



# SYMPLYATOM HELP

## User Interface Assistance

### Scan for Drives

The Scan for Drives button should be used to rescan your computer for Symply LTO drives that may have been added or removed from the computer. When launched, SymplyATOM will automatically scan for attached Symply LTO drives. Information on the Symply LTO drives attached to the computer are displayed in the left hand information window of ATOM under the heading "Drives Found".

### Mount / Unmount Tape

If a generation compatible formatted LTFS tape is placed in the Symply LTO drive, depressing the Mount button will mount the LTFS volume in the operating system. If a formatted LTFS tape is mounted, the button will show Unmount, depressing the button will unmount the tape and remove it from the operating system and eject the tape.

The Mount operation may fail if:

- There is no tape in the tape drive
- The tape is not formatted with the LTFS format
- The tape in the drive is not of a compatible generation ex. LTO-6 tape in LTO-9 drive

If the tape in the drive is incompatible, for example an unsupported generation for the drive, then the Single Character Display (SCD) on the front of the drive will display “J”.

The Unmount operation may fail if there is not a tape in the drive, or if the tape has been unmounted using the operating system specific functions rather than using the SymplyATOM Unmount button. If this has occurred, you may resynchronize SymplyATOM by depressing the unmount button, or by re-selecting the tape drive in the left hand information window of SymplyATOM under the heading “Drives Found”.

Copying data to a tape can only be done when the tape is mounted. Then it is just a case of dragging the data to the tape’s icon using Finder on macOS or Windows Explorer on Windows. It is important to note that LTFS doesn’t support a small range of characters and attempting to copy files/folders which contain these so-called illegal characters: \* ? < > “ | \ will result in a failed copy operation.

**IMPORTANT:** Applications such as Hedge Canister and YoYotta automatically handle illegal characters, swapping them for valid characters on tape and replacing them upon restoration of the data to non-LTFS media.

## **Format Tape**

The Format Tape button is used to either format a blank tape using the LTFS file system, or reformatting an existing LTFS formatted tape. Note that LTFS tape naming convention requires you to enter a six (6) character alphanumeric sequence that will appear as the LTFS volume name. At the end of the format process you have the option either to:

- A. mount the tape
- B. eject the formatted tape

A tape format can fail if:

- There is no tape in the tape drive
- The tape is not formatted with the LTFS format
- The tape in the drive is not of a compatible generation ex. LTO-6 tape in LTO-9 drive

If the tape in the drive is incompatible, for example an unsupported generation for the drive, then the Single Character Display (SCD) on the front of the drive will display “J”.

If the tape in the drive is write protected it will display a “P”.

To unlock a write-protected tape, unload the tape and disable the write protection by moving the red switch so the lock graphic is no longer visible on the tape.



**Write Protect Switch**  
(Shown in Non Protected Position)

**Bar Code Area**

### Host Validation (Test)

The Host Validation button allows you to run a series of host validation diagnostic tests that ensure that connectivity from the computer to the tape drive is functioning properly. The test may take 30 minutes or longer to complete, and can not be interrupted once started. Interrupting the process may damage your SympleLTO drive or the tape inserted.

**IMPORTANT:** This is a destructive test that will delete all data on the tape, It should only be performed on a new or scratch data tape.

Note: This test is meant for advanced diagnostic purposes only and should only be used during a troubleshooting session with a Symple Support technician. Test results will contain information concerning the performance of the tape drive for transfer of various file sizes which your Symple Support Technician will use to assess if your tape drive is functioning properly.

### Retrieve Log

The retrieve log button is used in diagnostic testing of the SympleLTO. It gathers comprehensive log files from the LTO drive mechanism and should only be used during a troubleshooting session with a Symple Support technician. You will be directed to save these logs to your

computer in a convenient location. Select a location that will allow you to easily forward the logs to a Symply Support Technician when requested.

## **Run Test**

The Run Test button is used in diagnostic testing of the SymplyLTO and performs a comprehensive test of the LTO drive system. The test may take 15 minutes or longer to complete, and can not be interrupted once started. Interrupting the process may damage your SymplyLTO or the tape inserted.

**IMPORTANT:** This is a destructive test that will delete all data on the tape, It should only be performed on a new or scratch data tape.

The results of the test will be displayed on the right hand results window of Symply ATOM's application window. Possible test results are:

- Passed
- Failed
- Aborted

This information and associated log should be forwarded to a Symply Support Technician for analysis when requested.

Also displayed will be any associated Error Codes, with the Failed or Aborted test. These error codes will be the same as displayed on the front of the tape drive on the Single Character Display (SCD).

## **Upgrade Firmware**

The Upgrade Firmware button is used to upgrade the Symply LTO drive firmware when required. All Symply LTO drives are supplied with the most up-to-date firmware available at the time. Periodically new firmware updates may be available from the Symply Support site.

**IMPORTANT:** firmware updates should only be performed when requested to do so by a Symply Support Technician.

## **Drive(s) Found**

Drives Found information will appear in the left hand information window of the SymplyATOM Application. When ATOM is opened it will automatically scan the computer for available, supported tape devices and display the drive's information or anytime the Scan button is depressed.

To Format, Mount / Unmount, or to use any of the diagnostic tools, you must ensure the correct drive is selected by clicking on it under Drives Found first.

# Common Hardware FAQs

## Unload Button

The unload button is used to carry out several functions, first and foremost, to unload a tape, which is a process triggered by pressing the unload button once. The Ready light will flash green while the drive is rewinding and unloading the tape. During this process the drive will not accept additional commands from host applications.

The Unload button is also used to enter and exit Maintenance Mode, and to reset the tape drive. For more information on Maintenance Mode see the FAQ section on the Symply support site. Do not enter Maintenance Mode unless instructed to do so by a member of the Symply Support Team.

## Maintenance Mode

Only enter maintenance mode when instructed to do so by a member of the Symply Support Team.

To enter Maintenance Mode ensure that any tape is unloaded fully from the drive. Then within two (2) seconds, press the Unload button three (3) times. Once the drive is in Maintenance Mode, the ready light will be flashing and “0” will be visible on the Single Character Display (SCD). Note while in Maintenance Mode the drive will not accept any commands from the host computer.

To exit Maintenance Mode, press the unload button once (1 time) per second to increment the SCD until “0” is displayed. Then press and hold the unload button for three (3) seconds. Maintenance Mode will be exited when the Ready light will be On and the SCD is blank.

## Resetting the drive

To reset the drive, press and hold the unload button for 10 seconds, until the drive begins the reset process, the fault light will turn on when the reset process starts. The drive cannot be reset while there is tape in the drive. If a reset is triggered with a tape in the drive, then the tape will be unloaded from the drive. Once the tape is unloaded, repeat the Reset drive procedure. Do not power cycle the drive while the reset process is running.

## Loading a tape

To load a tape into the drive, first ensure that the drive is powered on. Before inserting the tape, check that the tape is compatible with the drive, the tape shows no signs of external damage, and ensure that the write-protect switch on the tape is properly set. Hold the data cartridge so that the write-protect switch faces you and then gently slide the data cartridge into the tape drive. It shouldn't be necessary to force the tape into the drive.

If the tape is already in the ejected position and you wish to reinsert the tape, remove the tape and insert it again.

### **Failed Tape Loads.**

If a tape cartridge fails to load then check

- That the leader pin is attached and properly seated by opening the cartridge door and observing the pin's placement. The leader pin should be visible inside the cartridge door.
- Inspect the cartridge case, the cartridge door, and the write-protect switch for damage.
- Inspect the rear of the cartridge and ensure that there are no gaps in the seam of the cartridge case. If there are gaps, the leader pin may be dislodged.
- Try loading or unloading another tape cartridge. If the load fails on the new cartridge, then retrieve the drive log and open a support ticket with the Symple Support Team.
  - If the load of the new tape cartridge is successful, discard the tape cartridge that originally failed if it is likely to be faulty.

### **Unloading a tape**

To unload a tape, first ensure that the drive is powered on. Press the unload button once. The drive will rewind the tape, the Ready light will flash as the tape is being rewound, this process can take several minutes. Once the rewind has completed the Ready light will stop flashing and the tape will be partially ejected from the tape drive.

After the tape has been partially ejected, take hold of the tape and remove it from the drive. Always fully remove an ejected tape from the drive before reinserting it. Make sure the tapes are stored correctly when not in use. Check the tape packaging for storage instructions.

It is not recommended to leave tape loaded in a drive or partially ejected for long periods of time when they are not in use.

### **Recovering a tape (Mid-Tape Recovery, MTR)**

If a tape drive reset occurs while a tape is loaded, the drive will slowly rewind and eject the tape, this usually takes several minutes to occur.

If a power cycle occurs while a tape is loaded, the drive will slowly rewind the tape, but the drive will not automatically eject the tape at the end of the process. The rewind process can take several minutes to complete. The Ready light will continue to flash denoting activity and the SCD display will show the figure “8” broken up with a countdown indicating progress in ten's

percentage increments to completion: 9,8,7,6,5,4,3,2,1. Once completed push the unloaded button once to eject the tape when the Ready light stops flashing.

If the tape is at End of Tape (EOT) when a tape drive reset command occurs it will usually take several minutes for the tape to rewind, however if a problem occurs during recovery it can take up to an hour to recover from the error. It is important always to give the drive time to recover following a power cycle with a tape in the drive. The Ready light will continue to flash denoting activity and the SCD display will show the figure “8” broken up with a countdown indicating progress in ten’s percentage increments to completion: 9,8,7,6,5,4,3,2,1. Once completed push the unloaded button once to eject the tape when the Ready light stops flashing.

### **Cleaning the LTO drive**

It is important to remember not to use the LTO system in dusty and dirty environments as this can cause damage to the LTO tapes and the LTO mechanism itself. In normal operation the drive heads will need to be cleaned periodically, when cleaning is required the Single-Character Display (SCD) on the front of the LTO drive will display the error code “C”. Note that this is a capital “C” not a lowercase “c” which indicates a LTO-9 tape optimization is in progress.

When, and only when, the SCD displays “C”, you should insert the cleaning cartridge into the mechanism, only ever in the direction of the arrow on the top of the cleaning cartridge. The LTO drive will automatically start the cleaning process and the cleaning cartridge will be ejected when the cleaning is complete. In the unlikely event that after the cleaning has completed the SCD still shows a “C” error code then contact Symply Support, do not use the cleaning cartridge again.

It is important to clean the LTO system when prompted to do so, but it is equally important only to do this when prompted by the LTO drive. Cleaning the drive without being prompted to do so will actually reduce the lifespan of the LTO mechanism and may invalidate your warranty.

Cleaning cartridges have a finite life span. Cleaning cartridges supplied with the Symply LTO solutions will last for a maximum of 50 cleaning cycles. If you need additional cleaning cartridges they can be purchased via Symply authorized resellers.

## **About Linear Tape File System (LTFS)**

LTFS makes viewing and accessing tape files easier than ever before. The LTFS format is used with LTO data tapes to allow you to share your data with others as it is supported on Mac, Windows and Linux operating systems and doesn’t use a proprietary data format. With LTFS, the LTO data tape is partitioned in two. One partition holds the content and the other holds the content’s index so the tape can be self-describing to improve archive management.

Symply LTO systems ship with SymplyATOM, a free, intuitive and informative LTFS tape management and operations toolset.

NOTE: \* ? < > “ | \ are illegal characters in LTFS and are not usable in file names, folder names, or file extensions. Most commercially available LTFS software will handle these illegal

characters for you. However, to keep your archives software independent it is best to remove any illegal characters from file and folder names prior to writing them to tape.

## LTO Drive and Data Cartridge Compatibility Guide

	LTO-5 Data Cartridge	LTO-6 Data Cartridge	LTO-7 Data Cartridge	LTO-8 Data Cartridge	LTO-9 Data Cartridge
<b>Symple LTO-7</b>	Read Only	Read / Write	Read / Write	n/a	n/a
<b>Symple LTO-8</b>	n/a	n/a	Read / Write	Read / Write	n/a
<b>Symple LTO-9</b>	n/a	n/a	n/a	Read / Write	Read / Write

### LTO-9 Media Optimization

LTO-9 media optimization (also referred to as Characterization) is a new feature introduced for LTO-9 tape drives with LTO-9 media. It is not required for LTO-9 tape drives using LTO-8 media. The increased number of tracks used to write data on LTO-9 tape requires greater precision. Media optimization creates a referenced calibration for each cartridge that enables the tape drive's intelligent alignment to optimize data placement. LTO-9 media optimization enhances LTO tape long-term media durability.

- Media optimization will be performed on the first load only of LTO-9 media during initialization.
- Media optimization is a one-time operation that can be completed on any drive, enabling the media to be used across all tape drives without further optimization.
- Media optimization averages 40 minutes per first load of a cartridge to a tape drive. Although most media optimization will complete within 60 minutes some media optimization may take up to two hours.
- A standard LTFS format command (using the current version of LTFS, 2.4.4.0) will also trigger an optimization of a data cartridge to be carried out as part of the LTFS format process.
- All LTO-9 media supplied by Symple in-the-box with our LTO-9 product is pre-optimized and pre-LTFS formatted to save you time.
- The differing amount of time taken for the one-time optimization to complete has no impact on the performance or functionality of the data cartridge.
- Interruption of the media optimization process is not recommended.
- Symple offer LTO-9 media for purchase via our network of resellers, this is available with or without pre-optimization, LTFS formatting with custom barcode labels, or as non-optimized LTO-9 media.



# Operating Environmentals

	Temperature	Humidity	Altitude
<b>Operating</b>	15°C to 35°C (59°F to 95°F)	20% to 80% (non-condensing)	3048 m (10,000 ft)
<b>Non-operating</b>	-40°C to 60°C (-40°F to 140°F)	0% to 90% (non-condensing)	12192 m (40,000 ft)

## Symply LTO and Data Cartridge Transport and Storage

	LTO-9	LTO-8	LTO-7	LTO-6
Operating Conditions	Recommend: 15°C - 25°C; 20% - 50% RH  Allowable: 15°C - 35°C; 20 - 80% RH; 22°C dew point maximum	10°C - 40°C; 10% - 80% RH; 26 C wet bulb maximum		
Short-term Storage condition	See operating conditions	16°C - 35°C; 10% - 80% RH; 26°C wet bulb maximum		
Long-term Storage condition	See operating conditions	16°C - 25°C; 20% - 50% RH; 26°C wet bulb maximum		
Shipping Conditions	-23°C - 49°C; 10% - 90% non-condensing RH; 22°C dew point maximum	-23°C - 49°C; 5% - 80% RH; 26°C wet bulb maximum	-23°C - 49°C; 20% - 80% RH; 26°C wet bulb maximum	
<b>IMPORTANT:</b> Tapes stored at a temperature in excess of 52°C (125.6 °F) may suffer permanent damage. It is important that temperature and humidity be kept constant, as rapid changes in either are not good for the data cartridges or LTO drives.				

# **Symply LTO and Data Cartridge Acclimatization Time**

Acclimatization time is required if the temperature of the Symply LTO drive when opened is different from the temperature of the environment it will be operated in. The recommended initial acclimation time is four hours after the drive has been unpacked.

If there is no danger of condensation (the air is dry), then the drive temperature may be increased more quickly by powering the drive on for a half hour before using the tape drive. If the Symply LTO drive is hotter than the maximum allowed operating temperature (35°C / 95°F) there is a danger that the tape may adhere to the read/write head. In this case the Symply LTO drive should be allowed to cool to within the operating temperature range.

It is recommended that the Symply LTO product and LTO data cartridges are stored together for 24hrs before use in the environment that they will be used in. This will ensure the correct acclimatization.

# Hardware Error Codes

## Error code on Single-Character Display (SCD) Table (HH and FH Drives)

The drive indicates an error by displaying an error code on the SCD. The error and informational codes indicated by the Single-Character Display are set and cleared as indicated in priority (lowest number) displays. The code numbers are listed in priority order, from highest to lowest. If multiple error conditions occur, the code with the highest priority (lowest number) displays.

Error Code	Description
1	<p>The Symply LTO has detected system temperature outside the operational range. Please ensure that room temperature is between 15°C and 35°C (59°F to 95°F). Also check for a blocked fan or other obstructions blocking air flow. If the fan is operating correctly and room temperature is within parameters, please submit a support ticket at <a href="https://support.gosymply.com">support.gosymply.com</a></p>
2	<p>The Symply LTO has detected a problem with either the incoming power, or an internal power issue. Please ensure the system is connected to clean wall power using the power cord supplied. To ensure incoming power is good, connect the system to a different outlet or power strip. Do not connect using extension cords.</p> <p>If the problem still persists please submit a support ticket at <a href="https://support.gosymply.com">support.gosymply.com</a></p>
3	<p>The Symply LTO has detected an internal microcode or drive problem. This may require a simple power cycling, but before doing so, please open SymplyATOM and choose Retrieve Log. Then power off the system after ejecting any data cartridge (if there is one in the drive), wait 20 seconds then power back on. The error should clear after the power cycle.</p> <p>If the problem persists, please submit a support ticket at <a href="https://support.gosymply.com">support.gosymply.com</a></p>

4	<p>The Symply LTO has detected an internal microcode or drive problem. This may require a simple power cycling, but before doing so, please open SymplyATOM and choose Retrieve Log. Then power off the system after ejecting any data cartridge (if there is one in the drive), wait 20 seconds then power back on. The error should clear after the power cycle.</p> <p>If the problem persists, please submit a support ticket at <a href="http://support.gosymply.com">support.gosymply.com</a></p>
5	<p>The Symply LTO has detected a hardware drive error. This may require a simple power cycling, but before doing so, please open SymplyATOM and choose Retrieve Log. Then power off the system after ejecting any data cartridge (if there is one in the drive), wait 20 seconds then power back on.</p> <p>If the problem persists, please submit a support ticket at <a href="http://support.gosymply.com">support.gosymply.com</a></p>
6	<p>The Symply LTO has detected an internal error drive or media error but cannot isolate the problem. The error will clear when the data cartridge is unloaded.</p> <p>Re-insert the same data cartridge that has the potential issue. If the drive displays an Error 6 please try a new data cartridge to see if the Error 6 code persists. If the error does not clear when using a new data cartridge, open SymplyATOM and choose Retrieve Log, then please submit a support ticket at <a href="http://support.gosymply.com">support.gosymply.com</a></p>
7	<p>The Symply LTO has detected a Media error due to a faulty tape cartridge or an invalid tape cartridge. Ensure the tape cartridge is the correct media type. If the tape cartridge is the correct media type, try another tape cartridge. If the problem occurs with multiple tape cartridges, use the following procedure:</p> <p>If possible, run the tape cartridge in a different tape drive. If the operation in the other unit fails and an error 6 or 7 displays, replace the media.</p> <p>If the problem persists, open SymplyATOM and choose Retrieve Log, then</p>

	<p>please submit a support ticket at <a href="https://support.gosymply.com">support.gosymply.com</a></p>
<b>8 or E</b>	<p>Internal Communication Error. The Symply LTO Desktop drive has determined that there is either an internal or external SAS port interface problem. Error will clear after 10 seconds or power cycle.</p> <p>If the problem persists, please submit a support ticket at <a href="https://support.gosymply.com">support.gosymply.com</a></p>
<b>A</b>	<p>Drive Error. The Symply LTO drive has determined that a drive hardware failure has occurred, most likely as a result of performance degradation. This may be linked to degraded data cartridges. The error condition will clear when the drive is powered off. Please try an alternative data cartridge.</p> <p>If the problem persists, please submit a support ticket at <a href="https://support.gosymply.com">support.gosymply.com</a></p>
<b>C</b>	<p>Drive needs to be cleaned. The Symply LTO drive has determined that the tape drive needs to be cleaned. When this message is displayed, please insert the Cleaning Tape into the tape drive that was supplied along with the Symply LTO product. Once the Cleaning Tape has been inserted the cleaning process will start automatically, at the end of the process the Cleaning Tape will be ejected and the error will be cleared.</p> <p>It is possible that dirty or faulty tapes can cause the Cleaning Error to be displayed. If the Cleaning Error is coming on regularly, it is likely that you have one or more bad or dirty tapes and they should be retired and new media used.</p> <p>Do not routinely use a Cleaning Tape in the Symply LTO as this will damage the tape heads over time and may void your warranty. Only insert a Cleaning Tape when prompted to do so by the "C" character on the SCD of the Symply LTO drive.</p> <p>If the Error C persists after the drive has been cleaned, do not clean the drive again. Please submit a support ticket at <a href="https://support.gosymply.com">support.gosymply.com</a></p>
<b>J</b>	<p>Incompatible Media. The Symply LTO drive has determined that the drive has</p>

	<p>been loaded with a data cartridge that is not supported. For example LTO-6 media loaded into a LTO-8 drive mechanism. Always make sure that you source your media from a trusted source. If problem persists and you are confident you are using the correct media, please submit a support ticket at <a href="http://support.gosymply.com">support.gosymply.com</a></p>
<b>P</b>	<p>Write Protect. A write operation has been attempted on an LTO data cartridge that has write protection enabled. If you want to write to the LTO data cartridge, then unload the LTO cartridge (making sure the tape is unmounted from the OS) and disable write protection, move the red switch so the graphic lock sign is no longer visible.</p> <p>If the red switch is not covering the hole, but the drive is still reporting the error P, please submit a support ticket at <a href="http://support.gosymply.com">support.gosymply.com</a></p>
<b>u</b>	<p>Microcode update is in progress. The Symply LTO drive is in the process of uploading and flashing new firmware code to the tape drive. SymplyATOM allows you to upgrade firmware on the Symply LTO drive, but please only do this when you have been instructed to do so by a member of the Symply Support Team.</p>
<b>c</b>	<p>Optimization (characterization) of the data cartridge is in progress on an LTO-9 tape drive with an LTO-9 data cartridge inserted. Media optimization will be performed on the first load of LTO-9 media during initialization.</p> <p>Media optimization averages 40 minutes per first load of a cartridge to a tape drive. Although most media optimization will complete within 60 minutes some media optimization may take up to 2 hours. Interruption of the media optimization process is not recommended.</p> <p>For further information please see <a href="#">FAQs</a></p>

<b>e</b>	<p>Encryption Error. The drive detected a configuration or set-up error prior to an encryption operation. The problem may exist with the encryption key manager communication path. Check your software application that is using encryption.</p>

	If the “e” error appears immediately after power-on, there could be a hardware failure if you are not using cryptographic software. Please submit a <a href="#">support ticket</a>
<b>Bouncing “o”</b>	Broken or excessively slack tape. The drive has encountered a condition where it cannot unload the tape or determine that the tape is in the path of the head. Stop using the tape drive and please submit a <a href="#">support ticket</a>
<b>Figure “8”</b>	Drive is recovering from a power cycle with tape in the drive. The ‘figure 8’ is broken up with a countdown indicating progress in ten’s percentages to completion. 9,8,7,6,5,4,3,2,1

## Status Light Information Table Half Height Drives

Display	Single-Character Display (SCD)	Ready LED (Green)	Fault LED (Amber)
<b>Standby Operation</b>	Blank	On	Off
<b>Activity Operation (tape in movement)</b>	Blank	Flashing	Off
<b>Error</b>	Solid Character	Off	Flashing
<b>Power On, Or Power Cycle</b>	POST Display Sequence	Off	On

Display	Fault Light Status	Encryption status light (key symbol)	Single-Character Display (SCD)	SCD Dot	Description
Off	Off	Off	Off	Off	The drive is powered off
Solid Green	Off	On or Off	Off	Off	The drive is powered on but is idle
Flashing Green @ 1Hz	Off	On or Off	Off	Off	The drive is carrying out standard operations
Flashing	Off	Off	Off	Off	If the drive contained a

Green @ 1Hz					data cartridge when powered off, the drive undergoes an extended POST process when turned back on as the tape rewinds slowly. This can take up to 10 minutes. The light stops blinking and becomes solid when the drive completes the recovery process, and is ready for standard operations. To eject the cartridge press the eject button.
Off	Solid Amber	Off	Displaying an Error Code	On or Off	The drive is displaying an error code on the SCD. See SCD Error code table.
On or Off	On or Off	On or Off	Displaying random characters, then blank, then displaying random characters	On or Off	<p>During power on, a drive reset, the SCD displays the following:</p> <p>1) SCD will display random characters (no LEDs on)</p> <p>2) SCD will display random characters (LEDs - green on, amber off)</p> <p>3) SCD will display random characters (LEDs - green off, amber on)</p> <p>4) SCD will display [8] (LEDs - green off, amber on).</p> <p>5) SCD will go blank (LEDs - green on, amber off) after the power is turned on or after the drive is reset.</p> <p>If an error is detected</p>



					during the POST process it is displayed on the SCD. See SCD Error code table
Off	Flashing Amber @ 1Hz	Off	Displaying Error Code	Off	An error has occurred and the drive or media may require attention, or cleaning. See SCD Error code table
Off	Flashing amber @ 2Hz	Off	Off	Off	The drive detected an error and is performing a recovery. It will be reset automatically

## Status Light Information Table Full Height Drive

Display	Condition of the SCD Pane	Condition of the SCD Dot	Meaning of LED and SCD Panel and SCD Dot
Off	Off	Off	The tape drive has no power, or is powered off
Green (solid)	Off	Off	The tape drive is powered on
Green Flashing (at 1 Hz)	Off	Off	<p>The tape drive is reading from the tape, writing to the tape, rewinding the tape, locating data on the tape, loading the tape, or unloading the tape.</p> <p>The status light also flashes green if the tape drive contains a cartridge during the power-on cycle. In this case, the drive completes POST and slowly rewinds the tape (the process may take up to 13 minutes depending on the tape position at power-on time). The light stops blinking when the drive</p>

			completes the recovery and is ready for a read or write operation. To eject the cartridge, press the unload button.
Amber (solid)	Solid	On/Off	The tape drive is in maintenance mode
Amber (solid)	1 Hz flashing, Display Maintenance Mode Options	On/Off	Tape drive is executing the selected option while in maintenance mode.
Amber/Flashing at 1Hz	Red/Solid	Off	An error has occurred and the tape drive or media may require service or the tape drive may require cleaning. Note the code on the SCD and go to the Error Code table to determine the meaning of the code.
Amber/Flashing at 2Hz	Red/Solid	Off	The drive is updating its microcode (Do Not Power Off)
Amber/Flashing at 0.5Hz	Off	Off	The drive has detected an error and is performing a microdie recovery. The drive will automatically reset (Do Not Power Off).
Any	"C"	On/Off	The tape drive requires cleaning
Any	"c"	On/Off	LTO-9 tape media is being optimized (Do Not Power Off).

# Other Useful Information

## LTFS Formatting and Labels

SymplyATOM uses the current version of the open standard which is version 2.4.4.0 LTFS tapes must be formatted with a unique 6 character label that should match the barcode label on the tape for ease of tracking media.

- o The code can have the letters A-Z and numbers 0-9. For example... 123456, ABCDEF, SY1234 etc...
- o After formatting a LTFS tape you cannot change the label. To change the label you have to reformat the LTFS tape.
- o The tape barcode label is 8 characters. This comprises the user selectable 6 characters followed by the LTO generation identifier L5, L6, L7, L8, and L9. For example... 123456L8, ABCDEFL9, SY1234L7
- o We recommend not to use / \* ? < > " | \ : characters (and no spaces) in file and directory naming as these are not supported across all operating systems. This is best practices for file and path naming.
- o We recommend to keep the file names less than 250 characters and a path name of less than 1024 characters

## Deleting files from LTFS tapes

If files or folders are deleted from the LTFS tape using Windows or Mac finder, or via command line they will be removed from the tape directory. Note however that deleted space is not recovered in this process. Once any changes are made to the LTFS tape it is recommended the tape is unmounted.

If a large number of files need to be removed from the LTFS tape, then it is best to reformat the tape and start again. But make sure you have copies of the tape media you need first.

## Moving files from LTFS tapes

Files can be moved using the OS (Finder/Explorer), and files and folders can be renamed. However, folders cannot be moved on tape. Once any changes are made to the LTFS tape it is recommended the tape is unmounted.

# Contacting Symply Support

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