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actiLib Autoloader 1U

Quick Start Guide

September, 2009

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2 General Warnings

	DANGER	**High voltage!** **Risk of electric shock.** - Do not remove cover (or back). No user-serviceable parts inside. - Refer servicing to qualified service personnel.

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

- Read this manual
- Do not open Top Cover
- No servicing except that which is described in this manual
- Ensure proper ventilation
- Keep away from heat sources
- Use proper power sources
- Properly routed power cable

Precautions

- Do not expose the unit to moisture. The operating temperature for this unit is between 10°C (50°F) and 35°C (95°F).
- Use the unit on a firm level surface free from vibration
- Do not place anything on top of the unit that weighs more than 15 kg.

Product warranty Caution

The warranty for the tape loader shall not apply to failures of any unit when:
- The tape loader is repaired or modified by anyone other than the manufactures personnel or approved agent.
- The tape loader is physically abused or used in a manner that is inconsistent with the operating instructions or product specification defined by the manufacturer.
- The tape loader fails because of accident, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, modification, or service by anyone other than the factory service center or its approved agent.
- The tape loader is repaired by anyone, including an approved agent, in a manner that is contrary to the maintenance or installation instructions supplied by the manufacturer.
- The manufacturer's serial number tag is removed.
- The tape loader is damaged because of improper packaging on return.

- Unauthorized modifications to the unit configuration by the customer may result in loss of guarantee by the vendor.

Rack stability

⚠️	**WARNING**	**Weight!** **To reduce the risk of personal injury or damage to equipment** • Extend leveling feet to the floor. • Ensure that the full weight of the rack rests on the leveling feet. • Install stabilizing feet on the rack. • In multiple-rack installations, secure racks together. • Extend only one rack component at a time. Racks may become unstable if more than one component is extended

3 Unpacking the tape loader

Before you begin, clear a work surface to unpack the loader. Select an open 1U rack location allowing easy access to the host server and an easily accessible power outlet.

☞ **IMPORTANT**   If the temperature in the room where the loader will be installed varies by 15º C (30º F) from the room where the loader was stored, allow the loader to acclimate to the surrounding environment for at least 12 hours before unpacking it from the shipping container.

Unpacking the loader:
1. Before opening and removing the loader from the box, inspect the container for shipping damage. If you notice any damage, report it to the shipping company immediately.
2. Open the box.
3. Carefully remove the shipping materials from the top of the loader (see Figure). Remove the accessory package (if present) and set aside.
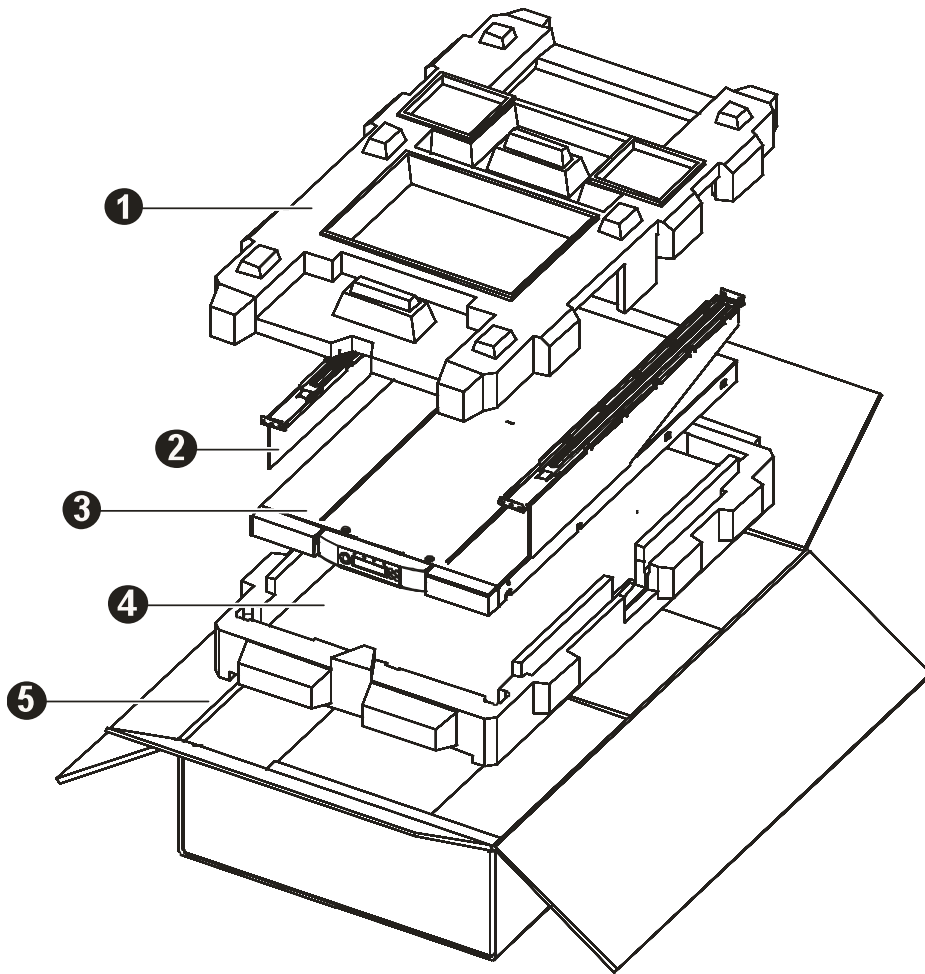4. Remove the two rack rails (if included) and set aside.

Figure 1 Unpacking the loader

Number	Description
1	Top shell
2	Rack mount Kit
3	Unit
4	Bottom shell
5	Box

Table 1 Unpacking the loader

5. Lift the loader out of the carton and remove the bag from the loader. Save the packaging materials for future use.

☞ **IMPORTANT**   Do not place the loader on either end or sides as this may damage the loader.

3.1   Identifying product components

Confirm that you have received the following:

- Loader
- Terminator (not in all configurations)
- SCSI cable (not in all configurations)
- Power cord (not in all configurations)
- Rack mount kit
- Quick Start Guide

3.2   Remove the shipping lock

☞ **IMPORTANT**   The shipping lock, which prevents the robotic transport mechanism from moving during shipment, must be removed before the loader is powered on.

The shipping lock is held in place with a label and is located in the top center of the loader. After the shipping lock is removed, it should be stored on the rear panel right side (next to power connector) of the loader for future use.

To remove and store the shipping lock:

1. Remove the yellow label that is securing the lock to the top of the loader, and then remove the lock (see Figure 2).
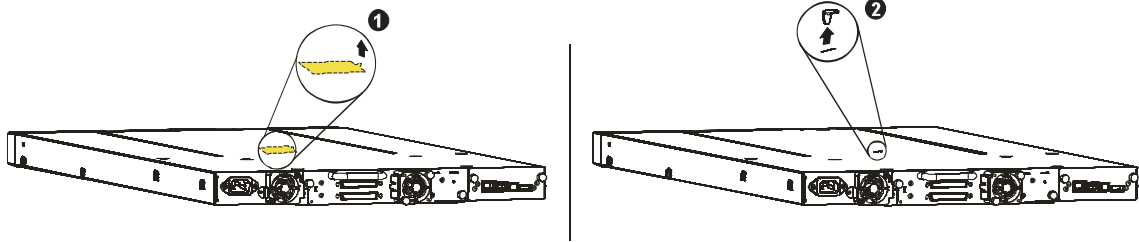
Figure 2 Shipping lock and label

2. Store the shipping lock next to power supply (see Figure 3).

👉 **IMPORTANT**   If you need to transport the loader, it is recommended that the shipping lock and label is replaced on the top cover
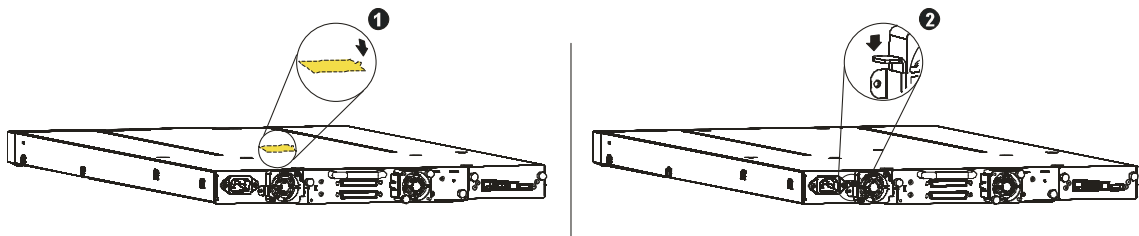

Figure 3 Shipping lock next to power supply

3.3   Rack mounting the tape loader

The loader easily installs into a standard 19" rack system taking up 1U of space.
The actiLib Autoloader 1U weighs 13.1 kg (29 lbs) with 8 cartridges

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⚠️ **WARNING**   **Weight!**
Risk of personal injury or damage to the loader.

- always remove all tapes to reduce the overall weight of the loader
- observe local health and safety requirements and guidelines for manual material handling

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Required tools:
- #3 Phillips screwdriver
- T10 Torx screwdriver

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

To install the loader:
1. Determine the location in your rack for your loader to be installed and, using a pencil, mark the location on each vertical rail in your rack.
2. Using the appropriate M6 screws for your rack type, and a #3 Phillips screwdriver, secure one rail to each side of the rack in your chosen rack location. Secure both the front and back of each rail to

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the rack. The rails extend to fit a variety of rack depths. The correct orientation of the left and right rails is shown in Figure 4.
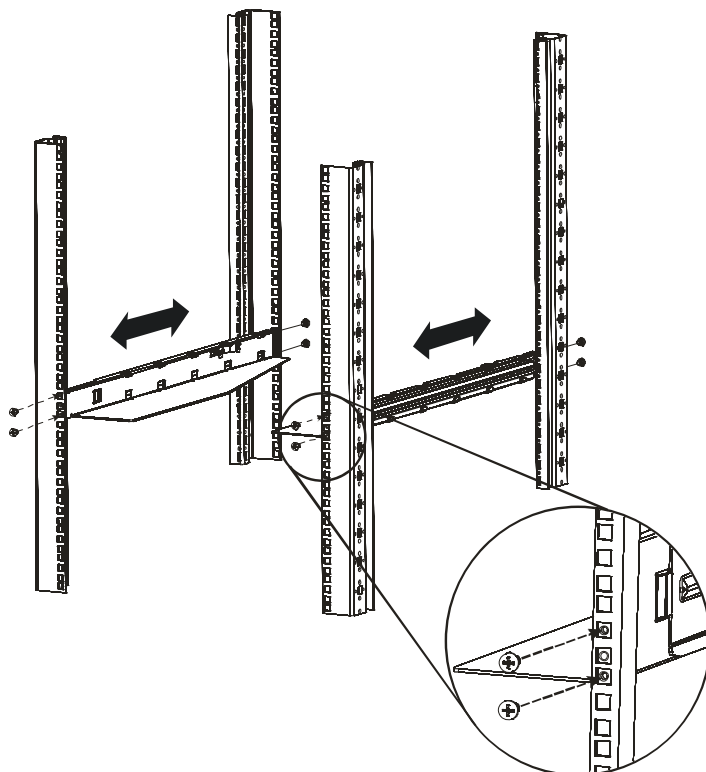

Figure 4 Installing the rails into the rack

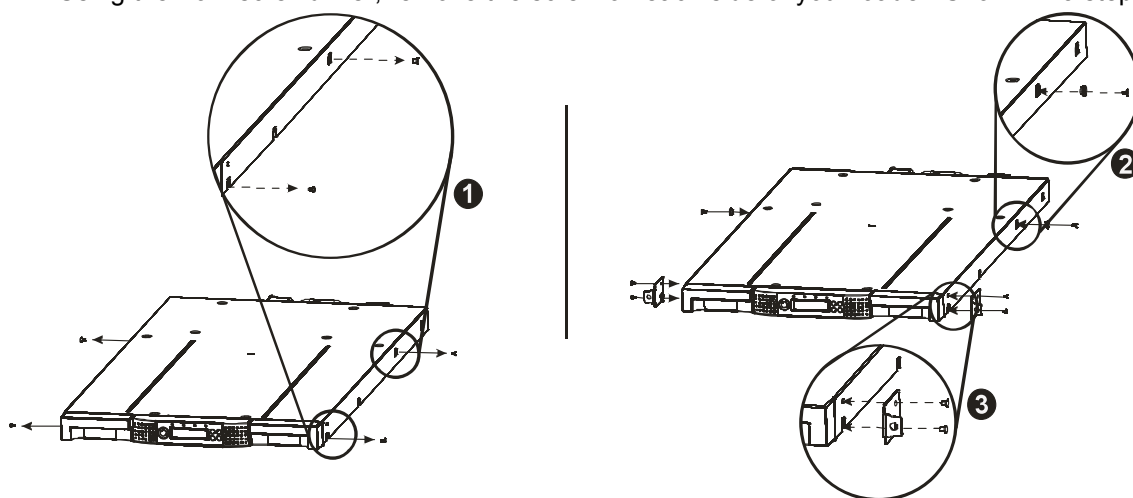1. Using the Torx screwdriver, remove the screw on each side of your loader. Shown in 5 step1.

Figure 5 Installing the mounting brackets and guide pulleys

2. Install the loader guide pulleys on each side of the loader using the 2 Torx screws included in the rack kit (see Figure 5 step 2).

Install the mounting brackets of the loader using the 4 Torxs screws included in the rack kit. Shown in Figure 5 (step 3).

3. With loader guide pulleys and mounting brackets installed, slide the loader onto the rails.
4. Secure the loader to the rack (see Figure 6) using a 3# Phillips screwdriver placed through the small holes in the mounting bracket to tighten the M5 screw on each side of the loader.
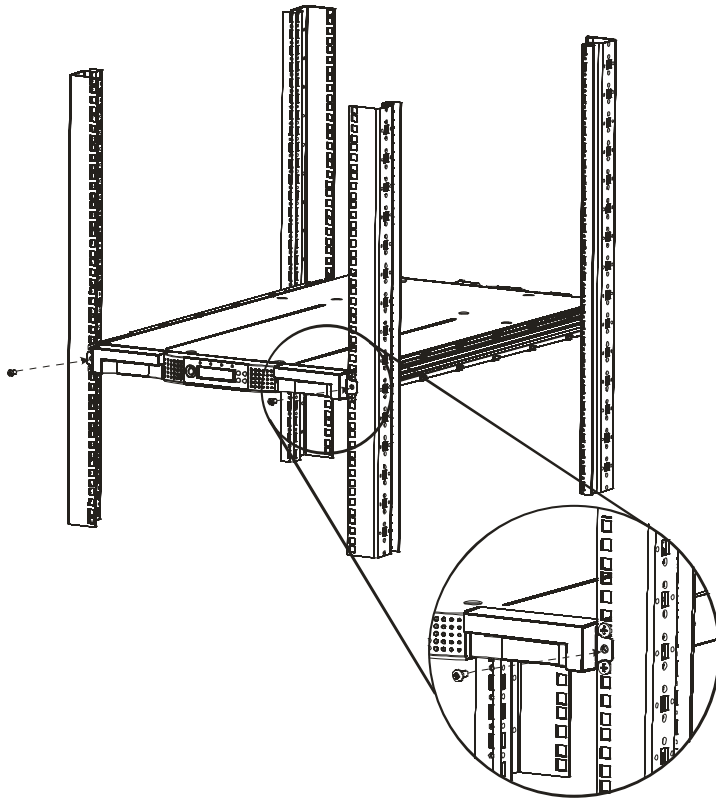
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Figure 6 Securing the loader to the rack

4   Front panel

The front of the actiLib Autoloader 1U is used to access the power button, operator control panel (OCP), left and right magazines, LED's, and the mail slot.
The Operator panel consists of an LCD display with a 2x16 character matrix, 4 push button switches and a power on/off button. The circuitry to illuminate external LED's has also been incorporated into the current level of hardware
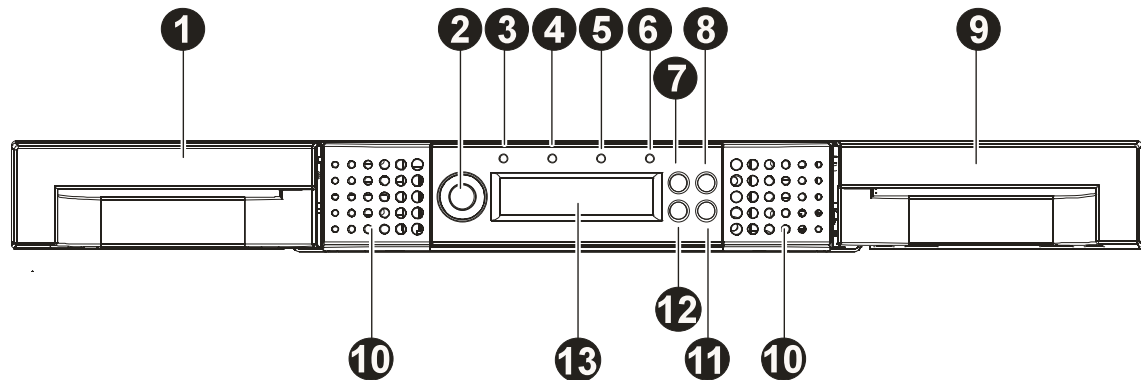
Figure 7 Front panel

Number	Description
1	Left magazine with Mail slot
2	Power button. Pressing the button will initiate a controlled Power Down of the unit (soft power down
3	LED "READY" (Green). Illuminated when power is on. Blinking when there is tape or loader robotics activity.
4	LED "CLEAN" (Amber). Illuminated when the tape drive has determined that a cleaning cartridge should be used. Cleaning is only necessary when the loader directs you to do so. Additional cleaning is not necessary.
5	LED "ATTENTION" (Amber). Illuminated if the loader has detected a condition that requires attention by the operator.
6	LED "ERROR" (Amber). Illuminated if an unrecoverable tape drive or loader error occurs. A corresponding error message displays on the LCD screen (see for more information).
7	Control key "UP" button The UP button is used to navigate through menu items.
8	Control key "CANCEL" button [X]

	The CANCEL button is used to cancel a user action and return to the last menu item.	
9	Right Magazins	
10	Air vents	
11	Control key **"DOWN"** button [<] The PREVIOUS button is used to navigate backward through menu items.	
12	Control key **"ENTER"** button [↵] The ENTER button is used to go to a sub menu or execute an action.	
13	Front panel "OCP" display, consisting of 2x16 characters The OCP screen displays actions and status information, menu items or error messages equivalent to the operation mode.	

Table 2 Front panel overview

4.1 Rear panel

The rear of the tape loader provides access to SCSI connectors, tape drive bays, the power connector, Ethernet, serial and the USB port. Figure 8 show the rear panel of a loader with a half height LTO drive.
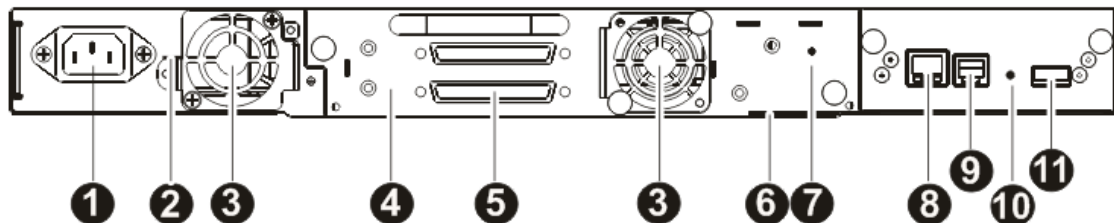

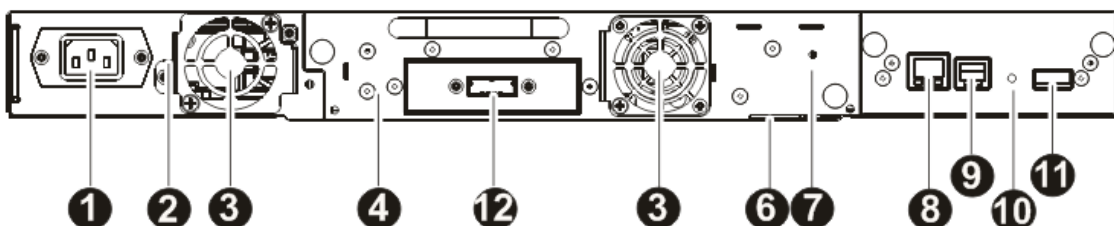**Figure 8 Rear panel with a SCSI tape drive**
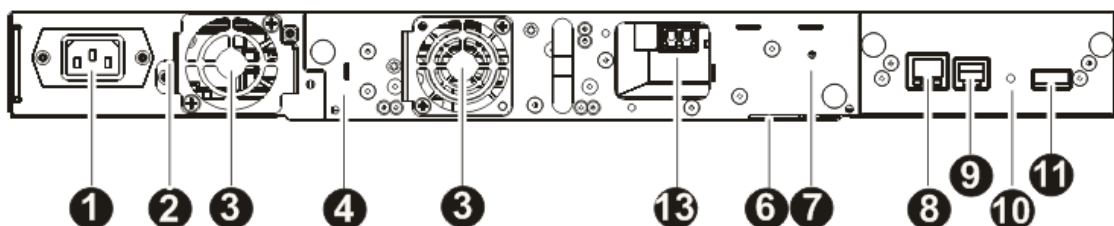

Figure 9 Rear panel with a SAS tape drive

Figure 10 Rear panel with a Fibre channel tape drive

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Number	Description
1	Power connector: The loader requires a 110/220 volt AC power connection
2	Shipping lock (storage location)
3	Fan vent
4	Tape drive sled
5	68-pin HD SCSI connectors
6	Product label foil
7	Tape Drive LED
8	Ethernet port
9	Serial port
10	Controller LED
11	USB port (Host)
12	SAS connectors
13	Fibre channel connectors

Table 3 Rear panel overview

5 Labeling tape cartridges

Attaching a barcode label to each tape cartridge enables the library and application software to identify the cartridge quickly, thereby speeding up inventory time. Make it a practice to use barcode labels on your tape cartridges.

IMPORTANT: *The misuse and misunderstanding of bar code technology can result in backup and restore failures. To ensure that your bar codes meet manufactures quality standards, always purchase them from an approved supplier and never print bar code labels your self.*
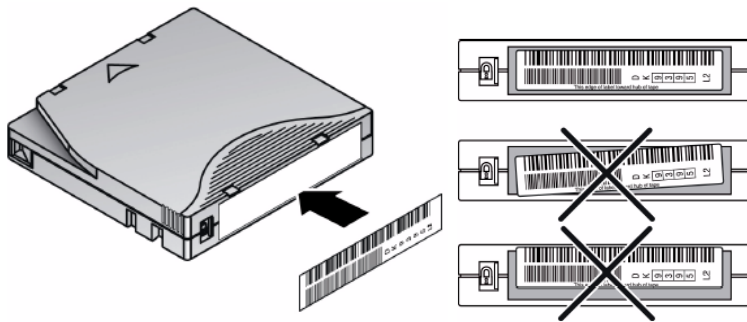

Figure 11 Ultrium tape cartridge and proper bar code label placement

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

	Number	Description
	1	Write-enabled
	2	Write-protected
	3	Write-protect switch
	4	Barcode label
	5	Insertion arrow

Figure 12 Write-protecting the Ultrium data cartridge

6 Magazines

Cartridges are stored in magazines. Up to 4 cartridges can be stored in each magazine. Magazines may be removed and inserted individually.

The actidata autoloader 1U 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.

6.1 Inserting tape cartridges into a magazine

1. Unlock the magazines and remove it from the loader
   - Use the OCP
   - Use the RMU
2. Insert cartridge in the magazines
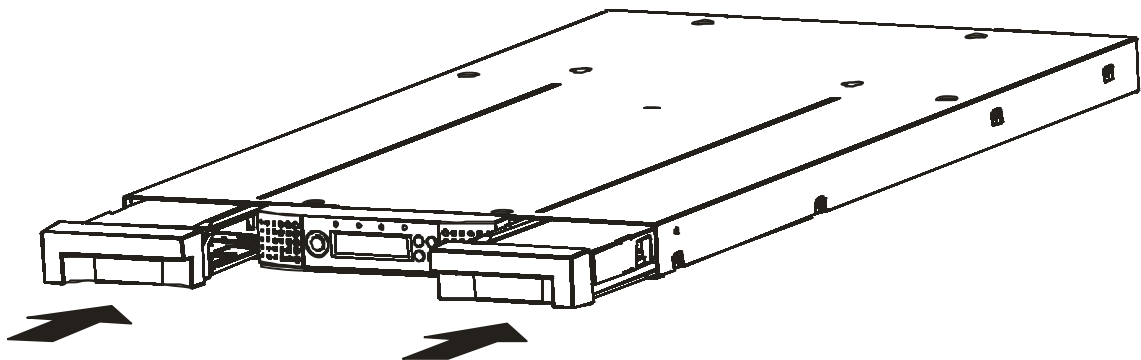3. Put the full magazines back to the tape loader

Figure 13 Insert magazines

6.2 Removing and replacing a magazine using the OCP

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

The magazines should be released using the Operator Control Panel (OCP) or the Remote Management Unit (RMU). It is recommended 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 loader 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 may require the use of the Administrative password.

6.3   Slot numbering

The slot numbering scheme is shown in Figure 14 for the left magazine and for the right magazine.
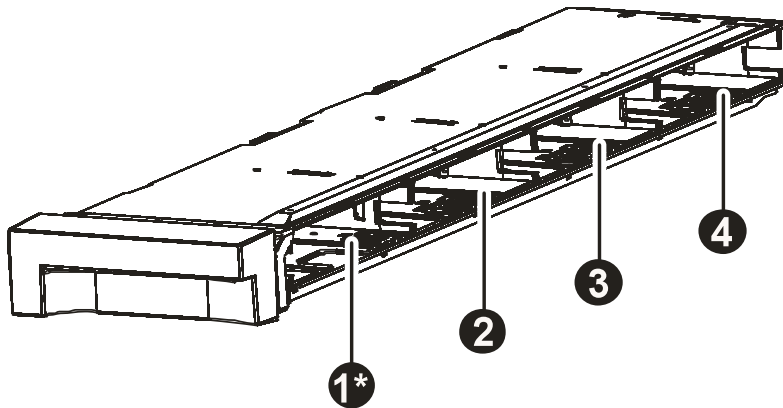

Figure 14 Slot numbering left magazine with mail slot

Number	Description
1*	Mail slot
2	LTO Slot
3	LTO Slot
4	LTO Slot

Table 4 Slot numbering, left magazine

6.4   Mailslot

Mailslots are used to import/export individual cartridges without interrupting library operation. The command to open the mailslot may be denied if the robotics is busy with some operation. In that case *„Busy"* is displayed and the command has to be repeated once the robotics operation is finished.

7 Connecting the Library

7.1 SCSI installation:

1) Power-off the unit and the host system before plugging in the SCSI cables. If your loader includes SCSI tape drives, connect the SCSI cables to the connectors on the unit and to the host.
SCSI bus. Secure the cable with the thumbscrews on the connectors.
2) Terminate the last device on the SCSI bus
using the appropriate SCSI terminator.
3) Connect a cable between the first drive on the SCSI bus and the host. NOTE: There are limitations to the length of the SCSI cable. In typical installation, the total cable length should NOT exceed 9 meters / 30 feet.

7.2 SAS installation:

If your loader includes tape drives with SAS interface, connect SAS cables to the tape drives.
Attach one end of the SAS cable to the SAS port on the unit and the other end of the cable to the host.

7.3 Fibre-channel installation:

If your loader includes fibre channel tape drives, connect fibre cables to the unit and the other end of the cable to the host.

7.4 Configuring the library:

1) Connect your Ethernet cable to the Ethernet port at the rear of the library. The Ethernet connection allows use of the Web Client.
2. Connect a power cord to the power connector at the rear of the library. US and European power cords are supplied with the library.
3. Power-on the library.
4) Power up the host system.
5) Verify that each host can communicate with the library's tape drives.

8 Power ON/OFF the library

Part of the operator control panel is the Power On/Off button. Pressing this button will initiate a controlled Power Down of the unit (soft landing). 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 has to press Cancel within the first 3 seconds

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