OnStream SC30/SC50

Digital Tape Drive

Getting Started

Installation & Use Guide

Document number: 3122 258 7446 1

Revision Date: January 19, 1999

Table of Contents

Welcome!

Congratulations on your selection of a new OnStream™ SCSI Digital Tape Drive. At 30GB or 50 GB capacities, you can back up the hard disks of most PC servers or workstations on a single cartridge.

We have partnered with leading backup software companies in order to provide you with virtually effortless management and protection of your critical information. Whether you're a small /medium sized business, managing a departmental server, or a high-performance desktop user, we have a complete, dependable data protection solution with the performance, reliability, and pricing necessary to meet the most demanding storage needs.

For your Windows NT™ server needs, the OnStream Digital Tape Drive is compatible with ARCserve® *IT*™ from Computer Associates and Backup Exec™ from Seagate Software. Included with your Digital Tape Drive is the innovative OnStream Echo™ software for workstations which enables gigabytes of extra "drag-and-drop" storage, completely automatic daily backup, and effortless organization of files on removable media.

OnStream's Digital Tape Drives deliver a unique level of reliability for your mission-critical installations through ADR™ technology. This technological breakthrough delivers exceptional transfer rates and data reliability while maximizing media life and minimizing audible noise. Your OnStream Digital Tape Drive gives you the unique blend of capacity, performance, reliability, value, and convenience needed to handle your ever-growing storage requirements.

✔ The SC50 can read and write both 30 GB and 50 GB ADR cartridges. The SC30 uses 30 GB ADR cartridges only.

Scope of this Guide

This booklet helps you get started using your new OnStream Digital Tape Drive quickly. By following these step-by-step instructions, you will learn how to:

- ❑ Locate the items needed to install your OnStream Digital Tape Drive and software
- ❑ Set the SCSI ID jumper on your OnStream Digital Tape Drive
- ❑ Install your OnStream Digital Tape Drive in your server or workstation
- ❑ Install your server backup software or OnStream Echo™ workstation software
- ❑ Use OnStream ADR™ cartridges
- ❑ Use OnStream Echo with your OnStream Digital Tape Drive

Online User Guides

In most cases, this guide provides all the information necessary to install and use your OnStream Digital Drive. Complete drive installation and software user guides are supplied in Adobe® Acrobat™ (PDF) format on the Installation CD-ROM. If you need more information while installing or using the drive or software, refer to the appropriate user guide.

To access the user guides on the CD-ROM:

1. **Insert the OnStream Installation CD-ROM** into your computer's CD drive.
2. When the OnStream CD Setup program starts, **click Read Online User Guides**.

Note: If the OnStream CD Setup program does not start automatically, click the **Start button** on your Windows Taskbar, click **Run**, type ***d:*\setup.exe**, replacing ***d:*** with the letter assigned to your CD-ROM drive, and click **OK**.

3. **Select the document** you want to view or print.

✔ Documents on CD-ROM require Acrobat™ Reader to view and print. If you do not have Acrobat Reader installed on you computer, the OnStream CD Setup program automatically installs it for you.

Items Needed for Installation

Make sure you have all the items shown in Figure 1.

Figure 1: Items needed for drive and software installation

Other Necessary Items

- ❑ Medium phillips screwdriver
- ❑ Your computer user's guide (optional)

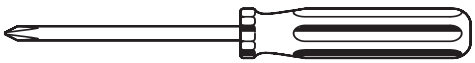


Figure 2: Tools needed for installation

System Requirements

Before installing your OnStream SC30/SC50 Digital Tape Drive and Echo software, make sure your computer meets these minimum requirements:

- ✔ 486 or Pentium® processor
- ✔ Microsoft® Windows 95, Windows 98, or Windows NT™
- ✔ A CD-ROM, CD-R, CD-RW, or DVD drive
- ✔ At least 32 MB of RAM (Random Access Memory)
- ✔ An empty 5¼-inch drive bay
- ✔ SCSI controller*
- ✔ 50 MB of free hard drive space for OnStream Echo software (Other supplier's software may have different space requirements.)

*If your computer does not have a SCSI controller, you must install one before continuing. Contact your computer supplier for information.

Installing your OnStream SC30/SC50 Digital Tape Drive

Your new OnStream Digital Tape Drive is not difficult to install. Just follow the instructions in this section.

Setting the SCSI ID Jumper

Each device on a SCSI cable, commonly called a SCSI Chain, must have its own SCSI ID number. The SCSI controller typically uses SCSI ID 7, while the other SCSI devices use any of the remaining IDs. Your OnStream Digital Tape Drive can use SCSI IDs 0 through 7. The last device on the SCSI chain also requires termination.

Your OnStream Digital Tape Drive is set at the factory to SCSI ID 4 with the termination jumper on. This SCSI ID is commonly used for tape devices and should work in most installations. If the factory settings are appropriate for your installation, skip this section.

If another device on your computer's SCSI Chain is already using ID 4, you must select an unused SCSI ID for your OnStream Digital Tape Drive. If your OnStream Digital Tape Drive is not the last device on the SCSI chain, remove the termination jumper.

To select a different SCSI ID, follow these steps:

1. Choose a SCSI ID number not used by any other device on your computer's SCSI Chain for your OnStream Digital Tape Drive.

2. **Locate** the SCSI ID jumper pins on the back panel of your OnStream Digital Tape Drive as shown in Figure 3.

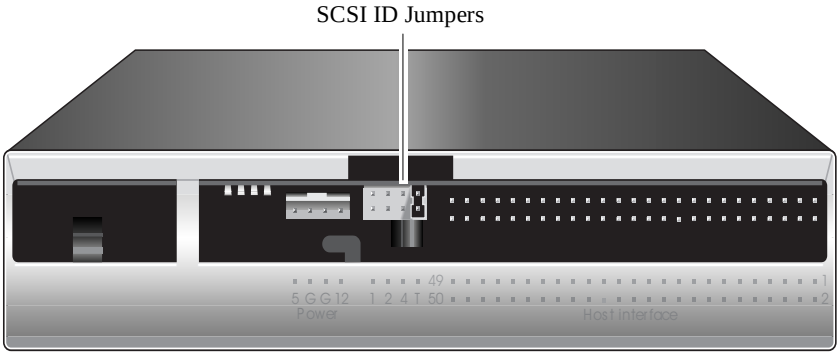


Figure 3: SCSI ID jumper pins on the back panel of your OnStream Digital Tape Drive

3. Push the jumper(s) onto the necessary pins to set your OnStream Digital Tape Drive to use the selected SCSI ID.

✔ The table on the next page shows how to set the jumpers to select the necessary SCSI ID. The examples are all shown without the Termination jumper.

SCSI ID	Example	Pin numbers			
		1	2	4	T
0		–	–	–	*
1		X	–	–	*
2		–	X	–	*
3		X	X	–	*
4**		–	–	X	*
5		X	–	X	*
6		–	X	X	*
7***		X	X	X	*

Notes:
X = jumper
– = no jumper

* Remove the jumper from the Termination pins if your OnStream Digital Tape Drive is ***not*** the last or only device on the SCSI chain.

** SCSI ID 4 is the factory default setting.

*** SCSI ID 7 is usually reserved for the SCSI controller card.

Installing the Hardware

Now that you have set the SCSI ID, you can install your OnStream Digital Tape Drive. In this section, you will:

- ❑ Install your OnStream Digital Tape Drive drive in an empty 5¼-inch drive bay.
- ❑ Connect the SCSI and power cables.
- ❑ Secure your OnStream Digital Tape Drive in its bay.

To install your OnStream Digital Tape Drive, follow these steps:

1. **Shut down** Windows.
2. **Turn OFF** your computer.

3. **UNPLUG** your computer power cable from the wall outlet. **UNPLUG** the power cable for all attached devices, such as a printer, from the wall outlet as well.

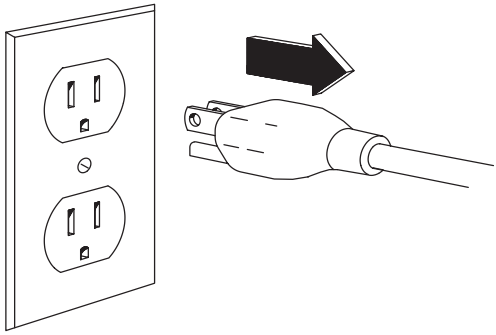


Figure 4: Unplug your computer and all attached devices!

Caution! Unplug your computer and all attached devices before performing the next step!

4. **Remove your computer's cover** as described in your computer user's manual.
5. **Remove the cover** from an empty 5¼-inch drive bay as described in your computer user's manual.
6. To help you with the vertical alignment of your OnStream Digital Tape Drive, two spacer rails are included. If desired, attach the spacer rails by sliding them onto the bottom left and right edges as shown in Figure 5.

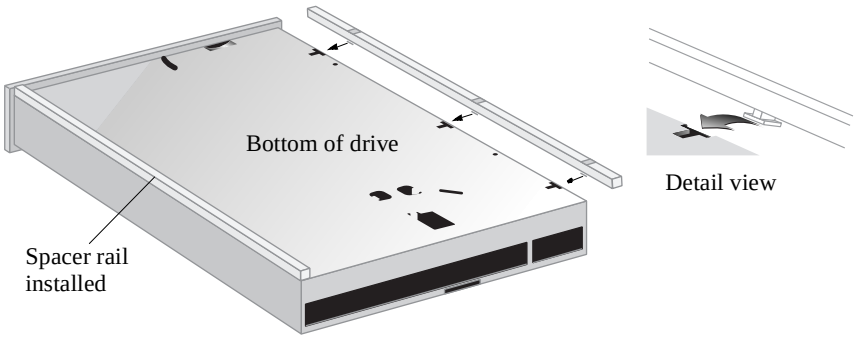


Figure 5: Slide spacer rails onto bottom of drive (optional)

7. **Slide** your OnStream Digital Tape Drive into the empty drive bay as shown in Figure 6. You can mount your OnStream Digital Tape Drive horizontally or vertically as necessary.

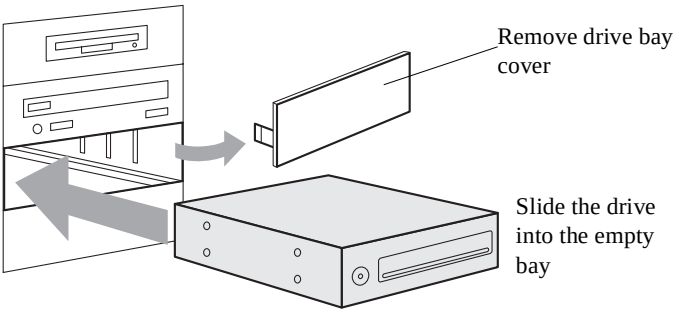


Figure 6: Slide your OnStream Digital Tape Drive into an empty drive bay.

Connecting the Cables

Connect the power and SCSI cables to your OnStream Digital Tape Drive before securing it in the drive bay. You may need to slide the drive to the front or back of the drive bay to connect the cables.

Connecting the Power Cable

1. **Locate a spare power connector** inside your computer. If you are having difficulty locating a power connector, find your computer's power supply and follow the bundle of wires that come out of it. Your OnStream Digital Tape Drive requires a small power connector like the one shown in Figure 7.

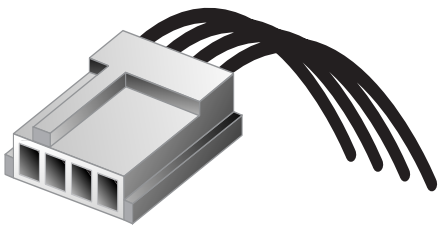


Figure 7: Power connector required for your OnStream Digital Tape Drive

✔ Power connectors have 4-pins, are usually white plastic, and have two black wires, one red wire, and one yellow wire.

2. **Connect** the power cable to the power connector on the back of your OnStream Digital Tape Drive as shown in Figure 9.

Using the Power Splitter Cable

If there is no free power connector in your computer or if the free power connector in your computer does not fit the connector on the back of your OnStream Digital Tape Drive, use the supplied power splitter cable.

1. **Locate** a spare power connector in your computer or disconnect the power connector from another device, such as a CD-ROM drive.
2. **Connect the supplied power splitter cable** to the power connector.
3. **Connect the larger connector** on the splitter cable to the device from which you just removed the computer power cable (if applicable).

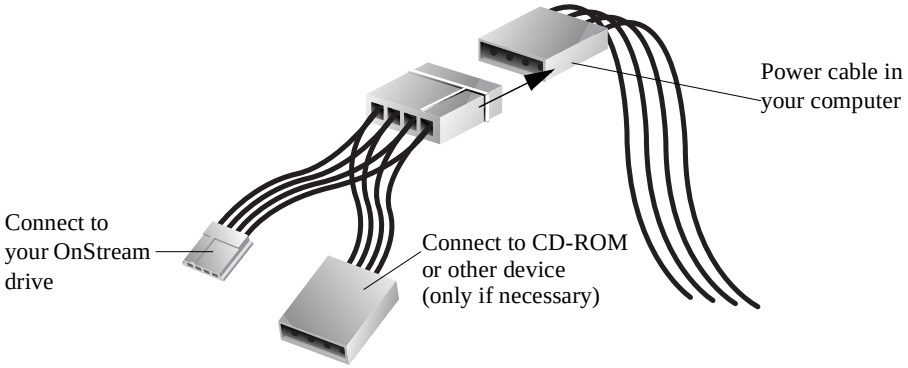


Figure 8: Connecting the power splitter cable

4. **Connect the smaller connector** on the splitter cable to the power connector on the back of your OnStream Digital Tape Drive as shown in Figure 9.

Connecting the SCSI Cable

The SCSI cable is a ribbon cable (wide and flat), usually gray, with a colored stripe on one edge. The easiest way to locate a SCSI cable in your computer is to look for the cable attached to your SCSI controller.

✔ Your computer user's guide should show you exactly where the SCSI controller is located in your computer. If you are installing a new SCSI controller for your OnStream Digital Tape Drive, do so now.

1. **Locate** the SCSI cable included with your OnStream Digital Tape Drive.

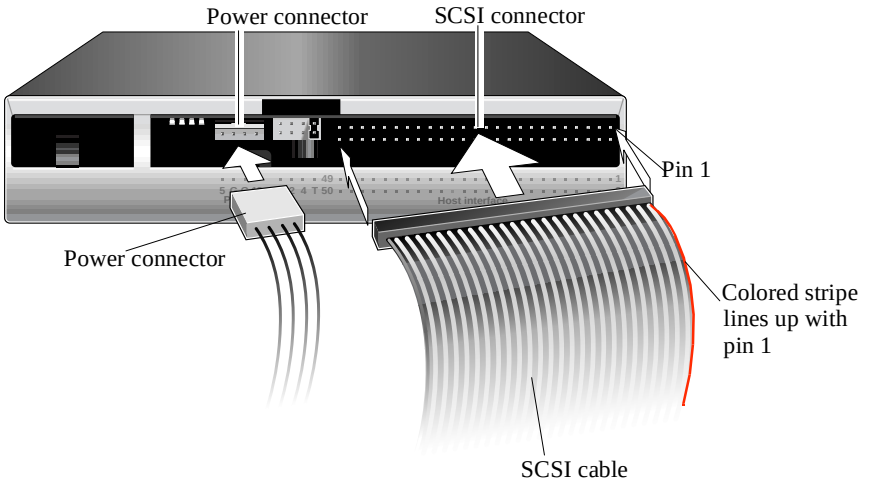


Figure 9: Attach power and SCSI cables to drive

2. **Connect** one end of the SCSI cable to your SCSI controller, aligning the color stripe on the cable with Pin 1 on the controller connector.
3. **Connect the SCSI cable's other connector** to the SCSI connector on the back of your OnStream Digital Tape Drive as shown in Figure 9.

✔ Make sure that the SCSI cable's color stripe is aligned with Pin 1 on your OnStream Digital Tape Drive as shown in Figure 9.

Securing your OnStream Digital Tape Drive in your Computer

1. **Secure** your OnStream Digital Tape Drive to the drive bay with the **four screws supplied** as shown in Figure 10. Use two screws on either side of the drive.

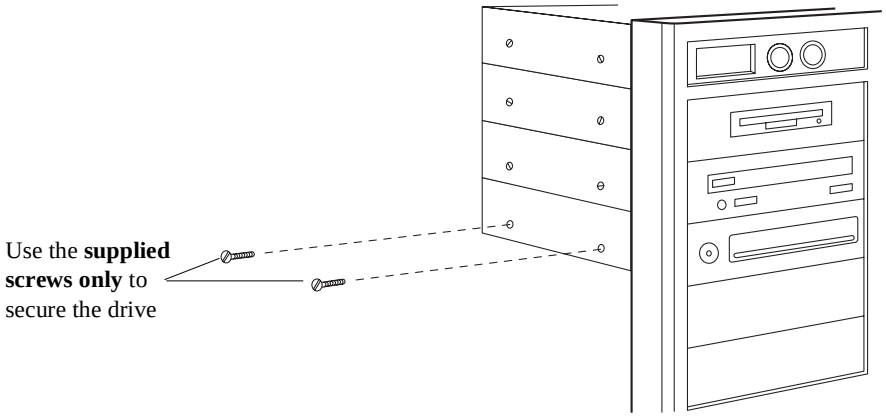


Figure 10: Securing your OnStream Digital Tape Drive in its drive bay

Caution! Use only the supplied screws to secure your OnStream drive. Other screws may be too long and can damage your OnStream drive.

2. **Replace** your computer's cover.
3. **Plug in** your computer and any other devices you unplugged earlier.
4. **Fill out and mail** the Product Registration Card. Doing so ***extends your limited warranty for an extra year*** and ensures that you receive product update announcements and other useful information.

Installing the Software

Your OnStream SC30/SC50 Digital Tape Drive is almost ready to use. Just follow the server or workstation software installation instructions below.

Installing your Server Backup Software

If you installed your OnStream SC30/SC50 Digital Tape Drive on a server, install your server backup software and skip to the next section. Refer to your server backup software user documentation for complete installation instructions.

Installing OnStream Echo for your Workstation

If you installed your OnStream Digital Tape Drive on a workstation, all you have to do is install the OnStream Echo software.

To install the OnStream Echo software, follow these steps:

1. **Turn ON your computer** and allow it to boot.
2. **When your computer starts,** Windows may detect that new hardware, your OnStream Digital Tape Drive, has been installed. If this happens, you will see a dialog box like the one shown below. Press **Cancel** and continue to the next step.

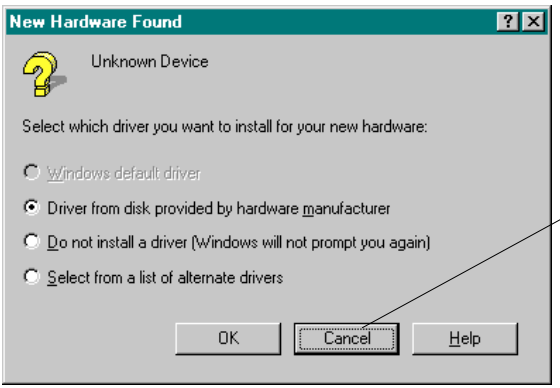


Figure 11: Windows New Hardware Found dialog box: Press Cancel

✔ OnStream Echo installs the driver for your OnStream Digital Tape Drive later.

3. **Insert** the OnStream Installation CD-ROM into your CD drive. The OnStream CD Setup program starts automatically.

Note: If the OnStream CD Setup program does not start automatically, click the **Start button** on your Windows Taskbar, click **Run**, type ***d:*\setup.exe**, replacing ***d:*** with the letter assigned to your CD-ROM drive, and click **OK**.

4. When the OnStream CD Setup program prompts you to select your drive type, **click the SC30 or SC50 radio button**.
5. **Press** the **Install OnStream Echo** button.
6. **Follow** all on-screen instructions.
7. **When installation is complete,** restart your computer.

Using OnStream ADR Cartridges

Your OnStream Digital Tape Drive uses Advanced Digital Recording (ADR) technology to ensure the security of your data and to achieve high cartridge capacities. Only ADR cartridges can be used in your OnStream Digital Tape Drive.

In this section, you will:

- ❑ Remove the plastic shipping plate from your OnStream Digital Tape Drive
- ❑ Insert an OnStream ADR cartridge into your OnStream Digital Tape Drive
- ❑ Remove an OnStream ADR cartridge from your OnStream Digital Tape Drive

Note: Do not touch the front edge of the OnStream ADR cartridge. Fingerprints can damage the tape and drive wheel. Refer to Figure 12 for a picture of an OnStream ADR cartridge.

Inserting an OnStream ADR Cartridge into the Drive

1. **Press the eject button** on the left side of your OnStream Digital Tape Drive's front panel as shown in Figure 12.

✔ The cartridge door opens.

Note: Your OnStream Digital Tape Drive is shipped with a plastic plate that prevents the read/write heads from being damaged during shipment and installation. You must remove this plate before inserting a cartridge into the drive.

2. **Locate** the plastic shipping plate on the cartridge transport tray and remove it from the drive.
3. **Slide** the OnStream ADR cartridge gently into the cartridge bay with the arrow facing the drive and the cartridge's metal plate down.

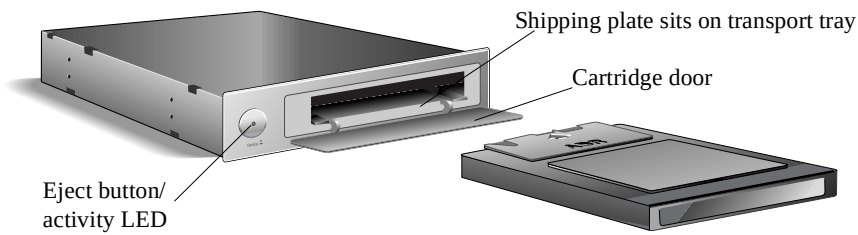


Figure 12: Inserting an OnStream ADR cartridge

✔ When you insert a cartridge, the drive's cartridge transport mechanism grips and loads the cartridge, much like a VCR does. The drive then takes a few seconds to wind the tape to the main directory.

Caution! ADR 50 GB cartridges are longer than ADR 30 GB cartridges, preventing the cartridge door from closing completely. Do not attempt to pull an ADR 50 GB cartridge out of the drive!

Removing a Cartridge from the Drive

1. **Press the eject button** on the left side of your OnStream Digital Tape Drive's front panel as shown in Figure 12. The cartridge door opens and ejects the cartridge.

✔ It may take a few seconds to eject an OnStream ADR cartridge. Your OnStream Digital Drive must finish the current file copy operation and update the cartridge directory before ejecting the cartridge.

2. **Remove** the cartridge immediately.

✔ After a few seconds the cartridge door closes automatically. **Do not press on the door while it is open.**

How to use OnStream ADR Cartridges

Tape Rotation Makes Sense

When defining the best tape rotation strategy for your needs, the key thing to consider is how often your data changes. The following are some explanations of typical tape rotation strategies.

6-Tape Rotation

For data that changes more frequently, you may want to use a 6-tape rotation strategy. The simplest way to manage a 6-tape strategy is to use five tapes Monday through Friday and label the sixth tape "Off-Site". Then, every Monday make a total backup onto the Monday tape. The rest of the week you make incremental backups to the corresponding tape. At the end of the week, make another total backup using the Off-Site tape. And of course, remember to store the Off-Site tape in a secure location when you are not using it for backup.

10-Tape Rotation

The 10-tape rotation strategy works best if you need to keep track of weeks or months of data. It is basically an extension of the 6-tape rotation strategy except that you label the 6th tape "Off-Site Week 1", the 7th tape "Off-Site Week 2", the 8th tape "Off-Site Week 3" and the 9th tape "Off-Site Week 4." Label the 10th tape "Off-Site Monthly" and you are set. By using a different off-site tape each week, and yet another at the end of the month, you can build a complete history of data, just in case you need it.

Adding additional monthly tapes, one for each quarter of the year or for each month, further enhances the data security of your tape rotation schedule.

Archiving — Beyond Backup

In addition to backup, you will also want to consider implementing a solid archiving strategy. That way you can clean up your hard drives and still have access to all of your old data, just in case you need it. And a good archiving strategy helps you get more out of your hard drives and can even delay that costly upgrade.

Welcome to OnStream Echo

OnStream Echo is an easy-to-use workstation backup and file organization tool for Windows specifically designed to work with your OnStream Digital Tape Drive. OnStream Echo consists of two closely-related parts:

- ❑ Echo Backup
- ❑ Echo Catalog

Echo Backup is an advanced data protection tool for Windows. Far more than a traditional backup application, Echo Backup takes full advantage of Echo Catalog's powerful file management capabilities to ensure that your valuable files are completely protected and easily accessible. Unlike traditional backup applications, Echo Backup does not hide your files in a proprietary "backup set" that can only be accessed using proprietary restore software. Instead, Echo Backup stores your files in their native format, with or without on-the-fly compression and decompression, making them fully accessible to any application, whether Windows Explorer, your word processor, spreadsheet, database, or other application.

Echo Catalog looks like just another disk drive to Windows and works like an ordinary disk drive as well, but with a twist. Echo Catalog keeps track of the contents of all your OnStream ADR cartridges, floppy disks, and removable disks, all the time, whether the media is in its drive or not. Echo Catalog makes it easy for you to organize and access all of your files, regardless of where they are stored.

Getting Started with OnStream Echo

OnStream Echo is very easy to use. In this section, you will:

- ❑ Make your first backup using Echo Backup
- ❑ Use drag-and-drop to copy files to your OnStream Digital Tape Drive
- ❑ Use Echo Catalog to find and retrieve files quickly, regardless of where they are stored
- ❑ Use Echo Express
- ❑ Set up custom backups and backup schedules
- ❑ Learn how to restore files

Your First Backup

Your first backup with Echo Backup should include all files on the hard drive(s) installed on your computer.

Note: OnStream strongly encourages you to let OnStream Echo back up all files on your computer now. Doing so ensures that your files are protected now and in the future.

✔ A backup of all files on your computer can take a while to complete. The exact time required depends on many things, including the speed of your computer and the number and size of your files.

When you restart your computer after installing OnStream Echo, Echo Backup can automatically make a complete backup. Just follow these steps:

1. **If you have not already done so, insert** an OnStream ADR cartridge into your OnStream Digital Tape Drive as described on page 13.

✔ Every time you insert a new OnStream ADR cartridge into your OnStream Digital Tape Drive, OnStream Echo prompts you to initialize the new cartridge. Initialization only takes about one minute.

2. **Type** a meaningful name for the cartridge, such as “Complete Backup,” in the Initialize Tape dialog box and press **OK**.

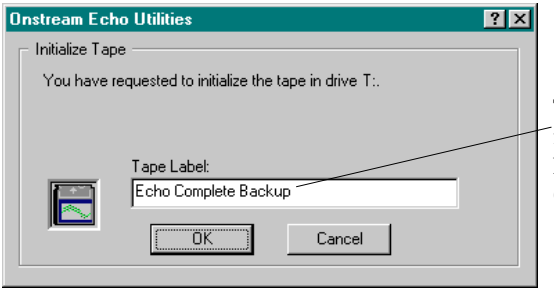


Figure 13: Initialize Tape dialog box

3. **Click** the **Back Up Now** button on the Echo Setup dialog box. A complete backup starts immediately. Echo Backup also sets up a Backup Schedule that protects all new and modified files at an hourly interval you can select now and change at any time in the future.

Figure 14: Echo startup dialog box

✔ **Clicking the Do it now button** allows OnStream Echo to take care of ***all*** of your backup needs automatically from now on. You may never have to initiate a backup again. If you would like to customize this backup with data compression or other options, press the **Let Me Do It button** and run a complete backup as described beginning on page 23. You can apply the same options to your scheduled backups as well by setting up a custom modified files backup using the Backup Schedules tab. See page 25 for instructions.

Accessing Your OnStream Digital Tape Drive Directly

Your OnStream Digital Tape Drive has a drive letter just like your computer's hard drive. You can copy files to and from your OnStream Digital Tape Drive, using the cartridge currently in the drive, just as you would a hard drive. This feature makes it easy to use your OnStream Digital Tape Drive as an “overflow tank” for your computer.

1. **Run Explorer** by clicking the **Start button**, pointing to **Programs**, and clicking **Windows Explorer**. You can also double-click **My Computer.**
2. **Using Windows Explorer or My Computer, click** the file or folder you want to copy to the cartridge in your OnStream drive.

3. **Next, locate** your OnStream Digital Tape Drive icon. It looks like this example: Removable Disk (T:)

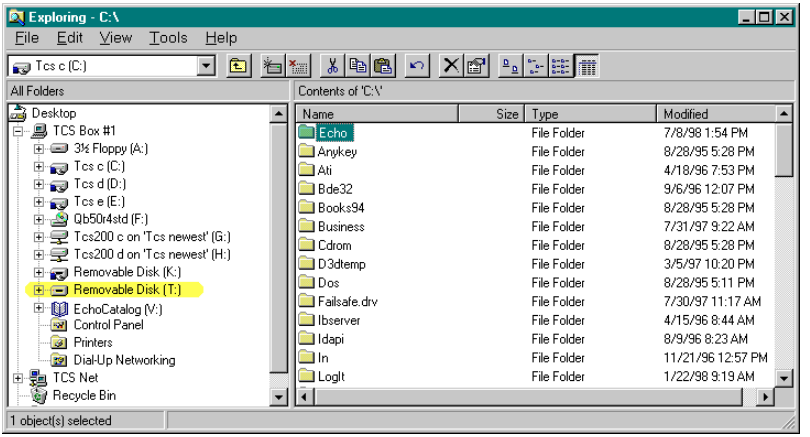


Figure 15: OnStream Digital Tape Drive icon in Explorer (drive T:)

4. **Drag the file or folder** to the OnStream Digital Tape Drive icon and drop it there.

   Windows copies the selected items to the cartridge currently in your OnStream Digital Tape Drive.

✔ Echo Catalog automatically keeps track of all files and folders you copy to your OnStream Digital Tape Drive.

Note: If you are unsure how to use Windows Explorer or are unfamiliar with the concept of drag and drop, refer to Windows Help for instructions.

Using OnStream Echo

OnStream Echo provides custom backup, scheduled backup, and restore features. Most of the time, you will only need to use the backup and restore features on the Echo Express Taskbar. However, if you want to create custom backups or need to restore a large number of files or an entire hard drive, OnStream Echo provides all the features you need.

This section explains how to use OnStream Echo to:

- ❑ Restore Different Versions of the Same File
- ❑ Find Files with Echo Catalog
- ❑ Use Echo Express
- ❑ Perform custom backups
- ❑ Create custom backup schedules
- ❑ Restore selected files or an entire hard drive

Restoring Different Versions of the Same File

OnStream Echo automatically backs up files to your OnStream Digital Tape Drive, accumulating many different versions of, for example, that report or presentation you have been working on for the last two weeks. As OnStream Echo automatically backs up your new and modified files every day, you have many versions of the report or presentation.

Let's say you made substantial changes to the presentation one day, but, after reviewing the changes, your boss decided that it was better before. Rather than trying to remember what you did and manually undoing all the changes, you can simply restore the version your boss liked.

You can select any version of a file to restore simply by preparing to open the desired file as usual, but with one difference. Instead of double-clicking the desired file name, **right-click** it and then click **Echo Versions...** from the popup menu to see a list, sorted by date and time, of all versions of the selected file.

Figure 16: Echo Versions... menu option

Click the desired file version in the list. Then press **Open** to open it or **Save As** to restore it. Echo Backup prompts you for the needed cartridge if it is not in your OnStream Digital Tape Drive.

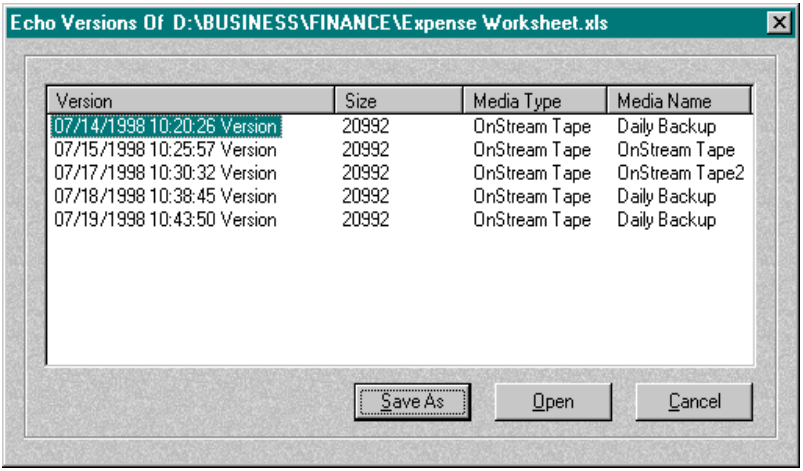


Figure 17: Echo Versions dialog box

Finding Files with Echo Catalog

A great way to find a file without having to know which OnStream ADR cartridge it is stored on is to use Echo Catalog. All files backed up or copied to any OnStream ADR cartridge are tracked by Echo Catalog. You can easily find a file in the catalog by looking for its name or directory path. Echo Catalog tells you exactly where the file is stored. You can open any file from the catalog by double-clicking the file. Echo Catalog prompts you for the needed media if it is not already in its drive.

To use Echo Catalog, **click** the  button on the Echo Express Taskbar.

The Echo Catalog tab is now ready to use.

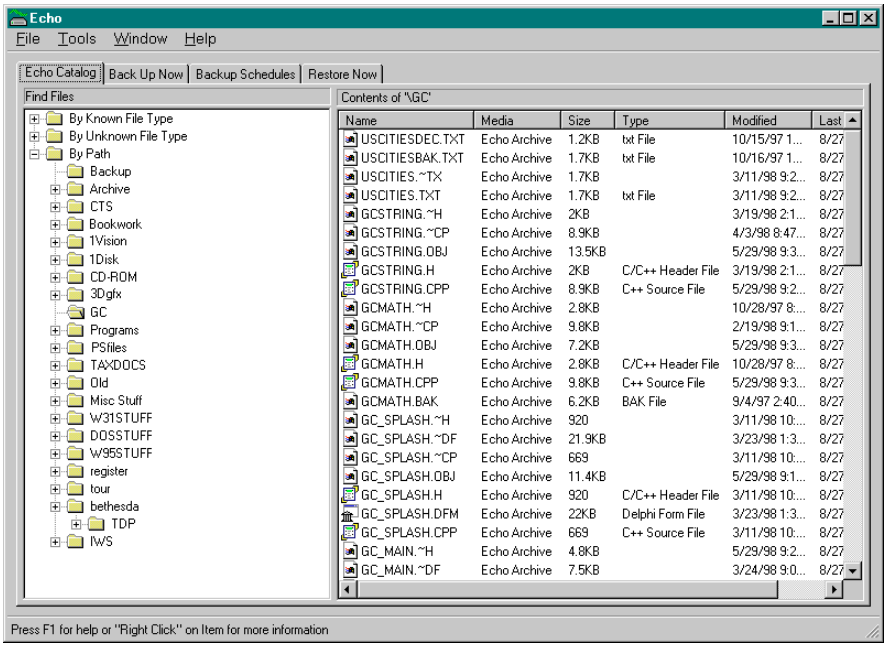


Figure 18: Echo Catalog tab

The Echo Catalog tab displays the files on all of your OnStream ADR cartridges sorted in three different lists:

By Known File Type: Displays all file extensions registered with Windows in the left-hand pane and all files of the selected type in the right-hand pane (File List). Windows knows which application to use to open these types of files when you double-click/right-click one of these files.

By Unknown File Type: Displays all file extensions not registered with Windows in the left-hand pane and all files of the selected type in the right-hand pane (File List). Windows does not know which application to use to open these types of files when you double-click/right-click one of these files.

By Path: Displays all folders and subfolders stored on all media monitored by Echo Catalog in the left-hand pane and all files in the selected folder in the right-hand pane (File List).

Using Echo Express

Echo Express provides fast, one-button access to essential Echo Backup features.

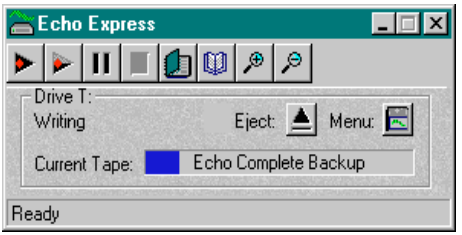


Figure 19: Echo Express Taskbar

If Echo Express is not visible on your desktop, look for its icon in the Windows Taskbar or minimize all other running applications to see if it is hidden.

Figure 20: Echo Express icon in the Windows Taskbar

If Echo Express is still not visible, you need to start it again. Click the **Start** button, point to **OnStream Echo Applications,** and click **Echo Express**.

Echo Express Buttons

✔ **Press** the  button to make a **complete backup immediately.**

✔ **Press** the  button **to back up all modified files immediately.**

✔ **Press** the  button to pause the scheduled backup that is currently running.

The color of this button changes to Red -  - when schedules are paused. As long as this button is red, no scheduled backups will occur. Press this button again to allow the current scheduled backup to finish.

✔ **Press** the  button to cancel the scheduled backup that is currently running. If no scheduled backup is currently running, pressing this button has no effect.

✔ **Press** the  button to eject the cartridge in your OnStream Digital Tape Drive.

✔ **Press** the  button to display the log file from Echo Backup scheduled backups.

✔ **Press** the  button to go to the Echo Catalog.

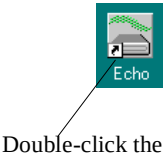
✔ **Press** the  button to display a menu of cartridge management options.

The other buttons and controls on the Echo Express Taskbar are described in the *OnStream Echo User Guide* and in the online Help.

Using Echo Backup

To perform a custom backup, follow these steps:

1. **Double-click** the **Echo icon** on your Windows desktop.
2. Press **Back Up Now** on the OnStream Echo Selection window.



Double-click the Echo icon on your desktop

Figure 21: OnStream Echo Selection dialog box

The Back Up Now tab is ready to use.

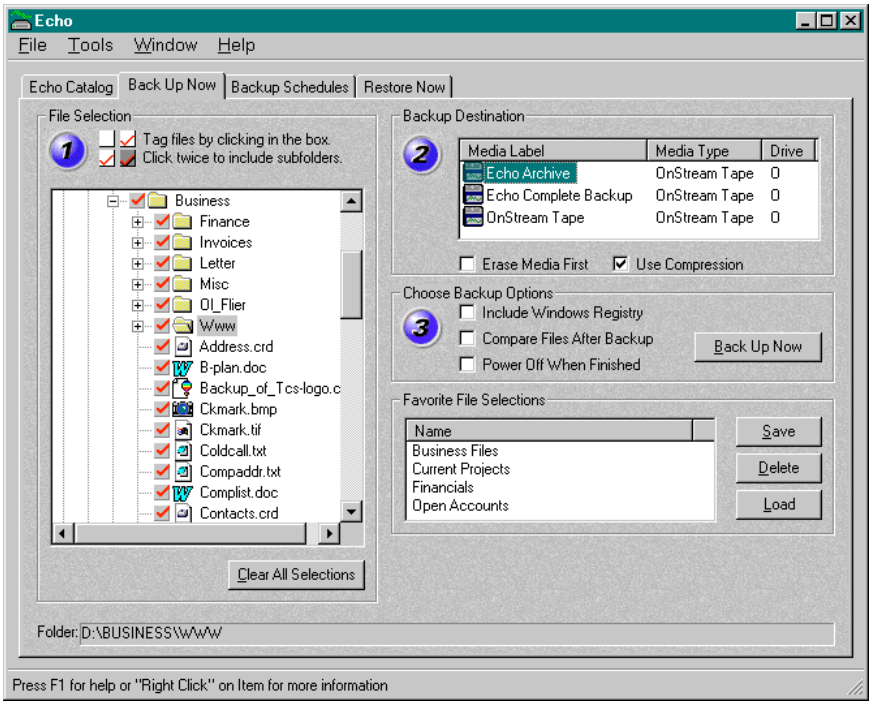


Figure 22: Echo Back Up Now tab

3. Under File Selection -  - choose the files and folders you want to back up by clicking the check box next to each desired item.

   One Click: ☑ - A red check mark on a white background means the selected item and its immediate contents are tagged. This does not include subfolders if the selected item is a folder. If the selected item is a disk drive, this type of check mark tags only the root directory.

   Two Clicks: ☑ - A red check mark on a gray background means the selected item and all of its contents are tagged. If the selected item is a folder, all subfolders and their contents are also tagged. If the selected item is a disk drive, this type of check mark tags the entire drive.

   Three Clicks: ☐ - Removes the check mark from the selected item. This item is no longer tagged.

4. Under Backup Destination -  - click the cartridge to use for this backup.
5. Set the desired media options:

✔ Check **Erase Media First** to have Echo Backup erase the selected cartridge before running the backup.

Caution! Be careful when using this option! If the cartridge you are using already has files on it, they will all be erased before this backup begins.

✔ Check **Use Compression** to have Echo Backup compress the selected files. Your files are still completely accessible when compressed.

6. Under Choose Backup Options -  - set the desired options:

✔ Check **Include Windows Registry** to back up the Windows Registry along with the other selected files and folders.

✔ Check **Compare Files after backup** to have Echo Backup compare all files backed up with the originals on disk, ensuring the accuracy of the backup.

✔ Check **Power off when finished** to have Echo Backup turn off your computer when the current backup is complete.

Note: This option works only if your computer supports software power-off features.

7. **Press Back Up Now** to back up the selected files and folders using the specified options.

Scheduling a Backup Session

Echo Backup offers fully automatic scheduling of your backups. To schedule a backup, follow these steps:

1. **Double-click** the **Echo icon** on your Windows desktop.
2. **Press Backup Schedules** on the OnStream Echo Selection window. See Figure 21 for an example.

The Backup Schedules tab is ready to use.

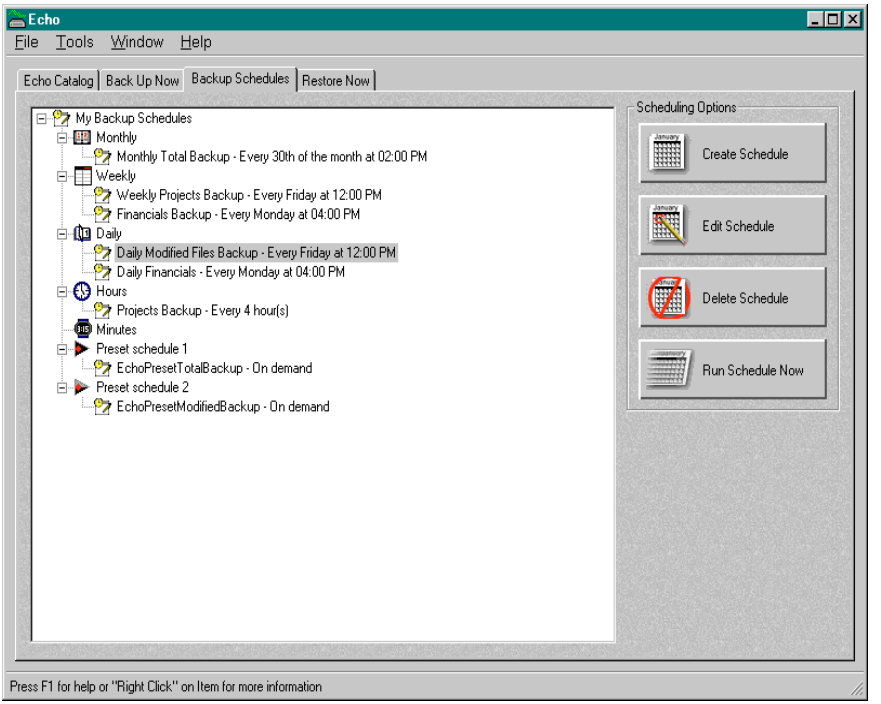


Figure 23: Echo Backup Schedules tab

3. **Press** the **Create Schedule** button.
4. The Scheduler Wizard takes you through the steps required to set up a scheduled backup.

✔ The first Scheduler Wizard helps you select what you want to back up.
✔ The second Scheduler Wizard helps you set the destination cartridge and options for your scheduled backup.
✔ The last Scheduler Wizard helps you set the timing for your scheduled backup.

5. **Insert the selected cartridge** in the drive ***before*** the backup is scheduled to run.

Tips

✔ Your computer must be **ON** in order for scheduled backups to run.
✔ If this backup is scheduled to occur when you plan to be away from your computer, be sure to insert the correct cartridge before you leave.

Restoring Files

Using Echo Backup to restore one or more files, folders, or an entire disk drive is fast and easy. The Restore Now tab helps you select the files to restore. To restore files or folders using Echo Backup's Restore Now tab, follow these steps:

1. **Double-click** the **Echo icon** on your Windows desktop.
2. **Press Restore Now** on the OnStream Echo Selection window. See Figure 21 for an example.

   The Restore Now tab is ready to use.

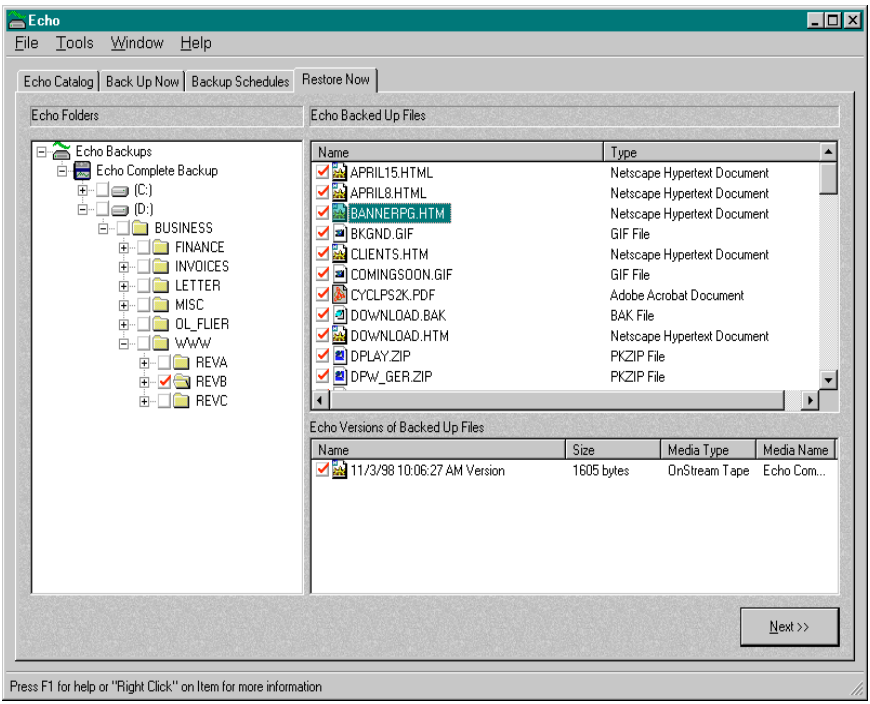


Figure 24: Echo Restore Now tab

3. The Restore Now tab displays your protected files in three lists:

   Drive/Folder List: Displays all drives and folders protected with Echo Backup. Double-click any item or click the '+' sign next to any item to view its contents. This part of the Restore Now tab works like Windows Explorer with the addition of check boxes for each drive and folder.

Most Recent File Versions List: Displays the most recent file versions in the selected folder or root directory if a disk drive is selected.

All File Versions List: Displays all versions of the file selected in the Most Recent File Versions list. This list is empty if no file is selected.

4. Select the files and folders you want to restore by clicking the check box next to each desired item.

   One Click: ☑ - A red check mark on a white background means the selected item and its immediate contents are tagged. This does not include subfolders if the selected item is a folder. If the selected item is a disk drive, only the root directory is tagged.

   Two Clicks: ☑ - A red check mark on a gray background means the selected item and all of its contents are tagged. If the selected item is a folder, all subfolders and their contents are also tagged. If the selected item is a disk drive, the entire drive is tagged.

   Three Clicks: ☐ - Removes the check mark from the selected item. This item is no longer tagged.

5. **Press Next** >>.

   The Restore Options dialog box appears.

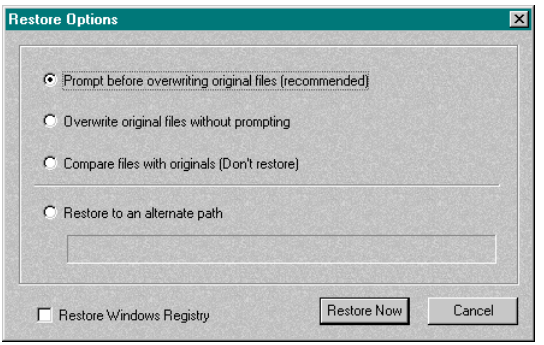


Figure 25: Restore Options dialog box

6. Set the restore options:

✔ Click **Prompt before overwriting original files** to have Echo Backup prompt you before it overwrites any file on the destination drive with a file of the same name from the backup cartridge. You can then decide to keep the existing file or overwrite it with the file from the cartridge. **This is the recommended option.**

✔ Click **Overwrite original files without prompting** to have Echo Backup automatically overwrite files on the destination drive with files of the same names from the backup cartridge.

Caution! Be careful when using this option! If you are unsure which option to use, click **Prompt before overwriting original files**.

- ✔ Click **Compare files with originals** to have Echo Backup compare the selected files on the cartridge with the originals on the destination drive. Use this feature to ensure the integrity of a backup. No files are restored.
- ✔ Click **Restore to an alternate path** to select a new location to which to restore the selected files using the Browse for Folder dialog box. Unless you set an alternate path here, Echo Backup automatically restores all selected files to their original locations. The alternate location you select is displayed in the Restore Options dialog box.
- ✔ Check **Restore Windows Registry** to restore the Windows Registry along with the other selected items.

Caution! Carefully read "Restoring the Windows Registry" in the online Help before selecting this option!

7. Press **Restore Now** to begin restoring files.

Taking Care of your OnStream Digital Tape Drive & OnStream ADR Cartridges

Your OnStream Digital Tape Drive and OnStream ADR cartridges are very durable, but should not be subjected to harsh treatment. To ensure long drive and cartridge life, please observe these recommendations:

- ❑ Use ***only*** OnStream ADR cartridges in your OnStream Digital Tape Drive.
- ❑ **Do not touch** the tape or drive wheel, both of which are located on the front edge of the cartridge. Fingerprints can damage the tape.
- ❑ **Clean your OnStream Digital Tape Drive** once a month. Use only OnStream ADR cleaning cartridges in your OnStream Digital Tape Drive. Other types of cleaning cartridges may fit in the drive, but can damage the read/write heads and drive wheel.

Troubleshooting

This table provides solutions to some problems that may occur.

Symptom	*Possible Cause*	*Solution*
The drive does not respond.	1. Power or SCSI cable is not connected properly. 2. Power or SCSI cable is damaged.	1. Make sure the power and SCSI cables are firmly attached to the drive connectors. 2. Check the power and SCSI cables for damage.
The drive does not respond or behaves erratically.	1. The drive has a SCSI ID conflict with another device.	1. Make sure that the SCSI ID jumper is set to an ID not used by any other device on the SCSI Chain.
Cannot access the drive.	1. The drive has a SCSI ID conflict with another device.	1. Make sure that the SCSI ID jumper is set to an ID not used by any other device on the SCSI Chain.

- ✔ If your backup operations are taking longer than expected and your computer is generally sluggish while a backup is in progress, you may be running an anti-virus program that has real-time scanning enabled. This could be the cause of your computer's sluggish performance. To improve performance, simply disable real-time scanning in your anti-virus application. For information on how to do this, please consult your anti-virus software manual.

Customer Support

OnStream is committed to providing the best possible customer support. Whether you need help with product selection or you simply need an answer to a question on installation or operation of your OnStream drive, our service and technical support professionals are ready to help.

North America

Product & Sales Information
5 days a week, 12 hours a day
800-759-4621

Technical Support
7 days a week, 24 hours a day
877-234-3246

North American Headquarters
OnStream, Inc.
1951 South Fordham Street
Longmont, CO 80503
USA
Tel: (303) 772-9000
Fax: (303) 772-9001

Europe
European Headquarters
OnStream B.V.
Lodewijkstraat 1
5652 AC Eindhoven
The Netherlands
Tel: +31.40.2724358
Fax: +31.40.2723101

www.onstream.com/contact

OnStream Warranty

1. DATA STORAGE PRODUCT WARRANTY

1.1. Express Warranty. OnStream warrants to the End User of the Data Storage Product (the “Product”) that, for the two (2) year period commencing on the date the Product was purchased (the “Warranty Period”), the Product shall be free from defects in materials, parts and workmanship under normal use and conditions. This warranty may be extended an additional year if the End User completes the registration card and sends it to OnStream. This warranty applies to hardware components packaged with the Product and does not apply to software contained in or included with the Product. Such software is warranted as provided herein or in the Software License Agreement packaged with the Product, as applicable. OnStream is not responsible for any damage to or loss of any programs, data, or other information stored on any media or any part of a Product. This warranty does not apply to consumables (such as batteries) supplied with the Product. OnStream makes no warranty to resellers, dealers or other distributors of the Products.

1.2. Remedies for Breach of Warranty. In the event of a breach of the foregoing warranty, OnStream will, in its sole discretion and at its cost, repair the non-conforming Product, replace the non-conforming Product with a new or reconditioned Product or refund of the purchase price for the Product. Any new or reconditioned Product provided pursuant to this paragraph is warranted as provided herein for the remainder of the original Warranty Period. The End User agrees to pay freight charges for Products returned to OnStream and to otherwise comply with OnStream's then-current return materials authorization (RMA) policy, including without limitation shipping the Product to OnStream in its original packaging or equivalent packaging. OnStream shall not be responsible for damage or loss during shipment to OnStream. THE REMEDY SET FORTH IN THIS PARAGRAPH SHALL BE THE END USER'S SOLE AND EXCLUSIVE REMEDY FOR BREACH OF THE FOREGOING WARRANTY.

1.3. Voiding of Warranty. The express warranty set forth above shall not apply to failure of the Product if the Product has been subjected to: (i) Physical abuse, misuse, improper installation, abnormal use, power failure, or use not consistent with the operating instructions provided by OnStream; (ii) Modification or repair by any party in any manner other than approved by OnStream including, but not limited to, tempestizing, ruggedizing, and/or militarizing Products; (iii) Fraud, tampering, unusual physical or electrical stress, unsuitable operating or physical conditions, negligence or accidents; (iv) Removal or alteration of the Product serial number tag; or (v) Improper packaging of Product returns.

1.4. Warranty Disclaimers. THE EXPRESS WARRANTIES HEREIN ARE GIVEN FOR THE PRODUCT IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL, EXPRESS OR IMPLIED, INCLUDING ANY

WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT OF THIRD PARTY RIGHTS. NO PERSON (INCLUDING WITHOUT LIMITATION, ONSTREAM EMPLOYEES, AGENTS OR DISTRIBUTORS) IS AUTHORIZED TO MAKE ANY OTHER WARRANTY OR REPRESENTATION CONCERNING THE PRODUCT OTHER THAN AS EXPRESS WARRANTY SET FORTH ABOVE. IF THE DISCLAIMER OF ANY IMPLIED WARRANTY IS NOT PERMITTED BY LAW, THE DURATION OF ANY SUCH IMPLIED WARRANTY IS LIMITED TO NINETY (90) DAYS FROM THE DATE OF DELIVERY. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES OR LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY MAY LAST, SO SUCH LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO THE END USER. THIS WARRANTY GIVES THE END USER SPECIFIC LEGAL RIGHTS AND THE END USER MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION.

2. LIMITATION OF LIABILITY. IN NO EVENT SHALL ONSTREAM BE LIABLE TO THE END USER OR ANY THIRD PARTY FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING OUT OF THIS AGREEMENT OR THE SALE OR USE OF THE PRODUCT (INCLUDING BUT NOT LIMITED TO LOSS OF PROFIT, USE, DATA, OR OTHER ECONOMIC ADVANTAGE), HOWEVER IT ARISES, WHETHER FOR BREACH OF THIS AGREEMENT, INCLUDING BREACH OF WARRANTY, OR IN CONTRACT OR IN TORT (INCLUDING NEGLIGENCE), OR STRICT LIABILITY, EVEN IF ONSTREAM HAS BEEN PREVIOUSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGE AND EVEN IF A LIMITED REMEDY SET FORTH IN THIS AGREEMENT FAILS OF ITS ESSENTIAL PURPOSE. IN NO EVENT SHALL ONSTREAM'S LIABILITY TO THE END USER OR ANY THIRD PARTY EXCEED THE PRICE PAID FOR THE PRODUCT. Because some jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damages, the above limitations may not apply to the End User.