYPLUS "MY BACKUP" /FSELECT.TXT</pre> <p>Your filename can include the entire pathname including the drive letter.</p>

Step	Action
2	<p>If you encounter any problems running the Procedure, rerun the Procedure and add one or both of these switches:</p> <p>/A (attended mode) to generate an error message. Review the error message and its Help, and make the necessary corrections.</p> <p>/P to preview the Procedure. To verify the information in the file, select the Log option and select Add Selection Sheet.</p>
3	<p>Review the log to see if the proper files have been selected.</p>

Creating a Redirection Sheet File

Use the following steps to create a Redirection Sheet file.

Step	Action
1	<p>Use a text editor to enter the pathnames of the files you want to redirect for your Restore Procedure. You can use wildcards (* or ?) for the filenames.</p> <p>The first line with a complete pathname is used as the "source" path. The next line with a complete pathname is used as the "redirection" path.</p> <p>Review your file for valid rules before using it, or Preview the Restore Procedure.</p>
2	<p>Add the following file options (in upper or lower case) after the pathname, if you wish to include subdirectories:</p> <p>S - Include subdirectories</p>

Step	Action
3	You may add comments at the end of any line containing a pathname, or on a separate line. The greater than character (>) must precede the comment.
4	Save the Redirection Sheet File with a unique name and extension (for example, REDIR.TXT). You should save it under the directory where Sytos Plus is installed.

Sample Redirection Sheet File

The following is an example Redirection File:

```
D:\PROJECTS\PLANS\* C  
E:\PLANS\* S  
D:\ADMIN\*.DOC  
E:\DOCUMENT\*.DOC
```

Using a Redirection Sheet

Use the following steps to use a Redirection sheet file.

Step	Action
1	<p>Enter a command line with the Procedure name and the name of your Redirection Sheet file as shown below:</p> <pre>SYPLUS "PROCEDURE NAME" /DFILENAME</pre> <p>(FILENAME is the name of your file) and press Enter.</p> <p>NOTE: <i>The Procedure name must be enclosed within quotation marks, and there is no space between /D and the Filename. For example,</i></p> <pre>SYPLUS "MY RESTORE" /DREDIR.TXT</pre> <p>Your filename can include the entire pathname including the drive letter.</p>
2	<p>If you encounter any problems running the Procedure, rerun the Procedure and add one or both of these switches:</p> <p>/A (attended mode) to generate an error message. Review the error message and its Help, and make the necessary corrections.</p> <p>/P to preview the Procedure. To verify the information in the file, select the Log option and select Add Selection Sheet.</p>
3	<p>Review the log to see if the proper files have been redirected.</p>



11

Management Utilities

Overview

Introduction

Tools for are available through the Utilities window and Procedures menu for setting up, customizing, and maintaining Sytos Plus. The tools provide ways to:

- Maintain Volumes and Logs, including viewing, printing, or deleting Volumes and Logs
- Prepare media, including formatting media or creating Volumes to use later with Sytos Plus.
- Set up backup devices, to configure a backup device
- Select preferences for working in Sytos Plus, including monitor display, security, and broadcasting messages to users.
- Maintain Procedures, including printing a list of Procedures, using Procedures created on a different system, and deleting Procedures.

In this chapter

This chapter includes the following topics:

Topic	See Page
Opening the Utilities window	11-2
Managing Sytos Plus Volumes	11-4
Managing Sytos Plus Logs	11-10
Preparing Media to Use with Sytos Plus	11-13
Configuring a Backup Device	11-16
Setting Preferences for the Sytos Plus Environment	11-28
Managing Sytos Plus Procedures	11-32

Opening the Utilities Window

Use the following steps to start Sytos Plus and open the Utilities window, where you can select from the list of available utilities.

NOTE: *If you have disabled the Sytos Plus Startup screen from the command line, Sytos Plus opens directly into the Edit Procedure window. In the Edit Procedure window, the same Utilities are available from the Utilities menu.*

Step	Action
1	Type the following at your operating system prompt: SYPLUS and press Enter . The Sytos Plus Startup screen shown in Figure 11-1 appears.

Step	Action
2	Highlight Utilities . . . and press Enter . The Utilities window shown in Figure 11-2 appears.
3	Use the instructions in this chapter to use the Utilities that are available from the Utilities window.

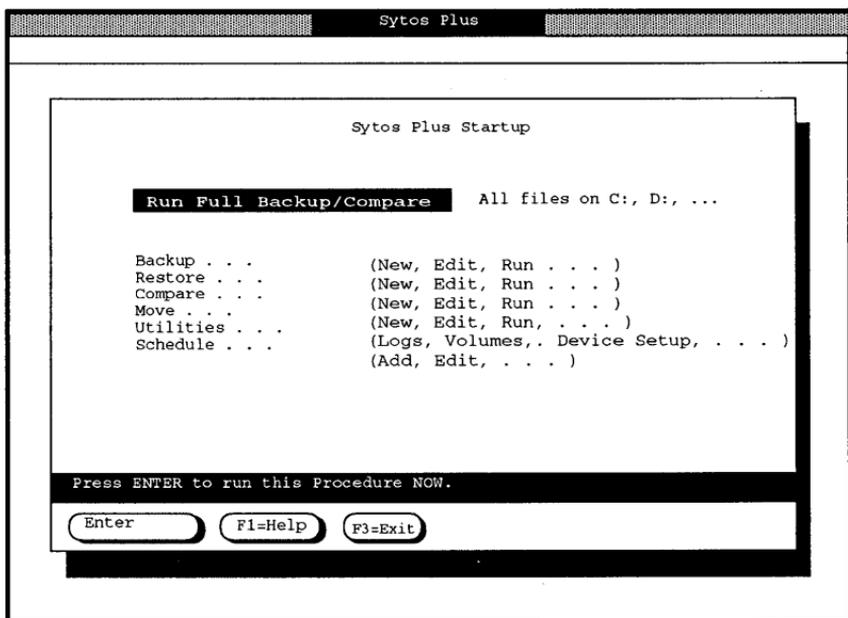


Figure 11-1 The Sytos Plus Startup screen

The available Utilities include:

- **Volumes...** sorts, lists, adds, views, prints, identifies, or deletes Volume entries.
- **Logs** ... sorts, lists, views, prints, or deletes Logs created while previewing or running Procedures.

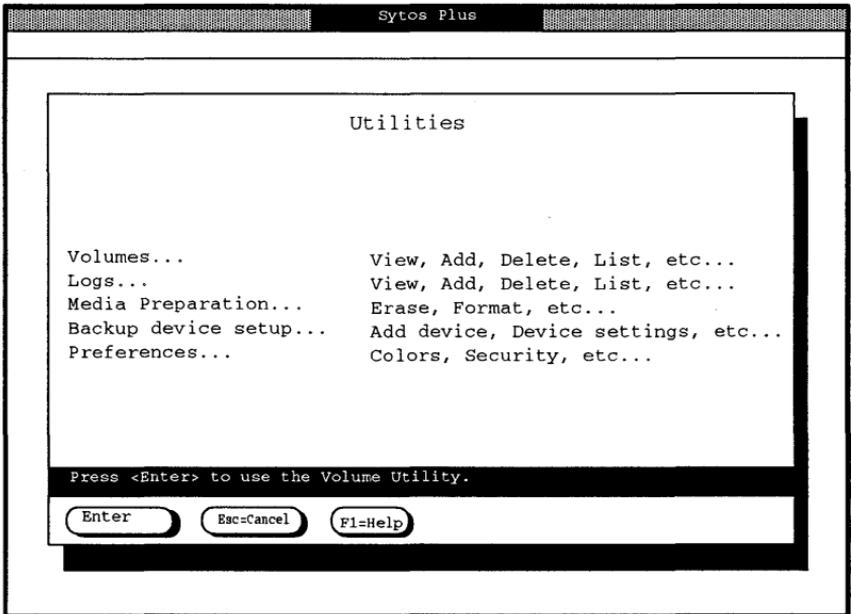


Figure 11-2 The Utilities window

- **Media preparation.** . . prepares backup media and creates Volumes to have on hand for later Procedures.
- **Backup device setup.** . . configures your backup device(s).
- **Preferences.** . . determines your monitor display setup, how files and directories will be listed, and which Sytos Plus functions will be available.

Managing Sytos Plus Volumes

Description

The Volumes selection under Utilities manages your Volumes in several ways:

- **Sort** lists your Volumes by creation date and time or by name.

- **List** sends a list of your Volumes to a text file and/or the printer.
- **Add Volume** adds a Volume to the list.

NOTE: *If the Backup Sets were created or appended to a Volume using another system, you may use **Add Volume** from the **Utilities: Volumes** menu to be sure all Volume information is included in the Volume utility. This is especially important when you want to select the **Latest Backup Set** for Restore and Compare Procedures.*

- **View** shows you a Volume and allows you to print its contents.
- **Identify** tells you what Volume is in your backup device.
- **Delete** removes a Volume from the List.

Sorting Volumes

Use the following steps to sort the Volumes.

Step	Action
1	Select Volumes... from the Utilities window. Figure 11-3 illustrates the Volume Utility window with an example list of Volumes.
2	To change the order in which the Volumes are displayed, select the appropriate sort command: <ul style="list-style-type: none"> - Sort by Volume creation date and time - Sort by Volume name

Step	Action
3	<p>To work with the Volumes, select a Volume from the list and choose from the function keys at the bottom of the window: List, Add, View, Identify, or Delete.</p> <p>Step-by-step instructions are provided in the following sections.</p>
4	<p>Choose OK or press F2 to close the window.</p>

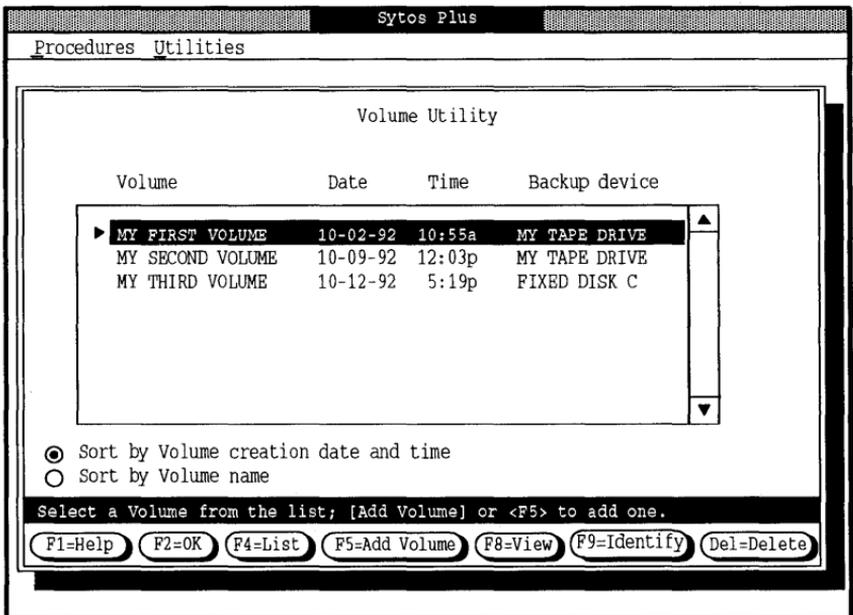


Figure 11-3 The Volume Utility window

Listing Volumes

Use these steps to send a list of all your Volumes to a text file and/or printer.

Step	Action
1	<p>In the Volume Utility window, choose List or press F4. At the pop-up window, select one or both of these options:</p> <p>A text file sends the list to a disk file. (Use the default or type a complete path and filename appropriate to your operating system.)</p> <p>The printer sends the list to your printer.</p>
2	Choose OK or press F2 to print the list.

Adding a Volume

This feature is useful if you have been given a Volume created on another system that you want to include in your list so you can easily restore its contents.

Step	Action
1	Put the Volume into the backup device.
2	In the Volume Utility window, choose Add Volume or press F5 .
3	Select the backup device (if you have more than one).

Step	Action
4	<p>Choose OK or press F2.</p> <p>NOTE: Adding a Volume to the Volume utility takes some time because it involves reading all information from the Volume and creating the Volume on the hard drive. To stop the process before it is complete, choose Stop adding Volume or press F7.</p>

Viewing a Volume

View shows the name, description, creation date, and contents of the selected Volume. Use the following steps to view a Volume.

Step	Action
1	In the Volumes Utility window, choose View or press F8 to see the contents of the highlighted Volume.
2	<p>To print the description of the Volume, choose Print or press F4, then select one or both options at the pop-up window:</p> <ul style="list-style-type: none"> - A text file sends the description to a disk file. (Use the default or type a complete path and filename appropriate to your operating system.) - The printer sends the description to the printer.
3	Choose OK or press F2 to print the description and return to the View Volume window.

Identifying a Volume

Identify quickly shows the name and description of a Volume in your backup device. Use the following steps to identify a Volume.

Step	Action
1	Insert the media you want to identify into the backup device.
2	In the Volume Utility window, choose Identify or press F9 .
3	At the pop-up window, select the appropriate backup device (if you have more than one). Another window pops up with the Volume information. Press F2 or OK to close the window.
4	Choose Esc or press Cancel to return to the Volume Utilities window.

Deleting a Volume

Use the following steps to remove a Volume that you no longer need.

Step	Action
1	In the Volume Utility window, highlight the Volume(s) you wish to delete and press Spacebar .
2	Choose Delete or press Del .
3	When prompted by Sytos Plus, choose F2 to delete the selected Volume(s).

NOTE: *Delete* removes the appropriate Volume files from your hard drive, and does not affect the Volume on your backup media. When you

overwrite a previous Volume, that Volume is automatically deleted.

Managing Sytos Plus Logs

Description

The Logs utility manages your Logs in several ways:

- **Sort** lists your Logs by date and time or by Procedure name.
- **List** sends a list of your Logs to a text file and/or the printer.
- **View** displays a Log and allows you to print its contents.
- **Delete** removes a Log.

Sorting Logs

Use the following steps to sort the Logs display:

Step	Action
1	Select Logs. . . from the Utilities menu. Figure 11-4 illustrates the Log Utility window with an example list of Logs.
2	To change the sequence of the Logs, select the appropriate sort command: - Sort by Log date and time - Sort by Procedure name

Step	Action
3	Select a Log from the list and choose from the function keys at the bottom of the window: List , View , or Delete . Instructions to use the functions are provided in the next sections.
4	Choose OK or press F2 to close the Logs window.

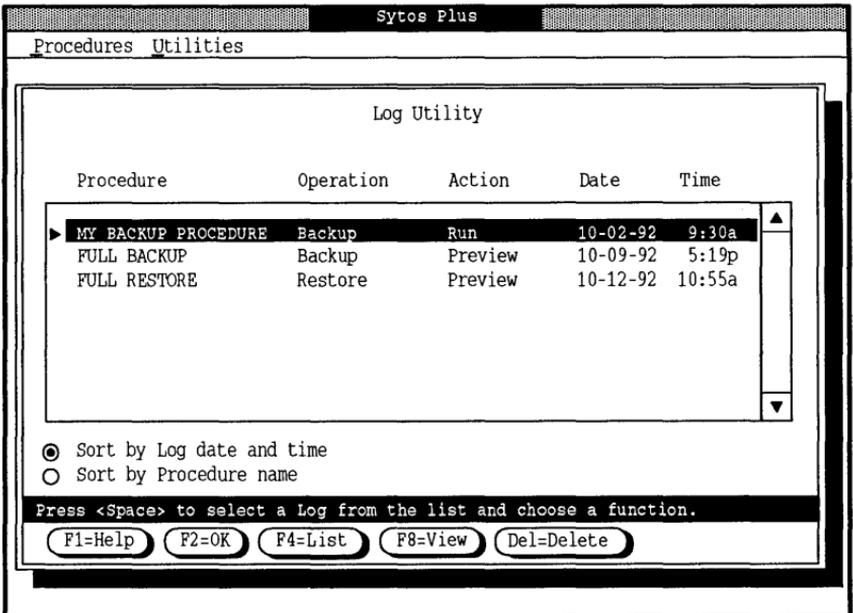


Figure 11-4 Selecting a Log

Listing Logs

Use the following steps to send a list of all your Logs to a text file and/or a printer.

Step	Action
1	<p>In the Log Utility window, choose List or press F4. At the pop-up window, select one or both options.</p> <p>A text file sends the list to a disk file. (Use the default or type a complete path and filename appropriate to your operating system.)</p> <p>The printer sends the list to your printer.</p>
2	<p>Choose OK or press F2 to print the display and return to the Log Utility window.</p>

Viewing a Log

View shows the contents of the Log. Use the following steps to view a Log.

Step	Action
1	<p>In the Log Utility window, choose View or press F8 to view the highlighted Log.</p>
2	<p>To print the contents of the Log, choose Print or press F4, then select one or both options at the pop-up window.</p> <p>A text file sends the contents of the Log to a disk file. (Use the default or type a complete path and filename appropriate to your operating system.)</p> <p>The printer sends the contents of the Log to the printer</p>
3	<p>Choose OK or press F2 to print the display and return to the Log Utility window.</p>
4	<p>Press Esc or choose Cancel to close the View Log window.</p>

Deleting a Log

Delete removes a Log from the list.

NOTE: *When you no longer need a Log, we recommend deleting it to conserve disk space.*

Use the following steps to delete a Log.

Step	Action
1	In the Log Utility window, select the Log(s) you wish to delete (by <Clicking> or highlighting and pressing Spacebar).
2	Choose Delete or press Del .

Preparing Media to use with Sytos Plus

Description

The **Media Preparation** utility allows you to:

- Prepare media in advance for later use with Sytos Plus.
- View information about a Volume.
- Create new Volumes to be appended to later.

Use the following steps to prepare or view media.

Step	Action
1	Select Media preparation... from the Utilities menu.
2	Select a backup device.

Step	Action
3	Insert the media into the backup device.
4	Choose from the function keys at the bottom of the window to Prepare , View Volume Information , or Create a Volume. Instructions are provided in the next sections.

Prepare media in Advance

You can prepare backup media for later use without running a Procedure. The options available are specific to the backup device you use.

Use the following steps to prepare media in advance.

Step	Action
1	Choose Prepare or press F6 .
2	Select an option, described in the following table. (Some may be grayed-out because they are not applicable to your backup device.)
3	Choose OK or press F2 to close the window.

The following options are available when preparing media.

Option	Description
Erase media	Makes your media appear blank to Sytos Plus. If your security procedures require, you may also erase tape using a commercial bulk eraser.

Option	Description
Format media	<p>Prepares your media to receive Sytos Plus information. New media for some backup devices may need formatting before being used. This function also includes low-level pre-formatting for those devices requiring it.</p> <p>If you use a 4mm DAT backup device, you will need to format blank tapes before you create a new Volume. Formatting with this type of tape takes only a few minutes, overwriting any data on the tape. (With this type of device, formatting is much faster than erasing a tape.)</p> <p>To format media in advance, you can select Format media from the Utilities: Media Preparation window. To format media as part of a Backup or Move Procedure, select Format media as a Volume option. The tape will be formatted each time the Procedure is run.</p>
Retension tape	<p>Adjusts tape tension by fast-forwarding and rewinding the tape to make sure it is taut enough to record information properly. Retension by itself does <i>not</i> change the information stored on the tape.</p> <p>Use this option for tapes that are new or that have not been recently used.</p> <p>NOTE: <i>This option is not supported by DAT drives.</i></p>

NOTE: You can also select the **Erase**, **Format**, and **Retension tape** commands or create a new Volume when setting up a Procedure to run.

Viewing Volume information

View Volume Information displays the name, description, and options of the Volume in the backup device.

To display Volume information choose **View Volume info** or press **F8**.

Creating a Volume in Advance

Create Volume creates a Volume for later use without running a Procedure. Specify its name, description, and options.

Step	Action
1	Choose Create Volume or press F9 .
2	Select Volume options and type in information as prompted. (Some options may be grayed-out for certain backup devices.) Refer to <i>Chapter 15: Reference</i> for a detailed description of Volume options.
3	Choose OK or press F2 .

Configuring Backup Devices

Backup device setup changes, adds, or removes the backup device(s) originally installed with Sytos Plus. For instructions specific to your particular backup device, refer to the sections that follow:

- Choosing a Backup Media Format
- Backup Device Setup: Tape Systems
- Backup Device Setup: Diskette Drives
- Backup Device Setup: Fixed or Removable Device

The steps in the following table are general instructions for setting up a backup device.

Step	Action
1	Select Backup device setup. . . from the Utilities menu. Figure 11-5 illustrates the Backup Device Setup window with an example list of devices.
2	If you want to edit or delete a device, select it from the list.

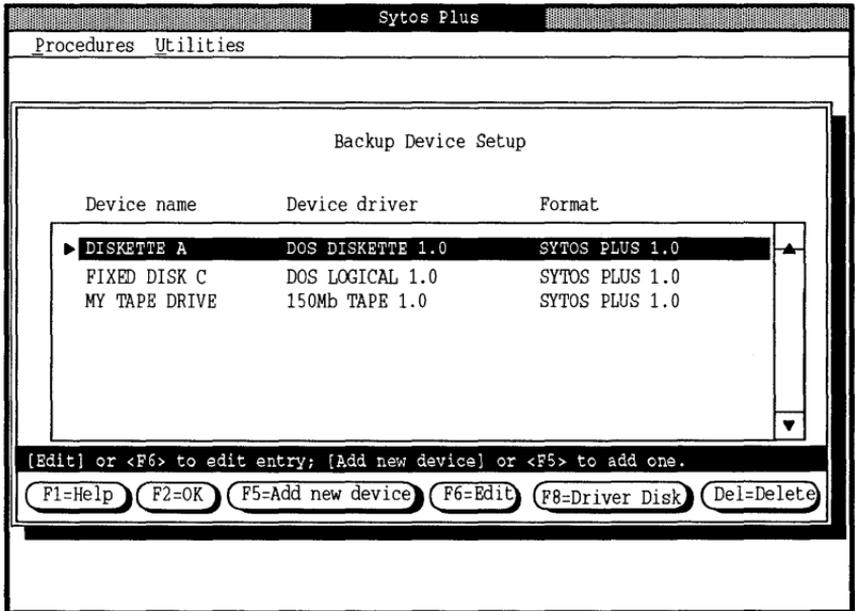


Figure 11-5 Selecting a backup device

Step	Action
3	Choose the appropriate functions: <ul style="list-style-type: none"> - Edit to change the characteristics of the highlighted backup device, including its name, format, and configuration. - Add new device to add a backup device to the list. - Delete to remove the highlighted backup device from the list. - Driver Disk to copy a device driver from a Sytos Plus driver diskette (when Sytos Plus is already installed).
4	Repeat Steps 2 and 3 to continue changing, adding, or deleting as many backup devices as necessary.
5	When you finish, choose OK or press F2 to close the window.

Copying Device Drivers from a Diskette

Driver Disk allows you to copy a device driver that does not appear on your device driver list, but is on a separate diskette, after Sytos Plus is installed. To copy a device driver, use the following steps:

Step	Action
1	Select Backup device setup... from the Utilities window.
2	Insert your diskette containing the device drivers into your disk drive, and select Driver Disk or press F8 .

Step	Action
3	Enter the letter that represents your drive (A: is the default) in the Load Device Drivers Diskette window, and select OK .
4	At the Select Backup Device Drivers window, select each driver that you want to add to your driver list, by highlighting the driver name and pressing Spacebar . When you have finished selecting drivers, choose OK . Exit Sytos Plus to update the driver list.
5	At the Backup device setup... window, select Add new device to add a backup device to the list. Reboot your system if CONFIG.SYS has been modified.
6	Select and configure the backup device using the instructions in the following sections that are appropriate to the type of device you are configuring.

Choosing a Backup Media Format

Choosing a backup media format in the **Setup Backup Device** window determines how Sytos Plus will manage files on the backup media. (This is not the same as the **Format media. . .** option for Backup and Move Procedures and for the Media preparation utility which prepares media to receive information.)

You have two choices for selecting a format:

- **Sytos Plus**

If you are a new user and always use your own system, you should always select this format to take advantage of all Volume and Backup Set options.

- **SY-TOS**

To read a tape created with SY-TOS.

CAUTION: *The SY-TOS format should be used only in special situations, as described in the next section. Do not use the SY-TOS format to create backups using Sytos Plus.*

Using the SY-TOS Format

You need to select the SY-TOS format to read tapes created with SY-TOS or if you need to give someone SY-TOS tapes. Only tapes created with the SY-TOS Backup File List or Backup File (Pre)Selected commands can be read. Features that are new to Sytos Plus will not be available (for example, Backup Set name).

To take full advantage of Sytos Plus's features, you should always use the Sytos Plus format for your backups.

NOTE: *Do not use the SY-TOS format to back up files on a NetWare 386 network. Refer to Chapter 12: Network Considerations.*

Setup Backup Device: Tape Systems

Use the following steps to set up a Tape System as a backup device.

Step	Action
1	<p>To edit or delete an existing backup device, highlight the backup device name in the list, and choose a function:</p> <ul style="list-style-type: none">- Edit by choosing Edit or by pressing F6- Delete by choosing Delete or by pressing Del

Step	Action
2	To add a new device, choose Add new device or press F5 . At the pop-up window, select the device driver and choose OK or press F2 to proceed to the Setup Backup Device window.
3	For Edit or Add new device : Enter or select the appropriate information for your backup device. The required information is detailed in the following section, "Setting up a Tape System."
4	Choose OK or press F2 to accept the backup device settings and return to the Backup Device Setup window.

Setting up a Tape System

Figure 11-6 illustrates example settings for a tape drive.

- **Backup device name** allows you to assign a personalized name to this backup device.
- **Multiple devices...** runs Sytos Plus with several (cascading) tape drives, when applicable (for SCSI devices). After selecting this, a window pops up. Select the number of each tape drive you want to activate, then choose **OK** or press **F2**.
- **Format** determines the format to use when backing up files: Sytos Plus or SY-TOS. (See the section "Choosing a Backup Media Format" in this chapter.)
- **DMA Channel, Interrupt, Address Settings** specify the settings for this tape system—they should match *exactly* the settings used when installing the tape system. Settings for SCSI devices remain blank in the Setup Backup Device window.

IMPORTANT: Be certain to set the DMA Channel, Interrupt, and Address settings according to the

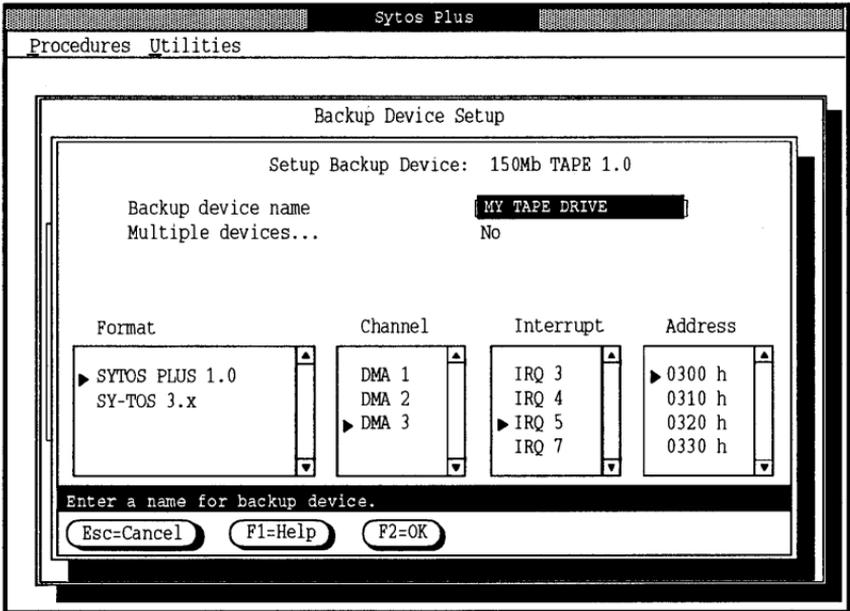


Figure 11-6 Setting up a tape drive as a backup device

hardware settings for the tape device. If they are incorrect, Sytos Plus may not work properly or could produce unpredictable results.

Backup Device Setup: Diskette Drives

When using a Diskette drive as your backup device:

- If you want to back up files that are on a diskette, you should first copy the files from the diskette to a fixed disk and back them up from there.
- If you back up files to diskettes, you need to use Sytos Plus to view the backed-up files. Operating system commands such as "DIR" do not display the files.
- Sytos Plus will never change the format of diskettes. For example, Sytos Plus will not re-format a 360Kb formatted diskette to 1.2Mb format. Sytos Plus can use only unformatted diskettes, or diskettes formatted to the same

density specified when you set up the diskette drive as a backup device.

Use the following steps to set up a diskette drive as a backup device.

Step	Action
1	<p>To edit or delete an existing backup device, highlight the backup device name in the list, and choose a function:</p> <ul style="list-style-type: none"> - Edit by choosing <input type="button" value="Edit"/> or by pressing <input type="button" value="F6"/> - Delete by choosing <input type="button" value="Delete"/> or pressing <input type="button" value="Del"/>
2	<p>To add a new device, choose <input type="button" value="Add new device"/> or press <input type="button" value="F5"/>. At the pop-up window, select the device driver and choose <input type="button" value="OK"/> or press <input type="button" value="F2"/> to proceed to the Setup Backup Device: Diskette window.</p>
3	<p>For Edit or Add new device: In the Setup Backup Device window, enter or select the appropriate information for your backup device. The required information is described in the following section, "Setting up a Diskette Drive."</p>
4	<p>Choose <input type="button" value="OK"/> or press <input type="button" value="F2"/> to accept the backup device settings and return to the Backup Device Setup window.</p>

Setting up a Diskette Drive

Figure 11-7 illustrates example settings for a diskette drive.

- **Backup device name** assigns a personalized name to this backup device.
- **Format** determines the format to use when backing up files: Sytos Plus or SY-TOS. (Refer to the section, "Choosing a Backup Media Format," earlier in this chapter.)

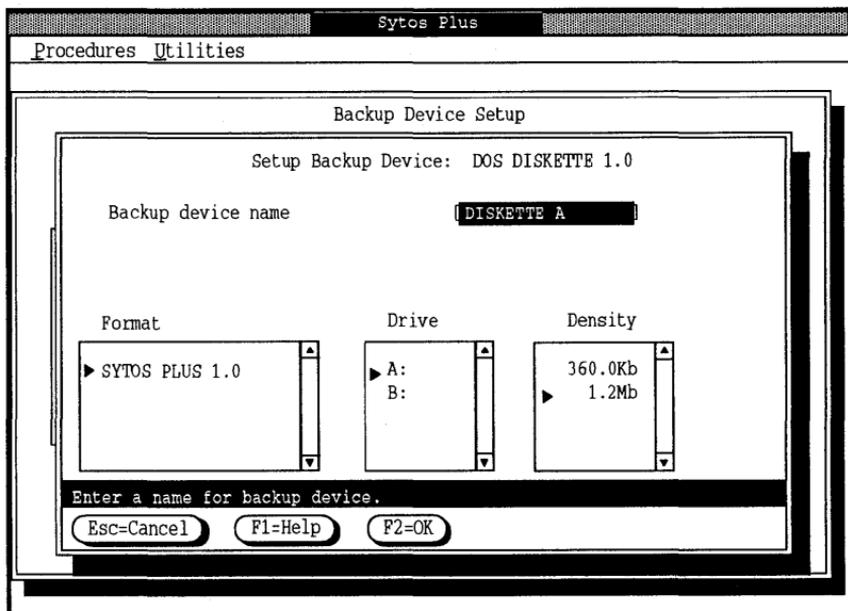


Figure 11-7 Setting up a diskette drive

- **Drive** names the diskette drive(s) you want to associate with this backup device.
- **Density** specifies the settings available for your diskettes.

NOTE: You can configure two diskette drives as a single Sytos Plus device by selecting **Multiple devices...** under **Utilities: Backup Device Setup**, but the drives must share a common density.

Choosing a 1.2Mb Diskette Drive as a Backup Device

When backing up using a 1.2Mb drive, you should back up to 1.2Mb media whenever possible. If you do back up to 360Kb (5-1/4 inch) diskettes in a 1.2Mb drive, you may encounter problems if you try to read them in another 1.2Mb drive or in a 360Kb drive.

Backup Device Setup: Fixed or Removable Disks

Syτος Plus can back up to and restore from fixed or removable devices, as described in the following sections.

NOTE: *To use a floppy diskette as a backup device, refer to the previous section, "Backup Device Setup: Diskette Drive."*

Fixed Logical Device

To be used as a backup device for Syτος Plus, a fixed logical device must be accessible through the operating system and have an assigned drive letter. Fixed devices could include local or network drives, or rewritable optical drives.

A rewritable optical drive, in addition to being accessible through the operating system with an assigned driver letter, must have formatted media inserted.

Use the following steps to set up a fixed device as a backup device.

Step	Action
1	Select Add new device . At the pop-up window, select the device driver and choose OK or press F2 . The Setup Backup Device: Fixed Disk window shown in Figure 11-8 opens.
2	Select the drive to use as a fixed backup device, and choose Edit or press F6 . The Edit for Selected Drive window opens.
3	Specify a pathname, and allocate space for the backed-up files. You may choose Directory or press F5 to bring up the directory tree for the drive and select a pathname from the directory tree.

Step	Action
4	In the Space Allocated field, enter a size in bytes to specify the amount of disk space you want to allocate, for example, 10,000,000 bytes.
5	When finished, choose OK or press F2 to return to the Setup Backup Device window.
6	To add additional drives, select and edit each drive as described in steps 2 through 5.
7	<p>When you have configured all of the drives that you want to include in a logical device setup, choose OK or press F2 to accept the settings.</p> <p>CAUTION: <i>Keep a record of each drive and pathname that you configure, and the space allocated on each drive. If you are using more than one drive for a single device, keep a record of the order in which you added the drives.</i></p> <p><i>You will need this information if you wish to restore from this device, and it is not longer configured (for example, if you have re-installed Sytos Plus).</i></p>

NOTE: *You can use several drives as a single fixed logical device for a Procedure. The drives do not have to be the same type or capacity.*

The total amount of space that you allocate on the drive(s) must be sufficient for the number of files to be included in a Procedure. A Procedure will not be able to complete without enough space. You do not have the option of inserting media if you run out of space.

Setting Up a Fixed Disk

Figure 11-8 illustrates example settings for a fixed disk.

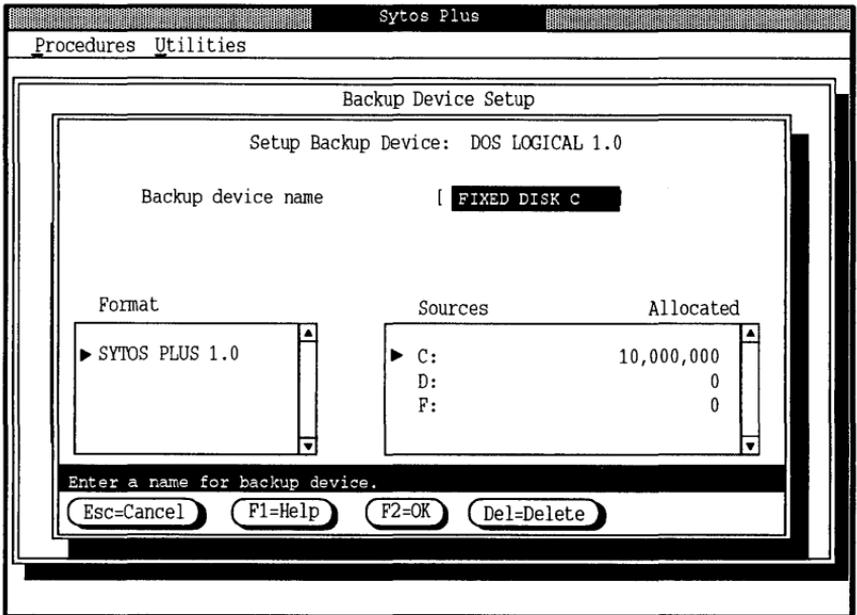


Figure 11-8 Setting up a fixed disk as a backup device

- **Backup device name** assigns a personalized name to this backup device.
- **Format** determines the format to use when backing up files: for example, Sytos Plus or SY-TOS. (Refer to the section "Choosing a Backup Media Format," earlier in this chapter.)
- **Sources** lists the drive(s) available to include in the logical device setup.
- **Allocated (Bytes)** shows the allocated backup space for each configured device in a fixed logical setup.
- **Delete** allows you to delete a device.

CAUTION: *If you delete a backup device that is a fixed device, your data becomes inaccessible.*

Setting Preferences for the Sytos Plus Environment

The Preferences utility allows you to set up your Sytos Plus working environment.

Use the following steps to set the preferences.

Step	Action
1	Select Preferences... from the Utilities menu.
2	Select the option(s) you wish to change. If you select Require password to change this preference under Procedure lock... , Sytos Plus prompts you to assign and confirm your password before returning to the main screen. This password will be needed when you want to change the Procedure lock in the future. If you select Unattended security... , Sytos Plus prompts you to assign and confirm the password before returning to the main screen.
3	Choose OK or press F2 .

The following table describes the available preferences options.

Option	Description
File attributes to display	Determines how much detail you see when files are listed in the Source Files window: Display all attributes - is the default setting. Attributes include filename, extension, date and time, and size.

Option	Description
Sort directories	<p>Determines how directories are sorted in the Directory Tree windows:</p> <p>Sort directory names - is the method for sorting.</p>
Sort files	<p>Determines how files are listed in the Individual File windows:</p> <p>Don't sort By name By extension By date and time (they were created) By size</p>
Security: Procedure lock...	<p>You may want to select this if you are setting up Sytos Plus for other people and want to limit them to running existing Procedures only. This may prevent accidental or unauthorized changes to Procedures. At the pop-up window, you can select:</p> <p>Only allow running and previewing existing Procedures</p> <p>The password is required to change this preference. You are asked to enter the password twice.</p>
Security: Unattended security...	<p>Allows you to specify a default password to be used with unattended Procedures for which Password has been included as an option. Otherwise, Sytos Plus proceeds and does not assign one because it must assume that no one is available to assign a meaningful password.</p>

Option	Description
<p>Security: Media overwrite ...</p>	<p>Use the media overwrite prompts to specify what Sytos Plus should do for Backup and Move Procedures when Create new Volume. . . is selected and the media you have inserted into the drive already contains data.</p> <p>Always prompt asks whether you want to overwrite the media or replace it with another.</p> <p>Prompt if same format prompts you if the media is a Volume that matches the format you selected for your backup device (for example, a Sytos Plus tape and a backup device with the Sytos Plus format).</p> <p>Prompt if different format prompts you only if the media is not a Volume that matches the format chosen for your backup device (for example, a SY-TOS tape and a backup device with the Sytos Plus format).</p> <p>Never prompt overwrites the media without prompting you.</p> <p>NOTE: <i>The media overwrite default with diskettes differs. In this case, Sytos Plus prompts you with Prompt if different format.</i></p>

Option	Description
Display	<p>Color: Chooses a background</p> <ul style="list-style-type: none"> - White - Cyan (light blue) - Blue - Black <p>Black and White</p> <p>Graphics mode The display mode on your screen was set originally during Sytos Plus installation. If you have a system equipped with an EGA or VGA graphics card, you may still choose to run in text mode.</p> <p>Warning/error beep Selects an audible beep for warning and error messages.</p>
Automatic volume update	<p>Allows you to add all volumes after completion of a Procedure. Deselect this option to delete all volumes after completion of a Procedure. This is useful if you are transferring tapes to another system and do not need volume information, or if you want to save disk space.</p>
Automatic QFA detection	<p>Determines if the QFA feature is present on the backup media, and directs the system to complete Restore and Compare Procedures using QFA if it is present.</p> <p>Deselect this option if you suspect you are having problems accessing files using QFA.</p>
General network broadcast	<p>Sends a warning to all users on the server that a Backup Procedure is about to start. Asks all users to close all files. Deselecting this feature means no message is broadcast. This feature also broadcasts a message when the Backup Procedure is complete.</p>

Option	Description
Individual network broadcast	<p>Sends a warning to each user who has files open on a server during a Backup Procedure. Deselecting this feature means no message is broadcast. No message is broadcast if Retry busy files is not set as a backup option.</p> <p>NOTE: <i>Novell NetWare 386 does not support the Individual Network Broadcast option.</i></p>

Managing Procedures

Description

The Procedures menu, available from all Edit Procedure and Create Procedure windows, provides the following ways to manage your Procedures:

- **List...** sends a list of all your Procedures to a text file and/or the printer.
- **View...** shows information about the loaded Procedure which can also be sent to a text file and/or the printer. The information includes the Procedure's name and description, the type of operation, the source, the Selection Sheet, and the options selected.
- **Delete...** removes a Procedure from your list of available Procedures.
- **Import...** copies a Procedure to your system from another system that uses Sytos Plus. This feature is useful for setting up different systems to run the same Procedures without having to re-create those Procedures.
- **Export...** copies a Procedure so that it can be used on another system running Sytos Plus. This

feature is useful when you want to distribute Procedures you have created.

Listing a Procedure

Use the following steps to send a list of all your Procedures to a text file and/or printer.

Step	Action
1	<p>Select List... from the Procedures menu. At the pop-up window, select one or both options.</p> <p>A text file sends the list of Procedures to a disk file. (Use the default or type a complete path and filename appropriate to your operating system.)</p> <p>The printer sends the list to your printer.</p>
2	<p>Choose OK or press F2 to print the list and close the window.</p>

Viewing a Procedure

Use the following steps to view a Procedure's name, description and other information.

Step	Action
1	<p>Select View. . . from the Procedures menu.</p>
2	<p>To print the information shown, choose Print or press F4.</p>

Step	Action
3	<p>At the pop-up window, select one or both options.</p> <p>A text file sends the information to a disk file. (Type a complete path and filename appropriate to your operating system.)</p> <p>The printer sends the information to your printer.</p>
4	Choose OK or press F2 .

Deleting a Procedure

Use the following steps to remove a Procedure from your list of available Procedure.

Step	Action
1	Select Delete. . . from the Procedures menu to see a list of all your Procedures.
2	Select the Procedures you want to delete (by <Clicking> or highlighting and pressing Spacebar).
3	Choose View description or press F8 if you wish to see the Procedure's description.
4	Choose Delete or press Del to delete the Procedures.
5	Choose OK or press F2 to confirm.
6	Choose Cancel or press Esc to leave the window.

Importing a Procedure

Use the following steps to import a Procedure to your system from another system that uses Sytos Plus.

Step	Action
1	Select Import... from the Procedures menu.
2	Select the device that contains the Procedures you wish to import and choose OK or press F2 .
3	Select the Procedure(s) you wish to import (by <Clicking> or highlighting and pressing Spacebar). Figure 11-9 is an example of the Import a Procedure window.
4	Choose OK or press F2 .

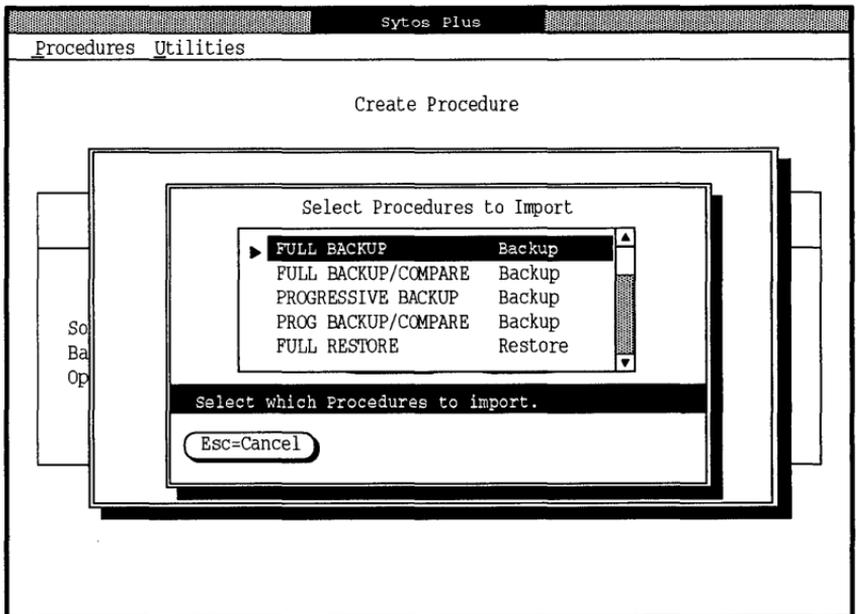


Figure 11-9 Importing a Procedure

IMPORTANT: After loading an imported Procedure, check its settings (for example, filenames, backup device name, and options) to be sure they apply to your system. If you need to make changes, refer to instructions for creating the type of Procedure you have imported.

Preview the Procedure before running it, to be sure it will run as you intended.

Exporting a Procedure

Use the following steps to export a Procedure so that it can be used on another system running Sytos Plus.

Step	Action
1	Select Export. . . from the Procedures menu.
2	Select the Procedure(s) you want to export (by <Clicking> or highlighting and pressing [Spacebar]). Figure 11-10 illustrates an example of the Export a Procedure window.
3	If you wish, choose [View description] or press [F8] to see the highlighted Procedure's description.
4	Choose [OK] or press [F2] .
5	Select the device to which the Procedure(s) should be exported and choose [OK] or press [F2] .

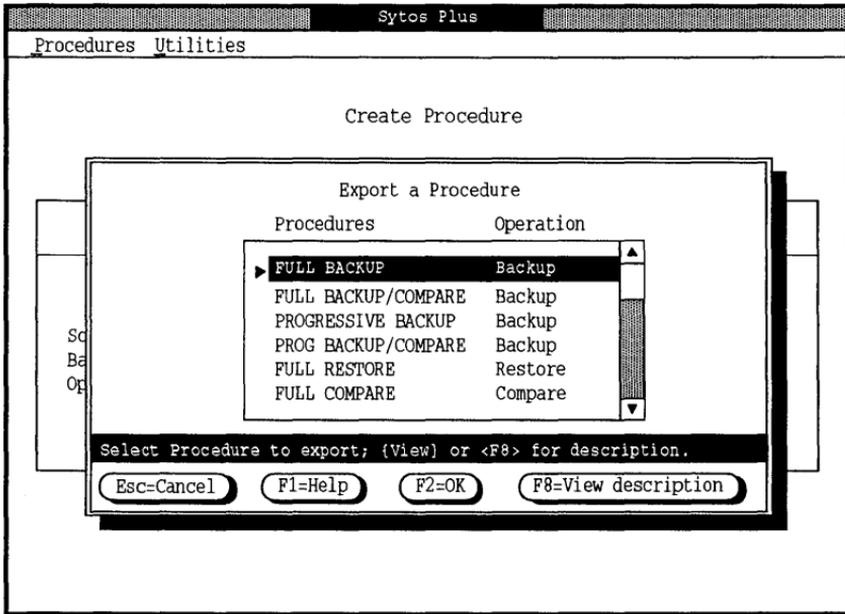


Figure 11-10 Exporting a Procedure



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Network

Considerations

Overview

Introduction

Network systems allow several individuals, all located at different workstations, to access the application programs, data files, and peripherals that make up the system. This is commonly referred to as a network environment.

NOTE: *If you are running Sytos Plus for the first time make sure there are no other applications running. This ensures that the device driver configuration settings being used by Sytos Plus do not conflict with the settings of other device drivers already installed in your system.*

You can run only one Sytos Plus session at a time on a workstation.

Because of the special way systems are designed to function in a network environment, you must be aware of certain considerations when running Sytos Plus. The following sections describe how files are handled in a network environment and how Sytos Plus interacts with network systems.

File Protection

In network situations, special features are made available by the operating system to protect the integrity of all files. For example, these types of systems usually provide file security features, which prevent users from altering or examining confidential or critical files, and file locking features, which prevent several users from concurrently changing the same file.

File Security

In network situations, it is common for some type of security to be placed on files, allowing users access only to designated information. It is the responsibility of the individual maintaining the system (commonly known as the Supervisor or administrator) to set up security. Each user is given a unique name or number and then is assigned certain directories and files which they may access. The Supervisor or administrator is normally the only user who may access all files and directories.

These are examples of directories in which you have been given permissions:

Permission Type	Definition
Read	You can <i>read</i> , but not edit or execute, those files located in specified common directories.
Read/write	You can <i>create</i> and <i>edit</i> files only in a directory assigned to you personally.
Execute	You can <i>execute</i> application programs residing in a common directory but you do not have permission to create or edit files there.

File Locking

In a network environment, any file that is being accessed by a user or application program may be *locked* or made inaccessible to all other users or application programs. Once the file is no longer needed for this task, it becomes *un-locked* so that it may once again be accessed. This process is designed to protect the files being used and is performed automatically by the operating system, remaining transparent to the user. These locked files are referred to as **busy files**.

Running Sytos Plus on a Network

Overview

You can run Sytos Plus on a network workstation provided that the associated backup device controller card, and the backup device are present locally. You should also know ID assignments, and directory trustee and access rights of your network if you need to restore files. These network aspects are discussed in the next section.

NOTE: *When running the Schedule, you must be logged on to the network before the Schedule is loaded. If the Schedule is loaded before you log on to the network, it cannot run properly and you must reboot your system.*

Networks Supported by Sytos Plus

Sytos Plus supports these networks:

- Novell NetWare 286 version 2.1x and higher
- Novell NetWare 386 version 3.1
- IBM PC LAN Program
- LANtastic version 4.x

- 3Com 3+
 - NetBIOS compatible networks
-

Selecting Files for a Backup Procedure

To quickly specify all network files for a Backup Procedure, select the network volume names that are displayed alphabetically in the list of sources.

Once all the network server volume names are selected, there is no need to select any of the DOS drive letters that are mapped to these network server volumes, since they contain the same files and directories that are in the server volumes.

If you want to quickly select a particular subdirectory, instead of the complete server volume, choose the mapped drive letter that points to, or contains, that subdirectory. Do not select both the network server volume name and the DOS drive letter that is mapped to it, or the same files are backed up twice.

For example, selecting the drive letter K: or selecting the network volume name \\[server name]\[volume name] backs up all the files. Selecting both options backs up the same files twice.

Mapped Drive Letters

Be careful when backing up and restoring files that are referenced by "mapped" drive letters. If mapping changes after files are backed up, the files may not be restored to the original locations or may not be restored at all if that drive is no longer valid. In this situation, you should use the Sytos Plus **Redirection** option during the Restore to reference the newly mapped drive letter, or you may want to change the mapping (using your network utilities) to what it was when the files were backed up. See *Chapter 8: Restoring Data* for more Redirection information.

Selecting All Files on a Mapped Drive

Mapped drive letters typically reference directory pathnames suitable for an individual system. When you select **All files** from a mapped drive letter, you actually select all files from the mapped directory and its subdirectories rather than all files from the root directory.

For example, the user Joe's drive M: can reference the whole pathname `\PUBLIC\USER\JOE`. When Joe selects **All files** from drive M:, he actually selects all files on M: `\PUBLIC\USER\JOE` and its subdirectories. Sytos Plus keeps track of the entire pathname on a mapped drive letter, so after selecting **All files**, your file selection appears as **Specified files** in the main screen because you have not selected all files from the root.

Selecting Novell NetWare Files with the Selection Sheet

To select Novell NetWare files and directories using the Sytos Plus Selection Sheet, follow these conventions:

- To back up volume names on Novell NetWare, type:
[server name/[volume name]:\[path].

NOTE: *When specifying files ensure you are using the back or forward slashes correctly.*

To back up mapped drive letters on Novell NetWare, use the DOS file naming convention.

Backing up Files

Check the Log after backing up a server because files that are open (**busy**) cannot be backed up. To back up these files, ensure that the files are closed and run another Backup Procedure, selecting only those files that were busy.

If you must back up all files on a server in a single Procedure, make sure that no one else is using the network.

This guarantees that you have access to all files and ensures a complete backup.

You should select the **Retry busy files...** option when running a Backup Procedure on the network. Follow these steps:

Step	Action
1	Log on to the network as Supervisor (or your name if you have been given the privilege).
2	Enter your password.
3	Start Sytos Plus.
4	Select Load ... from the Procedures menu.
5	Choose a Backup Procedure from the choices listed.
6	Select Options ... from the Procedure window.
7	Select Retry busy files ...
8	Choose any of the Retry busy files options except the Do not retry (default) option, otherwise, messages cannot be sent.
9	Press F6 to run the Procedure.

IMPORTANT: For Novell NetWare servers, the bindery files (which are always open), are backed up by Sytos Plus when specified and are not treated as busy. A NetWare status message appears on the server console screen when these files are backed up by Sytos Plus, reporting that the bindery files have been opened and closed.

System files are not seen as busy by Sytos Plus. NetWare v3.1 bindery information is backed up and stored if selected.

NOTE: To obtain access privileges to all files, you should log in as the Supervisor or administrator.

Sending Messages During Backup Procedures

Sytos Plus can send two kinds of messages during Backup Procedures to users working with files: General and Individual Broadcast messages. This lets users close their open files so they can be backed up. To activate the Individual network broadcast option, follow these steps:

Step	Action
1	Log on to the network as Supervisor (or your name if you have been given the privilege).
2	Enter your password.
3	Start Sytos Plus.
4	Select Load ... from the Procedures menu.
5	Choose a Backup Procedure from the choices listed.
6	Select Options ... from the Procedure window.
7	Select Retry busy files
8	Choose any of the Retry busy files options except the Do not retry (default) option, otherwise, messages will not be sent.
9	Go to Utilities: Preferences and turn on the Individual network broadcast checkbox.
10	Press the F2 key.
11	Press the F6 key to run the Procedure.

When Sytos Plus encounters a busy file, it sends a message to the user(s) the *first* time it retries the file. Busy files are retried at recurring intervals of 60 seconds.

IMPORTANT: *NetWare 386 does not allow Sytos Plus to determine which users have files open. Therefore, Sytos Plus cannot broadcast warnings to individual users to close open files, even if the **Retry busy files...** option is selected.*

The general broadcasting message lets all network users know that a backup Procedure is starting. To activate the **General network broadcast** option, follow these steps:

Step	Action
1	Log on to the network as Supervisor (or your name if you have been given the privilege).
2	Enter your password.
3	Start Sytos Plus.
4	Go to Utilities: Preferences and turn on the General network broadcast checkbox.
5	Press the F2 key.
6	Press the F6 key to run the Procedure.

NOTE: *It is important to include the Log as part of any Procedure and to check it after the Procedure ran to see if any busy files could not be backed up.*

Broadcasting with Multiple Logons

If you are logged on to the same network at more than one location, any network broadcasts that Sytos Plus sends to you goes to the location where you first logged on.

NetWare Temporary Files

Temporary files created by NetWare are not backed up. Examples of these files are NET\$SPL.QUE, NET\$MESSG.SYS, and DIRSTAMP.SYS. When backing up under Novell 2.15 TTS, certain other temporary files in the root directory will be **Unfound** and not backed up. None of these temporary files need to be backed up.

User and Group Security Information

In order to back up the user and group security information recorded in the NetWare bindery files, you must log in to the network as Supervisor or you must have Supervisor equivalent rights. It is important that these files are backed up in the event that a full system restore is required. If these files are not on the backup media, all user and group information will have to be re-created after a Restore Procedure.

The name and location of these bindery files are as follows:

- NetWare 286 - SYS:\SYSTEM\NET\$BIND.SYS
 SYS:\SYSTEM\NET\$BVAL.SYS
- NetWare 386 - SYS:\SYSTEM\NET\$OBJ.SYS
 SYS:\SYSTEM\NET\$PROP.SYS
 SYS:\SYSTEM\NET\$VAL.SYS

Backing up NetWare Servers with the SY-TOS 3.x Format

If you back up a NetWare server using the SY-TOS 3.x data format, try to make all of your NetWare file selections using mapped drive letters only. Using the server Volume name to specify files results in the server Volume name being stored as a mapped drive letter.

For example, MICKEY/SYS: is backed up or renamed as M:\KEY\SYS.

This conversion is necessary since SY-TOS supports only mapped drive letters under NetWare. To restore data that was backed up with a server Volume name file specification while using the SY-TOS 3.x format, use the redirection option and redirect the converted server Volume name to its original location.

Using CHKVOL for Backup

If you use CHKVOL to determine the number and size of files to be backed up, be aware of a discrepancy between what CHKVOL reports and what Sytos Plus backs up. CHKVOL estimates the space used by additional information such as the hot fix area, bad sectors on the server, Track 0 header information, and directory entries.

Restoring Files

When restoring files to a server, make sure that users are not using files in the directory you want to restore, since files that are open (**busy**) cannot be overwritten.

From One NetWare System to Another

Sytos Plus will not restore directory information if you are restoring your system from the NetWare 286 operating system to NetWare 386 (or vice versa). For example, if you are upgrading from NetWare 286 to NetWare 386 and you wish to back up a NetWare 286 directory and redirect it to a 386 directory, Sytos Plus cannot restore the directory information because the security attributes and rights are different.

Restoring NetWare Files to a Different Server

When you restore NetWare operating system files to a server configured differently from the server on which NetWare was originally backed up, you must exclude certain files located under [server name]\SYS:\SYSTEM.

- Under NetWare 386, exclude AUTOEXEC.NCF.
- Under NetWare 286, exclude NET\$OS.EXE.

The server may not boot if any of these files are included during a Restore since they may contain configuration settings that do not match the changed hardware configuration.

With Redirect Files Option

When using the Redirection option during Restore Procedures, be sure you specify exact pathnames of the files you intend to restore. This is especially important in a networking environment because files with the same names may exist in different locations within the network.

IMPORTANT: *Make sure that no other users are logged in when you are restoring network system files or other shared program or data files.*

NetWare Filename Limits

NetWare filenames or directories longer than the eight character DOS limit will be truncated if those files are restored to DOS environments. You should use the Sytos Plus **Redirect files...** option to shorten their names when restoring these types of files to ensure that the final filenames are the ones you want.

Reboot NetWare after Restore

Because NetWare remains in memory after a Restore Procedure, we strongly recommend that you reboot the server after a full system restore or after restoring any system directories or files which record user and group security information. This will ensure that NetWare is updated with respect to the information on disk that has been restored (such as changed "rights"), preventing possible data corruption or loss.

Non-existent or Deleted NetWare Users

When a Supervisor adds a user to the system, NetWare assigns the user an ID number. The files or directories subsequently created by users are assigned to their unique number. Each user is assigned a different ID in other NetWare file systems.

Occasionally, files are transported to different file systems in which users may not be defined. Also, after files are backed up, their owners may be removed from the file system. If Sytos Plus encounters a file or directory whose owner no longer exists on the system it is being backed up from or restored to, Sytos Plus will prompt you for confirmation on how to proceed.

Non-existent/Deleted NetWare Users: Backing Up or Comparing Files

During Backup Procedures, Sytos Plus updates each file's Last Archived Date (if the Backup Set option **Mark files as backed-up** was chosen) and preserves the file's Last Accessed Date. However, if Sytos Plus determines (after backing up a file), that the file's owner no longer exists on the current system, it must first assign an owner in order to access the file information.

When this situation is encountered after backing up a file, you have the following options:

Option	Action
Preserve the owner and Last Archived Date	Choose Cancel or press Esc . The Last Accessed Date will be updated.
Assign the current user as owner and update the Last Archived Date	Choose OK or press F2 . The Last Accessed Date is preserved.
Stop the Procedure	Choose Stop Procedure or press F7 . The file is not restored and, therefore, not accessed.

Non-existent/Deleted NetWare Users: Restoring Files

If the owner no longer exists on the file system being restored to, you have the following options:

Option	Action
Preserve the owner	Choose Cancel or press Esc . Last Accessed date is modified to reflect the date of the Restore. NOTE: <i>If the file being restored does not exist on disk, it WILL be assigned the current user as owner with the corresponding access rights.</i>
Assign the current user as owner with the corresponding access rights	Choose OK or press F2 . If necessary, each file's access rights may later be changed using the appropriate NetWare utility.
Stop a Procedure	Choose Stop Procedure or press F7 .

Managing File NetWare Dates

Description

Several Novell NetWare file management features concerning dates are described in the following table.

Feature	When to use...
Stores each file's Last Accessed Date during Backup Procedures.	Use appropriate NetWare utility (e.g., FILER) to check system for files that haven't been accessed for a specific period of time. Archive them (using a Move Procedure) to free up disk space.
Displays file dates according to their Last Modified Date.	Use Selection Sheet to include or exclude files based on certain dates and select them by their Last Modified Date.
Sets each file's Last Archived Date (in addition to the archive bit) if you choose the Mark files as backed-up option during Backup Procedures.	During a Restore Procedure if a file has been backed-up more than once and you want to specify that only the most recent version is restored. Or during your next backup if you only want to include files which have changed since that date.

NOTE: *If you use Read Audit and Write Audit attributes on your files, Sytos Plus cannot restore these attributes. Use the NetWare utility FILER to reassign Read Audit and Write Audit attributes to your files.*

Restoring NetWare Directory Trustees and Access Rights

Description

During Restore Procedures, some NetWare directories being restored from the backup media may have different trustees and access rights than the corresponding directories on the network. This may occur when the rights are changed on the network after a backup.

The first time Sytos Plus attempts to restore a file to a network drive, it prompts to determine what to do in any situation where directories have different trustees and access rights on the network and on the backup media. The options are to preserve the rights as they are on the network or to overwrite them with those from the backup media.

When prompted, you may choose one of the following options:

Option	Action
Preserve the directory trustees and access rights as they exist on the network	Choose Cancel or press Esc .
Overwrite the directory trustees and access rights that exist on the network with those on the backup media	Choose OK or press F2 .
Stop the Restore Procedure	Choose Stop Procedure or press F7 .

Please note the following when reviewing the options:

- If you choose **Cancel**, the directory rights that exist on the network are not overwritten when the directories are restored from the backup media. This option is useful if directory rights have changed since the backup and you need to restore the contents of the directories without losing the new trustee rights.
- If you choose **OK**, the rights recorded on the backup media will be restored to the network. This option is useful if you need to restore both the directories *and* their access rights. Any trustees added to a directory after the backup operation (which therefore do not exist on the backup media) are not overwritten when the directory information is restored to the network. If you do not want to keep the new trustees after the Restore Procedure, you should remove them using the appropriate NetWare utility.

For example, suppose there was a directory called \ACCOUNTS, which was backed up. After the Backup Procedure, the following changes were made to the trustees and rights on the network: user Carol was added, user Stephen was removed, and the rights were modified for both users David and Diana. The following table shows the differences between the new rights on the network and those on the media after the backup.

Trustees	Rights on Backup Media	New Network Rights
David	R,W,M	R,W
Diana	R,W,P,M	S
Stephen	R,W	Not a Trustee
Carol	Not a Trustee	R,W,C

The following table shows the resulting directory trustees and rights on the network after restoring information from the backup media. Example 1 occurs if you choose to overwrite network rights, Example 2 if you choose to preserve them.

In Example 1, all trustees and their corresponding rights are restored from the backup media. At this time, user Stephen is re-created on the network with the same rights that exist on the backup media. Because user Carol does not exist on the backup media, there is no information to replace her rights on the network. Therefore, her rights on the network remain unchanged after the Restore Procedure.

Trustees	Example 1: Choose <input type="checkbox"/> OK to Overwrite Network Rights	Example 2: Choose <input type="checkbox"/> Cancel to Preserve Network Rights
David	R,W,M	R,W
Diana	R,W,P,M	S
Stephen	R,W	Not a Trustee
Carol	R,W,C	R,W,C

In Example 2, the trustee rights for \ACCOUNTS are preserved exactly as they exist on the network.

Restoring directory rights offers you the flexibility of recovering the rights from only one or a few of the directories you are restoring from the backup media. To do so, follow these steps:

Step	Action
1	Create a Restore Procedure, which copies <i>only</i> the directories whose rights you want to <i>preserve on the network</i> .
2	Run the Procedure.
3	Choose Cancel or press Esc to preserve the network rights when prompted.
4	Create a second Restore Procedure, which copies <i>only</i> those directories whose rights you want to <i>copy from backup media</i> .
5	Run the Procedure.
6	Choose OK or press F2 to overwrite the network rights when prompted.

Complete NetWare System Restore

You may want to preserve your directory rights when restoring the SYSTEM directory and when you are doing a complete system restore. This process allows NetWare to correctly distinguish all files and directory security. We recommend you follow these steps:

Step	Action
1	Bring up the file server.
2	Restore <i>only</i> the \SYSTEM directory from the backup media. NOTE: Remember to exclude the SYS:\AUTOEXEC.NCF file or SYS:\SYSTEM\NET\$OS.EXE file. See the "Restoring NetWare Files to a Different Server" section for more information.
3	When prompted, choose to PRESERVE directory trustees and access rights that exist on disk.
4	Reboot the file server to initialize the new system files you've just restored.
5	Restore all desired files (including the \SYSTEM directory), choosing to overwrite all directory trustee and access rights from the backup media. Any trustees added to a directory after the Backup Procedure (which therefore do not exist on the backup media) will not be overwritten when the directory information is restored to disk.
6	If, after the Restore Procedure, you no longer want these new trustees to exist, remove them using the appropriate NetWare utility.



13

Troubleshooting

Overview

Purpose

This chapter answers questions you may have regarding common problems or error messages encountered when running Sytos Plus.

Helpful tips

If you have a problem while running Sytos Plus, perform the following tasks before contacting Technical Support:

- Review the README file for more recent information about Sytos Plus.
- Press **F1** or **Help** for online help, if you encounter an error or warning message.
- Press **F1** from any window, then press **F8** to access the Help Index. Error and warning messages are located at the end of this index.
- Consult your backup device reference manual. If you still cannot resolve your problem, note the error or warning message received. Refer to the Sytos Plus Technical Support Information form in *Appendix C*, and call Technical Support.

In this Chapter

This chapter includes the following topics:

Topic	See Page
Using the Sytos Plus Log to Troubleshoot	13-2
Common problems while installing Sytos Plus	13-4
Common problems while running Sytos Plus	13-13
Problems appending during a Backup or restoring with QFA	13-30
Slow performance and apparent system locks	13-37
Schedule questions	13-41
Sytos Plus Directory Uses Large Amount of Disk Space	13-44
List of error and warning messages	13-45

Using the Sytos Plus Log to Troubleshoot

Purpose

Viewing the Log may help you determine why you received an error or warning message and why a Procedure was canceled due to an error. After an unsuccessful Procedure has finished, a Final Status pop-up window displays one of the following messages:

- Complete: Some files not processed
- Canceled due to error
- Canceled by user

To determine which files to troubleshoot, view the Log by following these steps:

Step	Action
1	Select Utilities... from the Startup screen.
2	Select Logs... from the Utilities window. The Log Utility window, shown in Figure 13-1 opens.
3	To change the sequence of the Logs, select the appropriate sort command: <ul style="list-style-type: none"> - Sort by Log date and time. - Sort by Procedure name.
4	Highlight the Log for the Procedure you want to view.
5	Choose View or press F8 to view the highlighted Log.
6	Review the Log for: <ul style="list-style-type: none"> - Possible error messages - Names of any busy, damaged, unmatched or unfound files. <p>NOTE: <i>If you want to see a list of all files processed, refer to the next table.</i></p>
7	Correct any errors and re-run the Procedure.

Set the **Processed files** option for the Procedure to see a list of every file processed. Use the following steps.

Step	Action
1	Load the Procedure you are troubleshooting.
2	Select Options... from the Procedure window.
3	Select Log... from the Options window.
4	Select Processed files , and press F2 or select OK .

Step	Action
5	Save your Procedure and rerun it. After the Procedure is completed, the Log contains a list of all processed files as well as any busy, damaged, unmatched or unfound files. For more information, refer to <i>Chapter 11: Management Utilities</i> .

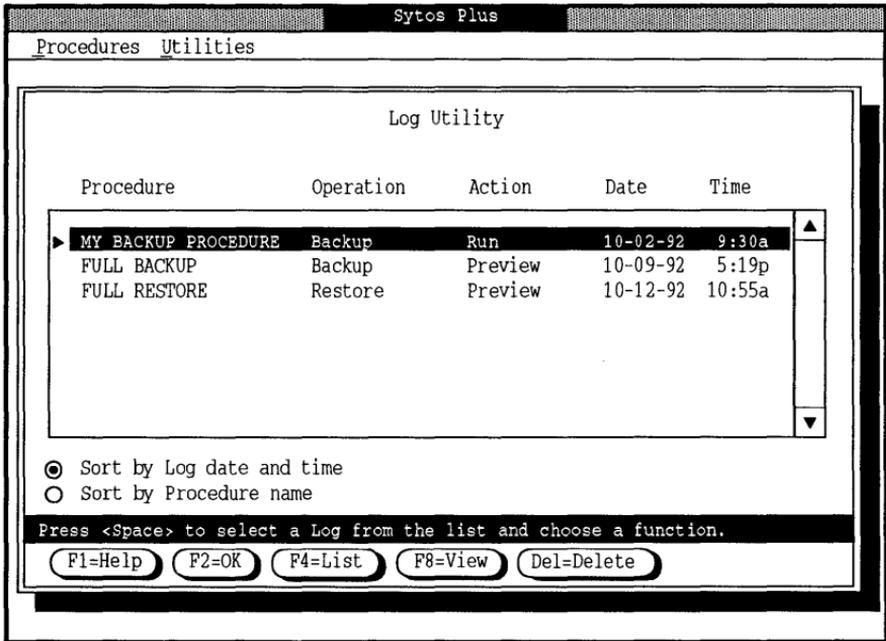


Figure 13-1 Selecting a Log

Common Problems During Installation

Overview

Problems during installation are often due to configuration settings that do not match the backup device. In some cases the wrong Sytos Plus device driver has been selected.

Refer to the following sections for questions most often asked, and error messages most often seen during installation:

- Which Device Driver Do I Choose in Setup?
 - W32 "Device Settings Do Not Match"
 - E130 "Default Settings Do Not Match"
 - E21 "Backup Device Not Found"
-

Which Device Driver Do I Choose in Setup?

Description

You need to know both the model number of your backup device and the type of controller you are using in order to select the correct Sytos Plus device driver.

Suggestion

If you did not install your backup device yourself, you may not know the model number of the device and the type of controller on which it is installed.

You can check the information in one of the following ways:

- Refer to the documentation that came with the device.
- Open your system and look at the device model number.
- Call the dealer who supplied the equipment.

Once you have the correct information, select the appropriate Sytos Plus device driver. The Sytos Plus device driver name usually includes part of the model name and number. The next section provides examples of which Sytos Plus device driver to choose for your backup device.

Examples

If you are using a Wangtek Model 5150 ES SCSI tape drive with an Adaptec 154X controller board, the following applies:

- `DEVICE=[drive letter]:\ASPI4DOS.SYS/D` must be in in your `CONFIG.SYS` file.
- When configuring the device as a Sytos Plus backup device, choose the device driver "WANGTEK 150/ASPI4" from the list of devices in **Backup Device Setup ...**

NOTE: For a complete and updated list of all devices supported by Sytos Plus, call the Sytron Message Center at (508) 898-8008.

If your backup device requires a SCSI controller board, the proper driver must be included in your `CONFIG.SYS` file when you run Sytos Plus.

W32 "Device Settings Do Not Match"

Description

The configuration settings specified for the backup device do not match the actual device settings, or the backup device is not set up correctly.

The most common reasons for this message include:

- Wrong device driver selection.
- Settings that do not match the backup device.
- A SCSI backup device and controller board that are not compatible.

Suggestion: Non-SCSI Devices

Be sure that the software settings for the non-SCSI backup device (for example, **DMA Channel**, **Interrupt**, and **Address**) match exactly the hardware settings used when the device was installed and that they are set according to the backup device installation instructions. Check **Utilities: Backup device setup** to check your settings. If they are incorrect or are used by other devices installed in your system, running Sytos Plus could hang your system or produce unpredictable results.

Suggestion: SCSI Devices

If you are using an Adaptec controller card and a SCSI (Small Computer System Interface) interface, the backup device settings are defaults that are set during installation. The fields for configuration settings in the Sytos Plus window remain blank.

To see your settings when booting up your system, type the following statement in your CONFIG.SYS file:

```
DEVICE=[drive letter:]\ASPIXDOS.SYS /D
```

where X = 2, 4, or e, depending on the type of controller card you have. Refer to the section, "Which Device Driver Do I Choose in Setup." The DEVICE= statement for the SCSI device in CONFIG.SYS should be located after any memory manager statements.

Suggestion: Diskette Drive Systems

If a diskette drive is selected as the backup device, check **Utilities: Backup device setup** to be sure that the correct drive has been chosen (if more than one is available on your system) and to make sure that the density setting is correct.

Suggestion: Incompatible Device Settings

After you have received the W32 warning message, follow these steps to resolve a device setting mismatch. At the warning message, choose one of the following options:

- Select **Cancel** or press **Esc** to clear the warning message from your screen. Pressing **Cancel** allows you to change the DMA, Interrupt and Address software settings to match the hardware settings for the non-SCSI backup device you have chosen. Enter different specifications, then go to the next table.

or

- To continue from the warning message, choose **OK** or press **F2**. Press **OK** if the chosen backup device is not installed on your system but you plan to install it after exiting Sytos Plus. Go to the next table for further instructions.

Step	Action
1	Verify that the cables are connected and the backup device is turned on.
2	Make sure the backup device specified during Install is present on your system. Select Utilities: Backup device setup and check if the drive is in the window.

Step	Action
3	<p>You can either Add a new device or Edit an existing device. To Add a new device:</p> <ul style="list-style-type: none"> - Press F5 - Select a device from the Add New Backup Device window. - Press F2. - Enter a name for the backup device and choose format and other configuration settings (if necessary) for the backup device. - Choose OK or press F2 to save these choices - Select the correct backup device from the list in the Backup Device Setup window. <p>To Edit an existing device:</p> <ul style="list-style-type: none"> - Press F6 - Enter the correct format, and other configuration setting (if necessary) for the backup device. - Choose OK or press F2 to save these choices.

E130 "Default Device Settings Do Not Match"

Description

The default configuration settings for the backup device you selected when installing Sytos Plus do not match the actual device settings.

Error message 130 appears only when you enter Sytos Plus the first time after installation to alert you that the Sytos Plus device driver defaults differ from the actual device configuration.

Suggestion

You may have to reset your backup device configuration settings.

Select **Utilities: Backup device setup** from within Sytos Plus and make sure the settings for the non-SCSI backup device (for example, **DMA Channel**, **Interrupt**, and **Address**) match exactly the hardware settings used when the backup device was installed. Check your hardware settings to verify them.

E21 "Backup Device Not Found"

Description

When you receive the message, "Backup Device Not Found" Sytos Plus was unable to find the specified backup device.

This error may occur because:

- No backup device was specified for the Procedure.
- The backup device specified does not exist in the list of devices available for Sytos Plus on this system. This may be the result of importing a Procedure from another system.
- You may have deleted the device originally specified or changed the backup device name.

Suggestion: No Backup Device Specified for Procedure

To choose a backup device for the Procedure, follow these steps (using Backup Procedure as an example).

NOTE: Choose a backup device from the list of available devices rather than editing the name of the backup device in the list. If you edit the name of a backup device, any other Procedure that references this device name is not able to run unless you also edit the Procedure.

Step	Action
1	Select Backup... in the Startup screen.
2	Choose a Procedure and select [Edit] or press ^.
3	Select Backup to... in the Edit Procedure window.
4	Highlight a different backup device for the Procedure.
5	Select (OK) or press (F2) to save your changes.
6	Save the Procedure to avoid future errors.
7	Press (F6) to run the Procedure.

Suggestion: Device Non-existent, Deleted, or Changed

This error may be corrected by adding a new backup device. Follow these steps.

Step	Action
1	Select Utilities... from the Startup screen.
2	Select Backup device setup... .
3	Select (Add new device) or press (F5).
4	Press (F2) to display the Setup Backup Device pop-up window.
5	Enter a name for the backup device and choose configuration settings (if necessary) for the backup device.
6	Choose (OK) or press (F2) to save these choices.
7	Press (F6) to run the Procedure.
8	Save the Procedure to avoid any future errors.

E40 "Cannot Access Backup Device"

Description

Sytos Plus must first gain access to a backup device before copying files to or from the Volume. Sytos Plus is not able to access the selected backup device.

This error may have occurred because:

- The backup media is not physically present in the backup device or cable or power connections to the backup device are loose. Also, some backup devices need to be powered on before the system is powered on to be recognized as "present."
- The backup device configuration settings do not match the actual settings used when installing the backup device.
- The backup device configuration settings match with actual settings but there is a conflict with another device on the system, often the mouse.

Suggestion: Mechanical Problems

This error may be corrected in one of the following ways:

- Insert media in the backup device.
- Check that cable and power connections to the backup device are secure.
- Power on your backup device before powering up your system.

Suggestion: Unmatched Hardware, Backup Device Settings

This error may be corrected by selecting **Utilities: Backup device setup** and making sure the settings for the non-SCSI

backup device (for example, **DMA Channel**, **Interrupt**, and **Address**) match exactly the hardware settings used when the backup device was installed.

Suggestion: Configuration Conflict

To correct a conflict with another device on the system, change your backup device hardware settings. Refer to the chart in *Chapter 2: Installing Sytos Plus* for more information.

Common Problems While Running Sytos Plus

Overview

Refer to the following sections for questions most often asked, and error messages most often seen while running Sytos Plus:

- E47 "Device Cannot Be Accessed"
- E122 "Device Could Not Be Accessed"
- E55 " Command Not Recognized by Device"
- Why do I get a DOS error message when running Sytos Plus on a system with a CD-ROM drive?
- Why can't I restore SY-TOS tapes to a Sytos Plus System?
- Why is there hard disk activity during a Restore or Backup?
- Why do I get a "Busy Files" message while running a redirected Restore Procedure?
- Why do I Get a "Bindery Active-Skipped" message?
- E39 "Backup Device Already in Use"
- E41 "Backup Device Is Not Responding (1
- E56 "Backup Device Error (1)"

- Why does Sytos Plus appear to lock during an unattended procedure?
-

E47 "Device Cannot Be Accessed"

Description

When you receive the message, "Sytos Plus is unable to access the backup device," it may occur because:

- There is no media or damaged media in the backup device or the backup device was not powered on.
- The backup device was not set up correctly.
- No backup device was specified for the Procedure.

Suggestion: Mechanical Problems

This error may be corrected in one of the following ways:

- Be sure media is inserted properly in the backup device, preferably new media.
- Check that cable and power connections to the backup device are secure.
- Some backup devices need to be powered on before the system is powered on to be recognized as "present." Power on your backup device before powering up your system.

Suggestion: Incorrect Backup Device Setup

Select **Utilities: Backup device setup** and make sure the settings for the non-SCSI backup device (for example, **DMA Channel, Interrupt, and Address**) match exactly the hardware settings used when the backup device was installed.

Suggestion: No Backup Device Specified

Follow these steps to be sure that the backup device chosen for your Procedure (Backup, for example) is the actual backup device that you are using.

Step	Action
1	Select your Procedure from the Startup screen.
2	Select OK or press F2 .
3	Select Backup to...
4	Choose the correct backup device.
5	Select OK or press F2 to save your selection.
6	Run your Procedure.

E122 "Device Could Not Be Accessed"

Description

This error most commonly occurs when the specified device could not be accessed (for example, the device to which you are exporting Procedures or from which you are copying files).

This error may occur because:

- There is no media or damaged media in the device, the cable and power connections to the device are loose, or the device is not powered on.
- The backup device is not set up correctly.
- The media is not formatted correctly for the device.
- There is a problem with the disk file being processed.

- The network connection is broken.

Suggestion: Mechanical Problems

Correct this problem by doing one of the following:

- Ensure that the media is inserted properly in the device, and, if necessary, use a new media.
- Make sure the cable and power connections to the device are tight.
- Some backup devices need to be powered on before the system is powered on to be recognized as "present." Power on your backup device before powering up your system.

Suggestion: Format

Make sure that the media in the device is formatted correctly for this device. Sytos Plus cannot read incompatible media.

Suggestion: Hardware Settings

Select **Utilities: Backup device setup** from within Sytos Plus and make sure the settings for the non-SCSI backup device (for example, **DMA Channel**, **Interrupt**, and **Address**) match exactly the hardware settings used when the backup device was installed. Check your hardware settings to verify them.

Suggestion: Damaged Files

Because the files may be damaged on your fixed disk, you should also use your operating system utilities to check for damage on the disk and repair it as necessary.

Suggestion: Network Connection

When running on a network, be sure your system is properly connected to the network.

E55 "Command Not Recognized By Device"**Description**

The backup device being used does not recognize a command sent to it by Sytos Plus.

This error may be a result of one of the following problems:

- Mechanical problems such as improperly inserted or damaged media, or loose cable connections.
- The backup device is not set up correctly or has malfunctioned.
- The backup device and the controller board are not compatible with each other.
- The device driver (the software that runs the backup device) is not the correct one for your backup device and controller board.
- The version of the backup device or type of media being used may not support all operations or options in Sytos Plus such as QFA.

Suggestion: Mechanical Problems

This error may be corrected in one of the following ways:

- Be sure media is inserted properly in the backup device, preferably new media.
- Check that cable and power connections to the backup device are secure.

Suggestion: Incorrect Backup Device Settings

Select **Utilities: Backup device setup** and make sure the settings for the non-SCSI backup device (for example, **DMA Channel, Interrupt, and Address**) match exactly the hardware settings used when the backup device was installed.

Suggestion: Incompatible Backup Device and Hardware

Make sure that the backup device and its controller board are compatible with each other. Refer to the documentation that came with your backup device.

Suggestion: Incompatible Device Driver and Hardware

Make sure the device driver is the correct one for your backup device and controller board. To check the device driver used for this device, go to **Utilities: Backup device setup**. For more information, see the "Which Device Driver Do I Choose in Setup?" section in this chapter.

Suggestion: Incompatible Backup Devices, Media with QFA

This problem can be corrected by going to **Utilities: Preferences** and deselecting the **Automatic QFA detection** option.

Why Do I Get a DOS Error Message When Running Sytos Plus on a System with a CD-ROM Drive?

Description

Sytos Plus attempts to run, but cannot access a CD-ROM drive. DOS displays an "Error Reading Drive" message.

This error may occur because:

- No media is present in the CD-ROM drive.

- The media is present, but the CD-ROM drive initialization is slow.

Suggestion

Sytos Plus routinely checks the availability of all disk drives attached to your system to give a complete listing of source drives under the **Source files** window. Sytos Plus cannot continue if there is no media in the CD-ROM drive.

Follow these steps to correct the problem if no media was inserted in the drive:

Step	Action
1	Place media in the CD-ROM drive.
2	Start Sytos Plus.
3	Run your Procedure again.

If the CD-ROM drive does contain media, but Sytos Plus still cannot complete, the CD-ROM drive may be taking a long time to initialize. This is normal for some CD-ROM drives. If the CD-ROM drive takes a long time to initialize, you can initialize the drive before starting Sytos Plus.

NOTE: *Initializing the drive before starting Sytos Plus is useful especially for an unattended scheduled Procedure.*

Use the following steps to initialize the CD-ROM drive.

Step	Action
1	Create a batch file which reads: DIR [drive]: where [drive] is the drive letter for the CD-ROM drive.
2	Schedule the batch file to run before the scheduled Procedure is due to run.
3	Be sure you are at the DOS prompt and that the schedule is activated.

The CD-ROM drive is initialized before Sytos Plus begins searching for available drives.

Why Can't I Restore SY-TOS Tapes to a Sytos Plus System

Description

If, after upgrading from SY-TOS to Sytos Plus, you can't restore old version tapes, you probably have not selected the correct format choices.

Suggestion

To restore SY-TOS tapes in Sytos Plus, follow these steps:

Step	Action
1	Select Utilities... from the Startup screen.
2	Select Backup Device Setup... from the Utilities window.
3	Highlight the backup device that is selected for the Restore Procedure.

Step	Action
4	Choose Edit or press F6 to open the Setup Backup Device window.
5	Press Tab to reach the Format field.
6	Select SY-TOS 3.X format.
7	Press F2 or OK to accept the change.
8	Run the Restore Procedure again.

After you have successfully run your Restore Procedure, change the backup device setting from SY-TOS to Sytos Plus.

Why Is There Hard Disk Activity During a Restore or Backup?

Description

Hard disk operates during Restore or Backup Procedures.

Suggestion

Hard disk activity during a Restore or Backup Procedure before or after accessing the backup device is normal, especially if the files or the Backup Sets are large. During a Restore Procedure, Sytos Plus checks the Volume utility to locate the file names to be restored. During a Backup Procedure, files are being created on a hard disk for subsequent use by the Volume utility.

Why Do I Get a "Busy Files" Message While Running a Redirected Restore Procedure?

Description

Files are coming up "busy" while running redirected Restore Procedure. This error usually occurs when the redirection sheet pathnames are incorrect or do not exist on the system.

Suggestion

To correct a failed Redirected Restore Procedure, follow these steps:

Step	Action
1	Go to Redirect files ... in the Restore options window.
2	Make sure you use this asterisk convention *.* or * to specify both pathnames.
3	Be sure the destination drive exists on the system.
4	Be sure the proper redirection source pathname exists on the backup media. Refer to <i>Chapter 15: Reference</i> for more information on redirecting files.
5	If you need to edit your entries, choose Edit or press F6 .
6	Make your changes.
7	Select OK or press F2 .
8	Run the Restore Procedure.

Why Do I Get a "Bindery Active - Skipped" Message During Compare?

Description

When *comparing* files backed up from a NetWare 3.11 server, Sytos Plus displays a "Bindery Active - Skipped" message in the Log. Sytos Plus uses NetWare Close and Open Bindery calls to access files being backed up on a NetWare 3.11 server. NetWare updates these files after the Open and Close, and if they are compared the files are mismatched.

Suggestion

This message is no cause for alarm since it only informs you that the bindery files were skipped during a Compare Procedure because they were being updated. The files are still accurate and otherwise unchanged.

E39 "Backup Device Already in Use"

Description

Sytos Plus must first initialize the backup device before accessing files on the media. However, Sytos Plus found that the backup device is already in use.

This error may have been caused by one of the following conditions:

- Another task or user has already opened this device in a network environment, or on a system where "Multiple devices" (cascading drives) are configured in the Backup Device Setup window.
- A previous Sytos Plus Procedure was terminated by rebooting or shutting off power, rather than by choosing Stop Procedure and exiting Sytos Plus. This caused the device to remain "in use".

- The backup device may not be set up correctly or may have malfunctioned.

Suggestion:

Follow these steps to solve this problem:

Step	Action
1	Try to identify which user or task is accessing the device.
2	Shut down any non-essential tasks.
3	Check the cable and power connections to the backup device.
4	If this error still occurs when the device is no longer being used, shut the device off.
5	Turn off your personal computer, turn your device back on and turn your computer on again.
6	Run Sytos Plus again but do not run the Procedure yet.
7	Choose Utilities: Backup device setup and make sure the settings for the non-SCSI backup device (for example, DMA Channel , Interrupt , and Address) match exactly the hardware settings used when the backup device was installed.
8	Run the Procedure again.

Refer to *Chapter 2: Installing Sytos Plus* for more information. This chapter provides examples of configurations which may be unavailable because they are being used by other devices already installed in your system. Use this information as a guideline when configuring your backup device.

E41 "Backup Device Is Not Responding (1)"

Description

When Sytos Plus attempted to access the backup device, the device responded with a non-specific error. This error may have been caused by:

- The backup device was not set up correctly or has malfunctioned.
- The backup device is not physically present on the system.
- The automatic configuration utility for an EISA system was not run after the backup device controller card was installed. The error may also occur if Sytos Plus was run but the configuration settings are incorrect.

Suggestion: Backup Device

This error may be corrected by following these steps:

Step	Action
1	Check the cable connections to the backup device.
2	Make sure the backup device is turned on. Also, some backup devices need to be powered on before the system is powered on to be recognized as "present."
3	Reboot your system.
4	Make sure that the backup device specified for this Procedure is present on the system.

Step	Action
5	<p>Make sure the hardware settings are correct. Choose Utilities: Backup device setup and make sure the settings for the non-SCSI backup device (for example, DMA Channel , Interrupt, and Address) match exactly the hardware settings used when the backup device was installed.</p> <p>Refer to <i>Chapter 2: Installing Sytos Plus</i> for more information. This chapter provides examples of configurations which may be unavailable because they are being used by other devices already installed in your system. Use this information as a guideline when configuring your backup device.</p>
6	Run Sytos Plus again.

Suggestion: EISA System

On an EISA system with an automatic configuration utility, follow these steps:

Steps	Action
1	Make sure that the utility was run.
2	Make sure that the controller was enabled and set up correctly.
3	<p>Make sure the hardware settings are correct. Choose Utilities: Backup device setup and make sure the settings for the non-SCSI backup device (for example, DMA Channel, Interrupt, and Address) match exactly the hardware settings used when the backup device was installed.</p>
4	Run Sytos Plus again.

E56 "Backup Device Error (1)"

Description

When you get the error reading "Backup Device Error: The exact cause cannot be determined," Sytos Plus shuts off your device and provides no further details about the error.

The problem may have been caused by:

- Mechanical problems such as loose cables, damaged media or dirty tape heads.
- Incorrectly matched hardware and backup device settings.
- A QFA (Quick File Access) problem while running a Restore or Compare Procedure.
- An incorrectly selected backup device setting for your Procedure.

IMPORTANT: *Make a careful note of the actions performed before this error occurred in case you need to call Sytron Technical Support.*

Suggestion: Mechanical Problems

Follow these suggestions if you suspect the error was caused by mechanical problems.

- Check the cable and power connections to the backup device to make sure they are tight.
- Erase your tape or use a different tape or diskette.
- Some backup devices need to be powered on before the system is powered on to be recognized as "present." Power on your backup device again.
- Clean the tape heads according to the manufacturer's specifications.

Suggestion: Unmatched Backup Device, Hardware Settings

To correct this error, be sure the hardware settings are correct. Choose **Utilities: Backup device setup** and make sure the settings for the non-SCSI backup device (for example, **DMA Channel, Interrupt, and Address**) match exactly the hardware settings used when the backup device was installed.

Suggestion: QFA Problem During a Restore or Compare Procedure

If you were running a Restore or Compare Procedure with the **QFA** option selected when the error message appeared, follow these steps:

Step	Action
1	Go to Utilities: Preferences and deselect the Automatic QFA Detection option.
2	Select OK or press F2 to save the change.
3	Run the Procedure.

Suggestion: Backup Device Setting for Procedure

If you suspect that the backup device configuration for your Procedure does not match the actual device being used, follow these steps.

Step	Action
1	Select the Procedure from the Startup screen.
2	Select Backup to... .
3	Choose the correct backup device.
4	Select OK or press F2 to save your changes.

Step	Action
5	Run the Procedure.

You may also refer to *Chapter 2: Installing Sytos Plus* for more information. This chapter provides examples of configurations which may be unavailable because they are being used by other devices already installed in your system. Use this information as a guideline when configuring your backup device.

Why Does Sytos Plus Apparently Lock During an Unattended Backup?

Description

A corrupted Schedule file (SYPLUS.SCH) may cause your PC not to run during an Unattended Backup Procedure.

Suggestion

To correct the problem caused by a corrupted Schedule file, follow these steps.

Step	Action
1	Go to the DOS command prompt.
2	Change directory to the SYFILES directory.
3	Delete the SYPLUS.SCH file.
4	Reschedule your Procedure.
5	Test if the scheduled event works by running an Attended Procedure. If your system hangs again, you receive a specific error message requiring a response.

Common Problems Appending During a Backup or Restoring with QFA

Overview

Refer to the following section for common questions and error messages encountered when using the QFA (Quick File Access) option.

- W23 "Cannot Read QFA Directory"
 - E26 "Cannot Append to Volume Using QFA"
 - Why won't Sytos Plus run with my 8mm tape drive?
 - Why do I get a W12 "Invalid File Header" message?
-

W23 "Cannot Read QFA Directory"

Description

This warning occurs most commonly during Compare or Restore Procedures which have QFA (Quick File Access) chosen as a Volume option.

This message is not a fatal error and Sytos Plus continues with a Procedure already started.

This warning may occur:

- If the media is damaged or lost, thereby preventing Sytos Plus from reading the QFA directory.
- If the backup device is not set up correctly or has malfunctioned.
- If a lost Backup Procedure was prematurely terminated.

If you suspect the media is damaged, do not use it again. We suggest that you discard it after retrieving any important information that it contains.

Suggestion: Media, Backup Device

Choose one of the following options if you believe the problem is caused by damaged media or an incorrectly set up backup device.

- To continue with the Procedure, choose **OK** or press **F2**. This Volume is processed sequentially.

NOTE: *It is possible to Compare or Restore files on the media, which contains the damaged QFA directory and no files are lost if you continue the Procedure without QFA. The only effect of continuing the Procedure without referring to the QFA directory is that it may take longer to complete because Sytos Plus is reading files sequentially.*

- To stop the Procedure, choose **Stop Procedure** or press **F7**. Because this warning may signify a problem with the media or the backup device, try to determine the cause of the warning and then correct it with the following suggestions:

For tape systems, choose **Retension tape** from **Utilities: Media preparation** or include it as part of this Procedure. Also, clean the tape drive heads according to the manufacturer's instructions and run the Procedure again.

If choosing **Retension tape** or cleaning the tape drive heads does not eliminate the warning, there may be a problem with the backup device. Follow these steps:

Step	Action
1	Check the cable and power connections to the backup device and make sure they are tight.
2	Run Sytos Plus again.
3	<p>Make sure the hardware settings are correct. Choose Utilities: Backup device setup and check that the settings for the non-SCSI backup device (for example, DMA Channel, Interrupt, and Address) match exactly the hardware settings used when the backup device was installed.</p> <p>NOTE: See Chapter 2: <i>Installing Sytos Plus</i> for examples of configurations which may be unavailable because they are being used by other devices already installed in your system.</p>

Suggestion: Restore Procedure

If you were running a Restore Procedure with the QFA option selected, follow these steps:

Step	Action
1	Select Utilities... from the Startup screen.
2	Select Preferences... from the Utilities menu.
3	Deselect the Automatic QFA detection option.
4	Select OK or press F2 to save changes.
5	Restore your Backup Sets.
6	After restoring, select the Automatic QFA detection option to return to the original Preferences settings.

E26 "Cannot Append to Volume Using QFA"

Description

This error occurs most commonly during Backup or Move Procedures which have QFA chosen as a Volume option.

This error message may occur if:

- The QFA directory on the media is damaged and Sytos Plus cannot update it.
- The backup device is not set up correctly or has malfunctioned.
- The last Backup or Move Procedure was prematurely terminated.

Suggestion: QFA Directory

Follow this suggestion for tape systems if you suspect the QFA directory on the media is damaged and Sytos Plus cannot update it.

Step	Action
1	Select Utilities... in the Startup screen.
2	Select Media Preparation...
3	Select Prepare or press F6 .
4	Select the Retension tape option.
5	Select OK or press F2 to save changes.
6	Select Utilities: Preferences .
7	Deselect the Automatic QFA detection option.
8	Select OK or press F2 to save changes.

Step	Action
9	Run Sytos Plus. If the problem persists, clean the tape drive heads according to the manufacturer's instructions.

Suggestion: Backup Device

Follow this suggestion if the previous suggestions do not eliminate the error and you suspect there may be a problem with the backup device.

Step	Action
1	Check the cable and power connections to the backup device and make sure they are tight.
2	Run Sytos Plus again.
3	<p>Make sure the hardware settings are correct. Choose Utilities: Backup device setup and check that the settings for the non-SCSI backup device (for example, DMA Channel, Interrupt, and Address) match exactly the hardware settings used when the backup device was installed.</p> <p>NOTE: See Chapter 2: Installing Sytos Plus for examples of configurations which may be unavailable because they are being used by other devices already installed in your system.</p>

Suggestion: Backup, Move Procedures

If you were running a Backup or Move Procedure with the QFA option selected when the problem occurred, follow these steps:

Step	Action
1	Select Utilities from the Startup screen.
2	Select Preferences... from the Utilities menu.
3	Deselect the Automatic QFA detection option.
4	Select OK or press F2 to save changes.
5	Run your Procedure.
6	Select Automatic QFA detection to return to the original Preferences settings.

Why Won't QFA Run with My 8mm Tape Drive?

Description

Sytos Plus does not support QFA (Quick File Access) on a 2.3Gb 8mm tape drive. When attempting a Procedure with the QFA option on, you receive the E39 "Backup Device Already In Use" error message.

Why Do I Get a W12 "Invalid File Header" Message?

Description

An "Invalid File Header" message will often display if you are running a Restore or Compare Procedure with QFA activated and QFA does not find a file at the location it is expecting it.

NOTE: *There is nothing wrong with your files.*

The problem may also occur because:

- Old or damaged media.
- A malfunctioning tape drive.

- Dirty tape heads.
- You are transferring DAT tapes from one DAT manufacturer to another (with different formats).

Suggestion: Bad Media, Tape Drive or Heads

Follow this suggestion if you suspect the problem is mechanical.

Step	Action
1	If you are using tape media, select Utilities... in the Startup screen.
2	Select Media Preparation...
3	Select Prepare or press F6 .
4	Select the Retension tape option.
5	Select OK or press F2 to save changes.

Suggestion: DAT Format

Follow this suggestion if you are transferring files from one DAT format to another.

Step	Action
1	Select Utilities... from the Startup screen.
2	Select Preferences...
3	Deselect the Automatic QFA detection option.
4	Select OK or press F2 to save changes.
5	Run Sytos Plus.

Slow Performance and Apparent System Locks

Overview

Your system occasionally proceeds at an unacceptably slow speed or "hangs" - the keyboard seems locked- while trying to run Sytos Plus. Refer to the following sections for questions most often asked about poor performance:

- Why does Sytos Plus run slowly or apparently lock my PC?
- How can I speed up viewing directories during a Restore?

Why Does Sytos Plus Run Slowly or Apparently Lock on My PC?

Description

Performance delays or apparent locks can result on a PC configured with:

- No disk cache.
- Less than 512Kb of conventional memory.
- A backup set consisting mainly of small files (average size of 25Kb per file).
- Approximately 300 files or directories in the backup set.
- Incorrectly written CONFIG.SYS and AUTOEXEC.BAT files.

Suggestion: Disk Cache

Generally, to maximize performance when using Sytos Plus, configure a disk cache on your system of at least 64Kb and ensure 512Kb of free conventional memory and 512Kb of expanded memory. The disk cache can reduce the amount of time your computer spends reading data from your hard disk. Sytos Plus can use the expanded memory for temporary storage.

Available disk caching programs include:

- SMARTDRV.SYS - packaged with Windows 3.x and DOS 5.0.
- CACHE.EXE - a COMPAQ product packaged with every 386 and 486 system.
- Disk Caching programs are also available in many utilities packages.

Refer to your operating system manuals for configuration guidelines.

Suggestion: Conventional Memory

Increase available conventional memory to at least 512Kb by eliminating or loading into upper memory some of your Terminate and Stay Resident (TSR) programs such as DOSKEY and any extra device drivers.

Suggestion: Small Files

The Sytos Plus performance problem presented by a backup set containing mostly small files is due to basic limitations within DOS. We recommend installing at least 512Kb of expanded memory.

Suggestion: 300 or More Files

Having approximately 300 files in a backup set raises another DOS-related performance problem. Again, we suggest you use a disk cache.

Suggestion: CONFIG.SYS and AUTOEXEC.BAT Files

Editing your CONFIG.SYS and AUTOEXEC.BAT files can correct slow performance or computer locks. In the CONFIG.SYS file, set FILES=40 and BUFFERS=20. As a rule, the order of statements in your CONFIG.SYS file should be:

- Any memory managers
- Any device statements
- Any shell statements
- FILES and BUFFERS
- Any other statements

Here is an example of how your CONFIG.SYS file should be structured:

```
DEVICE=C:\ADAPTEC\ASPI4DOS.SYS /D
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE
DEVICE=C:\DOS\SMARTDRV.SYS 1024 256
DOS=HIGH, UMB
SHELL=C:\DOS\COMMAND.COM /E:600 /p /f
BREAK=ON
FILES=40
BUFFERS=20
LASTDRIVE=P
```

NOTE: *In your AUTOEXEC.BAT file, any disk cache programs should be listed first.*

IMPORTANT: Do not use the NOEMS parameter for HIMEM in the CONFIG.SYS file. It prevents use of expanded memory.

How Can I Speed Up Viewing Directories During a Restore?

Description

You may find that viewing directories or a list of files through **Files to Restore...** during a Restore Procedure takes a long time.

Suggestion

You can reduce the time required to view directories or files by using a disk cache.

Tip

For large Restore Procedures, enter your file selections manually using the Selection Sheet. To do so, follow steps 1 through 7 in the next table and run the Restore. If you want to also view the directories, continue with step 8.

Step	Action
1	Select Restore... in the Startup screen.
2	Choose a Procedure and select Edit or press F6 .
3	Select Files to restore...
4	Choose Selection Sheet or press F8 from the file selection window to see the Selection Sheet with its current file selections.

Step	Action
5	<p>Edit the Selection Sheet to include the full pathnames of the files you want restored. (Refer to <i>Chapter 15: Reference</i> for more information on using selection sheets).</p> <p>NOTE: <i>If you do not know the full pathname of a file, specify as much of the pathname as you can. For example: You are looking for a .DOC file on a tape that has a full backup of your C: and D: drives, but you do not know the file's full pathname. At the Selection Sheet, specify to include both C:*.DOC and D:*.DOC. Include the subdirectories by selecting the file option Dir: Include subdirectories from the Edit Selection Sheet Entry window.</i></p>
6	<p>From the Restore Procedure window select Options... and then Log... and specify that you want the Processed Files to be included in the Log.</p>
7	<p>Review the Restore Procedure by selecting Preview from the Procedures menu.</p>
8	<p>Select the View files... option by choosing View Files or pressing F8 to view the files. (You can also print the list of files by choosing Print or pressing F4.) Check that your files would have been included if the Restore Procedure had actually run. If any edits are necessary, return to the Selection Sheet.</p>
9	<p>Run the Restore Procedure.</p>

Schedule Questions

Overview

Problems running a scheduled event are often due to:

- Conflicts with other resident applications.
- A corrupted Schedule file.
- An incorrectly written AUTOEXEC.BAT file.

Refer to the following sections:

- Why does Schedule run intermittently?
- Why won't a Schedule event run?

Why Does Schedule Run Intermittently?

Description

Schedule events may run intermittently while running a scheduled event if:

- The Sytos Plus Schedule line in the AUTOEXEC.BAT file is written incorrectly.
- You loaded the Schedule before you logged on to the network.

Suggestion

To correct an intermittent Schedule problem, log on to the Network before loading the Schedule, and be sure your Schedule line in the AUTOEXEC.BAT file is written correctly as follows.

Step	Action
1	Open your AUTOEXEC.BAT file in your editor.
2	Install the Sytos Plus Schedule by writing this statement on the last line of your AUTOEXEC.BAT file: [drive name] [pathname] SYPLUS /I.
3	Save the AUTOEXEC.BAT file and exit your editor.
4	Reboot your system and verify that the Schedule is installed.

For more information, see *Chapter 10: Scheduling and Running Procedures* and *Chapter 12: Network Considerations*.

Why Won't a Schedule Event Run?

Description

A Schedule event may not run if the following conditions are not met:

- You must be at the DOS prompt for a Schedule event to run. If you have mistakenly typed some characters or even pressed the `Spacebar`, Sytos Plus does not operate. Your system must be in a "wait state" (idle).
- You must not have any other applications running or even loaded in your CONFIG.SYS file to run Schedule. With applications such as DOSKEY, WP Office Shell and N-DOS loaded as Terminate and Stay Resident files (TSR) loaded in your CONFIG.SYS file, a Schedule event will not run.
- If you are running under DOS 5.0 with the shell active or the DOSKEY feature on (default is on).

Suggestion: DOS Prompt, TSRs

Follow this suggestion if you suspect the problem was caused by mistakenly typed characters at the DOS prompt or existing TSRs:

- Be sure that you are at the DOS prompt to schedule an event. Also, make sure that you have not entered any extraneous text or pressed any function key at the prompt. Press the return key to clear the prompt.
- Also, comment out of your CONFIG.SYS or AUTOEXEC.BAT files any TSRs that would cause the Schedule to fail. For example, write the following statement:

```
rem DOSKEY.COM
```

- After editing the CONFIG.SYS or AUTOEXEC.BAT files, reboot your system.

Suggestion: DOS 5.0

Exit the DOS shell and comment out DOSKEY.COM from your AUTOEXEC.BAT file following the instructions described in the preceding suggestion.

My Sytos Plus Directory Uses a Large Amount of Disk Space

Description

As you use Sytos Plus, the amount of disk space used increases because Logs and Volumes are stored in the Sytos Plus directory.

Suggestions

To save disk space, you may remove unnecessary Logs and Volumes by using the appropriate Sytos Plus utilities.

CAUTION: *Do not alter any Sytos Plus files from outside of Sytos Plus*

Removing Logs and Volumes:

Logs and Volumes are located in the following directories:

- **\SYFILES\SYJRN** - Logs directory. These files may be deleted from the **Utilities: Logs** utility within Sytos Plus. Refer to *Chapter 11: Management Utilities* for instructions on deleting Logs.
- **\SYFILES\SYLIB** - Library for Volume utility. These files may be deleted from the **Utilities: Volumes** utility within Sytos Plus. Refer to *Chapter*

11: Management Utilities for instructions on deleting Volumes.

Removing temporary files:

The Sytos Plus directory may contain temporary files which you can delete using the DOS command. These files, identified by a filename extension of .!!!, will be located in the SYFILES directory where Sytos Plus is installed. By default, the directory is called \SYPLUS\SYFILES.

List of Error and Warning Messages

The following list includes all error and warning messages contained in the online Help Index. Press **F1** to get Help and then press **F8** to display the online Index.

Numerals in parentheses following some error messages refer to identical errors which can occur at different points in Sytos Plus. Note that in some cases the messages do not follow in numerical sequence.

Errors

- E2 "Not Enough Memory (1)"
- E3 "Unable to Create Directory"
- E4 "Cannot Access Sytos Plus File"
- E5 "Cannot Read Volume"
- E6 "Invalid Pathname"
- E7 "End of QFA Directory"
- E8 "Cannot Create Volume"
- E9 "Cannot Create Backup Set"
- E10 "Cannot Update Volume Information (1)"
- E11 "Cannot Retry Busy Files"
- E12 "Cannot Update Busy Files List"
- E13 "Cannot Update Volume Information (2)"
- E14 "Cannot Read File"
- E15 "Cannot Copy Files"
- E16 "Cannot Update Volume Information (3)"
- E17 "Cannot Update Log"

- E18 "Cannot View Log"
- E19 "Not Enough Memory (2)"
- E20 "Cannot Access Sytos Plus Procedure"
- E21 "Backup Device Not Found"
- E23 "Cannot Update File"
- E24 "Cannot Create QFA Directory"
- E26 "Cannot Append to Volume Using QFA"
- E27 "Error Writing ECC to Directory Track"
- E28 "Invalid Format of Files on Media"
- E29 "Procedure is Damaged"
- E30 "Cannot Interpret Procedure Setting"
- E31 "Device Configuration File Missing"
- E32 "Damaged Device Configuration File"
- E33 "Cannot Update Configuration File"
- E34 "Cannot Activate ECC"
- E35 "Too Many Files to Display"
- E36 "Invalid Procedure Name"
- E37 "Cannot Skip Backup Set"
- E38 "Cannot Update Display"
- E39 "Backup Device Already 'In Use'"
- E40 "Cannot Access Backup Device"
- E41 "Backup Device Is Not Responding (1)"
- E42 "Backup Device Already 'Closed'"
- E43 "Backup Device Is Not Responding (2)"
- E44 "Memory Conflict"
- E45 "Cannot Read Files On Media"
- E46 "Cannot Copy Files to Media"
- E47 "Device Cannot Be Accessed"
- E48 "Unexpected End of Media"
- E49 "Write Protected Media"
- E50 "Unexpected End of File"
- E51 "There Are No Files on the Media"
- E52 "Cannot Reserve Memory"
- E53 "Cannot Free Memory"
- E54 "Cannot Find Files Using QFA"
- E55 "Command Not Recognized By Device (1)"
- E56 "Backup Device Error (1)"
- E57 "Cannot Format Media"
- E58 "Block Size Not Supported"
- E59 "Invalid Drive"
- E60 "Incompatible Backup Device Setup"

- E61 "Backup Device Not Processing QFA"
- E62 "Media Not Pre-Formatted"
- E63 "Media Not Formatted"
- E64 "Not Enough Memory For Device Driver"
- E65 "Backup Device Still 'In Use'"
- E66 "Sytos Plus Files Missing"
- E67 "Backup Device Has Not Been Initialized"
- E68 "Invalid Device Configuration"
- E69 "Sytos Plus Files Cannot Be Accessed"
- E70 "Maximum Number of Devices In Use"
- E71 "Driver Memory Allocation Error"
- E72 "Deallocating Memory"
- E73 "Command Not Recognized By Device (1)"
- E74 "Command Not Recognized by Device (2)"
- E75 "No Media in Backup Device"
- E76 "Media Has Been Changed"
- E77 "Not Enough Memory (3)"
- E78 "Unable to Deactivate Backup Device Functions"
- E79 "Cannot Write to Media"
- E80 "Media Is Different"
- E81 "Too Many Bad Blocks"
- E82 "Media Is Unusable"
- E83 "Cannot Recognize Media Format"
- E84 "Not Enough Memory (4)"
- E85 "Unable to Build List"
- E86 "Cannot Update Schedule"
- E87 "Damaged Volume Files"
- E88 "System Error"
- E89 "Unable to Access Volume Utility"
- E90 "Incorrect Password (1)"
- E91 "Incorrect Encryption Key (1)"
- E92 "Cannot Find Device Drivers"
- E94 "Critical Error (1)"
- E95 "Not Enough Disk Space"
- E96 "Cannot Find Procedures"
- E97 "Cannot Initialize Device Manager"
- E98 "Too Many Open Files"
- E99 "Media Not Part of Volume (1)"
- E100 "Media Part of Current Volume"
- E101 "Media Not Part of Volume (2)"
- E102 "Cannot Activate Compression"

- E103 "Incorrect Password (2)"
- E104 "Incorrect Encryption Key (2)"
- E105 "Backup Sets Cannot Be Viewed"
- E106 "Internal Sytos Plus Error"
- E107 "Invalid Time of Day"
- E108 "Invalid Length of Time"
- E109 "Invalid Date"
- E110 "Invalid Redirection Sheet Pathname"
- E111 "Allocated Space Not Valid"
- E112 "Daily Stop Is Not Later than Start"
- E113 "Invalid Selection Sheet Pathname"
- E114 "No Procedures Selected"
- E115 "Wrong Sequence - Earlier Number"
- E116 "Information on Media (1)"
- E117 "Information on Media (2)"
- E118 "Invalid Selection Sheet Date Range"
- E119 "Volume Not in Volume Utility (1)"
- E120 "Critical Error (2)"
- E121 "Media Is Write Protected"
- E122 "Device Could Not Be Accessed"
- E123 "Problem with Printer"
- E124 "Cannot Delete Volume"
- E125 "Printer Is In Use"
- E126 "Device Already Exists"
- E127 "Log Does Not Exist"
- E128 "Hardware Error"
- E129 "Backup Device Error (2)"
- E130 "Default Device Settings Do Not Match"
- E131 "No Backup Devices Configured"
- E132 "Cannot Activate QFA"
- E133 "Unable to Use Backup Device"
- E134 "Filename Exists - Cannot Overwrite"
- E135 "Cannot Continue with Current Operation"
- E136 "Import/Export Device Is In Use"
- E137 "Media Is of a Different Density"
- E138 "No Diskette Drive Has Been Selected"
- E139 "File Could Not Be Deleted During Move"
- E140 "Selection Sheet File Option: Wildcards"
- E141 "Selection Sheet File Option: No File Found"
- E142 "Selection Sheet File Option: Unreadable"
- E143 "Selection Sheet File Option: Invalid File"

E144: "No Removable Logical Devices Supported"
E145 "Multiple Devices Must be Same Capacity Media"
E146: "No Media in Logical Device"
E147 "No Logical Device Selected"
E148 "No Backup Device Files"
E149 "Invalid Drive Selected"
E150 "Error While Copying Backup Device Files"
E151 "No Non-Removable Logical Device Supported"
E152 "No Non-Removable Logical Device Selected"
E153 "Invalid Space Allocation"
E154 "No Logical Devices Available"
E155 "Invalid Drive or Path"
E156 "Unable to Access Drive"
E157 "Media Does Not Have Correct Volume"

Warnings

W1 "Procedure Name Already Exists"
W2 "Stop Procedure or Operation - Confirmation"
W3 "Delete Procedure - Confirmation"
W4 "Delete Log - Confirmation"
W5 "Delete Volume - Confirmation"
W6 "Procedure Has Not Been Saved"
W7 "Volume Not in Volume Utility (2)"
W8 "De-select Unattended Password - Confirmation"
W9 "De-select Unattended Encryption - Confirmation"
W10 "Filename Already Exists on Disk"
W11 "Volume Not in Volume Utility (3)"
W12 "Invalid File Header"
W13 "Cannot Delete Volume"
W14 "Cannot Update Volume Information (4)"
W15 "Preserve or Overwrite Access Permissions"
W16 "Owner Does Not Exist"
W17 "Wrong Sequence - Later Number"
W18 "Information on Media (3)"
W19 "Syntos Plus Files Exist on the Media"
W20 "[OK] to overwrite existing file; [Cancel] to skip"
W21 "Cannot Switch to Next Backup Device"
W22 "Cannot Restore File"
W23 "Cannot Read QFA Directory"
W26 "Cannot Read Source File"

- W27 "Sytos Plus Has Read a Damaged File"
- W28 "Delete Backup Device - Confirmation"
- W29 "Printer Out of Paper or Not Connected"
- W30 "Printer Is Not On Or Is Not 'On-Line'"
- W31 "Printer Is Being Used"
- W32 "Device Settings Do Not Match"
- W33 "Device and/or Media Does Not Support SY-TOS QFA"
- W34 "Media Is Not Formatted"
- W36 "Filename/Directory Name Conflict"
- W38 "Close Sytos Plus - Confirmation"
- W39 "Close Sytos Plus in Progress - Confirmation"
- W40 "Delete Logical Device: Confirmation"
- W41 "Overwrite Backup Files: Confirmation"



14

Backup Strategies

Introduction

Sytos Plus helps you plan and implement productive, efficient file management and distribution strategies. It provides you with an easy-to-use system that reduces the work of backing up files.

Sytos Plus Sample Procedures

Your Sytos Plus package comes with a variety of sample Procedures. These sample Procedures have everything set for a complete Procedure - load any of these and then preview, run, or edit them according to your needs. You can also create customized Procedures by renaming and editing sample Procedures. Use **Save as...** from the Procedures menu to rename a modified sample Procedure.

If you would like to see the description of a sample Procedure, highlight the Procedure and its description displays on the right side of the window.

Devising a Backup Strategy

Considerations

The effectiveness of Sytos Plus depends on your approach to file backup management. The following are key considerations.

- How valuable are your files?

- What would be the consequences of losing these files?
- Could you replace them? If so, what would be the time required and the cost?
- How often do these files change?
- Do you need to keep older versions of files?
- Does the device you use to back up files have any limitations of time, media capacity, or expense?
- Do you need to transport or distribute your backed-up files?
- Once backed-up, how important is immediate access to these files?

These issues can be divided into certain basic categories: value, change, performance, media capacity, and portability. Strategies frequently are based on a combination of these considerations and you should develop a plan that lets you restore files easily should it become necessary.

Value

When you devise a strategy, consider your cost in time and money to replace lost files. For example, if you work for an insurance company managing client information and claims, then you would probably consider file loss disastrous. The consequence of losing irreplaceable files makes it desirable to back up your files every day to different tapes.

Change

How often your files change is another key element to consider when planning an effective strategy. For example, losing even part of one day's input at a mail-order house would result in many lost orders and lost revenue. Your strategy might be to back up only changed files periodically throughout the day to ensure that a recent copy of all files exists.

Media Capacity and Device Performance

You should back up completely once a day but this is not always possible due to time, media, or device restrictions. You must assess your physical setup (for example, type and size of system and the available backup device) in order to effectively plan a strategy. Your strategy depends upon the kind of backup device you use, just as you may choose a device in response to the kind of strategy you consider necessary. Choosing a strategy based on your backup media is discussed later in this chapter.

Portability

Media portability may also influence the strategy you implement. For instance, in situations where files must be circulated within your department or sent to another site, you would want to use a backup device to physically transport your media (for example, diskette or tape). You must also choose a device with media that is compatible with other devices and compatible with the environments to which you send the data.

Basics of a Good Strategy

Strategy Elements

Regardless of which approach and media you choose, there are several elements fundamental to all good strategies.

Elements	Rationale
Secure Off-site Storage	If your business were struck by fire, flood, or theft, ensure that your system can be restored by keeping a recent copy of your files off-site.
Secure On-site Storage	Store your media in a fireproof safe to enhance security. Remember that you may want to have easy access to your most vital backed-up files.

Elements	Rationale
Write Protection	Backup copies may be the only way to re-create files in case of loss or damage. Write protecting your backup media ensures that they cannot be accidentally overwritten.

NOTE: *You should write-protect media even if it is password-protected since a password security precaution does not prevent media from being erased or overwritten.*

Three Approaches to Backup

Introduction

You can back up your files using three different but compatible methods: Full, Progressive, and Incremental Backups. In the following sections we describe each method and demonstrate the differences between them by using the example of a system comprised of three files: FILE 1, FILE 2 and FILE 3. This system is scheduled for a Full Backup once a week with Incremental or Progressive Backups the other four days.

Refer to the sections "Implementing a Monitoring Strategy" and "Strategies and Media Rotation" for suggestions about combining Full, Progressive, and Incremental backups with monitoring and media rotation schemes to create a complete strategy.

Full Backup

A Full Backup with Compare backs up all the files on your system, whether or not they have changed since the last backup.

Creating a Full Backup Strategy

Select the Full Backup with Compare Procedure provided by Sytos Plus. If necessary, edit the Procedure to customize it

for your system. We recommend running a Full Backup regularly.

An example of a Full Backup with Compare Strategy follows:

Example

Day	Files That Are Backed Up
 Friday (week 1)	  
 Friday (week 2)	  

Figure 14-1 Full Backup with Compare Strategy

Instructions are provided in the following sections to create and run Progressive and Incremental Backups. Both Backup types require you to:

- Run a Full Backup with Compare before implementing the strategy.
- Mark each file as backed up during your Full Backup.

The **Mark files as backed-up** option is described in *Chapter 5: Backing up Data*.

Progressive Backup

A Progressive Backup is one in which you back up *all files that have changed* since the most recent Full Backup. Intermediate versions of those changes are not saved.

NOTE: *If you anticipate having to restore only the latest copies of files which were backed up before file loss or damage, we recommend implementing a*

Progressive Backup strategy to use your time and media efficiently.

Creating a Progressive Backup Strategy

To create a Progressive Backup Strategy, you must first create a Full Backup with Compare on one Volume, then create a Progressive Backup on a second Volume. Follow these steps:

Step	Action
1	Run a Full Backup with Compare once a week with the Mark files as backed-up option turned on.
2	Run the Progressive Backup Procedure provided by Sytos Plus once daily, creating a new Volume each day with the same piece of backup media. The Progressive Procedure has selected Only changed files and has the Mark files as backed-up option turned <i>off</i> .
3	If necessary, you can edit the Procedures to customize them for your system.

You should use the Progressive Backup strategy when you make changes often to the same group of files. This strategy lets you restore the most recent versions of backed-up files in case of file loss or damage.

Example

An example of a Progressive backup strategy follows: A Full Backup with Compare is run Friday night. The next week the following files are changed and backed up using a Progressive backup.

 Full Backup		 1	 2	 3
Day	Files That Change	Files That Are Backed Up		
 Monday	 1 only	 1 only		
 Tuesday	 2 only	 1	 2	
 Wednesday	 3 only	 1	 2	 3

Figure 14-2 A Progressive Backup Strategy

To Restore

Restore the Full Backup Volume, then Restore the most recent Progressive Backup Volume.

Incremental Backup

An Incremental Backup is one in which you back up *only the files that have changed* since the most recent *Full or Incremental Backup*. Intermediate versions of the changes are saved.

NOTE: *If you anticipate having to restore any one of many versions of files backed up before any file loss or damage, we recommend implementing an Incremental Backup strategy.*

Creating an Incremental Backup Strategy

To create an Incremental Backup Strategy, you must first run a Full Backup with Compare on one Volume then create an Incremental Backup on a second Volume. Follow these steps:

Step	Action
1	Run a Full Backup with Compare once a week with the Mark files as backed-up option turned on.
2	Run the Incremental Backup Procedure provided by Sytos Plus once a day using the following method: These Incremental Procedures have selected Only changed files and have the Mark files as backed-up option turned <i>on</i> . For your first Incremental backup, select the Incremental Backup (Create) Procedure to create a new Volume.
3	Run daily Incremental Backup (Append) Procedures supplied by Sytos Plus to append all subsequent Backup Sets of changed files to the newly created Incremental Volume.
4	If necessary, you may edit these Procedures to customize them for your system.

You should use the Incremental Backup when you make frequent changes to many different files. With Incremental Backup, you have a daily record of change. For example, if you make a mistake entering information in a file on Tuesday, you can restore Monday's version of the same file.

Example

An example of an Incremental backup follows. A Full Backup is run Friday night. The next week the following files are changed and backed up.

On Wednesday, you have three Incremental Backup Sets: one with the FILE 1 changes, one with the FILE 2 changes, and one with the FILE 3 changes.

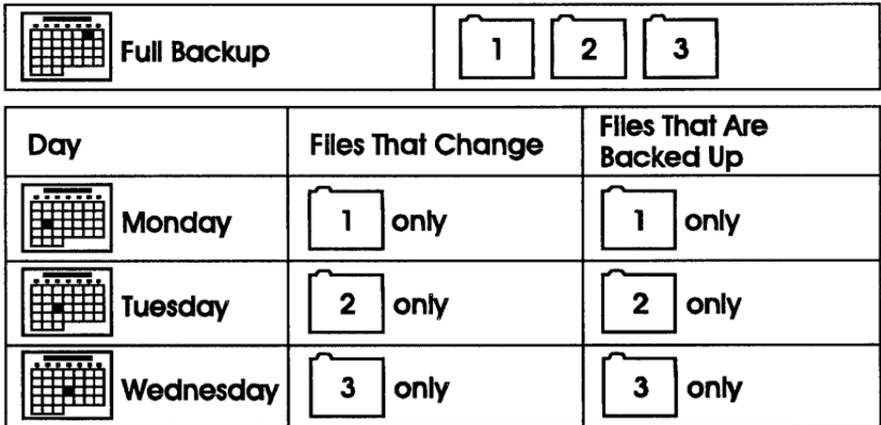


Figure 14-3 An Incremental Backup Strategy

To Restore

Restore the Full Backup Volume with all Backup Sets.

Implementing a Monitoring Strategy

Purpose

If you monitor all the files on your system, this will allow you to restore your entire system to its state at a particular date and time. You can schedule a combination of Full and Incremental Backup Procedures if you would like Sytos Plus to monitor frequently used files periodically throughout the day and back up any that have changed. The Monitoring strategy first backs up all the files on your system. It then checks, at intervals you specify in the Schedule, to see if any of the files have changed.

The Monitoring strategy allows you to check frequently used files at regular intervals if it is important for you to have a recent copy of modified files in case of system failure or file loss. It is most useful for systems whose backup device is large capacity and high performance. This eliminates the need for you to always be present to insert new media when necessary.

You can implement a Monitor strategy by following these steps:

Step	Action
1	Choose the Full Backup with Compare Procedure provided by Sytos Plus.
2	Select the Retry busy files option and specify Until no longer busy . This ensures a complete initial backup of your system.
3	Run the Incremental Backup (Create) Procedure to create a new Volume to which you will append all subsequent Incremental backups.
4	Schedule the Incremental Backup (Append) Procedure to append all subsequent Backup Sets of changed files to the existing Incremental Volume.
5	When scheduling, you may select the Special frequency option to set a Start and Stop time for the Incremental Backup Procedure, to specify how often a Procedure should run within a valid time frame. Refer to <i>Chapter 10: Running and Scheduling Procedures</i> for information about scheduling.

NOTE: You can modify this strategy to monitor only a specific directory or group of files on your system. In that situation, you would first edit the Full Backup Procedure to back up all the files in that group. Then specify only that group (using the **Only changed files** selection) for the Incremental Backups. If you choose to monitor only a group of files, we suggest you complement this strategy with periodic Full Backups of your entire system.

If you specify frequent intervals to monitor an often modified file, it may not be copied during every backup because it may be busy. If this is the case, you should close important files before each scheduled backup so that the latest versions of those files can be processed.

You may want to set the **Retry busy files** option to **Don't retry** or to a specific time limit for the Incremental Backups so that the Procedure is not held up if a file is busy for a long period. Busy files will be retried at recurring intervals of one minute.

IMPORTANT: *You should periodically restart the Monitor strategy (suggested frequency is at least once a week). Each time the Incremental Backup (Append) is run, files are appended to the Volume that was created using the Incremental Backup (Create) Procedure. By restarting your monitoring process, you are ensuring a recent Full Backup with Compare always exists; this allows you to easily restore your entire system to a recent state without having to restore many Backup Sets.*

To restore the files backed up using the Monitor strategy, select all the Backup Sets from the initial Full Backup with Compare, up to and including the latest one you wish to restore.

Strategies and Media Rotation: Tapes

Purpose

A strategy based on tape as the backup media gives you many options. It is appropriate for most systems:

- Which contain many files.
 - For which unattended Procedures are desirable.
 - For which backup performance is critical.
-

Pros and Cons

Since tape is removable, you can store it securely both on and off-site. Because of its larger storage capacity, tape lets you to perform more efficient unattended Procedures than if you used diskettes. Tape imposes few time or media space

limitations and is cost-effective due to its low cost of data storage.

If tape is your media of choice, then there are certain recommended approaches and Procedures you may want to consider.

How Often to Implement

The first thing to consider is how often you will back up your files and which files you should back up. A regular Full Backup with Compare is recommended but whether you supplement that with Incremental or Progressive Backups depends on your needs.

These questions may help clarify your situation:

- If your files are damaged or deleted, how many days of work does it take to re-create them?
- What is the oldest version of a file that you anticipate you may ever need?

Your answers can help determine the number of complete sets you rotate.

We recommend a minimum of three sets so you always have a recent Full Backup with Compare and two alternating sets of media which contain specified backed-up files. If either of these sets becomes damaged, you have another recent copy on hand.

Three Examples Using Tape

Following are three example strategies:

- Full-and-Progressive Strategy with Four Tapes.
- Full-and-Incremental Strategy with Three Tapes.
- Full-only Strategy with Three Tapes.

These sample routines can be expanded to include as many tapes as you wish to use and they assume that each Procedure does not require more than one tape.

The days used in the examples are used strictly for reference purposes; if you wish to begin your rotation on a different day, simply adjust the example. You should periodically run a Full Backup with Compare that you store off-site.

Example 1: A Full-and-Progressive Strategy with Four Tapes

Step	Day	Action
1	Friday	Run a Full Backup with Compare with Tape 1.
2	Monday - Thursday (Week 1)	Run daily Progressive Backups, alternating Tapes 2 and 3.
3	Friday	Run a Full Backup with Compare with Tape 4.
4	Monday - Thursday (Week 2)	Run daily Progressive Backups, alternating Tapes 2 and 3.
5	Friday	Run a Full Backup with Compare with Tape 1.
6	Monday - Thursday (Week 3)	Run daily Progressive Backups, alternating Tapes 2 and 3.
7	Friday	Run a Full Backup with Compare with Tape 4.

Figure 14-4 represents this strategy.

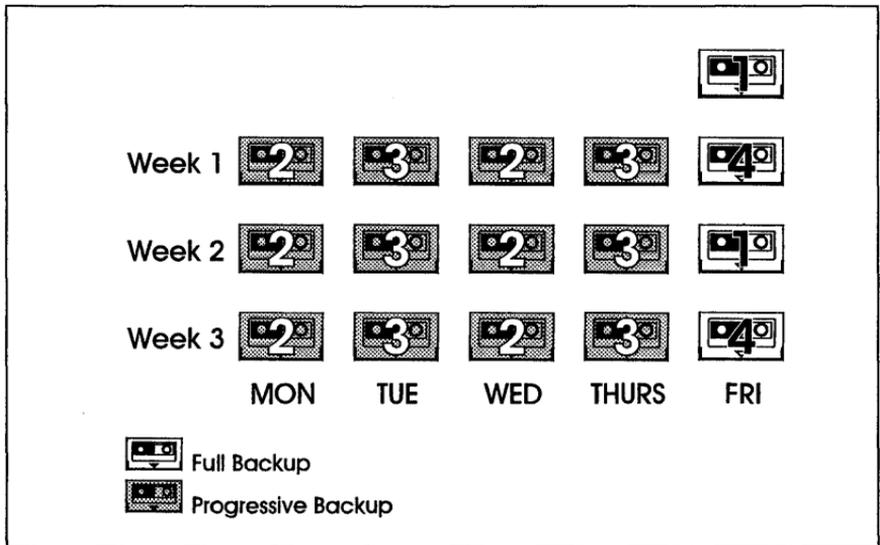


Figure 14-4 Full-and-Progressive strategy with four tapes

Example 2: A Full-and-Incremental Strategy with Three Tapes

Step	Day	Action
1	Friday	Run a Full Backup with Compare with Tape 1.
2	Monday (Week 1)	Run an Incremental Backup (Create) with Tape 2.
3	Tuesday - Thursday	Run an Incremental Backup (Append) daily with Tape 2.
4	Friday	Run a Full Backup with Compare with Tape 3.
5	Monday (Week 2)	Run an Incremental Backup (Create) with Tape 2.
6	Tuesday - Thursday	Run an Incremental Backup (Append) daily with Tape 2.
7	Friday	Run a Full Backup with Compare with Tape 1.

Figure 14-5 represents this strategy.

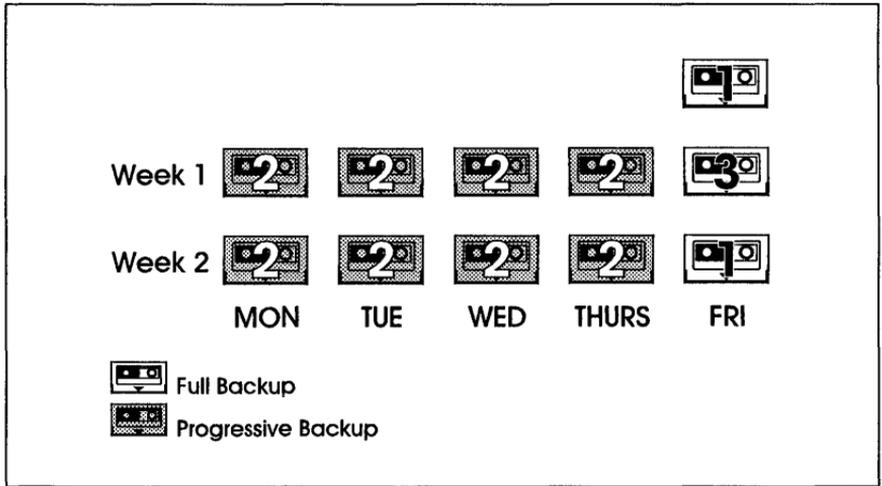


Figure 14-5 Full-and-Incremental strategy with three tapes

Example 3: A Full-only Strategy with Three Tapes

Step	Day	Action
1	Monday	Run a Full Backup with Compare with Tape 1.
2	Tuesday	Run a Full Backup with Compare with Tape 2.
3	Wednesday	Run a Full Backup with Compare with Tape 3.
4	Thursday	Run a Full Backup with Compare with Tape 1.
5	Friday	Run a Full Backup with Compare with Tape 2.

Figure 14-6 represents this strategy.

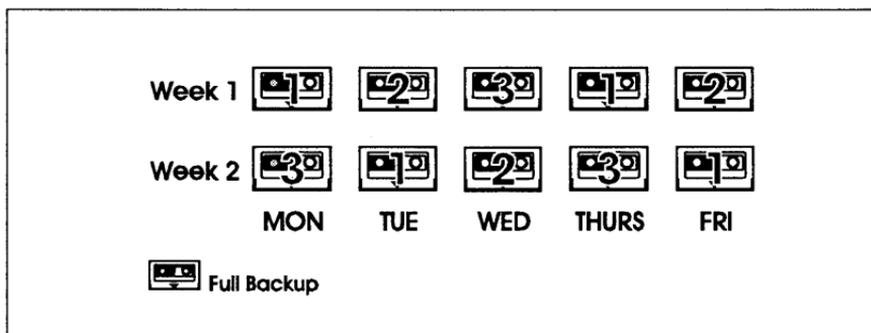


Figure 14-6 Full-only strategy with three tapes

Strategies and Media Rotation: Diskettes

Purpose

A strategy based on diskettes as the backup media is most appropriate when:

- Your system does not contain many files.
- You need to backup only a few files regularly.

Pros and Cons

An advantage of using diskettes is that the backup device and diskettes are readily available. Also, they are easily removable and require the least initial expense. But, they can impose time and space limitations because of their low capacity and the number of diskettes needed, as well as the time required to frequently change media during Procedures. If diskettes are your media of choice, then there are certain recommended approaches and Procedures you should consider.

How Often to Implement

Determine how often you will back up your files and which files you should back up. We recommend a regular Full Backup with Compare but whether you supplement that with Incremental or Progressive Backups depends on your needs.

These questions may help you clarify your situation:

- If my files are damaged or deleted, how many days of work will it take to re-create them?
- What is the oldest version of a file that I anticipate I'll ever need?

Your answers can help determine the number of complete sets you rotate. We recommend a minimum of three sets so you will always have a recent Full Backup with Compare and two alternating sets of media which contain specified backed-up files. If either of these sets become damaged, you will have another recent copy.

Two Examples Using Diskettes

The following are two example strategies:

- A Full-and-Progressive Strategy with Four Sets of Diskettes.
- A Full-and-Incremental Strategy with Three Sets of Diskettes.

These routines can be expanded to accommodate as many sets of diskettes you wish to use. The number of diskettes in each set is dependent on the amount and size of files you intend to back up.

The days used in the examples are chosen strictly for reference; if you wish to begin your rotation on a different day, adjust the example. You should periodically run a Full Backup with Compare that you store off-site.

Example 1: A Full-and-Progressive Strategy with Four Sets of Diskettes

Step	Day	Action
1	Friday	Run a Full Backup with Compare with Set 1.
2	Monday - Thursday (Week 1)	Run daily Progressive Backups, alternating Sets 2 and 3.
3	Friday	Run a Full Backup with Compare with Set 4.
4	Monday - Thursday (Week 2)	Run daily Progressive Backups, alternating Sets 2 and 3.
5	Friday	Run a Full Backup with Compare with Set 1.
6	Monday - Thursday (Week 3)	Run daily Progressive Backups, alternating Sets 2 and 3.
7	Friday	Run a Full Backup with Compare with Set 4.

Figure 14-7 represents this strategy.

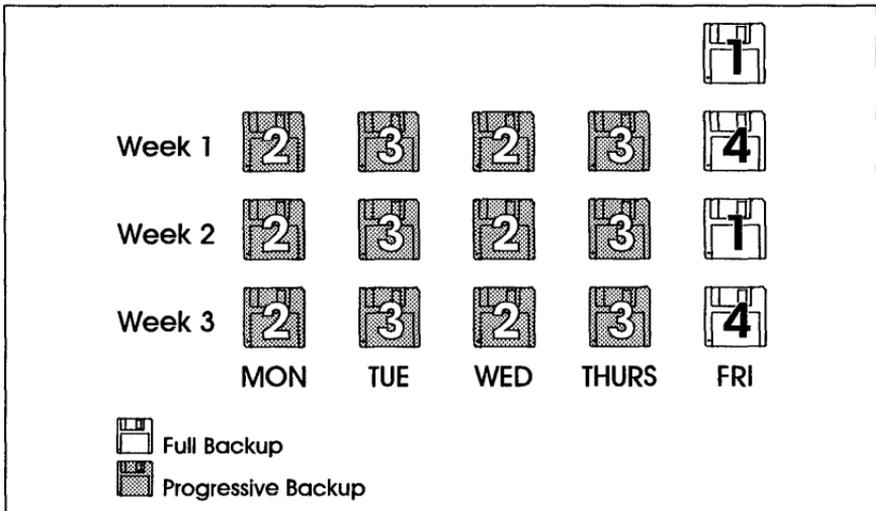


Figure 14-7 Full-and-Progressive strategy with four sets of diskettes

Example 2: A Full-and-Incremental Strategy with Three Sets of Diskettes

Step	Day	Action
1	Friday	Run a Full Backup with Compare with Set 1.
2	Monday (Week 1)	Run an Incremental Backup (Create) with Set 2.
3	Tuesday - Thursday	Run an Incremental Backup (Append) daily with Set 2.
4	Friday	Run a Full Backup with Compare with Set 3.
5	Monday (Week 2):	Run an Incremental Backup (Create) with Set 2.
6	Tuesday - Thursday	Run an Incremental Backup (Append) daily with Set 2.
7	Friday	Run a Full Backup with Compare with Set 1.

Figure 14-8 represents this strategy.

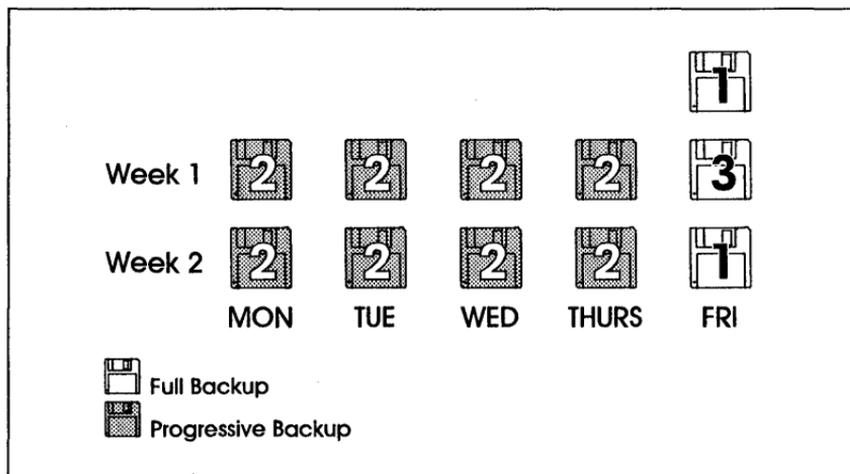


Figure 14-8 Full-and-Incremental strategy with three sets of diskettes

Strategies and Media Rotation: High Capacity Disks

Purpose

There are two categories of high capacity disks: fixed and removable.

Using a Fixed Disk

This media has the advantage of convenience and accessibility. Using a fixed disk for backup will not protect your files from fixed disk failure (unless you have another fixed disk installed onto which you back up your files). But, since you are continually appending your new files to your old files, it can be useful for maintaining older versions of files for easy access.

Using a Removable Disk

Using a removable disk for backup can give you both high performance and accessibility. This media, like fixed disks, is convenient and familiar to use. Since it is removable, you have

the option to store a Full Backup away from your system. But, the cost of removable disk media may be prohibitive.

Restoring Files

Description

Use Restore Procedures when you have to re-create files that were damaged or deleted from their original location. Restore Procedures can also be useful as a method to distribute files across systems. Refer to *Chapter 8: Restoring Data* for more information.

For more information on Restore Procedures in a Network environment, refer to *Chapter 9: Disaster Recovery*.

Data Distribution

Sytos Plus offers features to assist you in transporting files to systems other than the one from which files were originally backed up. You would first back up the desired files and then restore them, using Sytos Plus, to another system. This can be useful for file interchange across operating systems because of the Sytos Plus universal file format.

The Restore Procedure offers a **Redirect files** option which gives you the flexibility of changing the names or locations of the files being restored in order to place them in directories appropriate for that system. Select **Redirect files** by following these steps:

- Select **Restore** from the Startup window.
- Select **Create a New Restore Procedure** or press **F6** to edit a sample Restore Procedure.
- Select **Options...** from the Restore Procedure window and choose **Redirect files** from the options available to you.

Using Redirection Sheets

Description

Some examples of using Redirection as part of a backup strategy follow. For more detailed information about using Redirection Sheets, see *Chapter 8: Restoring Data*.

Example 1: Restoring Files from Another System

You have received customer records from another site that also uses Sytos Plus and want to restore them to your system (all the files, including subdirectories). You know that some of the files and directories to be restored have the same names as those on your system, so you wish to rename them to keep your system unchanged. Your settings should be (using C: as your drive, for example):

Category	Setting
Source pathname	C:\FILES*
Redirected pathname	C:\NEWFILES*
Dir: Include subdirectories	Checked

Example 2: Restoring Older Files to Your System Under New Names

You want to restore some of your older spreadsheet files for reference, including all subdirectories, but want to rename them so they will not conflict with the newer spreadsheet files you use every day. Your settings should be (using drive B: as an example):

Category	Setting
Source pathname	C:\ACCOUNTS*.WKS
Redirected pathname	C:\ACCOUNTS*.OLD
Dir: Include subdirectories	Checked

Example 3: Restoring Files to a New Location on Your System

You recently backed up your fixed disk and then re-formatted it to create two disk partitions instead of one. You are ready to restore all your files, including all subdirectories, but you want to redirect them from the old C: drive to the new D: drive. See the following table for settings.

Category	Setting
Source pathname	C:*
Redirected pathname	D:*
Dir: Include subdirectories	Checked

IMPORTANT: *If you have a dual-boot system (using both DOS and OS/2), you will need to back up and restore your system with the OS/2 version of Sytos Plus. This ensures that Extended Attributes and special OS/2 files are handled correctly.*



15 Reference

Introduction

All Sytos Plus windows and menus are described in this chapter:

- **Sytos Plus Startup screen.** Items in the first screen that appear upon starting Sytos Plus.
- **Exit and Help.** The functions used to depart from and get information about Sytos Plus.
- **Procedure windows.** The items contained in Backup, Restore, Compare, and Move windows.
- **Procedures Menu.** The pull-down menu items for all the instructions needed for backing up, restoring, comparing and moving your files.
- **Utilities Menu.** The pull-down menu items for the tools used to set up, customize, and maintain Sytos Plus features.
- **Selection Sheets.** The different ways to select files and subdirectories.
- **Redirection Sheets.** A method for restoring files to a location different from the original one.

The Sytos Plus Startup Screen

Purpose

Using the Sytos Plus Startup screen allows quick access to Procedures, Utilities, Schedule, Help and Exit. These

Startup menu items, shown in Figure 15-1, are described in the following table.

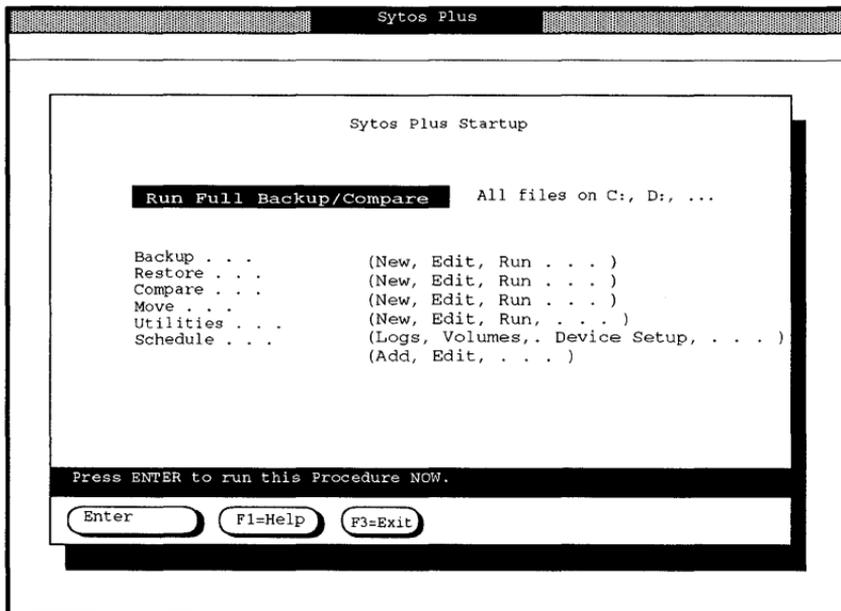


Figure 15-1 Sytos Plus Startup window

Item	Description
(Default Procedure)	Shows a default Procedure supplied by Sytos Plus. Run Full Backup/Compare as shown in Figure 15-1, is the default Procedure provided by Sytos Plus. You can load different default Procedures.
Backup...	Takes you to the Backup Procedures window where you can edit, run, or create a new Backup Procedure.
Restore...	Takes you to the Restore Procedures window where you can edit, run, or create a new Restore Procedure.
Compare...	Takes you to the Compare Procedures window where you can edit, run, or create a new Compare Procedure.
Move...	Takes you to the Move Procedures window where you can edit, run, or create a new Move Procedure.

Item	Description
Move...	Takes you to the Move Procedures window where you can edit, run, or create a new Move Procedure.
Utilities...	Takes you to the Utilities menu where you can access Logs, Volumes, Media Preparation, Device Setup, and Preferences.
Schedule...	Takes you to the Schedule menu where you can add or edit a Schedule.
<p>F1</p> <p>Help</p>	<p>Provides further information on highlighted Startup menu items. Help also provides comprehensive information about Sytos Plus features, functions, and error messages. Sytos Plus offers these ways to request help or information:</p> <p>Immediate help for windows, prompts, and error messages is available on all Sytos Plus screens by choosing Help or by pressing F1. Within a window, you can highlight any item and choose Help or press F1 to receive specific, context-sensitive help on that item. Pressing F1 again tells you how to get on-line help while working in Sytos Plus.</p> <p>You can select these Help categories from within the Help menu:</p> <ul style="list-style-type: none"> - How to get help: Pressing F1 tells you how to request help. - Extended help: Pressing F2 gives you information about the active window on your screen. - Help on keys: Pressing F9 shows you how to use the keyboard to move around windows and make selections with the function keys. - Help index: Pressing F8 lists all the topics, in alphabetical order, for which help is available. (Highlight any item on the list and choose Enter to see information about that item).

Item	Description
(F3) Exit	You can leave Sytos Plus from the Startup window by choosing (Exit) or pressing (F3) . You can begin Sytos Plus within the Procedure window by typing SYPLUS /EON at the command line. This allows you to exit the program from any Procedure window by choosing (Exit) or pressing (F3) .

Backup Procedures Window

Introduction

Selecting **Backup...** from the Startup screen displays the Backup Procedures window as shown in Figure 15-2. Sample Backup Procedures are listed in the Existing Backup Procedures box with their corresponding descriptions shown in the Description box.

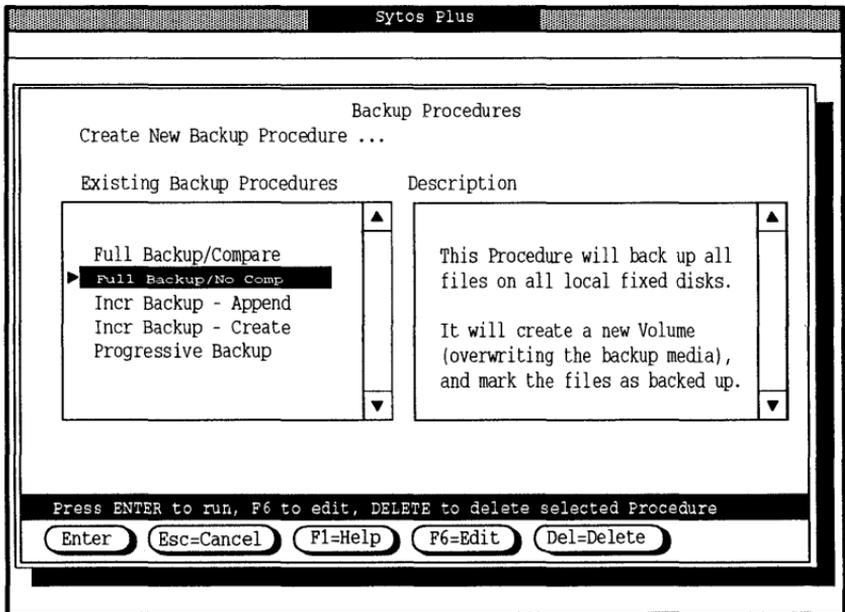


Figure 15-2 Backup Procedures window

You can choose to:

- Run a Backup Procedure
- Create a Backup Procedure
- Edit an Existing Backup Procedure
- Delete a Backup Procedure

Highlighting **Create New Backup Procedure...** or pressing **F6** displays an Edit Procedure window as shown in Figure 15-3.

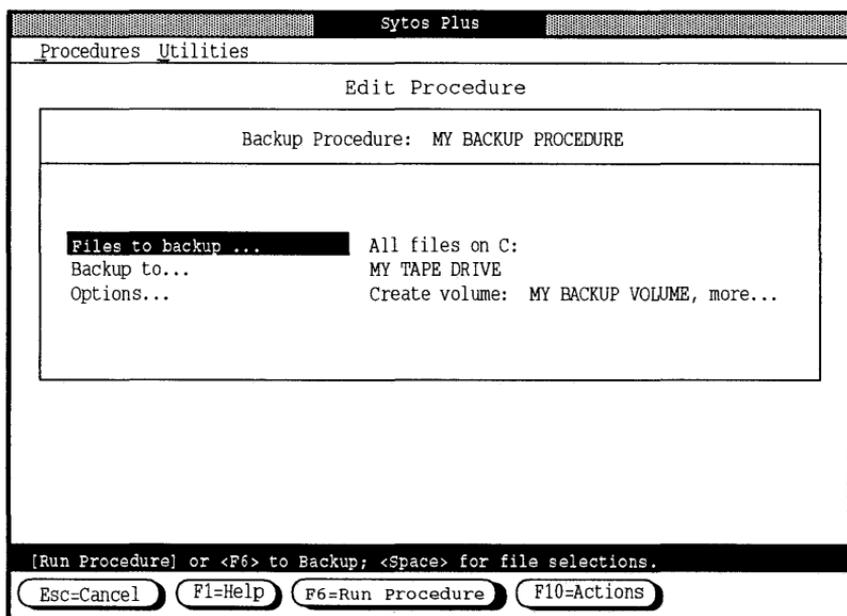


Figure 15-3 A loaded Backup Procedure

The following items are available:

- **Files to Backup...**
- **Backup to...**
- **Options...**
- **Procedures...**
- **Utilities... .**

The following section describes items and windows used in selecting files to backup.

Backup: Files to backup ...

Purpose

Using **Files to backup...** lets you select specific files for a backup. Figure 15-3 shows an example of a loaded Backup Procedure with current settings. Highlighting **Files to backup...** displays a message to the right showing one of the following file selections:

Selection	Description
All files	All files on a particular drive.
Only changed files	Those files that have been changed or created since your last Backup. Refer to <i>Chapter 14: Backup Strategies</i> for more information.
Not selected	No files selected.
Specified files	Shows you have chosen specific files from the file selection windows or the Selection Sheet.

The Backup Procedure window appears when you select **Files to backup...**, and shows the files sources. Figure 15-3 shows that **All files** in the Source (the C: drive) are included in this example Procedure.

Source Files window

Select a Source with files as shown in Figure 15-4, by pressing the Spacebar. The following selections are available:

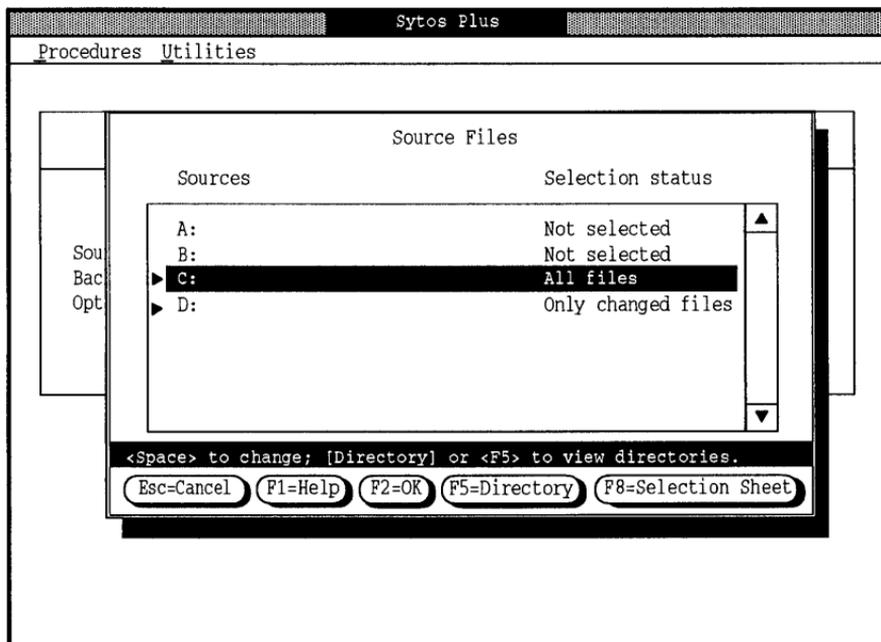


Figure 15-4 Source with files

- **All files**
- **Only changed files**
- **Not selected**

If the message **Specified files** appears in the Selection status field, then specific files have previously been selected. Changing the **Specified files** setting cancels those selections. Other choices are:

- **Directory** - Pressing **F5** displays the Directory Tree window showing a directory tree of the highlighted drive.

NOTE: *If you have a large number of directories they may take longer to process.*

- **Selection Sheet** - Pressing **F8** displays the Selection Sheet window showing which files to include in a Procedure.

Directory Tree window

Selecting a specific drive in the Source Files window and choosing **(F5)** displays the Directory Tree window as shown in Figure 15-5. Choosing **(Selection Sheet)** or pressing **(F8)** displays the Selection Sheet window.

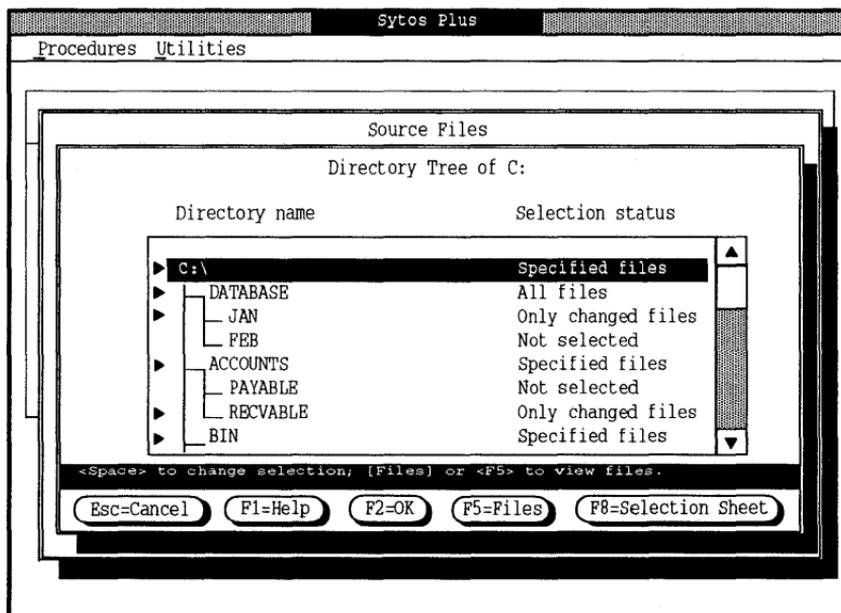


Figure 15-5 Directory with files

Individual Files window

Selecting **(Files)** (for a highlighted directory) or pressing **(F5)** displays the Individual Files window as shown in Figure 15-6.

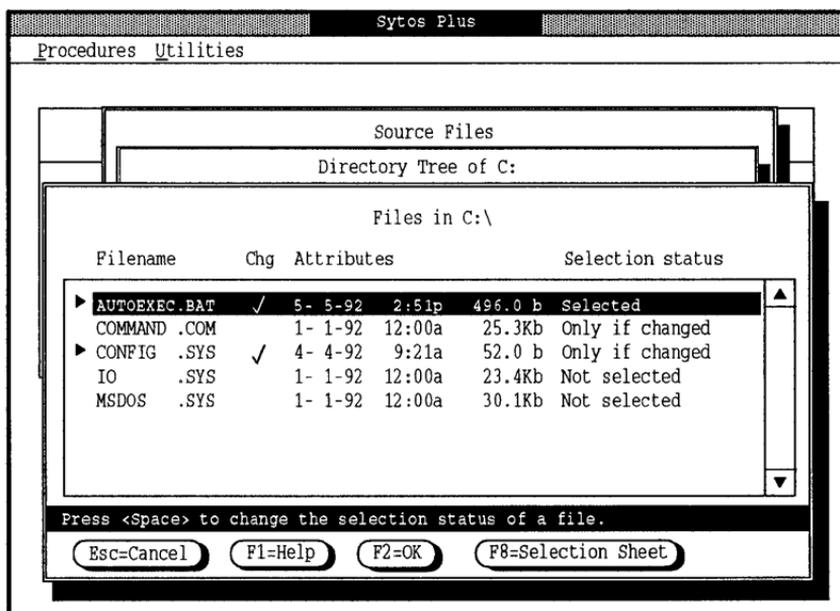


Figure 15-6 Individual files

The Individual Files window has the following elements:

Elements	Description
Filename	Name of the file.
Chg	A checkmark ✓ tells you that the file was changed or created since the last Backup.
Attributes	Lists the file's last changed date, time, and size.
Selection status	Shows whether the file is always Selected , selected Only if changed , or Not selected whenever this Procedure is run.
F8 Selection Sheet	Shows which files to include or exclude in a Procedure. Refer to the "Selection Sheets" section in this chapter for more information.

Backup: Backup to...

Using **Backup to...** lets you select a different backup device (if you have more than one). Selecting **Backup to...** from the Backup Procedure window displays a pop-up window from which you can highlight a backup device from the list. Choose **F8** to identify and confirm a Volume in the backup device.

Backup: Options...

Using **Options...** lets you select or edit Backup options for Volumes and Backup Sets. Figure 15-7 shows the Backup Options window.

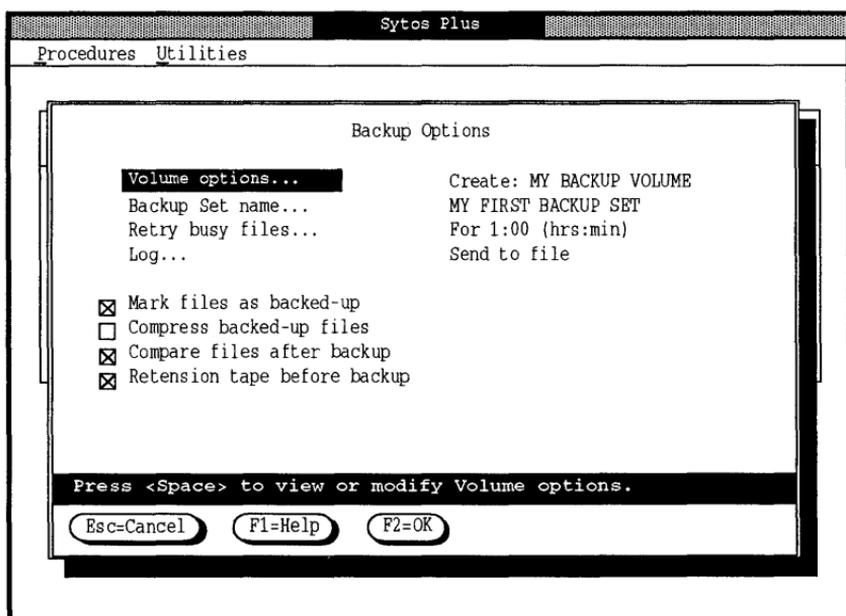


Figure 15-7 Options for a Backup Procedure

Volume Options

Selecting **Volume Options** as shown in Figure 15-8, from the Backup Options window allows you to:

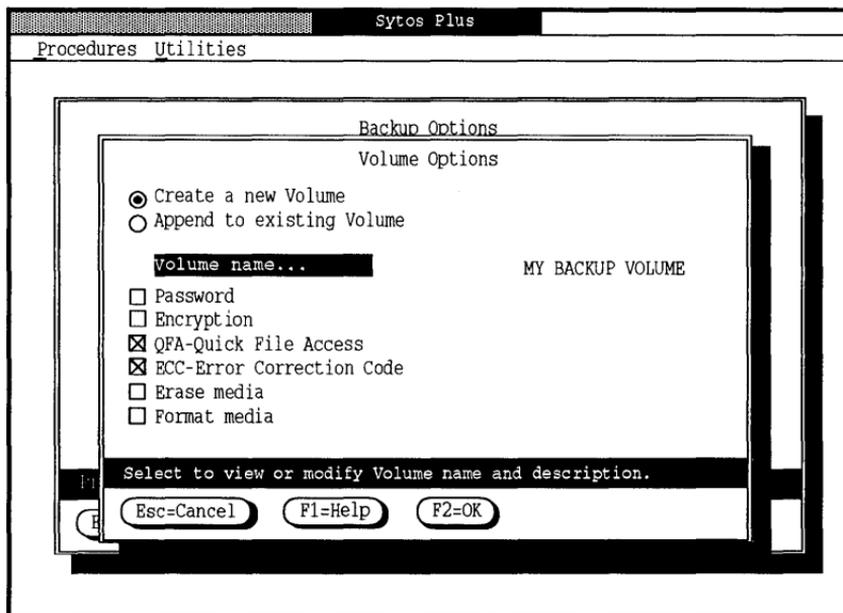


Figure 15-8 Options for a Volume

- **Create a new Volume.** Prepares a new Volume for the Backup and overwrites any previous data on the tape.
- **Append to existing Volume.** Adds the files to be backed up to an existing Volume. You cannot change the Volume options specified when the Volume was created.

The following table describes other available selections in the **Volume Options** window.

Item	Description
Volume name...	Lets you give the Volume a personalized name and description. "UNNAMED VOLUME" is the default name.
Password	<p>Lets you assign a password to the Volume when the Procedure is run. This allows access only through the password. If you specify a password during a Backup Procedure, you must specify the same password to access those backed-up files later. Without this password, you cannot restore files.</p> <p>IMPORTANT: <i>Files are not recoverable if you forget your password.</i></p>
Encryption	Not available.
QFA-Quick File Access (not available for all devices)	Enables Sytos Plus to record information about each file's location on the media during Restore or Compare Procedures. QFA is helpful when using high-capacity storage media or backup devices, such as DAT drives.
ECC-Error Correction Code	<p>Instructs Sytos Plus to record special information on the backup media during backup. This assists with restoring files if the media becomes damaged after a successful backup.</p> <p>IMPORTANT: <i>You should select ECC for all Backup and Move Procedures as added protection for your files.</i></p>
Erase media	Makes your media appear blank to Sytos Plus.

Item	Description
Format media (not available for all devices)	<p>Prepares your media to receive Sytos Plus data, including low-level pre-formatting for certain devices. New media for various backup devices may need formatting before being used.</p> <p>If you use a 4mm DAT backup device, you need to format blank tapes before you create a new Volume. Formatting with this type of tape takes only a few minutes; overwriting any data on the tape.</p>

Backup Set Options

For every Backup Set, you can choose several options as shown in Figure 15-9.

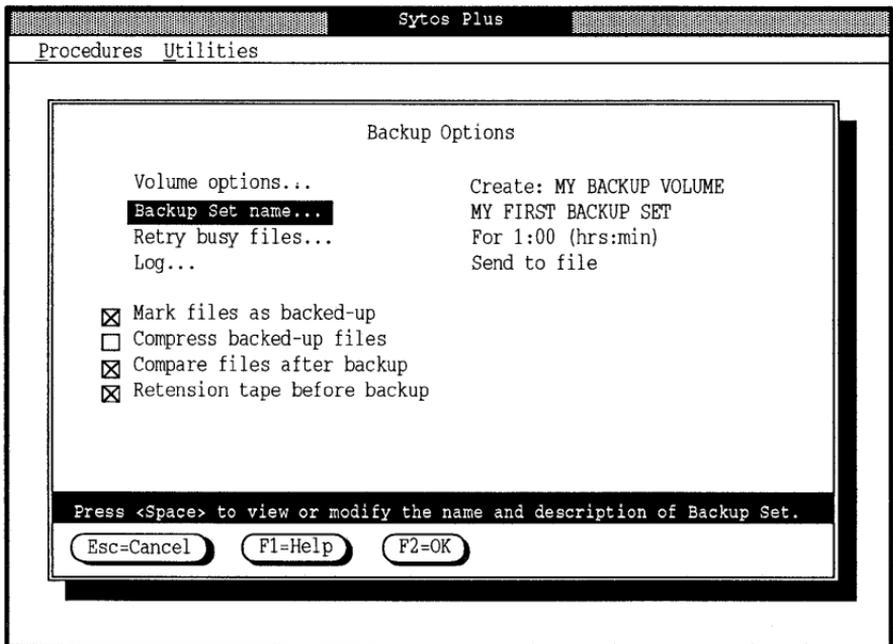


Figure 15-9 Backup Set Options

Option	Description
Backup Set name	Lets you give the Backup Set a personalized name and description (the default is named UNTITLED). Every Backup Set contains the creation date and time.
Retry busy files...	<p>Checks inaccessible files (those in use at the time of the Procedure) and backs up these files when they are available. At the pop-up window, you can choose from the following options to retry files:</p> <ul style="list-style-type: none"> - For this much time - an amount of time in hours and minutes that the Procedure tries to back up busy files. - Until this time - The Procedure tries to back up files until a specified time. - Until no longer busy - Don't Retry - Default
Log...	<p>Creates a record of the Procedure and includes any problems that may occur. At the pop-up window, you can add other information to the Log, including:</p> <ul style="list-style-type: none"> - Selection Sheet for a copy of the Selection Sheet - Procedure Options to include a list of options selected for the Procedure - Processed Files for a complete list of all Processed files <p>You should select the Log option for all Procedures.</p>
Mark files as backed-up	Specifies whether or not files should be marked as backed-up after the Procedure. Sytos Plus adjusts the status of these files to "backed up." These files are not backed up the next time a Progressive or Incremental Backup Procedure runs unless they are modified again.
Compress backed-up files	Compresses data on your backup media to save space. Compression is not supported by all devices. This selection increases backup time.

Option	Description
Compare files after backup	<p>Automatically performs a Compare Procedure after the Backup to check that your backed-up files are identical. This option increases the total Backup time.</p> <p>If the Compare Procedure lists unmatched files, you should run your Backup Procedure again with Compare to ensure successful completion.</p>
Retension tape before backup	<p>Adjusts tape tension by fast-forwarding and rewinding the tape to ensure information is recorded properly. Retension by itself does <i>not</i> change the information stored on the tape. Use retension if you have a new tape or a tape that has not been used for a while.</p> <p>NOTE: <i>This option is not supported by DAT drives.</i></p>

Move Procedures Window

Introduction

Selecting **Move...** from the Startup window displays the Move Procedures window as shown in Figure 15-10.

In the Move Procedures window, you can:

- Run a Move Procedure.
- Create a Move Procedure.
- Edit an existing Move Procedure (once you have created one).
- Delete a Move Procedure.

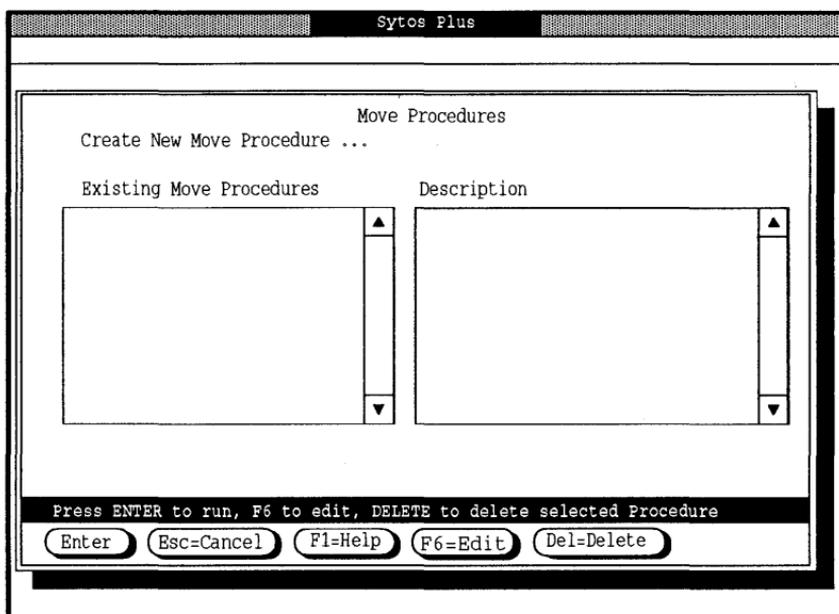


Figure 15-10 Move Procedures window

NOTE: Sytos Plus does not provide sample Move Procedures. The existing Move Procedure box remains empty until you create a Move Procedure.

Highlighting **Create New Move Procedure...** or pressing **(F6)** displays a Move Procedure window with these items available:

- **Files to Move...**
- **Move to...**
- **Options...**
- **Procedures...**
- **Utilities... .**

The following section describes items and windows used in selecting files to move.

Purpose

Creating or editing a Move Procedure involves selecting files, a backup device, and options. Refer to "Backup Procedure Windows" for choices similar to those available in Move Procedure windows.

NOTE: *Because your source files are deleted at the end of this Procedure, use Preview before Run to ensure that the Procedure runs. The Compare option is on and cannot be deselected.*

Move: Files to move..., Move to..., Options...

Figure 15-11 displays a loaded Move Procedure with current settings. Refer to "Backup Procedure Windows" for choices similar to those available in Move Procedure windows.

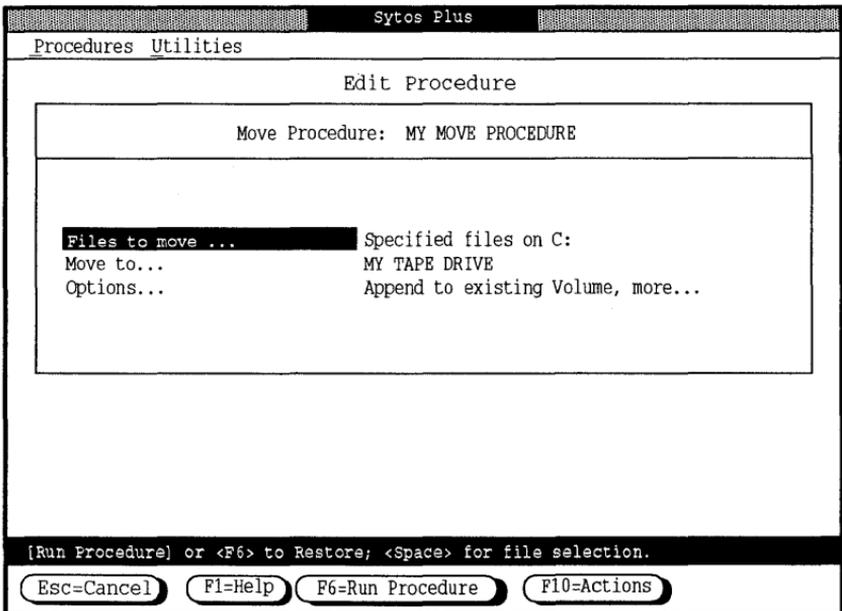


Figure 15-11 A loaded Move Procedure

Selecting **Files to move...** from the Move Procedure window displays options similar to those available in Backup Procedures. Refer to the "Backup: Files to backup..." section for more information.

Selecting **Move to...** from the Move Procedure window displays a pop-up window from which you can highlight a backup device from the list. Choose **F8** to identify and confirm that the Volume you want is in the backup device. Figure 15-12 shows a Move options window.

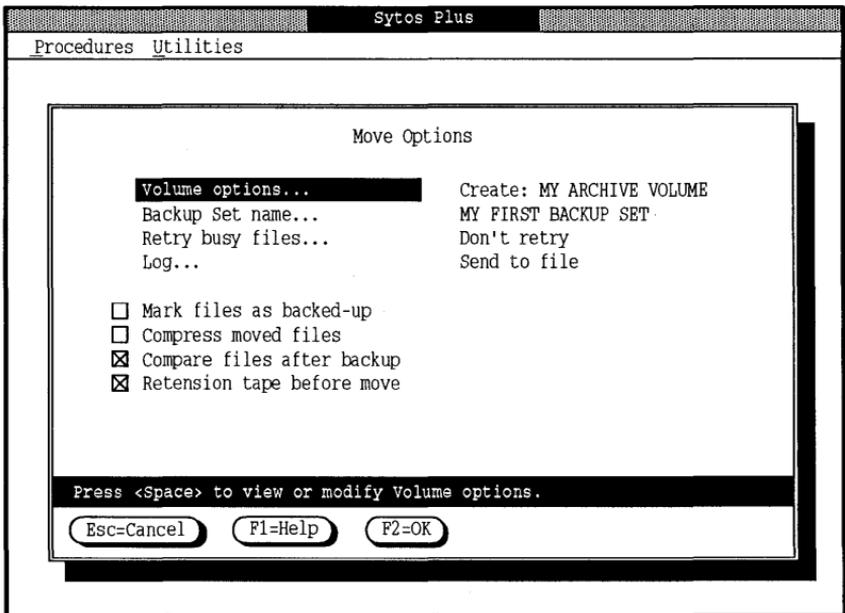


Figure 15-12 Options for a Move Procedure

If you select **Volume Options...** as shown in Figure 15-13, a window appears with several options similar to those available in Backup Procedures. Refer to the "Backup: Options..." section for descriptions of these items.

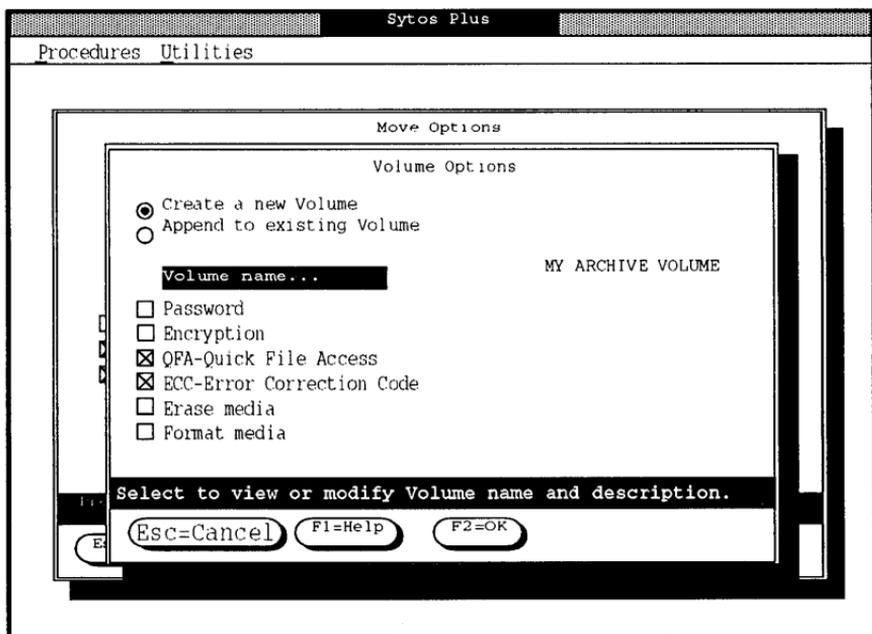


Figure 15-13 Volume options

Restore Procedures Window

Introduction

Selecting **Restore ...** from the Startup screen displays the Restore Procedures window as shown in Figure 15-14. A sample Full Restore Procedure is listed in the Existing Restore Procedure box with a description in the Description box. You can choose to:

- Run a Restore Procedure.
- Create a Restore Procedure.
- Edit an existing Restore Procedure.
- Delete a Restore Procedure.

Highlighting **Create New Restore Procedure...** or pressing **F6** displays a Restore Procedure window with the following items:

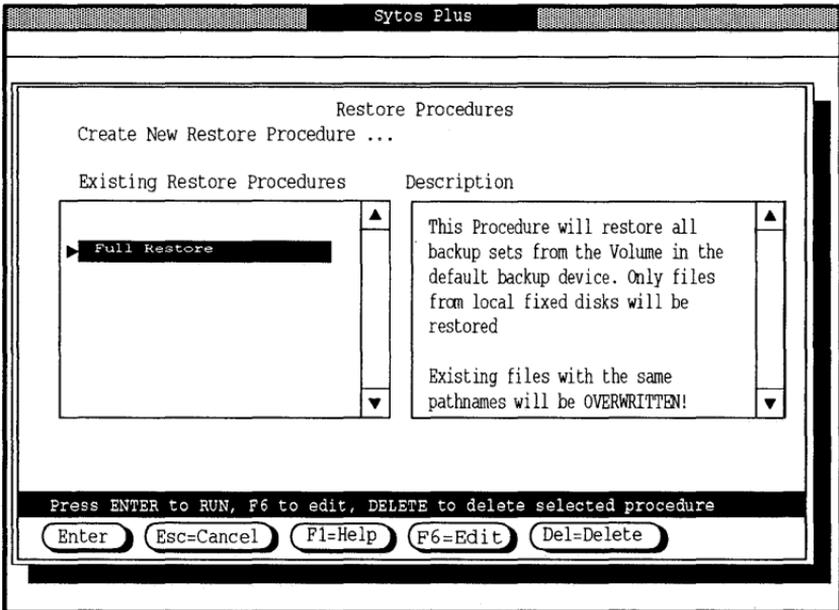


Figure 15-14 Restore Procedure window

- **Files to Restore...**
- **Restore from...**
- **Options...**
- **Procedures...**
- **Utilities... .**

The following section describes items and windows used in selecting files to restore.

Purpose

Use to select files to restore. Figure 15-15 shows a loaded Restore Procedure with current settings.

IMPORTANT: Use caution when restoring operating system program files to a fixed disk that is running a different version of the operating system.

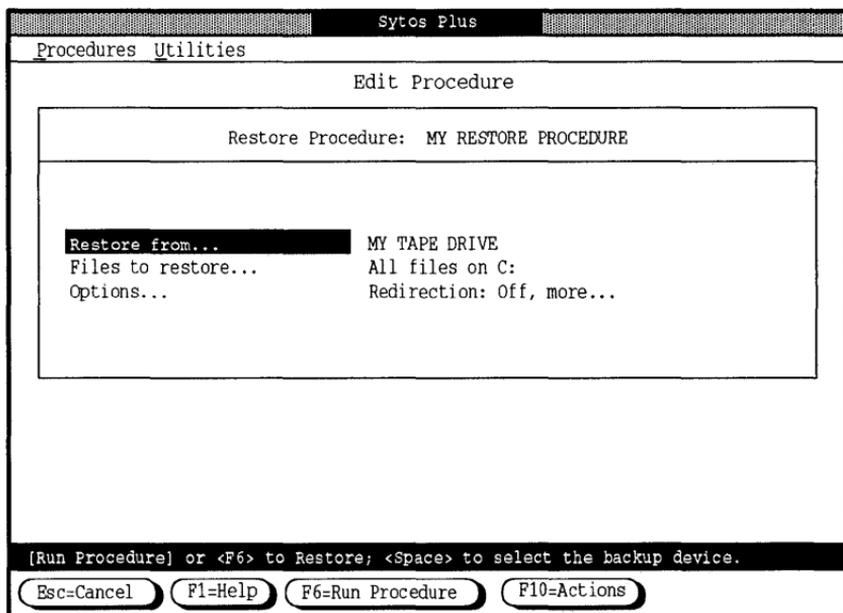


Figure 15-15 A loaded Restore Procedure

Restore: Restore from... and Backup Sets

Selecting **Restore from...** from the Restore Procedure window lets you select a different backup device (if you have more than one) and backup sets to be restored. Sytos Plus displays a pop-up window where you can choose **View Volume Information** or press **F8** to identify the Volume currently loaded.

Highlighting **Restore from...** and pressing **Enter** displays the Backup Device window where you can choose a backup device and select the following backup sets:

- **All Backup Sets**
- **Latest Backup Set**
- **Specified Backup Sets.** Shows selected Backup Set files from the Backup Sets window.

You can select individual Backup Sets from this backup device by choosing **Backup Sets** or pressing **(F5)**. This selection displays the Backup Sets window, which shows the Backup Set name and the creation date and time. Figure 15-16 shows an example of a Backup Set window.

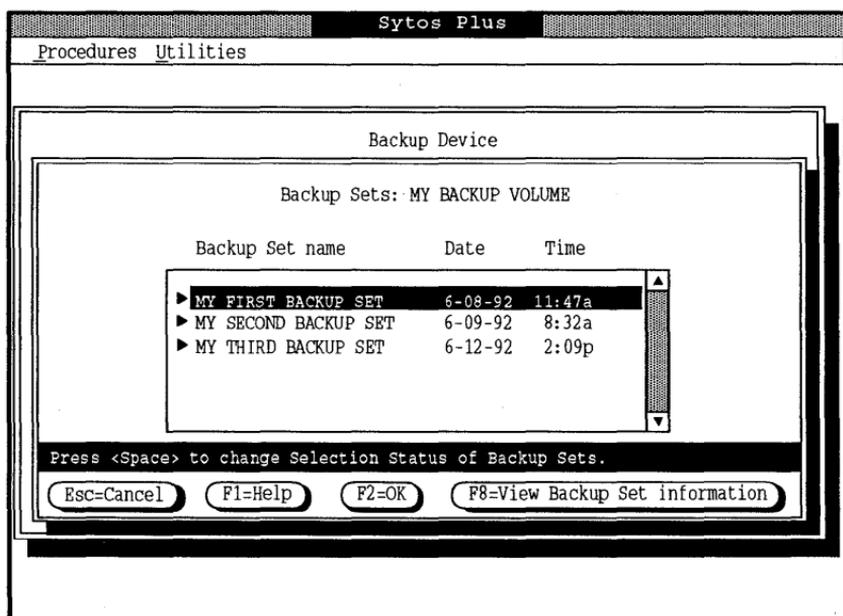


Figure 15-16 Selected Backup Set

Restore: Files to restore...

The process of selecting files is the same as for a Backup Procedure, but rather than selecting files from a Source, you are selecting files from your Volume. These files have the same names as the originals from which they were copied.

NOTE: *Read-only files are treated like any other files during a Restore. The files are restored with attributes from their last back up. Read-only are listed in the Log, if you have selected the Log option for the Procedure.*

Restore: Selecting Options

Selecting **Options...** from the Restore Procedure window displays the Restore Options window as shown in Figure 15-17. Available options are listed in the table that follows.

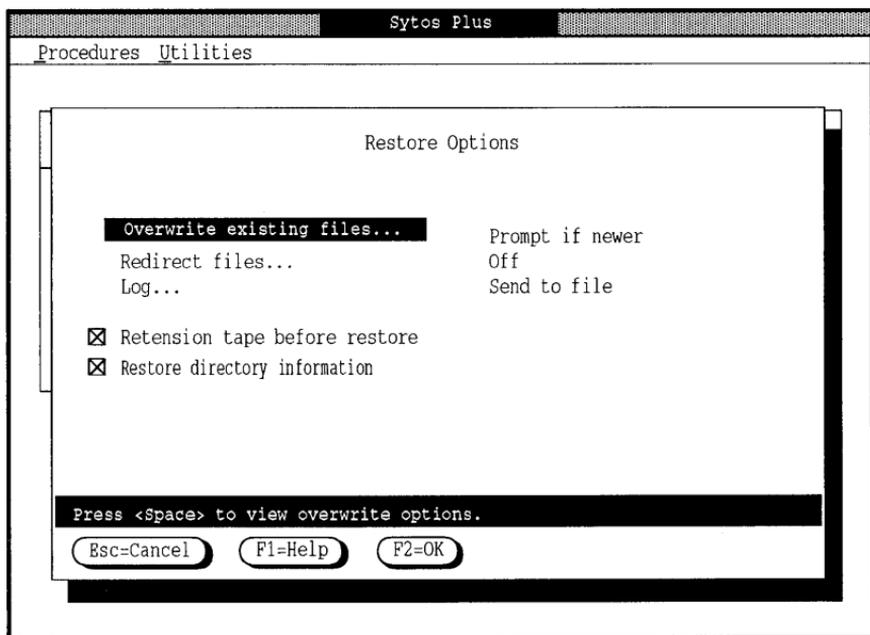


Figure 15-17 Options for a Restore Procedure

Item	Description
Overwrite existing files . . .	<p>Determines what Sytos Plus should do if a file being restored encounters a file on your system with the same name. Choose one option at the pop-up window:</p> <ul style="list-style-type: none"> - Overwrite existing files - Never overwrite existing files - Prompt before overwriting newer files - default - Prompt before overwriting existing files:
Redirect files . . .	<p>Allows you to copy files to another name or location when they are restored; for example, restoring files from another system that were backed-up on drives that do not exist on your system.</p>
Log . . .	<p>Creates a record of the Procedure and includes any problems that occur. At the pop-up window, you can add other information to the Log about file selection entries, options, and processed files.</p>
Retension tape before restore	<p>Adjusts tape tension by fast-forwarding and rewinding the tape to make ensure restores information properly. Retension by itself does <i>not</i> change the information stored on the tape.</p> <p>NOTE: <i>This option is not supported by DAT drives.</i></p>
Restore directory information	<p>Lets you restore directory information (for example, Trustees and access rights) along with file information. If you do not select the Restore directory information option, only your file information is restored. This option also restores empty directories.</p> <p>NOTE: <i>You might lose directory information if restoring your system between NetWare 286 to a NetWare 386 operating systems. This is because the attributes are different.</i></p>

Compare Procedures Window

Introduction

Selecting **Compare ...** from the Startup screen displays the Compare Procedures window as shown in Figure 15-18, where you can:

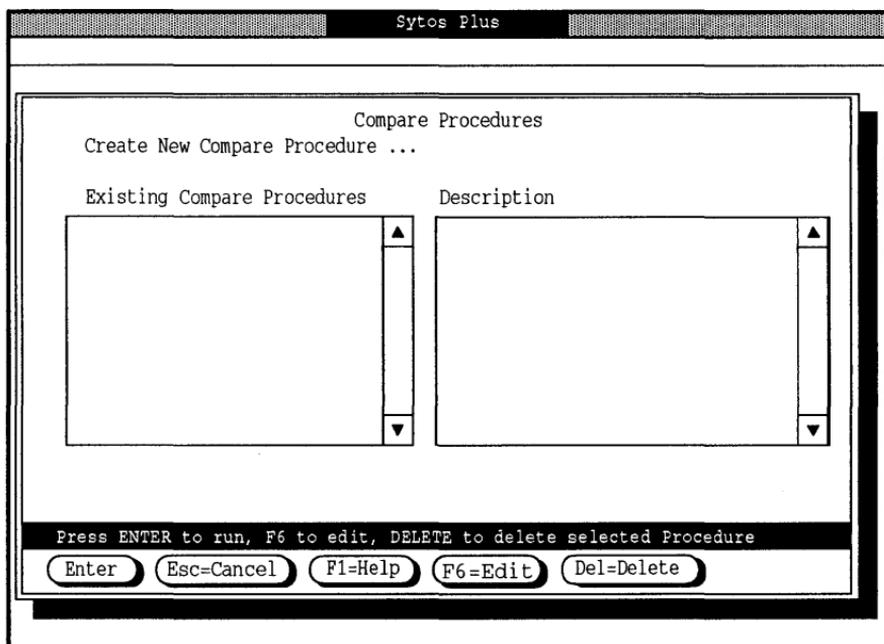


Figure 15-18 Compare Procedures window

- Run a Compare Procedure
- Create a Compare Procedure
- Edit an existing Compare Procedure (once created)
- Delete an existing Compare Procedure.

NOTE: There are no sample Compare Procedures provided by Sytos Plus. The Existing Move Procedures box remains empty until you create a Move Procedure.

Highlighting **Create New Compare Procedure...** or pressing **F8** displays a Compare Procedure window with the following options:

- **Files to Compare...**
- **Compare from...**
- **Options...**
- **Procedures...**
- **Utilities...**

The following section describes items and windows used in selecting files to compare.

Purpose

A Compare Procedure as shown in Figure 15-19, lets you verify which files are copied to a backup device, where they are copied to, and options related to that Compare Procedure.

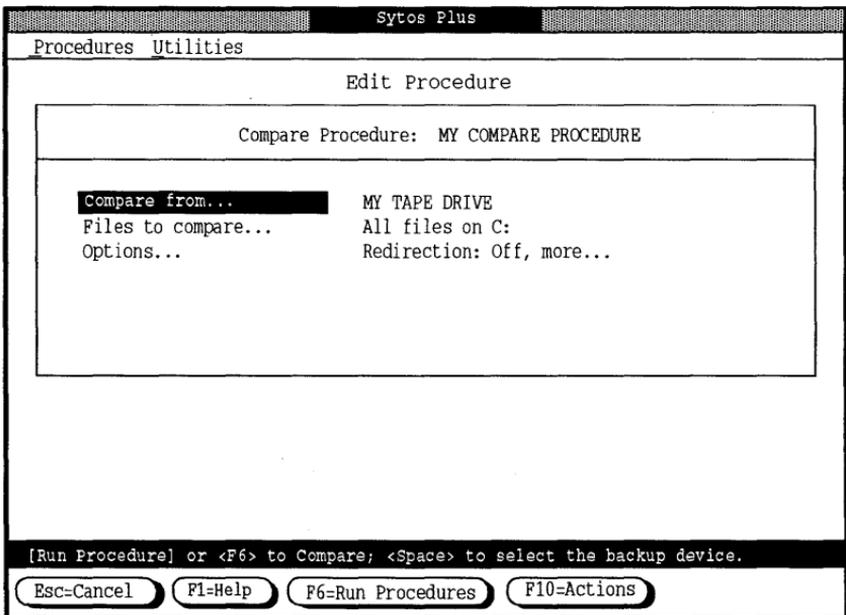


Figure 15-19 A loaded Compare Procedure

Compare: Compare from . . ., Backup Set(s), and Files

You can select a backup device from which to compare files, Backup Set(s), and files (similar to a Restore Procedure). When you run the Compare Procedure, Sytos Plus searches your system for the restored files whose names are the same as those you have selected.

When comparing more than one Backup Set:

Files that exist in multiple Backup Sets with different versions (except the latest version) do not all match during the Compare.

Compare: Options...

Selecting **Options...** displays the Compare Options window as shown in Figure 15-20, with the following options:

Option	Description
Redirect files...	Lets you compare files that were restored with redirection. At the pop-up window, you need to use the same redirection settings specified during the Restore Procedure. More details are provided later in this chapter in the section "Redirection Sheets."
Log...	Sends a record of the Procedure and any problems that occurred to the Log.
Retension tape before compare	Adjusts tape tension by fast-forwarding and rewinding the tape to ensure that information is compared properly. Retension by itself does <i>not</i> change the information stored on the tape.

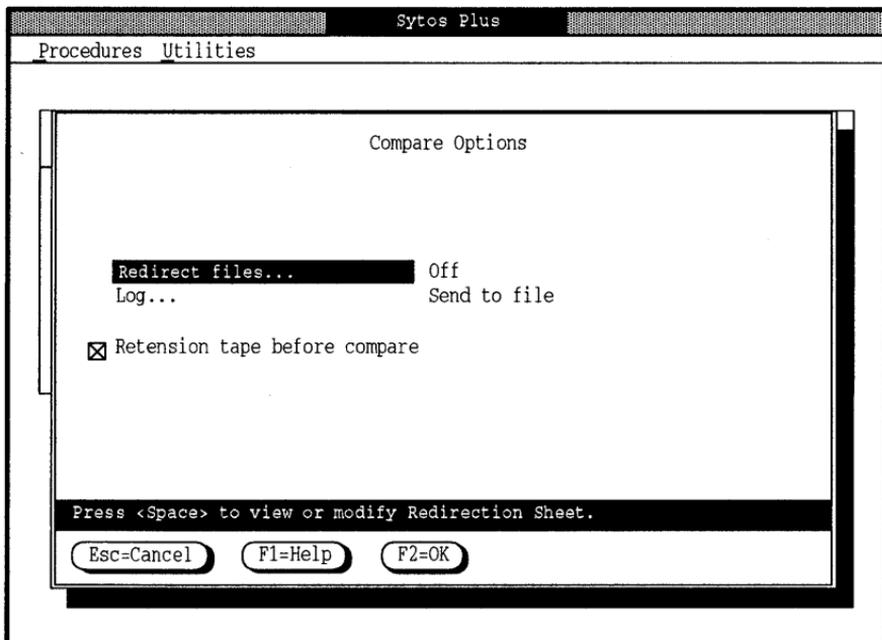


Figure 15-20 Compare Procedure options

Procedures Menu

Introduction

Procedures

Load...
New...
Save...
Save as...
Preview ...
Run...
Schedule...
List...
View...
Delete...
Import...
Export...
About Sytos Plus

The Procedures pull-down menu is available from the Create Procedure and Edit Procedure windows. It provides functions for working with Backup, Restore, Compare and Move Procedures. You can open the Procedures menu by:

- Pressing **Alt** + **P**, or,
- Pressing **F10** and **Enter**.

Items listed in the Procedures menu are described in the following sections.

Procedures: Load

Load allows you to load an existing Procedure. Figure 15-21 shows an example of the Load a Procedure window.

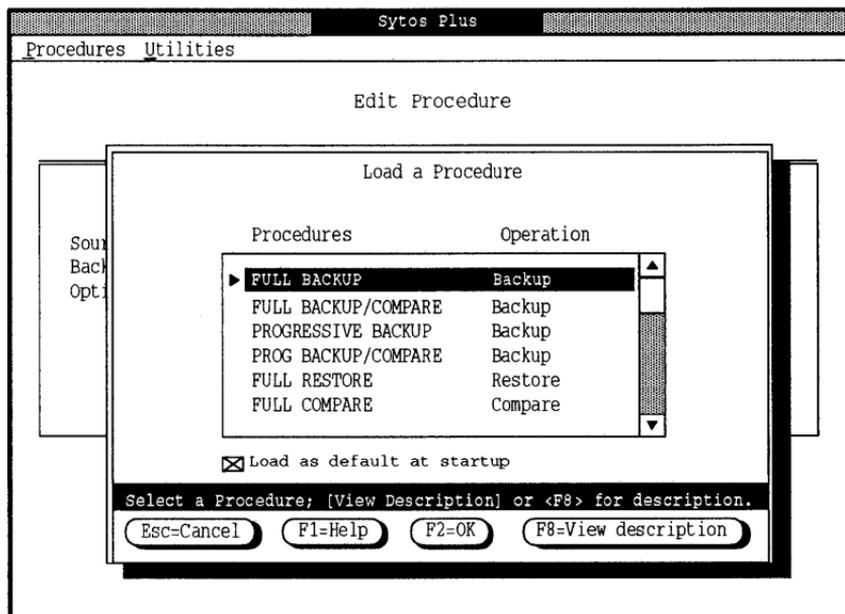


Figure 15-21 Procedure to Load

The following items are available from the Load window.

Item	Description
F8 View description	Provides a description of the highlighted Procedure.
Load as default at startup	Loads this Procedure automatically every time you start Sytos Plus.

Procedures: New

Using **New** lets you create a new **Backup**, **Compare**, **Move** or **Restore** Procedure rather than editing one. Figure 15-22 shows the New Procedure window.

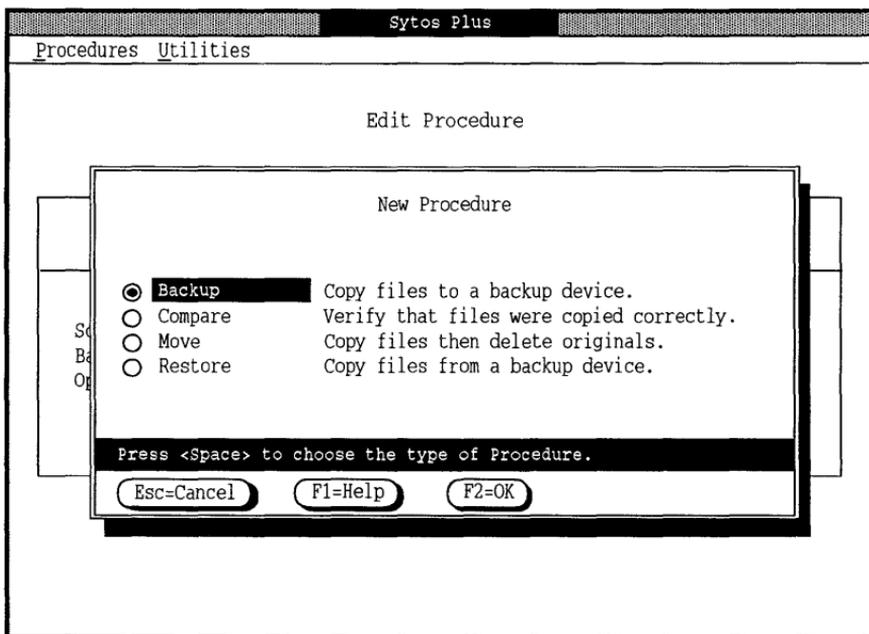


Figure 15-22 The New Procedure window

Procedures: Save and Save as

The **Save** menu selection lets you save edits to an existing Procedure under the current name. The **Save as...** selection, shown in Figure 15-23, lets you assign a new name and description to a Procedure. Items in both windows include:

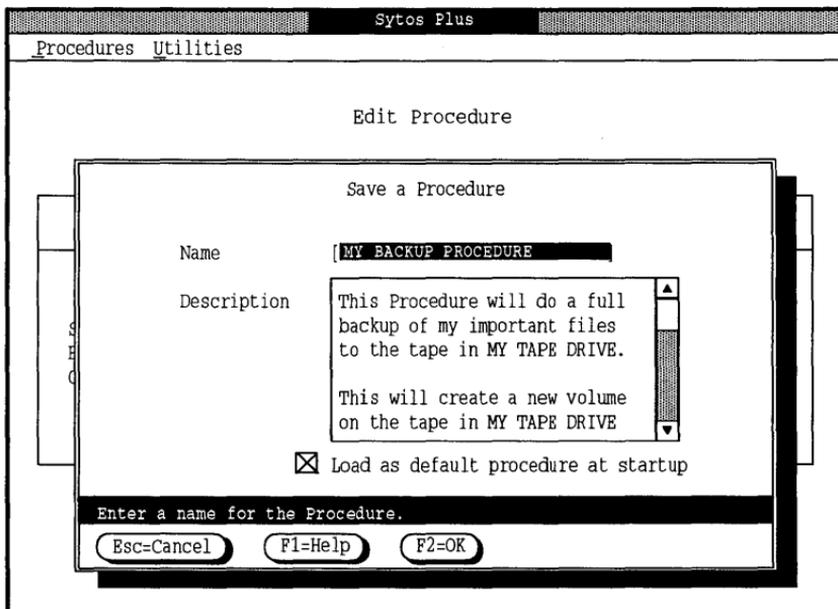


Figure 15-23 Saving a Procedure

Item	Description
Name	Lets you enter or edit a personalized name for the Procedure.
Description	Lets you enter or edit a description of the Procedure.
Load as default procedure at startup	Loads this Procedure automatically every time you start Sytos Plus.

Procedures: Preview and Run

The Preview and Run selections in the Procedures menu allow you to perform the following tasks.

Item	Description
Preview	<p>Test-runs the loaded Procedure without copying or deleting files and does not affect files or their attributes. Preview provides the number of files and the amount of space that is processed when you run a Procedure.</p> <p>Preview does not tell you if files are busy, damaged, or unmatched during the Preview process.</p>
Run	Starts processing files selected for the loaded Procedure.

NOTE: Use **Preview** before **Run** for new or edited Procedures, or for Procedures that are imported from another system.

The Status Window

During **Preview** and **Run**, a Status window as shown in Figure 15-24 appears. This window provides detailed information about the Procedure in progress. Every Procedure Status window contains the same elements. Not all elements are applicable to a given Procedure. The elements are listed in the following table.

File status information depends on accessing files, and applies only to a Run operation. Final status information is not displayed during a Preview.

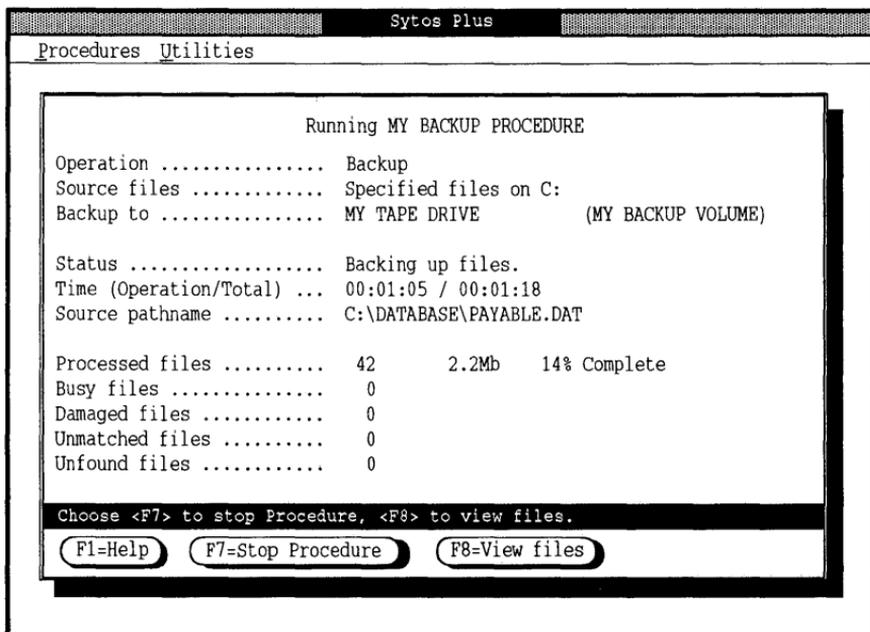


Figure 15-24 Status Window for a Running Procedure

Item	Description
Title bar	Displays either Previewing or Running and the name of the Procedure.
Operation	Displays the type of Procedure: Backup, Move, Compare, or Restore.
Source files	Summarizes the files selected.

Backup to... Move to... Restore from... Compare from...	<p>Depending on which Procedure you load, this field displays the following information:</p> <ul style="list-style-type: none"> - Backup to... the device that hold the backed up files. - Move to... the device that holds the moved files. - Restore from... the device from which backed-up files are restored. - Compare from... the device from which backed-up files are compared to the originals. <p>The name of the current Volume appears to the right in parentheses.</p>
Status	<p>Reflects the Procedure's current state (for example, "Rewinding tape" and "Backing up files").</p> <p>NOTE: <i>The last diskette that is processed during a multiple diskette backup displays the message "Returning to beginning of media." This means that Sytos Plus is formatting the remainder of the last diskette.</i></p>
Time (Operation/Total)	<p>Provides the time involved in processing the files and the total time elapsed (including time spent on media preparation or replacement of media).</p>
Source pathname	<p>Provides the pathname of the file currently being processed.</p>

The window's lower section gives you information about the files involved in the Procedure.

Item	Description
Processed files	<p>The number of files that were processed successfully, their combined size, and the percentage to which the Procedure is complete.</p> <p>Previewing files: <i>The number of processed files that appears in this field represents the current Procedure. If you run the Procedure at a later time, actual files processed may be different, especially if you choose to include changed files.</i></p>
Busy files	<p>Files currently in use (on the network), which are inaccessible.</p> <p>NOTE: <i>If you select the Retry busy files option for the Procedure, busy files are retried at the default interval of one minute when you run the Procedure.</i></p>
Damaged files	<p>Files that cannot be read completely without error from the source, and therefore cannot be processed correctly.</p> <p>NOTE: <i>Damaged files may be backed up or restored incompletely. Therefore, you may want to avoid including these files in future Procedures.</i></p>
Unmatched files	<p>Files that failed to match because of incorrect copy or changes between the last Backup and the start of the Compare process. (This might occur during a Compare Procedure or a Backup Procedure with the Compare files option selected.)</p> <p>NOTE: <i>You should rerun the Procedure with the Compare files option selected to ensure successful completion.</i></p>
Unfound files	<p>Lists the number of files selected for the Procedure that could not be found (possibly files that do not exist or files within a network environment to which you do not have access rights).</p>

Function Keys

Function keys within the Status window are:

Item	Description
F7 Stop Procedure	Stops the Procedure before completion. NOTE: Using Ctrl + C or Ctrl + Break has no effect.
F8 View files	Displays file information. A pop-up window displays the following selections: <ul style="list-style-type: none"> - Log - Busy files - Damaged files - Unmatched files - Unfound files. NOTE: If you view files while a Procedure is running, the Procedure pauses, then resumes when you return to the Status window.

Procedures: Schedule

Using **Schedule...** allows a Sytos Plus Procedure or other files (for example, batch or executable files) to run automatically at a particular time, for example, once, daily, weekly, monthly, or at special intervals. The scheduled event's date and day of week are displayed at the top of the window as shown in Figure 15-25.

Item	Description
Time	Displays when the event begins to run (based on your computer's clock settings).
Frequency	Indicates how often the event runs: once, daily, weekly, monthly, or at special ongoing intervals.

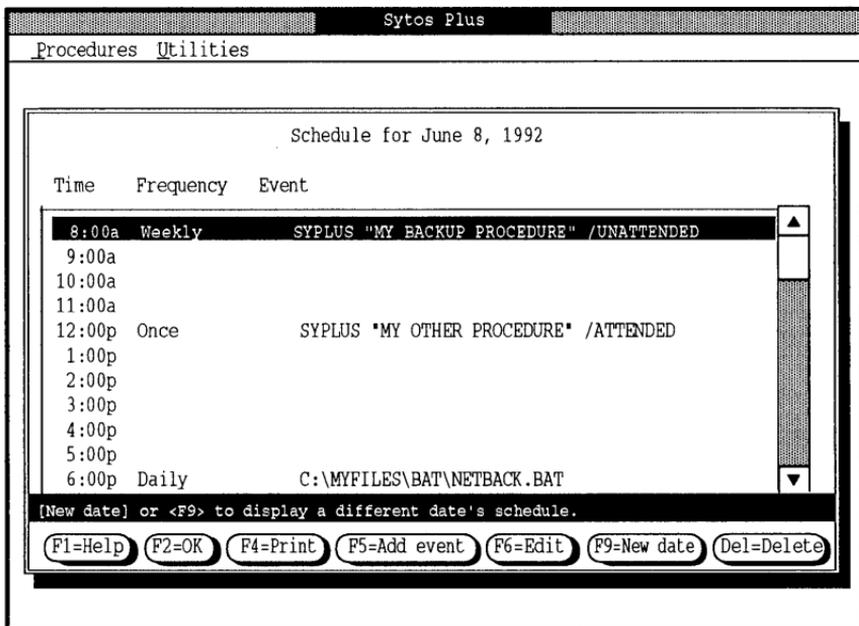


Figure 15-25 An example Schedule

Item	Description
Event	Contains the Procedure's name and run mode (attended or unattended) or a file name.

Function Keys: Print

Function keys are located at the bottom of the pop-up window and provide the following information:

Item	Description
F4 Print	Sends a list of all scheduled events for the day to a text file or your printer. Choosing Print or pressing F4 displays a pop-up window with these choices: <ul style="list-style-type: none"> - A text file: Sends the list to a disk file. - The printer: Sends the list to your printer.

Item	Description
(F6) Edit	Allows you to modify the highlighted event. Choosing (Edit) or pressing (F6) displays a pop-up window that displays the current schedule settings for this event. You can change the settings for event name, date, time, frequency, and run mode.
(F9) New date	Allows you to change the date in order to use a schedule for another date. This does not modify the Schedule.
(Del) Delete	Allows you to remove the event from the Schedule. (The Procedure or other file remains unchanged; only the entry in the Schedule is removed.)

Function Key: Add Event

Add event allows you to add an event to the day that the schedule is run. Figure 15-26 shows an example of the Schedule Event window.

Item	Description
(F5) Add Event	Pressing (F5) displays a pop-up window in which two options are offered: <ul style="list-style-type: none"> - A Sytos Plus Procedure. Any Procedure that appears on your list of available Procedures. - Other file. Can be a batch or executable file that you want to run, for example, a batch file created for running a Procedure from your operating system prompt.

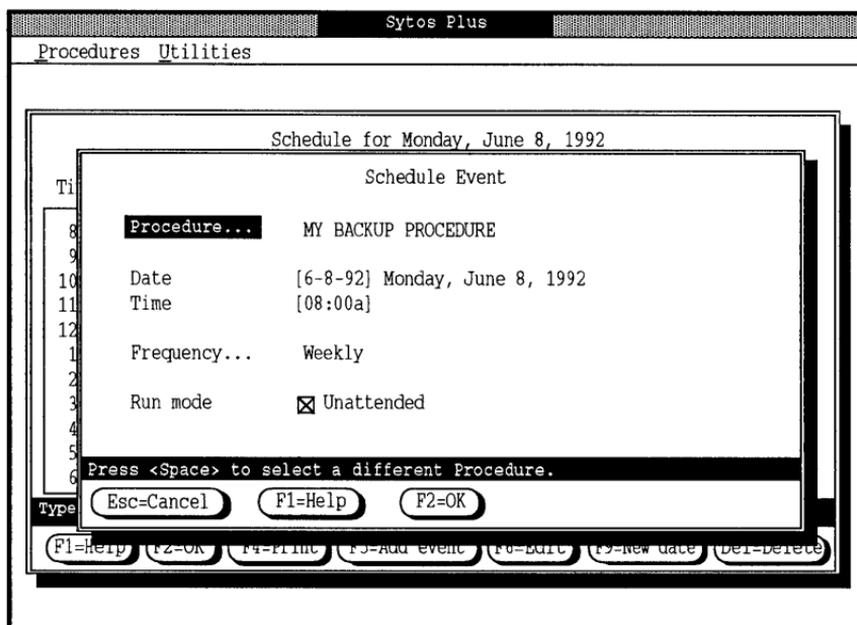


Figure 15-26 A scheduled event

After making a selection in the pop-up window, the Schedule Event window appears. You can specify the settings for this event as described in the following table.

Item	Description
Procedure... or File pathname	Depending on the event you added earlier, the first line is one of the following: <ul style="list-style-type: none"> - Procedure... Displays a default Procedure. If you select this line, a pop-up window appears and lets you choose another Procedure. - File pathname. Displays a field that lets you add the name of the executable or batch file to run.
Date	Lets you enter a new date.
Time	Lets you enter the time of event (applicable to all but special ongoing events).

Item	Description
Frequency...	Displays a pop-up window with the following options: daily , weekly , monthly , once only or special . If you select special , select settings for Once every , Daily start and Daily stop .
Run mode	Specifies whether Schedule runs or not with the following prompts. <ul style="list-style-type: none"> - Attended Run Mode instructs Sytos Plus to stop and wait for user input at all prompts. - Unattended Run Mode instructs Sytos Plus to continue without waiting for user input at prompts. Unattended is the default setting. De-select this setting to run as an attended Procedure.

Procedures: List

Using **List** allows you to send a list of all your Procedures to a text file or your printer. Choosing **List** or pressing **F4** displays a pop-up window with the following choices:

- **A text file:** Sends the list to a disk file.
- **The printer:** Sends the list to your printer.

Procedures: View

Using **View...** allows you to display information about the loaded Procedure, which can also be sent to a text file or your printer. **View...** has the following items:

Item	Description
F4 Print	Displays another pop-up window from which you can choose one or both of the following options: <ul style="list-style-type: none"> - A text file. Sends the information to a disk file. Use the default or type a complete path and filename appropriate to your operating system.

Item	Description
F4 Print	- The printer. Sends the information to your printer.

Procedures: Delete

Using **Delete** allows you to remove a Procedure from your list of available Procedures. **Delete...** has the following items.

Item	Description
F8 View description	Describes the Procedure.
Del Delete	Deletes the Procedure.
F2 OK	Confirms your choice.

Procedures: Import

Selecting **Import** lets you copy a Procedure to your system from another system that uses Sytos Plus. **Import** sets up different systems to run the same Procedures without having to re-create those Procedures.

Choosing **OK** or pressing **F2** enters your device choice and displays a pop-up window with a list of Procedures to Import. Figure 15-27 shows an example of the Import a Procedure window.

IMPORTANT: *Load or edit an imported Procedure and check the settings (for example, filenames, backup device name, and options) to ensure the settings apply to your system. You can preview the Procedure ensure it runs properly.*

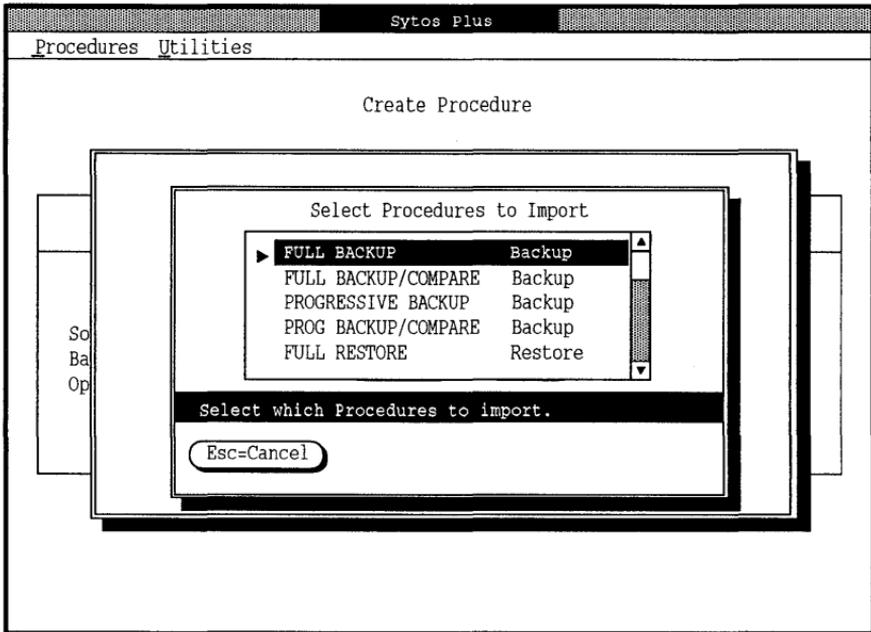


Figure 15-27 A Procedure to import

Procedures: Export

Selecting **Export** lets you copy a Procedure so that it can be used on another system that runs Sytos Plus. This feature as shown in Figure 15-28, is useful when you want to distribute Procedures you have created.

Choose **View Description** or press **F8** to display the highlighted Procedure's description. Choose **OK** or press **F2** to select the device to which the Procedure(s) should be exported.

Procedures: About Sytos Plus

Selecting **About Sytos Plus...** from the Procedures menu displays general information and the version number of Sytos Plus.

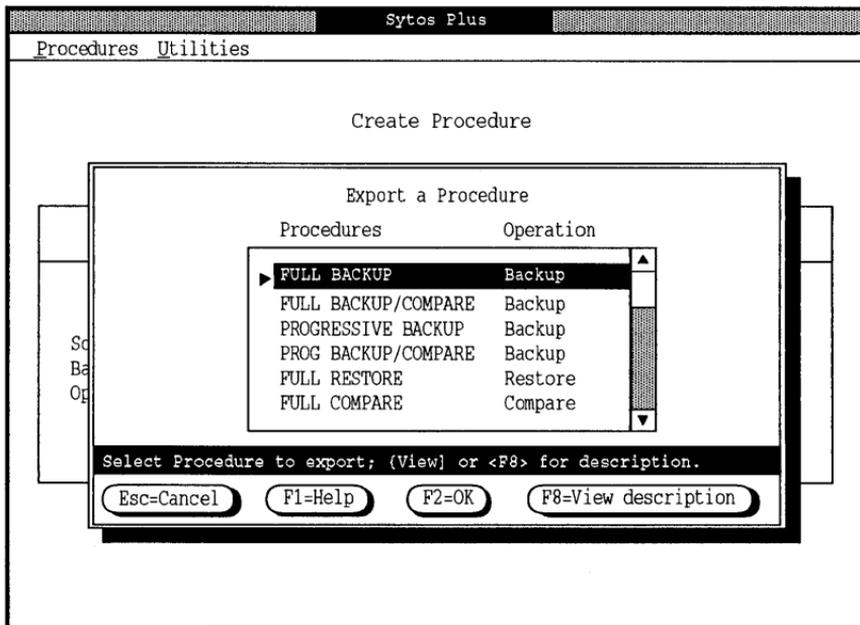


Figure 15-28 A Procedure to export

Utilities

Introduction

The **Utilities** pull-down menu is available from the the Edit or Create New Procedure windows. **Utilities** provides tools for setting up, customizing, and maintaining Sytos Plus. Selecting **Utilities...** from the Startup screen displays a window as shown in Figure 15-29. You can open the Utilities menu by:

- Pressing **Alt** + **U**, or,
- Pressing **F10** and **Enter**.

The **Utilities** menu items are described in the following section.

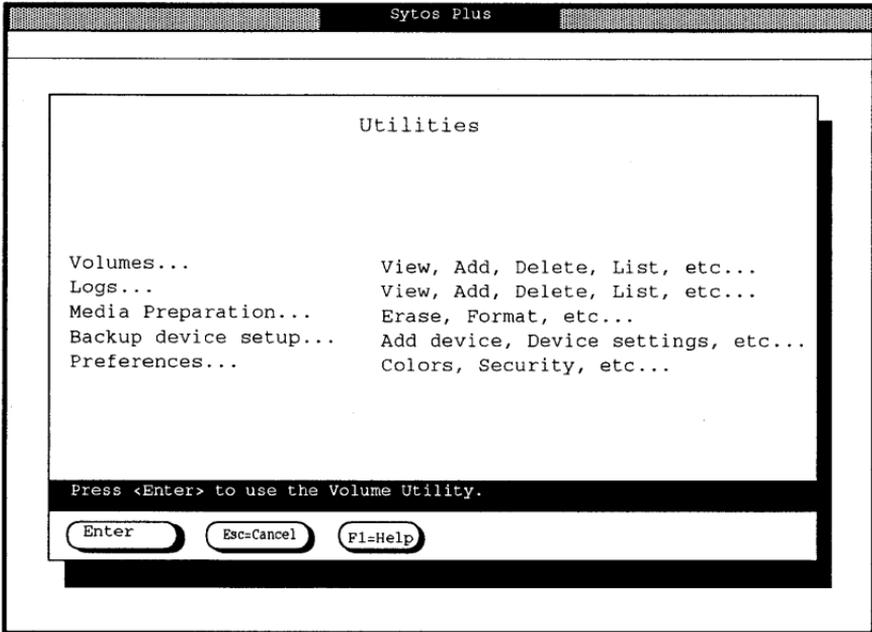


Figure 15-29 Utilities window

Utilities: Volumes

This feature as shown in Figure 15-30, manages your Volumes as follows:

Item	Description
Sort options	Lists your Volume by: <ul style="list-style-type: none"> - Volume creation date and time: Arranges your volumes by the creation date and the time. - Volume name: This option arranges your volumes by name.
F4 List	Sends a list of your Volumes to a text file or your printer.

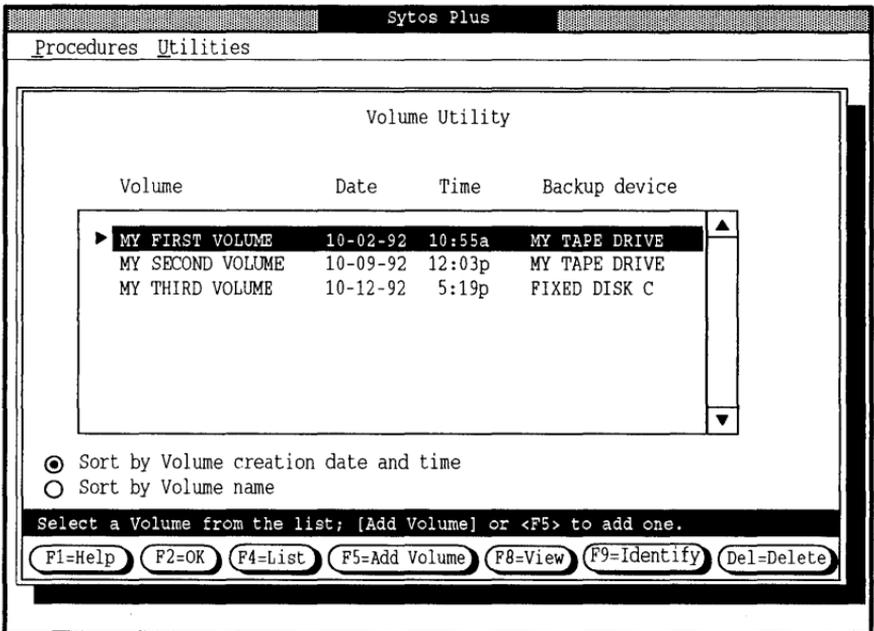


Figure 15-30 A selected Volume

<p>F5</p> <p>Add Volume</p>	<p>Adds a Volume to the list.</p> <p>NOTE: You can use <i>Add New Volume</i> from the <i>Utilities</i> menu for Backup Sets that were appended to a Volume using another system, or a tape created on another system. This ensures that all Volume information is included in the Volume utility. This is helpful when you select the Latest Backup Set for Restore and Compare Procedures.</p>
<p>F8 View</p>	<p>Shows you a Volume and lets you print the contents.</p>
<p>F9 Identify</p>	<p>Tells you what Volume is in your backup device.</p>
<p>Del Delete</p>	<p>Removes a Volume from the List.</p>

Utilities: Logs

Selecting **Logs** lets you review the Log for a completed Sytos Plus Procedure to ensure that all files are processed as specified. This also allows you to save a text file or make a hard copy printout of the Log.

This can be especially helpful in situations (such as Move Procedures) where the Log can accompany the back up media and provide a copy of the Log if the **Processed files** option under Log option is selected. Figure 15-31 shows an example list of Logs.

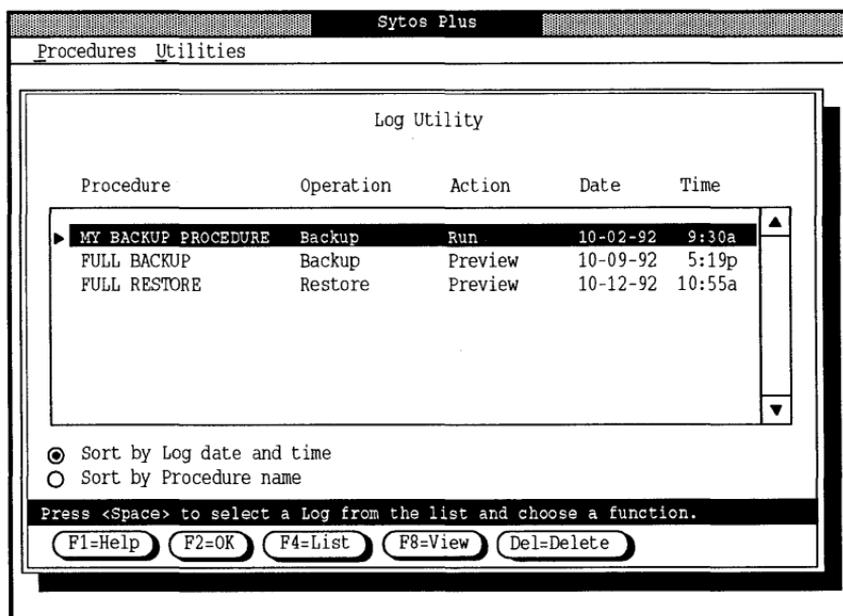


Figure 15-31 A selected Log

Item	Description
Sort options	<p>Selecting Logs from the Utilities menu displays a window with two items that let you change the sequence of the Logs.</p> <ul style="list-style-type: none"> - Sort by Log date and time: Arranges Log entries by date and time. - Sort by Procedure name: Arranges Log entries by Procedure name.

Include the Log as part of your Procedure, especially during unattended Procedures. Review the Log when the Procedure has completed to ensure that the backup media (during Backup or Move Procedures) or your system (during Restore Procedures) contain complete, accurate information, and that all files were copied as specified. Once you review the Log, you can delete it using the Log utility.

Function Keys

The following function keys are available from the Log Utility window:

Item	Description
<p>F4 List</p>	<p>Allows you to send a list of all your Logs to a text file or your printer. Choosing List or pressing F4 provides these options:</p> <ul style="list-style-type: none"> - A text file: Sends the list to a disk file. - The printer: Sends the list to your printer.
<p>F8 View</p>	<p>Allows you to display the name, description, creation date, and contents of the selected Log.</p>
<p>Del Delete</p>	<p>Allows you to remove a Log that you no longer need.</p>

Utilities: Media Preparation

This menu item lets you prepare backup media and create Volumes for later use with Sytos Plus. You can also view information about a Volume and Create new Volumes to be appended later.

Function Key: Prepare Media

This function key prepares backup media for later use without running a Procedure. The options are specific to the backup media you use.

Item	Description
Erase media	Makes your media appear blank to Sytos Plus.
Format media (not supported on all devices)	<p>Prepares your media to receive Sytos Plus information. New media for certain backup devices may need formatting before being used. This function also includes low-level pre-formatting for certain devices.</p> <p>If you use a 4mm DAT backup device, you need to format blank tapes before you create a new Volume. Formatting with this type of tape takes a few minutes to overwrite any data on the tape. (With this type of device, formatting is much faster than erasing a tape.)</p> <p>To format media in advance, you can select Format media from the Utilities: Media Preparation window. To format media as part of a Backup or Move Procedure, select Format media as a Volume option. The tape is formatted each time the Procedure is run.</p>
Retension tape (not supported by DAT drive)	<p>Adjusts tape tension by fast-forwarding and rewinding the tape to ensure information is recorded properly. Retension by itself does <i>not</i> change the information stored on the tape.</p> <p>Use for tapes that are new, or not used recently.</p>

Function Keys

Item	Description
[View Volume information]	Allows you to display the name, description, and options of the Volume in the backup device.
[Create Volume]	Allows you to create a Volume for later use without running a Procedure, specifying its name, description, and items including Password, ECC, QFA, Erase Media, Format Media and Retension tape. Password, QFA and ECC.

NOTE: *Some options may be grayed-out for certain backup devices.*

Utilities: Backup Device Setup

Use this utility to configure your backup device(s). The following section describes general items. For descriptions specific to your particular backup device, refer to the sections that follow. Figure 15-32 illustrates an example device list.

- **Backup device setup...** allows you to change, add, or remove the backup device(s) you installed originally with Sytos Plus. If you want to edit, delete, or add a new device, select the following function keys.

Function Keys

The following function keys are available in the Backup Device Setup window:

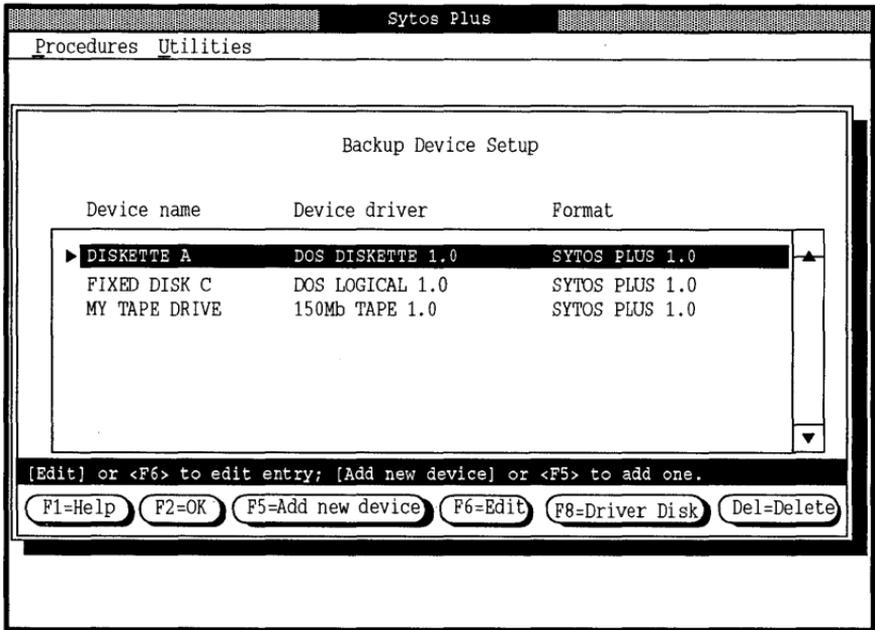


Figure 15-32 The Backup Device Setup window

Item	Description
F5 Add New Device	Allows you to add a backup device to the list from a pop-up window list of device drivers.
F6 Edit	Allows you to change the characteristics of the highlighted backup device, including the name, format, and configuration.
F8 Driver Disk	Allows you to copy a device driver from a Sytos Plus driver diskette (when Sytos Plus is already installed) to your system drive. Refer to <i>Chapter 11: Management Utilities</i> for more information.
Del Delete	Allows you to remove a backup device from the list that you no longer need. Your device driver is not deleted.

Setup Backup Device Window for Tape Systems

This window as shown in Figure 15-33, lets you specify the backup device settings for tape systems. Select **Edit** or **Add new device** from the Backup Device Setup window. Select the device driver from a pop-up list to be edited, or added and a pop-up window appears with the following items.

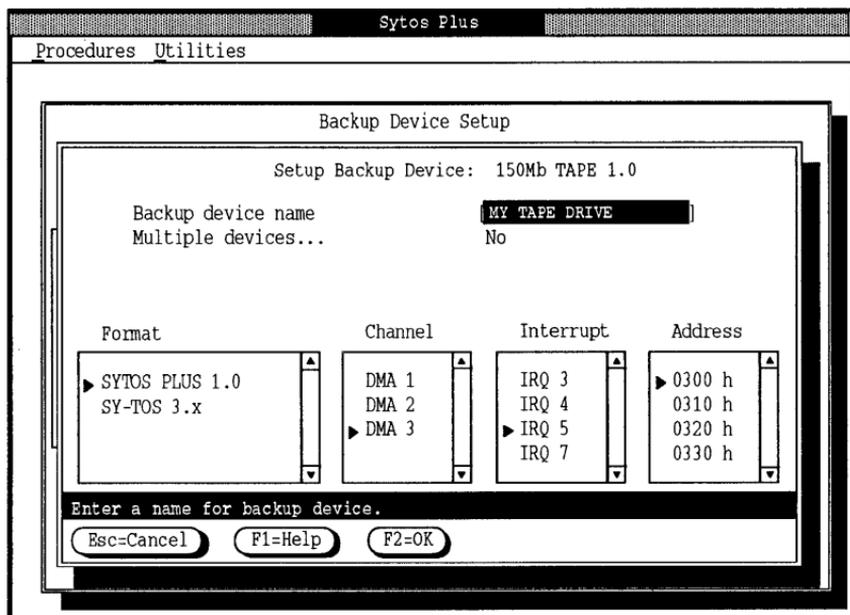


Figure 15-33 A tape system set up as a backup device

Item	Description
Backup device name	Allows you to assign a personalized name to this backup device.
Multiple devices...	Allows Sytos Plus to run with several (cascading) tape drives, when applicable. This item is not selectable unless you have two or more of the same SCSI devices.
Format	Determines the format to use when backing up files: for example, Sytos Plus or SY-TOS. (See the following section, "Backup Media Formats.")
DMA Channel, Interrupt, Address	Specifies the settings for this tape system. Settings should match <i>exactly</i> with the settings used when installing the tape system. These settings appear blank in SCSI devices.

Setup Backup Device Window for Diskette Drives

This window as shown in Figure 15-34, lets you specify the backup device settings for diskette drives

NOTE: *If you want to back up files that are on a diskette, you should copy and back up the files on a fixed disk.*

Select **Edit**, **Add new device** or **Delete** from the Backup Device Setup window. Select the device driver from a pop-up list to be edited, added or deleted, and a pop-up window appears with these items:

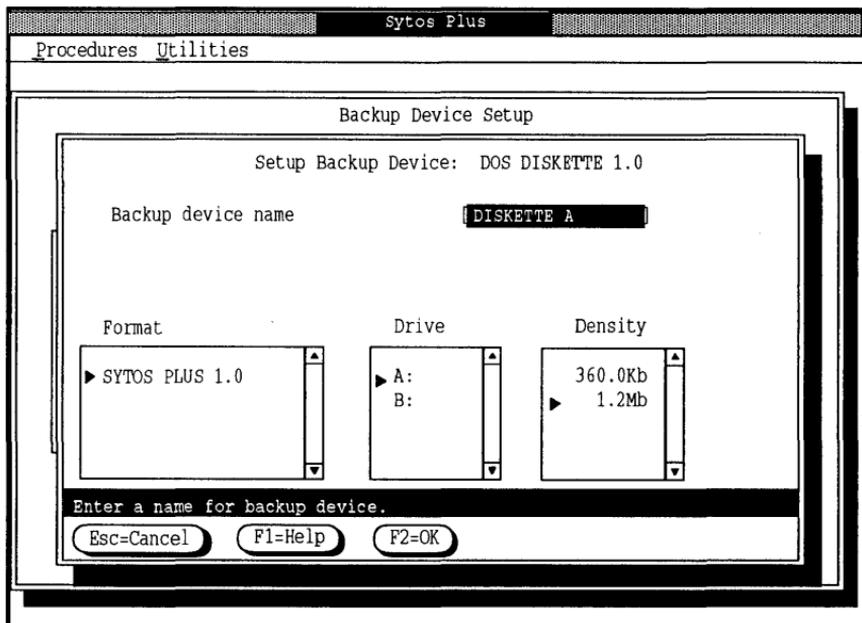


Figure 15-34 A diskette set up as a backup device

Item	Description
Backup device name	Allows you to assign a personalized name to this backup device.
Format	Determines the format to use when backing up files: for example, Sytos Plus 1.0. SY-TOS 3.x is not available for a diskette.
Drive	Allows you to select the diskette drive you want to associate with this backup device.
Density	Specifies the settings available for your diskette drive.

NOTE: If you back up files to diskettes, you need to use Sytos Plus to view the backup files. Operating system commands such as "DIR" do not display the files. A file named SYTOS.BKP occupies the entire diskette.

Setup Backup Device Window for Fixed or Removable Disks

This window as shown in Figure 15-35, lets you specify the backup device settings for fixed or removable disks.

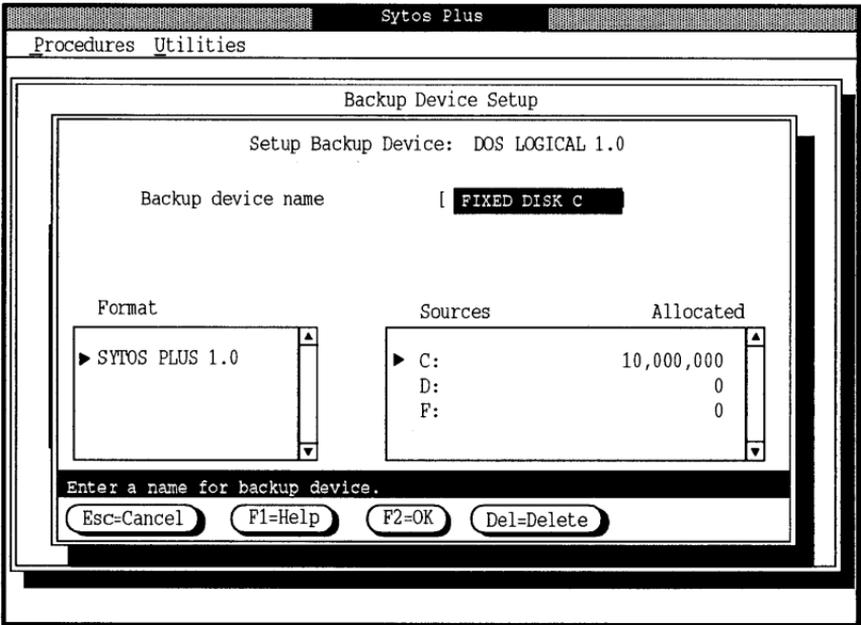


Figure 15-35 A fixed device set up as a backup device

Select **Edit**, **Add new device** or **Delete** from the Backup Device Setup window. Select the device driver from a pop-up list to be edited, added or deleted, and a pop-up window appears with these options:

Item	Description
Backup device name	Assigns a personalized name to this backup device.
Format	Determines the format to use when backing up files. Sytos 3.x format is not available.

Item	Description
Sources and Allocated	<p>Shows the selected backup device and allocated backup space. After selecting this option, a window pops up to show the Source and the space available to use as a backup device. This window allows you to edit the space allocated. The new allocation must be more than the existing allocation on that drive.</p> <p>To decrease the space allocated for a partitioned drive, you must go to the Backup Device Setup window, delete the driver and select Add new device to return to the space window. This selection deletes your data; making your data inaccessible.</p>

Utilities: Preferences

Preferences sets up your Sytos Plus working environment. The following table listed the options available for you to set.

Item	Description
File attributes to display	Determines the amount details for files that are listed in the Source Files window.
Sort directories	Determines how directories are sorted in the Directory Tree windows.
Sort files	Determines how files are listed in the Individual File windows: <ul style="list-style-type: none"> - Don't sort - By name - By extension - By date and time (they were created) - By size

Item	Description
Display	<p>Chooses the color palette for Sytos Plus windows. For Color monitors, the choices are: White, Cyan (light blue), Blue or Black; for monochrome monitors, the sole choice is: Black and white.</p> <p>Graphics or Text mode. Your screen's display mode is originally set during Sytos Plus installation. If you have a system equipped with an EGA or VGA graphics card, you can choose to run in text mode.</p>
Warning/ Error beep	Activates audible beep for warning or error messages.
Procedure lock ..	<p>Lets you set up Sytos Plus for limiting users to run only existing Procedures. This prevents accidental or unauthorized changes to Procedures. At the pop-up window, you select:</p> <ul style="list-style-type: none"> - Only allow running and previewing existing Procedures - Require password to change this preference <p>You are prompted to assign and confirm a password before returning to the main screen. This password is needed when you want to change the Procedure lock in the future.</p>
Unattended security ...	Lets you specify a default password to be used with unattended Procedures. Sytos Plus proceeds and does not assign a password, assuming that no one is available to assign a password.

Item	Description
Media overwrite ...	<p>Prompts you to specify what Sytos Plus should do for Backup and Move Procedures when Create new Volume... is selected and the media you inserted into the drive already contains data. Four settings within this option are available:</p> <ul style="list-style-type: none"> - Always prompt: Asks whether you want to overwrite or replace the media with another tape. - Prompt if same format: Prompts you if the media is a Volume that matches the format you selected for your backup device (for example, a Sytos Plus tape and a backup device with the Sytos Plus format). - Prompt if different format: Prompts you only if the media is not a Volume that matches the format chosen for your backup device (for example, a SY-TOS tape and a backup device with the Sytos Plus format). - Never prompt: Overwrites the media without prompting you. <p>NOTE: <i>The media overwrite default with diskettes differs. In this case, Sytos Plus prompts you with Prompt if different format.</i></p>
Automatic volume update	<p>Lets you turn off volumes after completing a Procedure. Deselect this option to delete all volumes after completing a Procedure. This is useful if you are transferring tapes to another system and don't need volume information, or if you want to save disk space.</p>
Automatic QFA detection	<p>Determines if QFA is present on the backup media, and directs the system to complete Restore and Compare Procedures using QFA. Deselect this item if you are having problems accessing files using QFA.</p>
General network broadcast	<p>Sends a message to all network users before and during Backup Procedures.</p>

Item	Description
Individual network broadcast	<p>Sends a warning to each user who has a file open on the NetWare server before a Backup Procedure is about to start. Deselecting this feature means no message is broadcast. No message is broadcast if Retry busy files is not set as a backup option.</p> <p>NOTE: <i>Novell NetWare 386 does not support this option.</i></p>

NOTE: *As an extra precaution, Sytos Plus files on disk cannot be overwritten during a Restore Procedure even if you have included the files in your file selection and have selected the **Overwrite existing files** option.*

IMPORTANT: *Any selections made in the Preferences window take effect immediately.*

Selection Sheets

Purpose

Using **Selection Sheets** allows you to select files or subdirectories using wildcards (for example, * and ?), by date ranges, or by changed status to bypass the process of selecting files from windows.

Every file selected (or de-selected) from the file selection windows generates an entry in the Selection Sheet as shown in Figure 15-36. When a Procedure runs, Sytos Plus consults the sheet for instructions on which files to include.

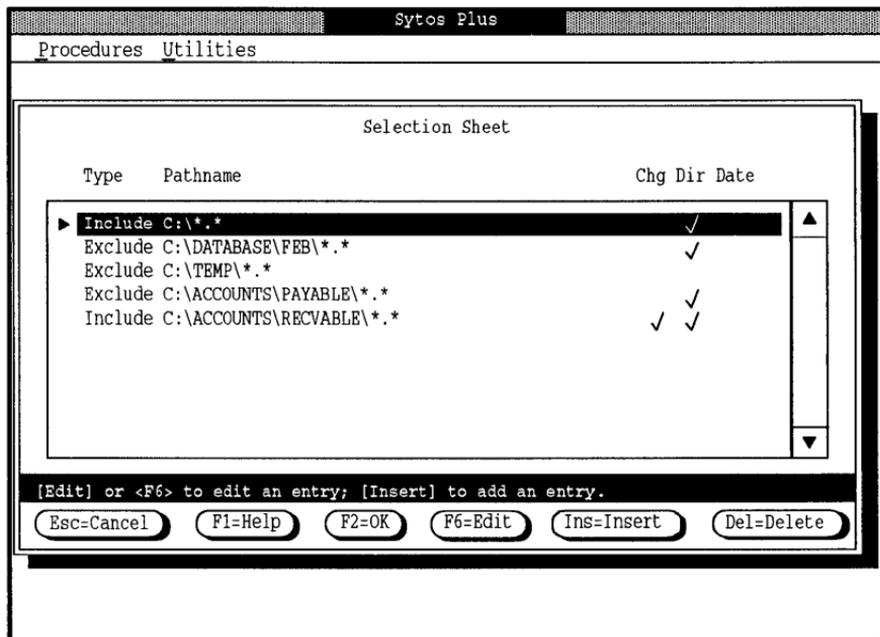


Figure 15-36 Selection Sheet

Examples

The following examples show file selections and their corresponding entries on the Selection Sheet.

Example 1: Include all files from the C: drive

Your selection from the Source Files window: **C: All files**

Your Selection Sheet entry:

Type	Pathname	Chg	Dir	Date
Include	C:*		✓	

Example 2: Include only changed files from the C: drive

Your selection from the Source Files window: C: Only changed files

Your Selection Sheet entry:

Type	Pathname	Chg	Dir	Date
Include	C:*	√	√	

Example 3: Include all files from the C: drive, except Accounts files

Your selection from the Source Files window: C: All files

Your selection from the Directory Tree window: \ACCOUNTS: Not selected

Your Selection Sheet entry on line 1:

Type	Pathname	Chg	Dir	Date
Include	C:*		√	

Your Selection Sheet entry on line 2:

Type	Pathname	Chg	Dir	Date
Exclude	C:\ACCOUNTS*		√	

Relating Selection Sheet Entries to Each Other

When a Procedure is run, the order of the entries determines the actual files to be included. Because the sheet is read line by line, from top to bottom, entries at the top can be affected by ones at the bottom. For example, a Selection Sheet could have these three include/exclude entries.

Include	C:*
Exclude	C:*.BAK
Include	C:*

The result is **C: All files** since it's the last entry on the list.

This sequential structure applies not only to include/exclude entries, but to pathnames and the options for **changed files**, **directories**, and **date range**. These options are described in the following section.

Inserted entries: *The Selection Sheet is read from top to bottom. If you put an entry in the middle of the sheet, it may be affected by an entry below it. Therefore, we recommend inserting new entries at the bottom of the sheet.*

Function Key: Delete

Item	Description
 Delete	Allows you to remove an entry from the list.

Function Key: Edit and Insert

Edit and Insert allow you to change the highlighted selection entry as shown in Figure 15-37, or adds a new one above the highlighted entry.

Items	Description
 Edit	Changes the highlighted entry.
 Insert	Adds a new entry above the highlighted entry.

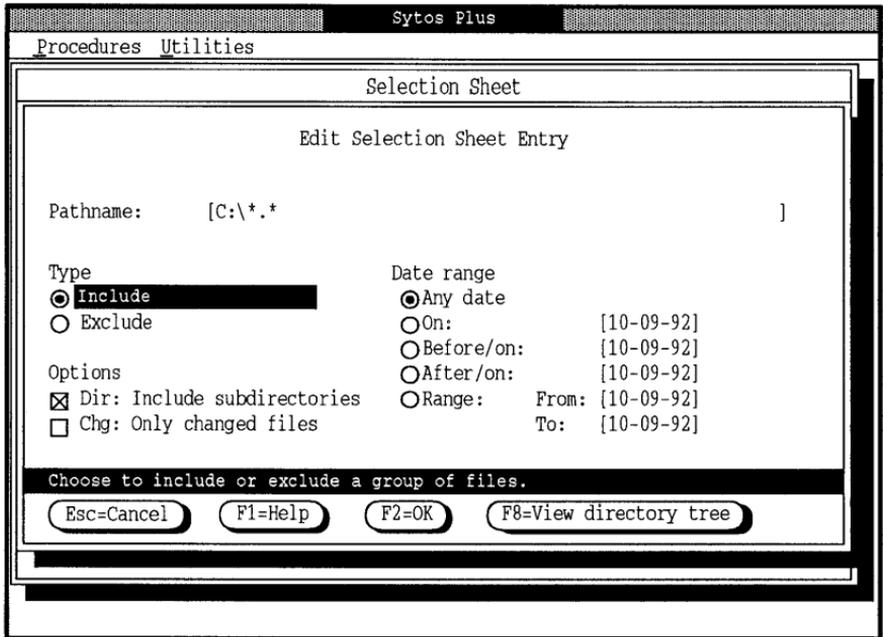


Figure 15-37 An edited Selection Sheet entry

Items	Description
Pathname	Shows the files to which this entry applies. You can use wildcards to include groups of files. To save time entering long pathnames, choose View directory tree or press F8 to select a directory from the Directory Tree window.
Include	Ensures that the specified files are selected for the Procedure.
Exclude	Ensures that the specified files are not selected for the Procedure.
Dir: Include subdirectories	Includes/excludes all subdirectories.

Items	Description
Chg: Only changed files	Includes/excludes only files that have changed. NOTE: <i>When selecting files for inclusion in Procedures, Sytos Plus can categorize files in one of two ways: as "backed-up" or as "changed." This feature is useful for strategies that are intended to include only files that have changed since the last Backup Procedure (Sytos Plus also considers new files as "changed").</i>
Any date On Before/on After/on Range	Date range options to include/exclude files. (Specific dates are typed in for the last four options.)

Function Key: View Directory Tree

Item	Description
F8 View directory tree	Allows you to display those directories that are part of the Source directories highlighted in the Source window. This function key helps in determining the correct path when you enter a pathname.

Redirection Sheets

Purpose

Using **Redirection Sheets** lets you restore files to a location other than the original one.

NOTE: *If you select files for a Compare Procedure after a Restore using Redirection sheets, you need to duplicate the entries used for the Restore Procedure. For example, Joe gives you a sales report C:\REPORTS\SALES.DOC and you restore this as C:\REPORTS\JOESFILE.DOC.*

When you set up the Compare Procedure, you need to call the source pathname C:\REPORTS\SALES.DOC, and call the redirected pathname C:\REPORTS\JOESFILE.DOC. This ensures that Sytos Plus knows which files to compare. Otherwise, source files won't match redirected files because they now have different names.

Selecting **Redirect files...** from the Restore or Compare options window displays a Redirection Sheet, shown in Figure 15-38.

NOTE: *Preview the Procedure first and then review the Log to ensure the Redirection results (for example, to check if any files were overwritten). To view redirection settings in the Log after Preview or Run, you need to select Selection Sheet when setting up the Log for the Procedure.*

Function Key: Edit and Insert

Using **Edit** lets you change an highlighted entry, **Insert** lets you add a new entry to the list. The following table displays items shown in the Edit Redirection Sheet Entry window. Figure 15-39 illustrates the window with redirected entries.

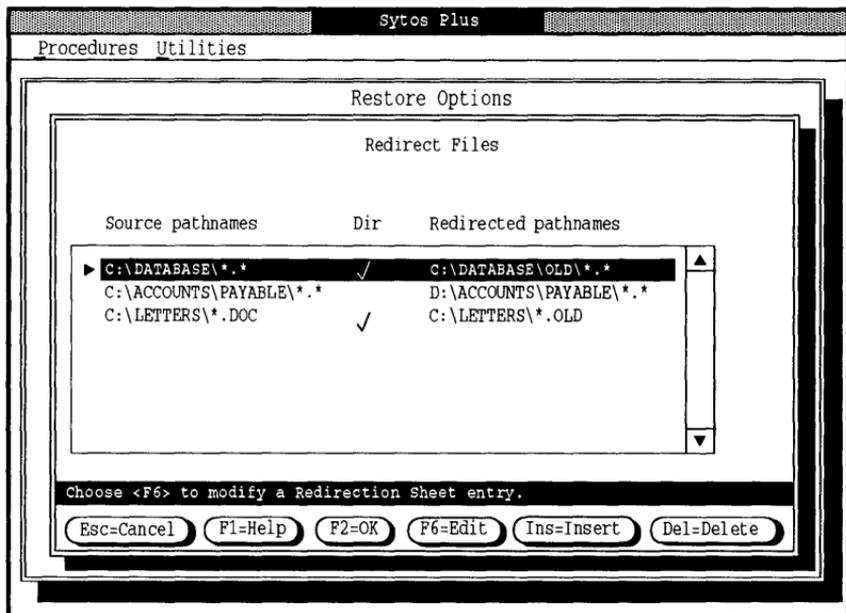


Figure 15-38 A Redirection Sheet

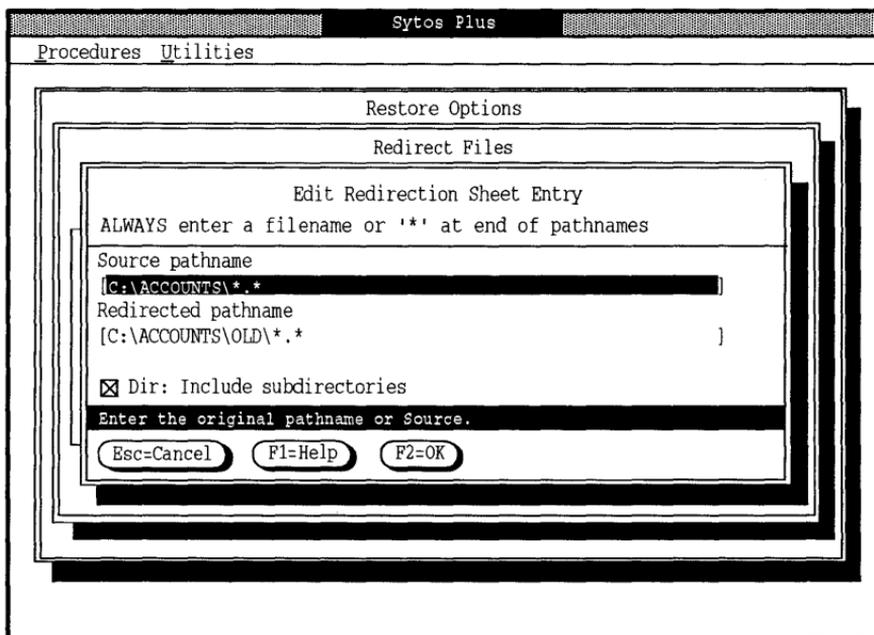


Figure 15-39 An edited Redirection Sheet

Item	Description
Source pathnames	Field to edit the pathname and file names, using wildcards. NOTE: Always include a file name or * at the end of the source and redirected pathnames.
Redirected pathnames	Field to edit the redirected pathname and file names, using wildcards.
Dir: Include subdirectories	Selects or de-selects subdirectories. When selected, all the subdirectories of the source pathnames are also redirected. Only those files you specified are redirected. All other files involved in the Restore Procedure are restored with their original pathnames.

NOTE: *If any directory specified in a redirected pathname doesn't exist, Sytos Plus creates the directory during the Restore Procedure.*

All Files Redirected in a Directory

When redirecting all files in a directory, you must include * at the end of the source pathname and the redirected pathname. Otherwise, Sytos Plus searches only for files that match the names you have entered.

For example, redirecting all files from C:\FILES to C:\NEWFILES uses these settings:

Correct Settings
Source pathname: C:\FILES*
Redirected pathname: C:\NEWFILES*
Dir: Include subdirectories: Checked

This specification looks for all files in the “FILES” directory and subdirectories and redirects the files to a “NEWFILES” directory (creating it if necessary) along with the original subdirectories.

Incorrect Settings
Source pathname C:\FILES
Redirected pathname: C:\NEWFILES
Dir: Include subdirectories: Checked

This specification looks for the file called “FILES” on the C: drive on the media and in any subdirectories, and renames the files to “NEWFILES.”

Function Key: Delete

This function key allows you to do the following.

Item	Description
Del Delete	Remove an entry from the list.

A Glossary of Terms

Accelerator keys. Keyboard shortcuts, available from the Create or Edit Procedure windows, for selecting menu items. For example, holding the **Ctrl** key and pressing **S** brings you directly to the Save a Procedure window from the Create or Edit Procedure window. When accelerator keys are available, they are listed next to the items in the menu.

Action bar. The horizontal bar at the top of the Create or Edit Procedure windows that displays the two groups of Sytos Plus functions: Procedures and Utilities.

Address. The starting location within your computer system's allowable hardware Input/Output ports that is used by Sytos Plus to communicate with your backup device.

Append to existing Volume. Rather than creating a new Volume, this option adds the Backup Set to an existing Volume during a Backup or Move Procedure. Several Backup Sets can be appended to one Volume.

Archive. To store files away from your system that you no longer use regularly but don't want to discard. This is accomplished using a Move Procedure.

Attended run mode. Indicates that someone will be at the computer to answer prompts or put in additional backup media as the Procedure is progressing.

B**acked-up files.** Files that have been copied using a Backup or Move Procedure.

Backup device. The unit that houses the backup media to which files are copied during a Backup or Move Procedure. Backup devices include tape drives, diskette drives, optical drives, and fixed disk drives.

Backup media. *(See media.)*

Backup Procedure. Copies files to a backup device for safekeeping.

Backup Set. The results of a Backup or Move Procedure. Each Backup Set contains the files that were copied to backup media. Each Volume can contain one or more Backup Sets.

Backup Volume. *(See Volume.)*

Busy files. Those files that are currently in use in a network environment and therefore locked to all other users and/or application programs. Files that are busy when a Procedure is run cannot be processed.

C**ascading drives.** *(See multiple devices.)*

Changed files. When a file is edited or is new, it is marked as "changed." Certain Backup strategies involve backing up only those files that have changed or have been created since the last backup. It's also possible to select the Backup Procedure option **Mark files as backed-up** which results in the file being marked as having been backed-up after the Procedure.

Checkbox selection. An item that is either selected (shown with an X in the box) or not selected.

Chg. *(See Changed files.)*

Command line operation. The process of running Sytos Plus from your operating system command line to combine it with other operations.

Compare files. A Backup Procedure option that ensures that backed-up files are identical to the originals.

Compare Procedure. Ensures that the copied files involved in a Procedure are identical to the originals.

Compress backed-up files. An option for a Backup or Move Procedure that compresses the files on the backup media when copied so they take up less space.

Controller card. The plug-in computer board that controls the exchange of information between the computer and the backup device.

Create or Edit Procedure windows. The windows that appear after the Sytos Plus Startup screen from which you choose actions and view the Procedure box.

Create new Volume. Sets up a new Volume during a Backup or Move Procedure. Volume options are available when this is selected.

Damaged files. Those files that can't be read in their entirety without error (from a fixed disk, diskette, or tape) and therefore can not be processed correctly.

Data distribution. The process of transferring files between systems.

Default. The pre-determined setting or option provided by Sytos Plus. Default settings are those likely to be needed by the majority Sytos Plus users, but can be changed as needed.

Delete. The act of removing something so that it no longer exists—for example, a Log or a file.

Device driver. Software that runs a device, namely a tape drive or diskette drive.

Dir. (*See directories.*)

Directories. Units of related files you have grouped together. Directories attached to existing directories are known as subdirectories. When combined, these form a directory tree.

Diskette. A type of flexible backup media that stores information on a magnetic surface. It is available in 5 1/4-inch and 3 1/2-inch sizes. Also known as a floppy disk.

DMA (Direct Memory Access) Channel. A channel through which files are transferred between the main storage unit in a computer (usually a fixed disk) and a backup device. Settings for the DMA channel vary depending on the type of drive you have.

ECC—Error Correction Code. An option for a Backup or Move Procedure that records special information on the backup media to assist with restoring files if the media becomes damaged after a successful backup.

Edit. To change text, selections, or Procedures.

Edit field. A section of a window where you enter information.

Ellipsis (. . .). When you select an option with an ellipsis after its name (for example, **Source files . . .**), a window will pop up where you will make further selections.

Erase. To prepare your backup media so it appears blank to Sytos Plus. You can use the **Erase** option for a Backup or Move Procedure. You can also prepare media in advance using the **Media preparation** option in the **Utilities** menu.

Exclude. The instruction for *not* including a file in a Procedure.

Exit. Leaves Sytos Plus and returns you to your operating system prompt. You can exit Sytos Plus from the Startup screen by pressing (F3).

Export. A function in the Procedures menu that copies one of your Procedures for use by someone else who uses Sytos Plus.

Extension. The part of a filename shown after the period, as in BROCHURE.DOC.

Event. A Sytos Plus Procedure or other file (for example, a batch, or executable file) scheduled to run at a particular time using the schedule function in the Procedures menu.

File attributes. Information that describes a particular file, such as its name, the creation date and time, whether it has been changed, and its size.

File locking. A feature in network environments: if a file is in use, it can be locked so that no other user can change it. This is known as a busy file.

File security. A feature in network environments that gives a person rights to use particular files. This prevents the user from having access to all files on the system.

File selection. The process of choosing files (either from windows or by using a Selection Sheet) for a Backup, Move, Restore, or Compare Procedure.

Fixed disk. The device in your computer where files reside. Also known as a hard disk.

Floppy disk. (See *diskette*.)

Format. (See *SY-TOS, Sytos Plus, and format media*.)

Format media. In Sytos Plus, you can format media to prepare it to receive information before Backup and Move Procedures. You can use the **Format** option when setting up the Procedure or prepare media in advance using the **Media preparation** option in the Utilities menu.

Full Backup strategy. A Backup strategy that results in a Backup of your entire system. Can be combined with Progressive or Incremental Backups.

Function keys. The keys on your keyboard (normally identified by **F1** through **F12**) that correspond to certain actions. They are shown at the bottom of each Sytos Plus window.

Graphics mode. One of two modes for the Sytos Plus screen. This will be selected automatically during installation if you have a system equipped with an EGA or VGA graphics card. If you wish, you still may choose the text mode using the **Preferences** item in the Utilities menu.

Grayed-out. An option that is not selectable (text is dimmer than other text on the screen).

Guidance bar. The horizontal bar that appears in windows directly above the function keys and

contains helpful information about the highlighted item.

Hard disk. *(See fixed disk.)*

Help. The **F1** key is available in every Sytos Plus window and contains several categories of information to assist you with understanding Sytos Plus features.

Highlighting. The act of placing the horizontal band (colored differently than the rest of your screen) over a particular line.

Identify. A Volume utility option that quickly shows the name and description of a Volume in your backup device.

Import. An item in the Procedures menu that allows you to copy Procedures from other systems.

Include. The instruction for selecting a file to be processed in a Procedure.

Incremental Backup strategy. A strategy that backs up any files that have changed or been created since the most recent Full or Incremental Backup. Using this strategy, intermediate versions of changed files are saved.

Insert. To add information in an edit field or a list.

Interrupt. A channel used to transport information to and from a backup device. Sytos Plus uses an interrupt channel to allow simultaneous operation of the disk and backup systems during Procedures.

I/O Base Address. *(See address.)*

Load. Choosing a particular Procedure to preview, run, or edit from the Create or Edit Procedure windows.

Log. The record of a Procedure that has run. It displays all information about files processed and problems that occurred. It is useful to review the Log to be sure all files were processed correctly.

Log utility. You can manage your Logs with this item in the **Utilities** menu. This feature allows you to sort, list, update, view or delete Logs.

Media. Files are backed-up to media during Backup and Move Procedures. Backup media include magnetic tapes and diskettes.

Media capacity. The amount of space on a backup media that can be used for backed-up files.

Media preparation. Prepares tapes or diskettes for backing up files. You can erase, format, or retension as part of running a Procedure or prepare in advance with **Media preparation** in the **Utilities** menu.

Media sequence number. When using several tapes or diskettes for a single Volume, each will have a number that corresponds to the order in which the media were used.

Menu. *(See pull-down menu.)*

Move Procedure. Transfers files to a backup device for storage by copying them (as in a Backup Procedure) and then deleting the originals.

Multiple devices. Certain tape devices support the use of more than one tape drive sequentially, so several drives can be used for a single Procedure facilitating unattended backups for a large number of files. Also known as cascading drives.

Network. A system where there are several workstations linked together. *(See also file security and file locking.)*

New. The process of creating a Procedure rather than editing an existing one.

Operating system. Software that directs the basic functions of the computer, enabling it to run application programs, for example.

Overwrite. The process of replacing a file on your system by restoring a file that has the same name.

Palette. A combination of screen colors available for Sytos Plus.

Password. A key created by you that is needed later when files on a Volume are accessed. This option is available during a Backup or Move Procedure.

Peripherals. Equipment that is used in conjunction with a computer: for example, keyboards, modems, printers, external tape drives.

Pop-up window. A screen that Sytos Plus displays on top of a window when you press certain keys or evoke an error or warning message.

Preferences. An item in the Utilities menu for customizing Sytos Plus.

Pre-format. A low-level formatting operation that occurs before high-level formatting (applicable only to certain tape systems). *(See also Format media.)*

Prepare media. *(See Media preparation.)*

Preview. Test-runs a Procedure without copying or deleting files.

Print. The function that sends the list of Procedures, the description for a single Procedure, the Volumes list, the list of Logs, or the Log to a text file or printer.

Procedure box. The box that appears on the Create or Edit Procedure windows when you load a Procedure. Each Procedure box shows the Procedure name, the Source files, the backup device, and options.

Procedure lock. A Preference that limits users to running and previewing existing Procedures only. This may prevent accidental or unauthorized changes to Procedures.

Procedures. The file processing functions of Sytos Plus that can be customized as needed. The four types of Procedures are Backup, Move, Restore, Compare.

Processed files. Files that have undergone a Backup, Move, Restore, or Compare Procedure successfully and completely.

Progressive Backup strategy. A strategy that backs up all files that have changed or been created since the most recent Full Backup. Using this strategy, intermediate versions of changed files are not saved.

Prompt. A screen message that requests information from you.

Pull-down menu. A vertical list of items that appears when you select one of the two items in the action bar in Create or Edit Procedure windows: Procedures and Utilities.

QFA—Quick File Access. An option that enables Sytos Plus to record information about each file's location on the media during Backup or Move Procedures. This information is stored in a special "directory" on the media. Sytos Plus refers to the directory to quickly locate files

during Restore or Compare Procedures. (Not all backup devices support this option).

Radio button selections. A group of selections from which you can choose only one. Each is shown as circles (graphics mode) or parentheses (text mode). The selection is marked with a dot.

Redirect files. A Restore Procedure option that copies files to different disks, paths, or filenames than those on the backup media. This option is also used during a Compare Procedure when the files involved are those restored with redirection.

Redirection Sheet entry. A single instruction on the Redirection Sheet that shows how a particular group of files will be redirected. (*See also redirect files.*)

Redirection Sheet file. An ASCII text file that can be used from the command line to override the current Redirection Sheet for a Restore Procedure.

Removable disk. A device that behaves like a fixed disk and stores large amounts of information but can be removed from the computer for safekeeping off-site.

Restore Procedure. Copies files from a backup device to your system (usually to your fixed disk).

Retension. Adjusts a tape's tension by fast-forwarding and rewinding it to make sure it is taut enough to properly record information.

Retry busy files. A Backup or Move option that checks inaccessible files (ones that are in use at the time of the Procedure) and backs them up when they are available. You can choose to have them checked for a period of time, until a particular time, or until no longer busy. You can also indicate that you do not want them retried. This option is useful if you work in a network environment.

Run. An option in the Procedures menu that processes files selected for a Procedure.

Run mode. (*See Attended run mode and Unattended run mode.*)

Save. Saves edits to an existing Procedure under the current name. **Save** is an option in the Procedures menu.

Save as. Assigns a new name and description to a Procedure. **Save as . . .** is an option in the Procedures menu.

Schedule. Schedules an event (a Sytos Plus Procedure or other file—for example, a batch or executable file) to run automatically at a particular time—once, daily, weekly, monthly, or at special ongoing intervals. This is an item in the Procedures menu.

Scrolling. The process of displaying more information than can fit in the window by using the arrow keys, **(Pg Up)**, **(Pg Dn)**, **(Home)**, **(End)** or holding the mouse pointer on the arrows in the window's vertical or horizontal scrolling bar.

Select. Specifying files or options for a Procedure. To select an item, first highlight it then press **(Spacebar)**, or select it with your mouse.

Selection Sheet. A record that shows which files are selected for a Procedure. Sytos Plus builds a Selection Sheet in the background when you choose files from the file selection windows. You can also edit Selection Sheets by choosing **[Selection Sheet]** or pressing **(F8)** from any Selection Sheet window.

Selection Sheet entry. An instruction in a Selection Sheet that includes/excludes a particular file or group of files for a Procedure.

Selection Sheet file. An ASCII text file that can be used from the command line with the /F switch to override the current Selection Sheet for a Procedure.

Source. The location of files to be processed. For Backup and Move Procedures this is usually your fixed disk; for Compare and Restore, this is the Volume.

Startup screen. This is the first window displayed by Sytos Plus. It includes selections to Backup, Restore, Compare and Move files as well as Utilities, Schedule, Help and Exit. The default Procedure can be run from the Startup screen.

Status window. During a Procedure Preview or Run operation, this window displays detailed information about the Procedure in progress. It includes information about the type of Procedure, the source files, the backup device, and the total time elapsed.

SY-TOS format. The format to select when setting up backup devices if you need to read tapes created with SY-TOS or if you need to give someone SY-TOS tapes. Only tapes created with the SY-TOS Backup File List or Backup File (Pre)Selected commands can be read.

Sytos Plus format. The format recommended when setting up backup devices. You can take advantage of all Sytos Plus Volume and Backup Set options.

Sytos Plus sample Procedures. Procedures supplied with your Sytos Plus package that are ready to use.

Tapes. A type of backup media that can hold large amounts of information on magnetic tape.

Text file. A Sytos Plus text file is one to which you send information for viewing or printing. This is an option specified when sending the list of Procedures, the description for a single Procedure, the Volumes list, the Logs list or a Log for later review.

Text mode. One of two modes for the Sytos Plus screen.

This will be selected automatically during installation unless you have a system equipped with an EGA or VGA graphics card. If your equipment changes, you may change to graphics mode using **Preferences** in the Utilities menu.

Unattended run mode. Specified when scheduling a Procedure; indicates that no one will be at the computer to answer prompts as the Procedure progresses.

Unattended security. A Preference that allows you to specify a default password to be used for *all* Procedures which you wish to run unattended and for which Password has been included as an option.

Unfound files. Those files selected for a Procedure that couldn't be found and were therefore not included. These could be files that don't exist or those within a network environment to which you don't have access rights.

Unmatched files. Those backed-up and source files that failed to match when compared because they were not copied correctly or were changed between the last Backup and the start of the Compare process.

User input. The information you type after being prompted by Sytos Plus.

Utilities. One of the main function groups in the Create or Edit Procedure windows' action bar—contains items for customizing and maintaining Sytos Plus. Utilities is also an option in the Startup screen.

Volume. The backup media containing one or more Backup Sets (backed up in chronological order). You can create a Volume during a Procedure by selecting **Create new Volume** or you can create

it in advance using Create new Volume from the **Utilities: Media preparation** menu.

Volume utility. You can manage your Sytos Plus Volumes with this Utilities menu item. This feature allows you to sort, list, add, view, delete, or identify Volume entries.

Wildcards. The characters (for example, * and ?) which can be used in place of letters to represent groups of filenames.

B Taking Care of Your Media

Introduction

To protect backed-up files, be sure to place tapes and diskettes in a safe, clean area and always keep them clear of magnetic fields that could erase or damage the information.

Tapes

The following guidelines can assist you with proper tape care.

- Store tapes in their protective cases.
- Protect tapes from smoke, dust, moisture, direct sunlight, static electricity, and extreme temperatures.
- Insert tapes into the drive carefully; remove them when not in use.
- Check older tapes for wear by backing up and comparing files; discard if the files don't match when compared.
- Retension tapes periodically to keep them taut.
- Do not touch exposed tape surfaces.
- As an additional precaution, write protect your tapes after a Backup Procedure to prevent them from being accidentally overwritten or erased.

Diskettes

- Store diskettes in their protective jackets.
- Protect diskettes from smoke, dust, moisture, direct sunlight, static electricity, and extreme temperatures.
- Insert diskettes into the drive carefully; remove them when not in use.
- Always remove a diskette from the computer before turning it off.
- Use only soft-tip markers when labeling diskettes.
- Do not touch exposed diskette surfaces.
- Do not bend or fold diskettes.
- As an additional precaution, write protect your diskettes to prevent them from being accidentally overwritten or erased.

C Technical Support Information

Introduction

If you encounter a problem when installing or running Sytos Plus, you have full access to technical support. You can also get context-sensitive help on Sytos Plus features, prompts, and error messages by choosing **Help** or by pressing the **F1** function key within Sytos Plus.

If you can't solve the problem by referring to the documentation or the Sytos Plus help utility, you can contact Sytron's Technical Support Department between the hours of 8:30 a.m. and 7:00 p.m. Eastern Time (U.S.A.):

Phone : **U.S.A. + (508) 898-0193**
FAX : **U.S.A. + (508) 898-2677**

Please be prepared to give the Technical Support representative the information listed on the next pages when you call.

If you would prefer to FAX the description of the problem, you can photocopy the following pages and use them as templates for your correspondence.

Sytos Plus Technical Support Information

Describe the current system setup and the problem or error. Please include a printout of the contents of your AUTOEXEC.BAT and CONFIG.SYS files.

- **Product Serial Number** _____

(Located on the Sytos Plus registration card)

- **System Configuration (One Choice on Each Line)**

Processor	286	386	486
Bus Architecture	ISA/AT	MCA	EISA
Manufacturer/Model	_____		
System Speed	_____	MHz	
RAM	_____	Mb	

- **Operating System**

Type _____ Version _____

- **Network**

Type _____ Version _____

- **Backup Device**

Manufacturer/Model _____

Capacity of Media _____

Controller Manufacturer/Model _____

- **Other Installed Devices and Their Configurations**

(for example, serial printer, modem, mouse)

- **Problem Description**

Please be descriptive. If an error message was displayed, please give the error number in the error message window and the *exact* message.

Error Number _____

Error Message _____

Description _____

- **General Comments**

Please use this space to provide any additional information.

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