

Sytron Plus[®] File Backup Manager

For
DOS
Operating Systems
and
Local Area Networks

Sytron[®]

Syτος Plus[®]

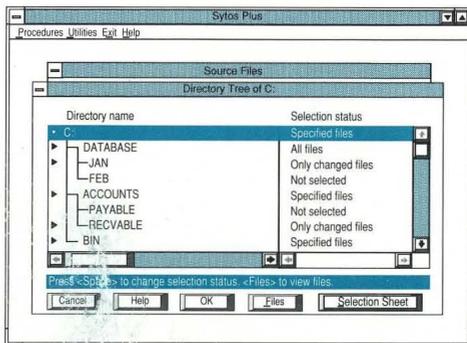
File Backup Manager

"...Syτος Plus is an industry standard.... Syτος Plus showed its mettle as the capable tape backup software it is."

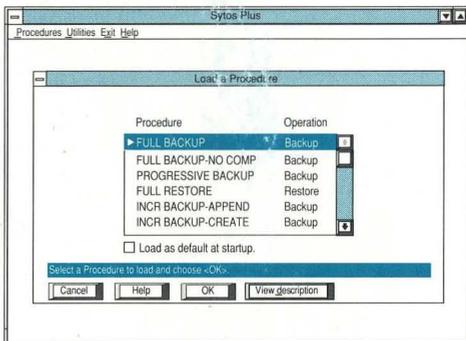
- PC Magazine, October 16, 1990
Software featured in Editor's Choice

THE STANDARD IN SIMPLICITY, RELIABILITY AND PERFORMANCE

- **DEVICE SUPPORT.** Syτος Plus offers support for a host of backup devices including floppy diskette, quarter-inch tape, data cassette, 4mm Digital Audio Tape (DAT) and 8mm helical scan.
- **NETWORK SUPPORT.** Syτος Plus runs on the most popular PC Local Area Network (LAN) environments including Novell NetWare 286[®], NetWare 386[®], IBM PC LAN Program[®], 3Com 3+[®] and NetBIOS compatible networks for DOS operating systems; Microsoft LAN Manager[®], IBM LAN Server[®] and 3Com 3+ Open[®] for OS/2 operating systems.
- **NETWORK FEATURES.** Provides flexible retry options for busy files. Backs up file permissions, access control lists and network system files. Broadcasts messages to users with open files.
- **SIMPLICITY.** The graphical user interface of Syτος Plus is easy to learn and simple to use. Syτος Plus "Procedures" allow users to define complete backup and restore operations which include file selection, storage device and other options as a single step.
- **ENHANCED RELIABILITY.** Software Error Correction Code (ECC) lets you safely restore your data even if the media is damaged. An automatic file compare after backup further ensures data integrity.
- **SPEED.** Syτος Plus will maximize throughput for all storage devices supported with capable backup speeds up to 14Mb per minute. Quick File Access (QFA) finds backed-up files in seconds during compare and restore operations.
- **DATA COMPRESSION.** Compacts your files up to 70% for increased media capacity (available for most versions).
- **AUTOMATED BACKUPS.** Schedule backups to run unattended at user-defined times and frequencies: once, daily, weekly, monthly or at special ongoing intervals. Include Procedures in batch file operations.



"Point-and-shoot" file selection from intuitive pop-up windows simplifies Procedure setup.



Sample Procedures provided with Syτος Plus increase productivity and reduce training time.

System Requirements

DOS version 3.0 or higher, or OS/2 version 1.2 or higher (supports OS/2 (HPFS) High Performance File System).

640Kb required for DOS; 1Mb memory recommended in addition to operating system requirements for OS/2.

An IBM[®] or COMPAQ[®] personal computer or 100% compatible or an IBM Personal System/2[®]; hard disk.

Sytron[®]

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How to Get Around

- "Click"
- Click on an item with the mouse.
- <Space>
- Press Spacebar.
- "Highlight"
- Move the cursor with the arrow or tab keys to the item.
- "Choose"
(i.e., "Choose
<F2=OK>")
- Press either the function key labelled **F2** or click on the **<F2=OK>** button at the bottom of the screen using the mouse.
- Press **<Ctrl+L>**
or **<Alt+P>**
- Hold the **<Ctrl>** or **<Alt>** keys down while pressing the **<L>** or **<P>** keys, respectively.

Troubleshooting

If you see an error message that mentions the Backup Device after installation
(for Tape Systems)

- Click on **Utilities** at the top left of the Main screen, or press **<Alt+U>**.
- Highlight **Backup Device Setup . . .** and press **<Enter>**.
- Highlight your backup device and choose **<F6 =Edit>**.
- Make sure the Sytos Plus **Channel**, **Interrupt**, and **Address** settings match those that the backup device controller board is actually set to. Also, make sure that no other devices in your system have these same settings.
- If you don't know how to determine what the settings of your controller board are, ask the person who installed your tape drive, check the tape drive reference manuals, or call the tape drive manufacturer.
- Choose **<F2=OK>** to save any changes you make to the Channel, Interrupt, and Address settings.

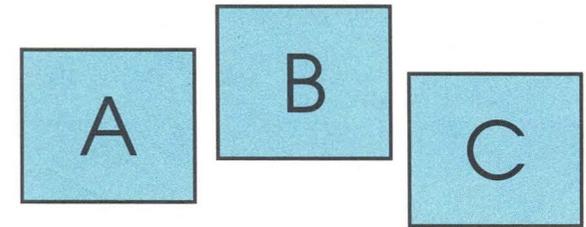
Need help?

- If you have questions at any time, even if you need an explanation of a prompt or error message, simply choose **<F1=Help>**. Information specific to the window you're in will be displayed.
- You will also notice a **"Help Line"** at the bottom of each window that will help you determine what your options are and how to navigate in that window.

Technical Support

- If you can't solve a problem by referring to the documentation or the Sytos Plus help utility, you may wish to contact Sytron's Technical Support Department at (508) 898-0193.

With Sytos Plus,
backing up your PC
is as easy as . . .



Sytos Plus®
Quick Backup
(DOS version)

This Quick Backup card shows you the steps to follow if you want to set up a common Backup Procedure.

If the Procedure that is already loaded when you enter Sytos Plus does not need to be edited and you would like to run it immediately, simply choose **<F6=Run Procedure>** from the Sytos Plus main screen.

Further details on the features and options mentioned in this card can be found in the Sytos Plus *Getting Started . . .* booklet and *User's Guide*.

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A

Select Files

This example will select **all of the files on the C: drive** for a backup.

1. From the Sytos Plus main screen, highlight **Source files . . .** and press **<Enter>**.
2. Highlight C: and press **<Space>** until **All files** appears under **Selection status**.
3. Make sure that **Not selected** appears under **Selection status** next to all other sources (i.e., A:). This can be done by highlighting the source and pressing **<Space>** until **Not selected** appears.
4. Choose **<F2=OK>** to return to the main screen.

Other Examples of File Selection Methods

- To select all changed files in C:\ACCOUNTS
- Highlight **Source files . . .** from the main screen and press **<Enter>**.
 - Highlight each source (including C:) one at a time and press **<Space>** until **Not selected** appears under **Selection status**.
 - Highlight C: and press **<F5=Directory>** to see the directories of C:.
 - Highlight the ACCOUNTS directory and press **<Space>** until **Only changed files** appears under **Selection status**.
 - Choose **<F2=OK>** twice to return to the main screen.

- To select all files with the extension .WKS in C:\ACCOUNTS
- Highlight **Source files . . .** from the main screen and press **<Enter>**.
 - Highlight each source (including C:) one at a time and press **<Space>** until **Not selected** appears under **Selection status**.
 - Choose **<F8=Selection Sheet>**.
 - Place the cursor on the first **BLANK** line in the Selection Sheet.
 - Choose **<F6=Edit>**.
 - Type C:\ACCOUNTS*.WKS as the Pathname.
 - Select **Include**.
 - Select **Any date**.
 - Choose **<F2=OK>** three times to return to the main screen.

B

Select a Backup Device

If you only have one device (i.e., a tape drive or a diskette drive) configured as a Sytos Plus backup device, it will be automatically selected.

Follow these steps only if there is more than one device configured and you want to select a different one.

1. From the Sytos Plus main screen, highlight **Backup to . . .** and press **<Enter>**.
2. Highlight the desired backup device.
3. Choose **<F2=OK>** to return to the main screen.

The Sytos Plus Main Screen



Choose **<F1=Help>** if you have questions at any time, even if you need an explanation of a prompt or error message.

C

Select Options

1. From the Sytos Plus main screen, highlight **Options . . .** and press **<Enter>**.
2. Press **<Enter>** to select **Volume options . . .**
3. Highlight **Create a New Volume** and press **<Enter>**.
4. Highlight **Volume name . . .** and press **<Enter>** to assign a name and description to the Volume.
5. Choose **<F2=OK>** when complete.
6. Depending on your hardware/software configuration you may now want to select from the remaining available Volume options (i.e., **Password**, **QFA**, and **ECC**).
7. Choose **<F2=OK>** when complete.
8. Highlight **Backup Set name . . .** and press **<Enter>** to assign a name and description to the Backup Set.
9. Choose **<F2=OK>** when complete.
10. Highlight **Retry busy files . . .** and press **<Enter>** to specify retry options.
11. Choose **<F2=OK>** when complete.
12. Highlight **Log . . .** and press **<Enter>** to specify Log options.
13. Choose **<F2=OK>** when complete.
14. Depending on your hardware/software configuration you may now want to select from the remaining available Backup options (i.e., **Compare files after backup**).
15. Choose **<F2=OK>** when complete.

You are now ready to run the Backup Procedure. Simply choose **<F6=Run Procedure>** from the main screen to begin.



Syτος Plus[®]
File Backup Manager

User's Guide

Sytos Plus[®]

File Backup Manager

User's Guide

Third Edition (December 1990)

Changes are made periodically to the information in this publication and will be incorporated in new editions.

Comments concerning its content may be sent to Sytron Corporation, Technical Support Department, 117 Flanders Road, P.O. Box 5025, Westboro, Massachusetts, 01581-5025, U.S.A.

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Chapter 1:

Laying the Groundwork

Welcome

Welcome to Sytos Plus® (pronounced SIGH-toss Plus) and congratulations on being one of the growing number of people who realize the importance of having a comprehensive backup strategy. Sytos Plus gives you a complete backup system that is fast, reliable, and easy to use. And Sytos Plus does more than backup, 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'll need for backing up and protecting your files.

With Sytos Plus, you'll be able to:

- backup, 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 multi-user/ multi-tasking 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

How you implement Sytos Plus depends on your backup needs, the hardware and media you use, and the environment in which you work. The *User's Guide* is designed to help you approach

Sytos Plus strategically by learning about features in the following order:

- **Chapter 1: Laying the Groundwork** defines *User's Guide* conventions and introduces the Sytos Plus environment.
- **Chapter 2: Backup Strategies** discusses strategies for backing up and moving files based on your backup device and your need to automate Procedures.
- **Chapter 3: An Introduction to Procedures** describes the items in the Procedures pull-down menu, including creating, saving, loading, running, and distributing Procedures.
- **Chapter 4: Editing Procedures** shows you how to customize Procedures.
- **Chapter 5: Utilities, Exit, and Help** covers the items in the Utilities, Exit, and Help pull-down menus.
- **Chapter 6: Advanced Features** shows you how to use Selection Sheets to select groups of files quickly and how to use Redirection Sheets to distribute files to new locations.
- **Appendix A: Multi-User/Multi-Tasking Environments** describes considerations unique to these environments.
- **Appendix B: Taking Care of Your Media (Tapes, Diskettes)** offers suggestions for maintaining two commonly used media to ensure maximum performance and reliability.
- **Appendix C: Glossary of Terms** defines technical terms found in Sytos Plus.

Throughout the User's Guide, we've shown examples of screens to help you understand Sytos Plus features. You'll probably find that certain names or settings (for example, names of files or selected options) will differ from those on your own system.

Advice for the First-time User

If you are new to the world of backup operations, here are some suggestions to help you start using Sytos Plus with confidence.

- Read the *User's Guide* carefully. It is designed to teach you how to use the many features of Sytos Plus and also protect you from inadvertently doing anything that might harm your files.
- Be sure you are familiar with the fundamental operations of your computer system.
- Let Sytos Plus work most effectively by developing backup strategies that address your particular needs. **Chapter 2: Backup Strategies** discusses sample strategies.
- Learn how to care for your media properly. **Appendix B: Taking Care of Your Media (Tapes, Diskettes)** offers suggestions for handling two commonly used media—magnetic tapes and diskettes—to ensure maximum performance and reliability.

We encourage you to experiment with Sytos Plus to help you become familiar with selecting files and customizing Procedures. To prevent you from making changes accidentally, we recommend using the Preview command to test-run a Procedure without affecting your files.

Operating System Considerations

Some features of Sytos Plus are specific to your operating system. One is the installation process, where you set up Sytos Plus to work with your particular backup device. Others involve system-specific ways to use Sytos Plus. You'll find this information in the *Getting Started . . .* booklet, tailored to your particular operating system.

Note: If you have a dual-boot system (using both DOS and OS/2), you will need to backup 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.

The README File

The README file contains updated information not included elsewhere. We recommend reading this file before installing Sytos Plus, then printing it and keeping it with the *User's Guide*. To learn how to access the README file, refer to the *Getting Started . . .* booklet.

Conventions Used in This Guide

Throughout this guide we have used the following conventions:

- Keys are shown as they appear on standard keyboards, printed in boldface, and surrounded by angle brackets: for example, .
- Information to be emphasized is surrounded by a box. Words such as **Important:** are used for critical messages. For example:

Note: We strongly recommend that you include the Log as part of your Procedure.

The Glossary

Appendix C: Glossary of Terms defines terms found in the *User's Guide*. You may want to refer to it for explanations of words that appear on the Sytos Plus screen.

Help

Help is available throughout Sytos Plus. You can receive help for any item on which you can position the cursor—by choosing **[Help]** or pressing **<F1>**. If general help is available for the window you're working in, you'll be able to choose **Extended Help** from the Help pop-up window. See **Chapter 5: Utilities, Exit, and Help** for information about the complete 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 after you choose a **[Help]** or **[Stop]** Procedure.

The Sytos Plus User Interface

The following sections and screen examples describe the basic elements of the Sytos Plus user interface (the part of Sytos Plus you see on the screen).

Graphics and Text Modes

Sytos Plus runs in one of two modes (automatically determined during the installation process):

- Graphics mode (for a system equipped with an EGA or VGA graphics card).
- Text mode.

Sytos Plus works identically in both modes, but its appearance is slightly different. Figure 1-1 shows you examples of these two modes.

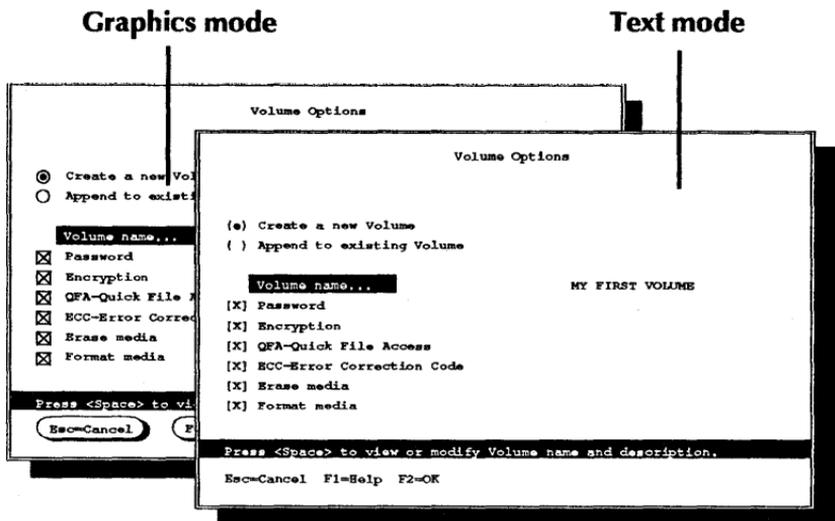


Figure 1-1 Graphics and text mode screens in Sytos Plus

Common User Access

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

The Sytos Plus user interface has five basic elements: **windows**, the **action bar**, **pull-down menus**, the **function keys**, and the **guidance bar**.

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 with more information or choices. Figure 1-2 shows you some examples of pop-up windows.

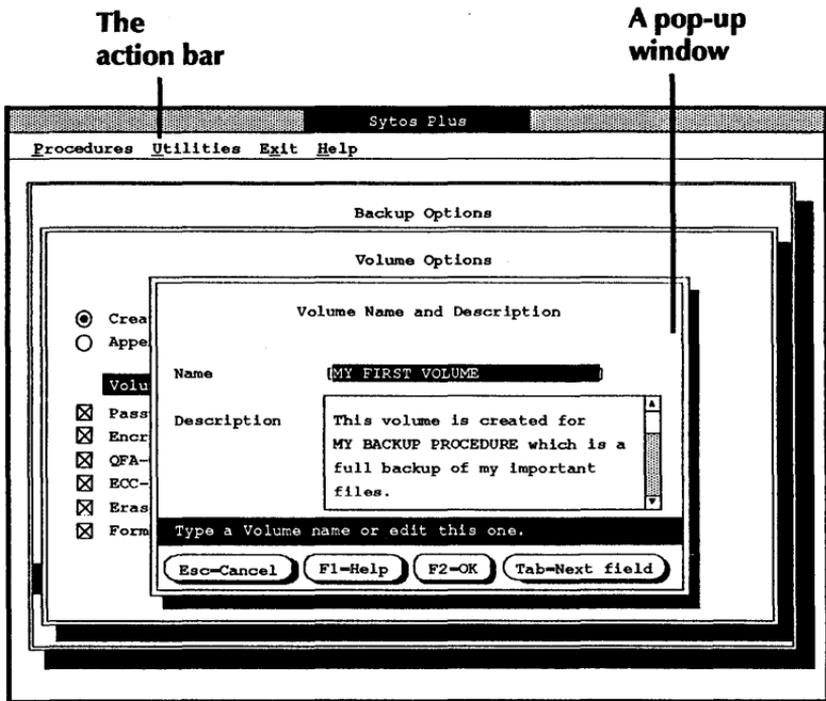


Figure 1-2 Pop-up windows and the action bar in Sytos Plus

The Action Bar

The action bar at the top of the main screen displays the four groups of Sytos Plus functions: Procedures, Utilities, Exit, and Help. Each contains an emphasized letter. Holding the <Alt> key down and typing this letter (for example, <Alt><P> for Procedures) quickly selects this item from the action bar and shows its pull-down menu. You may also choose [Actions] or press <F10> to move the cursor to the action bar and select an item from there. In Figure 1-2, you'll see the action bar at the top of the screen.

Pull-down Menus

A pull-down menu displays the items within the function group you selected. As in the action bar, each item in the menu has a unique, emphasized letter. Also, several items in the Procedures, Exit, and Help menus feature accelerator keys (keyboard shortcuts) to speed up your work. For example, holding the <Ctrl> key and pressing L pops up the Load window as if you had selected **Procedures** and then **Load** from the pull-down menu. If an option ends with an ellipsis (...), it leads to another window. You'll see an example of the Procedures pull-down menu in Figure 1-3.

**The Procedures
pull-down menu**

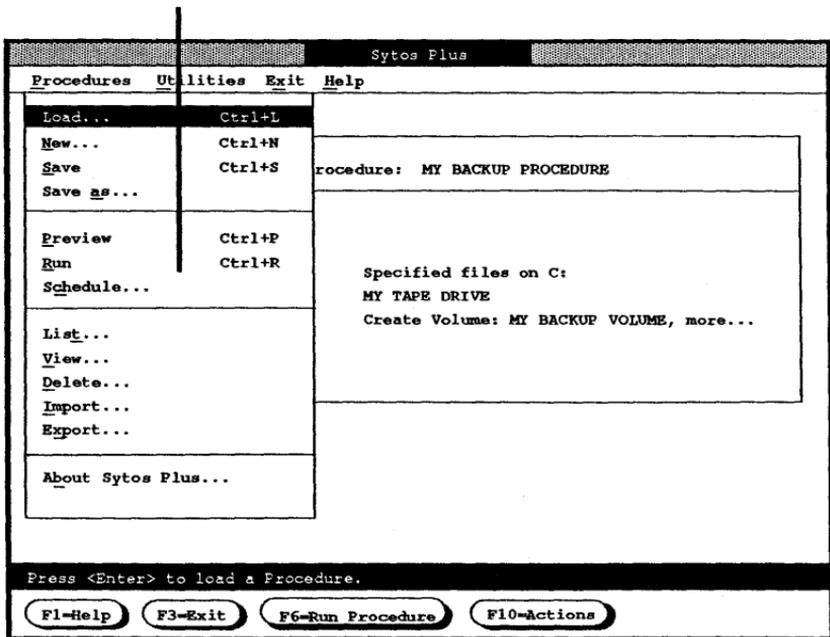


Figure 1-3 A pull-down menu in Sytos Plus

The Function Keys

The function keys at the bottom of each window perform specific actions quickly. Although each window has its own set of keys, you'll find that most keys perform the same actions from window to window. Figure 1-4 shows you some examples of function keys.

The Guidance Bar

The guidance bar runs directly above the function keys and contains helpful information about the highlighted item. Figure 1-4 also illustrates an example of a guidance bar.

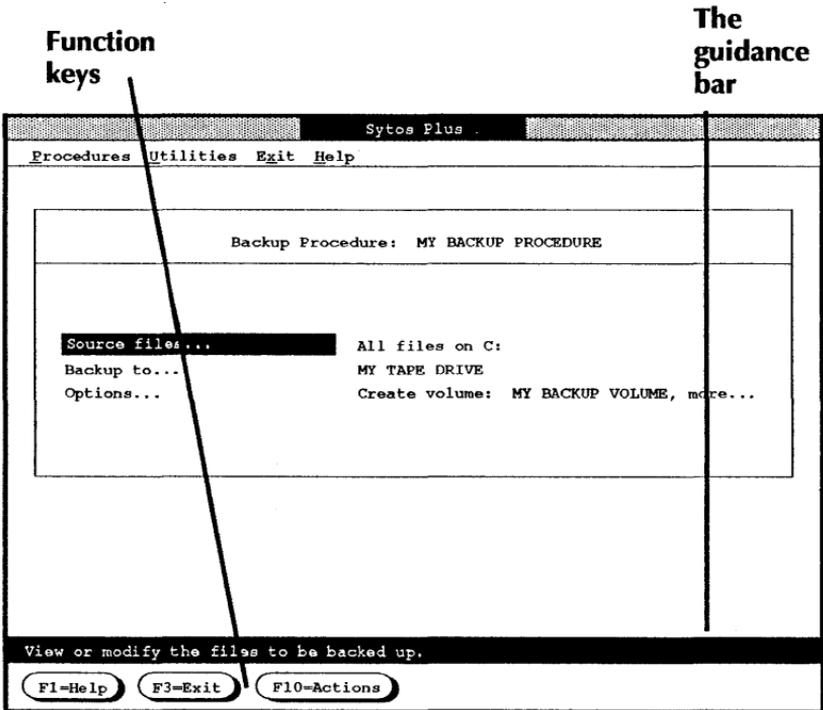


Figure 1-4 Function keys and the guidance bar in Sytos Plus

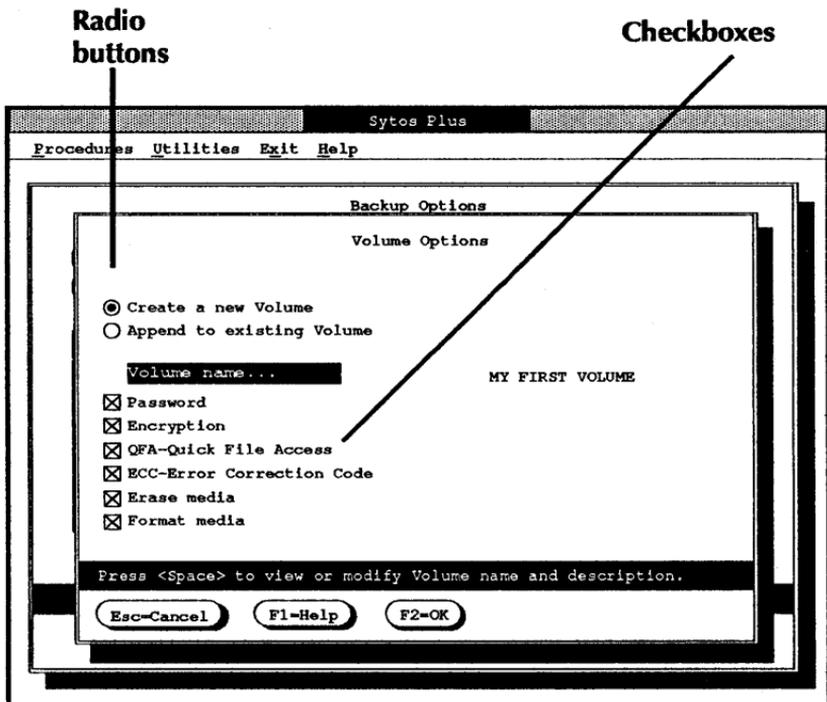


Figure 1-5 Radio button and checkbox selections

A list

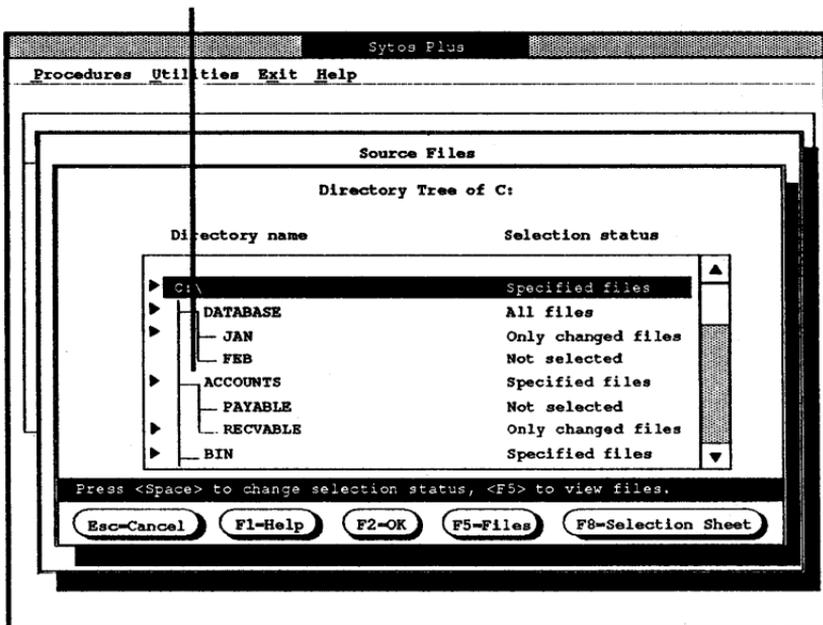


Figure 1-6 List-type selections

Making Selections

As you work in Sytos Plus, you'll make choices by selecting items from windows.

Selections fall into four categories:

- **Radio button** options contain related items. You may choose only one.
- **Checkbox** options can be selected individually.
- **Lists** present a series of items (for example, names of files or backup devices) from which you can select.
- **Options or settings with an ellipsis** lead to another window.

Figures 1-5, 1-6, and 1-7 illustrate examples of these types of selections.

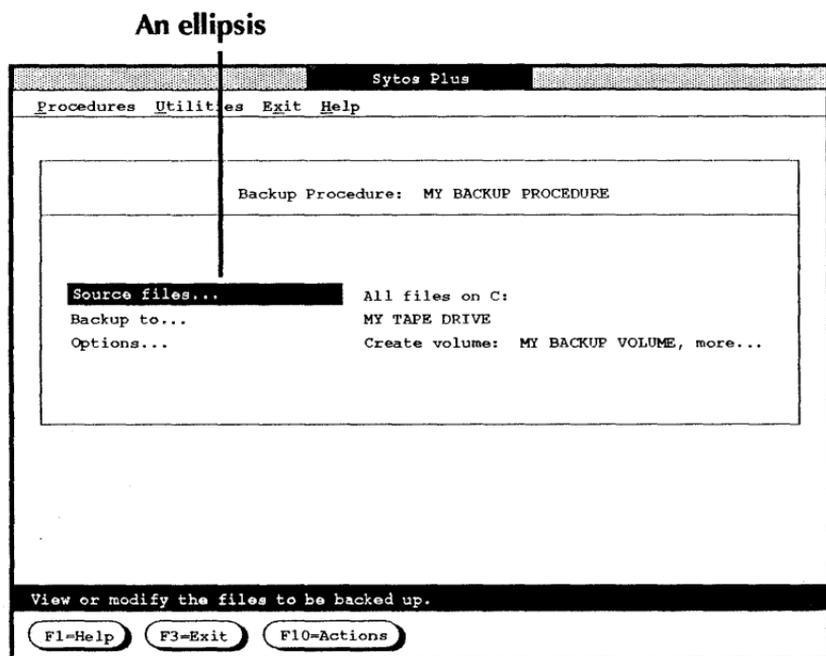


Figure 1-7 Selections with an ellipsis

Making Selections with a Keyboard or Mouse

You can use a keyboard and a mouse, together or separately, to make selections, but it will always involve the same two-step process:

- **Highlight the item you want by:**

Using the arrow keys (↑ ↓ ← →) or

<Clicking> on the item (a quick press-and-release motion) with the mouse pointer.

- **Select the item by:**

Pressing the <Space> bar once or

<Clicking> the mouse.

To move forward and back 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

You can easily verify that you made the selection you wanted.

- In radio button selections, a black dot appears in the button next to your selection.
- In checkbox selections, an X appears in the box next to your selection.
- In list selections, a checkmark (a standard checkmark or a triangle) appears next to your selection.
- In options or settings with an ellipsis, you proceed to the next window.

You'll see examples of these types of selections in Figures 1-5 through 1-7.

Note: If an option is grayed-out (dimmed), it is either unavailable for your system or always required for your type of backup device.

Typing and Editing Information in Windows

There will be times when you will type or change information in windows (for example, when giving a Volume a name and description). Some windows will have information that you'll want to change; others will have a blank space where you'll type something new. We call this information area an "edit field."

Typing in the Edit Field

Typing information in an edit field is very much like using a word processor. You can delete and insert information, add paragraph returns (in multiple-line edit fields), and use <PgUp>, <PgDn>, <Home>, <End>, and the arrow keys to maneuver within the field. Figure 1-8 shows you an example of an edit field where you would type in a Volume name.

You can quickly change information in an edit field:

- **Clear** a field (if it is highlighted) by typing any character.
- **Insert** information into a field by moving the cursor to the desired location and typing.
- **Delete** information in a field by moving the cursor to the desired location and backspacing over the character to the left or pressing to delete the character to the right.

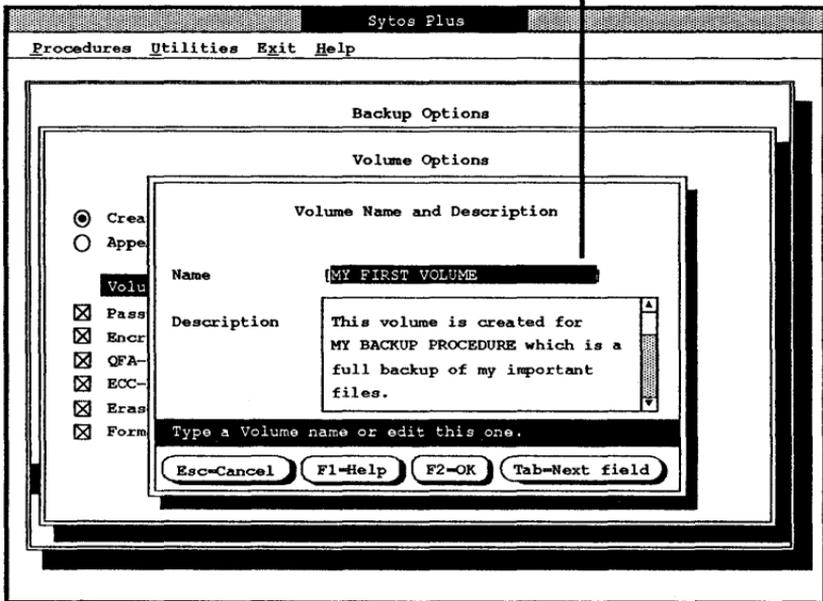


Figure 1-8 Working in the edit field for a Volume name

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 or a horizontal bar with arrows pointing left and right). Figure 1-9 displays an example of a pop-up window with a vertical scroll bar.

To see the rest of the information, you may use:

- <PgUp>.
- <PgDn>.
- <Home>.

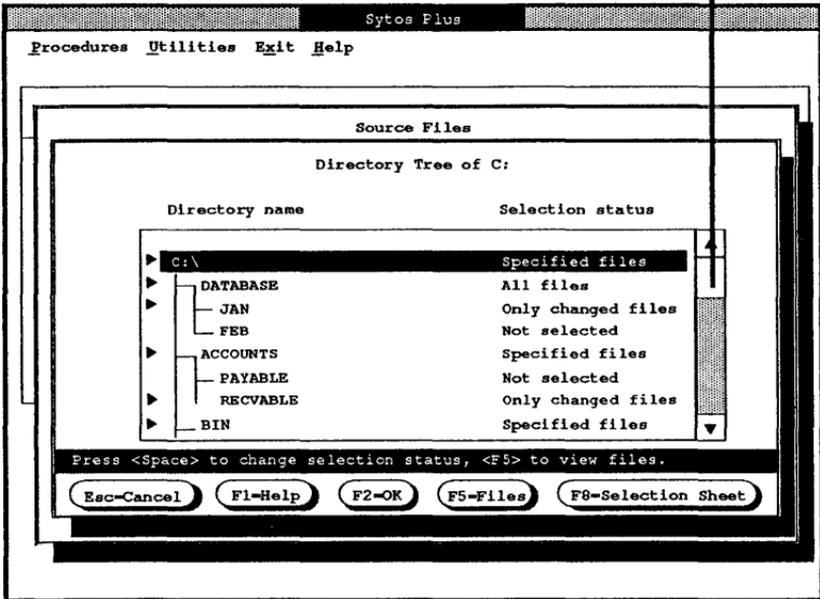


Figure 1-9 A vertical scroll bar

- <End>
- The arrow keys.

If you use a mouse, you may also <Click> the mouse pointer anywhere on the scroll bar.

Now you're ready to begin setting up your Backup strategy and working with Sytos Plus. We recommend reading Chapter 2 next to give you some ideas for backing up your files. Then feel free to choose sections from Chapters 3 through 6 as you need them.

Chapter 2:

Backup Strategies

Devising a Backup Strategy

Sytos Plus can help you plan and implement productive, efficient file management and distribution strategies. Sytos Plus provides you with an easy-to-use system that reduces the work of backing up files to an absolute minimum.

The effectiveness of Sytos Plus depends on your approach to file backup management. A good strategy will both reflect and anticipate your needs. The following are some key considerations.

- How valuable are my files?
- What would be the consequences of losing these files?
- Could I replace them? If so, what would be the time required and the cost?
- How often do these files change?
- Do I need to keep older versions of files?
- Does the device I use to backup files have any limitations of time, media capacity, or expense?
- Will I need to transport or distribute my 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 the underlying needs they signify. You should plan a strategy that will allow you to restore files easily should it become necessary.

Value

When you devise a strategy, a critical concern is the cost in time and money to you and your company of having to replace files that are lost. If, for example, you are an insurance company managing client information and claims, then you would probably consider file loss disastrous. The consequences of losing irreplaceable files would define the type and frequency of strategy you implement.

Change

How often your files change is another key element to consider when planning an effective strategy. Take, for example, a mail-order house, with thousands of orders being processed daily. Losing even part of one day's input would result in lost orders and, consequently, lost revenue. The person managing such a system might choose to backup only new files periodically throughout the day to ensure that there was always a recent copy of the system.

Media Capacity and Device Performance

Ideally, every business would backup its complete file system once a day, thus ensuring that a recent copy of that system was always available. Unfortunately, this is not a viable option for everyone because of 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. To a large degree, 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

The portability of your media may also influence the type of strategy you implement. For instance, in situations where files

must be circulated within your department or must be sent to another site, you would want to use a backup device that allowed you to physically transport your media (for example, diskette or tape). You must also choose a device that is available in all the environments to which you will transport the files.

Basics of a Good Strategy

Regardless of which approach and media you choose, there are several elements fundamental to all good strategies.

A Secure On-site Storage Component

To ensure the security of your backup copies we recommend a fireproof safe, or something similarly secure, in which to store your media. Keep in mind that you may want to have easy access to your most important backed-up files.

A Secure Off-site Storage Component

Should your business site be afflicted by a catastrophe — fire, flood, theft, etc.—you can make sure that your system can be restored by keeping a recent copy of your files off-site.

Write Protection

Your backup copies will allow you to restore your system to a previous state in the event of file loss or damage. They may be the only way to re-create your important files. Therefore, it is important that you write protect your backup media so that your backup copies cannot be accidentally overwritten.

Note: We recommend that you write protect media even if it is password-protected, as even this security precaution does not prevent media from being erased or overwritten.

Options to Consider

Sytos Plus also offers you several options and features that can enhance the power and effectiveness of any strategy. For more information about these options, please consult **Chapter 4: Editing Procedures** and **Chapter 5: Utilities, Exit, and Help**. Note that some of these options may not be supported by the backup device you will be using. In those situations, the options will be grayed-out in the Sytos Plus windows.

Backing Up Changed Files Only

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 which are intended to include only files that have changed since the last Backup Procedure. (Note that Sytos Plus also considers new files as “changed.”)

If you specify **Only changed files** when selecting files for your strategy, Sytos Plus will backup only those files that are marked as “changed.” If you have also chosen the **Mark files as backed-up** option when setting up that strategy, Sytos Plus will then adjust their status to “backed-up.” Those files will not be backed up the next time the Procedure is run unless they are modified again. Strategies incorporating this method of file selection are discussed later in this chapter in the section entitled “Three Approaches to Backup.”

The Sytos Plus Log

The Log option allows you to review a completed Sytos Plus Procedure to ensure that all files have been processed as specified. It also allows you to keep a text file or hardcopy printout that lists the files processed. This can be especially helpful in situations (such as Move Procedures) where it can accompany the backed-up files and provide a complete file listing of the contents of the media.

We recommend that you always include the Log as part of your Procedure, *especially during unattended Procedures*, and review it as soon as the Procedure has completed. This allows you to be sure 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 the Log has been reviewed and you are satisfied that the Procedure has completed successfully, you can delete it 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 it.

If you do not review the Log, you may not find out that the backup media or your system contain incomplete or incorrect information until you attempt to access those 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, you may find that your only copy of those files is also incomplete or damaged.

Restricting Access

If your files contain sensitive information, you can guard their security on your backup media with password protection. Media

that is password-protected prevents anyone not in possession of the specified password from accessing the files on that media.

Important: If you specified a password during a Backup Procedure, you *must* specify this information to access those backed-up files later. Without this information, you won't be able to recover the files.

Optimizing Media Space

When you have many of files to backup, you can use the **Compress backed-up files** option to squeeze them onto less media space than would normally be needed. Although this option may increase backup time, it will optimize media space.

Important: Compressed files take up less space and any damage that occurs on the backup media could affect many files. Therefore, we *strongly* recommend selecting Error Correction Code (ECC) when using the **Compress backed-up files** option as added protection for your files.

Error Correction Code (ECC)

Choosing the **Error Correction Code (ECC)** option instructs Sytos Plus to record special information on the media during Backup and Move Procedures that helps to reconstruct files if the backup media becomes damaged. Although recording this information takes up more space on your backup media, it will be beneficial if that media ever becomes damaged.

Important: We *strongly* recommend selecting Error Correction Code (ECC) for all Backup and Move Procedures as added protection for your files.

Quick File Access (QFA)

The **Quick File Access (QFA)** option enables Sytos Plus to find specific stored files quickly. When this option is chosen, Sytos Plus records general 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.

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 will reduce the number of files you can backup to your media.

The Volume Utility

Sytos Plus keeps track of all the Volumes created during your Backup and Move Procedures and allows you to see and select files from your backup media. You can add any Backup Sets or Volumes which were created on other systems when those files are being transported to your system. Also, if you backup files that are meant only to be given away and restored to another system, you can delete that Volume from your list.

Using Multiple Tapes or Diskettes

Depending on the number of files you want to include in your Backup or Move Procedures and the type of backup device you

utilize (for example, diskette or tape drive), you may need to use several media to complete the Procedure. The following recommendations apply to those situations where the Procedure is likely to require more than one tape or diskette.

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 Backup or 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. For more information, refer to the description of the Preview feature in **Chapter 3: An Introduction to Procedures**.

Labelling 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 your strategy is based on a diskette drive as the backup device). This information allows you to quickly and easily determine which is the correct media when Sytos Plus requests you to insert the next media during Compare or Restore Procedures.

If you insert media out of sequence, Sytos Plus will prompt you to insert 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.

Backup Sets and Volumes

Two components integral to any Backup Procedure are Backup Sets and Volumes.

- Every time a Backup Procedure is run, a Backup Set is created, with a name and date, containing the files that were backed up.
- A Volume holds one or more Backup Sets in chronological order and must exist before running a Procedure or be created during a Procedure.

Creating Versus Appending

When planning a backup strategy, you should determine if you want to append Backup Sets to the Volume currently on the media or if you want to create a new Volume.

Suggestions for Creating

You should create a new Volume each time you run a Full Backup Procedure. You should also create a new Volume for each Progressive Backup Procedure.

Suggestions for Appending

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

Please see the sections later in this chapter that describe different strategies for examples of when you may want to append to or create a Volume.

Naming Your Backup Sets and Volumes

When creating your Backup Procedure we suggest that you assign meaningful names to your Backup Sets and Volumes to allow you to recognize their contents quickly and easily.

For example, we suggest that you 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 at a glance or by using the Volume utility. For Backup Sets, we recommend assigning them the same name as the Procedure that created them.

Running Procedures Automatically

Sytos Plus allows you to automate your Procedures in several ways. Incorporating one or more of these in your strategy can minimize your time investment and maximize your protection. Refer to **Chapter 3: An Introduction to Procedures** and the *Getting Started . . .* booklet for descriptions of these features.

Important: We do not recommend that you automate Move or Restore Procedures. A Move will delete files on your system; a Restore could overwrite them.

Scheduled Procedures

Sytos Plus allows you to schedule your Procedures to run at predetermined times. It also allows you to schedule other files (such as batch, executable or script files). Scheduling allows you to choose a Procedure or file for your strategy and run it automatically. This is especially convenient if you want to schedule your backups during off-peak hours or when your system is not in use. It allows you to increase productivity because people do not have to work around the scheduled system backup.

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, you'll need to include it in your operating system startup file. See the *Getting Started . . .* booklet for more information.

Command Line Operations

Sytos Plus can be run from your operating system command line to facilitate its incorporation within batch or script files. You can name a specific existing Procedure to be run.

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

SYPLUS "PROCEDURE NAME"

Note: SYPLUS invokes Sytos Plus; the information in quotes is the name of the Procedure that you wish to run. Please refer to the *Getting Started . . .* booklet for more information.

Attended and Unattended Procedures

When you schedule a Procedure or run it from the command line, you can specify the following settings:

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.

Attended Run Mode

Attended Procedures will 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 might be specified if a system administrator would like to set up scheduled Procedures which are intended to be watched over by someone besides the administrator—perhaps the individual in charge of that particular system.

Unattended Run Mode

During unattended Procedures, Sytos Plus will not wait for your response at prompts where you are given choices. Instead, it will accept the default choice. The default actions Sytos Plus takes when running in unattended mode determine whether the Procedure does or does not continue.

You may want to choose Unattended mode if a Procedure has been scheduled to run at night when no one is in the office. In this case, you may want to 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, the Procedure continues without assigning a password unless you selected one through **Unattended Security in Utilities: Preferences**. In that case, the Volume will be 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 will occur:

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

Otherwise, the Procedure follows the **Overwrite existing files...** setting: either **Always overwrite** or **Never overwrite**.

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 cancelled if the password on the Volume in the drive doesn't match the password required or if you didn't 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, the Procedure is cancelled.

Specifying Run Mode

The following sections describe how to specify run mode in different situations.

When Scheduling Procedures

Run mode is chosen as an option when the Procedure is scheduled, not when it is created. Unattended is the default setting; de-select it if you want to run this as an Attended Procedure.

From the Command Line

During command line operations, you must specify a switch to inform Sytos Plus whether you want it to run Attended or Unattended. To specify a Sytos Plus Procedure to be run

unattended from the command line, type the following within your batch or script file:

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

To specify a Sytos Plus Procedure to be run Attended from the command line, type the following within your batch or script file:

```
SYPLUS "PROCEDURE NAME" /A
```

Unattended is the default setting; if you do not specify any switch, the Procedure will run in Unattended mode.

Note: SYPLUS invokes Sytos Plus; the information in quotes is the name of the Procedure that you wish to run. Please refer to the *Getting Started . . .* booklet for more information.

Archiving Files

You can use the Move Procedure when you have files on your system that you no longer use and would like to archive quickly and easily in one Procedure to free up system disk space. Archiving files moves the originals off your system and stores them on your backup media.

The Move Procedure first backs up specified files and then runs a Compare to confirm that the Backup performed successfully. When all files have been copied and compared successfully, the original files are deleted from your system.

For example, a company accounting department might want to archive the year's financial records at year-end. They could run a Move Procedure that would automatically copy this information to the backup media and then remove that information from the system—all in one Procedure. Refer to **Chapter 4: Editing Procedures** for more information about the Move Procedure.

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

Three Approaches to Backup

You can approach the process of storing your files by three different but compatible backup methods: Full, Progressive, and Incremental. We will describe each and demonstrate the differences between them by using the example of a system comprised of three files: FILE1, FILE2, and FILE3. This system is scheduled for a Full Backup once a week with Incremental or Progressive Backups the other four days.

Please refer to the sections that follow these descriptions for suggestions about combining these three approaches with media rotation schemes to create a complete strategy. Refer to **Chapter 4: Editing Procedures** for instructions about setting up Procedures.

Full Backup

A Full Backup is one in which you backup all the files on your system, whether or not they have changed since the last backup. The general rule is that you do a Full Backup of your system on a regular basis (a common frequency is once a week). Always keep a recent copy in a secure place away from the site of your system. Thus, in the event of accident or theft, you have the ability to restore your system.

Creating a Full Backup Strategy

Select the Full Backup Procedure provided by Sytos Plus. If necessary, you may edit the Procedure to customize it for your system.

We recommend running a Full Backup on a regular basis (a common frequency is once a week).

Example

Day	Files That Are Backed-up
Friday (Week 1)	FILE1, FILE2, FILE3
Friday (Week 2)	FILE1, FILE2, FILE3

Table 2-1 Full Backup Strategy

Note: Following are the instructions for creating and running Progressive and Incremental Backups. Both of these types of Backup require you to run a Full Backup before implementing the strategy. If either of these strategies is selected, you must mark each file as backed-up during your Full Backup. The **Mark files as backed-up** option is discussed fully in **Chapter 4: Editing Procedures**.

Progressive Backup

A Progressive Backup is one in which you backup *all files that have changed* since the most recent *Full Backup*. Intermediate versions of those changes are not saved.

Note: If you anticipate the need to restore only the latest copies of files which were backed up before the occurrence of file loss or damage, we recommend implementing a Progressive Backup strategy. The Progressive strategy uses your time and media efficiently.

Creating a Progressive Backup Strategy

To create a Progressive Backup Strategy, follow these steps.

1. Run a Full Backup once a week with the **Mark files as backed-up** option turned on.
2. Run the Progressive Backup Procedure provided by Sytos Plus once a day, creating a new Volume each day. The Progressive Procedure has selected **Only changed files** and has the **Mark files as backed-up** option turned *off*.

If necessary, you may edit the Procedures to customize them for your system.

We recommend the Progressive Backup strategy when you often make changes to the same group of files. This strategy allows you to restore the most recent versions of backed-up files in the case of file loss or damage.

Example

A Full Backup is run Friday night. The next week the following files are changed and backed up.

Day	Files That Change	Files That Are Backed-up
Monday	FILE1 only	FILE1
Tuesday	FILE2 only	FILE1 and FILE2
Wednesday	FILE3 only	FILE1, FILE2, FILE3

Table 2-2 *Progressive Backup Strategy*

To Restore

Restore the Full Backup, then Restore the Volume that contains the most recent Progressive Backup.

Incremental Backup

An Incremental Backup is one in which you backup *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 the need to restore any one of many versions of files backed up before the occurrence of file loss or damage, we recommend implementing an Incremental Backup strategy.

Creating an Incremental Backup Strategy

To create an Incremental Backup Strategy, follow these steps.

1. Run a Full Backup 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:

- For your first backup, select the Incremental Backup (Create) Procedure provided by Sytos Plus to create a new Volume.
- Run daily Incremental Backup (Append) Procedures to append all subsequent Backup Sets of changed files to the newly created Incremental Volume. These Incremental Procedures have selected **Only changed files** and have the **Mark files as backed-up** option turned *on*.

If necessary, you may edit these Procedures to customize them for your system.

We recommend the Incremental Backup when you frequently make changes to many different files. With Incremental Backup, you have a daily record of change. For example, if you make a mistake entering information into a file on Tuesday, you can restore Monday's version of that same file.

Example

A Full Backup is run Friday night. The next week the following files are changed and backed up.

Day	Files That Change	Files That Are Backed-up
Monday	FILE1 only	FILE1 only
Tuesday	FILE2 only	FILE2 only
Wednesday	FILE3 only	FILE3 only

Table 2-3 Incremental Backup Strategy

On Wednesday, you have three Incremental Backup Sets: one with the FILE1 changes, one with the FILE2 changes, and one with the FILE3 changes.

To Restore

Restore the Full Backup, then restore the Volume that contains all the Incremental Backups.

Monitoring Your Files

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 backup any that have changed. The Monitor strategy will first backup 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 Monitor strategy is useful in multi-tasking environments. It 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 of a large capacity and high performance; this eliminates the need for someone to always be present to insert new media when necessary.

Note: When running in environments that are not multi-tasking, you must return to the operating system command prompt before scheduled Procedures can begin.

You can implement a Monitor strategy by following these steps:

1. Choose the Full Backup Procedure provided by Sytos Plus. You should select the **Retry busy files** option and specify **Until no longer busy**. This will ensure a complete initial backup of your system.
2. Run the Incremental Backup (Create) Procedure provided by Sytos Plus to create a new Volume to which you will append all subsequent Incremental backups.

3. Schedule the Incremental backup (Append) Procedure to append all subsequent Backup Sets of changed files to the existing Incremental Volume.

When scheduling, select the **Special** frequency option to set a Start and Stop time for the Procedure as well as the time intervals at which your files will be checked. Refer to **Chapter 3: An Introduction to Procedures** 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 backup 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 important file that is modified often, it may not be copied during every backup because it may be busy. If this is the case, you should be sure to close important files before each scheduled backup so that the most recent 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 an extended period of time. Busy files will be retried at recurring intervals of one minute.

Important: You should periodically restart the Monitor strategy (a 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 the Procedure, you are ensuring a recent Full Backup always exists; this allows you to easily restore your entire system to a recent state without necessitating the restore of many Backup Sets.

To restore the files backed up using the Monitor strategy, select all the Backup Sets from the initial Full Backup, up to and including the latest one you wish to restore. If you had monitored all the files on your system, this will allow you to restore your entire system to its state at a particular date and time.

Strategies and Media Rotation: Tape

A strategy based on tape as the backup media gives you many options. It is appropriate for most systems:

- which contain many files.
- where unattended Procedures are desirable.
- where backup performance is critical.

Pros and Cons

Since tape is removable, you can store it securely both on-site and off-site. Because of its larger storage capacity, it allows you to do more efficient unattended Procedures. Tape imposes few limitations of time or media space onto your strategy and is cost-effective because of the low cost of media per megabyte of information that can be backed up to it. However, you may incur

some extra *initial* expense, both for the required hardware and for the tapes themselves.

If tape is your media of choice and fits your strategy requirements, then there are certain recommended approaches and Procedures you may want to consider.

How Often to Implement

The first thing to appraise is how often you will backup your files and which files you should backup. A regular Full Backup is recommended in any circumstance. Whether you supplement that with Incremental or Progressive Backups depends upon your particular 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 you determine the number of complete sets you rotate. We recommend a minimum of three sets so you always have a recent Full Backup and two alternating sets of media which contain specified backed-up files. If either of these sets becomes damaged, you will have another recent copy.

Three Examples Using Tape

Following are three example strategies:

- A Full-and-Progressive Strategy with Four Tapes.
- A Full-and-Incremental Strategy with Six Tapes.
- A 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 will 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 that you store off-site.

Example 1: A Full-and-Progressive Strategy with Four Tapes

1. Friday: run a Full Backup with Tape 1.
2. Monday - Thursday (Week 1): run daily Progressive Backups, alternating Tapes 2 and 3.
3. Friday: run a Full Backup with Tape 4.
4. Monday - Thursday (Week 2): run daily Progressive Backups, alternating Tapes 1 and 2.
5. Friday: run a Full Backup with Tape 3.
6. Monday - Thursday (Week 3): run daily Progressive Backups, alternating Tapes 4 and 1.
7. Friday: run a Full Backup with Tape 2.

Figure 2-1 represents this strategy.

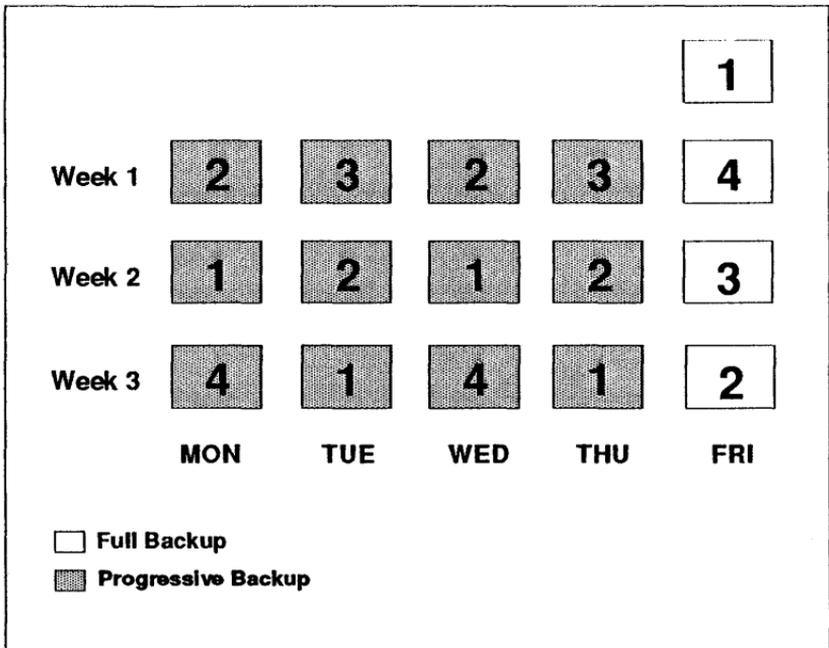


Figure 2-1 A Full-and-Progressive strategy with four tapes

Example 2: A Full-and-Incremental Strategy with Three Tapes

1. Friday: run a Full Backup 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 Tape 3.
5. Monday (Week 2): run an Incremental Backup (Create) with Tape 1.
6. Tuesday - Thursday: run an Incremental Backup (Append) daily with Tape 1.
7. Friday: run a Full Backup with Tape 2.

Figure 2-2 represents this strategy.

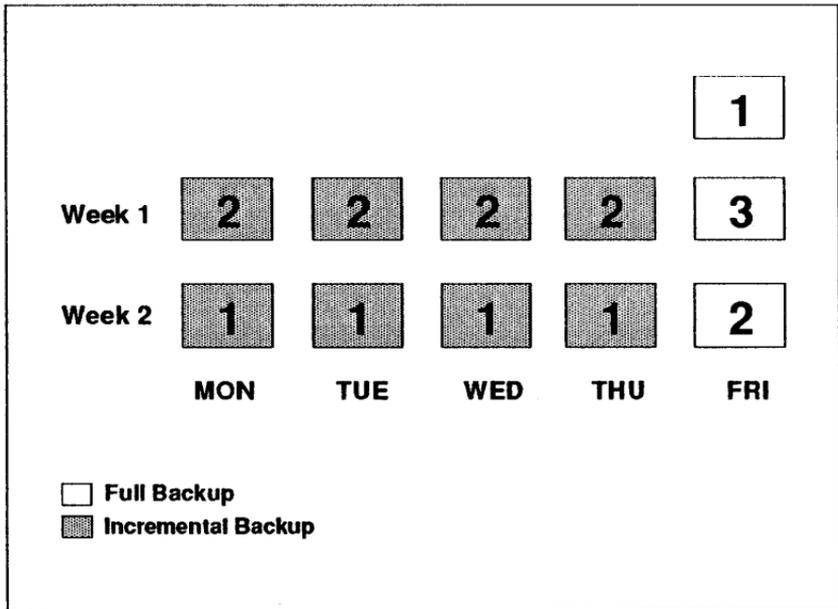


Figure 2-2 A Full-and-Incremental strategy with three tapes

Example 3: A Full-only Strategy with Three Tapes

1. Monday: run a Full Backup with Tape 1.
2. Tuesday: run a Full Backup with Tape 2.
3. Wednesday: run a Full Backup with Tape 3.
4. Thursday: run a Full Backup with Tape 1.
5. Friday: run a Full Backup with Tape 2.

Figure 2-3 represents this strategy.

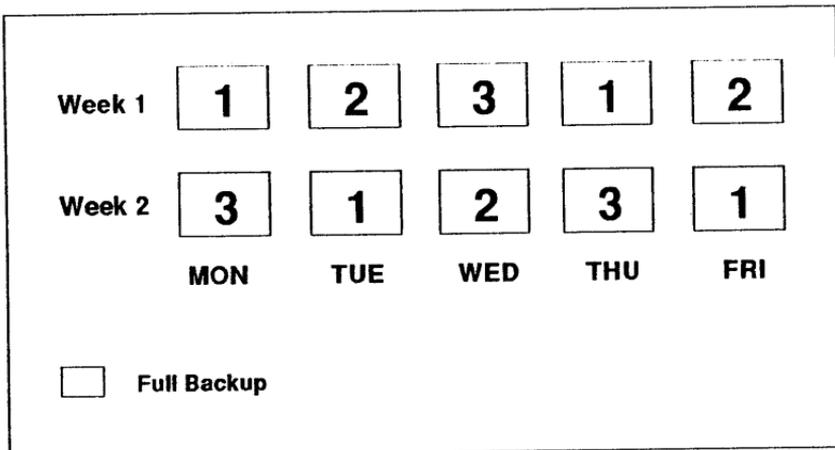


Figure 2-3 A Full-only strategy with three tapes

Strategies and Media Rotation: Diskettes

A strategy based on diskettes as the backup media is most appropriate when:

- your system does not contain many files.
- you only need to backup a few files regularly.

Pros and Cons

Among the advantages of diskettes is that they are a familiar, readily available media. They are easily removable and require the least initial expense. However, they can impose limitations of time and space onto your strategy because of their low capacity and the number of diskettes needed, as well as the resulting time required to change media frequently during Procedures. If diskettes are your media of choice and fit your strategy requirements, then there are certain recommended approaches and Procedures you may want to consider.

How Often to Implement

The first thing to appraise is how often you will backup your files and which files you should backup. A regular Full Backup is recommended in any circumstance. Whether you supplement that with Incremental or Progressive Backups depends upon your particular 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 you determine the number of complete sets you rotate. We recommend a minimum of three sets so you always have a recent Full Backup and two alternating sets of

media which contain specified backed-up files. If either of these sets becomes damaged, you will have another recent copy.

Two Examples Using Diskettes

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 as you wish to use. The number of diskettes in each set is dependent on the amount and size of files you intend to backup.

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 that you store off-site.

Example 1: A Full-and-Progressive Strategy with Four Sets of Diskettes

1. Friday: run a Full Backup with Set A.
2. Monday - Thursday (Week 1): run daily Progressive Backups, alternating Sets B and C.
3. Friday: run a Full Backup with Set D.
4. Monday - Thursday (Week 2): run daily Progressive Backups, alternating Sets A and B.
5. Friday: run a Full Backup with Set C.
6. Monday - Thursday (Week 3): run daily Progressive Backups, alternating Sets D and A.
7. Friday: run a Full Backup with Set B.

Figure 2-4 represents this strategy.

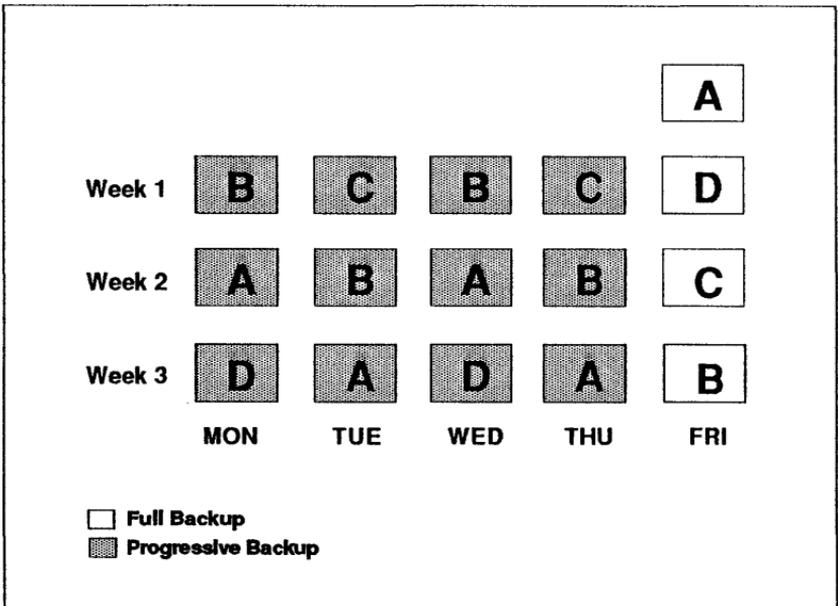


Figure 2-4 A Full-and-Progressive strategy with four sets of diskettes

Example 2: A Full-and-Incremental Strategy with Three Sets of Diskettes

1. Friday: run a Full Backup with Set A.
2. Monday (Week 1): run an Incremental Backup (Create) with Set B.
3. Tuesday - Thursday: run an Incremental Backup (Append) daily with Set B.
4. Friday: run a Full Backup with Set C.
5. Monday (Week 2): run an Incremental Backup (Create) with Set A.
6. Tuesday - Thursday: run an Incremental Backup (Append) daily with Set A.
7. Friday: run a Full Backup with Set B.

Figure 2-5 represents this strategy.

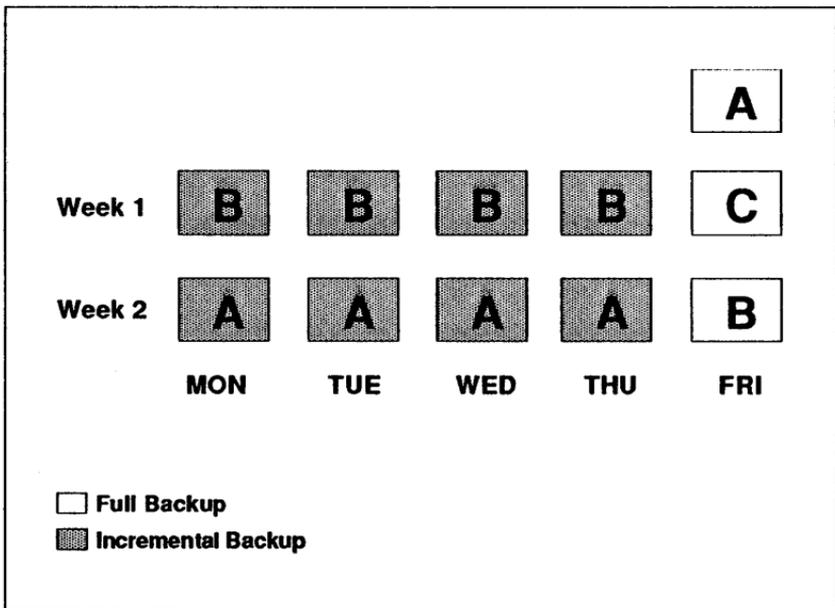


Figure 2-5 A Full-and-Incremental strategy with three sets of diskettes

Strategies and Media Rotation: High Capacity Disks

There are two categories of high capacity disks: fixed and removable.

Using a Fixed Disk

This media has the advantage of convenience and accessibility. Obviously, 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 backup your files). However, since you are continually appending your new files to your old, it can be very 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 high accessibility. This media, like fixed disks, is convenient and familiar to use. Since it is removable, you have the ability to store a Full Backup away from your system. However, the cost of removable disk media may be prohibitive.

Restoring Files

Restore Procedures are most commonly used 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 useful as a method to distribute files across systems. Refer to **Chapter 4: Editing Procedures** and **Chapter 6: Advanced Features** for more information.

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 backup 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.

Restore Procedures offer a **Redirect files** option which allows 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.

Chapter 3:

An Introduction to Procedures

Introduction

Procedures are the foundation of Sytos Plus because they include all the instructions needed to backup, move, compare, or restore your files. You can utilize the file backup strategies discussed in **Chapter 2: Backup Strategies** with one or more of the basic Procedures:

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

In this chapter, we'll show you how to start Sytos Plus from your operating system prompt, introduce you to the main screen, and then take you through the items in the Procedures pull-down menu.

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.

If you'd like to see the description of a sample Procedure, select **Load . . .** from the Procedures pull-down menu, highlight the Procedure, then choose [**View description**] or press <F8> to

view its description. You can create customized Procedures by editing these and saving them with new names. (See Chapter 4: Editing Procedures for more information about customizing Procedures.)

Starting Sytos Plus

To begin a session with Sytos Plus, type the following at your operating system prompt:

SYPLUS

After the greeting screen, the main screen appears with the loaded default Procedure. Figure 3-1 shows you the main screen with an example of a loaded Backup Procedure.

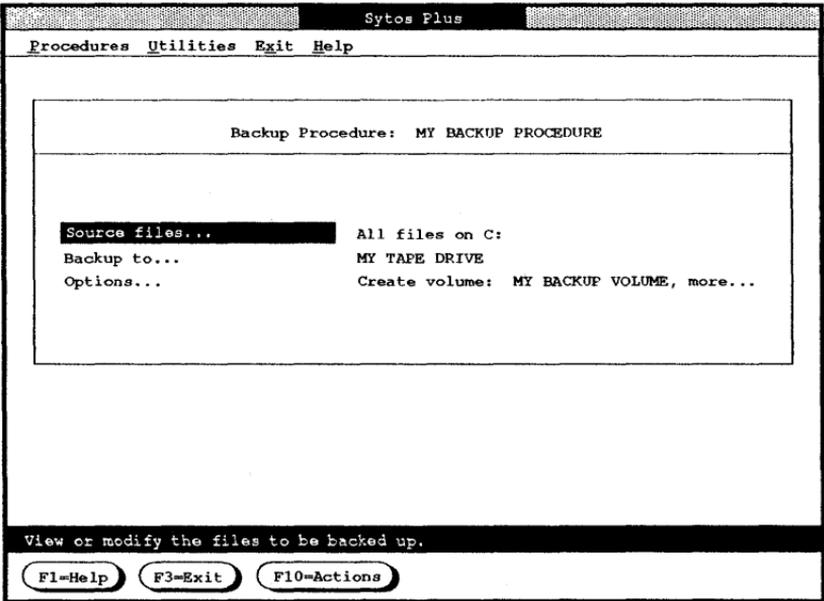


Figure 3-1 The main screen with a Backup Procedure loaded

The Main Screen

The main screen is your starting point for working in Sytos Plus and contains several key elements.

The Action Bar

The action bar contains four groups from which you may select related items through pull-down menus: **Procedures**, **Utilities**, **Exit**, and **Help**.

A Procedure Box

Each Procedure has a box that displays its particular settings. Any item followed by an ellipsis (for example, **Source files . . .**) leads to a window where you can change the selections. Four elements are common to all Procedure boxes:

- **The title** is the name and type of the loaded Procedure. Figure 3-1 shows **MY BACKUP PROCEDURE**.
- **Source files . . .** are the files to be included in the Procedure. In Figure 3-1, the files you have selected to backup are on the C: drive. The word **All** confirms that all of them are selected.
- The next field shows the backup device for the Procedure you have loaded:

Backup to . . . is the device that will hold the backed-up files.

Move to . . . is the device that will hold the moved files.

Restore from . . . is the device from which backed-up files will be copied.

Compare from . . . is the device from which backed-up files will be compared to the originals.

In Figure 3-1, for example, the backup device is **MY TAPE DRIVE**.

- **Options . . .** are the options selected for this Procedure. Some will be specified, either by default or your choice.

The Function Keys

You can choose the functions at the bottom of the window to perform certain actions:

- **F1=Help** brings you specific help on the item highlighted.
- **F3=Exit** ends your Sytos Plus session.
- **F6=Run Procedure** runs the currently loaded Procedure.
- **F10=Actions** moves the cursor to the action bar.

The Guidance Bar

The guidance bar runs directly above the function keys and contains helpful information about the window's highlighted item. In Figure 3-1, it tells you that you can "Choose <F6> to run Backup or <Space> for file selection."

From the main screen, you may now work with this loaded default Procedure. You can also load another Procedure or create a new one.

Accelerator Keys

Several items in the pull-down menus have accelerator keys (keyboard shortcuts) that will 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'll see these keys next to their corresponding items in the menu.

The following sections describe each item in the Procedures pull-down menu.

Procedures: Load

Description

Chooses a different Procedure to preview, run, or edit.

How to Proceed

1. Select **Load . . .** from the Procedures menu. A screen similar to Figure 3-2 will appear with a list of all your Procedures, grouped by name and type of operation.

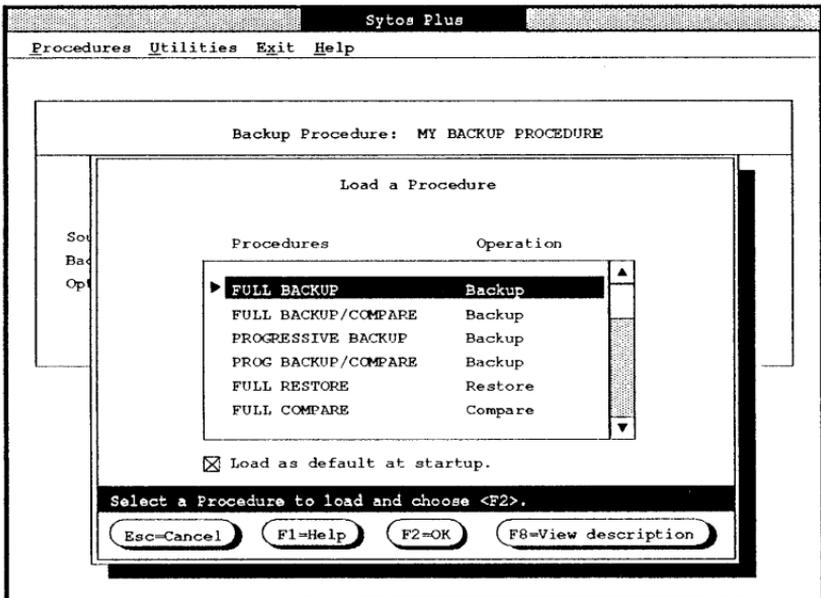


Figure 3-2 Selecting a Procedure to load

2. Highlight the Procedure you want to load.
3. To see the description of this Procedure, choose [View description] or press <F8>.
4. To load this Procedure automatically every time you start Sytos Plus, select **Load as default at startup**.
5. Choose [OK] or press <F2>.

Procedures: New

Description

Creates a new Procedure (instead of editing one).

How to Proceed

1. Select **New . . .** from the Procedures menu. Figure 3-3 illustrates an example of the New Procedure window.

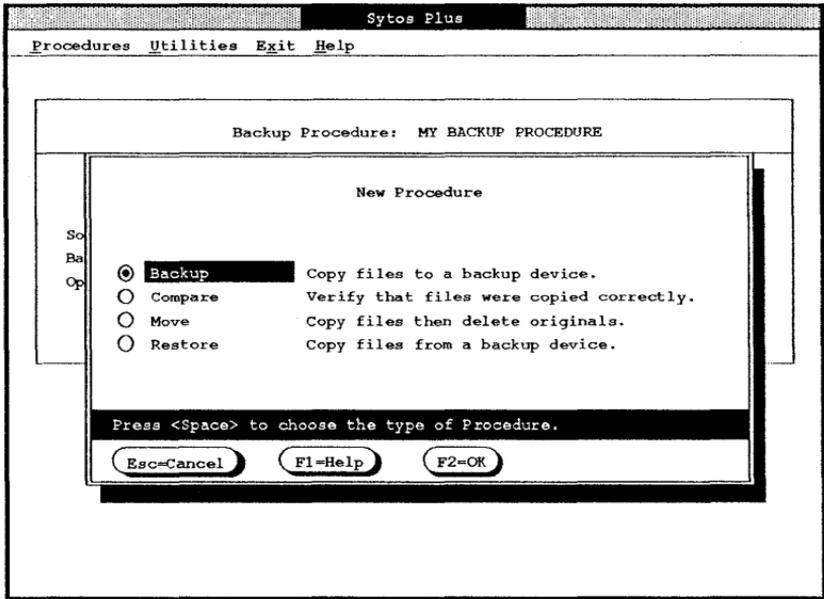


Figure 3-3 Creating a new Procedure

2. Choose the type of Procedure you want: Backup, Compare, Move, or Restore.
3. Choose [OK] or press <F2>.
4. The Procedure box will now contain the default settings for the type of Procedure selected.

Note: We strongly recommend that you check the settings before running your new Procedure to be sure they are set as you want—or change them as needed. (For a detailed explanation of changing settings, see **Chapter 4: Editing Procedures.**)

We recommend using the **Save as . . .** command to name and save your new Procedure.

Procedures: Save and Save as

Description

Saves a new or edited Procedure.

- **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. You can do this by returning to the main screen and using these Save commands.

How to Proceed

1. To save edits made to an existing Procedure under the current name, select **Save** from the Procedures menu.
2. To assign a new name and description to a Procedure, select **Save as . . .** from the Procedures menu. Figure 3-4 illustrates an example of the Save a Procedure window.

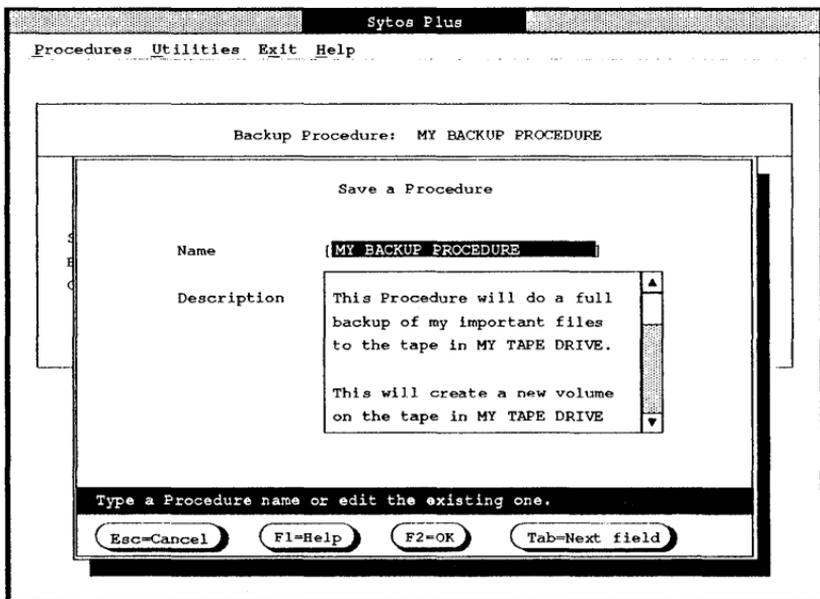


Figure 3-4 Saving a Procedure with a new name

- Type in or edit a personalized name and description.
- Choose [OK] or press <F2>.

Procedures: Preview and Run

Description

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

Run starts processing the files selected for the loaded Procedure.

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

Preview Versus Run

Since a Preview operation does not process actual files, you will notice some restrictions on what it can determine.

Preview will tell you:

- The number of files that will be attempted to be backed-up or moved and the space needed, so you can estimate the number of media you'll need for the Procedure.
- Which files will be restored and which files could be overwritten, if any.

Preview will not tell you:

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

Since file status information depends on accessing files, it applies only to a Run operation.

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.

The Status Window

During **Preview** and **Run**, a Status window pops up to give you detailed information about the Procedure in progress. Every Procedure Status window contains the same elements, although some may not be applicable to a given Procedure. Figure 3-5 shows you what the Status window looks like with an example Procedure running.

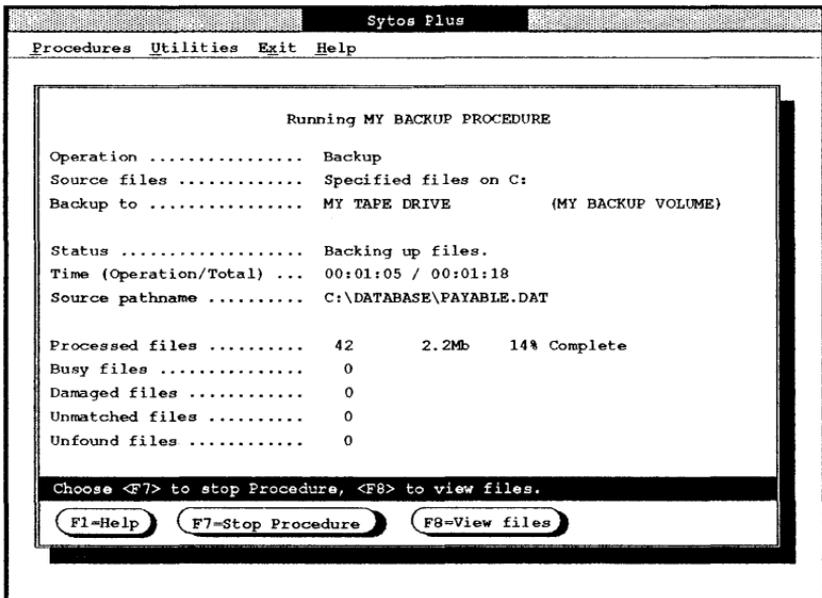


Figure 3-5 Reviewing a Status window for a running Procedure

General Status Information:

The window's upper section gives you general information about the Procedure.

- The **title bar** displays either **Previewing** or **Running** and the name of the Procedure.
- **Operation** shows the type of Procedure: Backup, Move, Compare, or Restore.
- **Source files** summarizes the files selected.
- The next field shows the backup device for the Procedure you have loaded. The name of the current Volume appears to the right in parentheses. (In Figure 3-5 the current Volume is "MY BACKUP VOLUME.")

Backup to . . . is the device that will hold the backed-up files.

Move to . . . is the device that will hold the moved files.

Restore from . . . is the device from which backed-up files will be copied.

Compare from . . . is the device from which backed-up files will be compared to the originals.

- **Status** reflects the Procedure's current state (for example, "Rewinding tape" and "Backing up files").

Note: When the last diskette is being processed during a multiple diskette backup, the message **Returning to beginning of media** may appear on your screen for a longer time period than you might expect. During that time, Sytos Plus is formatting the remainder of the last diskette.

- **Time (Operation/Total)** notes the time involved in processing the files and the total time elapsed (including time spent on media preparation or replacement of media).

- **Source pathname** gives the pathname of the file currently being processed.

File Status Information:

The window's lower section gives you information about the files involved in the Procedure.

- **Processed files** are the files processed successfully, their size, and the degree to which the Procedure is complete.

Previewing files: Preview shows you which files would be included if you were to run the Procedure at that time. If you run the Procedure later, you may find the actual files processed may be different, especially if you choose to include changed files.

- **Busy files** are those currently in use (in a multi-user/multi-tasking environment) and thus inaccessible.

Note: If you select the "Retry busy files" option for the Procedure, busy files will be retried at intervals of one minute when you run the Procedure.

- **Damaged files** are those that can't be read in their entirety without error (from a fixed disk, diskette, or tape) and therefore can't be processed correctly.

Note: Damaged files will be backed up or restored in their damaged state. Therefore, you'll probably want to avoid including them in future Procedures. You may want to choose [**View files**] or press <F8> to select the **View files . . .** option to request a list of the damaged files.

- **Unmatched files** are the backed-up and source files that failed to match because they were not copied correctly or were changed between the last Backup and the start of the Compare process. (This could occur during a Compare Procedure or a Backup Procedure with the **Compare files** option selected.)

After a Backup Procedure: If you find unmatched files, we strongly recommend rerunning the Procedure with the **Compare files** option selected again to be sure it is completed successfully.

- **Unfound files** lists the number of files selected for the Procedure that couldn't be found (possibly files that don't exist or those within a multi-user environment to which you don't have access rights).

How to Proceed

1. Select **Preview** or **Run** from the Procedures menu to start processing the loaded Procedure.

To stop the Procedure before it is complete, choose [**Stop Procedure**] or press <F7>.

Stopping a Procedure: Choose [F7] to stop the Procedure in progress. Note that using [Ctrl] [C] or [Ctrl] [Break] will have no effect.

2. To see more information about the different files, you can select the **View files . . .** option by choosing [View files] or press <F8> at the Status window.

At the pop-up window, select an option:

Log

Busy files

Damaged files

Unmatched files

Unfound files

3. Choose [OK] or press <F2>.

At the list window, you may choose [Print] or press <F4> to send the list to a text file and/or the printer.

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.

4. When the Procedure finishes, choose [Cancel] or press <Esc>.

Procedures: Schedule

Description

Schedules a Sytos Plus Procedure or other files (for example, batch, script, or executable files) to run automatically at a particular time—just once, daily, weekly, monthly, or at special ongoing intervals.

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.

Activating the Schedule Automatically

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, you'll need to include it in your operating system startup file. See the *Getting Started . . .* booklet for more information.

How to Proceed

1. Select **Schedule . . .** from the Procedures menu. A window pops up with the current day's scheduled events. Figure 3-6 shows an example of a schedule.

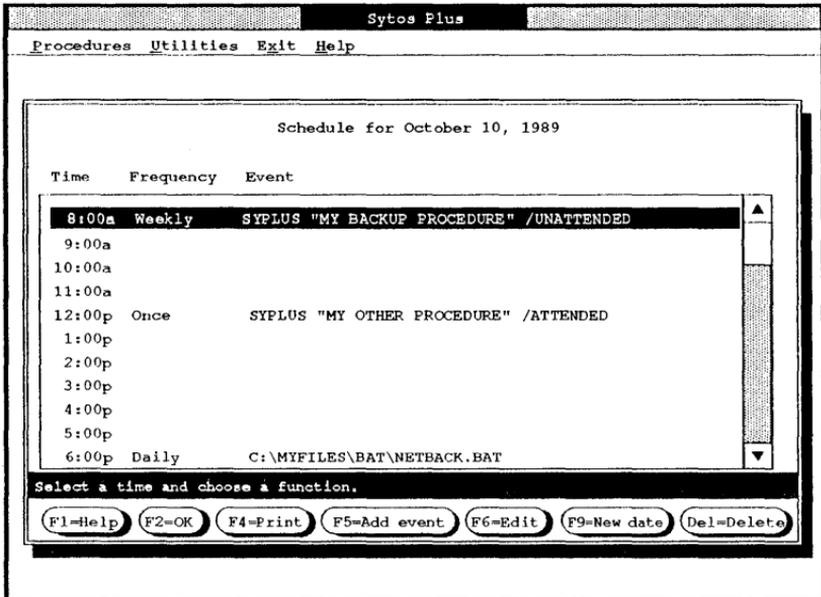


Figure 3-6 An example schedule for July 6, 1990.

- The schedule date and the day of the week are shown at the top.
- The schedule functions are shown at the bottom of the window.
- **Time** shows when the event will begin to run.

Note: Sytos Plus determines the date and time from your computer's settings, so please ensure they are set correctly.

- **Frequency** shows how often the event will run: once, daily, weekly, monthly, or at special ongoing intervals.
- **Event** displays the Procedure's or other file's name and its run mode (attended or unattended).

2. Choose a function.

3. Repeat Step 2 as needed.
4. Choose [OK] or press <F2>.

Print

Sends a list of all scheduled events for this day to a text file and/or the printer.

How to Proceed

1. Choose [Print] or press <F4>. At the pop-up window, select one or both options.
 - **A text file** sends the list to a disk file. (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>.

Add Event

Adds an event to this day's schedule.

How to Proceed

1. Choose [Add event] or press <F5>.
2. At the pop-up window, select one option and choose [OK] or press <F2>.
 - **A Sytos Plus Procedure** is any Procedure that appears on your list of available Procedures to load.
 - **Other file** can be a batch, script, or executable file you wish to run; for example, a batch file you've created for running a Procedure from your operating system prompt.

(For more information about batch files, refer to **Chapter 2: Backup Strategies** and the *Getting Started . . .* booklet.)

3. At the pop-up window, you'll specify the settings you want for this event as described in Steps 4 through 8. Figure 3-7 shows you an example of this window.

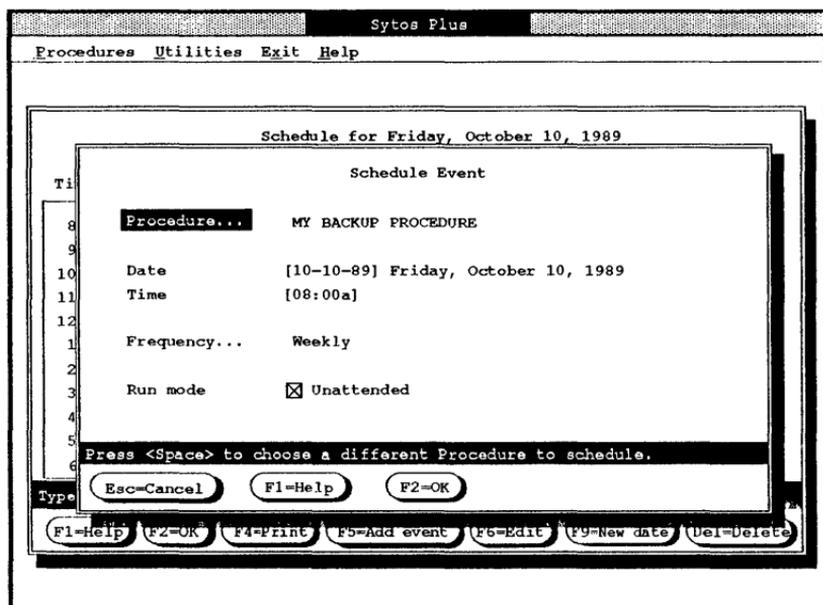


Figure 3-7 Adding an event

4. Depending on what you selected in Step 2, the first line will be one of the following:
 - **Procedure . . .** with a default Procedure. If you select this line, a pop-up window appears for you to choose another Procedure.
 - **File pathname.** Type the name of the file.
5. Type a new schedule date if you wish.
6. Type the time of the event (applicable to all but special ongoing events).
7. Select the frequency of the event.

Select **Frequency . . .**. At the pop-up window, select **daily**, **weekly**, **monthly**, **once only** or **special**.

If you select **special**, you'll need to type settings for **Once every**, **Daily start**, and **Daily stop**.

Choose **[OK]** or press **<F2>**.

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.

8. Specify the run mode.

To run an event with no one present, select **Unattended**.

(For more information about attended and unattended Procedures, see **Chapter 2: Backup Strategies**.)

Edit

Allows you to modify the highlighted event.

How to Proceed

1. Select the event whose schedule you want to edit.
2. Choose **[Edit]** or press **<F6>**. At the pop-up window, you'll see the current schedule settings for this event.
3. Change the settings for event name, date, time, frequency, and run mode as needed. The instructions are the same as those described in the preceding section, "Add event."
4. Choose **[OK]** or press **<F2>**.

New Date

Changes the date so you can work with a schedule for another date.

How to Proceed

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**>.

Delete

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

How to Proceed

Choose [**Delete**] or press <**Del**> to remove the highlighted event from the schedule.

Procedures: List

Description

Sends a list of all your Procedures to a text file and/or the printer.

How to Proceed

1. Select **List . . .** from the Procedures menu. At the pop-up window, select one or both options.
 - A **text file** sends the list of Procedures to a disk file. (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>**.

Procedures: View

Description

Shows information about the loaded Procedure which can also be sent to a text file and/or the printer. You'll see the Procedure's name and description, the type of operation, the source, the Selection Sheet, and the options selected.

How to Proceed

1. Select **View . . .** from the Procedures menu.
2. To print the information shown, choose [**Print**] or press <F4>. At the pop-up window, select one or both options.
 - **A text file** sends the information to a disk file. (Type a complete path and filename appropriate to your operating system.)
 - **The printer** sends the information to your printer.
3. Choose [**OK**] or press <F2>.

Procedures: Delete

Description

Removes a Procedure from your list of available Procedures.

How to Proceed

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 **<Space>**).
3. Choose [**View description**] or press **<F8>** if you wish to see the Procedure's description.
4. Choose [**Delete**] or press **** to delete the Procedures.
5. Choose [**OK**] or press **<F2>** to confirm.
6. Choose [**Cancel**] or press **<Esc>** to leave the window.

Procedures: Import

Description

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.

How to Proceed

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 <Space>**). Figure 3-8 shows you an example of the Import a Procedure window.

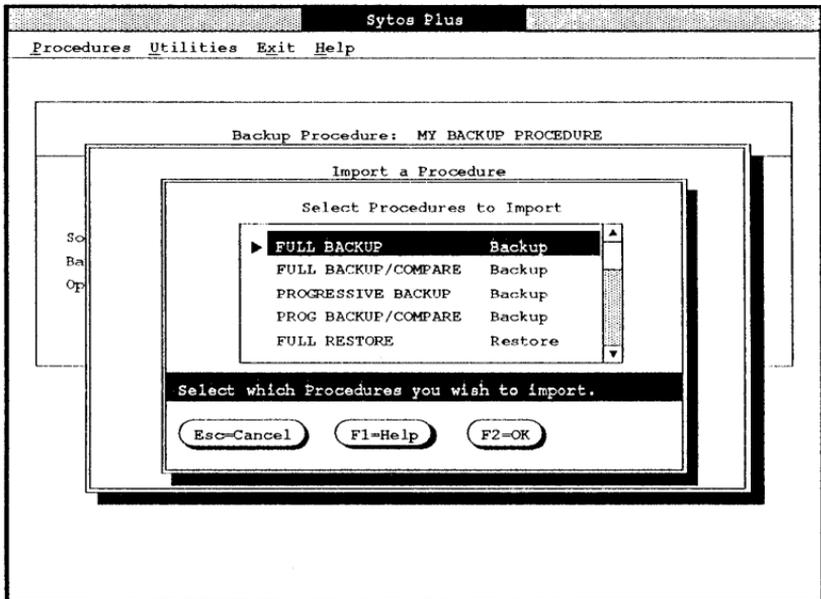


Figure 3-8 Selecting a Procedure to import

4. Choose [OK] or press <F2>.

Important: It's best to load an imported Procedure and 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, see **Chapter 4: Editing Procedures** for instructions. You may also want to preview the Procedure to be sure it will run as you intend.

Procedures: Export

Description

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.

How to Proceed

1. Select **Export . . .** from the Procedures menu. Figure 3-9 shows you an example of the Export a Procedure window.

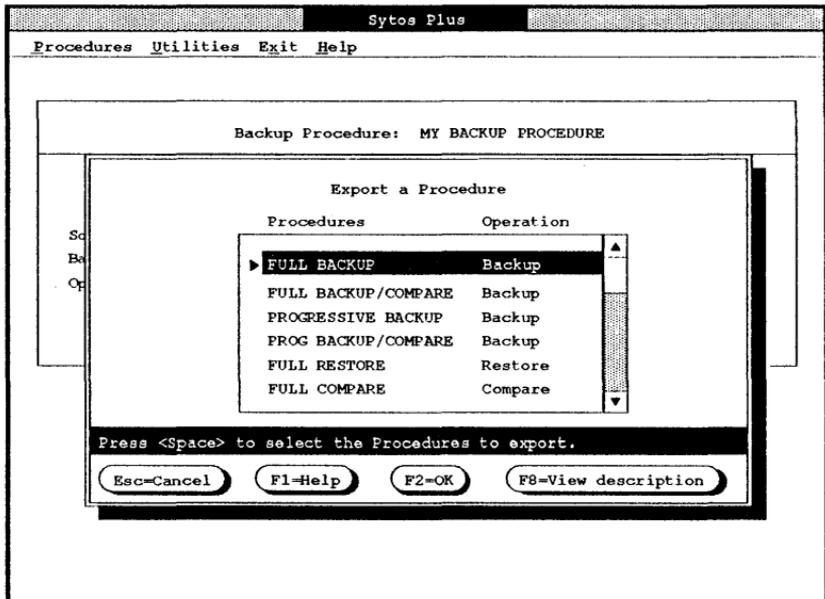


Figure 3-9 Selecting a Procedure to export

2. Select the Procedure(s) you want to export (by **<Clicking>** or **highlighting and pressing <Space>**).
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>**.

Procedures: About Sytos Plus

Select **About Sytos Plus . . .** from the Procedures menu to see general information about key features of the product.

Chapter 4:

Editing Procedures

Introduction

As you become more familiar with Sytos Plus, you may find you want to customize the sample Procedures. Learning how to edit Procedures will give you the ability to create Procedures that are tailored to your Backup strategy.

This chapter will show you how to edit the four types of Procedures: Backup, Move, Restore, and Compare, with Backup and Restore receiving the most attention. (Move is edited in a similar way to Backup; Compare is edited in a similar way to Restore.) Four consistent steps are involved when you edit any Procedure:

- Load the Procedure you want to edit.
- Select the files.
- Select the backup device.
- Select options.

Learning how to select files: There are two methods of file selection: from the *file selection windows* and from the *Selection Sheet*. This chapter describes how to set up Procedures by selecting files from windows. Selection Sheets are described in **Chapter 6: Advanced Features**.

The process of selecting files is the same for every Procedure; you'll learn about it in the section entitled "Editing a Backup Procedure." Once you know how to select files for a Backup, you'll be able to select files for any Procedure.

Editing a Backup Procedure

Purpose

Copies files to a backup device.

Description

A Backup Procedure copies your files to a backup device for safekeeping. Editing a Backup Procedure involves selecting files, a backup device, and options.

Figure 4-1 shows you an example of a loaded Backup Procedure with its current settings.

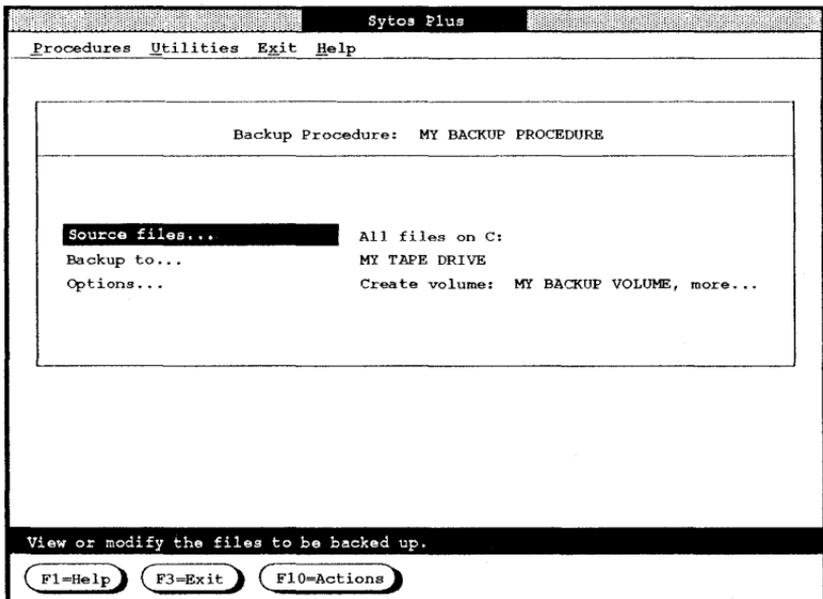


Figure 4-1 A loaded Backup Procedure

Selecting Files

Start by highlighting **Source files . . .**. The message to the right shows one of four file selections:

- **All files.**

- **Only changed files** (those that have been changed or created since your last Backup).
- **Not selected.**
- **Specified files** shows you have chosen specific files from the file selection windows and/or the Selection Sheet.

About File Selection: 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.

As you choose from the file selection windows, Sytos Plus automatically creates a record of the files involved. This record, called a Selection Sheet, can be created and edited separately. See **Chapter 6: Advanced Features** for more details.

Select **Source Files . . .** to pop up the window that shows the sources of files. The example in Figure 4-2 shows that **All files** in the Source (the C: drive) will be included in this example Procedure.

Selecting Files at the Source Level

To select a Source and its files:

1. Highlight the Source and **<Space>** to select **All files, Only changed files, or Not selected.**

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, so you’ll probably want to check which files are involved before overriding the selections.

2. Repeat Step 1 for every Source you want to select.
3. Choose **[OK]** or press **<F2>**.

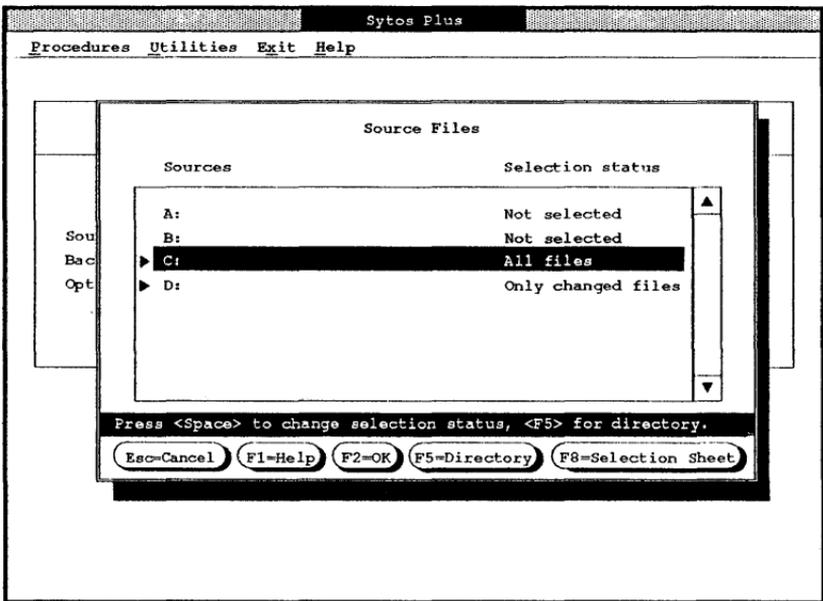


Figure 4-2 Selecting a Source and its files

Selecting Files at the Directory Tree Level

To select a specific directory and its files, highlight its Source and choose [Directory] or press <F5> to pop up the Directory Tree Window. Figure 4-3 shows you an example of a Directory Tree window with a variety of files selected.

Reminder: When you select a directory and its files, you include only that directory. If you create new directories later, you'll need to be sure that you select those too if you want to include them in the Procedure.

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 [OK] or press <F2>.

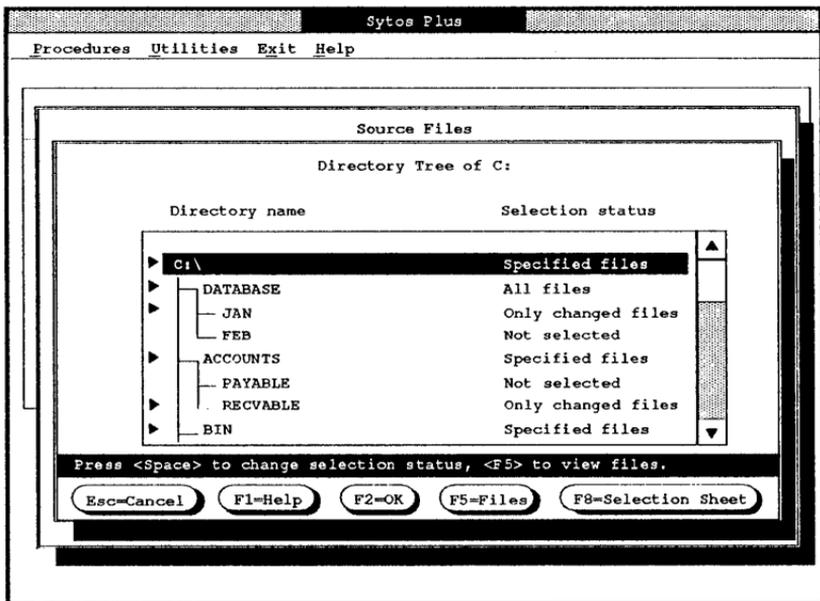


Figure 4-3 Selecting a directory and its files

Selecting Individual Files

To select a specific file, highlight its directory and choose [Files] or press <F5> to pop up the Files window. Figure 4-4 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.

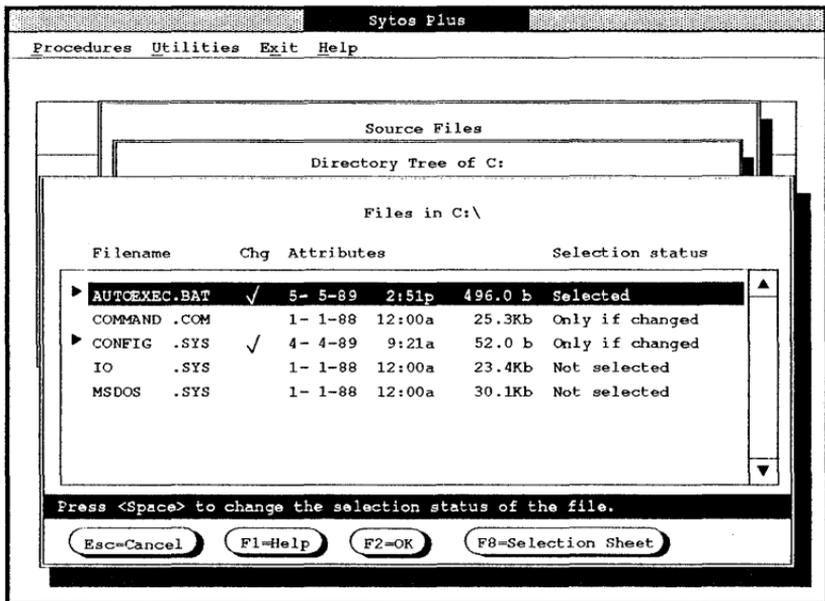


Figure 4-4 Selecting individual files

Reminder: When you select individual files, you include only those files. If you create new files later, you'll need to be sure that you select those too if you want to include them in the Procedure.

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 **[OK]** or press **<F2>**.

Selecting Backup to . . .

To select a different backup device (if you have more than one):

1. Select **Backup 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 [**View Volume information**] or press <F8>.
4. Select the backup device.
5. Choose [**OK**] or press <F2>.

Selecting Options

To select or change the Backup options, select **Options . . .** to pop up the Backup Options window. Figure 4-5 illustrates options for an example Backup Procedure.

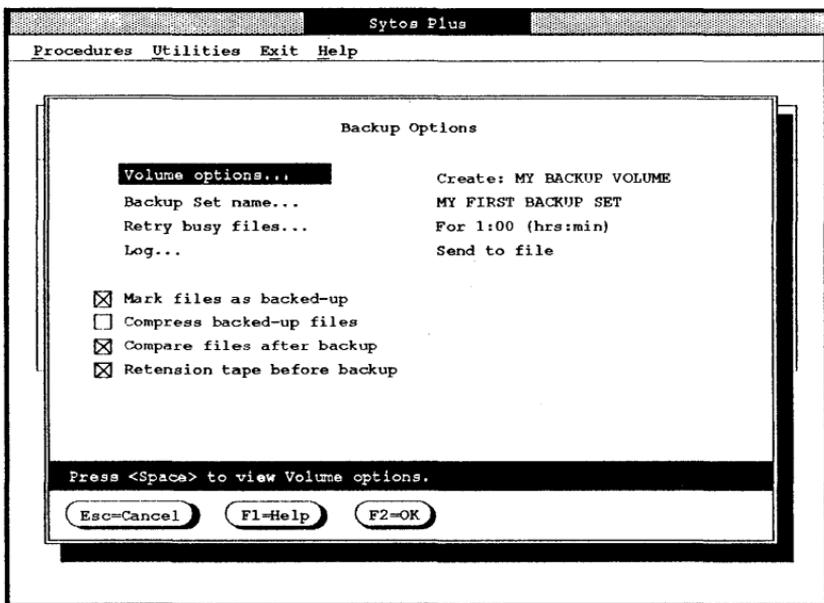


Figure 4-5 Selecting options for a Backup Procedure

Backup Sets and Volumes

Two components are integral to any Backup Procedure: Backup Sets and Volumes.

- Every time a Backup Procedure is run, a Backup Set is created, with a name and date, containing the files that were backed up.
- A Volume holds one or more Backup Sets in chronological order and it must exist before running a Procedure or be created during a Procedure. To create a new Volume without running a Procedure, you can use **Create a new Volume** from the **Utilities: Media preparation** menu.

Selecting Volume Options

At the Backup Options window, you need to decide if you want this Procedure to create a new Volume or append to an existing one.

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

- **Append to existing Volume** adds the Backup Set to an existing Volume. You won't be able to change the Volume options specified when the Volume was created.

If you select **Volume options**, a window pops up with several options. In Figure 4-6, you'll see an example of this window with several options selected.

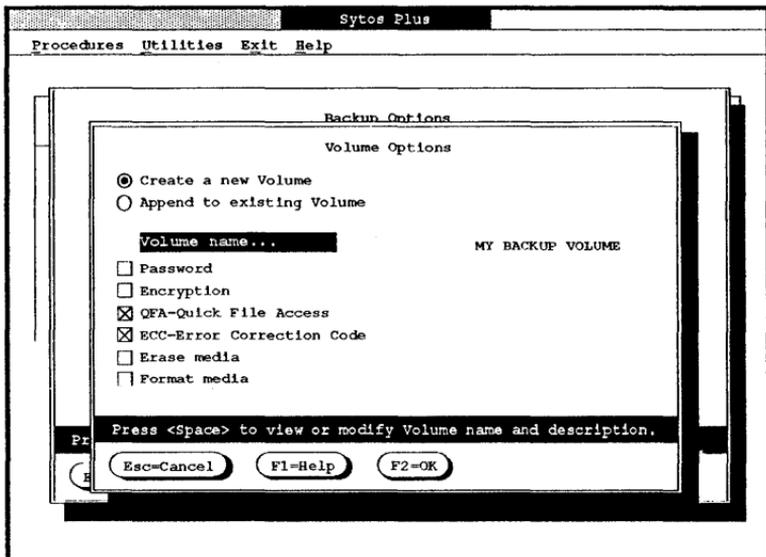


Figure 4-6 Selecting options for a Backup Procedure

Select the options you want for this Volume.

- **Create a new Volume** or **Append to existing Volume** indicates the current Volume selection. If you choose **Append to existing Volume**, the following options will not be available.
- **Volume name . . .** gives the Volume a personalized name and description.
- **Password** allows you to assign the Volume a password when the Procedure is run which allows access only to those who know the password.

Important: If you specify a password during a Backup Procedure, you *must* specify the password to access those backed-up files later. Without this information, you won't be able to recover the files.

In addition, since password-protected media can be erased or overwritten without entering the password, we recommend write protecting your media to prevent any changes.

- **QFA-Quick File Access** enables Sytos Plus to record general 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.
- **ECC-Error Correction Code** instructs Sytos Plus to record special information on the backup media to assist with restoring files if the media becomes damaged.

Important: We *strongly* recommend selecting Error Correction Code (ECC) for all Backup and Move Procedures as added protection for your files.

- **Erase media** makes your media appear blank to Sytos Plus. Whether or not information is completely erased depends on the kind of backup device you use.

This option may significantly increase the Procedure time, depending on your backup device. It is not necessary to select it for each backup. If you choose to use this option, you should allow extra time for the Procedure, or use the **Utilities: Prepare media** menu item to erase it in advance.

- **Format media** 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.

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 or Move Procedure, select **Format media** as a Volume option. The tape will be formatted each time the Procedure is run.

Note: Although Sytos Plus will erase or format media automatically if the media requires it, these options may take a considerable amount of time depending on your backup device. Therefore, to reduce the Procedure time, you may want to use the Media preparation utility to prepare several media in advance. See **Chapter 5: Utilities, Exit, and Help** for more information.

After selecting options, choose [OK] or press <F2> to return to the Backup Options window.

Selecting Options for the Backup Set

For every Backup Set, you may choose several options. Figure 4-7 shows you the variety of options available.

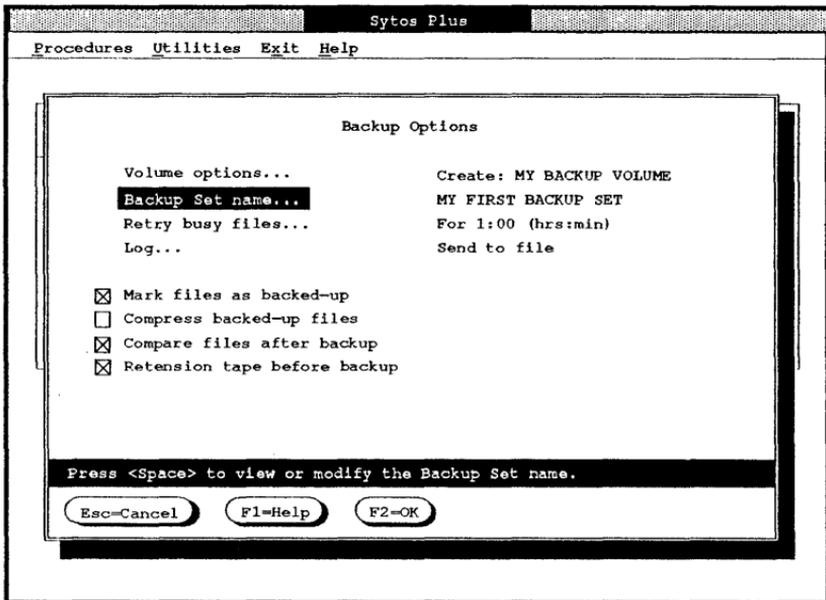


Figure 4-7 Selecting options for a Backup Set

- **Backup Set name . . .** gives the Backup Set a personalized name and description. It will be called UNTITLED until you give it a name. Every Backup Set contains the date and time it was created.
- **Retry busy files . . .** 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 multi-user/multi-tasking environment. At the pop-up window, you can choose to have them checked for a period of time, until a particular time, or until no longer busy. When you run the Procedure, busy files will be retried at intervals of one minute. You can also choose not to have them retried.

Note: Certain applications may require that the files they use are closed before being backed up. If you are having problems backing up files for an active application, you may either exclude those files from your file selection or shut down the application before starting the backup.

- **Log . . .** 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 about file selection entries, options, and processed files. 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 to send it to a printer after the Procedure has run.

Important: We *highly* recommend selecting 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.

- **Mark files as backed-up** specifies whether or not files should be marked as having been backed-up after the Procedure. **Chapter 2: Backup Strategies** describes uses for this option.
- **Compress backed-up files** squeezes the files on your backup media so more can fit.

Important: Compressed files take up less space and any damage that occurs on the backup media could affect many files. Therefore, we *strongly* recommend selecting Error Correction Code (ECC) when using the **Compress backed-up files** option as added protection for your files.

- **Compare files after backup** automatically performs a Compare Procedure after the Backup to check that your backed-up files are identical. Although this option increases the total Backup time, we *strongly* 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.)

Unmatched files: If the backed-up and source files don't match after the Compare because they were not copied correctly, we recommend rerunning the Procedure with the **Compare files** option selected to be sure it is completed successfully.

- **Retension tape before backup** 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.

When you finish selecting Backup options, choose [OK] or press <F2>.

Editing a Move Procedure

Purpose

Transfers files to a backup device by copying them and then deleting the originals.

Description

Move Procedures store files that you don't use regularly but don't want to discard. Move starts with a Backup, then compares the backed-up files to their corresponding source files, then deletes the source files. The **Compare files** option is preset to ensure that the files are copied correctly before being deleted.

Note: Because your source files are deleted at the end of this Procedure, we strongly recommend using **Preview before Run** to be sure the Procedure will run as you intend.

Even if files are read-only, they will be treated like any other file during a Move. The files will be backed up and then deleted from your system.

Considerations

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

- 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*, we highly recommend that you run a Backup Procedure to copy those files to another backup media. If either media becomes damaged, you will have another copy of the files. Make sure the **Compare files** and **Log** options are turned on for the backup.

After the Backup Procedure, review the Log. Any files that did not backup 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 will stop before comparing or deleting your files.
- If the Compare is not completely successful, the Move Procedure will stop before deleting your files.
- **Operating system files should *not* be moved because your system will not run correctly without them.**
- Sytos Plus files will not 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.

Editing a Move Procedure involves selecting: files, a backup device, and options just as you did for a Backup Procedure.

Figure 4-8 shows you an example of a loaded Move Procedure with its current settings.

Figures 4-9 and 4-10 show you examples of the Move options window and the Volume options window.

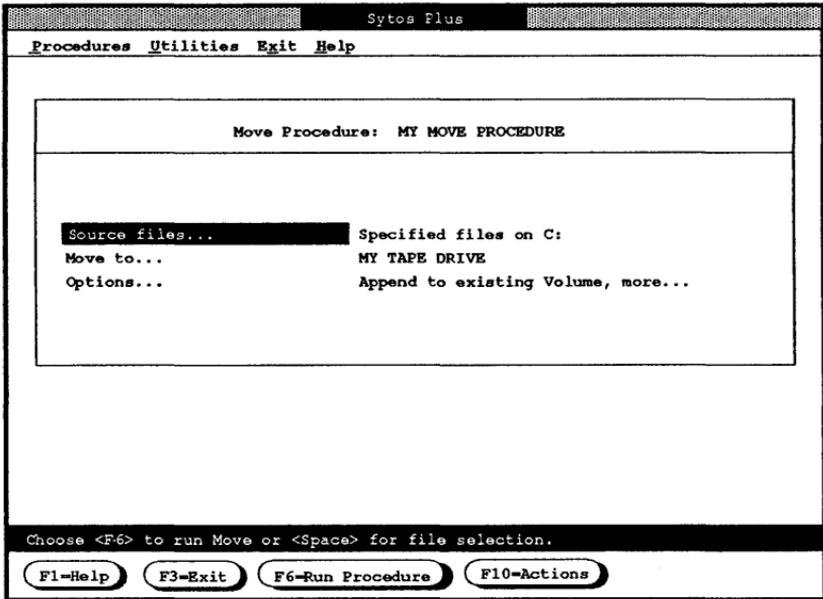


Figure 4-8 A loaded Move Procedure

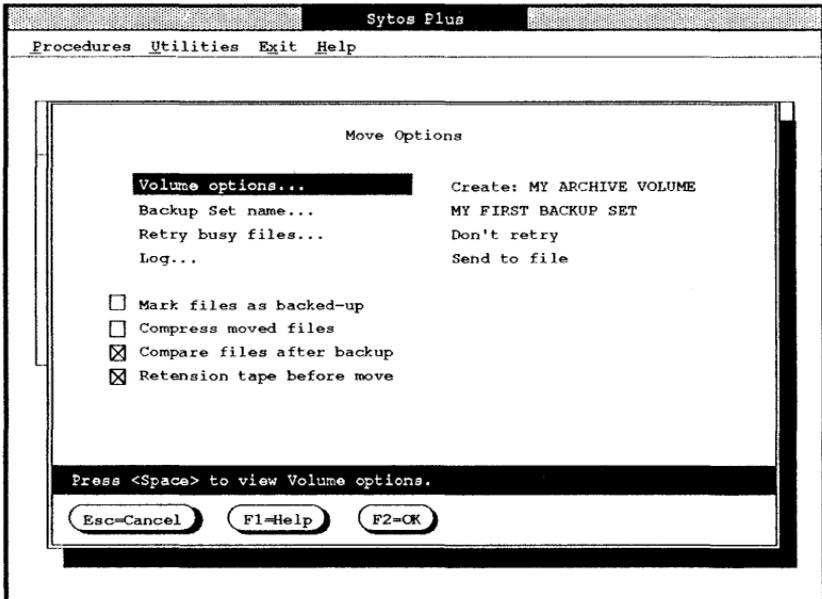


Figure 4-9 Selecting options for a Move Procedure

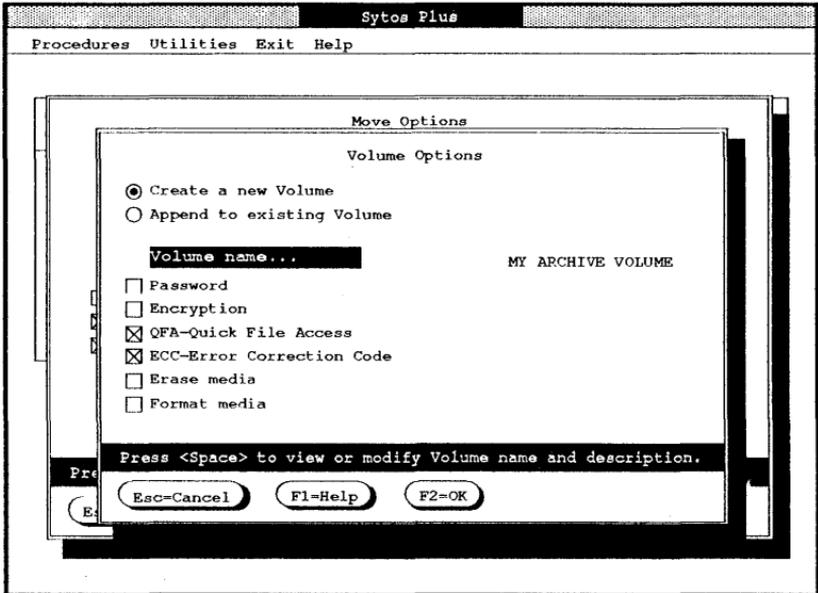


Figure 4-10 Selecting options for a Volume

Editing a Restore Procedure

Purpose

Copies files from a backup device.

Description

Restore Procedures are most often used 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.

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

Important: Great care should be taken when restoring operating system program files to a fixed disk which is running a different version of the operating system.

Figure 4-11 shows you an example of a loaded Restore Procedure with its current settings.

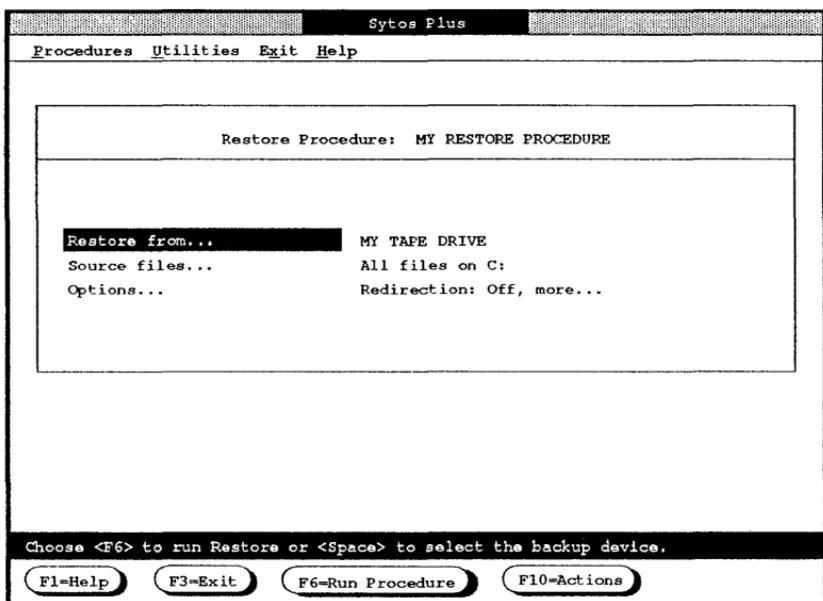


Figure 4-11 A loaded Restore Procedure

Selecting Restore from . . . and Backup Sets

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

Selecting Restore from . . .

To select a different backup device (if you have more than one):

1. Select **Restore from . . .** from the main screen.
2. At the pop-up window, highlight a backup device from the list.
3. To identify the Volume currently loaded, choose [**View Volume information**] or press **<F8>**.
4. Select the backup device. To select specific Backup Sets, follow the instructions in the next section.
5. Choose [**OK**] or press **<F2>**.

Selecting Backup Sets

To select all Backup Sets, the latest Backup Set, or none:

1. Select a backup device name in the Backup Device window and change between:

All Backup Sets.

Latest Backup Set.

Specified Backup Sets shows you have selected Backup Set files from the Backup Sets window.

When this section is blank, the backup device is not selected.

2. To see more information about the Volume in the backup device, choose [View Volume information] or press <F8>.
3. Choose [OK] or press <F2>.

<p>Note: Backup Sets are restored consecutively from earliest to latest.</p>

To select individual Backup Sets from this backup device:

1. Select the backup device and select **All Backup Sets**.
2. Choose [Backup Sets] or press <F5> to pop up the Backup Sets window. You'll see the Backup Set name and the date and time it was created. Figure 4-12 shows an example Backup Set window.

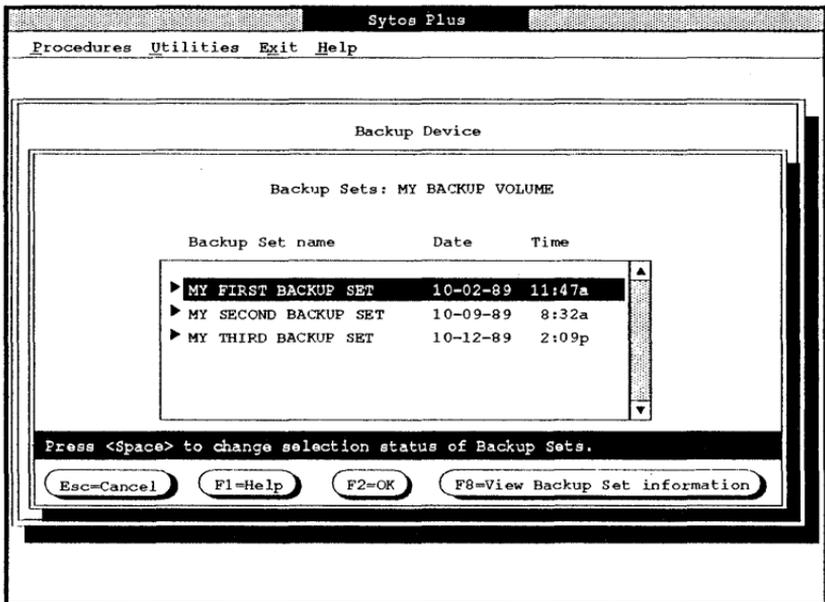


Figure 4-12 Selecting Backup Sets

3. To see information about a particular Backup Set, highlight it and choose [View Backup Set information] or press <F8>.
4. Change the selections until you have chosen only those Backup Set(s) you want to restore.
5. Choose [OK] or press <F2>.

Selecting Files

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.

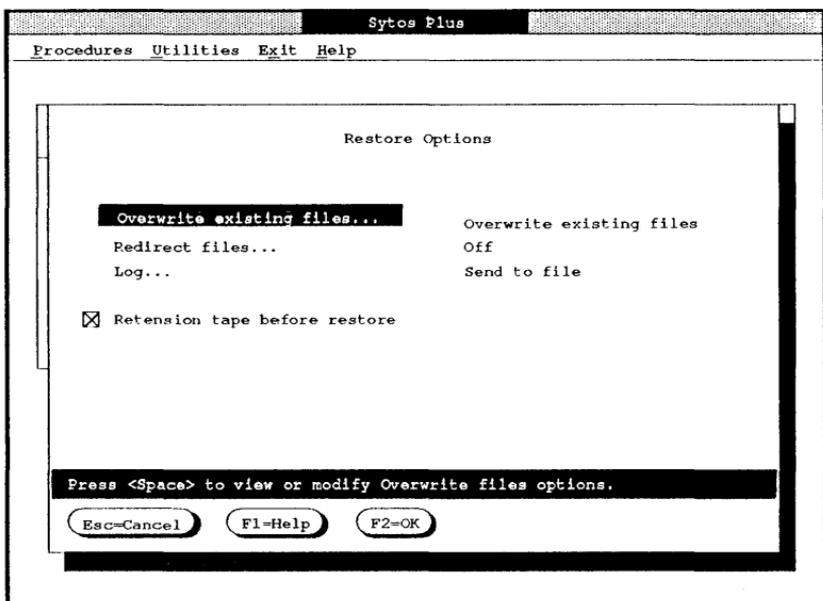


Figure 4-13 Selecting options for a Restore Procedure

Note: Even if files are read-only, they will be treated like any other file during a Restore. The files will be restored with the attributes they had when they were backed up and will be listed in the Log if you have included the Log in the Procedure.

Selecting Options

To select or change the Restore options, select **Options . . .** to pop up the Restore Options window. Figure 4-13 shows you an example of this window with some options selected.

You may choose several options:

- **Overwrite existing files . . .** determines what Sytos Plus should do if a file being restored encounters a file on your system with the same name. At the pop-up window, choose one option:

Overwrite existing files

Never overwrite existing files

Prompt before overwriting newer files

Prompt before overwriting existing files

- **Redirect files . . .** is 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 don't exist on your system. See **Chapter 6: Advanced Features** for more details.
- **Log . . .** 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 about file selection entries, options, and processed files. 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 to send it to a printer after the Procedure has run.

Important: We *highly* recommend selecting the Log option for all Procedures to give you a record of the results that you can review afterward.

- **Retension tape before restore** adjusts tape tension by fast-forwarding and rewinding the tape to make sure it's taut enough to restore information properly. Retension by itself does *not* change the information stored on the tape.

Editing a Compare Procedure

Purpose

Verifies that files were copied correctly.

Description

The Compare Procedure verifies that the files involved in a Restore were correctly and fully copied.

Using Compare during Backup and Move Procedures: As a convenience, Compare for a Backup Procedure can be selected with **Compare files** from the Backup Options window. Compare for a Move Procedure is preset to ensure that the files have been copied correctly before being deleted.

When you select files for a Compare Procedure, you choose the backed-up files to compare against the restored files now on your system. Editing a Compare Procedure involves selecting: a backup device, Backup Sets, files, and options.

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

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 process, so they will not be available to view from the Status window. If you select **Log**, you will see which files were busy during the Backup.

Figure 4-14 shows you an example of a loaded Compare Procedure with its current settings.

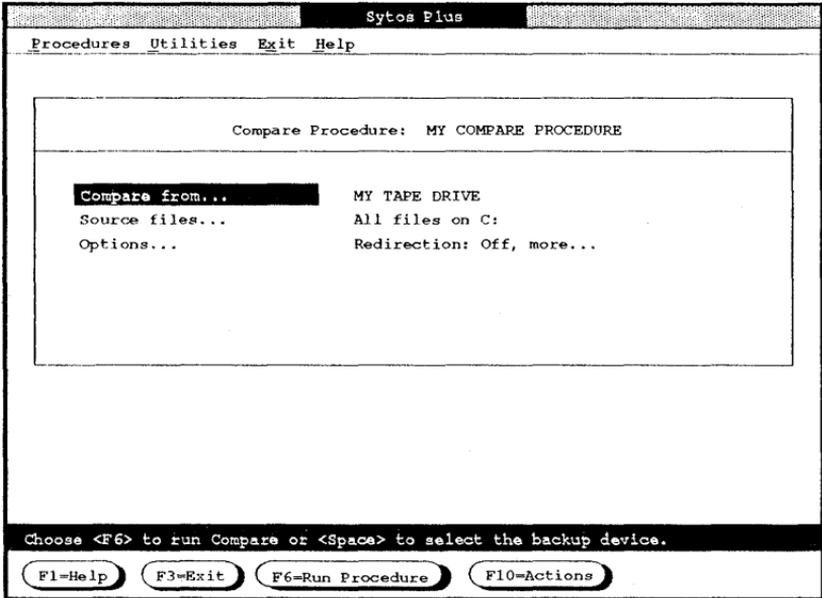


Figure 4-14 A loaded Compare Procedure

Selecting Compare from . . . , Backup Set(s), and Files

You'll select a backup device from which to compare files, Backup Set(s), and files just as you did for a Restore Procedure. When you run the Compare Procedure, Sytos Plus will look for the restored files on your system whose names are the same as those you have selected.

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.

Selecting Options

To select or change the Compare options, select **Options . . .** to pop up the Compare Options window. Figure 4-15 shows you an example of this window with some options selected.

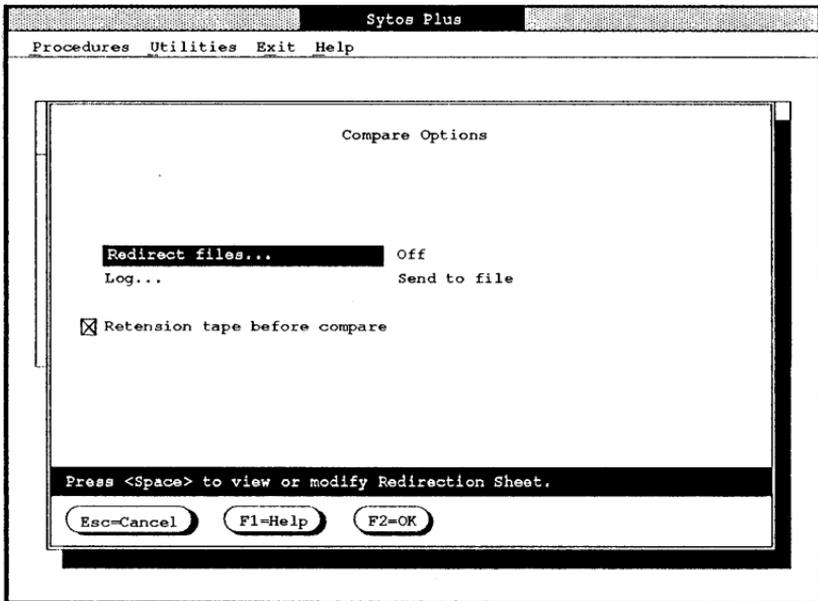


Figure 4-15 Selecting options for a Compare Procedure

You may choose these options:

- **Redirect files . . .** 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. See **Chapter 6: Advanced Features** for more details.
- **Log . . .** sends a record of the Procedure and any problems that occurred. At the pop-up window, you can add other information to the Log about file selection entries, options, and processed files. 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 it to a printer after the Procedure has run.

Important: We *highly* recommend selecting the Log option for all Procedures to give you a record of the results that you can review afterward.

- **Retension tape before compare** adjusts tape tension by fast-forwarding and rewinding the tape to make sure it's taut enough to compare information properly. Retension by itself does *not* change the information stored on the tape.

Unmatched files: If the backed-up and source files don't match after the Compare, they may not have copied correctly or were changed between the last Backup and the start of the Compare process. We recommend rerunning the original Procedure and then rerunning the Compare Procedure to be sure it is completed successfully.

Chapter 5:

Utilities, Exit, and Help

Introduction

Now that you've become familiar with using and editing Procedures in Sytos Plus, we'll describe the three other menus on the action bar.

- **Utilities** offers ways to maintain Volumes and Logs, prepare media, set up backup devices, and select preferences for working in Sytos Plus.
- **Exit** ends a Sytos Plus session.
- **Help** features an extensive Help system, including an index, and help on using the function keys in the Sytos Plus windows.

Utilities

Purpose

Provides tools for setting up, customizing, and maintaining Sytos Plus features.

Description

The Utilities menu offers several items for customizing and maintaining your backup system:

- **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.
- **Media preparation** . . . prepares a supply of backup media and creates Volumes to have on hand for later Procedures. (You can also select the **Erase**, **Format**, and **Retension tape** commands or create a new Volume when setting up a Procedure to run. See **Chapter 4: Editing Procedures** for details.)
- **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.

Each item is explained in the following pages.

Utilities: Volumes

Description

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 appended to a Volume using another system, you may use **Add New 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.

How to Proceed

1. Select **Volumes . . .** from the Utilities menu. In Figure 5-1, you'll see an example list of Volumes.

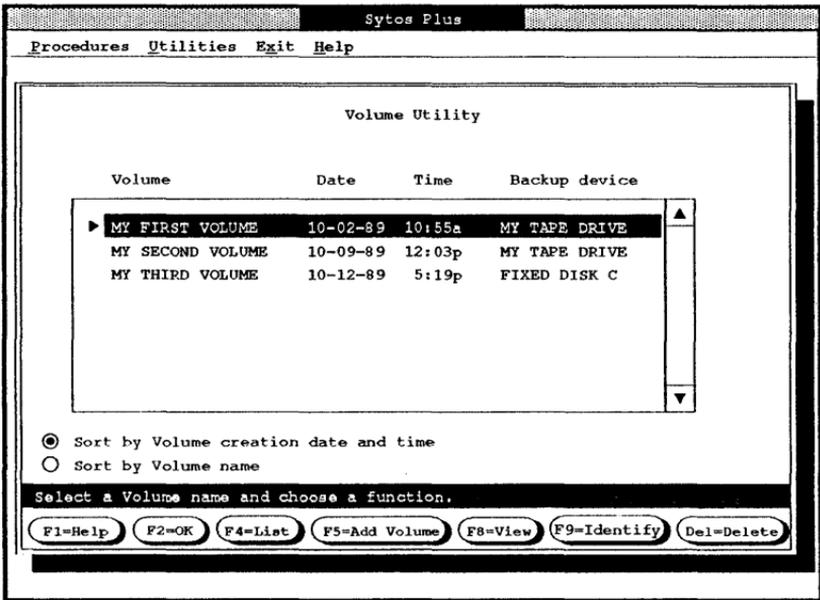


Figure 5-1 Selecting a Volume

2. To change the order in which the Volumes are displayed, select the appropriate sort command:
 - Sort by Volume creation date and time.
 - Sort by Volume name.
3. Select a Volume from the list and choose the functions at the bottom of the window.
4. Choose [OK] or press <F2>.

List

Sends a list of all your Volumes to a text file and/or printer.

How to Proceed

1. Choose [List] or press <F4>. At the pop-up window, select one or both options.
 - A **text file** sends the list to a disk file. (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>**.

Add Volume

You'll find this feature 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.

How to Proceed

1. Put the Volume into the backup device.
2. Choose **[Add Volume]** or press **<F5>**.
3. Select the backup device (if you have more than one).
4. Choose **[OK]** or press **<F2>**.

Note: Adding a Volume to the Volume utility takes some time because it involves reading all information from the Volume. To stop the process before it is complete, choose **[Stop adding Volume]** or press **<F7>**.

View

Shows the name, description, creation date, and contents of the selected Volume.

How to Proceed

1. Choose **[View]** or press **<F8>** to see the contents of the highlighted Volume.
2. To print this display, choose **[Print]** or press **<F4>**, then select one or both options at the pop-up window.

- **A text file** sends the display to a disk file. (Type a complete path and filename appropriate to your operating system.)
- **The printer** sends the display to the printer.

3. Choose **[OK]** or press **<F2>**.

Identify

Quickly shows the name and description of a Volume in your backup device.

How to Proceed

1. Insert the media you want to identify into the backup device.
2. Choose **[Identify]** or press **<F9>**. At the pop-up window, select the appropriate backup device.
3. Choose **[OK]** or press **<F2>**.

Delete

Removes a Volume that you no longer need.

How to Proceed

1. Select the Volume(s) you wish to delete (by **<Clicking>** or **highlighting** and pressing **<Space>**).
2. Choose **[Delete]** or press ****.

Utilities: Logs

Description

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.

How to Proceed

1. Select **Logs . . .** from the Utilities menu. In Figure 5-2, you'll see an example list of Logs.

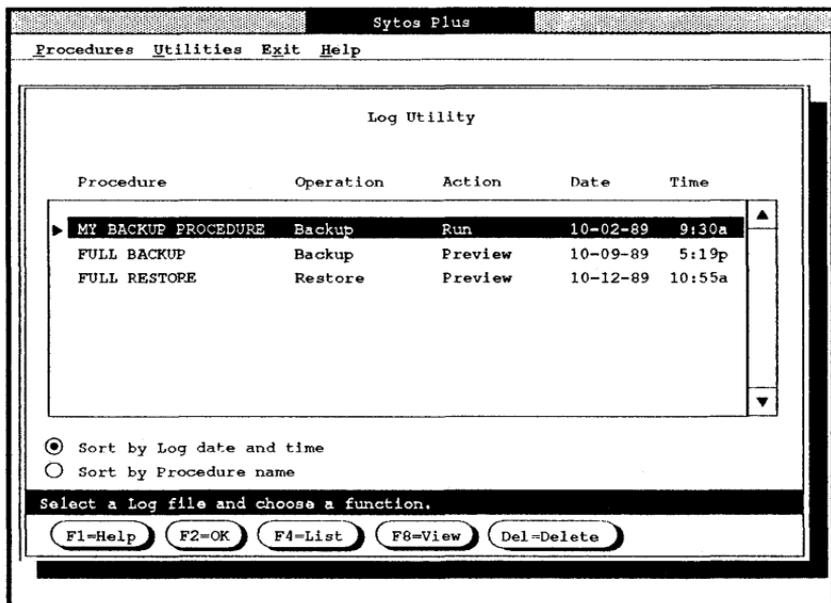


Figure 5-2 Selecting a Log

2. To change the sequence of the Logs, select the appropriate sort command:

- Sort by Log date and time.
 - Sort by Procedure name.
3. Select a Log from the list and choose the functions at the bottom of the window.
 4. Choose **[OK]** or press **<F2>**.

List

Sends a list of all your Logs to a text file and/or a printer.

How to Proceed

1. Choose **[List]** or press **<F4>**. At the pop-up window, select one or both options.
 - **A text file** sends the list to a disk file. (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>**.

View

Shows the contents of the Log.

How to Proceed

1. Choose **[View]** or press **<F8>** to view the highlighted Log.
2. To print this display, choose **[Print]** or press **<F4>**, then select one or both options at the pop-up window.
 - **A text file** sends the display to a disk file. (Type a complete path and filename appropriate to your operating system.)
 - **The printer** sends the display to the printer.
3. Choose **[OK]** or press **<F2>**.

Delete

Removes a Log from the list.

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

How to Proceed

1. Select the Log(s) you wish to delete (by <Clicking> or highlighting and pressing <Space>).
2. Choose [Delete] or press .

Utilities: Media preparation

Description

Allows you to:

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

(You can also select the **Erase**, **Format**, and **Retention tape** commands or create a new Volume when setting up a Procedure to run. See **Chapter 4: Editing Procedures** for details.)

How to Proceed

1. Select **Media preparation . . .** from the Utilities menu.
2. Select a backup device.
3. Insert the media into the backup device.
4. Choose the functions at the bottom of the window to proceed to the option you want.

Prepare media

Description

Prepares a supply of backup media for later use without running a Procedure. The options are specific to the backup media you use.

- **Erase media** makes your media appear blank to Sytos Plus. Whether or not information is completely erased depends on the kind of backup device you use.
- **Format media** 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.

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 or Move Procedure, select **Format media** as a Volume option. The tape will be formatted each time the Procedure is run.

Note: Although Sytos Plus will prepare media automatically if required, these operations may take a considerable amount of time depending on your backup device. Backups on unformatted diskettes will take longer than backups on formatted diskette. Therefore, to reduce the Procedure time, you may want to use this option to prepare several media so that you have a supply ready for later use.

- **Retension tape** 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.

How to Proceed

1. Choose [**Prepare**] or press <**F6**>.
2. Select an option. (Some may be grayed-out because they are not applicable to your backup device.)
3. Choose [**OK**] or press <**F2**>.

View Volume information

Description

Displays the name, description, and options of the Volume in the backup device.

How to Proceed

Choose [**View Volume info**] or press <**F8**>.

Create Volume

Description

Creates a Volume for later use without running a Procedure. You'll specify its name, description, and options.

How to Proceed

1. Choose [**Create Volume**] or press <**F9**>. (Refer to **Chapter 4: Editing Procedures** for information about all Volume options.)
2. Select Volume options and type in information as prompted. (Some options may be grayed-out for certain backup devices.)
3. Choose [**OK**] or press <**F2**>.

Utilities: Backup device setup

Description

Changes, adds, or removes the backup device(s) you installed originally with Sytos Plus.

How to Proceed

These steps outline general instructions for setting up a backup device. For instructions specific to your particular backup device, refer to the sections that follow.

1. Select **Backup device setup . . .** from the Utilities menu. Figure 5-3 illustrates an example list of devices.

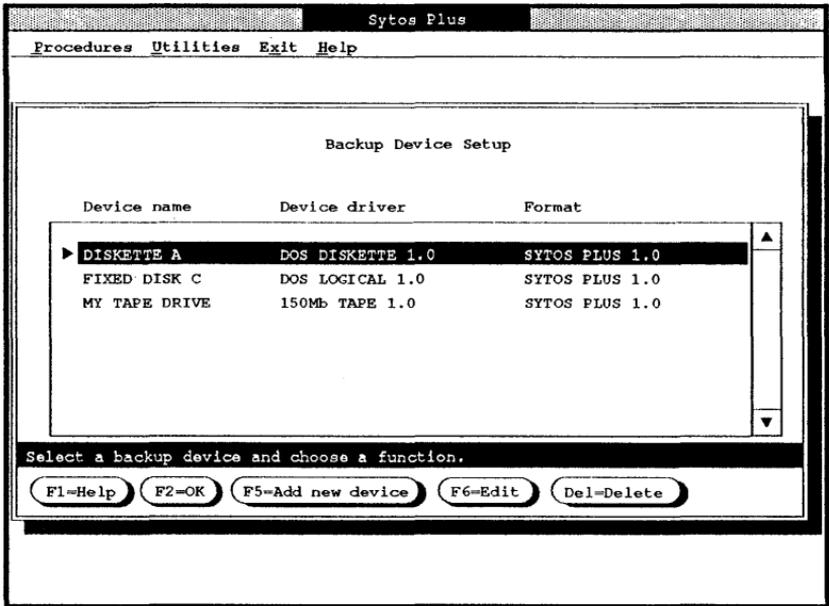


Figure 5-3 Selecting a backup device

2. If you want to edit or delete a device, select it from the list.
3. Choose the appropriate functions:

Edit changes the characteristics of the highlighted backup device, including its name, format, and configuration.

Add new device adds a backup device to the list.

Delete removes the highlighted backup device from the list.

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>.

Backup Media Formats

Choosing a backup media format 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 several choices for selecting a format:

- **Sytos Plus**
If you are a new user and always use your own system, you'll want to select this format to take advantage of all Volume and Backup Set options.
- **SY-TOS**
You'll need to select this 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. The SY-TOS format should only be used in the special situations noted in the previous paragraph.

If you do use the SY-TOS format to backup files, run a separate Compare Procedure rather than choosing the option **Compare files after backup** as part of the Backup Procedure.

Backup Device Setup: Tape Systems

How to Proceed

1. Select a backup device from the list and choose a function.
 - **Edit** by choosing [Edit] or by pressing <F6> and following Steps 3 through 4.
 - **Add new device** by choosing [Insert] or by pressing <Ins> and following Steps 2 through 4.
 - **Delete** by choosing [Delete] or by pressing .
2. For **Add new device**: At the pop-up window, select the device driver and choose [OK] or press <F2> to proceed to the next window.
3. For **Edit** or **Add new device**: Type in and select the appropriate information. Figure 5-4 illustrates example settings for a tape drive.

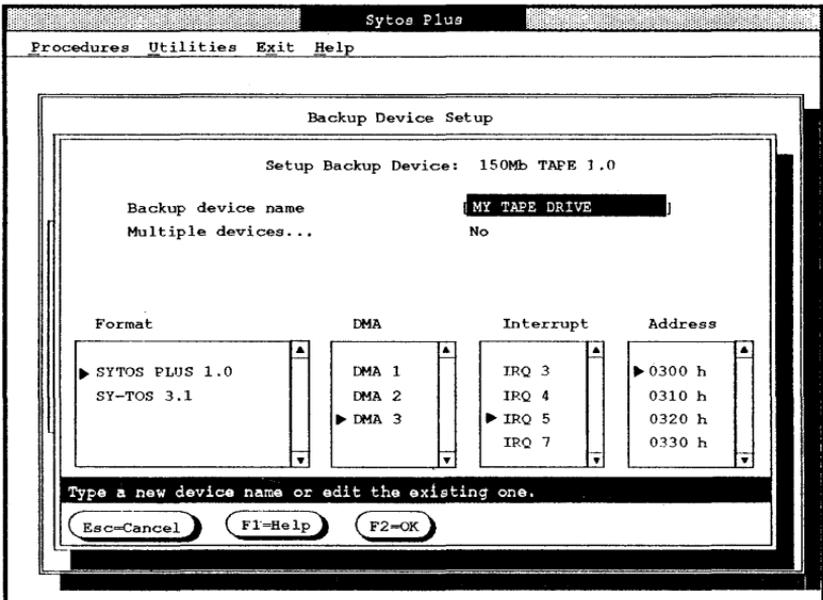


Figure 5-4 Setting up a tape system as a backup device

- **Backup device name** assigns a personalized name to this backup device.
- **Multiple devices . . .** runs Sytos Plus with several (cascading) tape drives, when applicable. 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: for example, Sytos Plus, SY-TOS, or TAR. (See the preceding note, “Backup Media Formats.”)
- **DMA Channel, Interrupt, Address Settings** specifies the settings for this tape system—they should match *exactly* the settings used when installing the tape system.

Important: Please be certain to set the DMA Channel, Interrupt, and Address settings according to the tape system installation instructions. If they are incorrect, Sytos Plus may not work properly or could produce unpredictable results.

4. Choose [OK] or press <F2>.

Backup Device Setup: Diskette Drives

How to Proceed

Note: If there are files on a diskette that you want to backup, you should first copy the files from the diskette to a fixed disk and back them up from there.

1. Select a backup device from the list and choose a function.

- **Edit** by choosing [Edit] or by pressing <F6> and following Steps 3 through 4.
 - **Add new device** by choosing [Insert] or by pressing <Ins> and following Steps 2 through 4.
 - **Delete** by choosing [Delete] or by pressing .
2. For **Add new device**: At the pop-up window, select the device driver and choose [OK] or press <F2> to proceed to the next window.
 3. For **Edit** or **Add new device**: Type in and select the appropriate information from each category. Figure 5-5 illustrates example settings for a diskette drive.

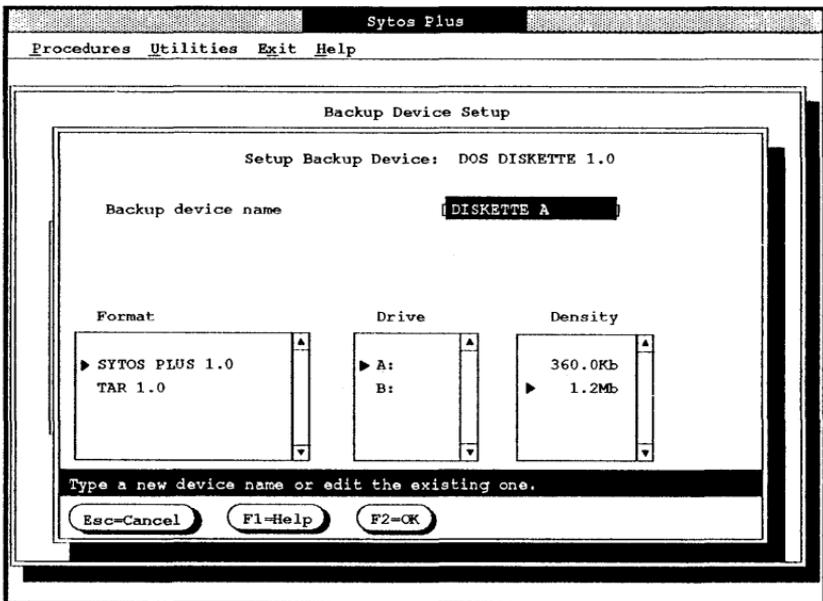


Figure 5-5 Setting up a diskette drive as a backup device

- **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, SY-TOS, or TAR. (See the preceding note, “Backup Media Formats.”)

- **Drive** names the diskette drive(s) you want to associate with this backup device.

Note: When you choose a diskette drive as the backup device, prompts will refer to the diskette drives as #1 and #2 rather than A and B.

- **Density** specifies the settings available for your diskettes.
4. Choose [OK] or press <F2>.

Note: If you backup files to diskettes, you will need to use Sytos Plus to view the backed-up files. Operating system commands such as "DIR" will not display the files.

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 backup 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

How to Proceed

1. Select a backup device from the list and choose a function:
 - **Edit** by choosing [Edit] or by pressing <F6> and following Steps 3 through 4.
 - **Add new device** by choosing [Insert] or by pressing <Ins> and following Steps 2 through 4.

- **Delete** by choosing [Delete] or by pressing .
2. For **Add new device**: At the pop-up window, select the device driver and choose [OK] or press <F2> to proceed to the next window.
 3. For **Edit** or **Add new device**: Type in and select the appropriate information. Figure 5-6 illustrates example settings for a fixed disk.

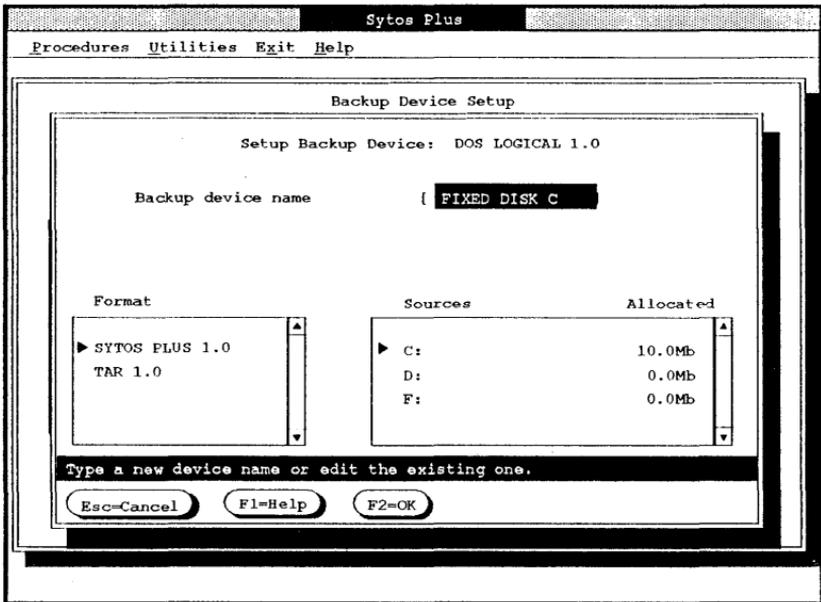


Figure 5-6 Setting up a fixed disk as a backup device

- **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, SY-TOS, or TAR. (See the preceding note, “Backup Media Formats.”)
- **Sources and Allocated** show the selected backup device and its allocated backup space. After selecting this, a window pops up to show the Source and the space available to use as a backup device. Type in or edit the amount of space you want to set aside for backed-up files, then choose **[OK]** or press **<F2>**.

4. Choose **[OK]** or press **<F2>**.

Description

Sets up your Sytos Plus working environment.

- **File attributes to display** determines how much detail you will see when files are listed in the Source Files window:

All attributes

Only "Changed" attribute

- **Sort directories** determines how directories will be sorted in the Directory Tree windows:

Don't sort

Alphabetically

- **Sort files** determines how files will be listed in the Individual File windows:

Don't sort

Alphabetically (by filename)

By extension

By date and time (they were created)

By size

- **Palette** creates a background color for the screen.

For color monitors:

White

Cyan (light blue)

Blue

Black

For monochrome monitors:

Black and white

- **Display method:**

Graphics

Text

Your screen's display mode 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.

- **Procedure lock . . .**

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'll be able to select:

Only allow running and previewing existing Procedures
Require password to change this preference

- **Unattended security . . .**

This option 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 will proceed and not assign one because it must assume that no one is available to assign a meaningful password.

- **Overwrite existing files...**

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.

Always prompt asks whether you want to overwrite the media or replace it with another.

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).

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).

Never prompt overwrites the media without prompting you.

Note that the media overwrite default with diskettes differs. In this case, Sytos Plus prompts you with **Prompt if different format**.

Note: As an extra precaution, Sytos Plus files on disk will not be overwritten during a Restore Procedure even if you have included them in your file selection and have selected the **Overwrite existing files** option.

How to Proceed

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 . . .**, you'll be prompted 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 . . .**, you'll also be prompted to assign and confirm the password before returning to the main screen.
3. Choose **[OK]** or press **<F2>**.

Exit

Purpose

Ends your Sytos Plus session.

How to Proceed

You can leave Sytos Plus in two ways:

1. From the main screen, choose **[Exit]** or press **<F3>** to exit Sytos Plus.
2. From the pull-down menu, select **Exit** from the Action Bar, then **Exit to system**.

Help

Purpose

Provides comprehensive information about Sytos Plus features, functions, and error messages.

Description

Sytos Plus offers two methods for requesting help or information:

- **Immediate, specific 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 receive specific, 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 described in “Menu-driven Help.”

- **Menu-driven Help**

Four categories of Help are available from the Help menu:

How to get help tells you how to request on-line help while working in Sytos Plus.

Extended help gives you information about the active window on your screen.

Help on keys shows you how to use the keyboard to move around windows and make selections with the function keys.

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.)

How to Proceed for Menu-Driven Help

1. Select **Help** from the action bar, then select an option from the menu.
2. Choose other Help functions if you wish.
3. When you finish, choose [Cancel] or press <Esc> to return to the previous window.

Chapter 6: Advanced Features

Introduction

As you become familiar with Sytos Plus, you may want to explore some of its more powerful features:

- Use the **Selection Sheet** to select files using wildcards and date ranges.
- Use the **Redirection Sheet** to copy files during Restore Procedures to locations other than the original one.

The following sections offer detailed information about these specialized functions.

Using Selection Sheets

Purpose

Selects 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.

Description

A Selection Sheet shows which files should be included in a Procedure. 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.

Advantages of Editing Selection Sheets

Editing Selection Sheets directly offers an advanced method for selecting files which 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.
- **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). 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 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.

How Sytos Plus Builds Selection Sheets

Every file you select (or de-select) from the file selection windows generates an entry in the Selection Sheet. When the Procedure is run, Sytos Plus consults the sheet for instructions on which files to include. Figure 6-1 gives you an example of a Selection Sheet with its current settings.

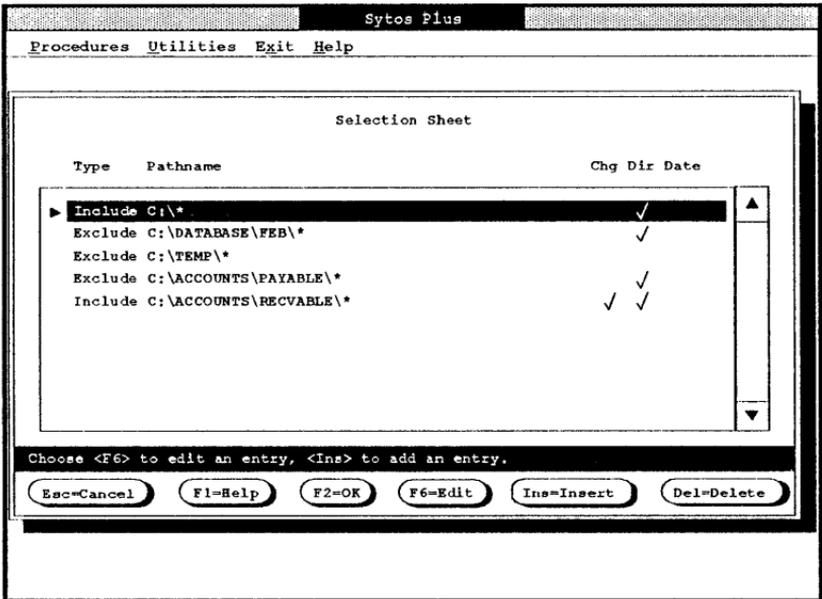


Figure 6-1 Reviewing a Selection Sheet

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

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

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

Selection Sheet entry, line 1:

Type	Pathname	Chg	Dir	Date
Include	C:*		√	

Selection Sheet entry, line 2:

Type	Pathname	Chg	Dir	Date
Exclude	C:\ACCOUNTS*		√	

How Selection Sheet Entries Relate to Each Other

When you run a Procedure, 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, "Editing a Selection Sheet.")

Editing a Selection Sheet

How to Proceed

1. Choose [Selection Sheet] or press <F8> from the file selection windows to see the Selection Sheet with its current file selections.

- Each row on the sheet represents one entry. Select one from the list (to edit or delete) and use the functions at the bottom of the window.
- Repeat Step 2 until you are satisfied with all the entries. If a pathname can't fit in a column, the middle of the name will be replaced with an ellipsis (. . .).
- Check your entries, then choose [OK] or press <F2>.

Edit and Insert

Changes the highlighted selection entry or adds a new one above the highlighted entry.

How to Proceed

- 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 6-2 shows you an example of an Edit window with some selections made.

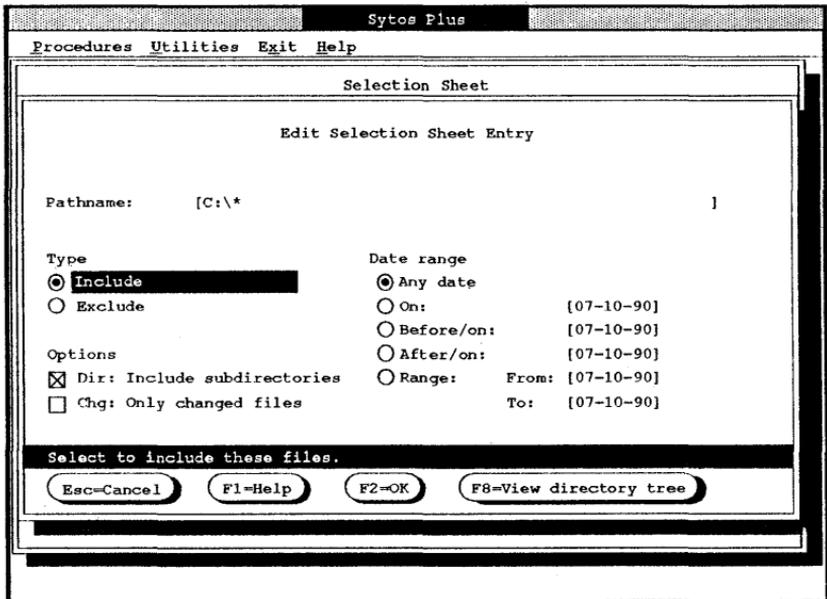


Figure 6-2 Editing a Selection Sheet entry

Inserting 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.

2. 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.

3. Select the type of entry.

Include means the files specified will be selected for the Procedure.

Exclude means the files specified will *not* be selected for the Procedure.

4. Select one or both file options.

Dir: Include subdirectories includes/excludes all subdirectories.

Chg: Only changed files includes/excludes only files that have changed.

5. 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

6. Choose [**OK**] or press <F2>.

Delete

Removes an entry from the list.

How to Proceed

Choose [**Delete**] or press to remove the highlighted entry.

Using Redirection Sheets

Purpose

Restores files to a location other than the original one.

Description

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.

Redirection 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 won't 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 won't 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'll need to duplicate the entries you used for the Restore Procedure.

For example, Joe gives you his sales report C:\REPORTS\SALES.DOC and you restore it as C:\REPORTS\JOESFILE.DOC. When you set up the Compare Procedure, you'll 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.

How to Proceed

1. Select **Redirect files . . .** from the Restore or Compare options window. In Figure 6-3, you'll see examples of some redirection settings.

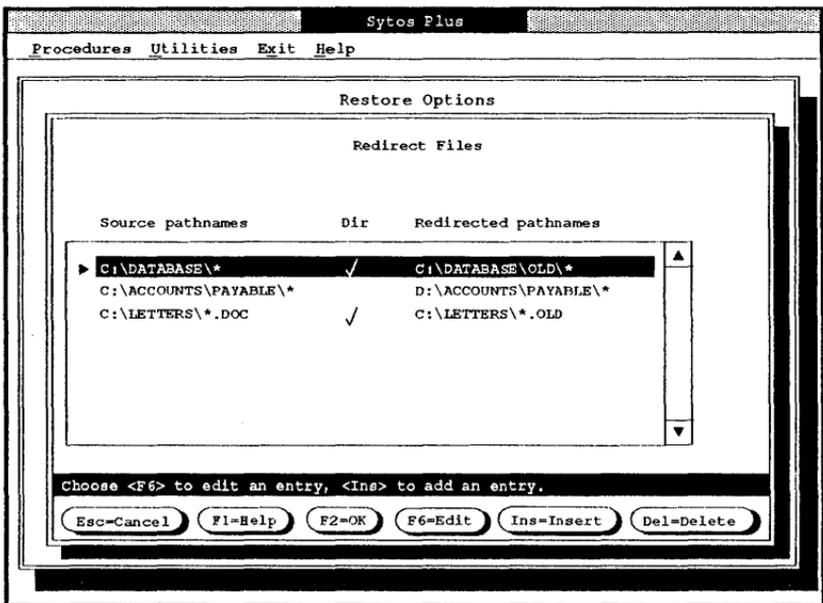


Figure 6-3 Reviewing a Redirection Sheet

2. Each row shows one entry with its current settings. Highlight an entry from the list (to edit or delete) and use the functions at the bottom of the window.
3. Repeat Step 2 until you are satisfied with all the entries. If a pathname can't fit in a column, the middle of the name will be replaced with an ellipsis (. . .).
4. Choose [OK] or press <F2>.

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'll need to select **Selection Sheet** when setting up the Log for the Procedure.

Edit and Insert

Changes the highlighted entry or adds a new one to the list.

How to Proceed

1. Choose [Edit] or press <F6> to edit; choose [Insert] or press <Ins> to insert. Figure 6-4 shows you an example of an Edit window with its redirected entries.

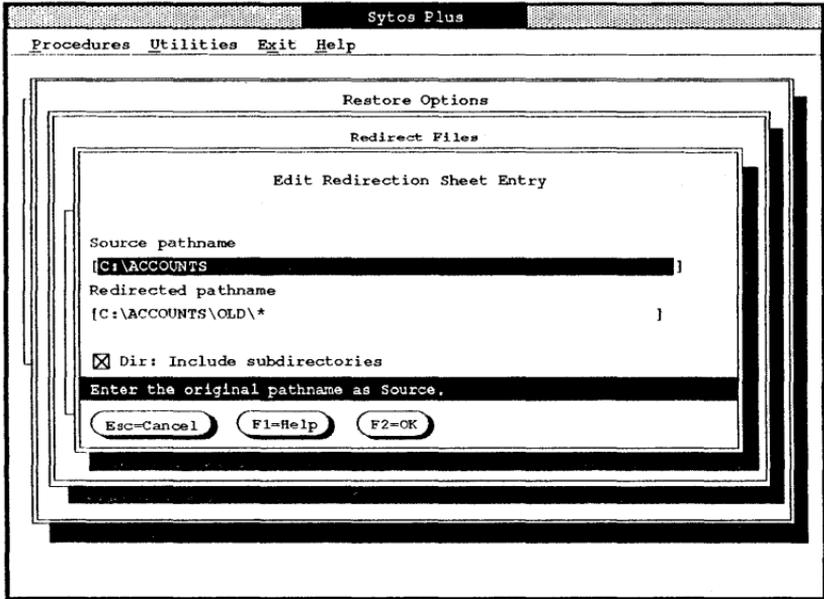


Figure 6-4 Editing a Redirection Sheet entry

2. Edit the source pathname if necessary, using wildcards if you wish.
3. Edit the redirected pathname, using wildcards if you wish.
4. Select or de-select **Dir: Include subdirectories**. When selected, all the subdirectories of the source pathnames will also be redirected.

Note: If any directory specified in a redirected pathname doesn't exist, Sytos Plus will create it during the Restore Procedure.

5. Choose [OK] or press <F2>.

Only those files you've specified will be redirected. All other files involved in the Restore Procedure will be restored with their original pathnames.

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 typed.

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

CORRECT:

- 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.

INCORRECT:

- 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."

Delete

Removes an entry from the list.

How to Proceed

Choose [Delete] or press to remove the highlighted entry.

Examples

The following illustrate some examples of Redirection.

Example 1: Restoring Files From Another System

You've 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 will be:

- **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 won't conflict with the newer spreadsheet files you use every day.

Your settings will be:

- **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.

Your settings will be:

- **Source pathname:** C:*
- **Redirected pathname:** D:*
- **Dir: Include subdirectories:** Checked

Appendix A: Multi-User/Multi-Tasking Environments

An Overview

Certain computer 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 multi-user environment. Additionally, some systems, called multi-tasking, allow each user to run several applications simultaneously on one workstation.

In multi-tasking environments, application programs can be run as background processes while you are working with other programs in the foreground. Sytos Plus is one example of an application which may be run as a background process. (Refer to the instructions in your operating system's reference manuals for details of how to run an application in the background.)

Note: We recommend you run Sytos Plus for the first time when 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 may run Sytos Plus from any workstation of a multi-user system provided that the Sytos Plus files and the backup device are located on that workstation.

You can run only one Sytos Plus session at a time on a workstation or server. This is because Sytos Plus creates certain temporary files in the Sytos Plus directory as it runs. If you were

able to run Sytos Plus in several sessions simultaneously, conflicts would occur with these files.

Because of the special way systems are designed to function in these types of environments, you must be aware of certain considerations when running Sytos Plus. The following sections describe the special ways files are handled in these environments and later explain the way Sytos Plus interacts with these systems.

File Protection

In multi-user/multi-tasking 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 multi-user situations, it is common for some type of security to be placed on files; thereby allowing users access to only designated information. In these environments, it is the responsibility of the individual maintaining the system (commonly referred to 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/or files which they may access. The supervisor or administrator is normally the only user who may access all files and directories.

For example, suppose you have been assigned the following permissions:

- You can *read*, but not edit or execute, files which are located in specified common directories.
- You can *create* and *edit* files only in a directory assigned to you personally.
- You can *execute* application programs which reside in a common directory but you do not have permission to create or edit any files there.

These are examples of directories in which you have been given *read*, *read/write* and *execute* permissions, respectively.

File Locking

In a multi-user/multi-tasking environment, any file that is being accessed by a user or application program may be *locked* or made inaccessible to all other users and/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. We refer to these locked files as **busy** files.

Special Situations

The following examples describe situations which may occur while running Sytos Plus in a multi-user/multi-tasking environment, due to the security features described in the previous sections.

Specified Files Are Busy

Because of file-locking methods, any busy files cannot be backed up during Sytos Plus Backup or Move Procedures. You can choose the **Retry busy files** option when setting up your Procedure so that Sytos Plus will try again to include them in these operations. (See **Chapter 4: Editing Procedures.**) This option allows you to specify the amount of time for which Sytos Plus will try again to backup the files that were previously busy.

Note: Busy files will be retried if specified during Backup and Move Procedures, but not during Compare or Restore Procedures.

If the files are still busy after the specified time interval, the Procedure will end without including them. The Status window displays a **Busy files** line, indicating the number of files it could not backup.

By choosing [**View files**] or by pressing <F8>, you can then view the list of files that were busy and therefore could not be backed up by Sytos Plus.

Note: We recommend that no other users are accessing the system when you are running Sytos Plus in order to ensure that all files are included in your Procedure.

When You Do Not Have Access Rights to Specified Files

In the situation where you do not have read/write access to all files that you have specified for inclusion in a particular Procedure, Sytos Plus will not be able to find these files. The Status window displays an **Unfound files** line, indicating the number of files which it could not include in the Procedure.

By choosing [**View files**] or by pressing <F8>, you can then view the list of files that Sytos Plus could not find.

Sytos Plus Procedures

The following sections describe considerations for running Sytos Plus Procedures in multi-user or multi-tasking environments.

The Log

When running Sytos Plus in the background or from another workstation, we recommend that you include the Log as part of your Procedure. This will allow you to later view the names of any files which could not be included in the Sytos Plus Procedure because they were busy or couldn't be found. Refer to

Chapter 4: Editing Procedures for more information about the Log option.

Running Sytos Plus in the Background

You can interact with Sytos Plus Procedures that are run as background processes if they are being run as attended Procedures. Sytos Plus will prompt you in the foreground if an error occurs or if it needs input to continue. You will be able to respond to Sytos Plus and allow it to continue.

Please refer to the *Getting Started . . .* booklet for more information about running Sytos Plus in your particular multi-tasking or multi-user environment.

Appendix B: Taking Care of Your Media (Tapes, Diskettes)

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. Below are some guidelines.

Taking Care of Your Tapes

- 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 do not match when compared.
- Retension tapes periodically to keep them taut.
- Do not place tapes on or near magnetic fields, including:
 - monitors.
 - telephones.
 - magnetic paper clip holders.
 - vacuum cleaners.
 - televisions.
 - motors.
- Do not touch exposed tape surfaces.

- As an additional precaution, write protect your tapes to prevent them from being accidentally overwritten or erased.

Taking Care of Your 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 labelling diskettes.
- Do not place tapes or diskettes on or near magnetic fields, including:
 - monitors.
 - telephones.
 - magnetic paper clip holders.
 - vacuum cleaners.
 - televisions.
 - motors.
- 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.

Appendix C: Glossary of Terms

Accelerator keys. Keyboard shortcuts for selecting items from the menus. For example, holding the <Ctrl> key and pressing L brings you directly to the Load a Procedure window from the main screen. 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 main screen that displays the four groups of Sytos Plus functions: Procedures, Utilities, Exit, and Help.

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 and answer prompts or put in additional backup media as the Procedure is progressing.

Backed-up files. Files that have been copied using a Backup or Move Procedure.

Background process. In a multi-tasking environment, an application running invisibly while other applications are in use on the screen at the same time. (*See also multi-tasking.*)

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, 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.

Backup Volume. (*See Volume.*)

Busy files. Those files that are currently in use in a multi-user/multi-tasking environment and therefore locked to all other users and/or application programs. Files that are busy when a Procedure is run cannot be included.

Cascading 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, usually Restore, are identical to the originals.

Compress backed-up files. An option for a Backup or Move Procedure that squeezes 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 new Volume. Sets up a new Volume during a Backup or Move Procedure. All 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't be processed correctly.

Data distribution. The process of transferring files between systems.

Default. The pre-determined setting or option that appears automatically. Default settings are those likely to be needed by the majority of people using Sytos Plus, 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 5¼" and 3½" 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.

Edit. To change text, selections, or Procedures.

Edit field. A section of a window where you type in 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 using the Exit function in the action bar or by choosing [Exit] or pressing <F3> from the main screen.

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, script, 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 multi-user 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. (*See also multi-user environment.*)

File security. A feature in multi-user environments that gives a person rights to use particular files. This prevents the user

from having access to all files on the system. (*See also multi-user environment.*)

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.*)

Foreground process. In a multi-tasking environment, an application that appears on the screen while others are working in the background. (*See also multi-tasking.*)

Format. (*See SY-TOS, Sytos Plus, TAR formats, 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 at the present time (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. One of the main function groups in the action bar—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.

Log. The record of a Procedure that has run. It displays all information about files processed and problems that occurred. It's 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.

Main screen. The window that appears after the Sytos Plus greeting screen from which you choose actions and view the Procedure box.

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 just before running a Procedure or prepare in advance with the Media preparation item 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.

Multi-tasking environment. A computer that can process several tasks simultaneously; for example, you could work with a word processing application in the foreground while Sytos Plus is running in the background.

Multi-user environment. A system where there are several workstations linked together; for example, a network. (*See also file security and file locking.*)

Network. (*See multi-user environment.*)

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 with a computer but not actually a part of it: for example, keyboards, modems, external tape drives.

Pop-up window. (*See window.*)

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 main screen 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 four items in the action bar: Procedures, Utilities, Exit, and Help.

QFA—Quick File Access. An option that enables Sytos Plus to record general 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.

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.*)

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 multi-user/multi-tasking 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, script, or executable file) to run automatically at a particular time—just 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, <PgUp>, <PgDn>, <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 <Space>, or <Click>.

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 (advanced file selection) by choosing [**Selection Sheet**] or pressing <F8> from any of these windows.

Selection Sheet entry. An instruction in a Selection Sheet that includes/excludes a particular file or group of files 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.

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.

TAR format. The format for UNIX-based systems that can be selected when setting up backup devices.

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 multi-user 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 action bar—contains items for customizing and maintaining Sytos Plus.

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.

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