SymplyPRO XTL 24 Tape Library User Guide

Thank you for purchasing SymplyPRO XTL 24 Tape Library.

If you have any support questions that are not addressed in this document, then please check our extensive FAQs or submit a support ticket on our support site https://support.gosymply.com/

Your feedback is important to us, so please let us know what you think of our products by emailing hello@gosymply.com.

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Regulatory Information

This section describes the tape library compliance with safety and regulatory agency standards.

!	**IMPORTANT**	For regulatory compliance, install the library in an office/commercial or industrial environment and use only shielded cables with proper grounding of the SAS interface and the AC input.

Device Standards

- ANSI Small Computer System Interface-2 (SCSI-2), X3.131 – 1994.
- ANSI SCSI-3 Primary Commands, X3.301 – 1997.
- ANSI Information and Technology. SCSI-3 Medium Changer Commands (SMC), NCITS.314:1998.
- ANSI SCSI Parallel Interface-2 (SIP-2), X3.302:1998.
- IEC 60297 Rack Standards.

FCC (United States)

The computer equipment described in this manual generates and uses radio frequency (RF) energy. If the equipment is not installed and operated in strict accordance with the manufacturer's instructions, interference to radio and television reception might result.

Tested To Comply

With FCC Standards

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Part 15, Class A, of the FCC Rules, is designed to provide reasonable protection against radio and television interference in a residential installation. Although the equipment has been tested and found to comply with the allowed RF emission limits, as specified in the above cited Rules, there is no guarantee that interference will not occur in a particular installation. Interference can be determined by turning the equipment off and on while monitoring radio or television reception. The user may be able to eliminate any interference by implementing one or more of the following measures:

- Reorient the affected device and/or its receiving antenna.
- Increase the distance between the affected device and the computer equipment.
- Plug the computer and its peripherals into a different branch circuit from that used by the affected device.
- If necessary, consult an experienced radio/television technician for additional suggestions.

Perchlorate warning

California Best Management Practices Regulations for Perchlorate Materials: This Perchlorate warning applies only to products containing CR (Manganese Dioxide) Lithium coin cells. “Perchlorate Material-special handling may apply. www.dtsc.ca.gov/hazardouswaste/perchlorate”.

Canadian Verification

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations (ICES-003, Class A).

CE Statement

This product conforms to the following European Directive(s) and Standard(s): Application of Council Directives: 73/23/EEC, 89/336/EEC. Standards to which Conformity is declared: EN60950, EN55022, EN55024, EN61000-3-2, EN61000-3-3.

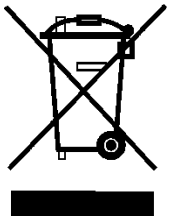
VCCI

This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

Recycling and disposal

NOTE Disposal of waste equipment by users in private household in the European Union and Norway.



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your equipment by handling it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at this time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Warnings and Symbols

IMPORTANT All safety and operating instructions should be read before this product is operated and should be retained for future reference. This unit has been engineered and manufactured to assure your personal safety. Improper use can result in potential electrical shock or fire hazards. In order not to defeat the safeguards, observe the following basic rules for its installation, use and servicing.

DANGER **High voltage!**

Risk of electric shock.

Do not remove cover (or back). No user-serviceable parts inside. Refer to qualified service personnel.

DANGER A danger condition due to the weight of the unit. Weight symbols are accompanied by an approximation of the product's weight.

-

CAUTION A discharge of static electricity can damage static-sensitive devices or micro circuitry. Proper packaging and grounding techniques are necessary precautions to prevent damage.

NOTE Provides additional information.

Electrostatic Discharge

To maintain regulatory compliance and reliable operation, the library must be installed in an office/commercial or industrial environment. Use only **shielded** SAS (and other data) cables with metal-shell connectors and ensure the AC mains input has a verified protective-earth (PE) connection. Do not operate the system with unshielded cabling or a defeated ground.

Preventing Electrostatic Damage

To prevent electrostatic damage, observe the following precautions:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly. See the next section.

Grounding Methods

There are several methods for grounding. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:

- Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm (± 10 percent) resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.
- Use heel straps, toe straps, or bootstraps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
- Use conductive field service tools.
- Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, have an authorized reseller install the part.

NOTE For more information on static electricity, or assistance with product installation, contact your authorized reseller.

Document Revision

Title: SymplyPRO XTL 24 User Guide

Date: October 24th, 2025

Document Version: 1.4

Library Firmware: 6.20 / 3.60e

Bootcode: 0.82

About this guide

This guide is intended for system administrators and general users who need physical and functional knowledge of the SymplyPRO XTL 24 2U Library.

This guide provides information about:

- Installing the SymplyPRO XTL 24 2U Library.
- Installing the XTL Ethernet Module in the Library.
- Installing the XTL Thunderbolt Module in the Library.
- Configuring and operating the SymplyPRO XTL 24 2U Library.
- Troubleshooting the SymplyPRO XTL 24 2U Library.
- Upgrading and servicing the SymplyPRO XTL 24 2U Library.

COPYRIGHT STATEMENT

Introduction

SymplyPRO XTL 24 is a compact, automated LTO tape library designed for simple, high-capacity backup and archive workflows. In a 2U form factor it houses up to **24** cartridges via two front-accessible, removable magazines (left magazine with **mailslot** and right magazine), each holding up to **12** cartridges for fast media handling.

The library supports **one or two LTO half-height** tape drives with **SAS** or **Fibre Channel (FC)** connectivity. Devices are presented using **multiple LUNs** so that the tape drive(s) and the library robotics are visible to the host separately.

Optional connectivity modules extend deployment flexibility:

- **SymplyPRO XTL Ethernet Module** — dual **10 GbE (iSCSI)** bridging for SAS-attached drives. In the XTL 24, the module occupies the **top drive bay**, so the library supports **one** LTO drive when installed.
- **SymplyPRO XTL Thunderbolt Module** — dual **Thunderbolt 3** (one host, one daisy-chain) for direct attachment. In the XTL 24, the module also occupies the **top drive bay**, so the library supports **one** LTO drive when installed.

SymplyPRO XTL 24 is compatible with most operating systems that support SAS or FC. To leverage advanced library features (robotics, barcodes, partitioning, etc.), use an operating system with a compatible medium-changer driver or a **supported backup/archive application**.

NOTE

HBA/LUN discovery: The library requires a host bus adapter (HBA) and drivers that **support LUN scanning (multi-LUN)**. If LUN scanning is disabled, the host may discover only the tape drive (LUN 0) and **not** the library robotics (typically LUN 1).

Preparing the host

For the best experience in using the SymplyPRO XTL it is important to make sure that the host server or workstation is correctly configured.

Follow these general guidelines:

- **Check with a system administrator** before powering off the host computer.
- **SAS:** Confirm availability of, or install, a **SAS HBA** that supports **multiple LUNs**.
- **Direct-attach Fibre Channel:** Confirm availability of, or install, an **FC HBA**.
- **Switched Fibre Channel:** If connecting via a compatible FC switch, **verify sufficient free ports** are available.
- **iSCSI.** Use dedicated **10 GbE (or faster) NICs** for iSCSI traffic and place each XTL Ethernet Module **data port on a separate subnet.**
- Ensure initiator/NIC settings are consistent end-to-end if using **jumbo frames**, set the **same MTU (e.g., 9000)** on the host, switches, and XTL Ethernet Module.
- **Keep management separate:** put the Ethernet Module **management port on a different subnet** from both data ports.
- **Install required software/drivers.** With the host powered on, install the HBA drivers and backup/archive software that **supports SCSI medium-changer (robotics)** control. Some data-protection suites require additional components or licensing to enable library robotics.
- Confirm the host server's operating system recognised the library.

!	**IMPORTANT**	Some host adapters that are also **RAID controllers do not support tape libraries**. It is important that the host adapters support **TLR.**

	**NOTE**	Symply recommends ATTO SAS and Fibre Channel Host Adapters, they are available from Symply and our authorized resellers.

SymplyPRO XTL 24 Hardware Overview

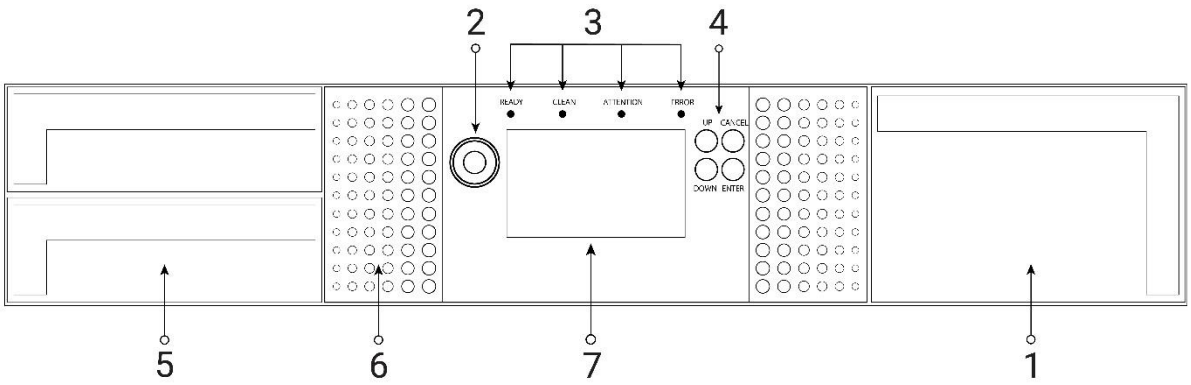
SymplyPRO XTL 24 Part Numbers

Part Numbers	Drive Generation	Host Interface	Maximum Native Capacity	Maximum Native Data Transfer
SYXTL-C24S1L7H2	LTO-7	2 x 6Gb SAS SFF-8088	144TB	300MB/Sec
SYXTL-C24S1L8H2	LTO-8	2 x 6Gb SAS SFF-8088	288TB	300MB/Sec
SYXTL-C24S2L9H2	LTO-9	2 x 12Gb SAS SFF-8644	432TB	300MB/Sec
SYXTL-C24F1L7H2	LTO-7	2 x 8Gb FC LC	144TB	300MB/Sec
SYXTL-C24F1L8H2	LTO-8	2 x 8Gb FC LC	288TB	300MB/Sec
SYXTL-C24F1L9H2	LTO-9	2 x 8Gb FC LC	432TB	300MB/Sec

Physical Specifications SymplyPRO XTL 24

Characteristic	Description
Rack requirements	Standard 19-inch rack with 2U of clearance
Number of Slots	24
Number of Mailslots	1
Drive Form Factor	Half-Height
Number of Drives	1 or 2
Native Drive Interface	SAS or Fibre Channel
MSBF w/o drive	500,000 hours
Dimensions (H x W x D)	87 x 448 x 740 mm (3.43 × 17.64 × 29.13 in)
Clearance Front	308 mm (2.13 in) for mail slot access 600 mm (23.62 in) for magazine removal
Clearance Rear	154 mm (6.06 in)
Clearance Side	51 mm (2.01 in)
Power Supply	Single Module 160W (AC power 110v – 240v)
Weight Without Media	Single Drive 14.7 Kg (32.41 lbs) Dual Drive 15.6 Kg (34.39 lbs)
Weight With Media	Single Drive 20.2 Kg (44.53 lbs) Dual Drive 21.1 Kg (46.52 lbs)

SymplyPRO XTL 24 Front View



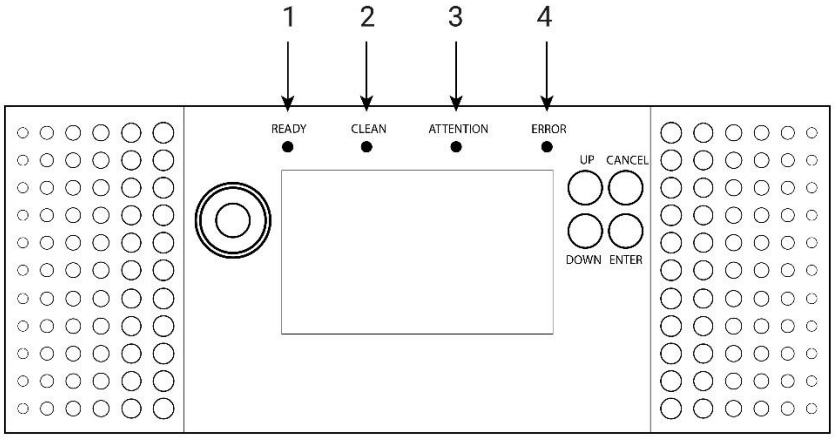
Number	Description
1	Magazine – Right
2	Power Button
3	Front Panel LEDs (Ready, Clean Drive, Media Attention, Error)
4	Control Keys (Cancel, Previous, Next, Enter)
5	Magazine – Left (includes mailslot)
6	Air Vents
7	Front Panel LCD

Operator Control Panel (OCP)

The Operator Control Panel (OCP) consists of an LCD display, 4 push button switches and a power on/off button. The OCP screen displays actions and status information, menu items or error messages equivalent to the operation mode.

OCP LEDs Guide

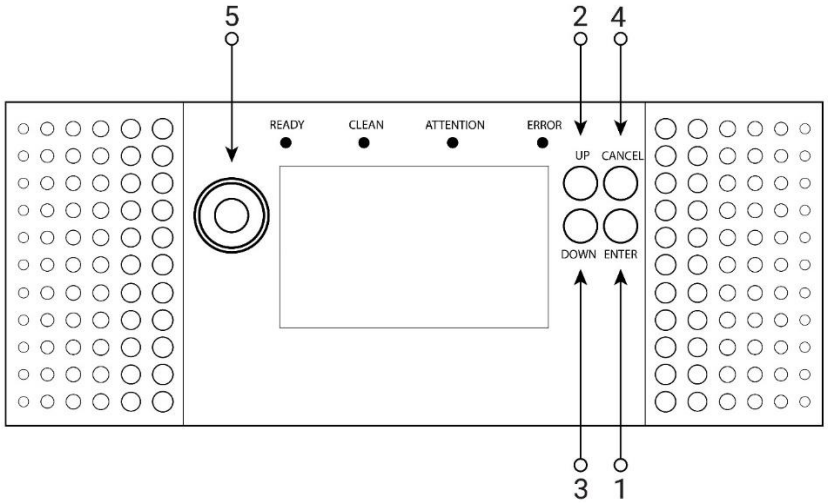
There are 4 LEDs located on the front of the library above the LCD display.



Number	LED	Colour	Description
1	Ready / Activity	Green	Illuminated when power is on. Blinking when there is tape or library robotics activity.
2	Clean Drive	Amber	Illuminated when the tape drive has determined that a cleaning cartridge should be used. Cleaning is only necessary when the library directs you to do so. Additional cleaning is not necessary. The LED will be turned off after the tape drive is cleaned successfully.
3	Media Attention	Amber	Illuminated if the library has detected a condition that requires attention by the operator. Media might be bad, marginal or invalid. It will be cleared when all invalid cartridges have been exported from the tape library.
4	Error	Amber	Illuminated if an unrecoverable tape drive or library error occurs. A corresponding error message displays on the LCD screen (see for more information). It will be cleared when the error state is resolved.

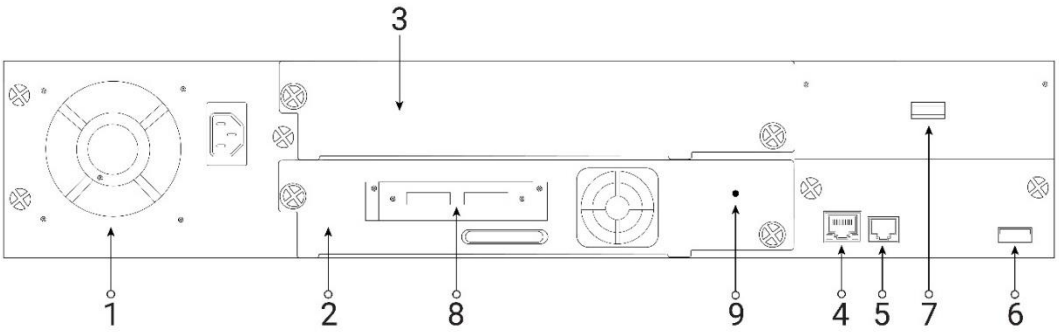
OCP Button Guide

There are 4 buttons located on the front of the library to the right-hand side of the LCD display.



Number	Button	Description
1	Enter Button [↵]	The ENTER button to go to a sub menu or execute an action
2	Up Button [↑]	The UP button is used to navigate through menu items
3	Down Button [↓]	The DOWN button is used to navigate backward through menu item
4	Cancel Button [x]	The CANCEL button is used to cancel a user action and return to the last menu item
5	Power Button	Pressing the POWER ON/OFF button will initiate a controlled Power Down of the unit (soft power down)

SymplyPRO XTL 24 Rear View



Number	Description
1	Power Supply Module
2	Drive Sled #1 (Bottom Drive Bay)
3	Drive Sled #2 (Top Drive Bay)
4	Ethernet Management Port
5	Serial Port
6	USB Port
7	Shipping Lock
8	SAS or FC Host Ports
9	Drive LED

Environmental Specifications SymplyPRO XTL 24

Environmental Factor	Recommended	Allowable	Non-Operating
Dry-Bulb Temperature	**LTO-9** and **LTO-10**: 15 to 25 °C (59 to 77 °F) **LTO-7** and **LTO-8**: 16 to 25 °C (61 to 77 °F)	**LTO-9** and **LTO-10**: 15 to 30 °C (59 to 86 °F) **LTO-7** and **LTO-8**: 16 to 30 °C (61 to 86 °F)	5 to 35˚C (41 to 95˚F)
Relative Humidity	**LTO-9** and **LTO-10**: 20 to 50% (non-condensing) **LTO-7** and **LTO-8**: 20 to 50% (non-condensing)	**LTO-9** and **LTO-10**: 20 to 50% (non-condensing) **LTO-7** and **LTO-8**: 20 to 50% (non-condensing)	20 to 80% (non-condensing)
Maximum Temperature Change	5 °C (41°F) / hour	5 °C (41°F) / hour	5 °C (41°F) / hour
Maximum Humidity Change	5% / hour	5% / hour	5% / hour
Temperature Limitation for Humidity Conditions	**LTO-9** and **LTO-10**: Max Dew Point 22 °C (72 °F) **LTO-7** and **LTO-8** Wet Bulb Temperature <= 26 °C (79 °F)		
Maximum Altitude	3,048 m (10,000 ft)	3,048 m (10,000 ft)	12,192 m (40,000 ft)
Dust concentration	Less than 200 microgram / cubic metre		

Transport and Storage of Library and Data Cartridge

Condition	Environmental Specification
Short-term Storage condition	See operating conditions
Long-term Storage condition	See operating conditions
Shipping Conditions	5 to 45 °C (41 to 113 °F); 10% to 80% non-condensing. RH; 26 °C (72 °F) dew point maximum

!	**IMPORTANT**	Data cartridges stored at a temperature in excess of 52°C (125.6 °F) may suffer permanent damage. It is important that both temperature and humidity should be kept constant, as rapid changes in either are not good for the data cartridges or LTO drives.

Acclimatization Time for Library and Data Cartridge

Acclimatisation is required if the SymplyPRO XTL has been stored or transported at a different temperature to the operating environment. As a baseline, allow **four hours** after unpacking for the library to reach ambient temperature.

If there is **no risk of condensation** (i.e., the air is dry and the unit is above the local dew point), you may bring the unit up to temperature more quickly by **powering it on for ~30 minutes** before use. Do **not** load tapes until the unit has stabilised.

If the SymplyPRO XTL is **hotter than the maximum operating temperature (30 °C / 86 °F)**, there is a risk that tape may adhere to the read/write head. In this case, allow the library and drives to **cool back within the operating range** before use.

For best results, store the SymplyPRO product **and** its LTO data cartridges **together for 24 hours** in the environment where they will be used. This helps temperature and humidity equalise, ensuring proper acclimatisation.

!	**IMPORTANT**	Avoid rapid moves from cold to warm, humid environments. If in doubt, extend the acclimatisation time to prevent condensation.

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	LTO-10 Data Cartridge
SymplyPRO LTO-7	Read Only	Read & Write	Read & Write	n/a	n/a	n/a
SymplyPRO LTO-8	n/a	n/a	Read & Write	Read & Write	n/a	n/a
SymplyPRO LTO-9	n/a	n/a	n/a	Read & Write	Read & Write	n/a
SymplyPRO LTO-10	n/a	n/a	n/a	n/a	n/a	Read & Write

LTO-9 Media Optimization

Overview. LTO-9 media optimisation—also referred to as *characterization*—was introduced with LTO-9 drives and LTO-9 cartridges. Because LTO-9 writes many more, narrower tracks, the drive performs a one-time, per-cartridge calibration to establish a reference that its intelligent alignment system uses to optimise data placement. This improves write reliability and long-term media durability. (Not required when using LTO-8 media in an LTO-9 drive.)

Key points

- **Automatic on first load.** Optimisation runs the first time an LTO-9 cartridge is initialised in any LTO-9 drive.
- **One time per cartridge.** Once completed, the cartridge can be used in any compatible drive without repeating optimisation.
- **Typical duration.** Expect ~**40 minutes** on average. Most complete within **60 minutes**; some may take up to **2 hours**.
- **No impact from duration variance.** The time taken has no effect on cartridge performance or functionality.
- **Do not interrupt.** Let the process complete before starting backup or archive jobs.
- **Pre-optimised media from Symply.** All LTO-9 media included in-box with Symply LTO-9 products ships **pre-optimised**.
- **Available through resellers.** Symply-supplied LTO-9 media is available **with or without** pre-optimisation via our authorised reseller network.

Note: LTO-10 does not require optimization.

TIP

If you're introducing non-pre-optimised media into a new environment, consider pre-loading cartridges during a maintenance window so optimisation completes ahead of scheduled jobs [Media Initialization Wizard]

Installing the SymplyPRO XTL 24

What's in the box

Item	QTY	Description
SymplyPRO XTL 24	1	2U 24 Slot Library with Single PSU
Rack Kit	1	▪ 2 rack mount rails. ▪ 2 mounting brackets. ▪ 6 x M3 Torx screws to fix the mounting brackets (9.5mm square holes) ▪ 6 x M3 Torx screws to fix the mounting brackets (9.5mm round holes) ▪ M5 screws to secure the mounting brackets to the rack.
LTO Clean Cartridge	1	Symply LTO Media - Ultrium Universal Cleaning Cartridge, with barcode
Ethernet Cable	1	3m (9.8 ft) Cat6 Ethernet Cable (for management port)
Data Cable Optical	2	**FC Units Only** – 2 x 3m (9.8 ft) OM4 LC-LC Optical Cable
Data Cable SAS	2	**SAS Units Only** – 2 x 2m (6.5ft) SAS Cable ▪ LTO-7 & LTO-8 include SFF-8088 -to- SFF-8644 ▪ LTO-9 & 10 include SFF-8644 -to- SFF-8644
Power Cable	1	2 m (6.5 ft) IEC power cord for local region
Welcome Card	1	Information Card Please Read Carefully
Shipping Carton	1	Please retain shipping carton and packaging for warranty purposes

Unpacking the SymplyPRO XTL 24

Before you begin

- Inspect the **outer carton** for visible damage.

  If damage is found **do not unbox or install**. Photograph the carton and contents, keep all packaging, and contact your reseller/place of purchase immediately.

Unpacking steps

1. Open the carton and **carefully remove the two rack rails**; set them aside with the mounting hardware.
2. Remove the **top packing materials**. Take out the **accessory kit** and set aside.
3. With two people, **lift the library vertically** out of the carton.
4. Remove the **protective bag** from the library and the **rear foam cushion**, then place the unit on a stable surface.
5. Visually check the chassis for dents, cracks, or loose parts.
6. **Save all packaging materials** for future transport or service.
7. **Check contents** (see What's in the box).

If any items are missing or damaged, **do not proceed with installation**—contact your place of purchase.

 **CAUTION**	If the temperature in the room where the library will operate varies by 15 °C (30 °F) from where the module was stored, allow it to acclimate for at least 12 hours prior to unpacking.

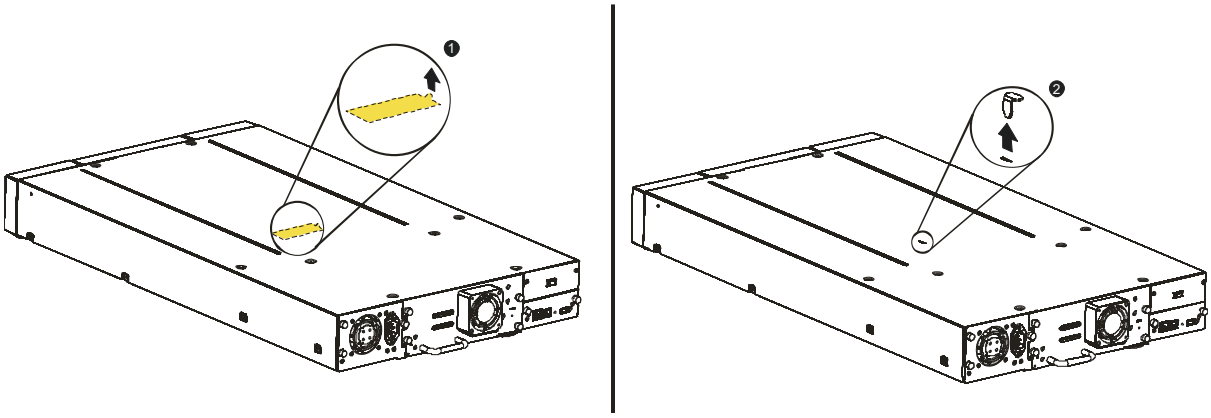
! IMPORTANT	Do not place the library on either end or sides as this may damage the library.

Removing the shipping lock

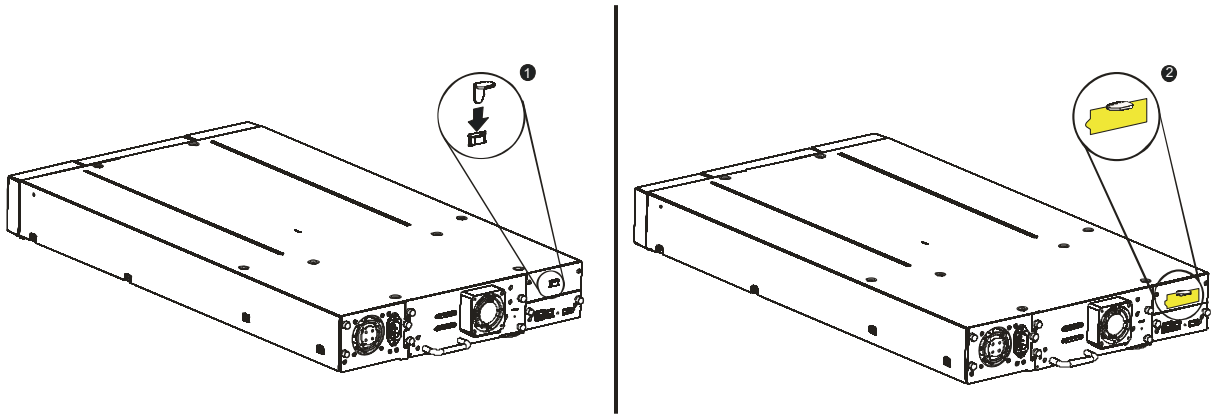
! IMPORTANT	**Do not power on with the shipping lock installed**. The shipping lock secures the robotic transport mechanism during transit and must be removed before applying power.

- **Location:** The shipping lock is at the **top centre** of the library, held in place by a **yellow label** marked for removal.
- **Removal:** Gently **peel off the yellow label** securing the lock to the top panel, then **lift out the lock**.
- After the shipping lock is removed, it should be **stored on the rear panel** right side of the library for future use.
- Always **reinstall the shipping lock before shipping** the library.

Location of shipping lock

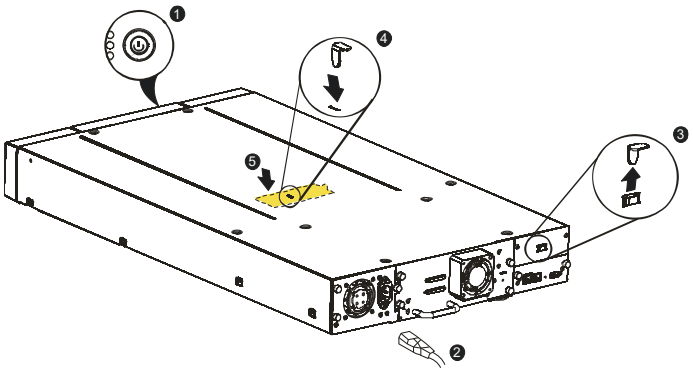


Store the lock and label on the rear panel of the library.



! IMPORTANT	If you are required to transport the library, we recommended that the shipping lock and label is replaced on the top cover.

Shipping lock before transportation



Situating the Library

- The library was designed for rack installation.
- Rack installations must use the provided rack rails.
- Select a location with access to the host server.
- Choose a location that meets the criteria in the table below.

Criteria	Definition
Rack Requirements	Standard 19-inch rack (minimum depth of 700mm / 27.5 in) with an appropriate # of U's (Rack Units) of clearance for the planned module quantity
Rack Space Requirements	2U
Room Temperature	Allowable: 10 - 30 ºC (50 - 86 ºF)
	Recommended: 10 - 25 ºC (50 - 77 ºF)
Power Source	• AC Power Voltage: 100-240 VAC • Line Frequency: 50-60 Hz • Library Located near AC Outlet(s) The AC power cord is the library's main AC disconnect device and must always be easily accessible.
Air Quality	• Place the library in an area with minimal sources of particulate contamination. • Avoid areas near frequently used doors and walkways, stacks of supplies that collect dust, printers, and smoke-filled rooms. • Excessive dust and debris can damage tapes and tape drive. • Less than 200 microgram / cubic metre.
Humidity	Recommended: 20 - 50% RH non-condensing
	Allowable: 20 - 80% RH non-condensing

! **IMPORTANT**	Connect the library only to a mains outlet with a **protective earth (PE)** and in accordance with **local electrical codes**. **Do not** defeat or remove the earth/ground pin. Improper grounding can cause electric shock, equipment damage, or fire.

CAUTION	If installing in a rack, **do not exceed** the power capability of the rack PDU(s) or the branch circuit. Consider startup/inrush current and leave reasonable headroom.

Requirements & best practice

- Use a properly **earthed** AC outlet and an approved power cord suitable for your region.
- Ensure the **rack/cabinet is bonded** to building earth.
- **Do not** daisy-chain PDUs or use unapproved extension leads.
- Verify total rack load against the **rated capacity** of the PDU and circuit before powering on.
- Disconnect AC power before servicing.

SAS Configuration Requirements

Serial Attached SCSI (SAS) is a point-to-point storage interface used for devices such as LTO tape drives and libraries. The SCSI protocol (and **LUNs**) still apply over SAS.

Requirements and notes

- **Use a true SAS HBA (not a RAID controller).** Fit a host bus adapter with **external** SAS ports that supports **multiple LUNs** and **LUN scanning** so the OS can discover both the tape drive **and** the library robotics. Many RAID controllers do not expose devices correctly for tape.
- **LUN layout.** SymplyPRO XTL presents a single target per drive with **dual LUNs**: **LUN 0 = tape drive**, **LUN 1 = library robotics**.
- **Lane/port capacity.** A typical external SAS port is a **x4 wide** link (four lanes). An LTO tape drive uses **one lane**, so a single HBA port can service **up to four drives** when cabled appropriately (e.g., via a 1→4 breakout or SAS expander). If you connect one drive with a single end-to-end cable, only **one lane** is used, and the remaining lanes are idle.
- **Cabling.** Use certified external mini-SAS / mini-SAS HD cables that match the HBA and device connectors. Keep within the HBA's supported cable length and generation (6/12/24 Gb SAS).

TIP

For best results, use an IT-mode/initiator-class SAS HBA, enable **LUN scanning**, and verify in the OS that both a **Tape drive** and a **Medium changer** device are present before configuring your backup application.

Supported speeds by the drive generation are shown in the table below:

LTO Generation	Supported Speeds
LTO-7	1.5 Gbps, 3 Gbps, 6 Gbps
LTO-8	1.5 Gbps, 3 Gbps, 6 Gbps
LTO-9	3 Gbps, 6 Gbps, 12 Gbps
LTO-10	3 Gbps, 6 Gbps, 12 Gbps

 **CAUTION**	SAS connectors are **keyed**. **Do not force** a plug into the drive or HBA. If it doesn't seat smoothly, check the **orientation** and **connector type** (e.g., Mini-SAS / Mini-SAS HD). Forcing a mis-matched or inverted connector can damage the port.

- **Unique identifier.** Each SAS tape drive is identified by a **World Wide Name** (WWN, also called **WWID**). In SymplyPRO XTL, the library assigns the WWID to the **drive bay**, so if a drive is replaced the **same WWID is reassigned** to the new drive in that bay.
- **OS tracking per channel.** The operating system associates the drive's WWID with the **specific HBA channel** it was discovered on. With a fan-out (breakout) cable, each connector corresponds to a separate HBA channel.
- **Keep channel placement stable.** After initial discovery, keep each drive on the **same fan-out leg/channel** to preserve the OS association (WWID ↔ HBA channel). Moving a drive to a different channel can cause the OS or backup software to treat it as a **new device**, potentially requiring reconfiguration.

 **TIP**	Label the fan-out connectors (e.g., A/B/C/D) and match them to drive bay numbers to maintain consistent cabling and predictable device paths.

Fibre Channel Configuration Requirements

The Fibre Channel (FC) tape drive can be connected directly to the server with a Host Bus Adapter (HBA) or through a storage area network (SAN).

The installation requires one Fibre Channel cable for each tape drive. The tape drives all utilize an LC-style connector. Some drives will have two FC ports, but only one cable connection is needed per drive. The cable should always be connected to Port A.

Supported speeds by the drive generation are listed in the table below:

LTO Generation	Supported Speeds
LTO-7	2 Gbps, 4 Gbps, 8 Gbps
LTO-8	2 Gbps, 4 Gbps, 8 Gbps
LTO-9	2 Gbps, 4 Gbps, 8 Gbps
LTO-10	8 Gbps, 16 Gbps, 32 Gbps

 **NOTE**	• Use an appropriate HBA for your tape drive due to performance requirements. • A lower Gbps HBA might result in performance degradation when moving highly compressible data to a higher Gb tape drive. • In a SAN installation, all switches between the host and the library must be of the appropriate type. • A lower Gb switch in the path may result in performance degradation. Configure zoning so only the backup servers may access the library.

iSCSI Configuration Requirements

10 GbE iSCSI connectivity on **SymplyPRO XTL-24** is enabled by adding the **SymplyPRO XTL Ethernet Module** (dual 10 GbE). The module bridges attached **SAS LTO tape drive** to the IP network as iSCSI targets.

How it works (initiator/target):

- The **host** runs an iSCSI **initiator** (software driver) that sends SCSI commands over IP.
- The **SymplyPRO XTL Ethernet Module** exposes one or more iSCSI **targets** (the bridge to the SAS LTO drives in the library).
- Each initiator and target have a globally unique **iSCSI name** (an **IQN**).

Requirements:

- **Network interface:** A 10 GbE NIC on the host, cabled to the same network/VLAN as the XTL Ethernet Module.
- **iSCSI initiator/driver:**
    - **Windows:** Built-in Microsoft iSCSI Initiator.
    - **Linux:** Native initiator available (e.g., open-iscsi).
    - **macOS:** No built-in initiator; third-party software is required (ATTO Xtend SAN).
- **Multiple LUN support:** Ensure the initiator and applications support **multiple LUNs** so both the **tape drive** and the **library robotics** are discovered.
- **Target discovery:** Configure target portal(s), discover/log in to the **SymplyPRO XTL Ethernet Module** targets, and confirm sessions are established.
- The Ethernet Module presents the LTO drives behind it as iSCSI targets (with LUNs). In line with SymplyPRO Ethernet behaviour, LUN 0 is the **tape drive** and LUN 1 is the **library robotics**—your initiator must enumerate both.
- Each XTL Ethernet Module occupies one LTO drive bay and can bridge **up to four SAS tape drives** per module.

TIP

For stable device paths, use a dedicated iSCSI network (or VLAN), enable initiator auto-reconnect, and verify in the OS that you see both a Tape drive and a Medium changer before configuring your backup application.

NOTE	The SymplyPRO Ethernet module has two data ports. If both data ports are connected to the same host NIC and/or the same switch fabric, place **each data port in a different IP subnet.** Do **not** assign both data ports to the same subnet. The management port of the SymplyPRO Ethernet module must be on a separate subnet from the data ports.

iSCSI Host System Requirements

Windows OS:

- A Windows host computer with a 10GbE NIC with current drivers to support OS version.
- The data ports of the SymplyPRO Ethernet configured to the same network as the 10GbE NIC.
- Microsoft iSCSI Initiator.

Linux OS:

- A Linux host computer with a 10GbE NIC with current drivers to support OS version.
- The data ports of the SymplyPRO Ethernet configured to the same network as the 10GbE NIC.
- An iSCSI Initiator.

macOS:

- A mac host computer with a 10GbE NIC with current drivers to support OS version.
- The data ports of the SymplyPRO Ethernet configured to the same network as the 10GbE NIC.
- macOS version 10.15 or later.
- A macOS compatible iSCSI initiator (ATTO Xtend SAN is approved).

NOTE	The SymplyPRO XTL Ethernet Module requires a minimum 10Gb Ethernet connectivity to the host or the switch.

Thunderbolt Configuration Requirements

SymplyPRO XTL-40 supports Thunderbolt via the **SymplyPRO XTL Thunderbolt 3 Module**, which bridges the library's SAS LTO drives to a host computer over Thunderbolt.

About Thunderbolt. Thunderbolt is a high-speed I/O interface co-developed by Intel and Apple that can carry data, video and power over a single connector. In this application, it's used **solely for data** between the XTL library and the host.

Ports & cables.

- **Thunderbolt 3/4/5** ports use the **USB-C** connector and are identified by the **Thunderbolt lightning-bolt icon** (do not confuse with plain USB-C).
- All SymplyPRO Thunderbolt Modules ship with a **premium 2 m active Thunderbolt 4 cable**, compatible with **Thunderbolt 3 and Thunderbolt 5** host ports.
- Use certified Thunderbolt cables, not generic USB-C cables.
- Connect directly to a host Thunderbolt port (avoid USB-C hubs/docks unless Thunderbolt-certified and qualified for your workflow).
- Ensure your backup/archive software supports tape drives and medium changers connected over Thunderbolt.

NOTE

USB-C Ports that are only USB will not have the lightning bolt icon and are not compatible with Thunderbolt devices.

Thunderbolt 2 Host will require a Thunderbolt 3 (USB-C) to Thunderbolt 2 Adapter.

NOTE

If cable lengths of over 2m are required Symply also supplies Corning Thunderbolt 3 Optical cables which are available in 5, 10-, 15-, 25- and 50-meters lengths.

Thunderbolt Host System Requirements

macOS:

- A mac host computer with Thunderbolt 3, 4 or 5 connectivity.
- macOS 11 and later.

Windows OS:

- Windows Hardware with Intel Certified Thunderbolt 3, 4 or 5 connectivity.
- Microsoft Windows 11 and 10.
- Windows Server 2022, 2019, and 2016.

Rackmounting the Library

The SymplyPRO XTL 24 library easily installs into a standard 19” rack system taking up 2U of space.

WARNING	**Product Weight:** The SymplyPRO XTL 24 weighs 15.6 Kg (34.39 lbs) without media. **Risk of Personal Injury:** Before moving or lifting a module: • **Observe local health and safety requirements** and guidelines for manual material handling. • Remove all tapes to reduce the weight and to prevent cartridges from falling into the robotics path and damaging the library. • Remove all tape drives to reduce the weight. • Obtain adequate assistance to lift and stabilize the module during installation or removal. **Risk of damage to devices:** When placing a module into or removing the module from a rack: • Extend the rack’s levelling jacks to the floor. • Ensure that the full weight of the rack rests on the levelling jacks. • Install stabilizing feet on the rack. • Extend only one rack component at a time.

Required Tools for Rack mounting

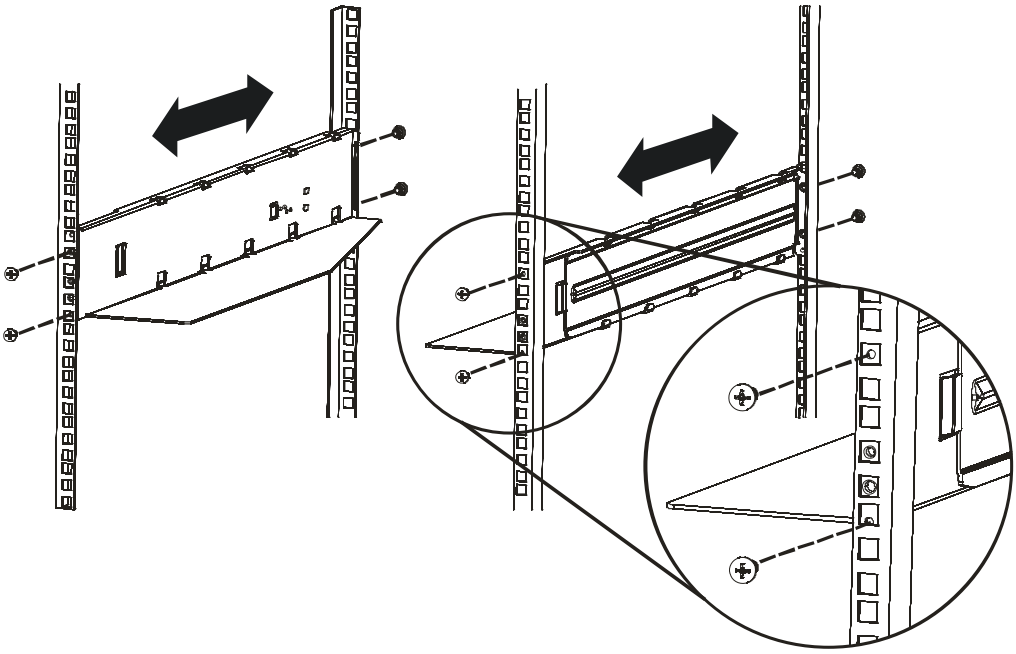
- #3 Phillips screwdriver
- T10 Torx screwdriver

There are two sets of eight M6 screws in the accessory package that came with your library. The type of rack that you have will determine the type of M6 screw that you will use.

To Install the library in a rack

Install rails in the rack

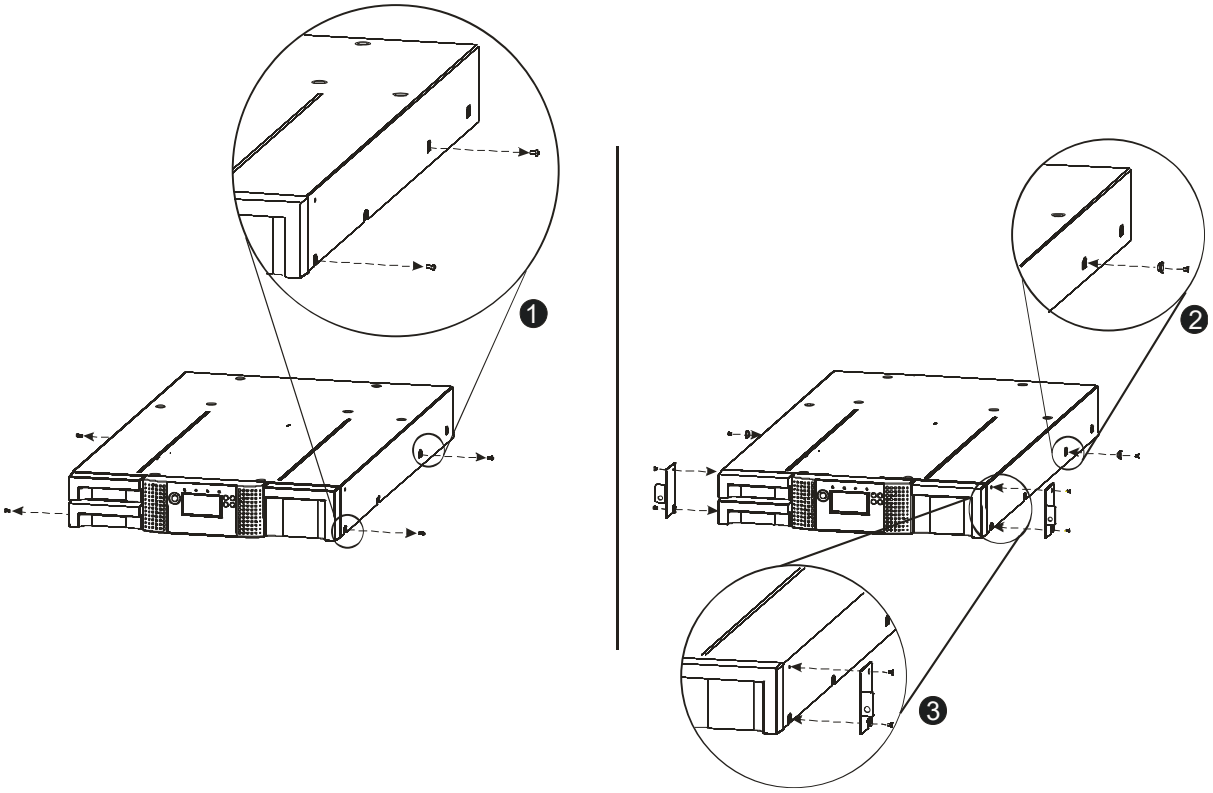
1. Mark the position. Choose a 2U location and mark it on both front vertical rails (use the U-markers).
2. Fit the rails. Using rack-appropriate screws, secure one rail per side at the chosen U-position. Fasten at both front and rear posts.
    a. Rails telescope to fit different depths; set the left and right rails in the correct orientation (see illustration).
    b. Tighten all rail screws fully.



Prepare the library

3. Using a **Torx** driver, **remove the side screws** shown in the illustration. Keep them—these will be reused.

   Installing the mounting brackets and guide pulleys



Install brackets & guide pulleys

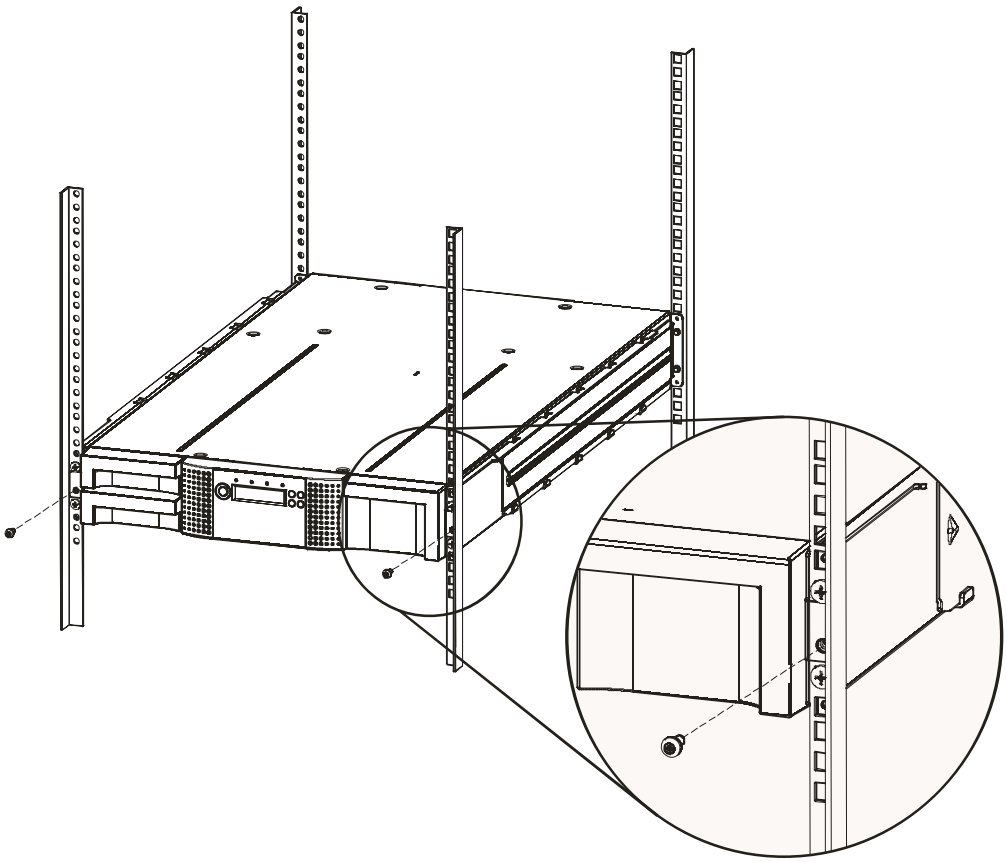
4. **Guide pulleys:** Fit a pulley to **each side** of the library using the **two Torx screws** (from the rack kit).

5. **Mounting brackets:** Attach a bracket to **each side** of the library using the **four Torx screws** (from the rack kit).

Mount the library

6. With the guide pulleys and brackets installed, **align the library** with the rails and **slide it in** until it is fully seated and the rail latches engage.

Securing the library to the rack



Secure the library to the rack

7. Insert a **#3 Phillips** through the **small access holes** in each mounting bracket and **tighten the M5 front screws** to secure the library to the rack posts (one per side). Do not overtighten.

After installation

- Verify the chassis is **level and flush** with the rack.
- Confirm rails are latched and **all fasteners are tight**.
- Keep the removed packaging for future transport or service.

User Operation of the SymplyPRO XTL 24

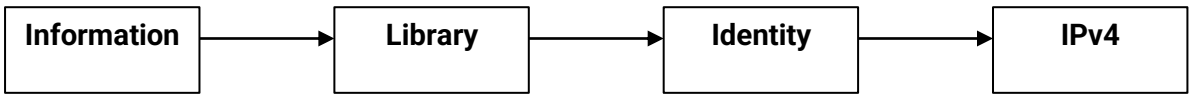
Default Username, Password and IP Configuration

RMI Username and Passwords

Description	Username	Password
Standard Password	Guest	systd
Admin Password	Admin	syadm
Service Password	Service	sysrv

Management Port (GbE RJ45)	
IP Address	DHCP Default

The management port is set to DHCP, the resolved IP address can be accessed via the OCP display.



OCP Username and PIN

User Level	Password
User	0000
Administrator	0000

Before Powering on the SymplyPRO XTL

Airflow & environment

Do not block ventilation holes or fans. Keep the area around the library clear to ensure unobstructed airflow. Verify the room meets the specified operating conditions and allow adequate **acclimatization time** for both the library **and** LTO media after transport.

Hardware & modules

- Confirm **LTO drives** are correctly installed in the library.
- If only **one** drive is installed, ensure it is in the **bottom** drive bay.
- If using an **XTL Ethernet Module (iSCSI)**, verify it is installed in the **top** bay and **cabled to the SAS drive** inside the library.
  (If using an XTL Thunderbolt Module, it also occupies the top bay and must be cabled per the module instructions.)
- Verify the **shipping lock** has been **removed** and stored for future transport.

Cabling

- Connect the **LTO drive interface** to the host (SAS/FC/Thunderbolt, or network if using iSCSI).
- Connect the library's **management Ethernet port** to the management network or host.
- Route and secure all cables; avoid sharp bends and pinch points.

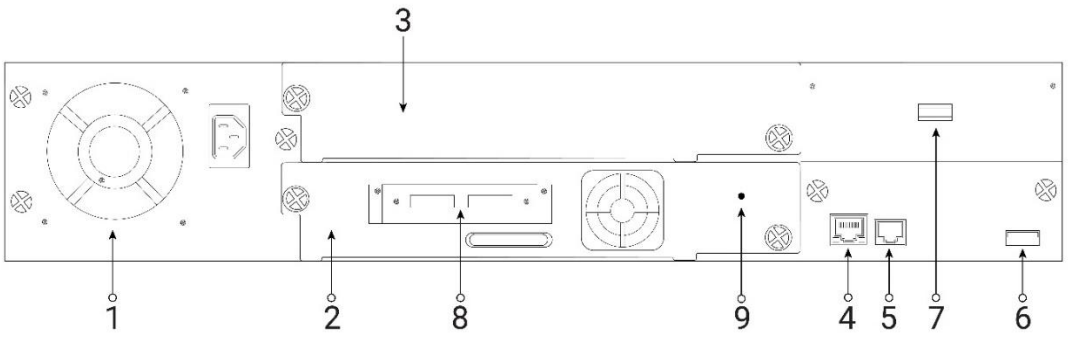
Power

- Connect the **AC mains** to a properly earthed outlet/PDU (follow local electrical codes).

Power-on

- After all checks and connections are complete, **power on the SymplyPRO XTL 24**.
- Wait for the library to complete initialization before discovering it in the host OS or backup software.

Rear View of SymplyPRO XTL 24



Number	Description
1	Power Supply Module
4	Ethernet Management Port
7	Shipping Lock
8	SAS or FC Host Ports

WARNING	Only use approves power cords! Not doing so can result in the following: • Not meeting individual country specific safety requirements. • Insufficient conductor amp capacity that could result in overheating with potential personal injury and/or property damage. • An unapproved power cord could fracture resulting in the internal contacts being exposed, which potentially could subject the user to a shock hazard. Manufacturer disclaims all liability in the event a non-manufacturer approved power cord is used.

NOTE	Symply disclaims all liability in the event a non-manufacturer approved power cord is used

Connecting Data Ports on the Tape Drive Modules

All the SymplyPRO XTL Tape Drive Modules have dual ports. Port A and Port B. When connecting to the host please ensure that the host is connected to **Port A**.

CAUTION	All drive bays without tape drives installed must have a drive bay cover installed.

Installing Tape Drives

Skip this step if the drive(s) are already factory installed.

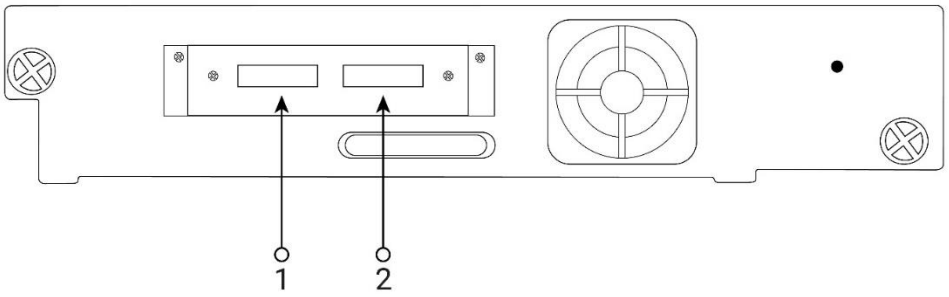
1. **Locate the vacant drive bay** at the rear of the library.
2. **Remove the bay faceplate and cover.**
    a. Unscrew the faceplate screws and lift off the faceplate.
    b. Remove **one** drive-bay cover for the bay you're populating; retain all screws/covers for future use.
3. **Insert the drive.**
    a. Hold the tape drive by the handle, supporting it from underneath.
    b. Slide it along the **alignment rails** until the drive is **flush** with the back of the library (do not force).
4. **Secure the drive**
    a. Finger-tighten the **blue captive thumbscrews** evenly to fix the drive to the chassis.
    b. If the thumbscrews do not start, back the drive out slightly, re-align on the rails, and try again—**do not use tools** to overtighten.

 **CAUTION**	• If resistance is felt before the drive is flush, re-check that the correct bay cover has been removed and the drive is properly on the rails. • All drive bays without tape drives installed must have drive bay covers installed.

MECHANICAL HAZARD

Danger: Risk of hand pinching. Can trap hands, fingers and cause serious injury. Keep hands clear during operation.

Connecting SAS Cables



Number	Description
1	**Port A**
2	Port B

1) **Connect to the HBA**.
    a. Insert the **HBA end** of the SAS cable into the HBA port until the latch clicks.
    b. **If using a SAS fan-out (1→4) cable:** the **single connector** goes into the **HBA**.
2) **Connect to the drive(s).**
    a. **Single-to-single cable:** attach the other end to the tape drive SAS **port A**.
    b. **SAS fan-out cable:** attach **one x1 leg per tape drive (port A)**—do not daisy-chain. The **unused fan-out legs are single-channel** and **not suitable for disk arrays**. Either use them for additional tape drives on the same HBA port or **coil and secure** them to the rack to avoid strain on connectors.

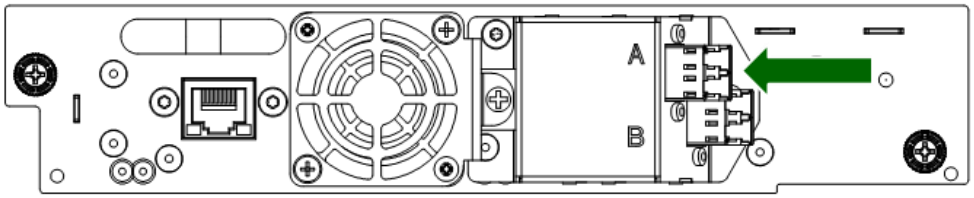
TIP

- Route and dress cables to avoid sharp bends (≥ 5× cable diameter), pinch points, or obstructing rail travel.
- **Ensure latches are fully engaged at both ends**; press the latch to release—do not pull on the cable.

NOTE

SAS signalling requires clean, direct connections between the HBA and the tape drive. Do not use adapters, or converters. For reliable operation, use certified, like-for-like SAS cables and keep runs as short as practical—**no more than 5 metres** (16.4 ft).

Connecting Fibre Channel Cables



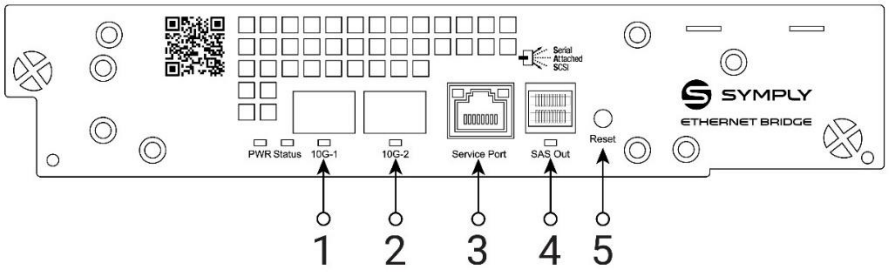
Number	Description
1	**Port A**
2	Port B

1) Remove the FC port caps if necessary. Attach one end of the FC cable **to port A** on the tape drive.
2) Attach the other end of the FC cable to a switch or HBA.

Installing XTL Ethernet Module

The XTL Ethernet Module may be pre-installed at the factory.

Each XTL Ethernet Module occupies **one HH bay** and can bridge **up to four SAS LTO drives**.



Number	Description
1	Data Port 1
2	Data Port 2
3	Service Port
4	SAS Out (Connection to SAS Tape Drives)
5	Module Reset

1. **SAS link (Module → Drive)**
   Use the **supplied SAS cable** to connect the **SAS OUT** port on the **XTL Ethernet Module** to the external SAS port on the LTO drive (**port A**):
   - **LTO-9 / LTO-10 library:** cable is **SFF-8644** ↔ **SFF-8644** (HD Mini-SAS ↔ HD Mini-SAS).
   - **LTO-8 / LTO-7 library:** cable is **SFF-8644** ↔ **SFF-8088** (HD Mini-SAS ↔ Mini-SAS).
2. **Port orientation**
   In **both cases**, the **SFF-8644** end goes to the **XTL Ethernet Module (SAS OUT)**. The opposite end mates with the LTO drive's SAS **port A** (SFF-8644 or SFF-8088, as fitted).
3. **Dress the cable**
   Coil and secure any excess length to the rack to avoid **strain** on the connectors. Maintain bend radius ≥ **10× cable diameter**; avoid kink/pinch points.
4. **Network uplinks (10GbE data ports)**
   Insert the **supplied SFP+ transceivers** into **Data Port 1** and **2** on the XTL Ethernet Module, then connect to your **host NIC(s)** or **10GbE switch**:
   - **Optical:** SFP+ SR (LC) + LC-LC multimode fibre.
   - **Copper:** SFP+ **10GBASE-T RJ45** module + Cat6a (or better) twisted pair. *(Use the option included with your kit; Data Ports are 10G-only ports.)*
5. **Management**
   Connect the **Management** Ethernet port to your management network for configuration/monitoring.
6. **Final checks**
   - Verify all latches click/secure.
   - Label both SAS and Ethernet runs.
   - Keep SAS away from AC power leads where practical.

NOTE For information on configuring the XTL Ethernet Module please see the [SymplyPRO Ethernet Appliance User Guide].

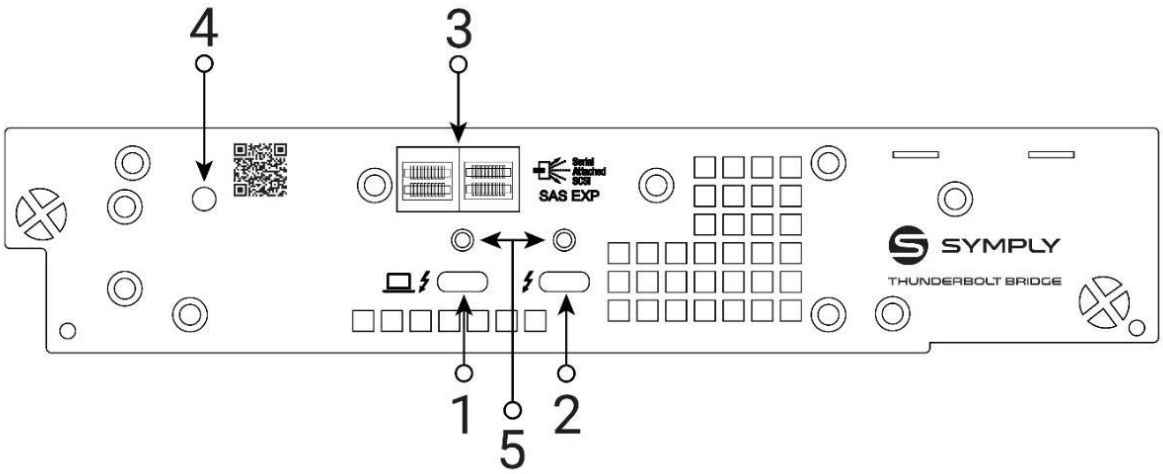
MECHANICAL HAZARD

Danger: Risk of hand pinching. Can trap hands, fingers and cause serious injury. Keep hands clear during operation.

XTL Thunderbolt Module

The XTL Thunderbolt Module may be pre-installed at the factory.

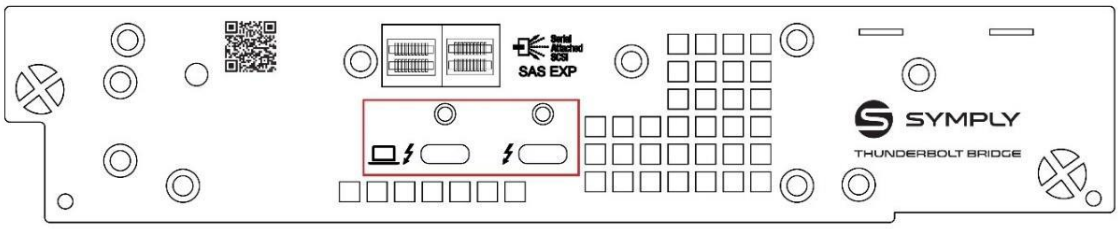
Each XTL Thunderbolt Module occupies **one HH bay** and can bridge **up to eight SAS LTO drives**



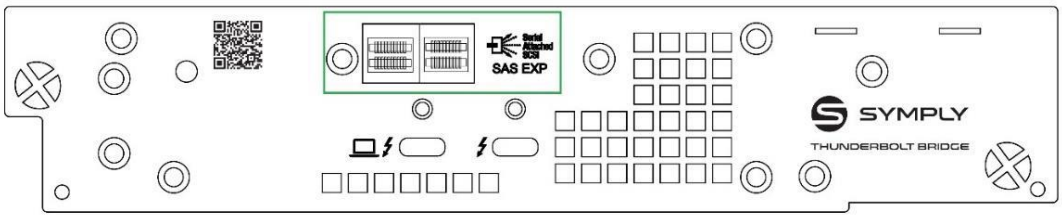
Number	Description
1	Thunderbolt 3 Port (15W)
2	Thunderbolt 3 Port (15W)
3	SFF-8644 SAS Ports (x2)
4	Ready Light (Green)
5	SymplyLOCK fixing point

Connector keying & strain relief: Thunderbolt and SAS connectors are **keyed**. Do **not** force a plug. Always secure the Thunderbolt cable with **SymplyLOCK** and dress cables to avoid strain on ports.

1. **Secure the Thunderbolt cable first**: Fit **SymplyLOCK** (supplied with the XTL Thunderbolt Module) to **either** Thunderbolt 3 port (as shown in the diagram). Insert the Thunderbolt cable fully, then tighten SymplyLOCK to retain the plug.



2. **SAS link: Module → Drive**: Use the **supplied SAS cable** to connect the XTL Thunderbolt Module to the LTO drive:
    - **LTO-9 / LTO-10 library: SFF-8644 ↔ SFF-8644** (HD Mini-SAS ↔ HD Mini-SAS). **Port A.**
    - **LTO-8 / LTO-7 library: SFF-8644 ↔ SFF-8088** (HD Mini-SAS ↔ Mini-SAS). **Port A.**
3. **Module-side connection**: In **all cases**, the **SFF-8644** end mates with the SFF-8644 port on the **XTL Thunderbolt Module**.



4. **Drive-side connection**: Connect the other end to the LTO drive's SAS port (**SFF-8644 or SFF-8088**, as fitted). Ensure the latch/screws engage. Always connect to **port A** on the LTO drive.
5. **Cable dressing**: Coil and **secure excess length** to the rack to minimize connector stress. Maintain a bend radius ≥ **10× cable diameter**; avoid pinch points and tight bends.

6. **Final checks**
    - Verify Thunderbolt cable is **locked** with SymplyLOCK.
    - Confirm SAS connectors are **fully seated** and retained.
    - Label cables for future service.

NOTE For information on configuring the XTL Thunderbolt Module please see the [SymplyPRO Thunderbolt User Guide].

MECHANICAL HAZARD

Danger: Risk of hand pinching. Can trap hands, fingers and cause serious injury. Keep hands clear during operation.

Installing Windows Library and Tape Drivers

Prerequisites

- Hardware cabled and **powered on/ready** (let the library finish initializing).
- HBA/NIC/Thunderbolt drivers installed.
- **Point-to-point** for SAS/Thunderbolt
- **Switch or P2P** for FC/iSCSI.
- Multi-LUN/Report LUNs **enabled** so the host can see the drive (LUN 0) **and** robotics (LUN 1).

1) Confirm Windows sees the hardware

- Open **Device Manager** → you should see entries under **Tape drives** and **Medium Changers**.
- If only the tape drive appears (no Medium Changer): rescan, enable multi-LUN on the HBA/initiator, then reboot if needed.

2) Install the tape drive driver: Most backup apps require a vendor LTO driver (IBM). Some work with the in-box Microsoft driver.

1. Right-click the device under **Tape drives** → **Update driver**.
2. **Browse my computer** → point to the extracted vendor driver package → **Next**.
3. Reboot if prompted.

3) Install the library (robotics) driver: For Windows, use the **Microsoft "Unknown Medium Changer"** unless your software specifies a vendor driver.

1. In **Device Manager**, right-click the library (under **Medium Changers** or as **Unknown device**) → **Update driver**.
2. **Browse my computer** → **Let me pick from a list** → **Medium Changer devices** → select **Unknown Medium Changer** → **Next**.

4) iSCSI/FC notes (if applicable)

- **iSCSI:** Open **iSCSI Initiator** → **Discovery** (add portal to the XTL Ethernet Module) → **Targets** → **Connect** with **Enable multi-path off** for tape; tick **Add this connection to the list of Favourite Targets** (persistent).
- **Fibre Channel:** Zone the host HBA to the library/drive WWPNs; present **both** LUN 0 (drive) and LUN 1 (robotics).

5) Verify & hand off to software

- Recheck Device Manager: one (or more) **Tape drive(s)** + one **Medium Changer** present, all **Status: OK**.
- Start your backup/archive application and rescan devices. Restart its services if they were running during driver install.

The Windows drivers for the SymplyPRO XTL and Tape drives our available to download from [SymplyPRO XTL Drivers].

	**NOTE**	Symply suggest you check with your Application Software Vendor to determine the proper installation procedure for your configuration. Many software partners provide their own drivers for use with libraries. Use of the drivers below may prevent your backup software from working properly.

Power On/Off the SymplyPRO XTL

Part of the Operator Control Panel (OCP) is the Power On/Off button. Pressing this button will initiate a controlled Power Down of the unit (soft shutdown). The following operations will take place before the unit shuts down completely:

- The display indicates with an appropriate message that the shutdown is in progress.
- The library controller finishes all ongoing loader and drive activities.
- The robotics is moved to its home position.
- The library controller switches off the power supply's secondary side.
- To abort the shutdown, process the user must press Cancel within the first 3 seconds.

	**NOTE**	The shutdown process may be aborted by pressing **Cancel** within the first **3 seconds**.

!	**IMPORTANT**	Never remove power from the SymplyPRO XTL while a data cartridge is loaded in a drive. If the SymplyPRO XTL is powered off while a data cartridge is installed, then when the system is powered on again, the system will perform a much more intensive POST while the system verifies the integrity of the data on the tape. This extended POST process can take up to 10 minutes.

Power-On Display

When the library device powers up, or resets, it goes through several internally controlled processes that allows it to get initialized and running. These processes are called Power-On-Self-Test (POST). While the POST is happening, the Operator Control Panel (OCP) shall have appropriate information displayed to keep the user informed. When the library finishes coming online, it will display the current device status for a defined time or until a key is pressed.

After this initial status screen, the home screen will be shown until a key is pressed. This home screen shows the overall health of the loader, indicating the status of the robotic and the connected drives.

	**NOTE**	The POST sequence and takes approximately 5 minutes.

Power on LED Sequence

All LEDs are displayed during Power Up and Reset sequences. Upon power up or software Reset, the library will illuminate all LEDs as soon as POST allows. This will help the User to verify if all LEDs are functional. When initialization starts, all LEDs will be extinguished and the Ready/Activity LED will flash at a reasonable rate of approximately 1-second per cycle, 50% duty cycle. When the mechanical initialization is complete, the Ready/Activity LED will stop flashing and be constantly illuminated.

If a library failure occurs, the Ready/Activity LED will be turned off and the Error LED will be illuminated. The OCP will also display an appropriate error code to help identify the failure.

The following are additional operational details of LEDs:

- The **“Ready/Activity” LED** will be lit any time the unit is powered on and functional (i.e. passed power-on self-test). The Ready/Activity LED will blink whenever there is tape library or drive activity. This LED will also blink when the unit is Offline.
- The **"Clean" LED** will only be lit when the LTO drive reports that cleaning is required. The LED will be turned off again after a successful drive cleaning operation.
- The **"Media Attention" LED** will indicate that there is a piece of media which is bad/marginal, or invalid. The LED will be cleared when all marginal and invalid cartridges have been exported from the tape library.
- The **"Error" LED** will be lit when there is an unrecoverable (i.e. hard) drive or tape library failure. This will happen at the same time as the hard error message is displayed on the screen and the LED will remain lit until the error state is resolved.

Different Operating Modes of the SymplyPRO XTL 24

There are two basic modes that the OCP operates in.

- User Interaction Mode.
- System Drive Mode.

First is the User Interaction Mode. This mode is employed when a user is controlling the library via the buttons on the OCP on the front of the library.

The second mode is the System Driven Mode. This is the usual mode of operation, when the library is controller via backup or archive software running on the host server or workstation. In this mode, the OCP displays status associated with the actions that were caused from commands issued via the Drive's interface. Actions like Loading, Rewinding or Moving tape will be displayed.

When an OCP button is pressed and released, the OCP automatically transitions to User Interaction Mode. User Interaction mode will continue until 3 minutes after a user stops pushing buttons, or the requested robotic action stops - whichever is longer. At this time the OCP will return to System Driven Mode.

The SymplyPRO XTL 24 includes a user security feature, which when activated restricts the User Interaction Mode access to the Information and Login menu item, until a login with correct PIN is entered.

Library Interfaces:

- **Operator Control Panel (OCP):** Monitor, configure, and control the library from the front panel.
- **Remote Management Interface (RMI):** Monitor, configure, and control the library from a web browser. The RMI presents an authenticated, graphical view of the library. *Note:* Some materials may refer to **RMU**; this is equivalent to **RMI**.

OCP operating philosophy:

- **Reservation & command arbitration (first-come, first-served).**
  To avoid conflicts, a reservation mechanism grants control to the first requester—OCP, drive interface, or RMI. An OCP reservation ends on **OCP logout** or after **timeout** when **User Interaction Mode** ends, at which point the library becomes available for reservation by the RMI/host.

- **Impossible actions are blocked by firmware.**
  The OCP will not allow operations such as moving a cartridge **to a full slot**; moving a cartridge **from an empty slot**; **loading** to a **full drive**; or **unloading** from an **empty drive**.

- **Error handling & indications.**
  Errors that cannot be recovered by built-in algorithms are treated as **fatal**. A **numeric error code** appears on the OCP display and the **Error LED** illuminates. The code remains until a button is pressed, after which the OCP returns to the Home screen. **Numeric codes** are used only for **unrecoverable/fatal** errors; otherwise, the system presents **text status messages**.

- **Modes & security.**
  Pressing and releasing any OCP button places the library into **User Interaction Mode**. This mode persists until **3 minutes** after the last button press, or until any requested robotic action completes—**whichever is longer**—then the OCP returns to **System-Drive Mode.**

OCP (Operator Control Panel) — Input Modes & Login

OCP Username and PIN

User Level	Password
User	0000
Administrator	0000

Security note: Change the default PIN(s) at first use via the OCP security/user settings

Input Modes

The OCP supports three ways to enter values:

1) Selectable predefined values

- Use **UP/DOWN** to scroll through the available options.
- When the desired value is shown, press **ENTER** to confirm.

2) Toggle values (e.g., On/Off)

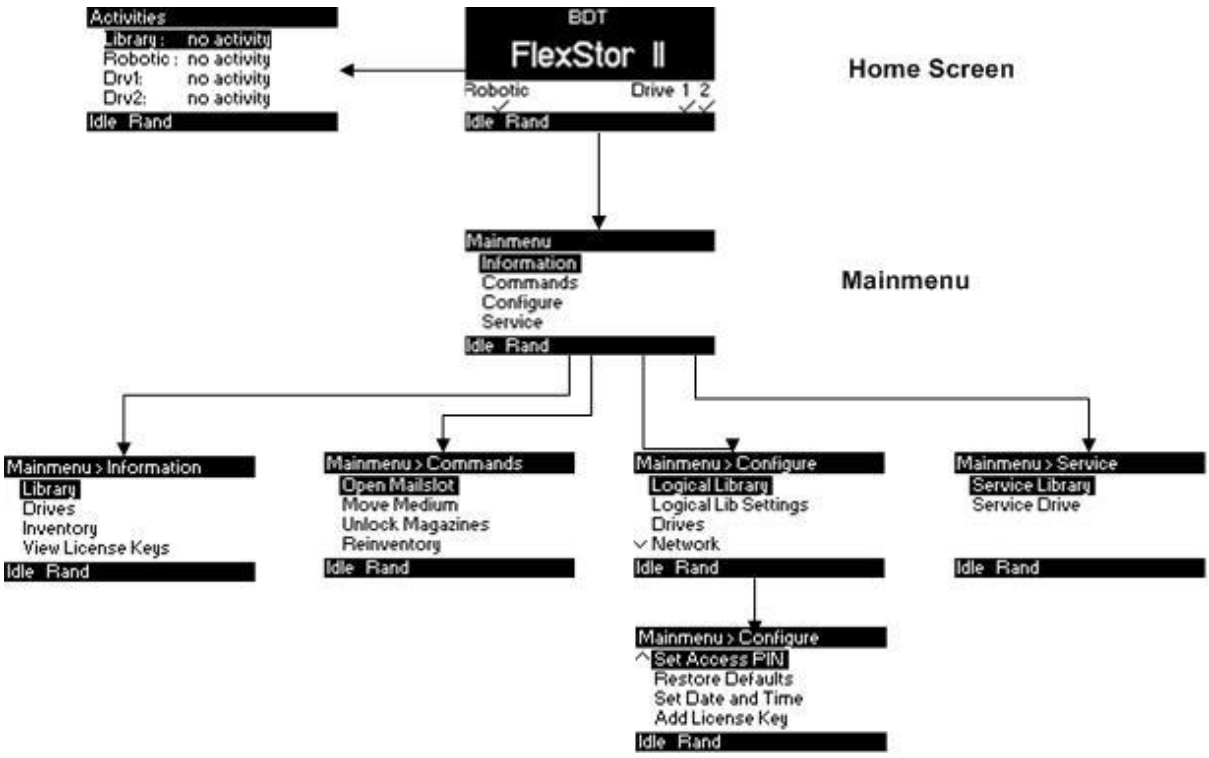
- The screen shows the **current state**.
- Press **ENTER** to switch to the **new state**.
- Press **ENTER** again to **apply** the new state.

3) Numerical values (e.g., PINs, IP addresses)

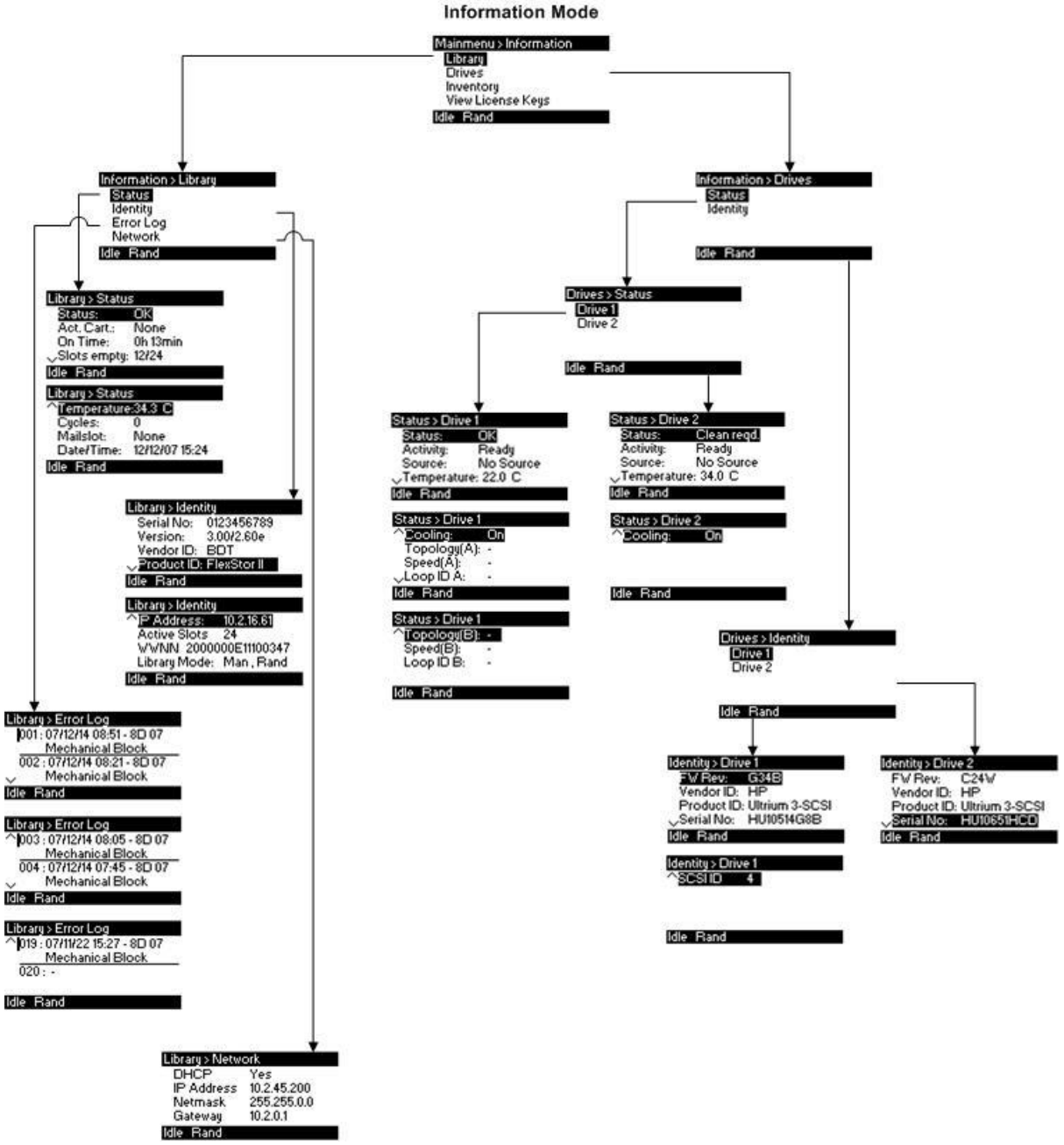
- The current value appears with the cursor on the **first digit**.
- Use **UP/DOWN** to **increase/decrease** the digit.
- Press **ENTER** to move to the **next digit**.
- After the **last digit**, press **ENTER** to **save** the complete entry.
- Press **CANCEL** at any time to **discard** changes; the previous value remains in effect.

Flow Chart for the OCP Menu

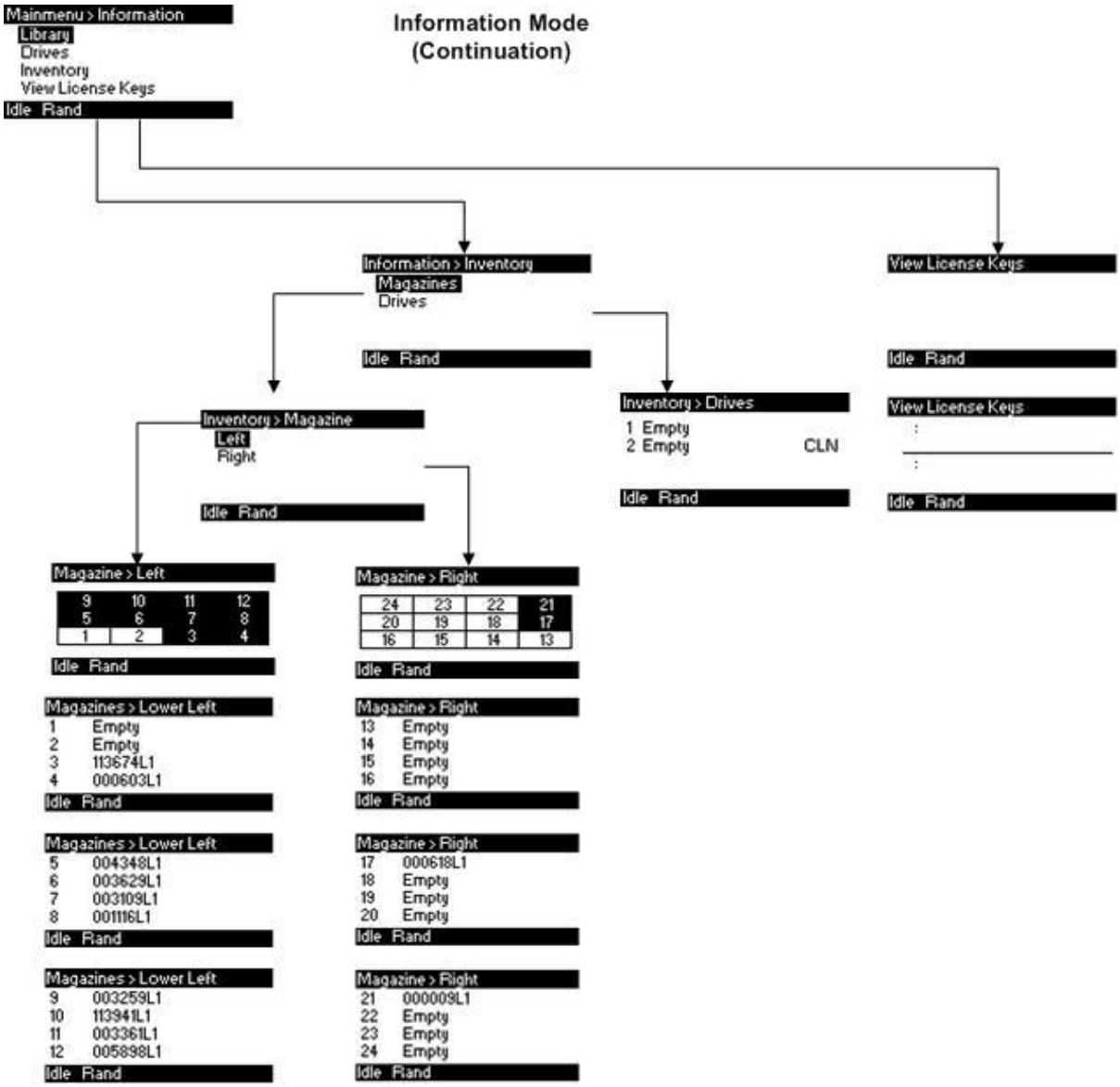
OCP User Interaction



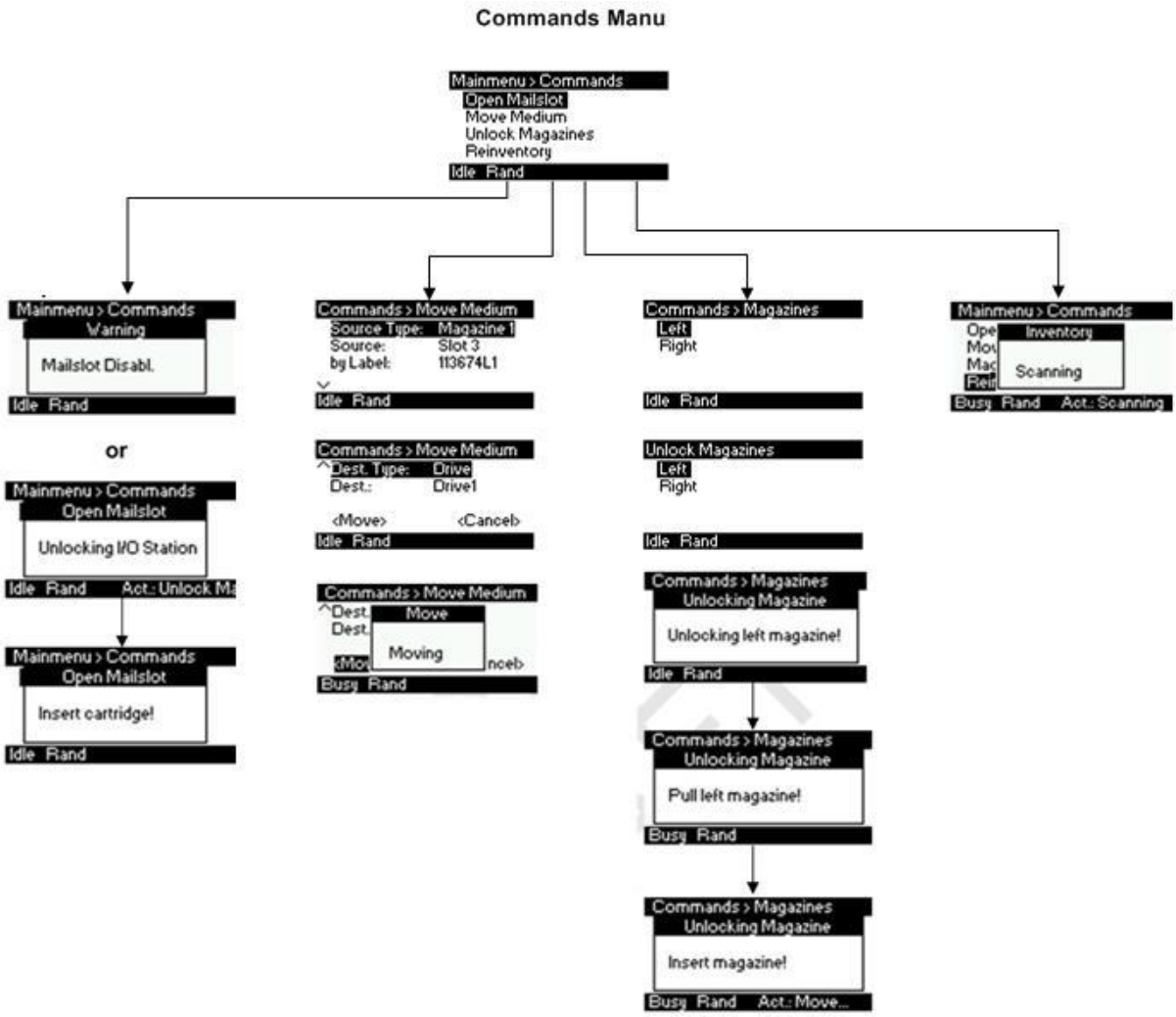
OCP Status Information



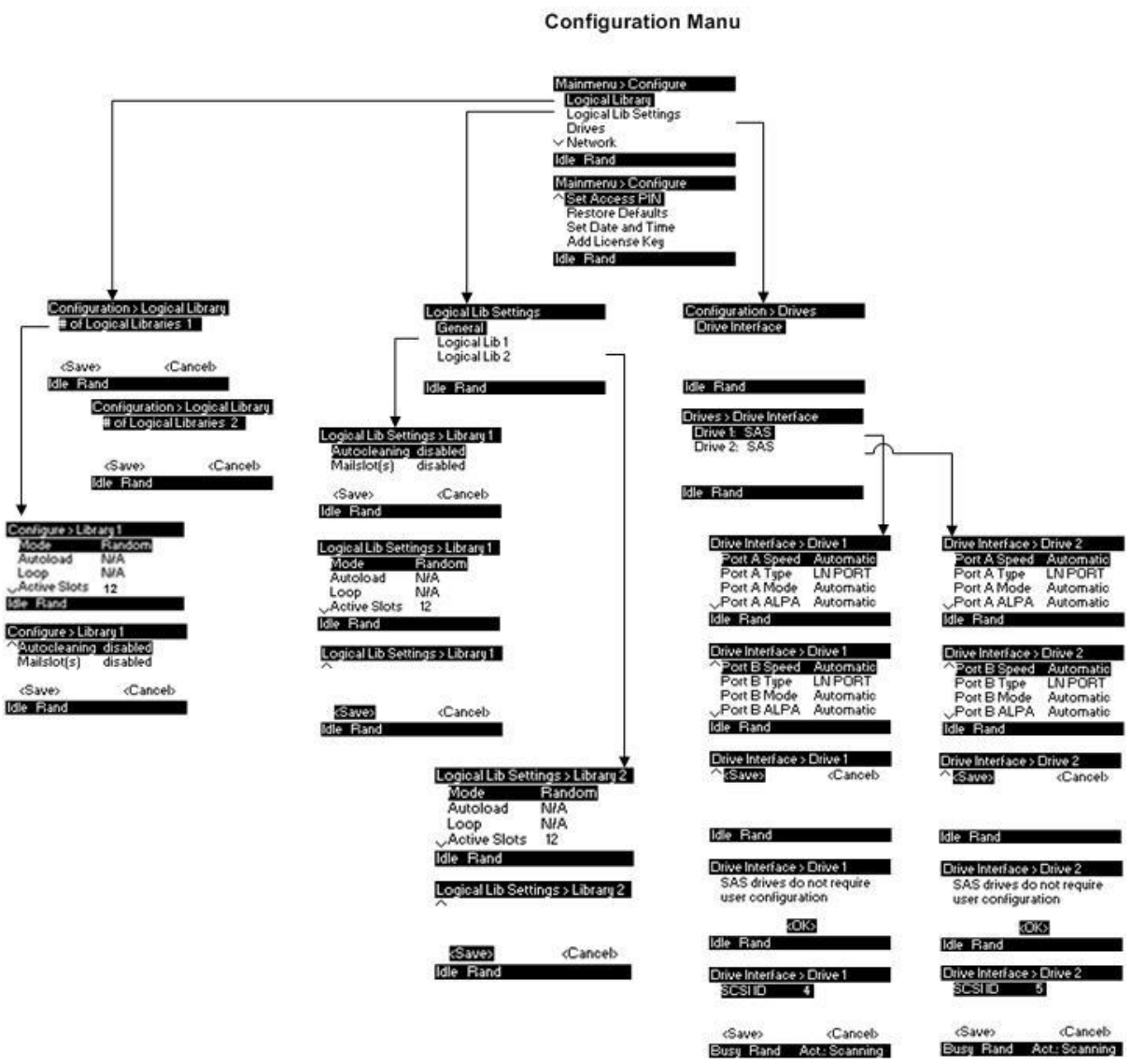
OCP Status Information (continued…)



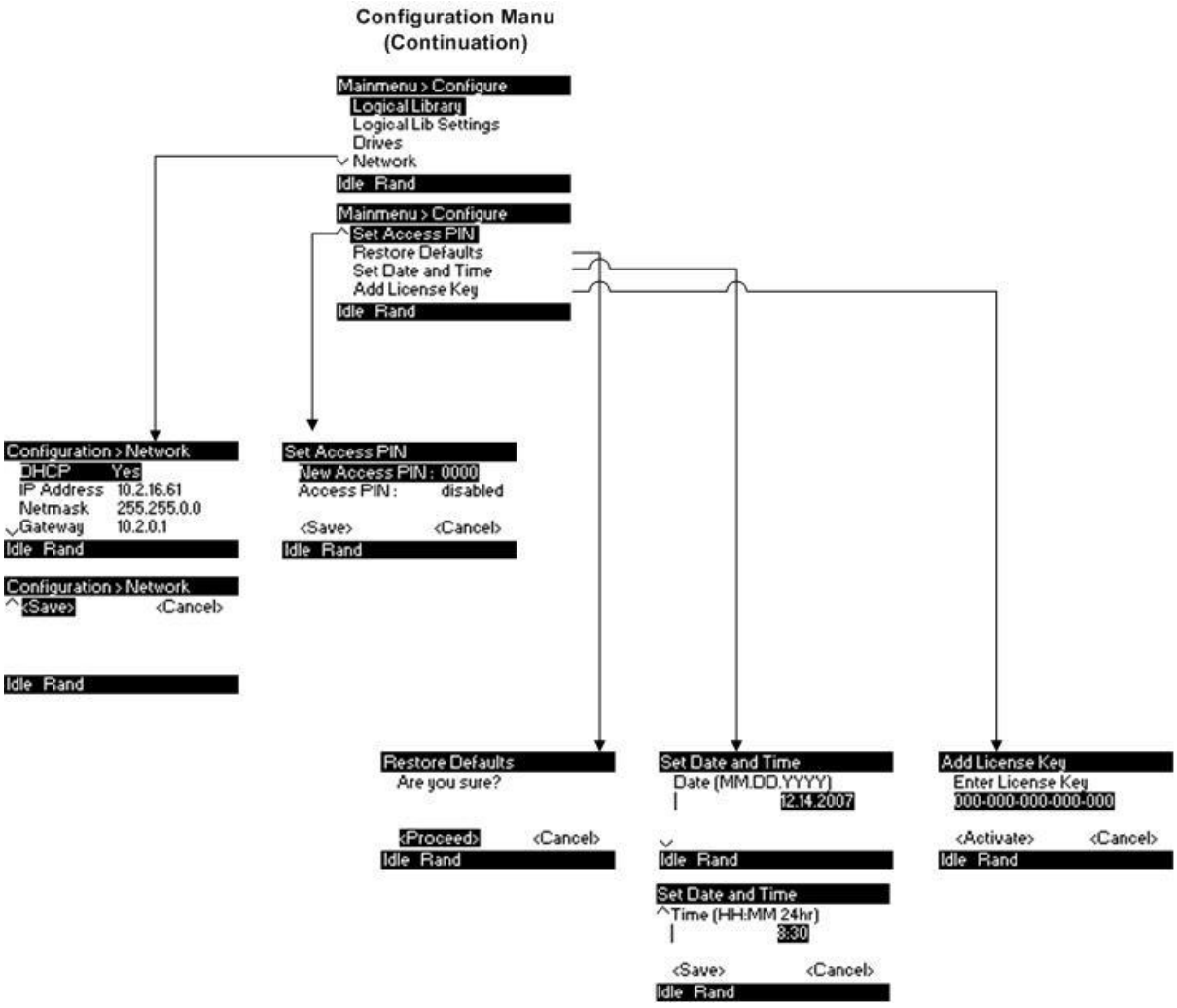
OCP Command Menu



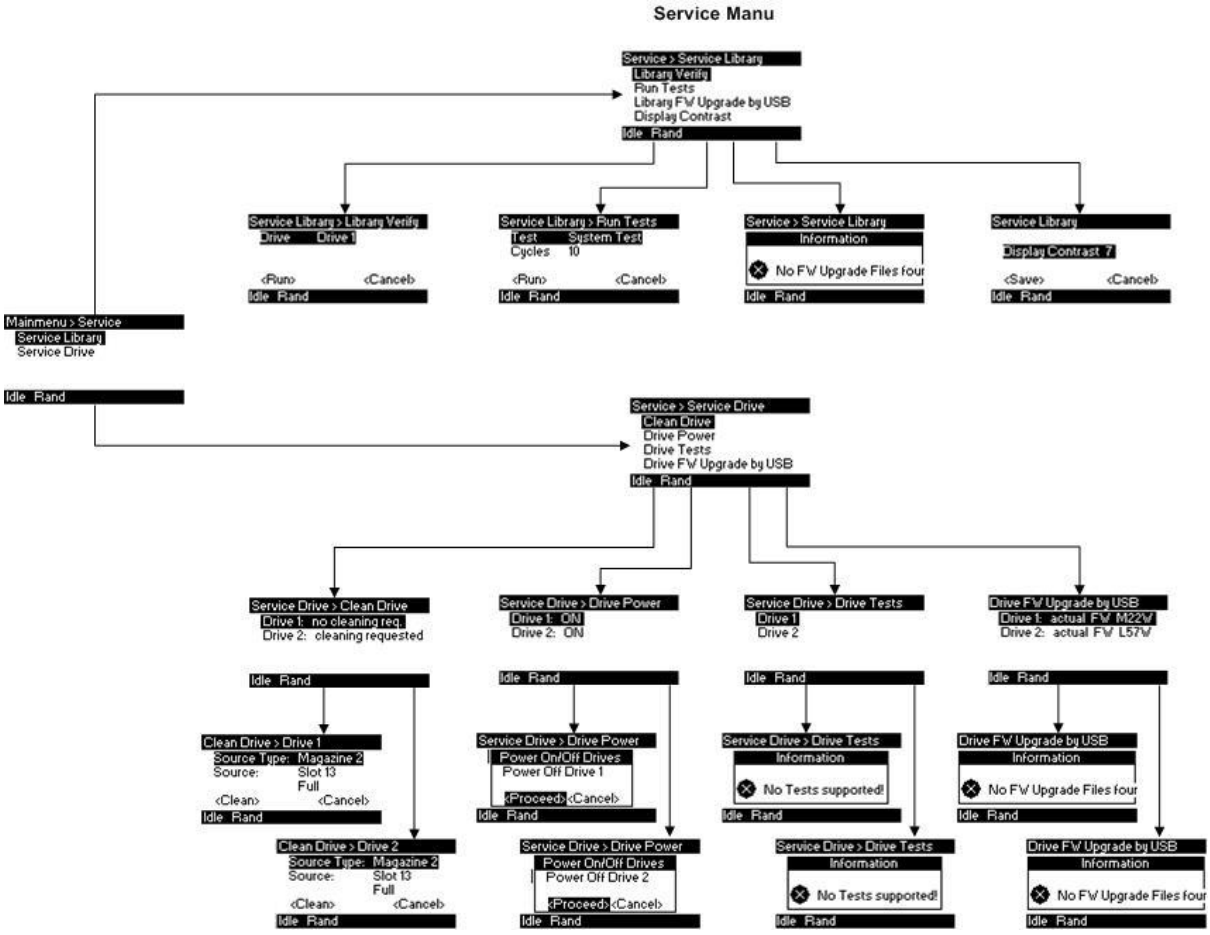
OCP Configuration Menu



OPC Configuration Menus (continued…)



OCP Service Menu



Partitioning the SymplyPRO XLT 24 Library

Default configuration (factory):

The library ships as **one partition**. All **24 slots** (both magazines) are presented as a single logical library, and **any installed drive(s)** (one **or** two half-height LTO drives) belong to that same partition.

You can change this later, but doing so will require an OS/application rescan and job reconfiguration. The library will also go offline during this process.

Optional partitioning:

Depending on drive count, the XTL 24 supports up to **two** logical libraries (partitions). Partitions are **magazine-aligned**—slot assignments follow the physical left/right magazines.

- With **two** half-height drives installed, you may create **two partitions**:
    - **Partition 1:** Left magazine **+ Drive 1**
    - **Partition 2:** Right magazine **+ Drive 2**
- The **mailslot (I/O station)**, if enabled, is **shared** between partitions.
- With **one** drive installed, the system supports **one partition** only.

Drive Naming

Using Half-Height LTO drives, the first half-high drive position will be called "Drive 1", The second half-high drive position will be called "Drive 2”.

Tape Cartridges and Magazines

This chapter explains which media to use with your library, and how to label and write-protect your tape cartridges. Careful labelling and handling of the tape cartridges will prolong the life of the tape cartridges and the library.

Using and Maintaining Tape Cartridges

Use the Ultrium data and cleaning tape cartridges designed for your model of library.

 **CAUTION**	Do not degauss LTO data cartridges! These data cartridges are pre-recorded with a magnetic servo signal. This signal is required to use the cartridge with the LTO tape drive. Keep magnetically charged objects away from the cartridge.

To maximise the life of your cartridges:

- **Use only approved media** for your device/model.
- **Clean the tape drive** when the **Clean Drive** LED illuminates (use an approved cleaning cartridge).
- **Handle with care**—do not drop cartridges; shock can damage the shell or internal tape media.
- **Avoid heat and sunlight.** Keep cartridges away from heaters, ducts, and direct sun.
- **Observe environmental limits.** Operating: **10–35 °C (50–95 °F).** Storage: –40 to +60 °C (–40 to +140 °F) in a dust-free, **20–80% RH environment.**
- **Acclimatise after extremes.** If a cartridge has been outside these limits, let it stabilise at room temperature for the **same duration** it was exposed (or **24 hours**, whichever is less) before use.
- **Keep away from electromagnetic sources.** Do not place cartridges near strong magnetic fields or EM sources (e.g., monitors, motors, speakers, X-ray equipment), which can destroy data and servo patterns.
- **Label correctly.** Apply identification labels **only** in the designated area.

Labeling Tape Cartridges

The library includes a barcode reader that scans cartridge labels and stores the resulting inventory in memory. This inventory is then presented to the **host application**, the **OCP**, and the **RMI**. Applying a barcode label to every cartridge is mandatory, as it lets the library identify media immediately and significantly reduces inventory time.

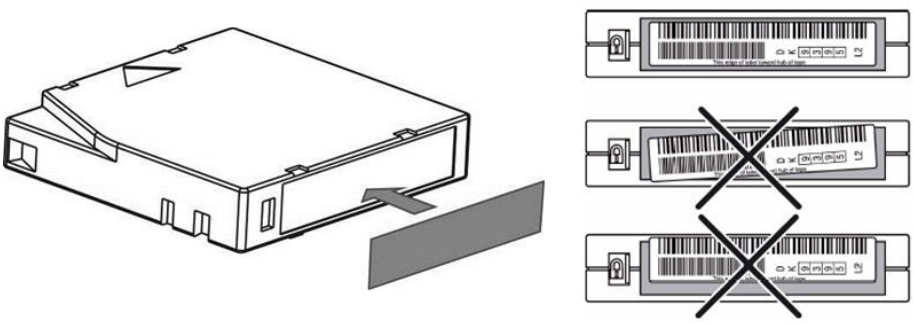
Use only high-quality labels. A correctly formatted LTO barcode ends with a **two-character media identifier** (e.g., **L9** for LTO-9, **L8** for LTO-8). The library enforces media compatibility using this suffix and will **not load incompatible media**—for example, a cartridge labelled as **LTO-7** will not be loaded into an **LTO-9** drive. This prevents time-consuming load attempts that would otherwise be rejected by the drive.

Your host software may track additional details against each barcode, such as:

- Date of format/initialisation.
- Media pool membership.
- Data set or job information stored on the tape.
- Backup age/retention status.
- Error history (to identify suspect or failing media).

!	**IMPORTANT**	Misusing and misunderstanding barcode technology can result in backup and restore failures. **Use only high-quality labels**. Self-printed labels are not recommended as they are often a source of barcode reading issues.

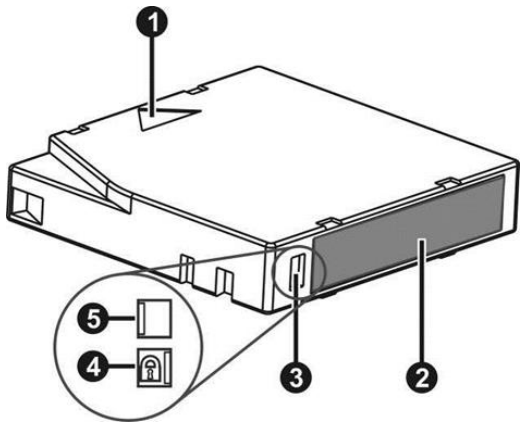
LTO tape cartridges have a recessed area located on the face of the cartridge next to the write-protect switch. Use this area for attaching the adhesive-backed bar code label. **Only apply labels as shown**:



!	**IMPORTANT**	• The barcode label should only be applied as shown, with the alphanumeric portion facing the hub side of the tape cartridge. • Never apply any label, anywhere else on the tape cartridge. This will cause the cartridge to jam in a tape drive. • Never apply multiple labels onto a cartridge because extra labels can cause the cartridge to jam in a tape drive.

Write Protecting Tape Cartridges

All rewriteable data cartridges have a **write-protect switch** to prevent accidental erasure or overwriting of data. Before loading a cartridge into the device, make sure the write-protect switch on the front of the cartridge is in the desired position.



Number	Description
1	Insertion Arrow
2	Barcode Label Area
3	Write-Protection Switch
4	Write-Protected
5	Write-Enabled

Read and Write Compatibility

Ultrium Read/Write Compatibility:

Number	LTO-7 Drive	LTO-8 Drive	LTO-9 Drive	LTO-10 Drive
LTO-5 Media	Read Only	Incompatible	Incompatible	Incompatible
LTO-6 Media	Read & Write	Incompatible	Incompatible	Incompatible
LTO-7 Media	Read & Write	Read & Write	Incompatible	Incompatible
LTO-8 Media	Incompatible	Read & Write	Read & Write	Incompatible
LTO-9 Media	Incompatible	Incompatible	Read & Write	Incompatible
LTO-10 Media	Incompatible	Incompatible	Incompatible	Read & Write

Barcode Reader

The barcode reader provides inventory feedback to the host application and/or LCD screen by reading the cartridge barcode labels. The library stores the customized inventory data in memory.

Magazines

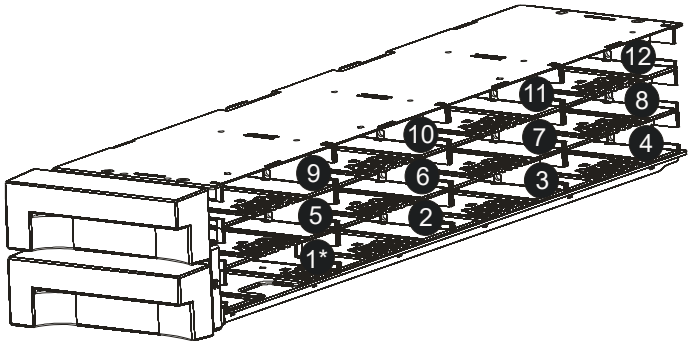
Cartridges are stored in magazines. Up to 12 cartridges can be stored in each magazine. Magazines may be removed and inserted individually.

The SymplyPRO XTL 24 has two removable magazines. Magazine access can be password protected. For safety reasons, the robotic motion is stopped when a magazine is removed. The magazines can be released using the Operator Control Panel (OCP) or the Remote Management Unit (RMU). In case the OCP or RMU initiated process has failed or the library no longer has power a manual emergency release is available.

!	**IMPORTANT**	To manually release a magazine, see [Magazine emergency release]. However, this manual process should only be used if the magazine cannot be released using the Operator Control Panel or the Remote Management Unit.

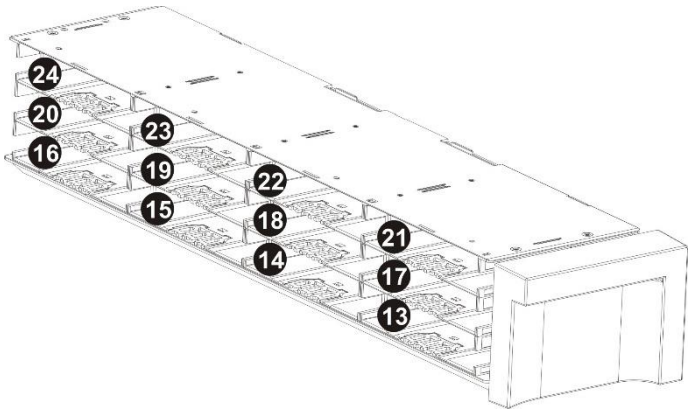
Inserting tape cartridges into a magazine

The slot numbering scheme is shown below for the **left magazine**.



Slot #1 is the mailslot.

Slot numbering **right magazine**.



Mailslots

Mailslots let you import/export individual cartridges without interrupting normal library operations. On **XTL-24**, there is **one mailslot** located in the **left magazine** at **slot #1**. If the library is partitioned into multiple logical libraries, the mailslot can be **shared between partitions**.

If you request to open the mailslot while the robotics is busy, the command will be denied, and the display will show **Busy**. Wait until the current robotic operation finishes, then issue the command again.

The mailslot needs to be enabled using the RMU see [Changing the system configuration], or via the OCP (below).

Remote Management Unit (RMU)

Many of the same operations performed from the operator control panel can also be performed remotely using the **Remote Management Unit**.

The **RMU** lets you monitor and control your library from any terminal connected to your network or through the World Wide Web (WWW). The RMU hosts a dedicated, protected Internet site that displays a graphical representation of your library.

After establishing a connection to the library, open any HTML browser and enter the IP address of the library. To configure the RMU, you must first set the IP address at OCP or DHCP.

	**NOTE**	As default the IP address for the management port is set to DHCP.

Operations available through the RMU include

Identity:

- Viewing static library information.
- Viewing static drive information.

Status:

- Viewing dynamic library information.
- Viewing dynamic drive information.
- Viewing the tape cartridge inventory.
- Configuration.
- Changing the system configuration.
- Changing the drive configuration.
- Changing the network configuration.
- Changing the administrative password.
- Setting date/time.
- Setting error log mode.
- Setting event notification parameters.
- Restoring factory defaults.

Operations:

- Moving media within the library.
- Determining current media inventory.
- Releasing and replacing magazines.

Service:

- Performing general library diagnostics.
- Determining and updating firmware.
- Rebooting the library.
- Viewing library logs.
- Cleaning tape drive(s).

RMU Library Status Icons

Status icons indicate the following conditions:

	The green Status Ok icon indicates that the library is fully operational and that no user intervention is required.
	The yellow “exclamation mark” for Status Warning indicates that user intervention is necessary, but that the library is still capable of performing operations.
	The red X Status Error indicates that user intervention is required and that the library is not capable of performing operations.

RMU Login

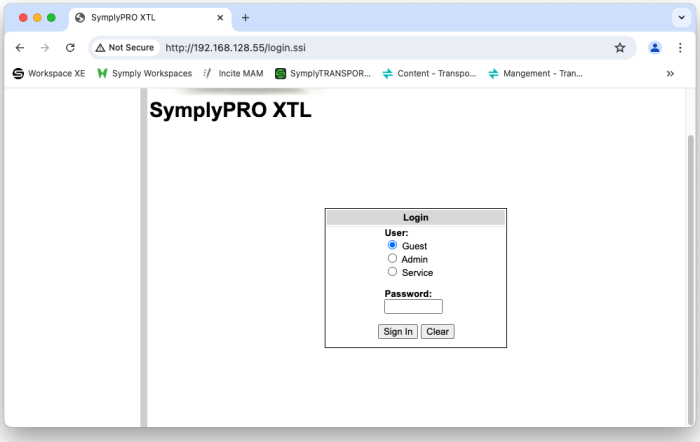
To login, select the access type and enter the correct password. There are **three levels of access:**

- Guest (Standard) user level.
- Admin user level.
- Service personnel user level. Access to this level is by Service personnel only.

Each level affects which areas you have access to and what actions you can initiate from those areas.

!	**IMPORTANT**	Some options of the RMU take the library offline. This inactive mode can interfere with host-based application software, causing data loss. Make sure the library is idle before attempting to perform any remote operations that will take the library offline.

RMU Login Page



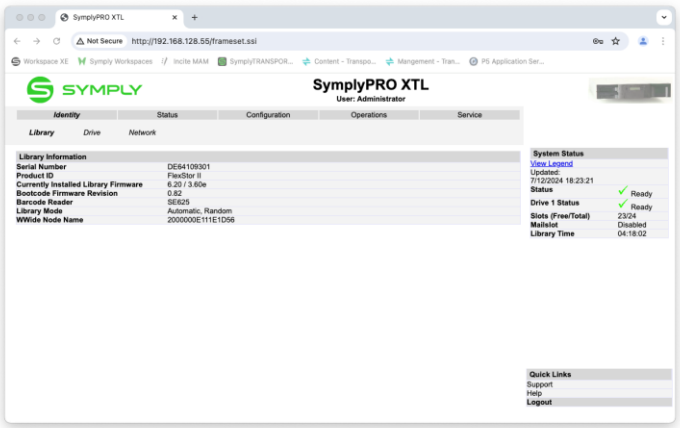
RMU Library Information

Viewing Library Information

This page provides access to the static information about the system. The following information can be found, although no changes can be made from this page:

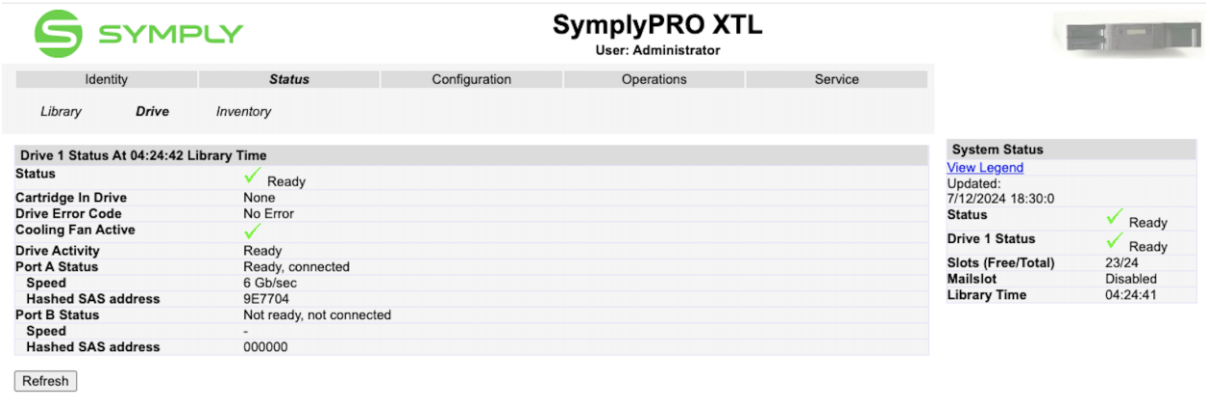
- Serial Number
- Product ID
- Currently Installed Library Firmware
- Boot Code Firmware Revision
- IP Address
- Library Mode

If the unit has more than one partition the properties of all logical libraries are displayed.



Viewing static drive information

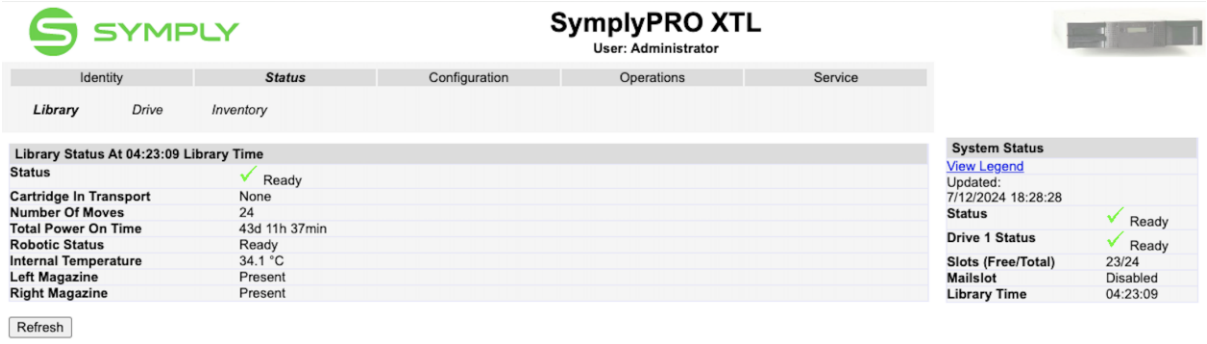
This page provides detailed information about the drive(s). No changes can be made from this page. If a second drive is installed in the library, Drive #2 information will be shown by selecting Drive #2 from the pull-down menu.



RMU Library Status

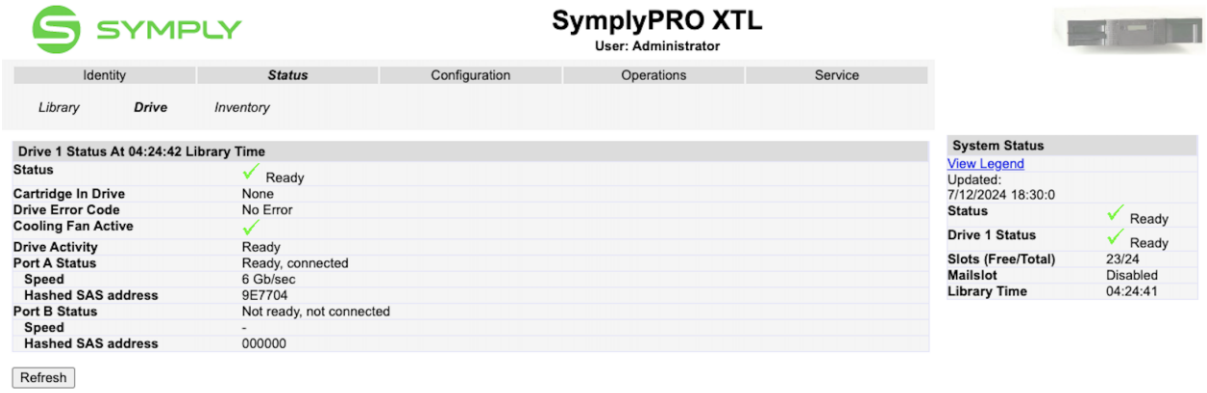
This page displays the dynamic information about the library, such as the status of the components. The following information can be found on this page:

- Status
- Cartridge in Operation
- Odometer
- Total Power on Time
- Robotic Status
- Magazine Left
- Magazine Right
- Mailslot



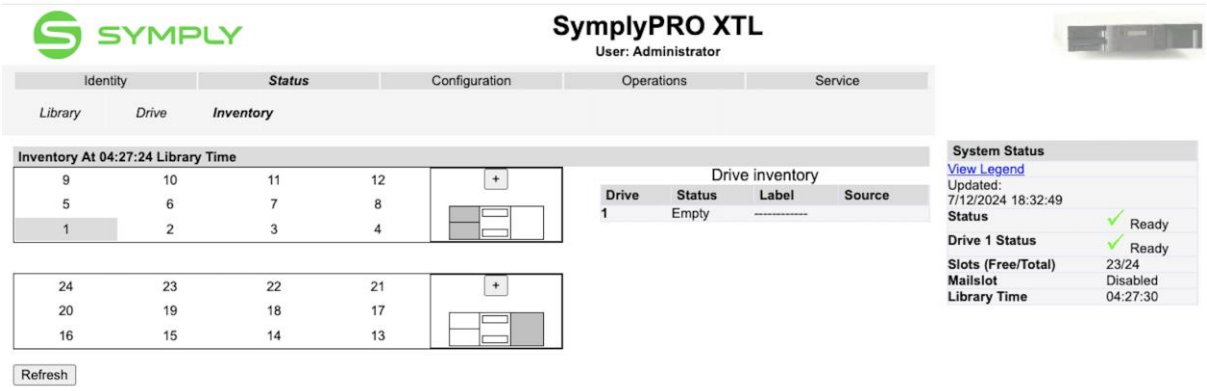
View Drive Information

This page provides detailed information about all drives that are present in the library.



Viewing the tape cartridge inventory

This page provides detailed information about the tape inventory in the library. A summary of each magazine is shown. To get detailed information, click on the + button. This will expand the display for the specified magazine.



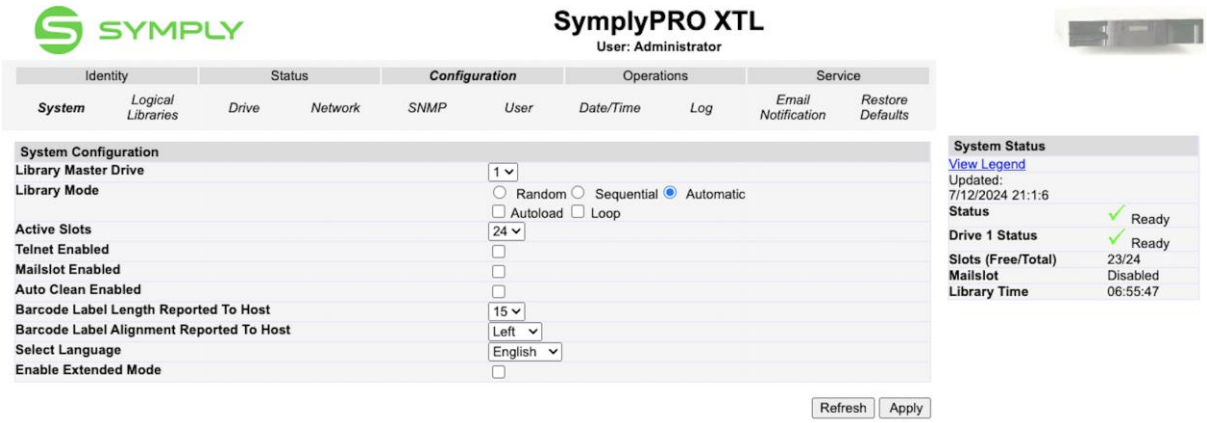
RMU Configuration of the SymplyPRO XTL 24

Changing the system configuration

As changes are made, they will only be applied after the "**Apply Selections**" or the "**Submit**" button is selected. After making the selection, a warning page will inform the user of the impact of their proposed change. In some cases, a pop-up screen will ask the operator to confirm their change. **Many changes will also require a reboot**.

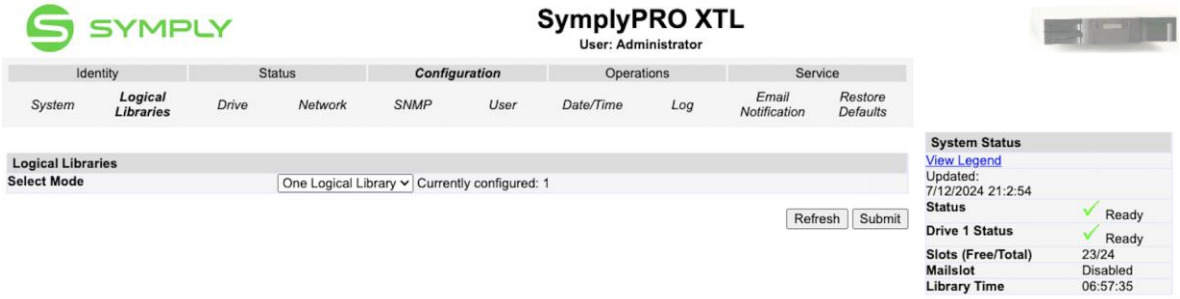
Changes that can be made are:

- Library Name
- Library LUN Hosted by Drive
- Library Mode: Random, Sequential, Automatic Autoload, Loop
- Active Slots
- Mailslot Enabled



Changing the logical libraries (partitioning)

This page allows the user to create up **to 2 logical libraries** (partitions) within the physical 2U library.



As default the library has **one logical library** (partition). All **24 slots** (both magazines) are presented as a single logical library, and **any installed drive(s)** (one **or** two half-height LTO drives) belong to that same partition.

Optional partitioning

Depending on drive count, the XTL 24 supports up to **two** logical libraries (partitions). Partitions are **magazine-aligned**—slot assignments follow the physical left/right magazines.

- With **two** half-height drives installed, you may create **two logical libraries** (partitions):
    - **Partition 1:** Left magazine **+ Drive 1**
    - **Partition 2:** Right magazine **+ Drive 2**
- The **mailslot (I/O station)**, if enabled, is **shared** between partitions.
- With **one** drive installed, the system supports **one partition** only.
- Making changes to the partition will take the library **offline**.

Plan partitions before production. After changes, **rescan** devices in the OS and your backup/archive software.

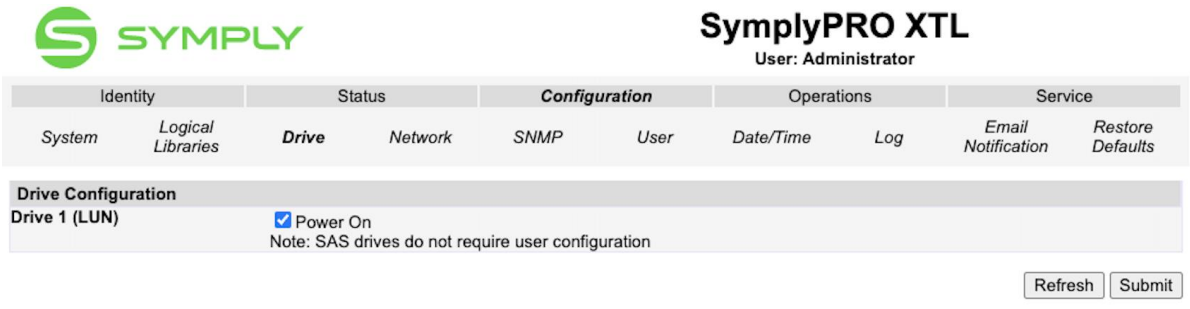
Changing the license key

This page allows the user to add additional functionality to the unit by entering license key information.

Changing the drive configuration

This page displays the **current status** of all installed tape drives and lets you make limited changes to their configuration.

- **SAS drives:** no user configuration is required.
- **Power control:** you can **Power On** / **Power Off** individual drives from this page. Drives **power on automatically** whenever the library powers on.



If a drive must be removed for service, it **must be powered off first**. Do not remove a drive that is powered on or in use.

Safe power-off procedure (before removal)

1. **Stop all jobs** in your backup/archive software and make sure the drive is **idle**.
2. **Eject any cartridge** from the drive (the slot should be empty).
3. Open **Drive Configuration**, select the target drive, and choose **Power Off → Confirm**.
4. Wait until the drive shows **Powered Off / Ready for Removal** (status LED behaviour per hardware guide).
5. Follow the hardware removal steps for your chassis.

After reinstallation, you can **Power On** the drive from this page, or it will **auto-power** on at the next library power-up.

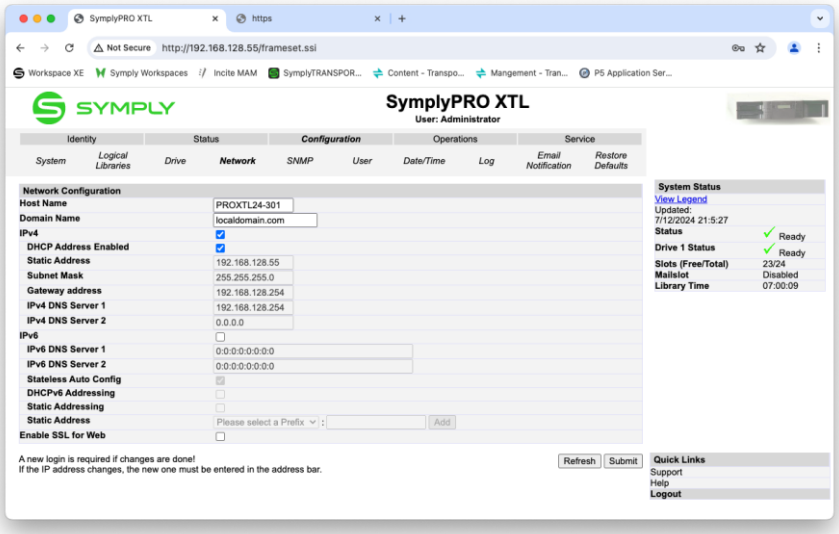
- Avoid powering drives off/on during active I/O; doing so can interrupt jobs and cause errors.
- If the UI reports the drive is **busy**, clear any host reservations/locks in your software and retry.

Changing the network configuration

This page shows the current network configuration of the library and allows modification to the configuration. When a change is requested, a pop-up box will ask to confirm the changes.

A list of changes that can be made are:

- DHCP Address - checked On or unchecked Off (when on static address not used)
- IP Address
- Network Mask
- Gateway Address



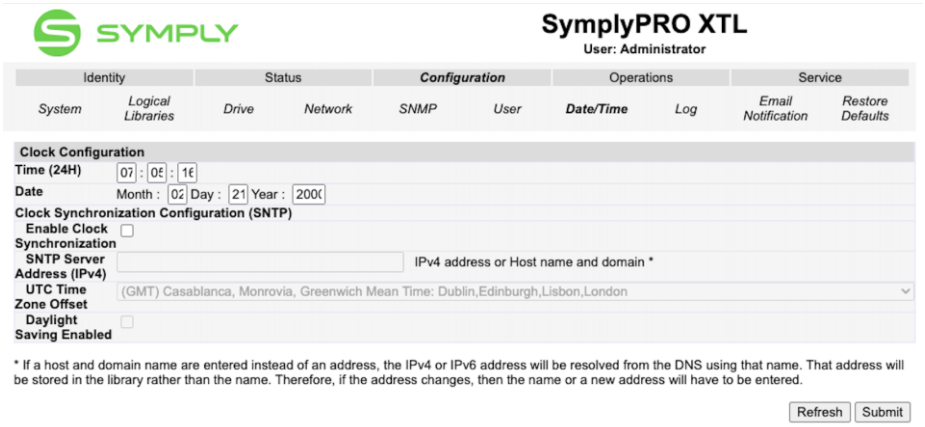
Changing the usernames and password

This page allows the user to add and modify user accounts.

- **Access Level** - Choose from **1** (Guest / Standard), **2** (Admin), or **3** (Service).
- **Access Level Name** – the name associated with the chosen Access Level.
- **New Password** – The password can be a maximum of ten characters.
- **Repeat Password** – Enter the new password again.
- **OCP Access PIN Enabled** – Select this item, if you would like the Operator Control Panel display to be password protected.
- **OCP Access PIN Code** – the password for accessing the OCP when the OCP Access PIN is enabled.
- **Repeat OCP Access PIN Code** – Enter the OCP Access PIN Code again.
- **Support Name** – the name of the individual within your company to contact for RMU or library support.
- **Support Phone** – the phone number of the individual within your company to contact for RMU or library support.
- **Support Email** – the email address of the individual within your company to contact for RMU or library support.

Setting date/time

This page allows the user to set the time and date, and how it will be displayed.



NOTE The trace level and trace filter selection options are only changeable by Service personnel.

Setting error log mode

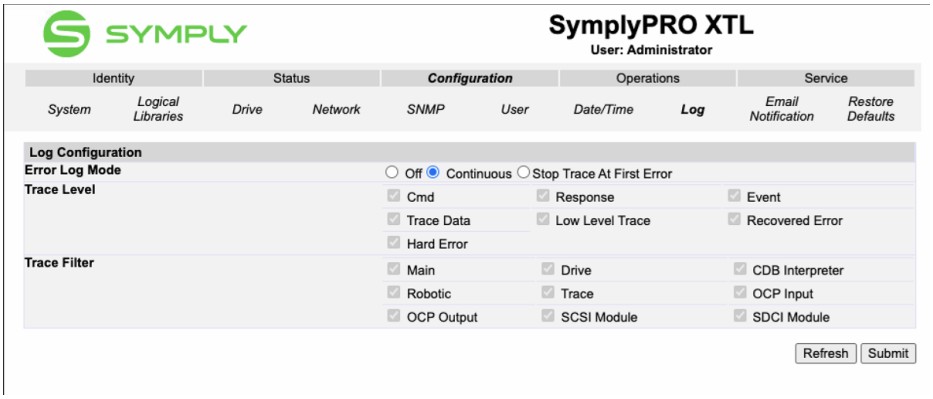
This page allows the user to set the error log mode to `Off`, `Continuous`, or to `Stop` trace at first error.

Setting event notification parameters

This page allows the user to set event notification to `On`.

The Choices for event notification are:

- **Notify Errors** – Select this item to be notified of library errors via email
- **Notify Warnings** – Select this item to be warnings of library errors via email
- **To E-mail Address** – Enter the email address of the individual you would like to receive the errors and/or warnings
- **E-mail Domain** – Enter the email domain name of the individual you would like to receive the errors and/or warnings
- **SMTP Server Address** - Enter the address of thee mail server of the individual you would like to receive the errors and/or warnings



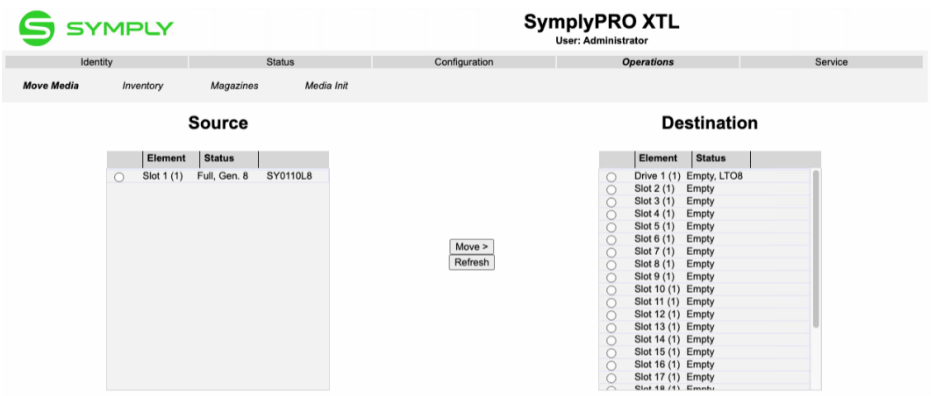
Restoring factory defaults

This page allows the user to reset the configuration to the factory defaults, restore vital product data, and save vital product data.

RMU Library Operations

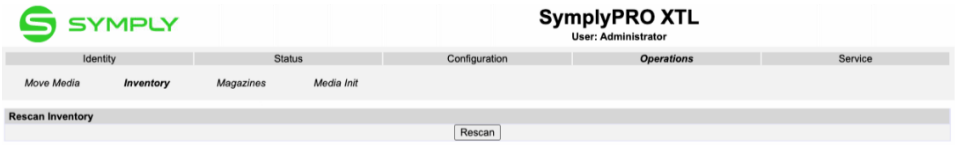
Moving media within the library

This page allows the user to move tape cartridges within the library. The **source** and **destination** are selected and then the **move** button in the centre of the screen is clicked to activate the move.



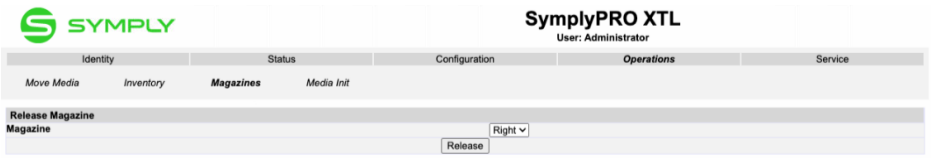
Determining current media inventory

This page provides the user with a means to re-scan the library to determine the current media inventory.



Releasing and replacing magazines

This page allows the user to **release** the **right or left magazine** from the library.



Best practice: Use the **mailslot** for import/export during normal operation. Release a magazine only during a maintenance window or when no jobs need that magazine's slots.

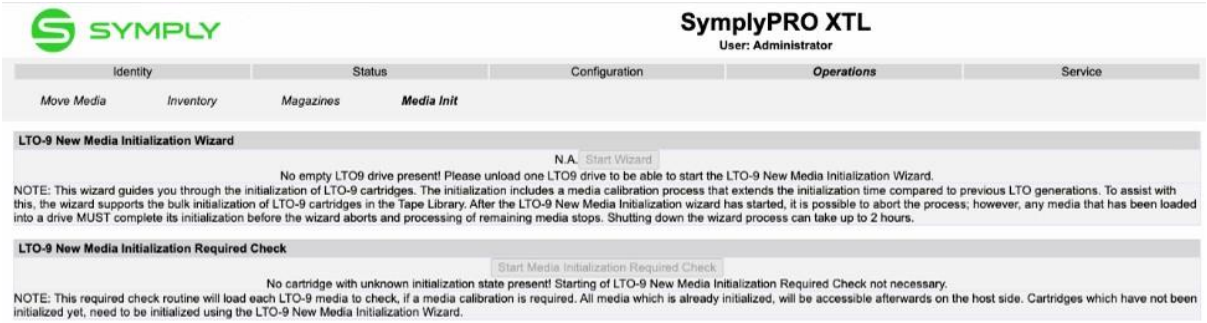
	NOTE	To manually release a magazine, see [Removing and replacing a magazine]. However, this manual process should only be used if the magazine cannot be released using the Operator Control Panel or the Remote Management Unit.

Media Initialization Wizard (Media Init)

IMPORTANT

- This procedure is for new media only and not meant for media that has been initialized commonly referred to as optimization.
- The library will be offline to hosts while the LTO-9 New Media Initialization Wizard is running.
- Media Initialization (optimization) can take up to two hours per tape to complete.

1. Click **Start LTO-9 New Media Initialization Wizard**.
2. Click **Next** on the **Information** Screen.
3. Select the cartridge(s) you want to initialize and click the right arrow. If all the cartridges need to be initialized, click **Select All**, then click the right arrow.
    a. This will place the cartridges in the section to the right titled **Selected Cartridges**.
4. Click **Next**.
5. Select the drives to be used for initializing (optimizing) the media and click the right arrow. If all the drives are to be used, click **Select All**, then click the right arrow. This will place the drives in the section to the right titled **Selected Drives**.
6. Click **Next**.
7. Click **Finish** to complete the wizard and begin the media initialization (optimization) process on the selected tapes.



NOTE

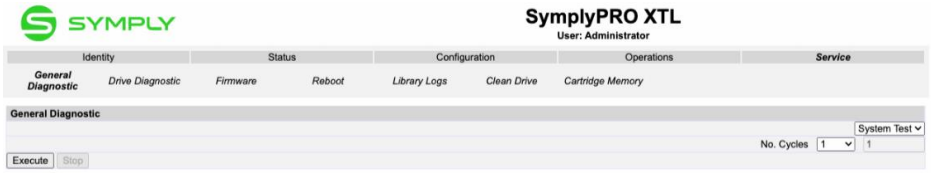
If needed, it is possible to abort the media initialization (optimization) process. It should be noted however, that once a tape is loaded in a drive, that media will complete its (optimization), which could take up to two hours. Once the currently loaded media completes initialization, the wizard will abort and not process any remaining media that was selected.

RMU Servicing

Some options of the RMU take the library offline. This inactive mode can interfere with host-based application software, causing data loss. Ensure that the library is idle before attempting to perform any remote operations that will take the library offline.

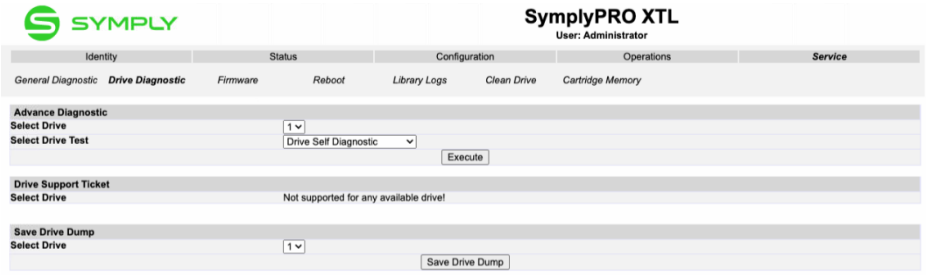
Performing general library diagnostics

This page provides the system administrator with general tests to verify the usability and reliability of the library. The user selects the number of test cycles before starting the test. To cancel the test before it completes the cycles, select the `Stop` button.



Drive Diagnostics

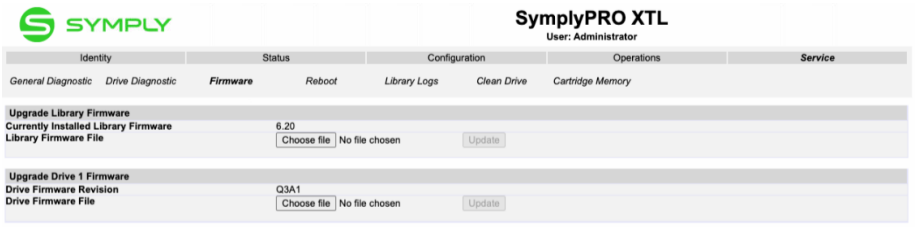
This page allows users to run a self-test on a LTO drives and save out the LTO drive information for trouble shooting purposes.



!	**IMPORTANT**	Always use a scratch (test) data cartridge as the drive test is destructive to any data on cartridge.

Determining and updating firmware

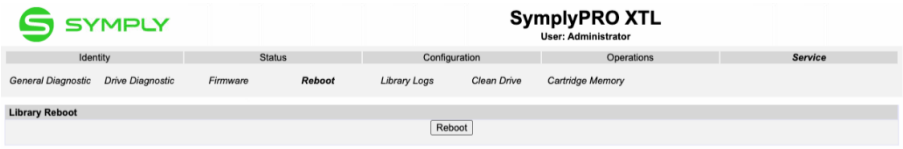
This page displays the current library and all drive firmware versions. Firmware can be downloaded to the host then uploaded to the drive in the library by using this page.



!	**IMPORTANT**	After a library upgrade the system restarts automatically. Make the library is not in user and any media has been unloaded for the LTO drives.

Rebooting the library

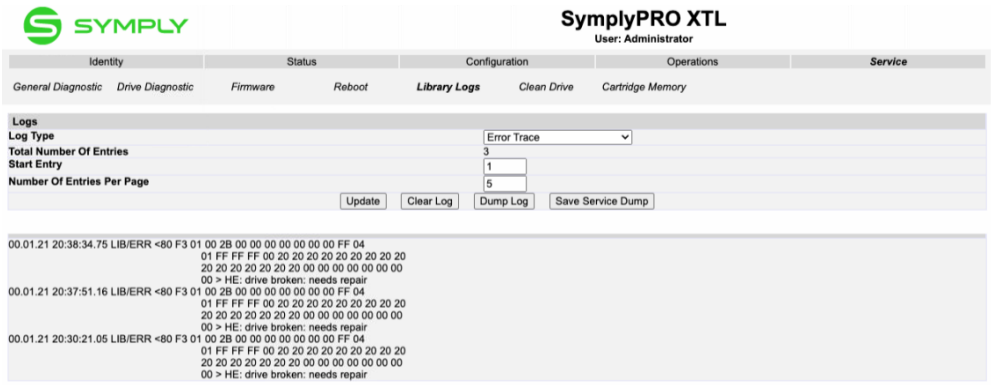
This page is used to perform a library reboot. There is a default time delay when the Web page refreshes itself. This time should be sufficient to reload the page. However, during a reboot, the connection to the library may be lost. If the connection is lost, the user will have to reload the page manually.



Viewing library logs

This page allows the user to view the library logs after entering the following:

- Log Type
- Total Number of Entries
- Start Entry
- Number of Entries per Page
- Update
- Clear Log
- Dump Log

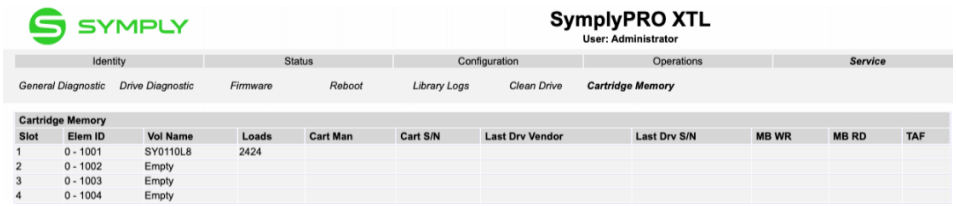


Cleaning tape drive(s)

This page allows the user to clean the tape drive(s). Only clean tape drive(s) when prompted to do so by the application or library.

Cartridge Memory

This page allows the user to see the information about the media cartridges that are currently loaded in the library.



Hardware servicing of the SymplyPRO XTL 24 library

WARNING **Electrical safety -** Disconnect all AC power cords from the library and attached modules before servicing. Allow fans to stop and internal power rails to discharge. Service only field-replaceable units (FRUs). Internal repairs beyond FRUs must be performed by qualified service personnel.

WARNING **Lift / Handling -** Use a **two-person lift**. Do not lift by the bezel, magazines, rails, or rear connectors. Keep the work area **clear of obstructions** and place the unit on a stable, flat surface.

CAUTION **Electrostatic discharge (ESD)**. A discharge of static electricity can damage static-sensitive devices and micro-circuitry. Always use approved **grounding** and **packaging** when handling components.

Before you begin (safe-state checklist)

1. **Stop all jobs** in your backup software; wait until all drives are **idle**.
2. **Eject all cartridges** from drives; close the mailslot.
3. If removing a drive, **power off the drive** in the UI first (Drive Configuration → Power Off).
4. **Shut down** the library (if instructed by the procedure) and **disconnect AC** at the PDUs/outlets.
5. If moving the library, **reinstall the shipping lock** before lifting or transport.

ESD precautions (best practice)

- Transport products in **static-safe containers** (conductive or shielding bags).
- Keep ESD-sensitive parts in their packaging until at a **static-controlled work area**.
- Use a **wrist strap** connected to a **common ground point**; work on an **ESD-dissipative mat**. Ensure tools/equipment are properly grounded.
- Cover the library with **approved static-dissipating material** when open.
- Keep the work area free of **non-conductive** items that hold static (e.g., standard plastic trays, Styrofoam, bubble wrap).
- Avoid touching **pins, leads, or circuitry** directly; handle by edges or brackets.

- Use **ESD-safe** (conductive) field service tools.

Tools you may need

- **#3 Phillips** screwdriver.
- **Flat-blade** screwdrivers (large and small).
- **Cross-slot** driver (Phillips/Pozidriv as required by fasteners).
- **Torx** driver(s) if specified for rails/brackets.
- **Ground (ESD) wrist strap** and **ESD mat.**

Reassembly notes

Verify all connectors are fully seated, cables are strain-relieved, and no media or tools remain inside the chassis. After reapplying power, allow the library to **initialize** and complete an **inventory** before presenting it to host software.

Removing and replacing a tape drive

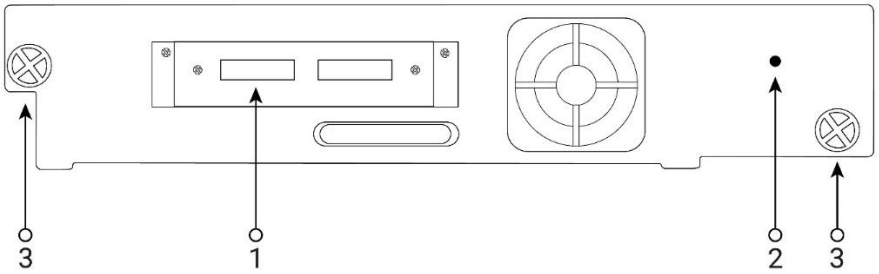
Tape drives are installed at the back of the library. When replacing one drive in a two-drive configuration, you can power down the drive that you are replacing without interrupting power to the rest of the library and the second drive.

NOTE	**Hot-plug:** Drives are **field-replaceable and hot-pluggable**. In a two-drive configuration you may power **only the target drive** off without interrupting power to the library or the other drive.

CAUTION	**ESD & media:** Wear an ESD wrist strap. Ensure the target drive is idle, and no cartridge is loaded before removal**.**

To remove a tape drive

1. **Unload media:** Using the **RMU**, **OCP**, or your data-protection application, **unload/eject** any cartridge from the target drive and confirm the drive is **idle**.



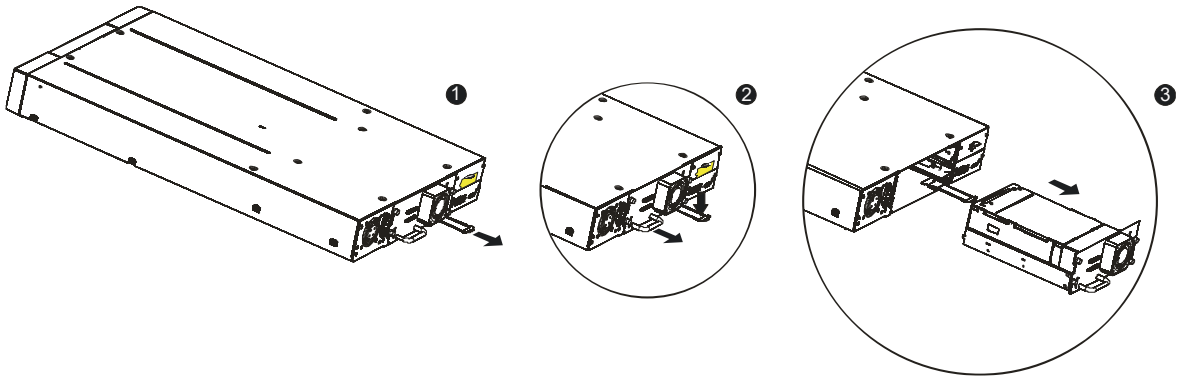
Number	Description
1	Data Cable Connection
2	Drive Power Light
2	Captive Thumbscrews

2. **Power off the drive:** From the **OCP/RMU** (Drive Configuration), select the target drive → **Power Off**.
3. **Verify power state:** Wait until the **drive power LED** *(2)* is **off**.
4. **Disconnect data cable:** Label and unplug the **SAS/FC** cable from the drive *(1)*.
5. **Loosen fasteners:** Loosen the **two captive thumbscrews** *(3)*.
6. **Protect the Product ID tag:**

> **! IMPORTANT** Before pulling the **lower** drive sled, **pull the Product ID tag/slide forward** (located below the sled) so it does not snag or get damaged.

7. **Extract the drive:** Pull straight back on the drive **handle** to slide the drive out of the chassis. Support the sled; do not rock or twist.

Tape Drive Removal:



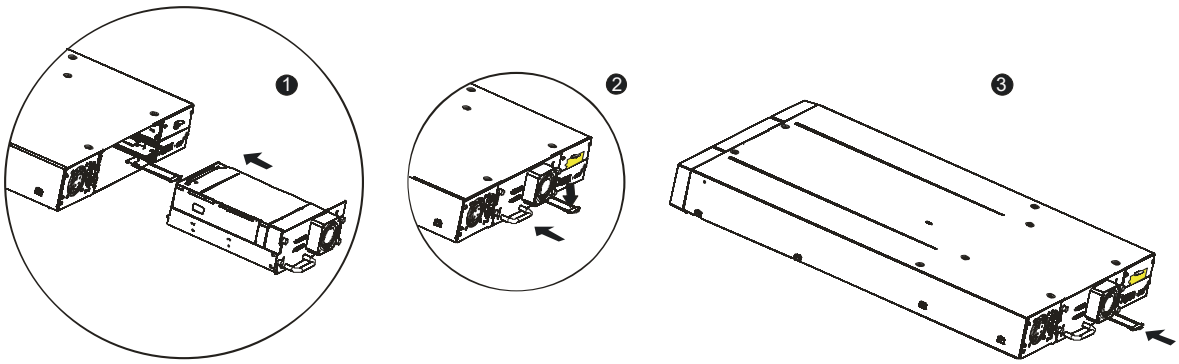
!	**IMPORTANT**	Push in on the tape drive handle while supporting the bottom of the tape drive until it is properly seated. Damage to the connector pins may occur if this procedure is not followed.

To replace a tape drive

	NOTE	**Hot-plug FRU:** The library can remain powered. In a two-drive system, you may service one drive without interrupting the other. Ensure the target bay is **empty and powered off** (via OCP/RMU) before installation.

	CAUTION	**ESD:** Wear a grounded wrist strap. Handle the drive by its sled/edges; avoid touching connector pins or circuitry.

1. **Inspect the replacement drive.** Check SAS/FC connector(s) for cracks, bent/deformed contacts, or debris. Do **not** install if damage is present.
2. **Align and insert.** Support the drive assembly and slide it **straight** into the bay, aligning the sled rails with the chassis guides.
3. **Seat the midplane connector.** Push slowly until the sled is fully seated against the backplane—do **not** force or rock the drive.



4. **Position the Product ID tag.** Push the **Product ID foil tag** underneath the drive sled; when correctly placed, only the **tag handle** is visible.
5. **Secure the sled.** Tighten the **captive thumbscrews** evenly until snug.

6. **Reconnect data cable(s).** Attach the appropriate **SAS/FC** cable(s); ensure latches/screws are engaged and strain-relieved.
7. **Power on the drive.** Use the **RMU or OCP** to **Power On** the drive; wait for **Ready** status and any brief library inventory to complete.
8. **Verify operation.** Run the **Library Verify** test.

Post-install checks (recommended)

- **Confirm firmware level** on the tape drive and upgrade if required.
- Confirm the drive is visible in the OS (e.g., Windows **Device Manager** → **Tape drives**).
- Rescan devices in your backup/archive software.
- If prompted by your environment, apply the correct **tape driver** and confirm firmware levels.

NOTE If you are **adding** a second drive or **upgrading** a drive, use **supported cabling configurations** (connector types/lengths) for your model and interface (SAS/FC, or via XTL Ethernet/Thunderbolt modules).

Removing and replacing a XTL Module – Ethernet or Thunderbolt

Removing an XTL Module **interrupts host data access** (iSCSI/Thunderbolt path). Stop all jobs, unmount any mounted volumes, and eject media from all drives **before** proceeding.

CAUTION Wear a grounded **ESD wrist strap**. Handle the module by the sled/edges; avoid touching connector pins or circuitry.

To remove a XTL Module

1. **Stop operations**: Ensure all library/drive operations have stopped and **no cartridges** are loaded. Expect hosts to **lose access** during the procedure.
2. **Disconnect external cables**
    a. **SAS:** Label and unplug the SAS cable from the **SAS OUT** port on the XTL Module.
    b. **Ethernet Module:** Disconnect **Data** and **Management** Ethernet cables.
    c. **Thunderbolt Module:** Loosen **SymplyLOCK**, then disconnect the Thunderbolt cable. Remove SymplyLOCK from the port.
3. **Loosen fasteners**
    Loosen the **two captive thumbscrews** on the module.

!	**IMPORTANT**	Before pulling the **lower** drive sled, **pull the Product ID tag/slide forward** (located below the sled) so it does not snag or get damaged.

4. **Extract the module**: Pull **straight back** on the module handle to slide the sled out. Support the module; **do not rock or twist**.

To replace XTL Module

	**CAUTION**	**ESD:** Wear a grounded wrist strap. Handle the drive by its sled/edges; avoid touching connector pins or circuitry.

1. **Inspect the replacement**: Confirm no physical damage; check connectors for bent pins, cracks, or debris.
2. **Align & insert**: Support the module and slide it **straight** into the bay, aligning sled rails with the chassis guides.
3. **Slide fully home**: Gently push the module in until it is **fully seated** and the **captive thumbscrews align** with their holes. Do not rock or twist.
4. **Secure**: Tighten the **captive thumbscrews** evenly until snug.

5. **Reconnect cables**: Attach required cables: **SAS**, **Ethernet (Data/Management)**, and/or **Thunderbolt**. Ensure latches/screws engage and cables are strain-relieved.
    a. For Thunderbolt, fit and tighten **SymplyLOCK** to retain the cable.
6. **Power state**: The XTL Module **auto-powers on** when inserted. Wait for the module and library to report **Ready**.
7. **Verify & configure**
    a. **Thunderbolt Module:** No additional configuration required.
    b. **Ethernet Module:** Log in to the **web UI** with the default credentials and configure **Data port IPs**/network as required. For detailed steps, see the [SymplyPRO Ethernet Appliance User Guide].

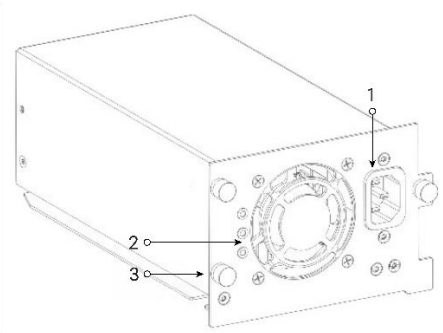
Post-install checks (recommended)

- Library shows **Ready**; no faults/alerts on the OCP/RMU.
- Drives are detected and inventories complete.
- Host(s):
    - **iSCSI:** Reconnect targets; verify sessions and present LUNs.
    - **Thunderbolt:** Confirm device enumerates and tape/robotic appear.
    - **SAS (internal link):** Verify drive path is up.
    - **Fibre Chanel (internal link):** Verify drive path is up.
- Backup software rescan: **tape drive(s)** and **medium changer** visible and operational.
- Run a quick **Library Verify** or test **load/unload** to confirm robotics.

Removing and replacing the power supply

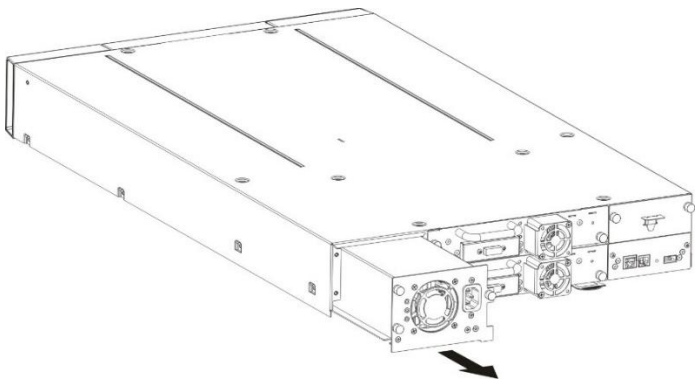
WARNING	**Shock/Fire hazard:** Power off the library from the front-panel Power button, disconnect the AC mains cord, and allow fans to stop before servicing. Use only Symply-approved PSU FRUs. **ESD CAUTION**: Wear a grounded wrist strap and handle by the PSU handle/edges.

Removing the power supply



Number	Description
1	Power Connector. The library requires a 110 /220V AC power connection
2	Fan Vent
3	Captive Thumb Screws

1. **Power down the library:** Press the **front Power button** to turn the library **off**.
2. **Unplug AC:** Remove the **power cord** from the PSU and from the PDU/outlet.
3. **Loosen fasteners:** Loosen the **three captive thumbscrews** *(3)*.
4. **Extract the PSU:** Pull **straight back** on the PSU handle to slide it out. Support the unit; **do not rock or twist**. Keep fingers clear of the **fan vent** *(2)*.



Replacing the power supply

1. **Unpack & inspect:** Remove the new PSU from its packaging and check the connector area for damage/debris.
2. **Align & insert:** Support the PSU and slide it **straight** into the bay, aligning guides.
3. **Seat fully:** Gently push until the PSU is **fully seated** and the front is **flush**; **do not force**.
4. **Secure:** Tighten the **captive thumbscrews** *(3)* evenly until snug.
5. **Reconnect AC:** Attach the **power cord** to the PSU *(1)* and to a **properly earthed** outlet/PDU.
6. **Power on:** Press the **front Power button** to switch the library **on**.

Removing and replacing the library controller

About configuration backup & mismatch prompts

The library stores a **backup copy of critical/configuration data** separately from the controller FRU. After hardware replacement, the firmware checks for consistency and may prompt you to choose which data set to keep:

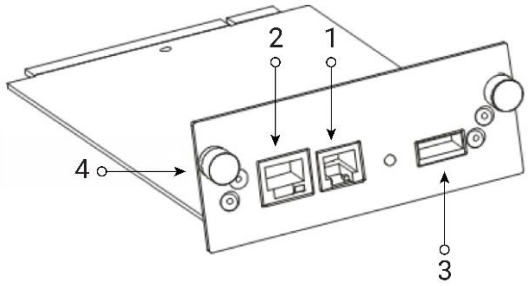
- **If you replaced the *library controller*** → choose **"Identity data mismatch"** to **copy the backup data onto the new controller**.
- **If you replaced a *chassis FRU* or *robotics FRU* (and kept the original controller)** → choose **"Replace backup data"** to **update the backup store** from the controller's current configuration.

NOTE Choosing the wrong option can overwrite desired settings. If unsure, record current settings before service (partitions, mailslot, barcode format, network, users).

To remove the library controller

Library controller is installed at the back of the library.

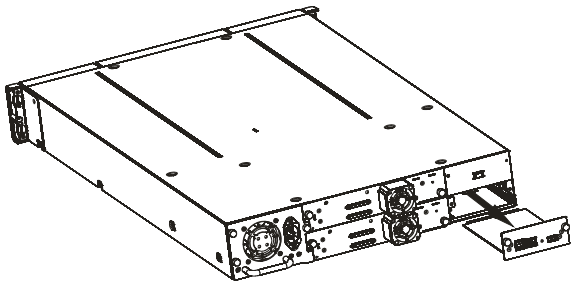
- Stop all jobs and ensure **no cartridges are in drives**.
- **Power off** the library from the front-panel **Power** button.
- **Disconnect AC power** at the PDU/outlet and wait for fans to stop.
- **ESD protection:** wear a grounded wrist strap and use an ESD-safe surface.



Number	Description
1	Ethernet Management Port
2	Service Port
3	USB Port
4	Captive Thumb Screws

Removing the library controller

1. **Label & disconnect I/O:** Unplug **Management Ethernet**, cable if fitted, disconnect USB drive (If connected).
2. **Loosen fasteners:** Loosen the **two captive thumbscrews** *(4)*.
3. **Extract controller:** Pull **straight back** on the handle to slide the controller out. Support the FRU; **do not rock or twist**.



Replacing the library controller

1. **Inspect the FRU:** Check the replacement for damage or debris on the rear connector.
2. **Align & insert:** Slide the controller **straight** into the bay, aligning guides.
3. **Seat the rear connector:** Gently push until **fully seated** and the front is **flush**. **Do not force**.
4. **Secure:** Tighten the **captive thumbscrews** evenly until snug.
5. **Reconnect cables:** Reattach **Management Ethernet** and **USB** as required.
6. **Restore power:** Reconnect the **AC power cord(s)** and press the **Power** button to start the library.

First boot after replacement library controller

1. **Respond to the mismatch prompt:**
    - New controller installed → select **Identity data mismatch** (copy backup → controller).
    - Chassis/robotics replaced → select **Replace backup data** (copy controller → backup).
2. Allow the library to **initialize** and perform an **inventory**.
3. **Verify configuration:** Check partitions, mailslot setting, barcode length/alignment, date/time, and **network settings** (re-enter IP settings if needed).
4. **Host check:** Confirm the **medium changer** and **tape drive(s)** enumerate on the host; rescan devices in your backup/archive application.
5. Run a quick **Library Verify** or **test load/unload** to confirm robotics.

Removing and replacing the base chassis

In rare cases Symply may need to replace the SymplyPRO XTL 24 base chassis, and a replacement will be shipped to you.

⚠ **WARNING**	**Product Weight:** The SymplyPRO XTL 24 weighs 15.6 kg (34.39 lbs) without media. **Risk of Personal Injury:** Before moving or lifting a module: • **Observe local health and safety requirements** and guidelines for manual material handling. • Remove all tapes to reduce the weight and to prevent cartridges from falling into the robotics path and damaging the library. • Remove all tape drives to reduce the weight. • Obtain adequate assistance to lift and stabilize the module during installation or removal. **Risk of damage to devices:** When placing a module into or removing the module from a rack: • Extend the rack's levelling jacks to the floor. • Ensure that the full weight of the rack rests on the levelling jacks. • Install stabilizing feet on the rack. • Extend only one rack component at a time. **WARNING — Power & ESD** • Power the library **off**, **unplug AC**, and wear a grounded **ESD wrist strap** before servicing.

Tools required:

- **#3 Phillips** screwdriver (rack/front securing).
- Torx driver(s) for rails/brackets/guide pulleys (as fitted).
- ESD wrist strap & dissipative mat.

Before you start:

- Ensure **no tape** remains in either drive [Moving tapes in the library].
- Label all **data/management cables** to preserve topology.
- If present, note which bay contains optional modules (Ethernet/Thunderbolt).

Remove the existing chassis from the rack

1. Get adequate assistance to **support** the library during removal/installation.
2. **Remove both magazines** see [Removing and replacing a magazine].
3. **Power off** via the front panel, then **disconnect** all power and data/management cables.
4. **Remove drive(s)** and **XTL Ethernet & Thunderbolt modules**
    a. Label and disconnect the cables.
    b. Note the position of the tape drives they must be installed in the same location in the new chassis.
    c. Loosen blue thumbscrews, carefully pull the drive (or module) straight out.
5. From the **front**, loosen the two **captive** screws that secure the mounting brackets to the rack.
6. With assistance, **slide the library out** and place it on a stable surface.

Transfer field-replaceable units (FRUs) to the replacement chassis:

 **CAUTION**	Handle all FRUs by their sled/edges. Do not touch connector pins.

1. **Rack hardware:** Remove the **mounting brackets** and **guide pulleys** from the old chassis; install them on the **replacement** chassis.
2. **Power supply (PSU):** Loosen the blue thumbscrews, pull the PSU straight out, then install it in the replacement chassis and tighten.
3. **Library controller:** Loosen blue thumbscrews, remove the controller, then install it into the replacement chassis and tighten.

Shipping lock handling:

1. **Replacement chassis (new unit):** The shipping lock is at the **top centre** of the library, secured by a **yellow label**. **Peel off the yellow label** and **remove the lock** before power-on. Store the lock/label in the accessory kit for future transport.
2. **Old chassis (return unit): Reinstall its shipping lock** before packing for return. If already removed, retrieve it from the accessory kit and fit it per the label instructions.

Install the replacement chassis in the rack

1. With assistance, **slide the replacement chassis** onto the rails already mounted in the rack.
2. Tighten the **front bracket captive screws** to anchor the chassis.
3. **Tape drive(s):** Install into the replacement chassis. Tighten thumbscrews.
4. **XTL Module(s) (Ethernet/Thunderbolt, if fitted):** Install into the replacement chassis. Tighten thumbscrews.
5. **Reconnect cables:**
    a. AC mains (to properly earthed outlets/PDUs; separate circuits if dual PSUs).
    b. Host/data (SAS/FC/Thunderbolt/iSCSI) and **management Ethernet**.
6. **Reinsert both magazines**.
7. **Power on** the library.
8. Run the **Library Verify Test** [Service: Library Verify]

Return the old chassis:

1. **Securely repack** the replaced chassis with its **shipping lock installed**.
2. Include any required RMA documentation and return to **Symply** per instructions.

Library Troubleshooting

CAUTION	This library is designed to operate **only** when installed in a rack using the supplied rail kit. Operating it off-rail (e.g., on a table, bench, or rack shelf) can cause alignment and robotics errors. Do **not** place any weight on top of the library—the top cover is not load-bearing and doing so may lead to faults or damage.

Installation problems – Troubleshooting

Most installation issues trace to **SAS/FC/iSCSI/Thunderbolt connectivity**, **host adapter settings (multi-LUN)**, **drivers**, or **backup-software configuration**. If the application can't communicate with the library, work through the checks below.

Quick checks (in order)

- **Power/Ready:** Library fully **initialized** (inventory complete) and no OCP faults.
- **Cabling:** Correct **connector type** (SFF-8644/8088/FC), firmly latched, no adapters out of spec, shortest practical cable.
- **Multi-LUN:** Host/HBA must scan **LUN 0 = tape drive**, **LUN 1 = medium changer**. If only the drive appears, enable **Report LUNs / multi-LUN** on the HBA/initiator and rescan.
- **Drivers:** Correct **tape drive** driver (vendor or Microsoft) and **Medium Changer** driver (typically **Unknown Medium Changer** on Windows).
- **Software rescans:** Restart/Rescan devices in your backup/archive application after OS sees both drive **and** changer.
- **Partitions:** If you changed partitions, **rescan** in the OS and software.

Compatibility

- Verify the library/drive generation and interface are **supported** by your **HBA/NIC/Thunderbolt** stack and your **data-protection application**.
- Check HBA/NIC **firmware + driver** levels recommended by the vendor.

Host adapter installation

- Confirm the HBA/NIC is **properly seated** and detected by the OS; correct driver loaded; no device errors.
- Disable **MPIO**/multipathing for **tape/changer** devices (not supported/necessary).
- For SAS HBAs, do not use RAID adapters. Make sure HBA supports TLR.

Data-protection application

- Some suites need an **extra module/license** to control **library robotics**. Install/enable it.
- Ensure the app is set to use **OS drivers** (or its own) consistently—avoid double-installing conflicting drivers.
- After hardware changes, **restart application services** and rescan hardware.

Interface-specific checks

SAS

- **Cables:** Verify all SAS connectors are fully seated at **both ends**. If a mini-SAS plug won't insert, check the **keying**—the drive uses the **standard end-device key (location 4)**. A differently keyed cable will not fit and likely won't work.
- **Length/integrity:** Keep to vendor limits (**typically ≤ 5 m or 16.4 ft**) and avoid adapters/converters between HBA and library. Replace questionable cables.
- **Connector condition:** Inspect for damage/debris; clean or replace as needed.
- **HBA support/firmware:** Use a **qualified SAS HBA** (not a RAID controller), supported by the host OS and the library, with **current firmware/drivers**.

Thunderbolt

- Point-to-point only.
- Verify the **Thunderbolt cable is approved.** Use **SymplyLOCK** for strain relief.
- **Authorized** (Windows: Thunderbolt Control Centre).
- Ensure **driver has permission to run in macOS.**

Fibre Channel (FC)

- **Speed:** Set link speed to **Automatic** (recommended). If you know the HBA/switch speed, select it explicitly; otherwise use Auto.
- **Port type:** Ensure the correct **port type** is selected (**Fabric/Point-to-Point** vs **Loop**). Loop requires extra configuration; if unsure, set **Auto**.
- If the screen shows **No Link**, (Speed Status "–" and the drive's rear **Link LED is off**):
  - The **speed** is likely incorrect—set to **Automatic**.
  - If issues persist, set **port type** to **Auto Detect**.
- If no connection light is shown on the drive:
  - The **cable may not be seated**. Check it is fully inserted into **Port A** on the tape drive.
  - The **cable may be damaged**. FC cables are delicate; if bent/twisted sharply, replace with a known-good cable.

iSCSI (XTL Ethernet Module)

- In **iSCSI Initiator**: add the portal (module IP), **Connect** targets, make sessions **persistent**.
- No MPIO for tape. Ensure CHAP/ACLs allow access.
- Keep **MTU** consistent end-to-end for jumbo frames.
- Confirm data and management IPs are correct and reachable.
- Ensure Data Ports are separate subnets.

OS visibility tests

If tape drive(s) and/or medium changer are visible to the OS **Common symptoms → likely causes**

- **Drive visible, library is not visible:** Multi-LUN disabled; incorrect zoning/LUN masking; iSCSI session only exposing LUN 0.
- **Software sees library but no barcodes:** Barcode **length/alignment** not matching app expectations; inventory required.
- **Access denied/busy:** Stale **reservations/locks** in application; stop services and clear reservations.
- **Intermittent I/O errors:** Over-length/poor cables; tight bend radius; mixed link speeds; power/grounding issues.

Before contacting support (collect)

- OCP **Service → Library Verify** result and any on-screen error codes.
- RMU **support bundle/logs** (if available).
- OS details: lsscsi/mtx output (Linux) or **Device Manager** screenshots/PowerShell output (Windows).
- HBA/NIC **model, firmware, driver** versions; switch/zoning screenshots (FC) or iSCSI session details.
- Backup application **version** and device scan report.

Performance troubleshooting

Backups touch many components—from the source disks and file system, through the backup server and software, to the tape library. Throughput is limited by the **slowest** element in that chain. Identify the bottleneck, then tune or upgrade it.

Common bottlenecks to review:

- Average file size.
- File system / storage layout.
- Connection from the backup/archive host server to the disks.
- Backup/archive server resources.
- Backup/archive software and method.
- Connection from the host to the library.
- Media (type, condition, environment).

Average File Size

Disks must **seek** to each file before reading. Lots of small files increase seek time and reduce throughput. Calculate average file size: **total data size ÷ number of files**. If the average is **≤ ~64 KB**, consider a **sequential/image/block** backup that captures a whole volume/LUN rather than file-by-file (trade-off: restores may be whole-image or slower for single files).

NOTE File fragmentation will also cause excessive drive seeking, which lowers performance, so ensure that files are regularly defragmented.

File storage system

How data is organised on disk matters. Spreading I/O across multiple disks (e.g., with RAID) lets some disks **seek** while others **read**, improving throughput. Single, non-RAID disks are slowest; high-end arrays are fastest. Converting standalone disks to a suitable RAID level can help.

Connection from the host to disk storage

The host-to-storage link must sustain the tape drive's **streaming rate**. Insufficient bandwidth starves the drive. Use interfaces and link speeds that match your workload; on lower-speed Ethernet–based storage, consider **multiple connections** (properly configured/teamed per vendor guidance).

Backup/archive Server

Ensure enough **CPU** and **RAM** to move data while the backup software and other services run. Monitor during jobs; if resources are saturated, add CPU/RAM or reduce concurrent tasks.

Backup/archive software and method

Each backup method has its own impact on performance, depending on how well it can keep data streaming to the tape drive. In most cases, native applications don't have the features required to maximize performance for LTO tape drives. It is recommended to use a full-featured backup or archive application with this library.

File-by-file backup or archive methods provide the best restore performance if you only need to restore individual files. However, if the average file size is small, file-by-file methods will significantly reduce performance.

Disk image, flash, or sequential backup methods provide the fastest performance because they back up an entire disk, partition, or LUN, which minimizes disk seeking. The disadvantage is that backup and restore operations work on an entire disk, partition, or LUN. You might not be able to back up a subset of files or restore a single file. If you can restore a single file, the restore process will be slow.

Database backup performance will vary based on the model. To improve performance when backing up data from a database:

- Use specific backup agents for the database.
- Use the latest versions of the databases.
- Do not back up individual mailboxes.
- Do not back up specific records or do a record-by-record backup.
- Do not back up when the database is in heavy use.

Connection from the host to the library

Interfaces used with modern LTO drives are rarely the bottleneck, but **bad cables**, **excess length**, or **mismatched settings** can be. Keep within **recommended cable lengths**, use quality, like-for-like cables, and verify link settings (speed/port type/MTU as applicable).

Media

Media type and condition affect performance. For best results, use media that matches the drive generation, retire worn or damaged cartridges, and clean drives when prompted. **LTO-9 and LTO-10** have **tighter environmental tolerances** than earlier generations; operating **outside**—or consistently **near the edge**—of the recommended temperature and humidity ranges can **significantly degrade throughput** and increase error recovery (stop–start streaming). Keep conditions stable and in specifications and allow cartridges to acclimatise before use.

Troubleshooting Table

Power Problems

Problem	Solution
Library does not power on	• Check all power cord connections • Make sure the power button on the front panel is in the ON position • Make sure there is power to the outlet. Try another working outlet • Replace the power cord. • Contact Symply Support
No display messages appear (on the OCP)	• Make sure the power cord is connected • Make sure the power switch is on. • Power cycle the library • Update the library firmware • Contact Symply Support

Tape Movement Problems

Problem	Solution
Tape stuck in drive	• Power cycle the library, allow it to complete initialization, which in rare cases can take as long as 10 minutes, and then retry unloading the tape using the library operator control panel. • Allow the tape drive to complete all operations. This may take as long as ten minutes if you reset or cycle power on the library while the cartridge is positioned at the physical end of the media • Make sure that the backup software is not reserving the slot or preventing the tape drive from ejecting the cartridge. The backup software needs to cancel the reservation and any hold it has on the tape drive. Temporarily disconnecting the library from the host server and power cycling eliminates the host and its software as a problem source. • Contact Symply Support
Tape stuck in storage slot	• See [Removing stuck tapes from slots]

Media Problems

Problem	Solution
Cleaning or data cartridge incompatible with drive	• Make sure you are using data and cleaning cartridges that are compatible with the drive and model of your library. The library automatically unloads incompatible cartridges, the Media Attention LED flashes, and an exclamation mark (!) is displayed in the inventory display for the indicated slot number. • Export the media in order to clear the state
Cannot write to or read from tape.	• Make sure that the cartridge is write enabled (move the write-protect switch to the enabled position). • Make sure you have the appropriate data cartridge for your library model • Make sure you are using an Ultrium cartridge that has not been degaussed. Do not degauss Ultrium cartridges. • Make sure that the cartridge has not been exposed to harsh environmental or electrical conditions and is not physically damaged in any way. • Some backup applications do not read or write to cartridges that were created using a different backup application. In this case, you may have to perform an erase, format, or label operation on the cartridge • Make sure you understand any data protection or overwrite protection schemes that your backup application may be using, which could prevent you from writing to a given cartridge • Retry the operation with a different, known good tape. • Clean the tape drive. See [Cleaning the tape drive] and retry the operation • Contact Symply Support

Cleaning

Problem	Solution
Cannot load the cleaning cartridge	• Make sure you are using an Ultrium universal cleaning cartridge. • Make sure the cleaning cartridge has the correct barcode label • Contact Symply Support

OCP Errors (front panel)

Problem	Solution
"!" in library operator panel inventory display	• See [Operator control panel (OCP) overview] • Contact Symply Support
There is an error code on the LCD	• Look up the error code, try to resolve the failure, and power cycle [Tape library error codes] • Contact Symply Support

Poor Performance

Problem	Solution
	• Try a new cartridge. A marginal cartridge can cause performance problems due to bad spots on the tape requiring retries. • Backing up data that compresses poorly or is already compressed will lower performance. • Check the size of the files. Small file size can impact performance • Check the network bandwidth from the host computer. If you are backing up data over a network, consider comparing to a local-only backup • Make sure the backup server has enough memory to handle the bandwidth of the backup or restore. • Confirm that the backup application and/or operating system is utilizing correct block sizes for transferring data to the tape drives. Refer to the backup application documentation for details. • Clean the tape drive • Contact Symply Support

Media Attention LED Issues

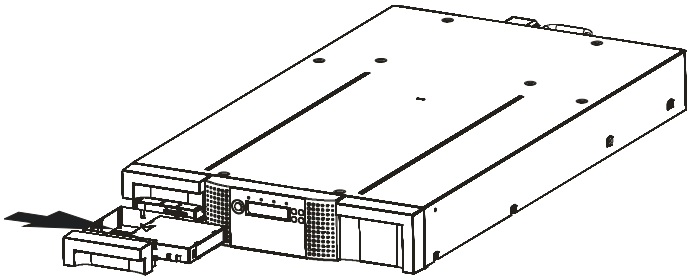
Problem	Solution
Contamination by loose debris.	• Avoid contamination by ensuring that the library is installed in a clean, contamination-free environment. Cartridges should be stored vertically in their plastic cases. Continue cleaning the tape drive as needed.
Non-acclimated media	• A cartridge should be acclimated for at least 24 hours before being used, particularly if it has been stored at a substantially different temperature or level of humidity than the library.
Cartridge is incompatible	• Use only cartridges that are compatible with the drive type. • Make sure you are using an Ultrium universal cleaning cartridge, see Cleaning the tape drive"
Expired cleaning cartridge	• A cleaning cartridge will expire after 50 cleans
Bad/defective/contaminated media	• If the Media Attention LED is cleared and – although the drive has been cleaned - immediately re-displays each time a particular cartridge is reloaded that cartridge should be suspected as being defective. • Export the cartridge and load a known good cartridge. In some cases, a cartridge can be worn out, have a defective Cartridge Memory, or have been formatted as a Firmware Upgrade Cartridge • Any cartridge that is suspected of being defective or contaminated should NOT be reused in any drive. • Any cartridge that has got stuck or jammed in a tape drive should NOT be reused in any drive.
Device not detected on SAS or FC Bus	• Check cabling • Check the host adapter is correctly installed along with correct drivers • Check that the host adapter supports LUN scanning and this feature is enabled • Check that the host adapter supports TLR • Power on device before powering on the host computer • Check that the device has been powered on and is not in an error state.

Service Procedures

Removing stuck tapes from slots

If the Operator Control Panel or the Remote Management Unit is operational:

1) Move the tapes from the drive(s) to the magazines using the **Move Tape** command, or the **Forced Drive Eject** command.
2) Use the magazine removal process to release the magazine and remove it from the library.



To use the operator control panel, see [Unlocking, removing and replacing magazines]. To use the RMU, see [Releasing and replacing magazines].

Removing and replacing a magazine using the OCP

The magazines should be released using the Operator Control Panel (OCP) or the Remote Management Unit (RMU). It is recommended that you release the magazine using the OCP or RMU, however, if the OCP process fails, or if the magazine needs to be removed when the power to the tape library is off, you can manually release the magazines.

This OCP option lets you gain access to the left and right magazine. Access to the magazines requires the use of the **administrative password**.

To remove a magazine:

1. From the **Home** screen, press **Previous/Next** to highlight **Operations** and press **Enter**.
2. Scroll to **Unlock Left Magazine** or **Unlock Right Magazine** and press **Enter**.
3. When prompted, enter the **Administrator PIN**.
4. The display confirms **Left Magazine Unlocked** or **Right Magazine Unlocked**.
5. Grasp the handle and **pull the released magazine straight out** of the library.

While a magazine is out, the OCP shows **Insert Left/Right Magazine** and the library will not perform moves involving that magazine (and, depending on software, may appear “not ready” until reinsertion and inventory complete).

Reinsert the magazine

6. After exchanging tapes, align and **slide the magazine fully in** until it seats and locks.
7. The library automatically **inventories** the magazine; once complete, normal operation resumes.

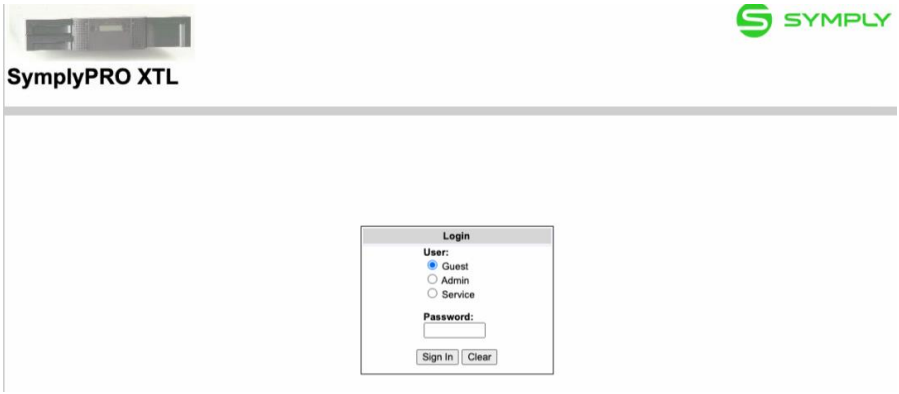
If OCP unlock fails or power is off

- You can perform a **manual release** when required. See [Magazine Emergency Release] in this guide.

> **!** **IMPORTANT** The magazine must only be removed manually in an emergency. Failure to follow normal procedure can cause data loss and equipment damage.

Removing a magazine using Remote Management Interface

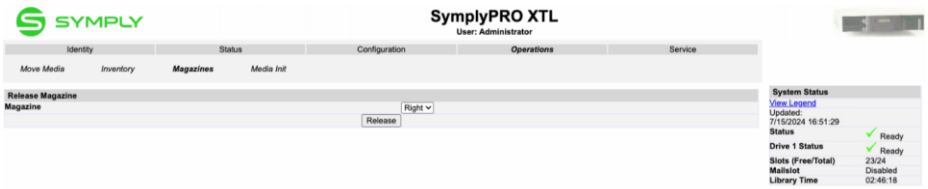
To login, enter the correct password, and press Enter.



Go to Operations > Magazines

This page allows the user to release the right or left magazine from the library.

Operations: Magazines page



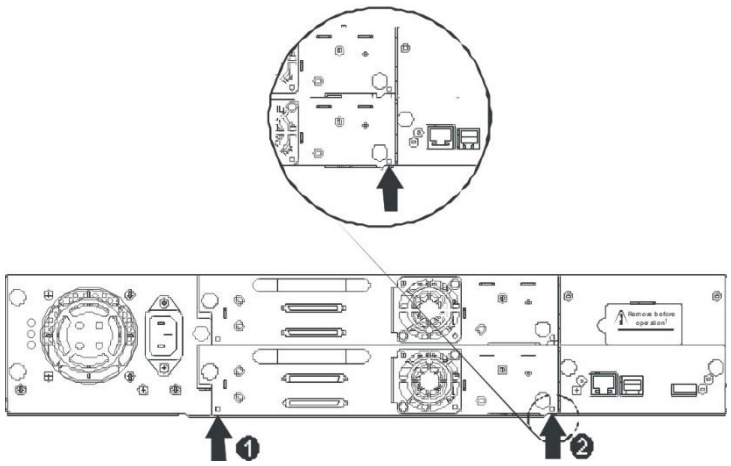
Magazine emergency release

⚠ **WARNING**	**Power must be disconnected.** Always **unplug the AC power cord** before using the manual release. Do **not** insert tools into the chassis while powered.

CAUTION	**Pinch points.** Keep fingers clear of the magazine opening while releasing. Use gentle, steady force—**do not pry**.

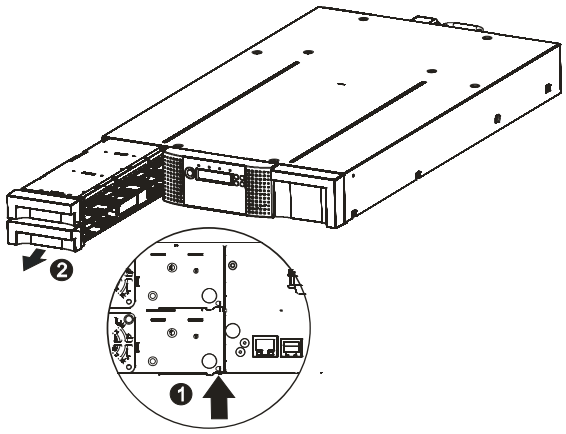
If the OCP/RMU will not unlock a magazine, or the library is powered off, you can manually release the magazines as follows.

1. **Disconnect power.** Turn the library off (if possible) and **unplug the power cord** from the AC outlet/PDU.
2. **Locate the access holes (rear of library).**
    a. Right magazine release
    b. Left magazine release



Number	Description
1	Right magazine release
2	Left magazine release

3. **Release the latch.** Insert the end of a straightened paper clip (or small release pin) into the chosen **access hole**. Press inward until you feel the latch **depress/click**.
    a. While you hold the pin **pressed**, have a second person **pull the corresponding magazine straight out** from the **front** of the library.
    b. Repeat for the other magazine if required.



Number	Description
1	Insert pin into access hole
2	Release and remove magazine

4. **After removal.** Exchange or remove cartridges as needed. When finished, **slide the magazine fully back in** until it seats and locks.
5. **Restore power.** Reconnect the **power cord** and power on the library. Allow it to **inventory** the magazines before starting operations.

If issues persist: If additional cartridges remain inside and cannot be accessed, or you cannot manually release a magazine or drive, **contact Symply Support** for assistance.

Tape library error codes

If an error occurs during operation of the library, the library stops the current operation and displays an error code on the LCD screen. Unless otherwise noted in the [Error Table], try to resolve the error by cycling power to the library and retrying the last operation. If the error persists, contact support personnel Support menu tree.

Example error codes:

```
EVENT -6

A5 F1
```

Where:

- Sequence number –6 indicates the position in sequence list, 0 being the most recent.
- Log shows a load error (code A5 = fan error, sub code F1 = caused by the fan at the back connector plate).

The event log with the library also includes a date stamp for each event. Press Enter to display the associated timestamp in the following format:

```
ddd:hh:mm:ss:HH

where:

ddd: days

hh: hours

mm: minutes

ss: seconds

HH: 1/100 second
```

Tape library error codes table

A description of each error code and possible solution is provided in the following table:

Error Code	Description	User Action
80	Barcode Reader Error, cannot initialize BCR	Retry operation; after several occurrences contact technical support
81	Barcode Reader Error, no response from BCR	Retry operation; after several occurrences contact technical support
82	EEPROM Error, no response from EEPROM (located on robotic controller)	Retry operation; after several occurrences contact technical support
83	Robotic controller generic problem	Reset the unit and retry operation. After several occurrences contact technical support
84	Setting of gripper motor parameters failed	Reset the unit and retry operation. After several occurrences contact technical support
85	Setting of slider motor parameters failed	Reset the unit and retry operation. After several occurrences contact technical support
86	Setting of elevator motor parameters failed	Reset the unit and retry operation. After several occurrences contact technical support
87	Setting of rotation motor parameters failed	Reset the unit and retry operation. After several occurrences contact technical support
88	Setting of sled motor parameters failed	Reset the unit and retry operation. After several occurrences contact technical support

Error Code	Description	User Action
89	Gripper blocked	Run 'Library Health Check', after several occurrences contact technical support
8A	Slider blocked	Run 'Library Health Check', after several occurrences contact technical support
8B	Elevator blocked	Run 'Library Health Check', after several occurrences contact technical support
8C	Rotation blocked	Run 'Library Health Check', after several occurrences contact technical support
8D	Sled blocked	Run 'Library Health Check', after several occurrences contact technical support
8E	Cannot find gripper block within the expected range	Run 'Library Health Check', after several occurrences contact technical support
8F	Cannot find slider block within the expected range	Run 'Library Health Check', after several occurrences contact technical support
90	Cannot find elevator block within the expected range	Run 'Library Health Check', after several occurrences contact technical support
91	Cannot find rotation block within the expected range	Run 'Library Health Check', after several occurrences contact technical support

Error Code	Description	User Action
92	Cannot find sled block within the expected range	Run 'Library Health Check', after several occurrences contact technical support
93	Gripper outside range, Gripper has reached a position beyond the expected range	Run 'Library Health Check', after several occurrences contact technical support
94	Slider outside range, Slider has reached a position beyond the expected range	Run 'Library Health Check', after several occurrences contact technical support
95	Elevator outside range, Elevator has reached a position beyond the expected range	Run 'Library Health Check', after several occurrences contact technical support
96	Rotation outside range, Rotation has reached a position beyond the expected range	Run 'Library Health Check', after several occurrences contact technical support
97	Sled outside range, Sled has reached a position beyond the expected range	Run 'Library Health Check', after several occurrences contact technical support
98	Cartridge present sensor not found	Run 'Library Health Check', after several occurrences contact technical support
99	Sled home sensor not found	Run 'Library Health Check', after several occurrences contact technical support
9A	Rotation home sensor not found	Run 'Library Health Check', after several occurrences contact technical support

Error Code	Description	User Action
9B	Sled position sensor (prism sensor) not found,	Run 'Library Health Check', after several occurrences contact technical support
9C	Gripper range out of specification	Run 'Library Health Check', after several occurrences contact technical support
9D	Slider range out of specification	Run 'Library Health Check', after several occurrences contact technical support
9E	Elevator range out of specification	Run 'Library Health Check', after several occurrences contact technical support
9F	Rotation range out of specification	Run 'Library Health Check', after several occurrences contact technical support
A0	Sled range out of specification	Run 'Library Health Check', after several occurrences contact technical support
A1	Open Mail Slot (Import/Export Element) failed	Retry operation, after several occurrences contact technical support
B0	Robotic controller response timeout. A command did not complete in the required amount of time.	Reset the unit and retry operation. After several occurrences contact technical support
B1	NACK received from robotic controller	Reset the unit and retry operation. After several occurrences contact technical support

Error Code	Description	User Action
B2	Robotic controller communication failed	Reset the unit and retry operation. After several occurrences contact technical support
B3	Robotic controller urgent stop due to a released magazine	Check if magazine are completely inserted and retry operation. After several occurrences contact technical support
B4	Cartridge did not transport completely Gripper could not pick cartridge and CP sensor not present After pushing the cart CP sensor still present	
B5	Robotic controller doesn't respond on command	Reset the unit and retry operation. After several occurrences contact technical support
C0	Network initialization failed	Check network cable and network configuration. If the error recurs, contact technical support
C1	Telnet Interface initialization failed	Check network cable and network configuration. If the error recurs, contact technical support
C2	Webserver initialization failed	Check network cable and network configuration. If the error recurs, contact technical support
C6	Ping command did not reached target	Check network cable and network configuration. If the error recurs, contact technical support

Error Code	Description	User Action
C7	Cannot Upgrade from USB	Retry of Firmware upgrade, if not successful contact technical support
D0	ROM error. ROM checksum incorrect	Retry of Firmware upgrade, if not successful contact technical support
D1	RAM error. Power on Self Test (POST) has failed,	Retry operation; after several occurrences contact technical support
D2	NVRAM error. R/W operation to NVRAM has failed	Retry operation; after several occurrences contact technical support
D3	CTC Error. Timer unit has failed during POST.	Retry operation; after several occurrences contact technical support
D4	UART Error. Frame overrun or Parity Error on serial Interface.	Retry operation; after several occurrences contact technical support
D5	Display Error Communication to display failed	Retry operation; after several occurrences contact technical support
D6	Memory Error, Stack and heap overflow.	Retry operation; after several occurrences contact technical support
D7	Fatal system error	Retry operation; after several occurrences contact technical support
D8	Data base error	Retry operation; after several occurrences contact technical support
D9	No SCSI IC detected	Retry operation; after several occurrences contact technical support

Error Code	Description	User Action
DA	In Library Verify Test the barcode reader has read different barcode data for the same cartridge label	Check barcode label on scratch cartridge and run Library Verify Test again. If the error recurs, contact technical support
DB	Warning event! See section below	
DC	I²C Bus Failure	Retry operation; after several occurrences contact technical support
DD	Warning event! See section below	
DE	Warning event! See section below	
DF	Warning event! See section below	
E0	Incompatible magazine detected	Check type of lowest left magazine
F0	Drive Overtemperature Condition The subcode indicates which drive is affected Example: Subcode 01: drive #1	Check ambient temperature conditions and check all fans, after several occurrences contact technical support
F1	Drive Communication Error, Library controller has lost communication to drive The subcode indicates which drive is affected Example: Subcode 01: drive #1	Retry operation; if not successful contact technical support

Error Code	Description	User Action
F2	Drive Sled not present The subcode indicates which drive sled is affected Example: Subcode 01: drive sled #1	Retry operation; if not successful contact technical support
F3	Drive Hardware Error The subcode indicates which drive is affected Example: Subcode 01: drive #1	Cycle Power, after several occurrences contact technical support
F4	Drive Load Timeout Drive has run in a timeout while loading a tape The subcode indicates which drive is affected	Retry operation; if not successful contact technical support
F5	Drive Unload Timeout Drive has run in a timeout while unloading a tape The subcode indicates which drive is affected	Retry operation; if not successful contact technical support

Warranty Information

The SymplyPRO system comes with a limited three (3) year warranty, but with the option to purchase an upgrade to a five (5) year warranty.

Warranty and technical support service can be accessed at www.support.gosymply.com

SYMPLY (“the Company”) warrants its products will be free from defects in material and workmanship for three years from the date of purchase of the product.

This Limited Warranty only applies to the original purchaser of the product and is not transferable to subsequent owners.

This Limited Warranty is void if the product is subjected to abuse, misuse, abnormal, excessive or improper conditions (including, without limitation, attempts to utilize the product under any condition that exceeds its design capabilities, or any other use beyond the use specified in any product instructions), or if the product is altered or modified in any manner. This Limited Warranty does not cover damage to the product due to external causes (including, without limitation, accident, liquids, chemicals, oxidation, corrosion, or exposure to the elements), or problems caused by use of parts and components not supplied by the Company.

The sole remedy under this Limited Warranty is product repair, replacement, or refund of the purchase price, at the sole discretion of the Company. In order to make a claim the purchaser must ship the product to the Company at the purchaser’s expense, together with proof of purchase and a description of the nature of the defect. The Company will not be held responsible for any product that is damaged or lost in transit to the Company.

PURCHASER AGREES THAT SYMPLY SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, SECONDARY OR CONSEQUENTIAL DAMAGES, OR FOR THE DAMAGE, INJURY, OR LOSS OF LIFE, PROPERTY OR OTHER PRODUCTS THE PURCHASER CONNECTS TO THE PRODUCT, OR LOSS OF REVENUE OR DATA, WHETHER BASED ON CONTRACT, TORT, PRODUCTS LIABILITY OR ANY OTHER LEGAL THEORY, EVEN IF THE DAMAGE, INJURY OR LOSS IS CAUSED BY THE NEGLIGENCE OR OTHER FAULT OF SYMPLY. THE FOREGOING WARRANTY IS THE ONLY WARRANTY MADE BY SYMPLY, AND SYMPLY MAKES NO OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

This Limited Warranty shall be governed by the laws of England and the parties hereby submit to the exclusive jurisdiction of the English courts for that purpose. If any provision is declared void or unenforceable by a court of competent jurisdiction with respect to particular circumstances, such provision shall remain in full force and effect in all other circumstances. If any provision is declared entirely void or unenforceable by a court of competent jurisdiction all other provisions of these Terms and Conditions shall remain in full force and effect.