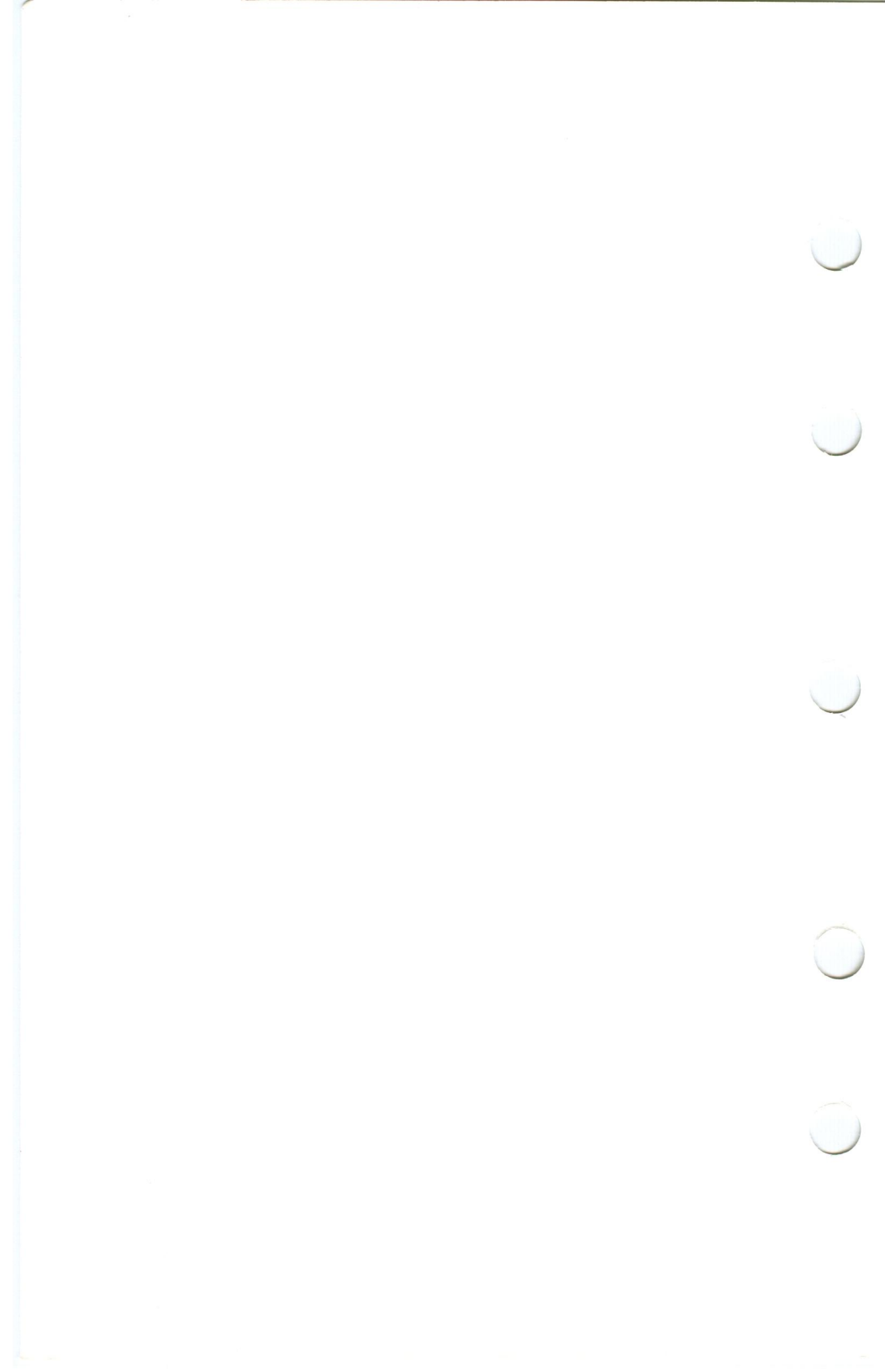


SY-TOS

*Tape
Operating
System*



User's Guide
For the DOS Environment



SY-TOS

*Tape
Operating
System*



User's Guide

For the DOS Environment

Second Edition (January 1987)

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Preface

The SY-TOS system is a powerful tape backup and restore utility that allows you to protect your data by backing it up on magnetic tape. You can use SY-TOS on IBM Personal Computers or one that is compatible. It is designed to operate under a variety of operating systems, networking environments, hardware configurations and tape configurations.

This manual assumes you have knowledge of the fundamental operations of your computer system. The manual is organized as follows:

- | | |
|------------|--|
| Chapter 1 | Tells you how to install the SY-TOS software. The last section in this chapter is a sample session with the SY-TOS program. |
| Chapter 2 | Gives an overview of the SY-TOS system. It explains the two menu systems that you can use and discusses concepts that are used throughout the manual. |
| Chapter 3 | Describes how to use the STCONFIG utility that comes with the SY-TOS software. This utility gives the ability to customize SY-TOS for different hardware as well as set SY-TOS default settings for SY-TOS operations. The chapter explains in detail how to use each command in the order that they appear on the screen. |
| Chapter 4 | Presents all the commands that are available in the SY-TOS program. The descriptions include step-by-step instructions on how to use each command. |
| Chapter 5 | Explains how to enter SY-TOS commands from the operating system prompt. |
| Appendix A | Offers recommended backup procedures. |
| Appendix B | Offers some suggestions for taking care of your tapes. |

- Appendix C Describes possible problems that may occur when operating SY-TOS and what to do to solve them.
- Appendix D Describes how SY-TOS works with DOS disks that have a capacity that is greater than the 32 megabyte DOS limit.
- Appendix E Describes how to operate SY-TOS under the most popular networking environments.
- Glossary Defines the terms used in this manual.

You should read the first two chapters at once. Use the remaining chapters and appendixes as you need them.

Conventions Used in this Manual

Throughout this manual, we use

This typeface to show your entry,

This typeface for messages and prompts for the SY-TOS system.

Additionally, we use the names of keys as they appear on the keyboard and surround the name with angle brackets. For example:

<Esc>.

When two keys appear together, you must press and hold the first key while pressing the second key. For example:

<Ctrl> <PgUp>.

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Chapter 1. Getting Started

What Do You Need to Get Started?

Before using the SY-TOS software, make sure you have the following hardware and software.

Hardware Requirements

- An IBM Personal Computer or one that is compatible.
- A monochrome or color monitor.
- At least 256 Kbytes of memory for hard disk systems having a capacity of 20 MB or less per DOS disk. To obtain maximum performance and/or for disk systems having over 20 MB of capacity, 384 Kbytes of memory is required.
- A tape system.

Note: SY-TOS is designed to operate on a variety of tape systems. Refer to your tape system's hardware reference manual for installation and setup. You should become familiar with the hardware options (for example, board switches and jumpers) before reading further.

Software Requirements

The SY-TOS software runs on the following operating and networking systems:

- Version 2.1 or a later version of the PC-DOS or MS-DOS operating system.
- Novell, Incorporated's Advanced Netware 1.01 or later versions.
- The IBM Token-Ring Network.

SY-TOS also supports other operating systems such as Santa Cruz Operations' XENIX V 2.0 or later versions. Call your SY-TOS Dealer or Sytron Corporation directly for the latest list of SY-TOS compatibility and availability.

We recommend that you make a backup copy of the SY-TOS diskette by using the DOS command DISKCOPY. Store the copy in a safe place to use as a backup in case something happens to the original diskette.

Installing the SY-TOS Software

This section describes how to install the SY-TOS system onto your hard disk. You only need to install the system once.

Before using SY-TOS for the first time, follow these steps.

1. Start the computer system.
2. When DOS displays its prompt, place the SY-TOS diskette into drive A.
3. If you are not in the A: directory, type **A:** at the prompt and press **<Enter>**.

The system displays the A: prompt.

4. Type **stinstal** and press **<Enter>**.

The STINSTAL utility displays the following prompt:

Drive: [C]

5. Type the letter identifying the hard disk where you want to install the SY-TOS system and press **<Enter>**.

To accept the current value, simply press **<Enter>**.

The STINSTAL utility displays the following prompt:

Directory: [\]

6. Type the name of the directory where you want the STINSTAL utility to place the SY-TOS software. If the directory does not exist, STINSTAL will create it for you.

To install the SY-TOS system in the root directory, simply press <Enter>.

STINSTALL displays the following prompt:

CONFIRM. Do you wish to install SY-TOS? (Y/N) [N]

7. Type **Y** and press <Enter> to install the system.

Press <Enter> to cancel the installation.

Note: If you make a mistake while answering the STINSTALL prompts, press <Esc>. You will receive the CONFIRM prompt; press <Enter> to exit the utility. You may then start the installation process again.

STINSTALL will inform you when the installation is complete and will return you to the DOS prompt.

Notes: As with all applications running under DOS, SY-TOS' performance can be enhanced if you specify **BUFFER=20** and **FILE=20** in the CONFIG.SYS configuration file. Refer to your *Disk Operating System* manual for information on buffers and the FILE= command.

If you have language files (a file ending with a .lng extension), place them in the directory where the SY-TOS files reside using the DOS command COPY.

Executing the SY-TOS Program

To use the SY-TOS program, make sure you are in the directory where the SY-TOS files were installed, then type

SYTOS and press <Enter>.

A Sample Session with the SY-TOS Program

This section demonstrates how you can quickly and easily back up and verify files using the SY-TOS program. It does not illustrate all of SY-TOS' capabilities, but merely introduces some basic tasks so that you can be more comfortable when using the product for the first time.

Starting the Practice Session

Insert a new tape in the tape drive. Make sure you are in the directory where SY-TOS was installed. (Use the DOS command CHDIR to change the directory.) At the DOS prompt:

Type **SYTOS** and press <Enter>.

The Advance menu system will appear on your screen. This is the starting point for all SY-TOS operations. The Backup command is in reverse video. Figure 1-1 shows how your screen will look.

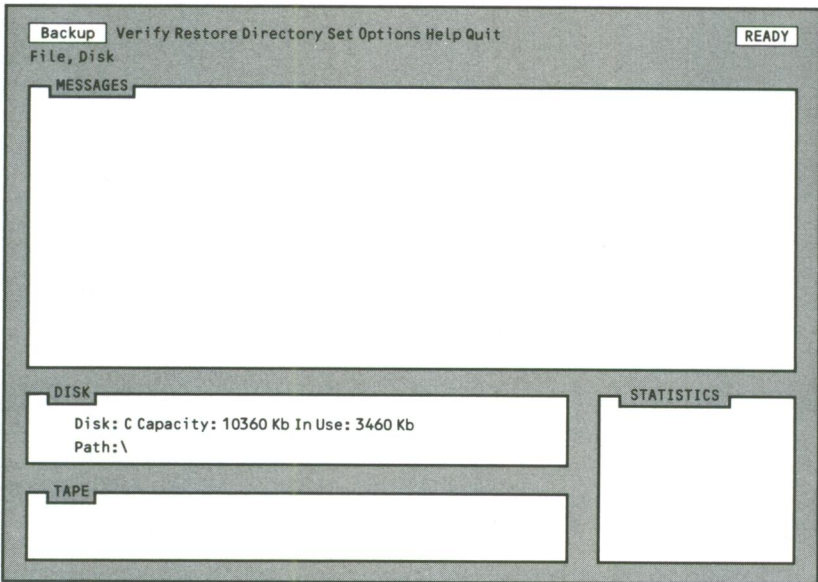


Figure 1-1 Choosing an Option from the Advance Menu

There are several options that you can select to customize your backup, verify and restore operations.

Press the <=> key five times to move to the Options command.

Notice how the second line changes as you move from command to command. SY-TOS displays the subcommands on this line.

The second line contains the various options that you can select. For this session, we will use the default settings that come with the system. They are:

Option	Default Setting
Append	No
Restore	Original
Prompt	Yes
Break	Yes
Erase	Yes
Library	Yes

You can read about these later in the manual.

Press the <<> key once and then press <Enter> to select the Set commands.

The system displays the Set commands. You will be identifying a new tape to the SY-TOS program.

Press <Enter> twice to select the Tape and then the Create command.

SY-TOS displays the following prompt at the top of your screen.

Enter a tape VOLUME NAME:

Type a name that you want to give this tape and press <Enter>.

If you make a mistake, use the Backspace key to erase the letters; then retype it. The name can be up to 47 characters in length.

SY-TOS displays the next prompt.

Enter optional tape PASSWORD; <Enter> if none:

Press <Enter>.

You can ignore the password for this sample session.

Notice that the **READY** flag changes to **WAIT** as the tape is identified to the system. The tape's name as well as the creation date and time appear in the **TAPE** window. **SY-TOS** gives the tape a volume number which also appears in this window.

The Advance menu command line will reappear.

When backing up, verifying or restoring files, you can specify certain files or have **SY-TOS** select files based on the default file selection criteria settings.

Press the letter **S** key twice to choose the Set Select command.

Notice that you can also select a command by typing the first letter of the command name.

The system displays the Set Select options at the top of your screen and places the default settings for each one in the **MESSAGES** window. Figure 1-2 shows what your command line and **MESSAGES** window look like now.

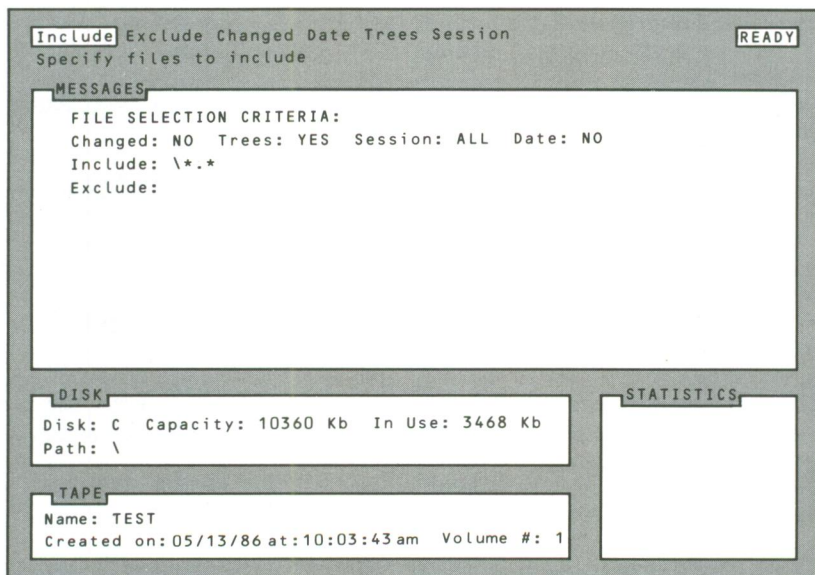


Figure 1-2 Choosing the Set Select Command

We will not change the default settings for this sample session. However, you can see the various file selection criteria that you can set.

Whenever a command appears in reverse video, you can press the **<?>** key to obtain help on that command.

Press the **<?>** key.

SY-TOS displays a description of the Set Select Include command in the MESSAGES window.

You can use the **<PgUp>** or **<PgDn>** keys to scroll additional help text onto the screen if more help exists. Press the **<Esc>** key to exit the help facility.

Press the **<F1>** function key to return to the Advance menu command line.

You are now ready to back up file(s) to the tape you just identified to the system.

Press **<Enter>** three times to select the Backup File List command.

SY-TOS displays the following prompt:

Enter FILENAMES, (press <Enter> for directory):

Press the **<Enter>** key.

SY-TOS displays the files and directories from the current disk and path in the MESSAGES window.

Use the arrow keys to point to a file or directory that you want to back up and then press the **<Ins>** key.

SY-TOS places the file or directory in reverse video.

If you make a mistake, use the arrow keys to point to the file or directory and press the **** key. SY-TOS will deselect it and you can then mark another one.

If the markers are pointing to a directory, you can press the **<Ctrl> <PgDn>** keys to display the contents of that directory and then mark its contents to back up.

When you are through marking files, press **<Enter>**.

The system displays the following prompt:

Enter a tape VOLUME NAME:

Because the Options Append command is set to No, SY-TOS prompts you for the tape name before it executes the Backup command. It then starts at the beginning of the tape to back up the specified information.

Type the tape's name that appears in the TAPE window and press <Enter>.

The system displays the password prompt.

Enter optional tape PASSWORD; <Enter> if none:

Press <Enter>.

The READY flag changes to WAIT as the system backs up the specified file(s). The total time, the backup time, the number of files backed up, and the size of the files in kilobytes appear in the STATISTICS window. The total time includes any tape overhead such as rewinding the tape. Backup information appears in the MESSAGES window.

After you back up, it is a good idea to verify that the information on the tape matches the information on the disk.

Press the <=> key to move to the Verify command and then press the <Enter> key three times to select the Verify File List command.

SY-TOS displays the following prompt:

Enter FILENAMES, (press <Enter> for directory):

Type the name for the file(s) that you just backed up and press <Enter>.

If you cannot remember the name(s), press <Enter> to display the Directory and mark the file(s) using the previous instructions.

SY-TOS notifies you that it is verifying. It informs you in the MESSAGES window whether or not the verification is successful and updates the STATISTICS window.

SY-TOS offers a Directory command that enables you to view the contents of the current disk or tape and the Library system if it is turned on.

Press the letter **D** key to select the Directory command.
Press the letter **L** key to select the Library command. Press
<Enter> to select the Volume command.

You can select the Directory Library command to view its contents any time the Library system is turned on. The Volume command displays all the tape names that are in the Library system.

Each tape volume's creation date and time, and the volume number SY-TOS assigned it appears in the MESSAGES window. In addition, SY-TOS displays the number of files and their size and any disk or device backups.

Press <Esc> to return to the Advance menu command line.

You are now ready to end this sample session.

Press the letter **Q** key.

You exit the SY-TOS program and the DOS prompt appears on the screen.

You can now explore the Advance menu system to see the capabilities of the SY-TOS program. Remember, you can press the <?> key to obtain help on a highlighted command.

BE CAREFUL USING THE RESTORE COMMANDS. They will write information on top of the information that is already on the disk drive.

You should read Chapter 2 to obtain an overview of the product. Chapter 3 explains how to use the STCONFIG utility. It is from this utility that you specify the default settings for the Set and Options commands as well as establishing a security system. Chapter 4 gives detailed instructions on how to use each command in the Advance menu system.

Chapter 2. An Overview

SY-TOS is a powerful tape backup and restore utility that combines high performance with ease of use. It comes with two menu systems:

- EZ-Function.
- Advance.

In addition to the menu systems, SY-TOS gives you the opportunity to enter SY-TOS commands directly at the DOS prompt. Chapter 5 explains this method.

SY-TOS also provides a STCONFIG utility which enables you to customize the SY-TOS program to fit your needs. Chapter 3 describes how to use this utility.

You will find the following features in the SY-TOS product:

- A security system for both tape and disk access.
- The ability to restore selected files from a disk backup.
- A tape Library system to quickly and easily view or search for the contents of tape volumes created by SY-TOS.
- A Journal option which creates a step-by-step log of all system operations.
- The ability to verify information you backed up to tape.
- The ability to have multiple file sessions and disk sequences reside on the same tape.
- The ability to have several tape volumes for systems whose disk capacity is larger than the tape's capacity.

- The ability to have the system select files based on criteria you have specified.
- The ability to restore information to another disk.
- A contextual on-line Help system.

The EZ-Function Menu System

The EZ-function menu system offers a subset of the SY-TOS features. Using this system, you can quickly back up, verify or restore files by simply pressing a function key.

You specify which menu system you want to appear each time you use the SY-TOS program from the STCONFIG utility. Chapter 3 explains how to select a menu system in the STCONFIG utility.

When using the EZ-function menu system, the Options and Select commands are pre-set to the following values:

Commands	Default Settings
Append	No
Prompt	Yes
Break	Yes
Library	Yes
Erase	No
Restore	Original
Changed	No
Date	No
Trees	Yes

If you want different values for the Options commands, use the Advance menu system.

When you first enter the EZ-function menu system, your screen looks like Figure 2-1.

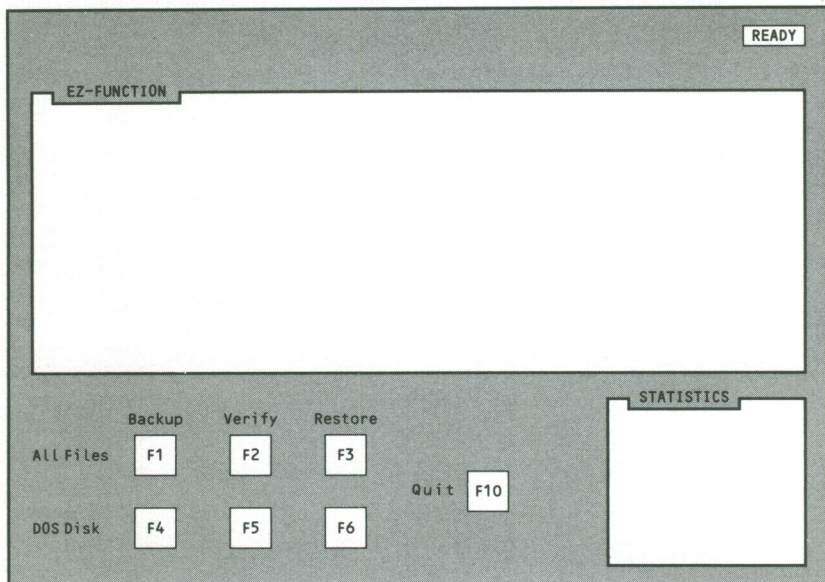


Figure 2-1 EZ-Function Menu System Screen Layout

SY-TOS displays information about the files that are currently being backed up, verified or restored in the EZ-FUNCTION window.

Below the EZ-FUNCTION window is the function key template. Instead of selecting a command from a menu, you press a function key that corresponds to the command you want to execute.

SY-TOS displays information about the current task in the STATISTICS window, which appears at the bottom-right corner of the screen. It will give you the time it takes to perform a task and the number of files and their total size that were backed up, verified or restored.

The word READY appears in reverse video at the upper-right corner of the screen. When SY-TOS prompts you for information, this word changes to INPUT. This is to notify you that SY-TOS expects you to enter information. While SY-TOS is executing a command, the flag changes to WAIT.

Selecting an EZ-function Command

In the EZ-function menu system, you select a command by pressing a function key. You then press <Enter> to confirm your request or press <Esc> to cancel the task.

If a command requires additional information (such as a tape name), SY-TOS will prompt you.

As SY-TOS executes the specified command, the DISK and TAPE windows appear on the screen to display information about the disk and tape in use. See The Advance Menu System section for more information about these windows.

SY-TOS will display a list of all the files that are being backed up, verified or restored as well as the file selection criteria in the EZ-FUNCTION window. It will notify you if there are any problems with specific files.

Once SY-TOS has completed the command, it redisplay the EZ-function template for you to make another selection.

The function keys that you may press to select a command are the following.

Key to Press	Activity
<F1>	<p>Backs up all files contained on the current disk onto a tape. SY-TOS starts from the root directory down through all subdirectories and files contained within them.</p> <p>SY-TOS will prompt you for a tape name and an optional password.</p> <p>If information exists on the current tape, SY-TOS will prompt you. You may choose to erase the tape or cancel the Backup command.</p>
<F2>	<p>Verifies all files contained on the current tape with those existing on the disk.</p>
<F3>	<p>Restores all files contained on the current tape to a disk.</p>

Key to Press	Activity
<F4>	<p>Backs up the contents of the current DOS disk onto tape.</p> <p>SY-TOS will prompt you for a tape name and an optional password.</p> <p>If information exists on the tape, SY-TOS will prompt you. You may choose to erase the tape or cancel the Backup command.</p> <p>SY-TOS will prompt you for the disk letter identifying the disk you want to back up.</p>
<F5>	<p>Verifies the contents of a DOS disk residing on a backup tape with that of the corresponding disk.</p>
<F6>	<p>Restores a DOS disk backup on tape to a disk.</p>
<F10>	<p>Exits SY-TOS and returns to DOS.</p>

The Advance Menu System

The Advance menu system allows you to access all of the SY-TOS features. When you first use the SY-TOS program, the Advance menu system is in effect. The screen looks like Figure 2-2.

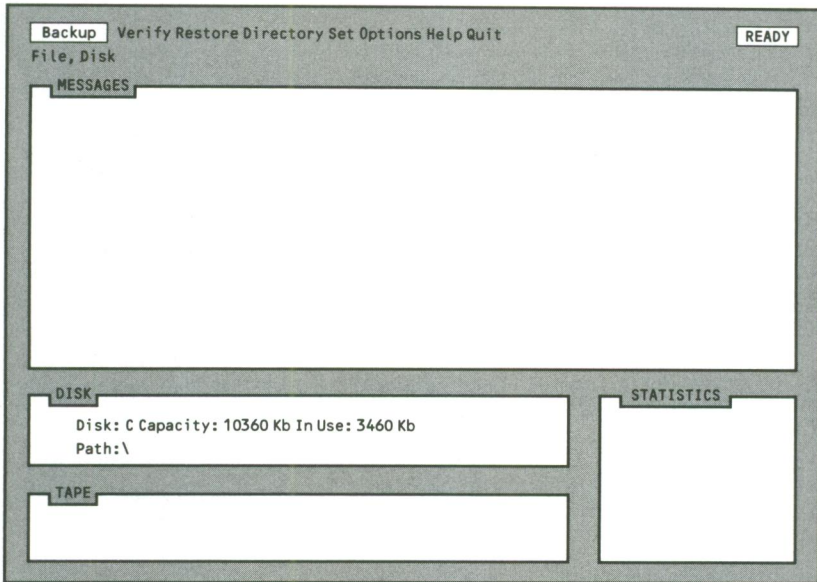


Figure 2-2 Advance Menu System Screen

The following sections describe the screen layout and how to select a command.

STATUS Flag

The word **READY** appears at the upper-right corner of the screen. This flag indicates that SY-TOS is ready to accept your commands. When SY-TOS needs additional information from you, it changes the flag to **INPUT**. As SY-TOS executes a command, the flag changes to **WAIT**. When you request help, the flag changes to **HELP**.

Command Line

A horizontal list of commands appear on the top line. Reverse video serves as a cursor to highlight the commands. Either a list of additional commands or a description appears below the highlighted command.

The commands are organized in tree structures. Related tasks are grouped together. This makes it easy to find a command and choose between its options. Figure 2-3 gives

an example of one command's tree structure in the Advance menu system.



Figure 2-3 The Tree Structure for the Restore Command

Error Messages

When an error occurs during a SY-TOS task, the system will display an error message on the third line of the screen accompanied by a tone.

MESSAGES Window

SY-TOS displays informational messages in the MESSAGES window. These messages alert you to what is currently happening or the status on what has just happened. File listings from disk and tape directories as well as file selection criteria appear in this window.

DISK Window

The DISK window displays the current information about the disk, buffers and directories that you are using. This can be quite useful when SY-TOS prompts you for information during a backup operation. You can look at the DISK window to see what complete or partial pathname you will need to specify. The fields that appear in this window are the following.

Field	Description
Disk	A single letter identifying the current DOS disk in use.
Capacity	A number showing the storage capacity of the current DOS disk. The capacity number will be in kilobytes.
In Use	A number (in kilobytes) showing how much disk storage is in use on the current DOS disk.
Path	A pathname indicating the current directory path.

You can change the information that appears in the DISK window by selecting the Set Disk and Set Path commands.

TAPE Window

When you access a tape during a SY-TOS session, the following information appears in the TAPE window.

Field	Description
Name	A tape name. When you create a tape, you specify a name. Each time you access that tape, the name will appear in the TAPE window.
Created on, at	The date and time the tape was created.
Volume #	The tape number. When there is not enough room on one tape to back up selected files or a disk, SY-TOS will prompt you to insert another tape and will assign the tape a number. Upon restoring backup information that appears on more than one tape, SY-TOS will prompt you for each tape in the order it was created.

STATISTICS Window

When you use the Backup, Verify, Restore or Directory commands, SY-TOS displays the number of files, their total size (in kilobytes) and/or the time it took to complete the task. It will also display the file selection criteria it used for the particular task.

Selecting a Command

To select a command, you must first highlight it and then press <Enter>. If there are additional options to specify before executing the command, you will need to highlight those and press <Enter>. Pressing the <Enter> key at the last option will execute the command. Some commands require you to type information after a prompt (for example, a filename). SY-TOS displays the prompts on the first and third lines on the screen.

You may press the following keys to highlight and then select a command:

Key to Press	Activity
<End>	Highlights the last command.
<Enter>	Selects the highlighted command. Any options from the second line move up to the command line so that you may select one. When there are no further commands to highlight, the final pressing of <Enter> executes the command.
<Esc>	Displays the previous level of commands in the command tree structure system.
<F1>	Displays the top level of commands when on the command line.
<Home>	Highlights the first command.

Key to Press	Activity
<<> Left arrow or <<←> Backspace	Highlights the command to the left, wrapping around to the last command when you have reached the first command.
<>> Right arrow	Highlights the command to the right, wrapping around to the first command when you have reached the last command.

A Short Cut to Command Selection

You can also type the first letter of the command to select it. SY-TOS will automatically display the next level of commands until there are no further commands to select. For example, to select the Backup File Selected command, press the **B F** and **S** keys. When there is a command that requires additional information, SY-TOS will prompt you on the first or third line on the screen. Type the specified information and press <Enter>.

This method allows you to move directly to a command, whereas the previous method gives you the opportunity to read a description below the highlighted command.

The On-Line Help Facility

In addition to providing one line descriptions for each command, SY-TOS displays additional help text in the MESSAGES window when you request it. To request help on a command, first highlight it and then press the <?> key. Help text pertaining to the highlighted command will appear in the MESSAGES window. You may use the <PgUp> and <PgDn> keys to view additional lines of text if they exist.

Specifying File Names

Sometimes SY-TOS requires you to specify a filename(s) or directory before executing a command. The following sections explain the rules for specifying files and how to select them.

Wildcards

Wildcards allow you to quickly specify a group of files that have similar names.

There are two wildcards that you may use: ? and *. Wildcards represent any character(s) that is a valid filename character(s).

The ? indicates that any one character may occupy its position. You may use the ? wildcard anywhere within a filename or in its extension. For example, suppose you had the following list of files that you wanted to specify:

test1.ext	test4.ext
test2.ext	test5.ext
test3.ext	test6.ext

Instead of typing each filename, you could type:

Enter FILENAMES: test?.ext

SY-TOS would select all of the above files.

The * indicates that zero, one or more characters may occupy its position. You may use the * as an entire filename or extension, or at the end of a filename or its extension. For example, suppose you had the following list of files:

test.txt	test01.txt
tests.txt	testa.doc
test2	testn2.txt

Instead of typing each filename, you could type:

Enter FILENAMES: test.**

SY-TOS would select all of the above files.

Note: The system does not distinguish between uppercase or lowercase letters; you may type any combination.

Tree Structured Directories

DOS organizes files in a tree structured set of directories. Tree structured directories are useful for organizing large number of files similar to the way a company has various

departments, and within them, various jobs under that department. Top directories name general categories while subsequent directories are more specific.

For example, company ABC has two divisions: sales and manufacturing. Using one computer, they might set up a tree structure of directories as shown in Figure 2-4.

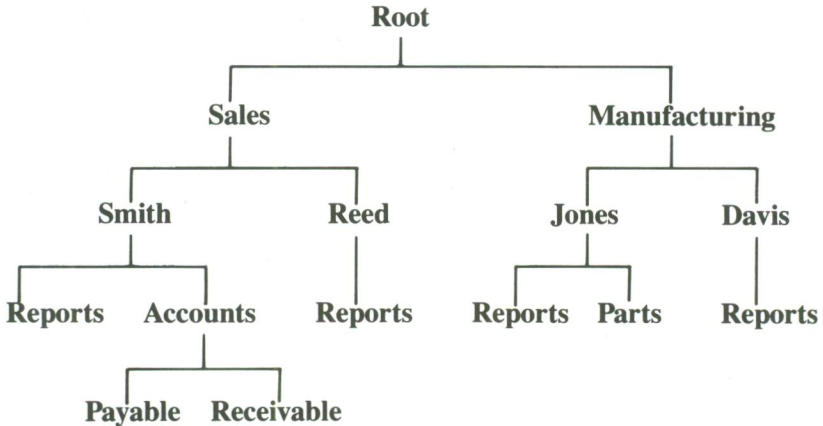


Figure 2-4 Example of Tree Structured Directories

In Figure 2-4, the top directory is called **root**, which is represented by the backslash (\) in DOS. A root directory may contain names of files and/or names of other directories. Each disk or DOS partition has one root directory.

The other directories are referred to as subdirectories. Subdirectories may also hold both files and other subdirectories. A root directory and its subdirectories make up a tree structure.

Pathnames

When specifying a file, you must specify where to locate it. This is necessary because of the many paths available in tree structured directories. A **pathname** refers to a path of directory names that must be followed to find a particular file.

Using Figure 2-4 as an example, if you wish to access all files within the Accounts directory, you would specify the path to be:

Enter FILENAMES: \Sales\Smith\Accounts*.*

You may look at the information in the DISK window to see how complete a pathname you need to specify when backing up files. The DISK window displays the current disk and path.

Selecting Files

When using the Backup, Restore, Directory and Verify commands, it is often convenient to be able to selectively specify different files and conditions to which these commands should be applied. This feature may both save time and protect data. The Select commands are available for this type of specification. We refer to them as **file selection criteria**. You specify file selection criteria either from the STCONFIG utility or from the Set Select commands in the Advance menu system.

The following is the file selection criteria that you can establish for SY-TOS to consider when selecting files:

- Include specified files.
- Exclude specified files.
- Consider only files that have changed since the last backup.
- Use a specified date to consider files.
- Include or exclude subdirectories.
- Include one or all sessions.

How Does File Selection Work?

SY-TOS uses the file selection criteria to select different files and conditions which are applicable to a specific task. Before SY-TOS backs up, restores, verifies or displays a directory of files, it reviews the file selection criteria that you have specified. The combination of all the choices dictates which files SY-TOS will select for a particular task.

For example, Figure 2-5 illustrates the current file selection criteria.

Include Exclude Changed Date Trees Session READY

Specify files to include

MESSAGES

FILE SELECTION CRITERIA:
Changed: SET Trees: YES Session: ALL Date: ≥10/03/86
Include: \ *.*
Exclude: \ *.??

DISK
Disk: C Capacity: 10360 Kb In Use: 3468 Kb
Path: \

TAPE

STATISTICS

Figure 2-5 Current Settings for Selection Criteria

Suppose you have the following directory on your system as shown in Figure 2-6.

Backup Verify Restore Directory Set Options Help Quit READY
 File, Disk

MESSAGES

```

C:\CLIENT83  REP  4029 10-01-86 05:00:14 pm
C:\CLIENT84  REP  1238 10-02-86 03:43:00 pm
C:\FORM       T    9815 10-10-86 03:13:12 pm
C:\ACCTPAY    REP  1254 10-10-86 03:46:18 pm
C:\ACCTRECV   REP  2237 10-15-86 04:19:34 pm
C:\DESIGN     TEL  3422 10-25-86 10:20:58 am
C:\DESIGN     TMP  3489 10-31-86 05:38:38 pm
C:\BROCHURE   TMP  7731 10-31-86 05:46:18 pm
  
```

----- End of Directory -----

DISK
 Disk: C Capacity: 10360 Kb In Use: 3492 Kb
 Path: \

TAPE

STATISTICS
 Directory 23 Kb
 # of files 8

Files selected based on file selection criteria.

Figure 2-6 Sample Directory

Using the criteria listed in Figure 2-5, SY-TOS would select the files listed in Figure 2-7.

Backup Verify Restore Directory Set Options Help Quit READY
 File, Disk

MESSAGES

```

Locating end of Tape Data
Backing up file C:\ACCTPAY.REP
Backing up file C:\ACCTRECV.REP
Rewind complete
  
```

DISK
 Disk: C Capacity: 10360 Kb In Use: 3500 Kb
 Path: \

TAPE
 Name: TEST
 Created on: 05/13/86 at:11:14:40 am Volume #:1

STATISTICS
 Backed up 10 Kb
 # of files 2
 Backup time 00:00:22
 Total time 00:00:29

Figure 2-7 Files Selected

You specify the file selection criteria that you want SY-TOS to consider all of the time from the STCONFIG utility. When you want to temporarily change the default file selection criteria, use the Set Select commands from the Advance menu system in the SY-TOS program. When you want to see what the current settings are, simply specify the Set Select command from the Advance menu command line. SY-TOS will display the settings in the MESSAGES window. When using the STCONFIG utility, the selection criteria settings appear in the SELECT window at all times.

To have SY-TOS automatically select files for you based on the criteria you have established, use any of the following Selected commands from the Advance menu system:

- Backup File Selected.
- Verify File Selected.
- Restore File Selected.
- Restore Disk Selected.
- Directory Disk Selected.
- Directory Tape File Selected.
- Directory Tape Disk Selected.
- Directory Library File Selected.
- Directory Library Disk Selected.

A description of each command appears in Chapter 4.

Easy-List File Selection

Instead of SY-TOS automatically selecting files, you can type a file pathname or use SY-TOS' directory feature. This option displays a list of files contained within the current disk and directory. You can use the cursor to point to the files or directories you want and then mark them for selection. You can even scan the contents of subdirectories. We call this method **easy-list file selection**.

You can use easy-list file selection with the following SY-TOS commands:

- Backup File List.
- Verify File List.
- Set Select Include.
- Set Select Exclude.

To use easy-list file selection, simply press the **<Enter>** key when SY-TOS prompts you for a filename. It will then display files within the current disk directory in the MESSAGES window.

You may press the following keys to highlight and then mark a file or directory:

Key to Press	Activity
<< → ↑ ↓>	Moves the cursor to the left, right, up or down the list.
<Ctrl> <PgDn>	Displays a subdirectory if the cursor is located on a subdirectory name.
<Ctrl> <PgUp>	Displays the parent directory.
	Unmarks a file for file selection.
<End>	Moves the cursor to the last file on the page.
<Enter>	Executes the command on the marked files.
<Esc>	Exits out of file selection.
<F1>	Unmarks all marked files.
<Home>	Moves the cursor to the top of the page. If it is at the top, <Home> will move it to the top of the previous page.
<Ins>	Marks a file for file selection.

Key to Press**Activity**

<PgDn>

Displays the next page of a multi-page list.

<PgUp>

Displays the previous page if one exists.

Chapter 3.

Customizing the SY-TOS System

When you first execute the SY-TOS program, it automatically makes certain choices for you (for example, display the Advance menu and activate the Library system). We call these choices default settings. However, you can use the STCONFIG utility to change these settings. It is from the STCONFIG utility where you:

- Set your hardware configurations, which include the following: DMA channel, Interrupt number, I/O Base Address, CPU and whether or not a network is installed.
- Choose the file selection criteria that you want SY-TOS to consider when selecting files to back up, verify, restore and display.
- Select SY-TOS' supplied options (such as specifying whether SY-TOS erases a tape, choosing a menu system, or selecting the color for your SY-TOS screens).
- Establish a security system that allows you to determine who accesses SY-TOS on your system and which files.

The next sections explain how to use the STCONFIG utility. The command section describes each command in the order it appears on the screen. It gives step-by-step instructions on the choices you have to make.

Using the STCONFIG Utility

The STCONFIG utility gives you the opportunity to set various SY-TOS defaults. Each time you execute the SY-TOS program these defaults will be in effect.

You may temporarily change some default settings (such as file selection criteria) from the Advance menu system. These changes affect only the current SY-TOS session. To

permanently change the default settings, you need to use the STCONFIG utility.

To use the STCONFIG utility, make sure you are in the directory where the SY-TOS software was installed. Type:

STCONFIG and press <Enter>.

Note: If you are not in the directory that contains the SY-TOS files, you must type the complete pathname to the STCONFIG utility. (For example: \SMITH\STCONFIG)

After you press the <Enter> key, the STCONFIG display appears on the screen. Figure 3-1 illustrates the screen display. The default settings may vary from the ones on your screen.

```
Hardware Select Options User Quit READY
DMA, Interrupt, Address, Network, CPU

HARDWARE
DMA      : 2      Interrupt: 6      Address  : 300
Network  : NO     CPU       : CHECK

OPTIONS
Append   : NO     Break    : YES      Erase    : NO
Prompt  : YES     Library  : NO C:   Restore  : ORIGINAL
Security: OFF     Menu    : ADVANCE Translate: ENGLISH

SELECT
Changed  : NO     Trees   : YES     Session  : ALL
Date     : NO
Include  : \*. *
Exclude  :
```

Figure 3-1 The STCONFIG Screen Display

The commands appear at the top of your screen. You select them just as you would when using the Advance menu system. (See Selecting a Command in Chapter 2 for more information.)

When a command requires additional information, STCONFIG prompts you for it on the first and third lines on the screen.

As you change the default settings for the Hardware, Select and Options commands, STCONFIG updates the information displayed in the windows.

The word **READY** appears in reverse video at the upper-right corner of the screen. When STCONFIG prompts you for information, the word **INPUT** appears. This is to notify you that STCONFIG expects you to enter specific information before continuing.

The next sections describe the commands according to the order in which they appear on the screen. The commands are: Hardware, Select, Options, User and Quit. A menu tree showing the command and its subcommands appear at the beginning of each command description.

Hardware Commands

The Hardware commands allow you to specify default hardware settings that are appropriate for your system.

The hardware and software defaults have been set at the factory. In most cases, you should not need to change them.

THE DMA CHANNEL NUMBER, INTERRUPT NUMBER AND I/O BASE ADDRESS YOU ENTER MUST CORRESPOND TO THE TAPE CONTROLLER BOARD YOU ARE USING. (This is not applicable if you are using a tape system that runs off the floppy disk controller.)

Hardware DMA

The Hardware DMA command allows you to change the current Direct Memory Access channel.

Procedure

1. Select **Hardware** from the STCONFIG command line.
2. Choose the **DMA** command.

The system displays the following prompt:

Enter new DMA channel:

3. Type either **1, 2** or **3** and press **<Enter>**.

The system updates the **HARDWARE** window to reflect the change.

Hardware Interrupt

The Hardware Interrupt command allows you to change the current Interrupt number.

Procedure

1. Select **Hardware** from the STCONFIG command line.
2. Choose the **Interrupt** command.

The system displays the following prompt:

Enter new Interrupt channel:

3. Type a number from **2** through **7** and press <Enter>.

The system updates the HARDWARE window to reflect the change.

Hardware Address

The Hardware Address command allows you to change the current I/O Base Address of the controller board.

Procedure

1. Select **Hardware** from the STCONFIG command line.
2. Choose the **Address** command.

The system displays the following prompt:

Enter new I/O Base Address:

3. Type a number that reflects the new address and press <Enter>.

The system updates the HARDWARE window to reflect the change.

Hardware Network

The Hardware Network command allows you to specify whether or not you are operating under a network environment.

SY-TOS is designed to operate under a variety of networking environments. Refer to Appendix E for more information about operating SY-TOS under the Network option.

Procedure

1. Select **Hardware** from the STCONFIG command line.
2. Choose the **Network** command.
3. Select **Yes** if a network is installed or select **No** if a network is not installed.

The system updates the HARDWARE window to reflect the change.

Hardware CPU

The Hardware CPU command allows you to specify the type of central processing unit (CPU) that is installed in your personal computer.

The default value that comes with SY-TOS automatically determines the type of CPU that is part of your computer. However, if you have modified your computer by installing a different chip set, you will want to select the Hardware CPU command to specify which CPU was installed.

Procedure

1. Select **Hardware** from the STCONFIG command line.
2. Choose the **CPU** command.

3. Choose one of the following options:

XT When you have an 8088/86 chip set installed in your personal computer.

AT When you have an 80286 chip set installed in your computer, or you have a new IBM PC XT Model 5160.

Note: You can distinguish the new IBM PC XT model from earlier models by the different system decal and keyboard. The front cover decal of the new Model 5160 reads IBM 5160. The function keys on the keyboard are located horizontally at the top.

Check When you want SY-TOS to determine the central processing unit.

The system updates the **HARDWARE** window to reflect the change.

Hardware Unit

The Hardware Unit command allows you to change the current SCSI device number.

This command will appear on the command line if you have a SCSI-based tape drive attached to your computer. You only need to select the Hardware Unit command when another device in the SCSI bus has a conflicting unit number. The default value that comes with SY-TOS is 0.

Procedure

1. Select **Hardware** from the command line.
2. Choose the **Unit** command.

The system displays the following prompt:

Enter SCSI unit number: 0

3. Type a number from **0** through **7** that reflects the new SCSI device number and press **<Enter>**.

Note: The unit number must correspond to the SCSI unit address located on the tape drive.

The system updates the **HARDWARE** window to reflect the change.

Select Commands

The Select commands in the STCONFIG utility give you the opportunity to specify criteria for SY-TOS to use when selecting files to back up, verify, restore or display.

Each time you request SY-TOS to back up, verify, restore or display pre-selected files, it reviews each file criterion before selecting the files. For an example of how the file selection criteria works, see the Selecting Files section in Chapter 2.

When you want to use a different selection criteria for just one SY-TOS session, you can use the Set Select commands in the SY-TOS program to reset the criteria values. SY-TOS will then use the new values when selecting files for the duration of the current SY-TOS session. Once you exit the SY-TOS program, the default file selection values in the STCONFIG utility are in effect.

If you want to permanently change the criteria SY-TOS uses to select files, simply change it in the STCONFIG utility.

The SELECT window displays a list of the current file selection criteria values. Figure 3-2 shows the SELECT window with sample default settings.

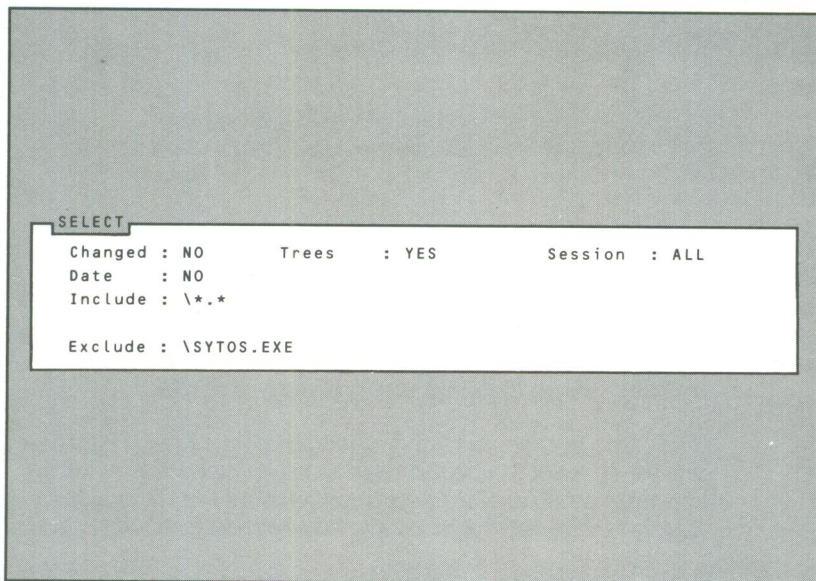


Figure 3-2 An Example of the SELECT Window

Select Include

The Select Include command allows you to specify which files you want SY-TOS to consider when selecting files.

Procedure

1. Choose **Select** from the STCONFIG command line.
2. Select the **Include** command.

The system displays the following prompt:

Enter FILENAMES:

3. Type the files that you want SY-TOS to consider and press <Enter>. For example:

Enter FILENAMES: C:\SYTOS C:\NEW\FILES

You may also type the name of a file (preceded by an @ symbol) that contains a list of files that you want to

include. The @ symbol must precede the complete pathname. For example:

Enter FILENAMES: @C:\SYTOS\INCLUDE

Use a text editor or the DOS EDLIN program to create the file. Make sure that you include the pathnames of the files and separate each name with a comma, space or <Enter>. The @file must exist before you specify it in this command.

STCONFIG updates the SELECT window to reflect the new Include criteria.

Select Exclude

The Select Exclude command allows you to specify files that you do not want SY-TOS to select.

Procedure

1. Choose **Select** from the STCONFIG command line.
2. Select the **Exclude** command.

The system displays the following prompt:

Enter FILENAMES:

3. Type the files that you do not want SY-TOS to select and press <Enter>. For example:

Enter FILENAMES: C:.tmp \wp*.**

You may also type the name of a file (preceded by an @ symbol) that contains a list of files that you want to exclude. The @ symbol must precede the complete pathname. For example:

Enter FILENAMES: @C:\SYTOS\EXCLUDE

Use a text editor or the DOS EDLIN program to create the file. Make sure you include the pathnames to each file and separate each name with a comma, space or <Enter>. The @file must exist before you specify it in this command.

STCONFIG updates the SELECT window to reflect the new Exclude criteria.

Select Changed

The Select Changed command allows you to specify files for SY-TOS to consider for file selection based on whether or not they have been modified since the last backup.

Procedure

1. Choose **Select** from the STCONFIG command line.
2. Select the **Changed** command.
3. Select one of the following options:
 - No** SY-TOS will consider files regardless of their update status.
 - Set** SY-TOS will consider only those files that have been modified since the last backup and will reset the file status to unmodified. SY-TOS will not consider the files again until they have been updated.
 - Keep** SY-TOS will consider only those files that have been updated since the last backup, but will keep the current modified file status. This option is useful when you want to create two backup tapes containing the same files.

After you make a selection, STCONFIG will update the SELECT window to reflect the change.

Select Date

The Select Date command allows you to specify which files you want SY-TOS to consider for file selection based on their creation dates.

Procedure

1. Choose **Select** from the STCONFIG command line.
2. Select the **Date** command.
3. Select one of the following options:

No	SY-TOS will not use a file's creation date as a file selection criterion.
After	SY-TOS will consider files created on or after a specified date.
Before	SY-TOS will consider files created on or before a specified date.
Equal	SY-TOS will consider files that have a specific creation date.

When you select the After, Before or Equal options, STCONFIG displays the following prompt:

Enter DATE for file selection:

4. Type the date that you want SY-TOS to use when considering files for file selection. Use the **MM/DD/YY** format when entering the date.

After you have selected one of the Date options, STCONFIG updates the SELECT window to reflect the change.

Select Trees

This command allows you to specify whether or not you want SY-TOS to include subdirectories when it selects files.

Procedure

1. Choose **Select** from the STCONFIG command line.
2. Select the **Trees** command.

3. Select one of the following options:

No SY-TOS will not include subdirectories when it selects files. This option is useful when you want to isolate files within a directory without including files within subdirectories.

Yes SY-TOS will include subdirectories when it selects files. This option is useful when you want to include all files within a disk. You would simply set the Select Include command to *. * and select the Trees Yes option.

After you have made a selection, STCONFIG updates the SELECT window to reflect the change.

Select Session

The Select Session command allows you to specify whether you want SY-TOS to search for files on all tape sessions or a specific one when it restores or verifies files.

Procedure

1. Choose **Select** from the STCONFIG command line.
2. Select the **Session** command.
3. Select one of the following options:

All SY-TOS will search all tape sessions when selecting files to verify and restore.

Specific SY-TOS will search a specific tape session when selecting files to verify and restore.

STCONFIG will display the following prompt:

Enter SESSION number:

4. Type the session number (up to 255) that you want SY-TOS to search and press <Enter>.

After you have selected an option, STCONFIG updates the SELECT window to reflect the change.

Note: Each time you back up files, SY-TOS assigns the backup a tape session number. A session number can be useful to locate a certain file during a Verify or Restore command. For example, suppose you backed up a file, modified it and backed it up again. SY-TOS would have recorded two tape sessions. However, you decided that the changes to the file were not correct and now you want to restore the file to its original condition. You would simply choose the Select Session command and specify session one before requesting the Restore command.

Options Commands

The Options commands allow you to request SY-TOS to complete a specific task before executing a command. For example, you can request SY-TOS to notify you before overwriting information on the disk. In addition, you can also specify which menu system you want to use and the colors you want your SY-TOS screens to be.

Like the other commands in the STCONFIG utility, the Options commands come with default settings. You will want to check these to see if they are the correct ones for you. The following Options commands are also available from the Advance menu system:

- Options Append.
- Options Break.
- Options Erase.
- Options Prompt.
- Options Library.
- Options Restore.

When you change an Options command from the Advance menu system, its value is only in effect for the duration of a SY-TOS session. Upon exiting the system, the values in the STCONFIG utility are in effect.

Options Append

The Options Append command allows you to specify whether you want to append information to a tape each time you back up or overwrite the existing information on the tape.

Procedure

1. Select **Options** from the STCONFIG command line.
2. Choose the **Append** command.
3. Choose one of the following options:
 - No** SY-TOS will overwrite the contents of the current tape when you back up your files or disk.
 - Yes** SY-TOS will append backups to the current tape.

Once you have selected an option, STCONFIG updates the OPTIONS window to reflect the change.

Notes: You should use this Options command in conjunction with the Options Erase command. If Append is set to No and Erase is set to Yes, SY-TOS will erase the tape before backing up. If Erase is set to No, SY-TOS will overwrite any information existing on the tape before it backs up.

If Options Append is set to No, SY-TOS will prompt you for the tape volume name and optional password each time you back up information to tape. If it is set to Yes, SY-TOS will automatically append the backup information to the current tape.

Options Break

The Options Break command allows you to specify whether or not you want to be able to press the <Ctrl> <Break> key combination to interrupt a SY-TOS activity.

Procedure

1. Select **Options** from the STCONFIG command line.
2. Choose the **Break** command.
3. Choose one of the following options:
 - No** SY-TOS will not allow the <Ctrl> <Break> key combination to interrupt an activity.

This option is useful when a series of SY-TOS tasks are being performed while unattended.

- Yes** SY-TOS will allow the <Ctrl> <Break> key combination to interrupt an activity. This option is useful if you accidentally request an undesired task.

Once you select an option, STCONFIG updates the OPTIONS window to reflect the change.

Options Erase

The Options Erase command allows you to specify whether or not you want SY-TOS to erase a tape before using it.

Procedure

1. Select **Options** from the STCONFIG command line.
2. Choose the **Erase** command.
3. Choose one of the following options:

No SY-TOS will not erase a tape before using it. SY-TOS simply overwrites any existing information. This option saves the time it takes to create a new tape for SY-TOS. However, it may affect the data integrity of the new tape.

Yes SY-TOS will erase the tape's contents before using it. This option ensures maximum reliability when backing up files.

Once you select an option, STCONFIG updates the OPTIONS window to reflect the change.

Notes: If the Options Append command is set to No, then the Options Erase command determines whether SY-TOS erases a tape or overwrites one each time you back up.

If you are using a random access tape drive, the Options Erase command will not appear on the command line.

Options Prompt

The Options Prompt command allows you to specify whether or not SY-TOS will prompt you before overwriting a changed or read-only disk file.

Procedure

1. Select **Options** from the STCONFIG command line.
2. Choose the **Prompt** command.
3. Choose one of the following options:
 - No** SY-TOS will automatically overwrite updated files on disk or read-only files with the corresponding files on tape.
 - Yes** SY-TOS will prompt you before overwriting a changed or read-only file.

Once you have selected an option, STCONFIG updates the OPTIONS window to reflect the change.

Options Library

The Options Library command allows you to specify the default disk drive where SY-TOS will store the Library files. It also lets you turn on or off the Library system.

SY-TOS gives you the opportunity to keep track of all backups to tape. It stores this information in a disk file. When using the SY-TOS program, you can select the Directory Library command to view disk, file or volume backups recorded in the Library file. If the security system is turned on, you will only be able to view the Library file assigned to you by the System Administrator.

The STCONFIG utility is the only place where you can specify a default disk drive for the Library system. You can temporarily turn the Library system off and on from the Advance menu system. Upon exiting the SY-TOS program, the default setting in the STCONFIG utility is in effect. When you want to update the Library system, you can select the Options Library Update command from the Advance menu system.

Procedure for Specifying a Default Disk

1. Select **Options Library** from the STCONFIG command line.
2. Choose the **Disk** command.
The system displays the following prompt:
Enter default disk for Tape Library Files:
3. Type the disk letter followed by a colon and press **<Enter>**.

The system updates the OPTIONS window to reflect the change.

Note: The disk you specify to store the Library information can be any disk other than a floppy disk drive.

Procedure for Turning the Library System On and Off

1. Select **Options** from the STCONFIG command line.
2. Choose the **Library** command.
3. Choose one of the following options:
 - No** The Library system will not be turned on. SY-TOS will not keep track of any new tapes initialized, existing tapes re-initialized, or additional backups to an existing tape.

This option is useful when you are creating or updating tapes that will be used at a different location.
 - Yes** The Library system will be turned back on. You should keep the Library turned on during normal use. Only after the Library system has been turned off, should you select this option.

Options Restore

The Options Restore command allows you to specify where you want SY-TOS to restore files when you select the Restore File commands.

Procedure

1. Select **Options** from the STCONFIG command line.
2. Choose the **Restore** command.
3. Choose one of the following options:

Original To restore files to disk by the original pathname from which the files were backed up from, regardless of the current disk and directory displayed in the DISK window in the SY-TOS program.

New To restore files to disk according to the current disk and path as displayed in the DISK window in the SY-TOS program and ignore the original file pathnames on the backup tape.

Once you select an option, STCONFIG updates the OPTIONS window to reflect the change.

Note: You will find a description of how SY-TOS restores files using a new path under the Restore Commands section in Chapter 4.

Options Menu

The Options Menu command lets you choose which menu system you want to appear each time you execute the SY-TOS program.

Procedure

1. Select **Options** from the STCONFIG command line.
2. Choose the **Menu** command.

3. Choose one of the following menu systems:

EZ-function The EZ-function menu system will appear each time you execute the SY-TOS program. The EZ-function menu system gives you a subset of the SY-TOS features. You press function keys to back up, verify and restore all files or disks.

Advance The Advance menu system will appear each time you execute the SY-TOS program. This menu system offers all of the SY-TOS features.

Once you select a menu system, STCONFIG updates the OPTIONS window to reflect the change.

Note: The Options command in the STCONFIG utility is the only place where you can specify the menu system.

Options Color

The Options Color command allows you to specify the screen colors for the STCONFIG utility and the SY-TOS program.

The SY-TOS screens are divided into the following sections. You can specify a different color for each one.

Screen Sections	Section Description
Contents	The display area within each window.
Border	The double lined border surrounding each windowed area.
Titles	The heading name for each windowed area.
Selected	The current command on the command line.

Screen Sections

Section Description

Unselected

The alternate commands on the command line as well as subcommands.

Messages

Any message or prompt appearing on the screen outside a windowed area. In addition, this includes the last line on the screen where the program name, and system date and time appear.

Procedure

1. Select **Options** from the STCONFIG command line.
2. Choose the **Color** command.
3. Select the part of the screen whose color you want to change.

The system displays the color pallet in the COLORS window. You can choose colors for the foreground and background of the screen. A blinking asterisk points to your location in the color pallet. The Foreground and Background color descriptions at the bottom of the screen reflect the blinking asterisk's color location.

The colored asterisks represent the available colors for the foreground. The colored bars represent the available colors for the background.

4. Press the <=> and <<=> keys to select the color you want for the foreground.

The Foreground color name will change to reflect where you are in the color pallet.

5. Press the <↑> and <↓> keys to select the color you want for the background.

The Background color name will change to reflect where you are in the color pallet.

Note: Up to this point, you can press <Esc> to cancel the color selection command.

6. When you have selected the colors for the foreground and background, press <Enter>.

The colors you have selected for the specified part of the screen are in immediate effect.

7. Select another part of the screen whose color you want to change or press <Esc> to cancel the Options Color command.

Options Translate

The Options Translate command allows you to specify the language you want to use when executing the SY-TOS programs.

Procedure

1. Select **Options** from the STCONFIG command line.
2. Choose the **Translate** command.

The system displays a list of files in the TRANSLATE window. These files represent the available languages.

3. Press the following keys to select a language file.

Key to Press	Activity
<↑ ↓ ← →>	Moves the pointers up, down, to the left or to the right.
<Enter>	Accepts the highlighted language file as the one you want to use, converts the text into the specified language and returns you to the STCONFIG command line.
<Esc>	Cancels the Translate command and returns you to the STCONFIG command line.

Once you have made a selection, the system returns you to the STCONFIG command line and your screen will be in the language you selected.

Hardware Select Options User Quit

Add Change Remove View Security

Create Active Disable Remove

Creating a Security System

The STCONFIG utility allows you to create and maintain a security system, which restricts users from within the SY-TOS program.

When creating a security system, you must first establish a System Administrator. Once you enter the System Administrator, only he/she can maintain the security system by selecting the User commands to change, disable or remove it.

The security system consists of the following information for each user:

Username	The name the user must specify before accessing the SY-TOS program and the STCONFIG utility.
Password	The password the user must specify before entering the SY-TOS program or the STCONFIG utility.
Path Allowed	The disks, directories or files that this user can access.
Library Name	The name for the Library file associated with this user. SY-TOS records the user's backup activities in this file.

The STCONFIG utility stores this information in a security file. If a security system has been created, but the security file has been deleted, you will need to recreate the security system.

Procedure

1. Select **User** from the STCONFIG command line.
2. Choose the **Security** and then **Create** commands.

The system displays the following prompt:

Enter Administrator's NAME:

3. Type the System Administrator's username (up to 20 characters) and press **<Enter>**.

The system displays the next prompt:

Enter Administrator's PASSWORD:

4. Type the password for the System Administrator (up to 5 characters) and press **<Enter>**.

Note: The system does not display the password. An **X** will appear for each letter you type. This is to ensure maximum security.

The system displays the password reconfirm prompt.

Re-Enter Administrator's PASSWORD:

5. Type the password again and press **<Enter>**.

If the password you just typed is incorrect, SY-TOS informs you and redisplay the password prompt. You will need to repeat steps 4 and 5.

By default, the System Administrator's access path is ****.*** and the Library file is called **admin.lbr**.

The system displays the User commands at the top of the screen. It also updates the **OPTIONS** window to indicate that the security system is on. Figure 3-3 illustrates the screen display.

Add	Change	Remove	View	Security	READY
Add a username to security system					
HARDWARE					
DMA	: 2	Interrupt:	6	Address	: 300
Network	: NO	CPU	: CHECK		
OPTIONS					
Append	: NO	Break	: YES	Erase	: NO
Prompt	: YES	Library	: NO C:	Restore	: ORIGINAL
Security:	ACTIVE	Menu	: ADVANCE	Translate:	ENGLISH
SELECT					
Changed	: SET	Trees	: YES	Session	: ALL
Date	: NO				
Include	: *.*				
Exclude	: \SYTOS.EXE				

Figure 3-3 The User Commands Screen Display

IMPORTANT

Because the System Administrator is the only user who can change, disable or remove the security system, we strongly recommend that you record the System Administrator's name and password and keep it in a secure place. If the System Administrator's name and/or password are forgotten, access to the User commands is not possible.

Once a security system has been created, SY-TOS will prompt each user for a name and password before allowing access to the STCONFIG utility or the SY-TOS program. The system will not display the actual password a user enters. An X will appear for each letter that is typed. This is to ensure maximum security.

User Commands

After creating a security system, the System Administrator can select the User commands to add, change, view, and even remove the security system. Thus, a System Administrator can establish a security system for an entire office environment with each user having access to only specific files.

User Add

The User Add command allows the System Administrator to add a user to the security system.

Procedure

1. Select **User** from the STCONFIG command line.
2. Choose the **Add** command.

The system displays the following prompt:

Enter USERNAME:

3. Type the username (up to 20 characters) that you want to add to the system security and then press **<Enter>**.

The system displays the name you typed in the User window and then displays the next prompt.

Enter User PASSWORD:

4. Type the password (up to 5 characters) for this user and press **<Enter>**.

The system displays the password in the USER window and then displays the following prompt:

Enter User PATH:

5. Type the disk path that you will allow for this user and press **<Enter>**. The path can be up to 64 characters and you may use the DOS wildcards.

The following examples show the paths that you may use:

Path	Access to
**	All disks and directories defined to the system.
C:	The C disk. The user will have the ability to back up multiple partitions that may exist on this disk by

Path	Access to
	using the Options Device commands.
C:\	The C disk only. The user has the ability to back up a DOS disk on C: only. The user cannot perform multiple partition back ups with this path.
C:\SYTOS\	The SYTOS directory located on the C disk and all subdirectories contained within the SYTOS directory. The user cannot access any other directory on the C disk.
C:\SYTOS\ET.EXE	The ET.EXE program in the SYTOS directory on the C disk. This is the only file that the user can access.

After you specify the path, STCONFIG updates the USER window and displays the following prompt:

Enter User Library NAME:SYTOS

5. Type a name for the Library file (up to 8 characters) and press <Enter>.

To accept the default value, press <Enter>.

The Library file will contain a listing of all tapes a user creates and their contents. The System Administrator can assign each user a separate file or a single one for several users. For example, all users in the accounting department could share the common Library file called ACCT.

When the user executes the SY-TOS program, he/she can only view the Library file associated with his/her username. SY-TOS will place information in Library files only when the Library system is turned on. You activate the Library system from the Options Library

command in the STCONFIG utility or from the Options Library Active command in the Advance menu system.

The Library name you specify will appear in the USER window.

After specifying the Library name, the system displays the User command line. Choose another User command or press <Esc> to return to the STCONFIG command line.

User Change

The User Change command allows the System Administrator to edit user information in the security system.

Procedure

1. Select **User** from the STCONFIG command line.
2. Choose the **Change** command.

The system displays the following prompt:

Enter name to change (or <Enter> for list):

3. You have two choices:
 - Type the user's name whose security information you want to change and then press <Enter>.
 - Press <Enter>.

STCONFIG displays a list of users in the top window. Press the **arrow keys**, <PgDn>, <PgUp>, <Home> or <End> keys to point to the user whose security information you want to change and then press <Enter>.

Note: As you move the pointers from name to name, STCONFIG displays the security information for that user in the USER window.

After you specify the user's name, the system displays the following prompt:

Enter USERNAME:

4. To make any changes, type the new information at the prompt and press **<Enter>**.

To keep the existing information, press **<Enter>**.

STCONFIG prompts you for the password.

5. Type the new password and press **<Enter>**.

To keep the current password, press **<Enter>**.

STCONFIG prompts you for the disk, directory and file path that the user can access.

6. Type the new access path and press **<Enter>**.

To keep the current path, press **<Enter>**.

STCONFIG prompts you for the Library file.

7. Type the name for the Library file and press **<Enter>**.

To keep the current name, press **<Enter>**.

STCONFIG displays the following prompt:

Is all this information correct? (Y/N) [Y]

8. Press **<Enter>** to add the changes to the security system and return to the User command line.

Type **N** and press **<Enter>** to cancel the information you just specified for this user.

After you make the necessary changes, STCONFIG redisplay the User command line. Select another command or press **<Esc>** to return to the STCONFIG command line.

User Remove

The User Remove command allows the System Administrator to delete a user from the security system.

Procedure

1. Select **User** from the STCONFIG command line.
2. Choose the **Remove** command.

The system displays the following prompt:

Enter name to remove (or <Enter> for list):

3. You have two choices:
 - Type the user's name you want to remove and then press **<Enter>**.
 - Press **<Enter>**.

STCONFIG displays a list of users in the top window. Press the **arrow keys**, **<PgDn>**, **<PgUp>**, **<Home>** or **<End>** keys to point to the user you want to remove and then press **<Enter>**.

Note: As you move the pointers from name to name, STCONFIG displays the security information for that user in the USER window.

After you specify a user to remove, the system displays the following prompt:

*Confirm. Do you wish to REMOVE this user? (Y/N)
[N]*

4. You have two choices:
 - Press **<Enter>** to keep the user in the security system and return to the User command line.
 - Type **Y** and press **<Enter>** to delete the specified user information from the security system.

Notes: When you remove a user from the security system, that user can no longer access the SY-TOS program.

You cannot remove the System Administrator's name from the security system. You may change the name with the User Change command or you may delete the entire security system by selecting the User Security Remove command.

User View

The User View command allows the System Administrator to display a list of users in the security system and select a username whose security information he/she wishes to see.

Procedure

1. Select **User** from the STCONFIG command line.
2. Choose the **View** command.

The system displays a list of users who can access the SY-TOS program in the top window. Two symbols point to the first name. That user's security information appears in the USER window below.

3. Press the **arrow keys**, **<PgDn>**, **<PgUp>**, **<End>** or **<Home>** keys to point to other names.

Note: As you move the pointers from name to name, STCONFIG displays the security information for that user in the USER window.

When you are through viewing the security system, press **<Enter>** to return to the command line.

User Security

The User Security command allows the System Administrator to create a security system, turn it off and on, and remove it altogether.

Procedure

1. Select **User** from the STCONFIG command line.
2. Choose the **Security** command.

3. Select one of the following options:

Create Allows you to create a multi-level security system. Refer to the Creating a Security System section in this chapter for step-by-step instructions.

Active Turns on the existing security system. STCONFIG will prompt you for the System Administrator's name and password.

Disable Temporarily turns off the security system. When you disable the security system, any user can access the SY-TOS program and the STCONFIG utility.

Remove Permanently deletes the security information. Any user can access the SY-TOS program and the STCONFIG utility.

STCONFIG will prompt you for a confirmation.

Type **Y** and press <Enter> to remove the security system, or press <Enter> to keep it.

Quit Command

Select the **Quit** command when you want to leave the STCONFIG utility.

The settings you specified for each command will be in effect for each SY-TOS session unless you temporarily change them in the Advance menu system within the SY-TOS program.

Chapter 4.

The Advance System Menu Commands

This chapter contains step-by-step instructions on how to perform each SY-TOS task in the Advance menu system. The chapter describes each command in the order it appears on the screen. A menu tree showing the command and its subcommands appears at the beginning of each command group.

The top line on the Advance menu system screen contains a list of horizontal commands. We call this line the Advance menu command line. Either a list of subcommands or a description of the command appears below the highlighted command.

You select a command by typing the first letter of the command or by using the <=> and <<=> keys to highlight the command and then press the <Enter> key. The second selection method gives you the opportunity to scan the command menu trees. You may press the <?> key at any time to display a help message on the highlighted command. For more information about selecting commands, refer to Chapter 2.

Backup Commands

The Backup commands allow you to save disk information on tape. By backing up, you can keep records of your files from years past, transfer data from one computer to another and free disk space. SY-TOS gives you the option of specifying certain files to back up or to have it automatically back up a series of pre-selected files on disk.

You can establish the criteria for SY-TOS' file selection with either the Set Select commands in the Advance menu system or with the Select commands in the STCONFIG utility. The Set Select commands allow you to change the file selection criteria for the current SY-TOS session. The Select commands in the STCONFIG utility allow you to specify the default values for the file selection for all SY-TOS sessions.

If this is the first time you are backing up files, you may want to take the time to establish your file selection criteria in the STCONFIG utility. Using the file selection criteria to back up, verify, restore and display files is much faster than specifying individual files. Refer to Chapter 3 on how to use the STCONFIG utility.

You may also want to check the Options commands before backing up. Many of the default settings may not be what you want. For example, the Options Append command specifies whether or not SY-TOS appends backup information to a tape or overwrites the existing information on the tape. The Options Erase command specifies whether or not SY-TOS erases the contents of a tape before backing up. And the Options Prompt command specifies whether or not SY-TOS prompts you before overwriting a new or read-only file on a disk when restoring files.

Other Options commands allow you to keep track of backups and tapes via a Library system and to maintain a Journal that records all messages that appear in the MESSAGES window.

Each time you back up files to a tape, SY-TOS records it as a session. A tape may contain one session or many sessions depending upon whether the Options Append command is set to No or Yes. Recording sessions is helpful when you back up many times and then want to verify or restore a particular session using the Verify File Selected or Restore File Selected commands.

You may view the different backup sessions on a tape using the Directory Tape File Selected or Directory Library File Selected commands. You should first set the file selection criteria values according to the information you wish to view. Make sure the Set Select Session command is set to All.

Each time you back up a disk to tape, SY-TOS assigns it a sequence number. If you have several disk backups residing on a tape and want to verify or restore a particular one, all you will need to do is specify the disk letter and the sequence number. To search a tape for a specific disk backup sequence number, use the Directory Tape File Selected command. To see a list of DOS disk backups on tapes in the Library system, select the Directory Library Disk List or Selected command.

If you have more than one DOS disk available on your computer system, SY-TOS will permit you to specify more than one DOS disk to back up.

If a backup procedure fills a tape with information, SY-TOS will prompt you to insert as many tapes as needed to complete the backup.

As SY-TOS backs up the specified files or disk, the TAPE window will indicate the name of the tape and the STATISTICS window will display the starting time. After SY-TOS completes the backup task, the STATISTICS window will display the time it took SY-TOS to complete the backup task and the amount of kilobytes it placed on the tape. SY-TOS notifies you in the MESSAGES window when it has completed the backup and if there were any problems.

It is a good idea to verify a backup to ensure that the files exist correctly on the tape. Select the Verify command after each backup session.

The following sections describe the Backup commands.

Backup File List

The Backup File List command allows you to save one or more specified files on tape.

Procedure

1. Select **Backup File** from the Advance menu command line.
2. Choose the **List** command.

The system displays the following prompt:

Enter FILENAMES, (press <Enter> for directory):

3. You have three choices:
 - Type the filename(s) that you want to back up. For example:

*Enter FILENAMES: *.EXE,\SYTOS*.BAT*

- Type the name of a file preceded by an @ symbol that contains a list of files that you want to back up. The @ symbol must precede the complete pathname. For example:

Enter FILENAMES: @\SYTOS\BACKUP.LST

Use a text editor or the DOS EDLIN program to create the file. Make sure you include the pathnames to each file and separate each name with a comma, space or <Enter>. The file must exist before you specify it in the SY-TOS program.

- Press <Enter> to display the contents of the current directory in the MESSAGES window and then select the files to back up by marking them. Refer to the Easy-List File Selection section in Chapter 2 for information on how to mark files.

If the Options Append command is set to Yes, SY-TOS will place the backed up information at the end of any existing information currently on the tape.

If the Options Append command is set to No, SY-TOS will display the following prompt:

Enter a tape VOLUME NAME:

4. Type the name of the tape and press <Enter>. The name can be up to 47 characters and can contain spaces.

The system displays the next prompt:

Enter optional tape PASSWORD; <Enter> if none:

5. If you do not wish to assign a password, simply press <Enter>.

If you want to assign a password, type the password (up to 19 characters) and press <Enter>.

The system prompts you again.

Re-enter PASSWORD to confirm:

6. Type the password again and press <Enter>.

If the password you just typed is incorrect, SY-TOS informs you and redisplay the optional password prompt. You will then need to repeat steps 5 and 6.

If the tape contains data and the Options Append command is set to No, the system will display the following prompt:

*THIS TAPE CONTAINS DATA - Press <Enter>
CONFIRMING TO ERASE, <Esc> to QUIT*

7. Press either <Enter> to continue or <Esc> to stop the backup procedure.

If you press <Enter>, SY-TOS will overwrite the existing files.

Backup File Selected

The Backup File Selected command backs up files on a disk according to the file selection criteria specified either in the STCONFIG utility or from the Set Select command in the Advance menu system.

Procedure

1. Before choosing the Backup File Selected command, make sure the file selection criteria values are set to the ones you want. Refer to the Set Select commands in this chapter for information about choosing the file selection criteria. Refer to Chapter 2 for an overview.
2. Select **Backup File** from the Advance menu command line.
3. Choose the **Selected** command.

If the Options Append command is set to Yes, SY-TOS will place the backed up information at the end of any existing information currently on the tape.

If the Options Append command is set to No, SY-TOS will display the following prompt:

Enter a tape VOLUME NAME:

4. Type the name of the tape and press **<Enter>**. The name can be up to 47 characters and can contain spaces.

The system displays the next prompt:

Enter optional tape PASSWORD; <Enter> if none:

5. If you do not wish to assign a password, simply press **<Enter>**.

If you want to assign a password, type the password (up to 19 characters) and press **<Enter>**.

The system prompts you again.

Re-enter PASSWORD to confirm:

6. Type the password again and press **<Enter>**.

If the password you just typed is incorrect, SY-TOS informs you and redisplay the optional password prompt. You will then need to repeat steps 5 and 6.

If the tape contains data and the Options Append command is set to No, the system will display the following prompt:

*THIS TAPE CONTAINS DATA - Press <Enter>
CONFIRMING TO ERASE, <Esc> to QUIT*

7. Press either <Enter> to continue or <Esc> to stop the backup procedure.

If you press <Enter>, SY-TOS will overwrite the existing files.

Backup Disk

The Backup Disk command backs up the complete contents of a DOS disk.

Procedure

1. Select **Backup** from the Advance menu command line.
2. Choose the **Disk** command.

SY-TOS displays the following prompt:

Enter DISK letter(s) for a DOS DISK BACKUP:

3. Type the letter(s) that identifies the disk whose contents you want to back up to tape and press <Enter>. For example:

Enter DISK letter(s) for a DOS DISK BACKUP: C:

When more than one DOS disk is available on your computer system, you can back up more than one disk in a given session. Separate the DOS disks with a space. For example:

*Enter DISK letter(s) for a DOS DISK BACKUP:
C: A:*

If the Options Append command is set to Yes, SY-TOS will place the backed up information at the end of any existing information currently on the tape.

If the Options Append command is set to No, SY-TOS will display the following prompt:

Enter a tape VOLUME NAME:

4. Type the name of the tape and press <Enter>. The name can be up to 47 characters and can contain spaces.

The system displays the next prompt:

Enter optional tape PASSWORD; <Enter> if none:

5. If you do not wish to assign a password, simply press <Enter>.

If you want to assign a password, type the password (up to 19 characters) and press <Enter>.

The system prompts you again.

Re-enter PASSWORD to confirm:

6. Type the password again and press <Enter>.

If the password you just typed is incorrect, SY-TOS informs you and redisplay the optional password prompt. You will then need to repeat steps 5 and 6.

If the tape contains data and the Options Append command is set to No, the system will display the following prompt:

*THIS TAPE CONTAINS DATA - Press <Enter>
CONFIRMING TO ERASE, <Esc> to QUIT*

7. Press either <Enter> to continue or <Esc> to stop the backup procedure.

If you press <Enter>, SY-TOS will overwrite the existing files.

Note: When SY-TOS backs up a disk, it backs up the information contained in that DOS disk. For example, suppose a 20 megabyte DOS disk contains only 5 megabytes of information and the remaining 15 megabytes is available. SY-TOS will only back up the 5 megabytes in use. This will reduce the amount of time it takes to back up.

File Disk

List Selected

Verify Commands

The Verify commands allow you to verify that SY-TOS correctly backed up on tape the files or disk you specified. SY-TOS scans the tape for the specified files and then compares those files with the corresponding files on the disk. If you are verifying a disk, SY-TOS will compare the information on the tape with the information on the disk. It is recommended that you use the Verify commands after each backup session.

Each time you back up files, SY-TOS records it as a session. A tape may contain one session or many sessions depending upon whether the Options Append command is set to No or Yes. When you verify files using the Verify File Selected command, SY-TOS considers either all of the sessions if Set Select Session is set to All, or a particular one based on the setting for the Set Select Session Specific command. To determine which session you want to verify, set the file selection criteria values according to the information you want to verify. Make sure the Set Select Session command is set to All. Then select either the Directory Tape File Selected or Directory Library File Selected command. SY-TOS will display the session numbers and the associated file information. You can then find which session you want to verify.

Before verifying the files, choose the Set Select Session Specific command and enter the desired number. You may then choose the Verify File Selected command. SY-TOS will only include that particular session when verifying the specified files.

If the Set Select Session command is set to All and there is more than one session residing on the tape, SY-TOS will verify all files that satisfy the selection criteria in each session on the tape. If you choose the Verify File List

command, SY-TOS will disregard the file selection criteria and verify all occurrences of the specified files.

Each time you back up a disk, SY-TOS assigns it a sequence number (for example, C:1 C:2 A:1 A:2 A:3). When verifying a disk backup, you can specify the sequence number associated with it if more than one exists on the tape. You can see the sequence numbers that SY-TOS assigns each disk backup when you select the Directory Tape File Selected command. To see a list of the DOS Disk backups on tapes in the Library system, select the Directory Library Disk List or Selected command.

When you verify a disk backup, the current disk should be the one you want to verify. If it is not, SY-TOS will automatically switch you to the specified disk.

As SY-TOS verifies the specified files or disk, the TAPE window will indicate the name of the tape and the STATISTICS window will display the starting time. After SY-TOS completes the verification, the STATISTICS window will display the time it took SY-TOS to complete the verify task, the number of files verified, and the total number of kilobytes verified. SY-TOS notifies you in the MESSAGES window whether or not there were any problems.

If the verification failed, you should repeat the backup and verify it again. If any files have changed on the disk since the last backup and you verify the backup tape, the verification will fail. Another reason for failure is that the tape may be damaged.

Verify File List

The Verify File List command allows you to compare one or more files on tape to those on disk.

Procedure

1. Select **Verify File** from the Advance menu command line.
2. Choose the **List** command.

The system displays the following prompt:

Enter FILENAMES, (press <Enter> for directory):

3. You have three choices:
 - Type the filename(s) that you want to verify and press <Enter>. For example:
Enter FILENAMES: \SYTOS.**
 - Type the name of a file preceded by an @ symbol that contains a list of files that you want to verify. The @ symbol must precede the complete pathname. For example:
*Enter FILENAMES:
@SYTOS\VERIFY.LST*
 - Press <Enter> to display the current directory in the MESSAGES window and then select the files by marking them. Refer to the Easy-List File Selection section in Chapter 2 for information on how to mark the files.

SY-TOS will notify you in the MESSAGES window whether or not the file(s) verified. If the verification failed, repeat the backup.

Verify File Selected

The Verify File Selected command compares files on tape to those on the disk based on the file selection criteria.

Procedure

1. Before choosing the Verify File Selected command, make sure the file selection criteria values are set to the ones you want.

To view the current file selection criteria, choose the Set Select command. SY-TOS will display the selection criteria in the MESSAGES window. You may change the criteria and then return to the Advance menu command line.
2. Select **Verify File** from the Advance menu command line.

3. Choose the **Selected** command.

SY-TOS will display the current file selection criteria in the **MESSAGES** window and will then verify the files based on that criteria.

SY-TOS will notify you in the **MESSAGES** window whether or not the files verified. If a file failed verification, repeat the backup.

Verify Disk

The **Verify Disk** command compares the information on the tape with the information on the disk.

Procedure

1. Select **Verify** from the **Advance** menu command line.
2. Choose the **Disk** command.

The system displays the following prompt:

Enter DISK letter(s) for a DOS DISK VERIFY:

3. Type the letter(s) followed by a colon that identifies the disk backup(s) whose contents you want to verify.

If you specify different disks to verify, SY-TOS will switch disks when verifying the different disk backups. For example, suppose your current disk is C: and you specified the following:

Enter DISK letter(s) for a DOS DISK VERIFY: C: A:

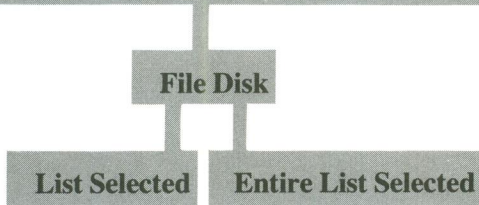
SY-TOS would first verify the C: disk backup, then switch to drive A, update the **DISK** window and verify the A: disk backup.

You may also specify the disk backup sequence number to verify a specific backup. For example:

*Enter DISK letter(s) for a DOS DISK VERIFY:
C:1 C:3*

SY-TOS will verify the first and third occurrences of the C: disk backups.

SY-TOS will notify you in the MESSAGES window whether or not the disk verified. If the verification failed, repeat the DOS disk backup.



Restore Commands

The Restore commands give you the ability to move information from a tape to a disk.

Before restoring files, you may want to select the Options Prompt Yes command to request SY-TOS to notify you before overwriting changed or read-only information on the current disk. You should also check the Options Restore command to ensure you will be restoring to the appropriate location.

Each time you back up files, SY-TOS records it as a session. A tape may contain one session or many sessions depending upon whether the Options Append command is set to No or Yes. When you restore files using the Restore File Selected command, SY-TOS considers all of the sessions if Set Select Sessions is set to All, or a particular one based on the setting for the Set Select Session Specific command.

To determine which session you want to restore, set the file selection criteria values according to the information you wish to restore. Make sure the Set Select Session command is set to All. Then select either the Directory Tape File Selected or Directory Library File Selected command. SY-TOS will display the session numbers and the associated file information. You can then find which session you want to restore.

Before restoring the files, choose the Set Select Session Specific command and enter the desired number. You may then choose the Restore File Selected command. SY-TOS will only include that particular session when restoring the specified files.

If the Set Select Session command is set to All, SY-TOS will restore all files that satisfy the selection criteria in each

session on the tape. If you select the Restore File List command, SY-TOS will disregard the file selection criteria and restore all occurrences of the specified files.

Each time you back up a disk, SY-TOS assigns it a sequence number (for example, C:1, A:1, A:2). When you restore a disk backup, you can specify the sequence number associated with it if more than one exists on the tape. You can see the sequence numbers that SY-TOS assigns each disk backup when you select the Directory Tape File Selected command. To see a list of the DOS disk backups on all tapes in the Library system, select the Directory Library Disk List or Selected command.

In addition to restoring files by sessions and disk sequences, SY-TOS allows you to specify a different path.

Restoring by Pathnames

There are two ways to restore by pathname:

- Restore the files to their original pathname, regardless of the current disk and directory.
- Restore the files to the current disk and directory displayed in the DISK window.

To restore files to their original pathname, select the Options Restore Original command. When you specify the files that you want to restore, SY-TOS will restore them to their path as recorded on the tape.

When you want to restore the backed up files to a new location, select the Options Restore New command. Make sure the disk and directory where you want to place the files are indicated in the DISK window (To change them, use the Set Disk and Set Path commands).

SY-TOS strips the file pathname from the original pathname and restores the files to the current disk and directory.

Examples

This section offers several examples on how to restore files using a new pathname.

Restoring a List of Files

Suppose your current disk is set to C: and the directory is \SYTOS as illustrated in Figure 4-1.

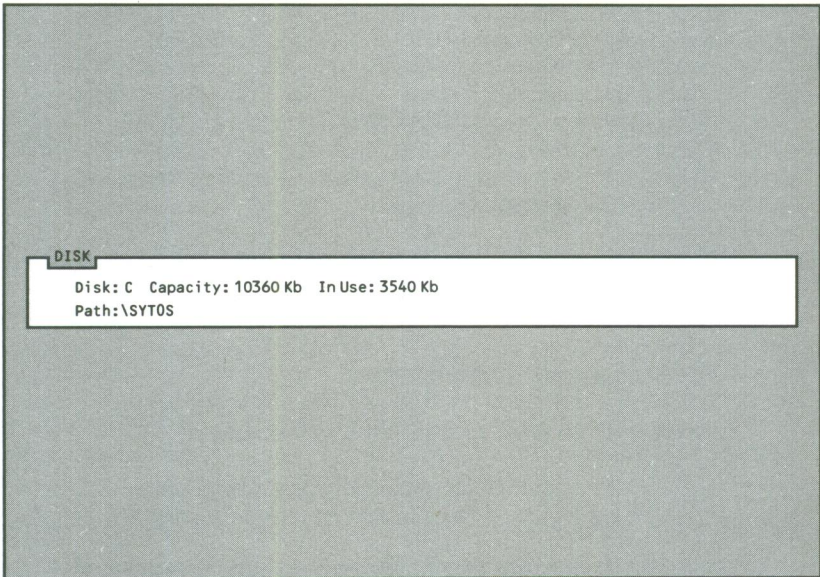


Figure 4-1 Current Disk and Directory

The files on the tape that you want to restore have the following pathname:

C:\ACCOUNTS\PAYABLE\

You want to restore the files to disk A: under the directory \BACKUP because you do not want to change the files in C:\ACCOUNTS\PAYABLE.

You would follow these steps:

1. Change the current disk by selecting the **Set Disk** command and typing **A:**
2. Change the current directory by selecting the **Set Path** command and typing **\BACKUP**.

The DISK window would now look like Figure 4-2.

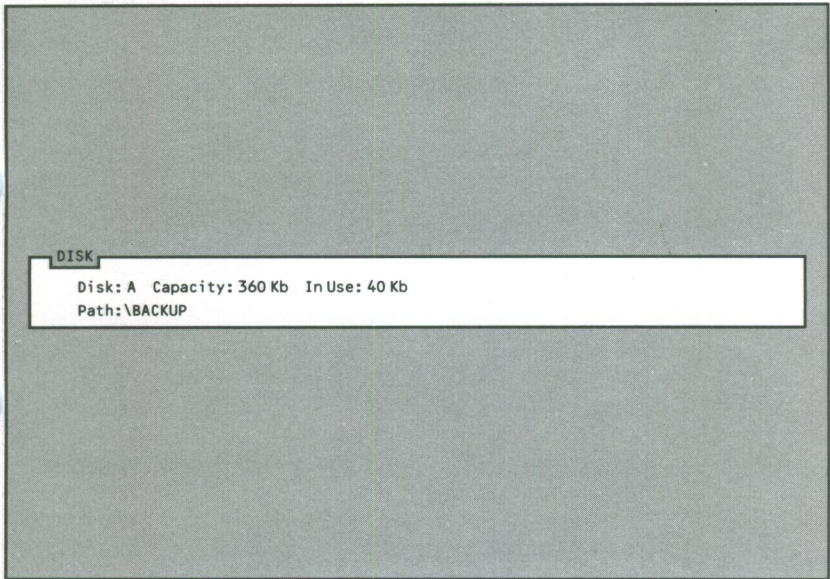


Figure 4-2 Updated DISK Window

3. Select the **Options Restore New** command to specify that you want to restore files to a new directory.
4. Select the **Restore File List** command.

The system would display the following prompt:

Enter FILENAMES:

5. Type **C:\ACCOUNTS\PAYABLE\<filename.ext>** and press **<Enter>**.

In this example, SY-TOS would ignore the tape path of C:\ACCOUNTS\PAYABLE and restore the files according to the following path:

A:\BACKUP\<filename.ext>

Restoring Files and Subdirectories

When restoring files and subdirectories to a new pathname, you must use the Restore File Selected command.

Suppose your current disk is set to C: and the directory is \SYTOS as illustrated in Figure 4-1.

The files on the tape that you want to restore have the following pathname:

C:\ACCOUNTS\PAYABLE\ELEC_CO\

You want to restore the files to disk D: under the \BACKUP directory and include all subdirectories from \PAYABLE and \ELEC_CO.

You would follow these steps:

1. Change the current disk by selecting the **Set Disk** command and typing **D:**
2. Change the current directory by selecting the **Set Path** command and typing **\BACKUP**.
3. Specify the following selection criteria:

Set Select Command	Default Setting
Include	C:\ACCOUNTS**
Exclude	a null value
Changed	No
Date	No
Trees	Yes
Session	All (because only 1 backup session exists on the tape)

4. Select the **Options Restore New** command to specify that you want to restore to a new directory.
5. Select the **Restore File Selected** command.

SY-TOS would ignore the tape path of C:\ACCOUNTS and restore the files according to the following path:

D:\BACKUP\PAYABLE\ELEC_CO\

Any existing subdirectories would be included.

A Reminder

In summary, to restore files to a new location:

1. Make sure you are on the disk and in the directory where you want to restore the files.
2. Set the Options Restore command to New.
3. Specify the identical disk and directory path.

SY-TOS strips the disk and directory paths from the original pathname before restoring the files under the new path.

For example, suppose the current disk and directory are A: and \BACKUP as shown in Figure 4-2.

The existing pathnames of files on tape are:

```
C:\ACCOUNTS\<<filename.ext>
```

Figure 4-3 gives two examples of restoring by pathname.

Example 1 illustrates the Restore File List command.

Example 2 illustrates the Restore File Selected command with the following file selection criteria:

Set Select Command	Default Setting
Include	C:**
Exclude	a null value
Changed	No
Date	No
Trees	Yes
Session	All (because only 1 backup session exists on the tape)

	Specified Path	Restored Path
Example 1	C: \ ACCOUNTS \ < filename.ext >	A: \ BACKUP \ < filename.ext >
Example 2	C: < filename.ext >	A: \ BACKUP \ ACCOUNTS \ < filename.ext >

Figure 4-3 Examples of Restoring by Pathnames

- Example 1.** SY-TOS strips the C: disk path and the \ACCOUNTS directory path from the original pathname and then uses the A: disk and \BACKUP directory paths for the new pathname for the <filename.ext>.
- Example 2.** SY-TOS strips the C: disk path, but finds a difference in the directory path. It then restores the \ACCOUNTS\<filename.ext> files under the A:\BACKUP path.

Restore File List

The Restore File List command allows you to restore files backed up on tape to a specified disk.

Procedure

1. Select **Restore File** from the Advance menu command line.
2. Choose the **List** command.

The system displays the following prompt:

Enter FILENAMES:

3. You have the following choices:
 - Type the filename(s) that you want to restore.
 - Type the name of a file preceded by an @ symbol that contains a list of files that you want to restore to the disk. The @ symbol must precede the complete pathname.

If the Options Restore command is set to New, you can specify a different path to restore the files.

Restore File Selected

The Restore File Selected command restores pre-selected files from a tape to a specified disk.

Procedure

1. Before choosing the Restore File Selected command, make sure the file selection criteria values are set to the ones you want.

To view the current file selection criteria, choose the Set Select command. SY-TOS will display the selection criteria in the MESSAGES window. You may change the criteria and then return to the Advance menu command line.

2. Select **Restore File** from the Advance menu command line.
3. Choose the **Selected** command.

SY-TOS will restore specific files based on the file selection criteria.

If there is more than one session on the tape, you can use the Set Select Session command to specify a particular session.

If the Options Restore command is set to New, you can specify a different path to restore the files.

Restore Disk Entire

The Restore Disk Entire command restores a disk backup from a tape to a specified disk. The disk being restored to must be the same size as the disk that was backed up to that tape.

Procedure

1. Select **Restore Disk** from the Advance menu command line.
2. Choose the **Entire** command.

The system displays the following prompt:

Enter DISK letter(s) for a DOS DISK RESTORE:

3. Type the letter(s) identifying the disk(s) that you want to restore from tape and press **<Enter>**.

You may also specify the disk backup sequence number if there is more than one disk backup. For example:

Enter Disk letter(s): C:1 A:3

SY-TOS will restore the first occurrence of the C: disk and the third occurrence of the A: disk backups on tape to the C: drive and the A: drive, respectively.

You can specify where you want to restore the disk backup on tape. For example:

Enter disk letter(s): A:2/B:

SY-TOS will restore the second sequence of the A: disk to the B: disk.

When redirecting disks, you first specify the backup disk, enter a slash "/" and then specify the disk to where you want it restored to.

Note: When restoring a disk backup to a disk that is a different size from the backup disk, use the Restore Disk List or Selected command.

Restore Disk List

The Restore Disk List command restores specific files from a DOS disk backup on tape to the current DOS disk, which is displayed in the DISK window.

Procedure

1. Select **Restore Disk** from the Advance menu command line.
2. Choose the **List** command.

The system displays the following prompt:

Enter FILENAMES to RESTORE to disk:

3. You have two choices:
 - Type the filename(s) that you want to restore. For example:
Enter FILENAMES to RESTORE to disk:
.
 - Type the name of a file preceded by an @ symbol that contains a list of files that you want restored (for example, @\RESTORE.LST). The @ symbol must precede the complete pathname.

Notes: If the Option Restore command is set to Original, SY-TOS will restore the specified files to the tape pathname on the current disk. If the pathname does not exist, SY-TOS will create it.

If the Options Restore command is set to New, you can specify a different path to restore the files. SY-TOS will restore the files to the current disk and directory. Refer to the beginning of this section for more information on restoring files by a different pathname.

After you specify the files you want to restore, SY-TOS displays the following prompt:

Enter DISK letter(s) for a FILE FROM DOS DISK RESTORE:

4. Type the disk letter(s) associated with the files on the disk backup that you want to restore and press **<Enter>**.

You may also specify the disk backup sequence number if there is more than one disk backup residing on the tape.

Restore Disk Selected

The Restore Disk Selected command restores pre-selected files from a disk backup on tape to a specified disk. It selects the files to restore based on the file selection criteria.

Procedure

1. Before choosing the Restore Disk Selected command, make sure the file selection criteria values are set to the ones you want.

To view the current file selection criteria, choose the Set Select command. SY-TOS will display the selection criteria in the MESSAGES window. You may change the criteria and then return to the Advance menu command line.

Notes: If the Option Restore command is set to Original, SY-TOS will restore the specified files to the tape pathname on the current disk. If the pathname does not exist, SY-TOS will create it.

If the Options Restore command is set to New, you can specify a different path to restore the files. SY-TOS will restore the files to the current disk and directory. Refer to the beginning of this section for more information on restoring files by a different pathname.

2. Select **Restore Disk** from the Advance menu command line.
3. Choose the **Selected** command.

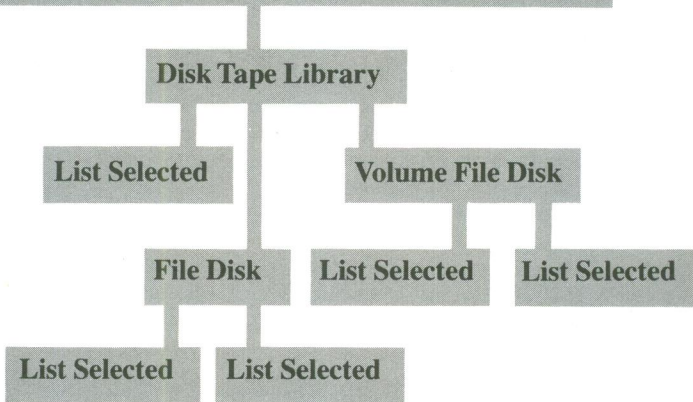
SY-TOS displays the following prompt:

Enter Disk letter(s) for a FILE FROM DOS DISK RESTORE:

4. Type the disk letter(s) associated with the files on the disk backup that you want to restore and press **<Enter>**.

SY-TOS will restore specific files based on the file selection criteria.

Backup Verify Restore Directory Set Options Help Quit



Directory Commands

The Directory commands display a list of files from the current disk, tape or Library system.

These commands are useful when you want to locate specific files to back up, restore or just to view the contents of a tape.

SY-TOS displays the Directory in the MESSAGES window. It lists the tape(s) and disk(s) names as well as their creation date and time. For each file listed in the Directory, SY-TOS displays the following:

- Pathname and file extension.
- Size of the file in bytes.
- The date and time the file was last modified.

When you want to view all the information backed up to tape in a file-by-file manner, first set the file selection criteria values according to the information you want to view. You may then choose the Directory Tape File Selected command.

When you want to view a file associated with a DOS disk backup, set the file selection criteria values according to the information you want to view. Next, select the Directory Tape Disk Selected command.

A quick way to view all information existing on a tape is to use the Directory Library File Selected command. You should first set the file selection criteria values according to the information you want to see.

Directory Disk List

The Directory Disk List command displays a list of files on the current disk.

Procedure

1. Select **Directory Disk** from the Advance menu command line.
2. Choose the **List** command.

The system displays the following prompt:

Enter FILENAMES:

3. Type the filename(s) that you want displayed in the MESSAGES window and press <Enter>.

SY-TOS displays the specified file(s) in the MESSAGES window.

If you have specified more files than will fit in the MESSAGES window, press <Enter> to display additional filenames or press <Esc> to stop.

Directory Disk Selected

The Directory Disk Selected command displays a list of pre-selected files on the current disk. SY-TOS uses the file selection criteria to determine which files it displays.

Procedure

1. Before choosing the Directory Disk Selected command, make sure the file selection criteria values are set to the ones you want. Refer to the Set Select commands in this chapter for information about choosing the file selection criteria. Refer to Chapter 2 for an overview.

2. Select **Directory Disk** from the Advance menu command line.
3. Choose the **Selected** command.

The system displays a list of files in the MESSAGES window.

You may press <Enter> to view additional files if they exist or press <Esc> to stop.

Directory Tape File List

The Directory Tape File List command displays a list of specified files that exist on the current tape.

Procedure

1. Select **Directory Tape** from the Advance menu command line.
2. Choose the **File List** commands.

The system displays the following prompt:

Enter FILENAMES:

3. Type the filename(s) that you want displayed in the MESSAGES window and press <Enter>.

SY-TOS displays the specified filename(s) that exist on tape.

You may press <Enter> to view additional files if they exist or press <Esc> to stop.

Directory Tape File Selected

The Directory Tape File Selected command displays a list of pre-selected files on the current tape. SY-TOS uses the file selection criteria to determine which files to display.

Procedure

1. Before choosing the Directory Tape File Selected command, make sure the file selection criteria values are set to the ones you want. Refer to the Set Select commands in this chapter for information about choosing the file selection criteria. Refer to Chapter 2 for an overview.
2. Select **Directory Tape** from the Advance menu command line.
3. Choose the **File Selected** commands.

SY-TOS displays a list of files from the current tape.

You may press <Enter> to view additional files if any exist or press <Esc> to stop.

Directory Tape Disk List

The Directory Tape Disk List command displays a list of files within a disk backup on the current tape.

Procedure

1. Select **Directory Tape** from the Advance menu command line.
2. Choose the **Disk List** commands.

The system displays the following prompt:
Enter FILENAMES:
3. Type the filename(s) that you want displayed in the MESSAGES window and press <Enter>.

SY-TOS displays next:
Enter DISK letter(s) for a DOS DISK DIRECTORY:
4. Type the disk letter(s) associated with the files on the disk backup that you want to see and press <Enter>.

You may also specify the disk sequence number if more than one resides on the tape. For example:

Enter DISK letter(s) for a DOS DISK DIRECTORY:
C:1 C:2

SY-TOS displays the specified files on the disk backup(s) that you requested.

If you have specified more files than will fit in the MESSAGES window, press <Enter> to display additional names or press <Esc> to stop.

Directory Tape Disk Selected

The Directory Tape Disk Selected command displays a list of pre-selected files from a disk backup on the current tape. SY-TOS uses the file selection criteria to determine which files to display.

Procedure

1. Select **Directory Tape** from the Advance menu command line.
2. Choose the **Disk Selected** commands.

The system displays the following prompt:

Enter DISK letter(s) for a DOS DISK DIRECTORY:

3. Type the disk letter(s) associated with the files on the disk backup that you want to see and press <Enter>.

You may also specify the disk sequence number if more than one resides on the tape. For example:

Enter DISK letter(s) for a DOS DISK DIRECTORY:
C:1 C:2

SY-TOS displays a list of pre-selected files on the disk backup(s) that you requested.

If there are additional filenames to view, press <Enter> to continue or press <Esc> to stop.

Directory Library

When you want to view the Library system it must be active. You turn it on and off with the Options Library Active command from either the Advance menu system or the STCONFIG utility.

When there is more than one tape volume or disk backup on a tape that is recorded in the Library system, SY-TOS allows you to choose the ones you want.

Key to Press	Activity
	Unmarks a tape or disk backup.
<↓> Down arrow	Moves the pointers to the next item.
<Enter>	Displays the specified files on the marked tapes and disk backups.
<Esc>	Exits out of the Directory.
<Ins>	Marks the tape or disk backup whose contents you want to view.
<PgDn>	Displays the next page of names.
<PgUp>	Displays the previous page of names.
<↑> Up arrow	Moves the pointers to the previous tape or disk backup name.

When you want to view the contents of a tape that is not recorded in the Library system, insert the tape in the tape drive and either use the Directory Tape command or the Options Library Update command to add it to the Library system.

The following sections describe the Directory Library commands.

Directory Library Volume

The Directory Library Volume command displays a general listing of all tape volumes recorded in the Library system.

Procedure

1. Select **Directory Library** from the Advance menu command line.
2. Choose the **Volume** command.

SY-TOS displays each tape volume name that exists in the Library system along with the number of files, disks and devices backed up with the total number of kilobytes of information in use on that tape.

Directory Library File List

The Directory Library File List command displays a list of files contained within one or more tape volumes recorded in the Library system.

Procedure

1. Select **Directory Library** from the Advance menu command line.
2. Choose the **File List** commands.

The system displays the following prompt:

Enter FILENAMES:

3. Type the filename(s) that you want displayed in the MESSAGES window and press **<Enter>**.

SY-TOS displays a list of tape volume name(s) that are in the Library system.

4. Select the tape(s) that contain the file(s) you want displayed.

The system displays the specified file(s) in the MESSAGES window.

If there are additional filenames, press <Enter> to continue or press <Esc> to stop.

Directory Library File Selected

The Directory Library File Selected command displays a list of pre-selected files contained within one or more tape volumes recorded in the Library system. The system uses the file selection criteria to determine which files to display.

Procedure

1. Select **Directory Library** from the Advance menu command line.
2. Choose the **File Selected** commands.

SY-TOS displays a list of tape volume names that are in the Library system.

3. Select the tape(s) whose contents you want to see displayed.

The system displays a list of pre-selected tape files in the MESSAGES window.

Press <Enter> to display additional filenames or press <Esc> to stop.

Directory Library Disk List

The Directory Library Disk List command displays a list of files from a disk backup within one or more tape volumes recorded in the Library system.

Procedure

1. Select **Directory Library** from the Advance menu command line.
2. Choose the **Disk List** commands.

The system displays the following prompt:

Enter FILENAMES:

3. Type the filename(s) that you want displayed in the MESSAGES window and press <Enter>.

SY-TOS displays the names of the tapes currently recorded in the Library system.

4. Select the tape(s) that contain the disk backups that you want to see displayed.

The system displays a list of the disk backups that exist on the specified tape.

5. Select the disk backup(s) in which you want SY-TOS to scan for the specified file(s).

SY-TOS displays the specified list of files on the first disk backup that you marked.

If you have specified more files than will fit in the MESSAGES window, press <Enter> to display additional filenames or press <Esc> to stop.

Directory Library Disk Selected

The Directory Library Disk Selected command displays a list of pre-selected files from disk backups on one or more tapes recorded in the Library system. SY-TOS uses the file selection criteria to determine which files to display.

Procedure

1. Select **Directory Library** from the Advance menu command line.

2. Choose the **Disk Selected** commands.

SY-TOS displays a list of tape volume names that are in the Library system.

3. Select one or more tapes that contain the disk backup(s) that you want to see.

The system displays a list of the disk backup(s) that exist on the specified tape(s).

4. Select the disk backup(s) that you want SY-TOS to scan for the pre-selected files.

SY-TOS displays a list of the pre-selected files on the first disk backup that you marked.

If you have specified more files than will fit in the MESSAGES window, press <Enter> to display additional filenames or press <Esc> to stop.

Backup Verify Restore Directory Set Options Help Quit

Tape Disk Path Select

Create Identify Retention

Include Exclude Changed Date Trees Session

Set Commands

The Set commands allow you to pre-set conditions for SY-TOS operations. Tape, disk, disk path and file selection can be pre-determined for specified SY-TOS tasks.

Set Tape Prepare

The Set Tape Prepare command initializes a tape for formatting. This command will only appear on the command line if you have a random access tape drive (such as one from IRWIN Magnetic Systems) attached to your computer.

When using a data cartridge for the first time, you must first prepare the tape by performing a low-level initialization followed by a tape format. You only need to prepare a tape once.

Procedure

1. Before selecting this command, insert a data cartridge into the tape drive.
2. Choose **Set Tape** from the Advance menu command line.
3. Select the **Prepare** command.

SY-TOS prepares the tape for formatting.

You must now use the Set Tape Format command to format the tape before backing up information.

Set Tape Format

The Set Tape Format command performs a high-level format of the data cartridge similar to the DOS command `FORMAT`. This command will only appear on the command line if you have a random access tape drive attached to your computer.

When using these tape systems, you must first format a tape before backing up information.

Note: If using a floppy-based tape drive, you must also initialize the tape by selecting the Set Tape Prepare command before choosing this command.

Procedure

1. Before selecting this command, insert a tape into the floppy tape drive.
2. Choose **Set Tape** from the Advance menu command line.
3. Select the **Format** command.

The system formats the tape.

Note: Sometimes after formatting tapes, there may be block errors. This indicates that SY-TOS could not format certain segments of the tape. However, SY-TOS will write the locations of these segments to the tape header and will not use these segments when you back up information.

Set Tape Create

The Set Tape Create command allows you to initialize a new tape to the SY-TOS system by specifying a tape volume name and an optional password.

When you select this command, SY-TOS overwrites existing information on the tape. Consequently, make sure the tape does not contain information that you want to keep.

Procedure

1. Choose **Set Tape** from the Advance menu command line.

2. Select the **Create** command.

The system displays the following prompt:

Enter a tape VOLUME NAME:

3. Type the name you want to give this tape. It can be up to 47 characters and you may use spaces.

The system displays the next prompt.

Enter an optional tape PASSWORD; <Enter> if none:

4. If you do not want to assign a password to this tape, simply press **<Enter>**.

If you want to specify a password, type the password (up to 19 characters) and press **<Enter>**.

Passwords protect the tape against unauthorized access. Be sure to record the password and keep it in a safe secure place. Without the password, a tape cannot be accessed, and you cannot remove one from the tape without destroying the tape's contents.

The system prompts you again.

Re-enter PASSWORD to confirm:

5. Type the password again and press **<Enter>**.

If the password you just typed is incorrect, SY-TOS informs you and redisplay the optional password prompt. You will then need to repeat steps 4 and 5.

If the tape contains data, the system will display the following prompt:

*THIS TAPE CONTAINS DATA - Press <Enter>
CONFIRMING TO ERASE, <Esc> to QUIT*

6. Press either <Enter> to continue or <Esc> to stop.

If you press <Enter>, SY-TOS will overwrite the existing files.

Note: When the Options Append command is set to No, SY-TOS will automatically execute the Set Tape Create command each time you back up. When the Options Append command is set to Yes, you will need to select the Set Tape Create command each time you want to use a new tape or re-use an old SY-TOS tape before backing up files.

You might want to select the Options Erase Yes command to erase the contents of the text before selecting the Set Tape Create command. This command ensures maximum reliability when backing up files.

If the Library system is on, SY-TOS will automatically add this tape to the Library system.

Set Tape Identify

The Set Tape Identify command identifies a SY-TOS tape to the system.

Procedure

1. Choose **Set Tape** from the Advance menu command line.
2. Select the **Identify** command.

The system displays the tape volume name, creation date and time, and the volume number in the TAPE window. If a password has been assigned to this tape, SY-TOS will prompt you for it when you try to ACCESS the tape.

Note: This command is useful for determining the name and volume number of an unknown SY-TOS tape or when switching one SY-TOS tape with another.

Set Tape Retension

The Set Tape Retension command winds and rewinds a tape for proper tape tension.

Procedure

1. Choose **Set Tape** from the Advance menu command line.
2. Select the **Retension** command.

SY-TOS will wind and rewind the tape in the tape system.

Notes: You should use this command periodically if using a tape over and over again. When you transport a tape, you should also use this command.

If you are using a random access tape drive, the Set Tape Retension command will not appear on the command line.

Set Disk

The Set Disk command allows you to choose a different disk for SY-TOS operations.

Procedure

1. Choose **Set** from the Advance menu command line.
2. Select the **Disk** command.

The system displays the following prompt:

Enter new DISK letter:

3. Type the disk letter (followed by a colon), which identifies the disk that you want to access and press **<Enter>**. For example:

Enter new DISK letter: C:

Note: You may change to any logical device that is defined to your system.

When you change disks, SY-TOS updates the DISK window.

The path for the disk will be the root "\" unless you specify a different one by using the Set Path command.

Set Path

The Set Path command allows you to specify an alternate disk path for SY-TOS operations.

Procedure

1. Choose **Set** from the Advance menu command line.
2. Select the **Path** command.

The system displays the following prompt:

Enter new disk PATHNAME:

3. Type the pathname (up to 64 characters) and press **<Enter>**.

After you change the disk path, SY-TOS updates the DISK window.

When you want to change disks, use the Set Disk command.

Note: You cannot create a directory with this command. You may use only existing pathnames.

Set Select

The Set Select commands allow you to change a file selection criterion for the duration of a SY-TOS session. When you exit the SY-TOS system and then re-enter it, the Select criteria will be set to the default values you specified in the STCONFIG utility.

Each time you request SY-TOS to back up, verify, restore or display pre-selected files, it reviews each file criterion before selecting the files. For an explanation on how the file selection works, see the Selecting Files section in Chapter 2.

When you choose the Set Select command, SY-TOS displays the current file selection criteria in the MESSAGES window. You may review it to decide which one(s) you want to change.

Set Select Include

The Set Select Include command allows you to specify which files you want SY-TOS to consider when selecting files.

Procedure

1. Choose **Set Select** from the Advance menu command line.
2. Select the **Include** command.

The system displays the following prompt:

Enter FILENAMES, (press <Enter> for directory):

3. You have three choices:
 - Type the files that you want SY-TOS to consider and press <Enter>. For example:

Enter FILENAMES: C:\SYTOS\NEW\FILES

- Type the name of a file (preceded by an @ symbol) that contains a list of files that you want to include. The @ symbol must precede the complete pathname. For example:

Enter FILENAMES: @C:\SYTOS\INCLUDE

Use a text editor or the DOS EDLIN program to create the file. Make sure you include the pathnames of the files and separate each with a comma, space or <Enter>. The @file must exist before you specify it in this command.

- Press <Enter> to display the contents of the current directory in the MESSAGES window and then select the files to include by marking them.

Refer to the Easy-List File Selection section in Chapter 2 for information on how to mark files.

Set Select Exclude

The Set Select Exclude command allows you to specify files that you do not want SY-TOS to consider when selecting files.

Procedure

1. Choose **Set Select** from the Advance menu command line.
2. Select the **Exclude** command.

The system prompts you for the following prompt:

Enter FILENAMES, (press <Enter> for directory):

3. You have three choices:

- Type the files that you want SY-TOS to exclude and press <Enter>. For example:

Enter FILENAMES: C:.old,\wp*.doc*

- Type the name of a file (preceded by an @ symbol) that contains a list of files that you want to exclude. The @ symbol must precede the complete pathname. For example:

Enter FILENAMES: @C:\SYTOS\EXCLUDE

Use a text editor or the DOS EDLIN program to create the file. Make sure you include the pathnames of the files and separate each with a comma, space or <Enter>. The @file must exist before you specify it in this command.

- Press <Enter> to display the contents of the current directory in the MESSAGES window and then select the files to exclude by marking them.

Refer to the Easy-List File Selection section in Chapter 2 for information on how to mark files.

Set Select Changed

The Set Select Changed command allows you to specify files for SY-TOS to consider for file selection based on whether or not they have been modified since the last backup.

Procedure

1. Choose **Set Select** from the Advance menu command line.
2. Select the **Changed** command.
3. Choose one of the following options:
 - No** SY-TOS will consider files regardless of their update status.
 - Set** SY-TOS will consider only those files that have been modified since the last backup and will reset the file status to unmodified. SY-TOS will not consider these files again until they have been updated.
 - Keep** SY-TOS will consider only those files that have been updated since the last backup, but will keep the current modified file status. This option is useful when you want to create two backup tapes containing the same files.

Set Select Date

The Set Select Date command allows you to specify which files you want SY-TOS to consider for file selection based on their creation dates.

Procedure

1. Choose **Set Select** from the Advance menu command line.
2. Select the **Date** command.

3. Choose one of the following options:

- No** SY-TOS will not use a file's creation date as a file selection criterion.
- After** SY-TOS will consider files created on or after a specified date.
- Before** SY-TOS will consider files created on or before a specified date.
- Equal** SY-TOS will consider files that have a specific creation date.

When you select the After, Before or Equal options, SY-TOS will display the following prompt:

Enter DATE for file selection:

4. Type the date that you want SY-TOS to use when considering files for selection. Use the MM/DD/YY format when entering the date.

Set Select Trees

The Set Select Trees command allows you to specify whether or not you want SY-TOS to include subdirectories when it selects files.

Procedure

1. Choose **Set Select** from the Advance menu command line.
2. Select the **Trees** command.
3. Choose one of the following options:
 - No** SY-TOS will not include subdirectories when it selects files. This option is useful when you want to isolate files within a directory without including files within subdirectories.
 - Yes** SY-TOS will include subdirectories when it selects files. This option is useful when you want to include all files within a disk. You would simply set the Select Include command to ** and select the Trees Yes option.

Set Select Session

The Set Select Session command allows you to specify whether you want SY-TOS to search for files on all tape sessions or just a specific one when it restores or verifies files.

Procedure

1. Choose **Set Select** from the Advance menu command line.
2. Select the **Session** command.
3. Select one of the following options:

All	SY-TOS will search all tape sessions when selecting files to verify and restore.
Specific	SY-TOS will search a specific tape session when selecting files to verify and restore.

SY-TOS will display the following prompt:

Enter SESSION number:
4. Type the session number (up to 255) that you want SY-TOS to search and press **<Enter>**.

Options Commands

The Options commands enable you to pre-direct the events of SY-TOS operations being performed. For example, you can request SY-TOS to prompt you before it overwrites a changed or read-only disk file, or to append information to a tape that contains previously backed up information when a new backup is performed.

In addition, you can turn on and off the Library system and the Journal. If you want to back up, verify or restore a device where more than one operating system resides, you can select the Options Device command.

Options Append

The Options Append command allows you to specify whether you want to append information to a tape each time you back up or to overwrite the existing information on the tape.

Procedure

1. Select **Options** from the Advance menu command line.
2. Choose the **Append** command.
3. Choose one of the following options:
 - No** SY-TOS will overwrite the contents of the current tape when you back up your files or disk.
 - Yes** SY-TOS will append backups to the end of existing information residing on the current tape.

Notes: You should use this Options command in conjunction with the Options Erase command. If Append is set to No and Erase is set to Yes, SY-TOS will erase the tape before backing up. If Erase is set to No, SY-TOS will overwrite any information existing on the tape as it backs up.

If Append is set to No, SY-TOS will prompt you for the tape volume name and optional password each time you back up information to tape. If it is set to Yes, SY-TOS will automatically append the backup information to the current tape.

Options Restore

The Options Restore command allows you to specify where you want SY-TOS to restore files when you select the Restore File commands.

Procedure

1. Select **Options** from the Advance menu command line.
2. Choose the **Restore** command.
3. Choose one of the following options:

Original To restore files to disk by the original pathname from which the files were backed up from, regardless of the current disk and directory displayed in the DISK window.

New To restore files to disk according to the current disk and path as displayed in the DISK window and ignore the original pathnames on the backup tape.

Note: When you select the Options Restore New command, check the DISK window to make sure the current disk and directory are where you want to place the backed up information. To change the current disk, use the Set Disk command. To change the current directory, use the Set Path command. You may

then select the Restore command to restore the information.

You will find a description of how SY-TOS restores files using a new path under the Restore command section in this chapter.

Options Prompt

The Options Prompt command allows you to specify whether or not SY-TOS will prompt you before overwriting a changed or read-only disk file.

Procedure

1. Select **Options** from the Advance menu command line.
2. Choose the **Prompt** command.
3. Choose one of the following options:
 - No** SY-TOS will automatically overwrite updated files on disk or read-only files with the corresponding files on tape.
 - Yes** SY-TOS will prompt you before overwriting a changed or read-only file.

Options Break

The Options Break command allows you to specify whether or not you want to be able to press the <Ctrl> <Break> key combination to interrupt a SY-TOS activity.

Procedure

1. Select **Options** from the Advance menu command line.
2. Choose the **Break** command.

3. Choose one of the following options:

- No** SY-TOS will not allow the <Ctrl> <Break> key combination to interrupt an activity. This option is useful when a series of SY-TOS tasks are being performed while unattended.
- Yes** SY-TOS will allow the <Ctrl> <Break> key combination to interrupt an activity. This option is useful if you accidentally request an undesired task.

Options Erase

The Options Erase command allows you to specify whether or not you want SY-TOS to erase a tape before using it.

Procedure

1. Select **Options** from the Advance menu command line.
2. Choose the **Erase** command.
3. Choose one of the following options:

No SY-TOS will not erase a tape before using it. SY-TOS simply overwrites any existing information. This option saves the time it takes to create a new tape for SY-TOS. However, it may affect the integrity of the new tape.

Yes SY-TOS will erase the tape's contents before using it. This option ensures maximum reliability when backing up files.

Notes: If the Options Append command is set to No, then the Options Erase command determines whether SY-TOS erases a tape before backing up or overwrites a tape's contents.

If you are using a random access tape drive, the Options Erase command will not appear on the command line.

Options Journal

The Options Journal command allows you to record the information SY-TOS places in the MESSAGES window. You may keep the information within a disk file or send it to the printer port using the DOS command option PRN.

Starting the Journal

The Journal command is useful when you want to keep track of SY-TOS activity while no one is present or to monitor a week's activity in an office environment.

Procedure

1. Select **Options Journal** from the Advance menu command line.
2. Choose the **Begin** command.

The system displays the following prompt:

*Enter FILENAME or DEVICE for Activity Logging:
SYTOS.LOG*

3. You have three choices:
 - Press **<Enter>** to begin logging SY-TOS messages in the default file called SYTOS.LOG.
 - Type a name for the file or device (such as a printer or screen) where you want SY-TOS to direct the information.
 - Press **<Esc>** to cancel the command.

If the file exists, SY-TOS will display the following prompt:

File exists. Press <Enter> to append, or <Esc> to truncate:

4. Press **<Enter>** if you want to append information to the existing file.

Press <Esc> if you want SY-TOS to erase the information before starting the Journal.

After you start the Journal, SY-TOS displays the following information in the MESSAGES window:

System Activity Logging Started at [time] [date] Log File [name] open

Notes: Once you specify a file for the Journal, it remains on your system until you use the DOS command ERASE to delete it. SY-TOS places the default SYTOSLOG or the specified filename in the directory that contains the SY-TOS files and not in the current directory.

The Journal remains on until either you specify the Options Journal End command or exit the SY-TOS program.

You can review the Journal's contents by specifying the Options Journal Review command. If at some point you want to print the file, use the DOS command PRINT.

Stopping the Journal

When you want to turn off the reporting of SY-TOS' messages, follow these steps:

1. Select **Options Journal** from the Advance menu command line.
2. Choose the **End** command.

SY-TOS displays the following information in the MESSAGES window:

System Activity Logging stopped at [time] [date]

Reviewing the Journal

When you have specified SY-TOS to place its messages into a file, you can review its contents. However, the log file that you want to review must be the active one.

Procedure

1. Before choosing to review the Journal file, make sure the one you want is the active one. Select the **Options Journal Begin** command to specify the file.
2. Select **Options Journal** from the Advance menu command line.
3. Choose the **Review** command.
The system displays the contents of the active Journal file in the MESSAGES window.
4. You may press the following keys:

Key to Press	Activity
<PgDn>	Displays the next page of information.
<PgUp>	Displays the previous page of information.
<Esc>	Exits the Journal file.

Options Library Active

The Options Library Active command allows you to turn on and off the Library system.

SY-TOS gives you the opportunity to keep track of all tapes and files and disks that you back up. You may then use the Directory Library command to view the Library system.

Procedure

1. Select **Options Library** from the Advance menu command line.
2. Choose the **Active** command.
3. Choose one of the following options:
No The Library system will not be turned on. SY-TOS will not keep track of any new tapes initialized, existing tapes re-initializing or additional backups to an existing tape.

This option is useful when you are creating or updating tapes that will be used at a different location.

- Yes** The Library system will be turned on. You should keep the Library turned on during normal use. Only after the Library system has been turned off, should you select this option.

Options Library Update Add

The Options Library Update Add command creates a new tape volume entry in the Library system for those tapes created or updated at a different location, or while the Library system was turned off. The Library system must be on before you can update it.

Procedure

1. Before selecting this command, insert the tape into the tape drive.

To make sure the tape is the one you want, you may select the Set Tape Identify command.

2. Select **Options Library** from the Advance menu command line.
3. Choose **Update** and then the **Add** command.

SY-TOS will display the files existing on the tape in the MESSAGES window as it adds the tape to the Library system.

Options Library Update Remove

The Options Library Update Remove command permanently removes a specified tape from the Library system. You should use this command only when a tape will no longer be used. The Library system must be on before you can update it.

Procedure

1. Select **Options Library** from the Advance menu command line.
2. Choose **Update** and then the **Remove** command.
The system displays a list of volume names that are recorded in the Library.
3. Press the following keys:

Key to Press	Activity
	Unmarks a tape to remove.
<↓> Down arrow	Moves the pointers down one line.
<Esc>	Cancels the Remove command and returns you to the Advance menu command line.
<Ins>	Marks the tape you want removed.
<PgDn>	Displays the next page of tape names if any exist.
<PgUp>	Displays the previous page of tape names if any exist.
<Enter>	Removes the marked tapes from the Library system.
<↑> Up arrow	Moves the pointers up one line.

Options Device Backup

The Options Device Backup command performs a BIOS image backup, which starts from the first to the last cylinder of a disk device.

You would use this command instead of the Backup Disk Entire command when you have more than one operating system residing on one hard disk and you want to back them all up.

Procedure

1. Select **Options Device** from the Advance menu command line.
2. Choose the **Backup** command.

The system displays the following prompt:

Enter HARD DISK to BACKUP:

3. Type the number that identifies the hard disk you want to back up and press **<Enter>**.

SY-TOS will back up the entire contents of the hard disk to tape.

Notes: Each time you back up the same hard disk, SY-TOS assigns a sequence number to it. You may then refer to this number when verifying and restoring hard disk backups.

You should verify after each backup.

CAUTION

Because SY-TOS performs a BIOS image backup, you may lose information when restoring to a different hard disk if it contains bad sectors in places where they do not exist in the backup copy.

Options Device Verify

The Options Device Verify command verifies the contents of a hard disk backup located on tape with that on a hard disk.

You would use this command if you wanted to verify a disk backup that was done using the Options Device Backup command.

Procedure

1. Select **Options Device** from the Advance menu command line.
2. Choose the **Verify** command.

The system displays the following prompt:

Enter DISK number for HARD DISK VERIFY:

3. Type the number that identifies the hard disk backup whose contents you want to verify and press **<Enter>**.

You may also specify the disk backup sequence number to verify a specific backup. For example:

Enter DISK number for HARD DISK VERIFY: 1:2

SY-TOS will verify the second occurrence of the device 1 backup.

Note: SY-TOS notifies you in the MESSAGES window whether or not the verification is successful. If the Verify failed, repeat the device backup.

Options Device Restore

The Options Device Restore command performs a BIOS image restore of an entire logical device. The hard disk being restored to must be the same size as the hard disk being restored from.

Procedure

1. Select **Options Device** from the Advance menu command line.
2. Choose the **Restore** command.

The system displays the following prompt:

Enter DISK number for HARD DISK RESTORE:

3. Type the number identifying the hard disk whose contents you want to restore from tape and press **<Enter>**.

You may also specify the disk backup sequence number if there is more than one. For example:

Enter DISK number for HARD DISK RESTORE: 1:2

SY-TOS will restore the second occurrence of device 1 located on tape.

CAUTION

SY-TOS performs a BIOS image backup of a hard disk, starting from the first cylinder to the last. Because of this backup method, you may lose information if you restore to a different disk that contains bad sectors in places where they did not exist on the backed up disk. Therefore, make sure the hard disk you are restoring to does not have bad sectors.

Refer to the Restore command section in this chapter for an overview on restoring files and disks.

Help Command

The Help command describes how to use the on-line help facility in the Advance menu system.

To display the on-line help text, follow these steps.

Procedure

1. Move the arrow keys to highlight the command in which you want help.
2. Press the `<?>` key.

Help text pertaining to the highlighted command appears in the MESSAGES window.

3. Press the `<PgDn>` or `<PgUp>` keys to view additional text if any exists.

Press `<Esc>` to exit the help facility.

Note: SY-TOS offers help without you having to request it. Whenever a command on the Advance menu command line is highlighted, SY-TOS displays the subcommands on the second line. This helps you view the command's tree structure without having to select the commands. When there aren't any additional commands, SY-TOS displays a description below the highlighted command.

Quit Command

Select the **Quit** command from the Advance menu command line when you want to end a SY-TOS session.

Any changes you made to the Set Select and Options commands will revert back to the default settings as specified in the STCONFIG utility.

Chapter 5. Command Line Operation

In addition to the Advance and EZ-function menu systems, SY-TOS gives you the opportunity to execute its commands at the DOS prompt. Once you become an experienced user, you might find it faster to pass "command switches" to SY-TOS rather than stepping through the cues provided by the menu system.

You can also execute SY-TOS commands by specifying a "batch" text file. You create the batch file by placing the command switches in a batch text file.

Executing SY-TOS Commands from the DOS Prompt

This method actually calls the SY-TOS program; therefore, you need to be in the same directory as the SY-TOS system or specify the correct path. After you type the commands and press <Enter>, the Advance menu system appears on the screen and the system begins executing the command(s) previously entered. It then redisplay the DOS prompt upon completion.

Procedure

1. Type **SYTOS** and then press the <Space Bar>.
2. Type the command switches you want to execute (up to 127 characters) and press <Enter>.

The command switch format you must follow when executing commands is:

letters spec -

letters stand for the first letter of each command (for example, bfl for Backup File List).

spec indicates any required specifications to a command (for example, a filename). A ";" (comma) or " " (space) must separate multiple specifications to a command.

- (**hyphen**) must precede each command set as well as follow a specification passed to a command set. If another command set is to follow a specification, type only the hyphen preceding the next command set and omit the hyphen for that specification.

Example

Suppose you want to backup a file called temp.doc and verify it after backing it up. You would type the following at the DOS prompt:

```
sytos -bfl temp.doc -vfl temp.doc - <Enter>
```

The characters following SY-TOS are designated as switches for SY-TOS to interpret and process. The (-) hyphen initiates each command set and ends the final command specification, **bfl** translates into the Backup File List command, and **temp.doc** is the command specification (in this example, the file to be backed up) for both command sets.

Upon entering the above sequence of characters followed by the <Enter> key, the Advance menu system would appear on the screen, SY-TOS would back up the file and then return to the DOS prompt.

Notes

When operating SY-TOS from the command line, you may not use spaces within a volume name or password nor when specifying multiple disk backups.

The file specification criteria you specified in the STCONFIG utility is in effect when you execute commands at the DOS prompt, unless you specifically change them in your command line.

If the security system is on, you must first type a username and password before typing the commands.

The command switch format for entering a username and password before command sets is:

username password -letters spec -

Where **username** and **password** (separated by a space) correspond to the correct user's name and password preceding the command sets.

Using the above example and having the security system on, if your username is jay and your password is smith, you would type:

sytos jay smith -bfl temp.doc -vfl temp.doc - <Enter>

Creating Batch Files Under DOS

The SY-TOS command coupled with specified SY-TOS command switches may be placed within a "batch" text file under a user specified filename. This file must have a file extension of **bat**. This extension tells DOS to execute commands indicated within this file. Once the batch file is created and contains the SY-TOS command along with specified command switches, you simply type the name of the batch file at the DOS prompt to execute the batch file.

You can use the DOS EDLIN program, or any word processor (in unformatted mode), to create a batch file. Refer to your DOS manual for information on creating batch files under DOS.

The following examples are sample batch files you may wish to create. The assumption is made that the default Select and Options command settings of SY-TOS are set to the original settings when SY-TOS was purchased. When executing a batch file, the current Select and Options command settings are used, as indicated in the STCONFIG utility. If these default settings have been changed, they may effect the outcome of the following examples.

Example 1: Create a batch file named **backfile.bat** to back up all files on the DOS disk C onto a tape to be newly initialized with a tape volume name of "ALL.FILES.ON.C".

The batch file contains the following:

```
sytos -ssi c:\** -bfs all.files.on.c -
```

Upon typing **backfile** <Enter>, SY-TOS will set the Set Select Include criteria to C:**, initialize the tape with the new volume name specified, and proceed to back up all files contained on disk C.

Example 2:

Create a batch file named **backdisk.bat** to back up the complete contents of the DOS disk C: onto a tape to be newly initialized with a tape volume name of "DOS.DISK.BACKUP.OF.C".

The batch file contains the following:

```
sytos -bd c: -dos.disk.backup.of.c -
```

Upon typing **backdisk** <Enter>, SY-TOS will initialize the tape with the new volume name specified, and proceed to back up the complete contents of the C disk.

Appendix A.

Recommended Backup Procedures

You should never try to maintain a backup system with only one tape. We recommend that you have a minimum of three tapes that you rotate. In addition, you should keep a master tape off site or in a fire proof storage unit.

It is advisable to erase a tape before using it each time. This ensures the data integrity of the backup. If the Options Append command is set to No, SY-TOS prompts you for a name and an optional password when you back up information to a tape. If a tape has a password assigned to it, then no one can access the contents of the tape without specifying the password. Once you assign a password to a tape, it cannot be removed without destroying the contents of the tape. Consequently, record the password in a safe and secure place.

SY-TOS gives you the option of keeping track of all backups through a Library system. You turn the Library system off and on with the Options Library command in the Advance menu system or from the STCONFIG utility. The default setting for the Options Library system is Yes. We recommend that you keep the Library system turned on in order for you to keep track of all backups performed and on which tapes.

In addition to specifying a name and password for a tape, you should label the tape so that you can easily recognize it. Use the information displayed in the Library system to label the tapes. For example:

```
BACKUP_PRACTICE_TAPE 04/23/86 at 11:44:58  
VOLUME 1
```

It is a good idea to establish a backup procedure. For example, you could have eight tapes: one for each business day, two weekly tapes, and one spare tape. Each day at the end of a work day, you could back up only modified files to a tape. At the end of a week, you could do a master backup of your system. The master tape would be stored in a safe place to ensure security. You would then repeat the process the following week as Figure A-1 illustrates.

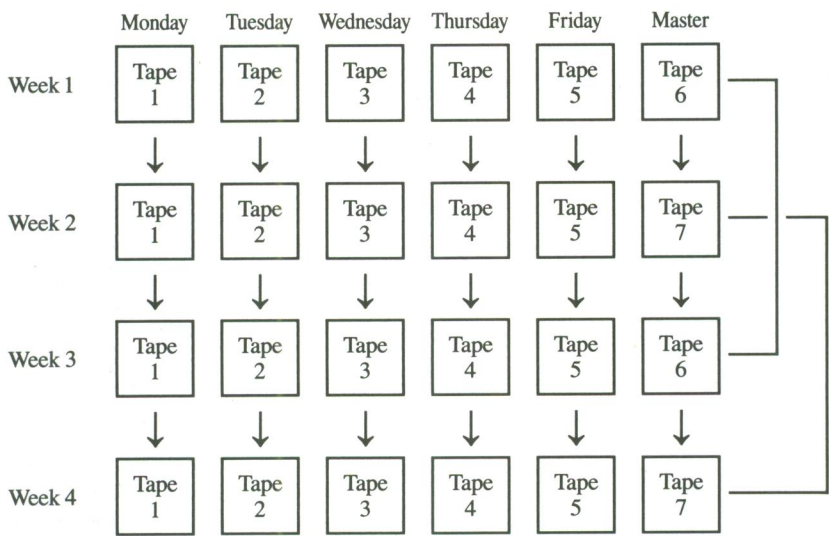


Figure A-1 A Sample Backup Procedure

Another backup procedure would be to have three tapes and rotate them each day. The tape you would be using would be the tape containing the oldest backup. In this case, you would back up all disk contents to each tape. Figure A-2 illustrates this method.

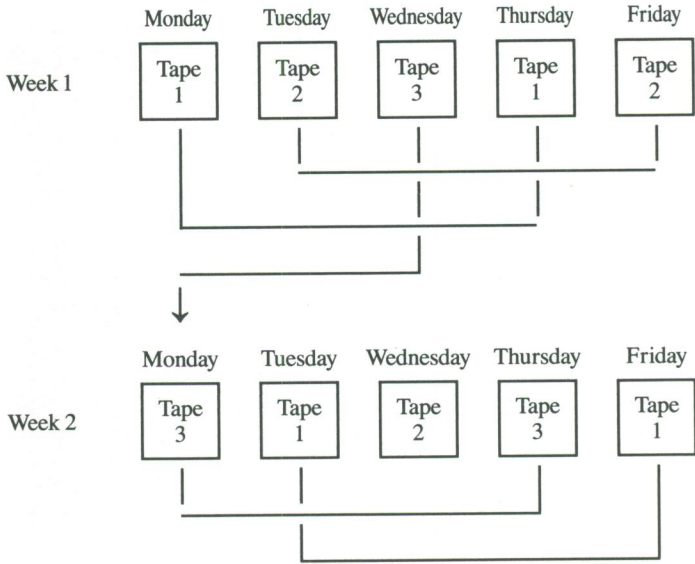


Figure A-2 Sample Rotation Backup

Once you establish a backup procedure, saving your work each day can become an effortless routine.



Appendix B. Taking Care of Your Tapes

This appendix lists some suggestions for taking care of your tapes to ensure maximum performance.

- Never touch the tape surface; always handle the tape cartridge.
- Keep tapes away from magnetic fields (for example, monitors, motors, televisions, and magnetic paper clip holders). Magnetic fields can scramble and erase information on a tape.
- Insert the tape into the tape drive carefully.
- Always return the tape to the plastic case when you are not using it.
- Do not leave a tape in the tape drive when you are not using SY-TOS.
- Store the tape in a safe place when not using it.
- Do not use a tape when the temperature is below 50 degrees or above 120 degrees. Do not leave a tape in the glove compartment of a car and forget about it. Extreme temperature changes can damage it.
- Periodically use the Set Tape Retention command to wind and rewind the tape.

If you suspect a tape is wearing out, execute a Backup command using that tape. If the backup operation doesn't execute properly, the tape is probably worn out.

If the backup is successful, set the tape aside for a few hours. Later verify the information on the tape to that on the disk. If the information should verify and it does not, then the magnetic coating on the tape is too worn to be reliable. Throw the tape away.

Appendix C. Problem Solving

The following are sample cases of problems that may be encountered, along with possible solutions to these problems:

- Problem:** SY-TOS backup, verify, and restore operations are slow to perform.
- Causes:** Not enough system memory available, or more buffers should be allocated under DOS' CONFIG.SYS file.
- Solution:** For maximum performance, 300K of system memory should be available upon execution of the SY-TOS program. Use the DOS command CHKDSK to view how much system memory is available for SY-TOS. Also, to increase the overall disk performance of your system, set BUFFERS=40 in your CONFIG.SYS file. (Create the CONFIG.SYS file if it does not exist.)
- Problem:** SY-TOS reports "INSUFFICIENT MEMORY .."
- Causes:** Not enough system memory is available for SY-TOS to operate.
- Solution:** Increase system memory either by adding more physical memory to your computer system, or removing any overhead or "memory resident" programs that may be taking away system memory from SY-TOS. Use the DOS command CHKDSK to view how much system memory is available for SY-TOS.
- Problem:** SY-TOS reports "TAPE DRIVE NOT READY".

- Causes:** Tape system is not powered. Tape cartridge is not properly loaded.
- Solution:** Check to see if the tape system is powered and turned on. Also make sure that the tape cartridge is properly placed in the drive.
- Problem:** SY-TOS does not execute properly and returns to the DOS prompt after typing SYTOS <Enter>.
- Causes:** SY-TOS' configuration file is damaged or not installed properly.
- Solution:** Re-install SY-TOS using the installation routine STINSTALEXE provided with SY-TOS.
- Problem:** SY-TOS reports "NO TAPE CONTROLLER PRESENT".
- Causes:** Tape controller may not be seated properly or damaged. The tape system may not be powered. The cable to the tape system may be damaged or not properly installed. The Base Address may be incorrect.
- Solution:** Check to see if the tape controller board installed in your system is seated properly. Try a different slot in your system. Check the cable to your tape system, making sure it is connected properly and not damaged. Make sure the tape system is powered and turned on. The Base Address in the STCONFIG utility should match the board Address.
- Problem:** SY-TOS appears to hang the system after accessing the tape.
- Causes:** The SY-TOS system configuration is not set properly to correspond to the tape controller. A conflict is occurring with another option board installed in your system.

Solution: SY-TOS requires certain DMA, Interrupt, and I/O Base Address settings to operate properly. Be sure that the settings (if any exist) on the tape controller board correspond to the hardware settings in the STCONFIG utility. In some instances, other option boards installed in your system may conflict with the tape controller board. Check the configuration of the option boards that are installed and make sure they do not conflict with the settings used by the tape controller.

Problem: SY-TOS reports "DATA ERROR ON TAPE" or "INVALID TAPE IDENTIFICATION LABEL".

Causes: The tape used may be damaged. The hardware settings in the STCONFIG utility do not correspond with the settings of the tape controller.

Solution: Try another tape. Be sure that the settings (if any exist) on the tape controller board correspond to the hardware settings in the STCONFIG utility.

Appendix D.

Working With DOS Disks Greater Than 32 Megabytes

If your DOS disk capacity exceeds 32 megabytes, your system, most likely, has a DOS disk device driver which works around DOS' limitations. Under most DOS versions, a disk cannot exceed 32 megabytes of capacity. You may, however, have a software package which works around this limitation by altering the standard DOS disk format.

The format of a standard DOS disk is calibrated into 512 byte sectors grouped together to form disk clusters. DOS has a limitation of how many clusters a disk can contain. The usual method to break this limitation is to increase the number of sectors a cluster is composed of, thus increasing the capacity of the disk without having to change the number of clusters on the disk. This increase in cluster size is incremented in multiples of 512 byte sectors.

Keeping this in mind, SY-TOS automatically adjusts for variations in disk cluster size upon executing the SY-TOS program.

Note: Under this system configuration, file restore operations from a DOS disk backup are not possible. Upon detection of this environment, SY-TOS will adjust the Advance menu system by removing all subcommands associated with the Restore Disk commands. The Restore Disk command will restore the entire contents of a DOS disk, similar to the Restore Disk Entire command.

Appendix E.

Working Under a Network Environment

If you have a networking system installed and you wish to operate SY-TOS under your network environment, you must first reconfigure SY-TOS for proper operation.

Under a network system, many user's can share disk files with one another. Security may be placed on certain files under the network. These files may only be accessed by those who have been given access rights to the files. Files shared under a network may reside on one or more disk systems.

The control of a networking system is usually maintained by a disk system referred to as the "file server". All user systems having access to the network, referred to as "stations", are connected to the file server. Under a common networking environment, a Network System Administrator monitors the network system via the file server, defining file access rights for network users, and where the files under the network are to be found.

When a user requests and updates a file under the network, that file is "locked" from the rest of the users. Once the file is no longer needed by the user, it becomes "un-locked" so that another user may access it. This process is designed to protect the integrity of the file being accessed. This process is performed automatically by the networking system, remaining transparent to the user.

There are special considerations SY-TOS must take when working under a networking environment. The following is a list of these considerations:

- SY-TOS is restricted to "file" or "device" oriented operations. "Disk" operations are not allowed in order to protect the integrity of files being updated while operating SY-TOS. SY-TOS automatically adjusts its menu options when configured for network use.
- SY-TOS will automatically back up all network security information that may be placed on files and directories. During a restore operation, the security

files will only be restored if they do not exist on the disk being restored to.

- At the end of a backup operation, SY-TOS will try again to back up those files that were specified to be backed up but were previously locked. If such files are still locked, SY-TOS will inform you of which files were specified to be backed up and were not.

SY-TOS may be run from any user station or the file server providing that the SY-TOS program and its associated tape controller card is locally present.

Note: If a complete disk device backup is required, use the Options Device Backup command with care. Make sure that no one is accessing the disk device that is currently being backed up.

Configuring SY-TOS to Use with a Network

The following procedure explains how to modify SY-TOS to use under a networking environment.

Procedure

1. Using the STCONFIG utility, set the Hardware Network command option to **YES**.
2. Check the Hardware DMA channel, Interrupt number, and I/O Base Address setting to make sure that the networking system does not use the same settings as SY-TOS. For general use, set the Hardware DMA channel to **2**, and the Hardware Interrupt number to **6**. Be sure to match these settings on the associated tape controller card.

GLOSSARY

Backup The ability to store a copy of disk information onto a tape. This tape is then used to recover that information in case it was damaged on the disk.

Batch File A user generated executable text file in DOS designated by its ".bat" file extension, which has the ability to run specified programs identified within this file.

Buffers A term designating a portion of system memory that SY-TOS sets up and uses as a temporary storage area for transported information.

Byte Is a unit of measure of storage capacity designated as one character of information.

Command Line A horizontal list of SY-TOS commands or functions that may be selected by choosing a highlighted command from the command line.

Device Referred in SY-TOS as a physical fixed disk drive unit which contains at least one DOS disk partition where SY-TOS resides.

Directory A logical subdivision of a disk. A directory is a special kind of file that DOS lets you create to organize the files stored on a disk, much like a cabinet that holds many file folders.

Directory Listing A sequential list of files from the current disk, tape or Library system.

Disk SY-TOS refers to a disk as any logical unit that the DOS operating system designates as one. Generally disks are classified by letters, where "A" and "B" refer to floppy disk drives, and "C" refers to a fixed disk drive. A DOS disk may take up all or part of a physical fixed disk unit. More than one DOS disk may reside on a physical fixed disk unit, each classified with its own unique disk letter.

DMA "Direct Memory Access", refers to the channel or roadway that information travels on between devices, such as from a disk system to a tape system. SY-TOS requires a DMA channel in order to transport information to and from a tape.

DOS Stands for Disk Operating System. It processes the commands that you and SY-TOS send to it. It also controls the various devices that your computer uses such as a disk drive.

DOS Disk All or part of a disk device that is designated as a logical DOS partition where information is kept under a format that is determined by the DOS operating system.

Erase To permanently remove information from a tape.

Error Message Any message that appears on the third line of the screen in reverse video accompanied by a tone when SY-TOS detects a problem and cannot complete a task.

File A term identifying a unique collection of information stored on a disk or tape.

File Extension A suffix of up to three characters preceded by a period that designates a filename for a specified file.

Filename The name you assign to a file. It can be up to eleven characters long (8 characters for the prefix, and 3 characters for the suffix, with a period separating the two), and can contain letters (A-Z), numbers (0-9) and the following special characters: \$ & # @ % ' () - { } _ / \

File Selection Criteria The criteria settings that SY-TOS reviews before listing, backing up, restoring or verifying files.

Image Operations Refers to SY-TOS backup, verify, and restore operations that treat disk information in a non-file-oriented manner which allows faster performance of these operations.

Interrupt A channel that SY-TOS uses to control the transport of information to and from a tape. SY-TOS uses an interrupt channel to allow simultaneous operation of the disk and tape systems during a backup, verify, or restore operation.

I/O Base Address A starting location within your computer system's allowable hardware ports required by SY-TOS that is used to communicate with the tape system.

Journal A file containing the information that SY-TOS displays in the MESSAGES window. You may keep this information within a disk file or send it to a printer.

Kilobytes Is a unit of measure of storage capacity where 1 kilobyte is equal to 1,024 bytes.

Library System An automatic logging system which keeps track of all tape volumes and their contents created with SY-TOS.

Megabyte Is a unit of measure of storage capacity where 1 megabyte is equal to 1,000 kilobytes.

Modified File A disk file that has been changed or altered since the last time it was backed up.

Non-DOS Partition An area on a disk device that is designated as a logical disk according to another operating system's standards apart from DOS.

Pathnames A path or route that is specified to locate particular files within a directory (if present) on a disk or tape.

Prompt A SY-TOS message that requires you to type information such as a filename before SY-TOS executes the command. The STATUS flag changes to INPUT to notify you that SY-TOS is waiting for information.

Restore A SY-TOS procedure for transporting information from a tape to a disk.

Root Directory Considered as the primary directory under a DOS disk having no parent directory.

Subdirectory A subdivision of the root directory or another subdirectory.

Switches A sequence of SY-TOS command codes that SY-TOS will translate into its respected commands during SY-TOS operation from the DOS command line.

Tape The medium on which SY-TOS stores information.

Tree Structures The organization of entities based on a hierarchical structure. Both DOS' file directories and SY-TOS' Advance menu commands utilize tree structure organization.

Verify A SY-TOS procedure which assures that information placed onto a tape correctly matches the information on the disk from which it came.

Volume A tape cartridge with an identifying name that contains backed up information.

Wildcard A DOS option for specifying groups of files by using the "*" and "?" characters as substitutes for filename characters.

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mfg

model

No. of PCs at Site

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 25-50 100-500
 > 500

Purchased from:

Retail _____
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explain

No. of Employees at Site

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Store Demo _____
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Defective media under warranty will be replaced when it is returned postage prepaid to the seller from whom you obtained possession or to SYTRON. The replacement media is warranted for three (3) months from date of replacement. Other than the postage requirement (where allowed by law), no charge will be made for the replacement. THIS PARAGRAPH EXPRESSES LICENSOR'S SOLE LIABILITY AND YOUR EXCLUSIVE REMEDY.

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This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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**YOU MUST
COMPLETE ENCLOSED
REGISTRATION CARD
TO INSURE PROPER
SUPPORT**

<01100> T05201D-AR1E

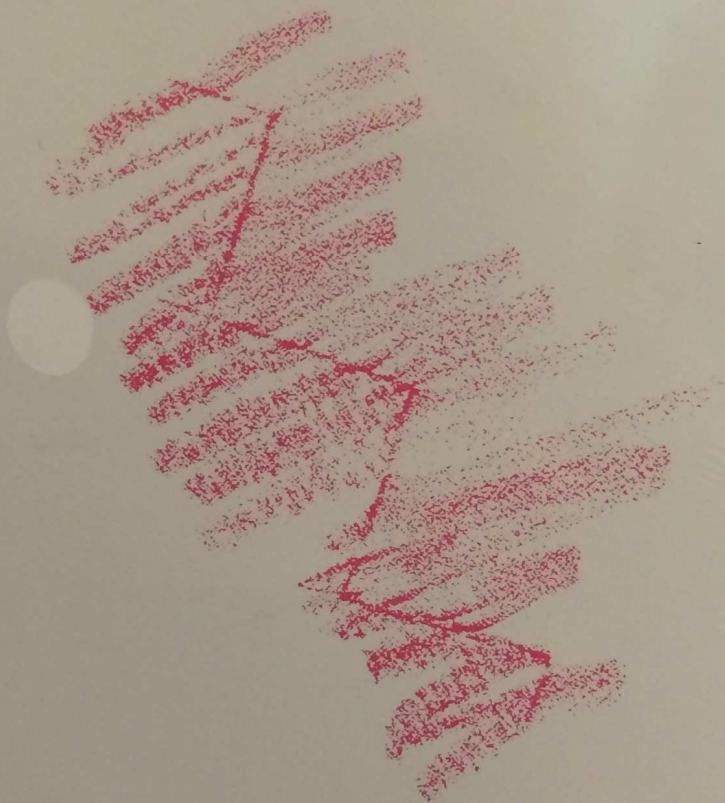
NOTICE

Please find enclosed a copy of the SYTOS Tape Software. This software is provided to allow you to use your tape unit with the KAYPRO PC Network under the NETWARE operating system. SYTOS software will also work in a single user (DOS) environment.

Please ignore the FASTAPE software (if present).

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User's Guide
For the DOS Environment

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Sytron Corporation
135 Maple Street
Marlboro, MA 01752 USA

Printed in the
United States of America

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