

**ACL 4/52 Automated Tape Library
for DLT Cartridges**

Operator's Guide

6211222-05

Ver. 5, Rel. 0

Quantum. | **ATL**

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Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

Operation of this equipment in a residential area may cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

This device 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.

INDUSTRY CANADA (DIGITAL APPARATUS) Interference-Causing Equipment Standard ICES-003 Issue 2

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

CISPR-22 WARNING!

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

ACHTUNG!

Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmassnahmen verantwortlich ist.

ATTENTION!

Ceci est un produit de classe A. Dans un environnement domestique, ce produit peut causer des interférences radioélectriques. Il appartient alors à l'utilisateur de prendre les mesures appropriées.

NOTICE FOR USA AND CANADA ONLY

If shipped to USA, use the UL LISTED power cord specified below for 100-120 V operation. If shipped to Canada, use the CSA CERTIFIED power cord specified below for 100-120V operation.

Plug Cap	Parallel blade with ground pin (NEMA 5-15P configuration)
Cord	Type: SJT, three 16 AWG (1.5 mm ²) or 18 AWG (1.0 mm ²) wires
Length	Maximum 15 feet (4.5m)
Rating	Minimum 10 A, 125 V

ATTENTION

LIRE LA REMARQUE DANS LE MODE D'EMPLOI.

REMARQUE

CETTE REMARQUE NE CONCERNE QUE LES ÉTATS-UNIS ET LE CANADA.

En cas d'envoi aux États-Unis, utiliser le cordon d'alimentation CERTIFIÉ UL et convenant pour 100-120 V.

En cas d'envoi au Canada, utiliser le cordon d'alimentation CERTIFIÉ CSA et convenant pour 100-120 V.

Fiche	Broches parallèles avec une broche de mise à la terre (configuration NEMA 5-15P)
Cordon	Type: SJT, trifilaire 16 AWG (1.5 mm ²) ou 18 AWG (1.0 mm ²)
Longeur	Maximum 15 pieds (4.5m)
Capacité	Minimum 10 A, 125 V

LASER STATEMENT

Class 1 Laser Product

CAUTION: With all panels and enclosures in place, this product is rated as a Class I laser product. The bar code scanner inside this product, however, is a Class II laser. Avoid exposure to the laser light emitted from the bar code scanner. Do not stare into the beam.

CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous exposure.

Laser Klasse 1

VORSICHT: Dieses Produkt Enthdlt Einen Laser Der Kategorie II. Laserstrahlen - Der Strichcode-scanner Gibt Laserstrahlen aus. VERMEIDEN SIE jeden Blickkontakt und direkten kvrperlichen Kontakt mit diesen Strahlen.

VORSICHT: Ein nicht ordnungsgemd_er (siehe hier enthaltene Anweisungen) Einsatz bzw. Dnderungen der Betriebsleistung kvnnen einen gesundheitsgefhdrenden Kontakt zur Folge haben.

Appareil à Laser de Classe 1

ATTENTION: Ce produit émet de la classe laser II. Rayonnement laser - NE PAS fixer des yeux le rayon. Éviter les expositions - Le rayonnement laser est émis à partir du lecteur optique de code barre.

ATTENTION: L'utilisation de contrôles ou d'ajustements de performance des procédures autres que ceux indiqués ici peut entraîner une exposition dangereuse.

Producto Láser de Clase 1

¡**ATENCIÓN!** Este producto contiene laser de clase II. Luz de laser - NO mire el rayo. Evite el contacto con la luz: la luz de laser se emite desde el explorador de código de barras.

¡**ATENCIÓN!** El uso de los controles o ajustes para realizar procedimientos que no son especificados puede provocar una situación peligrosa.

Luokan 1 Laserlaite

ATTENZIONE: Questo prodotto emette una luce laser di Classe II. NON guardare il fascio di luce ed evitare di esporsi alla fonte del laser. Il fascio di luce laser h emesso dal dispositivo di scansione del codice a barre.

ATTENZIONE: L'uso di comandi o regolazioni per eseguire le procedure che non siano quelli specificati in questa documentazione pur causare rischi all 'incolumit' delle persone.

BATTERY STATEMENT

Caution

The Dallas Semiconductor DS1230AB-200 component on the robotic controller board inside this product contains a lithium battery. Lithium is a hazardous material that must be disposed of in accordance with local, state, and federal law.

Forsigtig

Båndbiblioteket indeholder et lithiumbatteri. Dallas Semiconductor DS1230AB-200 på robotkontrolltavlen indeholder et lithiumbatteri. Lithium kan anses for at være et sundhedsfarligt materiale. Kassér dette batteri i overensstemmelse med lokale og nationale lovbestemmelser.

Huomautus

Nauhakirjastossa on litiumparisto. Robottiohjainkortin Dallas Semiconductor DS1230AB-200-puolijohteessa on litiumparisto. Litium voidaan luokitella vaaralliseksi aineeksi. Pariston hävittämisessä on noudatettava viranomaisten antamia ohjeita ja määräyksiä.

Attention

La bibliothèque de bande contient une pile au lithium. Le Dallas Semiconductor DS1230AB-200 sur la carte robotique contrôleur contient une pile au lithium. Le lithium peut être considéré comme matériau dangereux. Jeter cette pile conformément aux lois locales, d'état et fédérales.

Achtung!

Die Bandbibliothek enthält eine Lithiumbatterie. Der Halbleiter Dallas Semiconductor DS1230AB-200 auf dem Roboter-Controller enthält eine Lithiumbatterie. Lithium gilt als Schadstoff. Bei der Entsorgung dieser Batterie alle entsprechenden kommunalen, staatlichen und bundesweiten Vorschriften beachten!

Attenzione

La libreria a nastro magnetico contiene una batteria al litio. Il semiconduttore Dallas Semiconductor DS1230AB-200 sulla scheda controller robotico contiene una batteria al litio. Il litio può essere considerato un materiale pericoloso. Eliminare queste batterie in conformità alle normative locali e statali vigenti.

Forsiktig

Kassettbiblioteket inneholder et litiumbatteri. Enheten Dallas Semiconductor DS1230AB-200 på robotkontrollkortet inneholder et litiumbatteri. Litium kan anses som et farlig materiale. Batteriet skal kastes i henhold til lokal og nasjonal lovgivning.

Precaución

La biblioteca de cintas contiene una pila de litio. El semiconductor Dallas Semiconductor DS1230AB-200 en el tablero controlador robótico contiene una pila de litio. El litio puede considerarse como un material peligroso. Deseche esta pila de acuerdo con las leyes municipales, estatales y federales.

Varning!

Magnetbandsbiblioteket innehåller ett litiumbatteri. Dallas Semiconductor DS1230AB-200 på robotstyrkortet innehåller ett litiumbatteri. Litium kan anses vara ett farligt material. Kassera detta batteri i enlighet med lokala och statliga lagar och förordningar.

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Preface

Audience

This document was written for operators of the ACL 4/52 Automated Tape Library (library).

Purpose

This book contains a brief description of the library, discussions of the operator accessible components, operating instructions and troubleshooting procedures.

Document Organization

Following is a brief description of chapter contents.

- Chapter 1, “Library Overview,” contains a brief description of the library and detailed discussions of the operator accessible components.
- Chapter 2, “Operating Procedures,” provides procedures for applying/removing library power, inserting/removing tapes through the load port, manually unloading a tape cartridge and procedures for all functions associated with the Control Panel Menu Mode.
- Chapter 3, “Operator Troubleshooting,” provides explanations of status messages shown in the Control Panel Status Display Area as well as the associated action necessary (if any) to rectify specific problems. This section allows you to diagnose problems and determine the extent of repair necessary.

Notational Conventions

This manual uses the following conventions:

Caution: Cautions indicate potential hazards to equipment and are included to prevent damage to equipment.

Note: Notes emphasize important information related to the main topic.

Warning: Warnings indicate potential hazards to personal safety and are included to prevent injury.

This manual uses the following:

- Right side of the library — Refers to the right side as you face the component being described.
- Left side of the library — Refers to the left side as you face the component being described.
- *b* — All binary numbers are succeeded by “b.”
- *h* — All hexadecimal numbers are succeeded by “h.”
- Error or attention conditions are represented in parenthesis that translate as follows:

(SK=S ASC=AA ASCQ=QQ)

where:

S — hexadecimal sense key value

AA — hexadecimal additional sense code

QQ — hexadecimal additional sense code qualifier

Related Documents

Documents related to the ACL 4/52 are shown below:

ACL 4/52 Documentation

Document Number	Document Title	Document Description
6211221	ACL 4/52 Facilities Planning and Installation Guide	This guide describes facility preparation and provides the procedures for first-time installation of the library.
6211224	ACL 4/52 Diagnostic Software User's Manual	This manual provides procedures for installing and using the ACL 4/52 Diagnostic Software.
6211225	ACL 4/52 Software Interface Guide	This guide is for software engineers and programmers developing applications that control the ACL 4/52 library.

Refer to the appropriate product manual(s) for information about your tape drive and cartridges.

SCSI-2 Specification

The SCSI-2 communications specification is the proposed American National Standard for information systems, dated March 9, 1990. Copies may be obtained from:

Global Engineering Documents
15 Inverness Way, East
Englewood, CO 80112
(800) 854-7179 or (303) 397-2740

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Chapter 1

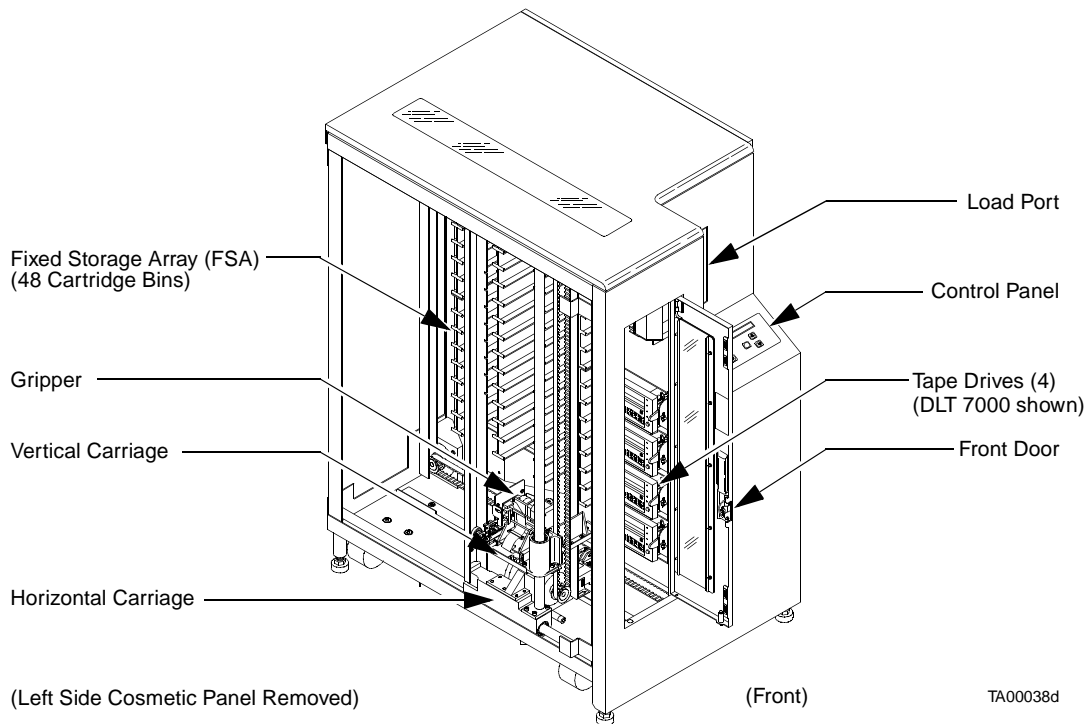
Library Overview

This section contains a brief description of the library and a discussion of each of the operator-accessible components.

Library Description

The ACL 4/52 library (figure 1) is the automated storage and retrieval component of an automated tape library system. It accommodates either four DLT 2000, four DLT 4000, or four DLT 7000 tape drives and is capable of storing a maximum of 48 Digital Linear Tape (DLT) cartridges in a Fixed Storage Array (FSA). An operator-accessible load port at the front of the library can hold an additional four tape cartridges for a total of 52. A host computer communicates with the library through a SCSI interface using the SCSI-2 medium changer command set. In a typical operation, the host commands the robotics to transfer tape cartridges between storage bins (in the FSA), tape drives, and the load port. Each time a tape cartridge is transferred, a gripping mechanism is moved to the tape cartridge location where it “picks” the tape cartridge, then moves to and “places” the cartridge in the new location.

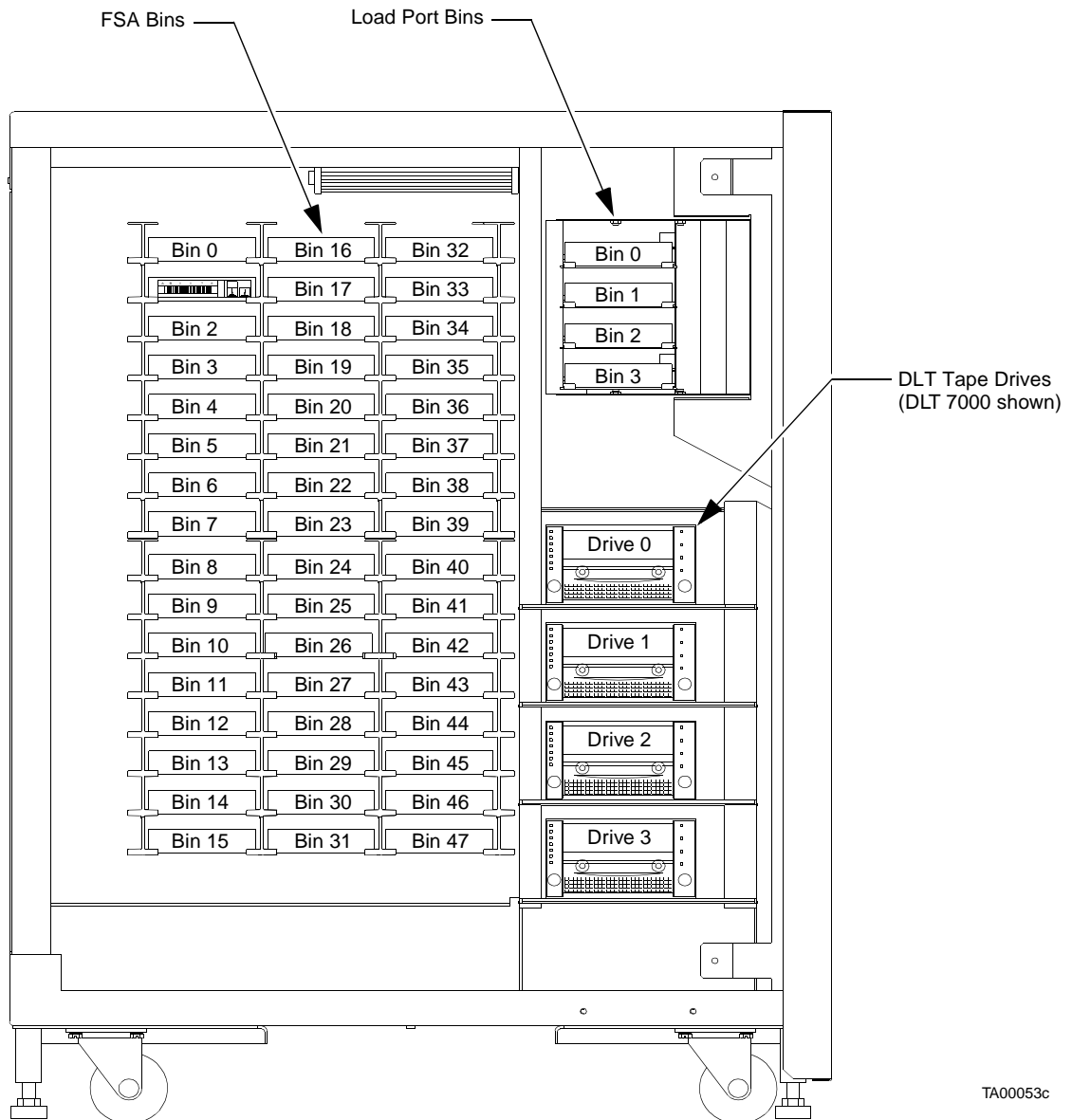
Figure 1 ACL 4/52 Library



**ACL 4/52 Library
Numbering
Conventions**

Figure 2 is a view from the left side of the library with the left cosmetic panel removed. Figure 2 depicts the numbering convention for the library's Fixed Storage Array bins, load port bins, and tape drives. This numbering convention is used in the diagnostic software and the library menu mode, which is viewed in the status display area of the control panel.

Figure 2 ACL 4/52 Library
Numbering Conventions



TA00053c

Operator Accessible Components

The operator of the ACL 4/52 library will need access to the following:

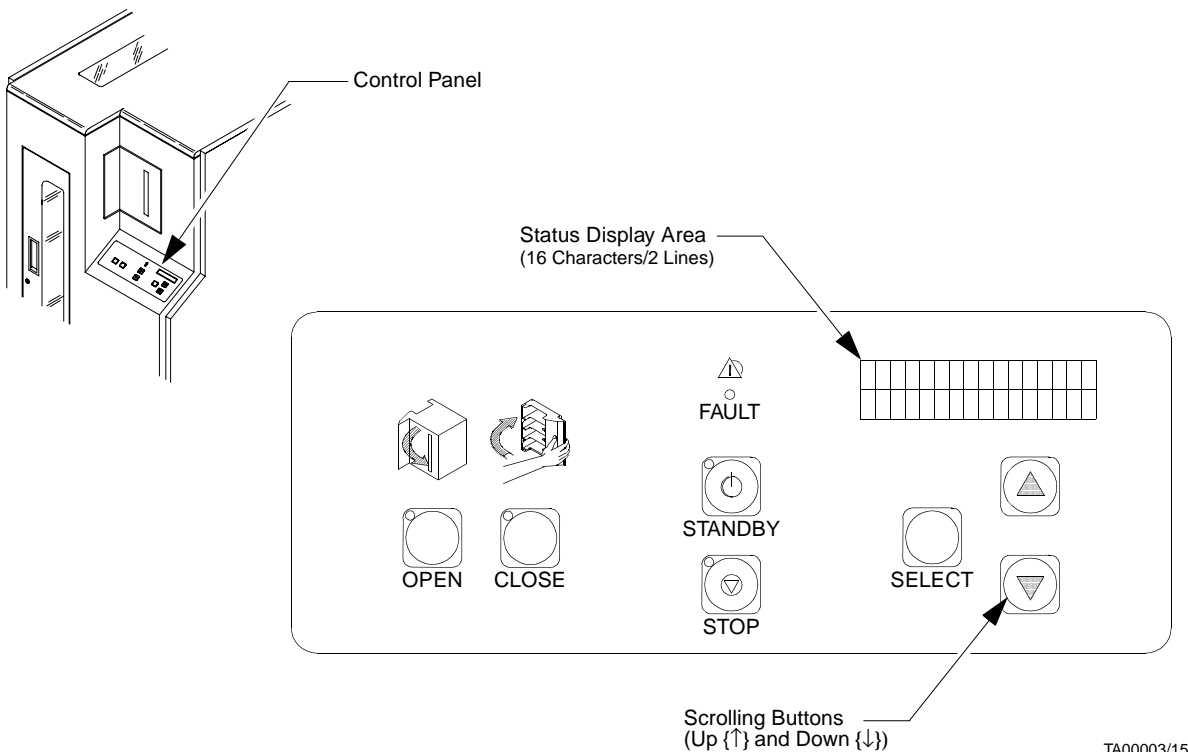
- Control panel
- Load port
- Front door
- Rear panel
- DLT tape drive status/control panel

Additionally, the control panel allows you to perform several types of functions (operational and diagnostic) using the menu mode. The menu mode functions and the items listed above are discussed in the following paragraphs.

Control Panel

The control panel (figure 3) is located on the right front of the library. Its features are described in table 2 on page 11.

Figure 3 Control Panel



TA00003/15

Table 1 Control Panel
Functions

Feature	Function
<p>(load port)</p> <p>OPEN (button/ indicator)</p>	<p>The (load port) OPEN button is used to unlock the load port door for the purpose of inserting or removing tape cartridges.</p> <p>Pressing the OPEN button causes the library to:</p> <ul style="list-style-type: none"> • park the robotics (the green indicator blinks until the robotics are parked) • unlock and open the load port door (the indicator is steadily lit), and then • re-lock the load port door in the open position (the indicator is off). <p>(Once the door is opened, you can insert/remove tape cartridges into/out of the four bins).</p>
<p>(load port)</p> <p>CLOSE (button/ indicator)</p>	<p>When the load port door is in the open position, the (load port) CLOSE button is used to unlock the door before closing it.</p> <p>Pressing the CLOSE button causes the library to:</p> <ul style="list-style-type: none"> • park the robotics (the green indicator blinks until the robotics are parked), then • unlock the door (the indicator is steadily lit). <p>(Once the indicator is steadily lit, you can close the door. The library will lock it in the closed position.)</p>
<p>STANDBY (button/ indicator)</p>	<p>You can set the state of the library (on-line or off-line) with this button. With the library in the on-line mode, pressing this button toggles the library to the off-line state (green indicator on). While in STANDBY, host communications are disabled, the control panel menu mode is available and the diagnostic port on the rear panel (DIAG) is active. Pressing the button again toggles the library to the on-line state. The green indicator functions as follows:</p> <ul style="list-style-type: none"> • Off (solid) - STANDBY is not selected. The library is on-line. • On (solid) - STANDBY is selected. The library is off-line. • Blinking - Waiting for the current on-line operation to complete.
<p>STOP (button/ indicator)</p>	<p>You can stop the robotic equipment by pressing the STOP button. When pressed, it removes power to the robotic equipment and illuminates the (green) indicator. Pressing the button again restores the power to the robotics and extinguishes the indicator.</p>

Feature	Function
SELECT ↑ (scroll-up), and ↓ (scroll-down) (buttons)	With the library in the STANDBY state, pressing the SELECT button activates the menu mode. While in the menu mode, SELECT allows you to choose menus and options, shown in the second line of the status display area (SDA), for execution. The ↑ and ↓ buttons are used in conjunction with the SELECT button. While in the menu mode, these buttons are used for navigating through the menu options. (For detailed procedures on using the menu mode, see Chapter 3, Operating Procedures.)
FAULT (indicator)	When illuminated (red), it indicates the library is in an error condition. Observe the SDA for a specific message. (For a listing and detailed description of all status messages shown in the SDA, see Chapter 4, Operator Troubleshooting.)
Status Display Area	This is a 16-character (5x7 dot-matrix Liquid Crystal Display {LCD}) /2-line display. It shows status messages that describe the operating state of the library. It is also used for displaying menu options while the library is in the menu mode.

Load Port

The load port (figure 4 on page 7) is located at the front of the library above and to the left of the control panel. Under library control and in conjunction with the load port OPEN and CLOSE buttons, it allows the operator to insert and/or remove up to four tape cartridges. (See table 2 on page 11 for a description of the load port buttons.)

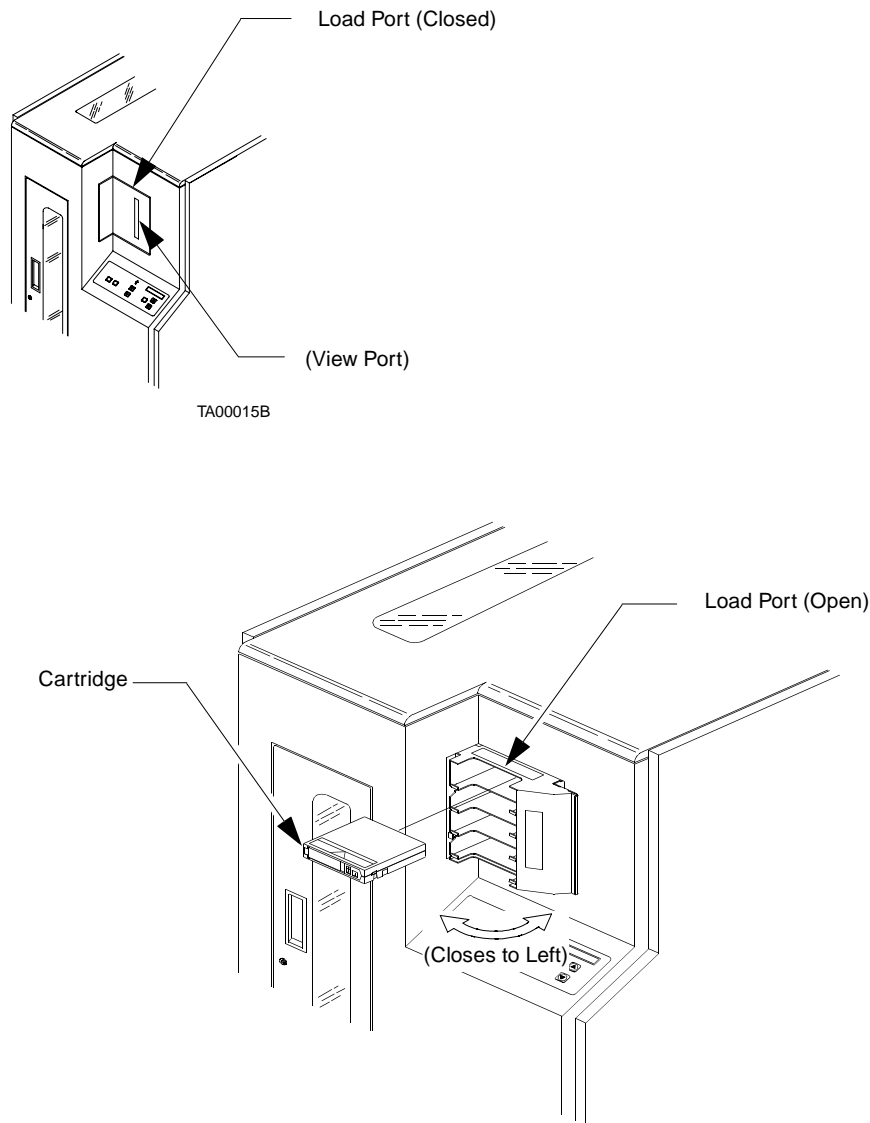
For a load operation, press the load port OPEN button. When the indicator stops blinking, the load port door *automatically* opens (and *locks* in the open position) allowing the operator to insert tape cartridges.

After the operator presses the CLOSE button and closes the door, the tape cartridge(s) is (are) made available to the library.

Caution: You must release the *CLOSE* button before pushing the load port door closed.

For the unload operation, the gripper places tape cartridges in the load port bins. Looking through the view port, the operator will be able to decide if an unload operation is necessary. Pressing the OPEN button automatically opens the door allowing the operator to remove the tape cartridge(s).

Figure 4 Load Port



**Front Door (with
Interlock Switch)**

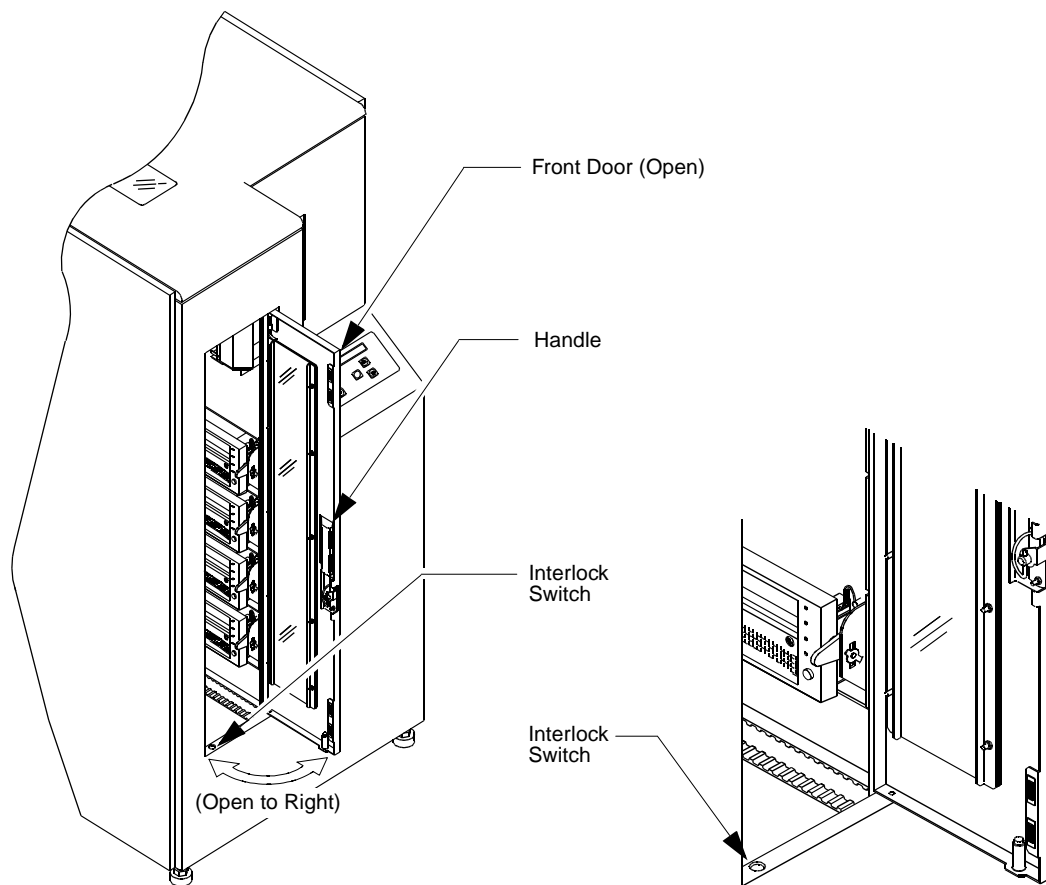
The library door is shown in figure 5. This door can be used to access the DLT tape drive status/control panels for manually unloading, ejecting and removing a tape cartridge from the drives.

For safety purposes, an interlock switch (shown in Figure 4) removes power from the robotics equipment when the door is opened. Typically, the front door will be used by FSEs during maintenance procedures.

Warning: To prevent injury from moving components, always press the control panel *STANDBY* button before opening the front door. The *STANDBY* indicator will flash until the current command is completed.

Note: When the *STANDBY* indicator is on solid and *System Off-line* is displayed, the front door may be opened. Always press the control panel *STOP* button before opening the front door.

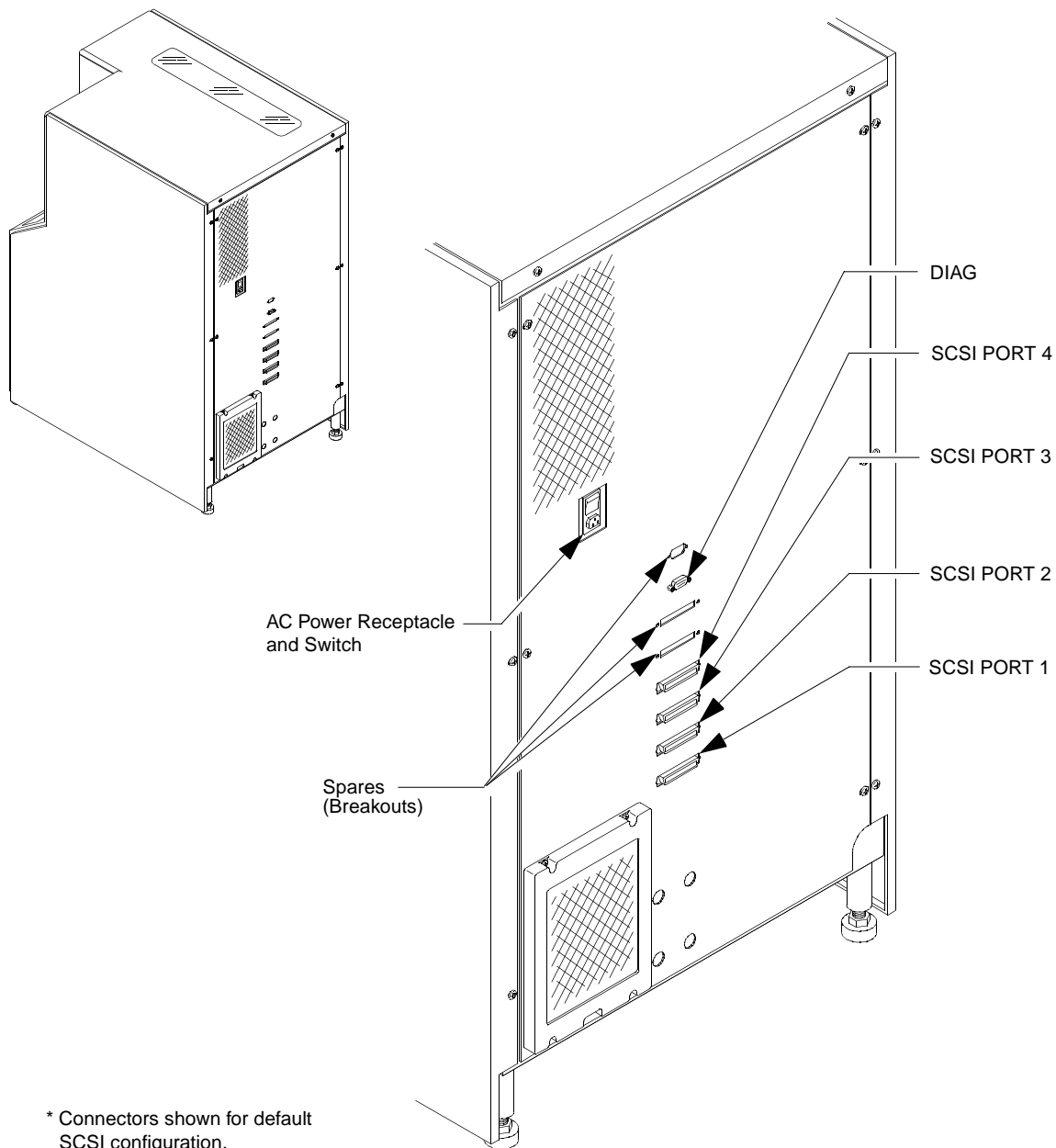
Figure 5 Front Door



Rear Panel

The rear panel of the library is shown in figure 6. It contains the AC power switch, AC power receptacle and the communication ports for the host, tape drives and diagnostic PC. The operator's only responsibility concerning the rear panel is verifying the cables are properly connected and applying/removing power to/from the library through the AC power switch.

Figure 6 Rear Panel



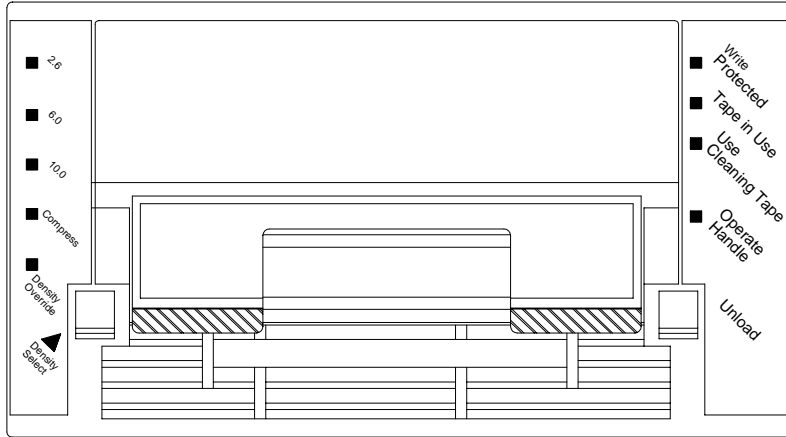
TA00032

DLT Tape Drive Status/Control Panel

A status/control panel is located on each DLT tape drive (figure 7, figure 8, and figure 9). The features of the status/control panel are described in table 3 on page 12.

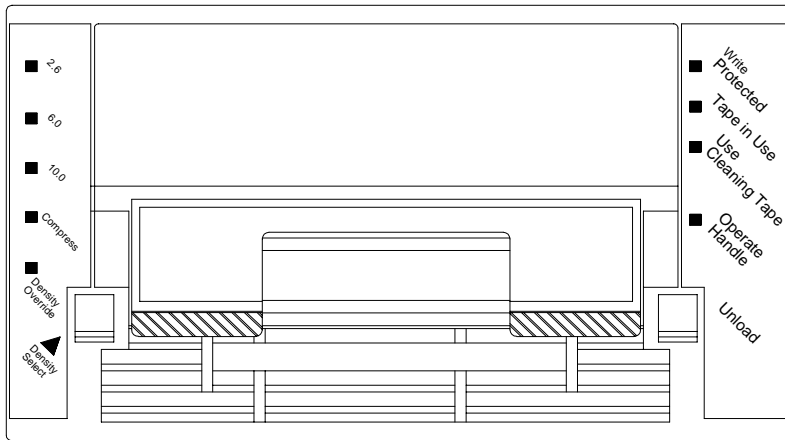
For detailed discussions of the DLT tape drive, refer to the appropriate product manual.

Figure 7 DLT 2000 Tape
Drive Status/Control Panel



TA00040a

Figure 8 DLT 4000 Tape
Drive Status/Control Panel



TA00040a

Figure 9 DLT 7000 Tape Drive
Status/Control Panel

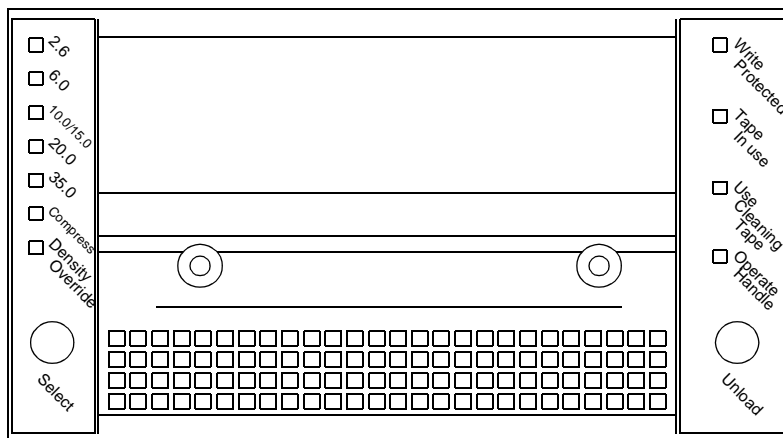


Table 2 DLT Tape Drive
Status/Control Panel
Functions

Feature	Function
Unload (button)	This button moves all tape from the drive take-up reel to the tape cartridge supply reel, and ejects the cartridge into position for removal. Note <i>The tape cartridge must be completely rewound and unloaded before ejecting and removing the tape cartridge from the drive. Depending on tape position, this operation takes 10 to 120 seconds.</i>
Operate Handle (indicator)	This green indicator lights when the insert/release handle is ready to operate.
Use Cleaning Tape (indicator)	This yellow indicator lights when the drive head needs cleaning or the current cleaning tape is bad. After unloading the cleaning tape cartridge, the indicator remains lit if the cleaning operation was not completed or the cleaning tape cartridge was bad.
Tape in Use (indicator)	This yellow indicator blinks while the tape cartridge loads and calibrates. After calibration, it remains lit.
Write Protect (indicator)	This orange indicator lights when the loaded tape cartridge is write-protected.

Cartridge/Tape Drive Compatibility

The ACL 4/52 library is capable of supporting the DLT 2000, DLT 4000, and DLT 7000 tape drives. The library is also capable of supporting the CompacTape III and CompacTape IV cartridges, which are dark gray and black, respectively. When loading the library with cartridges, observe the compatibility of cartridges and tape drives as defined in table 3.

Table 3 Cartridge/Tape
Drive Compatibility

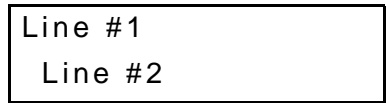
Cartridge Type	DLT 2000 Tape Drive	DLT 4000 Tape Drive	DLT 7000 Tape Drive
CompacTape III Cartridge	Compatible	Compatible	Compatible
CompacTape IV Cartridge	Not Compatible	Compatible	Compatible

Caution: *DO NOT USE CompacTape I™, CompacTape II™, or CompacTape IIIXT™ tape cartridges in this library.*

Menu Mode Structure

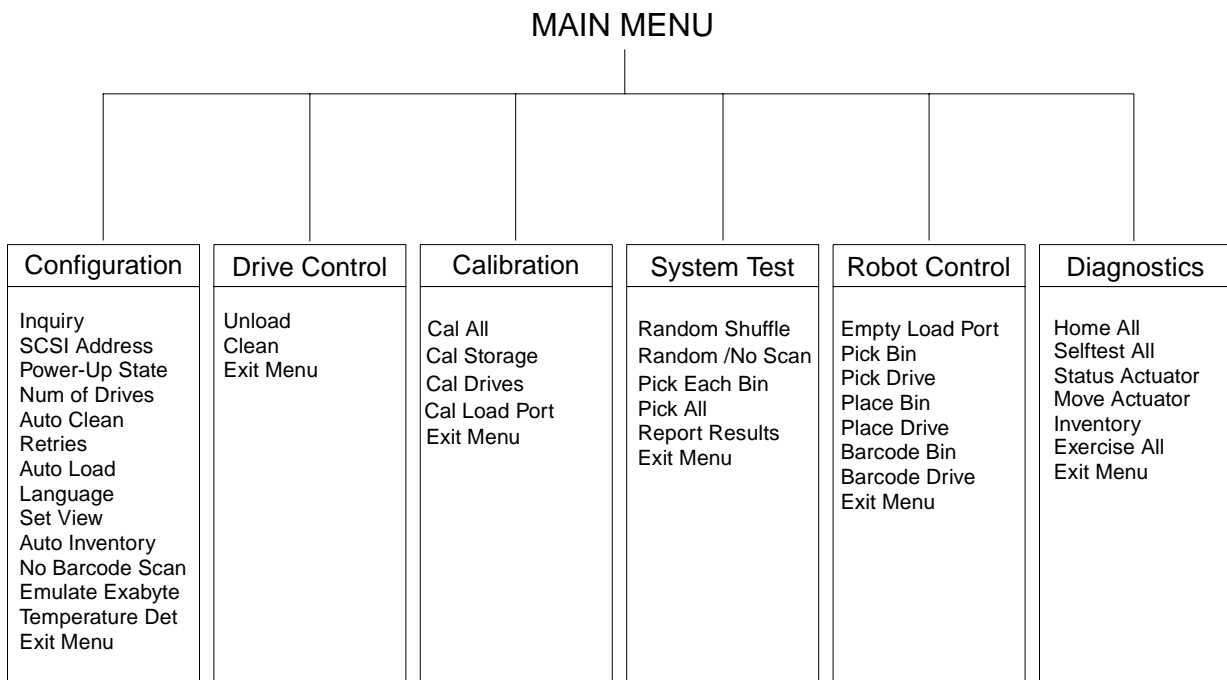
Some of the operator's responsibilities include using the control panel menu mode. The menu mode is entered by placing the library in the standby mode and then pressing the SELECT button on the control panel. Once the menu mode is entered, the UP-ARROW (↑) and DOWN-ARROW (↓) buttons are used for navigating through the menu and the SELECT button allows the operator to choose menus and/or execute options. When in the menu mode, the Status Display Area (SDA) displays two lines of the menu:

- The upper line (line #1) of the display is passive. It simply shows the name of the current menu or sub-menu.
- The lower line (line #2) is the active line. When the operator presses the SELECT button, the sub-menu or function displayed on the lower line is the option selected or executed.



The overall structure and capabilities of the menu mode are shown in figure 10 on page 13. The functions for which the operator will be responsible, and a discussion of navigating through the menus is provided in the paragraphs that follow.

Figure 10 Menu Structure



Menu Navigation

After placing the library in the standby mode and pressing the SELECT button on the control panel, the menu mode is activated.

To navigate through the menu, press the ↑ or ↓ buttons until the name of the desired main menu is displayed on line #2 of the SDA, then release the SELECT button.

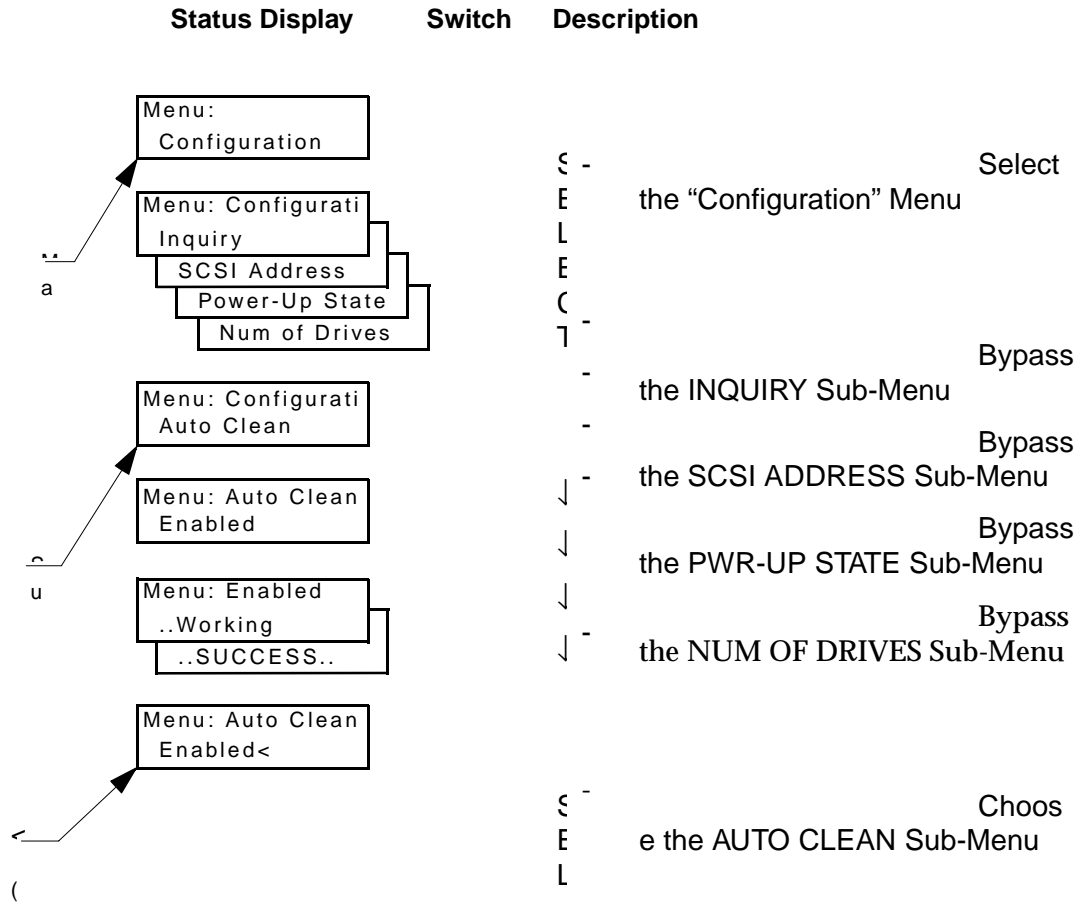
Line #1 changes to the main menu selection and line #2 shows the first sub-menu. Press the SELECT button for the first sub-menu, or continue pressing the ↑ or ↓ buttons until the sub-menu desired is displayed. Pressing SELECT chooses the sub-menu and displays the first option in line #2. Again, the operator must scroll through the options list until the desired option is displayed. The operator selects the option and it is executed.

An Exit option is provided at the end of each menu, sub-menu and option list. When the operator chooses Exit, he/she are returned to the previous menu. At that point, another procedure can be performed, or the operator can scroll to the next Exit until completely exiting the menu mode. The quickest way to exit the menu mode is to press the SELECT and ↑ or ↓ buttons simultaneously.

Note: After an operation is executed, the results displayed in the SDA must be cleared before the quick method of exiting will be available. To clear the results of an operation from the SDA, press the ↑ or ↓ button.

figure 11 on page 15 is an example of menu navigation. It shows the commands and associated SDA displays involved in changing the AUTO CLEAN option from DISABLED (factory default) to ENABLED.

Figure 11 Menu
Navigation example



Operator Tasks (using the Menu Mode)

As an operator, you may need to use the configuration, drive control and diagnostics menus.

Configuration Menu Functions

The Configuration menu allows you to:

- Set or change the library's SCSI address
- Set or change the tape drive SCSI addresses
- Define the state of the library after the power-up sequence has completed
- Enable or disable the automatic drive cleaning option
- Enable or disable the retry operation option
- Enable or disable the automatic loading feature
- Set or change the language displayed in the SDA
- Adjust the SDA contrast level

Setting/Changing the Library's SCSI Address

The SCSI address (0...7) of the library can be set using the SCSI Address/Robotics sub-menus.

Setting/Changing the Tape Drive SCSI Addresses

This function is used to set the SCSI address (0...7 for libraries with DLT 2000 or DLT 4000 tape drives, and 0...15 for libraries with DLT 7000 tape drives) of each tape drive in the library. This can be done through the SCSI Address/ Drive n sub-menus.

Defining the Library's Power-Up State

You have the option of defining the starting condition of the library, either on-line or standby (off-line), after power-up, self-tests and initialization has occurred. The default is on-line. You can change it by using the Power-Up State sub-menu.

Enabling/Disabling Automatic Drive Cleaning

The automatic drive cleaning feature has two modes of drive cleaning support: Host Initiated and Fully Automatic.

In *Host Initiated Cleaning Mode*, drive cleaning is enabled by your System Administrator at the host computer. Although the library unit will internally track cleaning tape cartridge movement and use, the library unit provides no cleaning support in this mode. The host is responsible for all cleaning functions such as detecting when a drive requires cleaning, tracking and selecting cleaning tape cartridges, initiating media movement of the cleaning tape cartridge to the drive and determining when a cleaning tape cartridge has been “used up.”

Drive cleaning in the *Fully Automatic Cleaning Mode* is also enabled by your System Administrator at the host computer. However, in this mode, the library unit monitors each drive’s status to determine when a drive requires cleaning and initiates action when that determination is made. In this case, the library unit selects an available cleaning tape cartridge, handles media movement of the cleaning tape cartridge to and from the drive and supervises the cleaning operation in the drive. The library unit tracks cleaning tape cartridges within the library, monitors cleaning tape cartridge use and determines when a cleaning tape cartridge has been “used up.” A “used up” cleaning tape cartridge is exported from the library to the load port under control of the library.

The library is shipped with automatic drive cleaning disabled. If you want this feature enabled, you can use the Auto Clean sub-menu.

Enabling/Disabling the Retry Option

If a failure occurs during a movement command and this option is enabled, the library will attempt to recover and retry the operation. If this option is disabled, no retries are made and the error is reported the first time. The default is to have retries enabled. If you want this feature disabled, you can use the Retries sub-menu.

Setting/Changing the Library’s Language

This function allows you to change the language displayed in the SDA. The default language is English. If you want to change the language, you can use the Language sub-menu. The options are: English, Francais, Deutsch, Espanol and Italiano.

Adjusting the Display Area Contrast

This function allows you to change the contrast of the SDA for easy viewing at different angles. There are ten different contrast settings to choose from in this menu. The default setting is five. To change the contrast, use the Set View sub-menu.

Drive Control Menu Functions

You can use the Drive Control menu to:

- Unload a tape cartridge from a specific drive
- Clean a specific drive

Unloading a Tape

This feature allows you to unload the tape (preparing to eject and remove the tape cartridge) in a drive that you specify. To perform this function, use the Unload sub-menu. The options are: Drive 0, Drive 1, Drive 2, Drive 3, where:

Menu Mode Physical Location

Drive 0 = **Top Drive**
Drive 1 = **Second Drive**
Drive 2 = **Third Drive**
Drive 3 = **Bottom Drive**

Cleaning a Drive

This feature allows you to direct a cleaning tape cartridge to a tape drive that you specify. To perform this function, use the Clean sub-menu. The options are: Drive 0, Drive 1, Drive 2, Drive 3, where:

Menu Mode Physical Location

Drive 0 = **Top Drive**
Drive 1 = **Second Drive**
Drive 2 = **Third Drive**
Drive 3 = **Bottom Drive**

Diagnostics Menu Functions

You can use the Diagnostics menu to:

- Display the status of the library
- Perform an inventory of the library

Displaying the Library's Status

There are two options concerning the status of the library. These options allow you to display the current condition of each sensor and the buttons in the library (Status Sensor) or display the position of the four actuators (horizontal, vertical, extension and gripper) in the library (Status Actuator). To display this information in the SDA, use the Status Sensor (not currently supported) and Status Actuator sub-menus and the ↑ and ↓ buttons to scroll through the returned information.

Performing an Inventory

This feature simply allows you to perform an inventory of the library. The inventory information is then written to nonvolatile RAM. To perform this function, use the Inventory sub-menu.

Note: Currently, all other menu options are reserved for FSEs and are not discussed here. For detailed instructions on using the control panel in the menu mode, see Chapter 2, “Operating Procedures.”

Note: With a full library, the inventory will take less than three minutes if all of the cartridges are properly bar code labeled. The actual inventory time can take longer if the library is not completely full or if any of the cartridges are not properly labeled. When the library is full of unlabeled cartridges the inventory will take over twenty-seven minutes.

Chapter 2

Operating Procedures

This chapter provides procedures for applying/removing power, inserting/removing tape cartridges through the load port, manually unloading a cartridge from a tape drive, and performing procedures for all functions associated with the control panel menu mode.

Operating Procedures

This section contains procedures for executing the following operator tasks:

- Applying and removing power
- Placing the library on-line or taking it off-line
- Inserting and removing tape cartridges using the load port
- Manually unloading a tape cartridge from a DLT tape drive

Applying Power to the Library

To apply power to the library:

- 1 Verify the following:
 - a Front door and load port closed
 - b All outer skins attached
 - c All rear panel connections secured
- 2 At the rear panel, set the AC power switch to the | (on) position.
- 3 After several seconds, verify that SDA shows System On-line.

Note: *System On-line* is only displayed if the library power-up state is configured for *On-line*. Otherwise, *System Off-line* is displayed in the SDA. (See Chapter 3, “Operator Troubleshooting.”)

Placing the Library On-Line

To place the library on-line:

- 1 With the library power applied and the SDA showing System Off-line, press the control panel STANDBY button.
- 2 Verify that System On-line is displayed in the SDA.

Taking the Library Off-Line

To take the library off-line:

- 1 With the library power applied and the SDA showing System On-line, press the control panel STANDBY button.
- 2 Verify that System Off-line is displayed in the SDA.

Removing Power from the Library

To remove power from the library:

- 1 Press the control panel STOP button.
- 2 Press the control panel STANDBY button and verify that System Off-line is displayed in the SDA.
- 3 At the rear panel, set the AC power switch to the O (off) position.

Inserting Tape Cartridges

To insert a tape cartridge:

Caution: DO NOT USE CompacTape I, CompacTape II™ or CompacTape IIIXT tape cartridges in this library.

Caution: Examine all cartridges before loading them into the library or tape drive. Look for label stock or other foreign material that may be clinging to the cartridges.

- 1 Press the load port OPEN button and verify the indicator begins blinking. (It may require several seconds for the load port door to automatically open.)
-
-

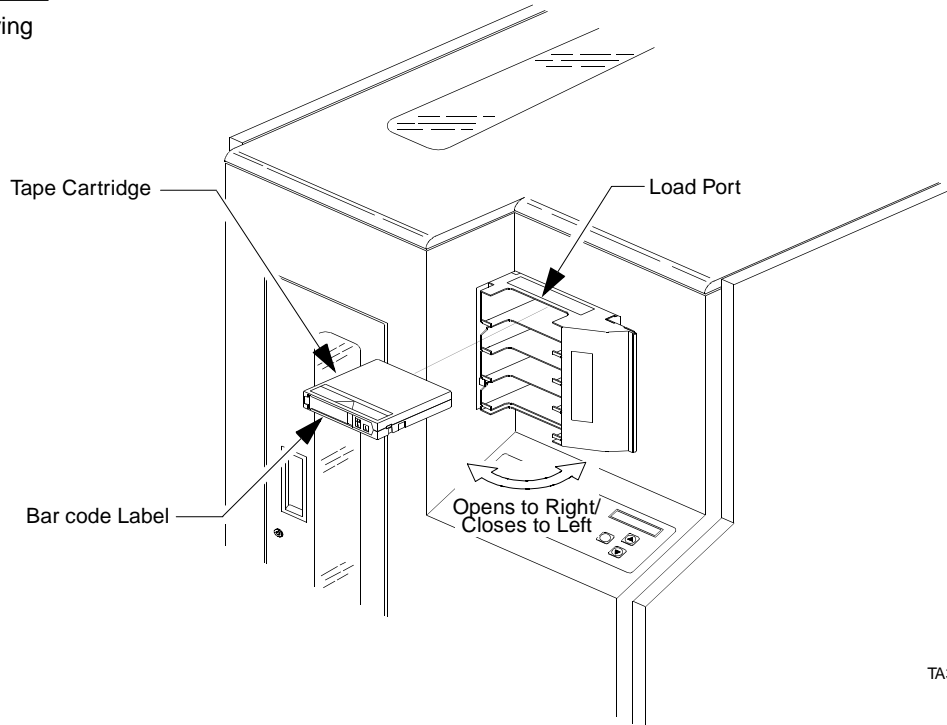
Warning: Mechanical hazards could be exposed when the load port is partially open or closed. Do not attempt to insert hands or fingers into the load port opening at any time.

- 2 With the load port door open, place the tape cartridge(s) in any available bin. (The proper orientation for tape cartridge insertion is shown in figure 12 on page 24).
 - 3 Press the load port CLOSE button.
-
-

Caution: The load port door is locked in the open position. You must press the CLOSE button before attempting to close the load port door.

- 4 When the CLOSE indicator is steadily lit, push the load port door closed. (The library will lock the door.)

Figure 12 Inserting/Removing
Tapes



TA30010d

Removing Tape Cartridges

To remove a tape cartridge:

Note: Use the view port to determine whether or not the load port contains tape cartridges to be removed.

- 1 When tape cartridges are ready to be removed, press the load port OPEN button and verify the indicator begins blinking. (It may require several seconds for the load port door to automatically open.)

Warning: Mechanical hazards could be exposed when the load port is partially open or closed. Do not attempt to insert hands or fingers into the load port opening at any time.

- 2 Remove the tape cartridge(s) from the load port bin(s).
- 3 Press the load port CLOSE button.

Caution: The load port door is locked when in the open position. You must press the *CLOSE* button before attempting to close the load port door.

- 4 When the *CLOSE* indicator is steadily lit, push the load port door closed. (The library will lock the door.)

Manually Unloading the DLT Tape Drive

To manually unload a DLT tape drive:

- 1 Press the control panel *STANDBY* button and verify that *System Off-line* is displayed in the SDA.
 - 2 Press the control panel *STOP* button.
-
-

Warning: To prevent injury from moving components, always press the control panel *STOP* button before opening the front door.

- 3 Open the front door by pulling the door towards you. (The door opens to your right.)
-
-

Warning: The front door is the only location for manually removing tape cartridges from the interior of the tape library.

- 4 On the drive to be unloaded, press the *Unload* button (figure 13 or figure 14) and verify the *Operator Handle* indicator is lit (figure 6 on page 9 & figure 8 on page 10).

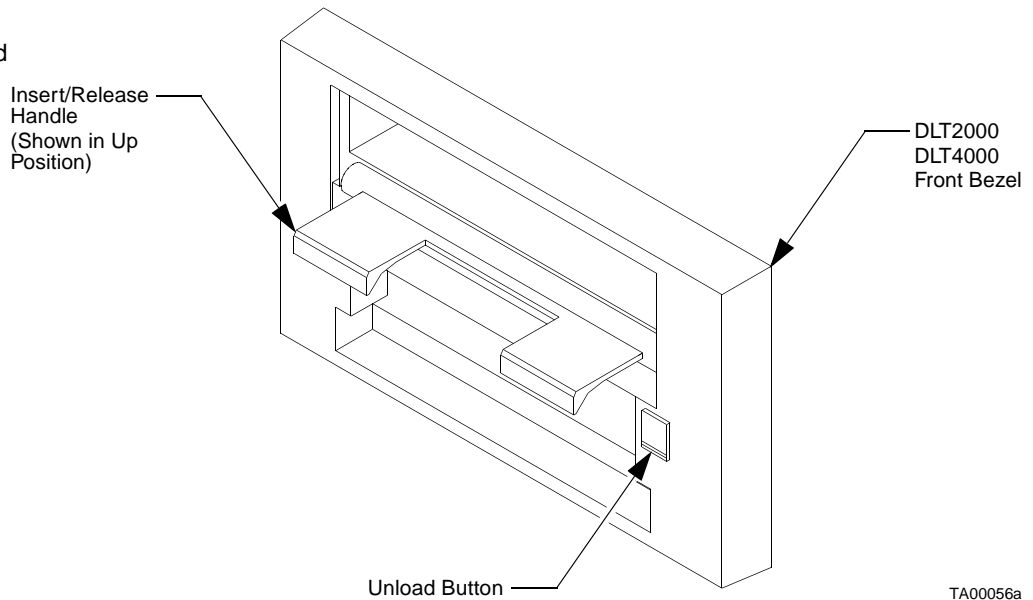
Note: When you press *Unload*, the tape cartridge will completely rewind. Depending on the tape cartridge position, it will take 10 to 120 seconds before the *Operator Handle* indicator lights.

- 5 With the *Operator Handle* indicator lit, raise the insert/release handle to eject the DLT tape cartridge.
- 6 Pause for two seconds, then grasp the tape cartridge and slowly pull it one-half way out of the drive mouth.

Caution: If the tape cartridge leader failed to detach from the take-up leader, push the tape cartridge all of the way back into the drive mouth, press down the insert/release handle, and return to step #4. Otherwise, continue to step #7.

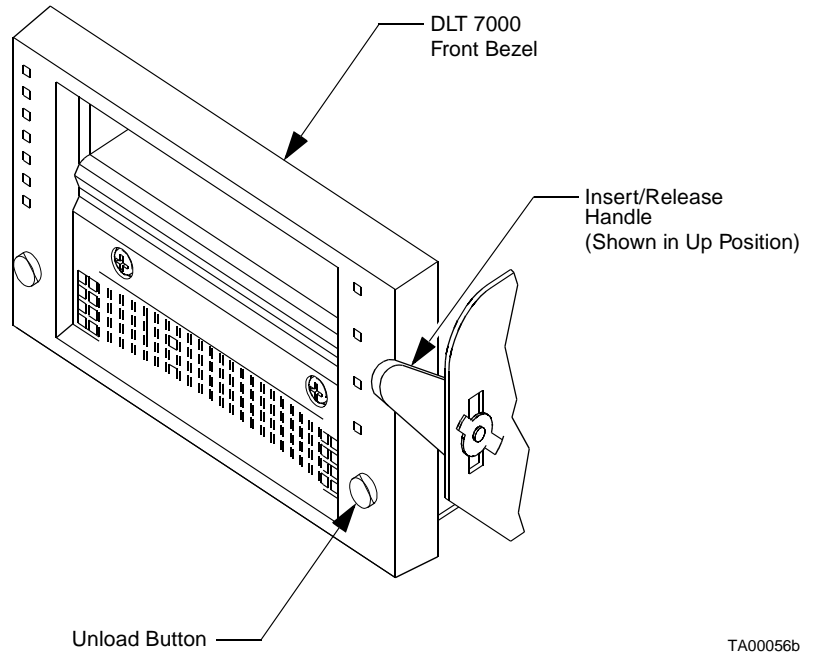
- 7 Pull the tape cartridge completely out of the drive.
- 8 Close the library door.
- 9 Press the control panel STOP button.
- 10 Press the control panel STANDBY button and verify that System On-line is displayed in the SDA.

Figure 13 DLT 2000 and
DLT 4000 Manual Unload



TA00056a

Figure 14 DLT 7000
Manual Unload



TA00056b

Turning the Interior Light On/Off

Note: The Interior light bulb is not operator replaceable. Notify your Field Service Engineer to replace the bulb.

The library is normally shipped with the interior light set to the “On” position. Use the following procedure to turn the interior light “On” or “Off.”

- 1 Press the control panel STANDBY button and verify that “System Off-line” is displayed in the SDA.
- 2 Press the control panel STOP button.

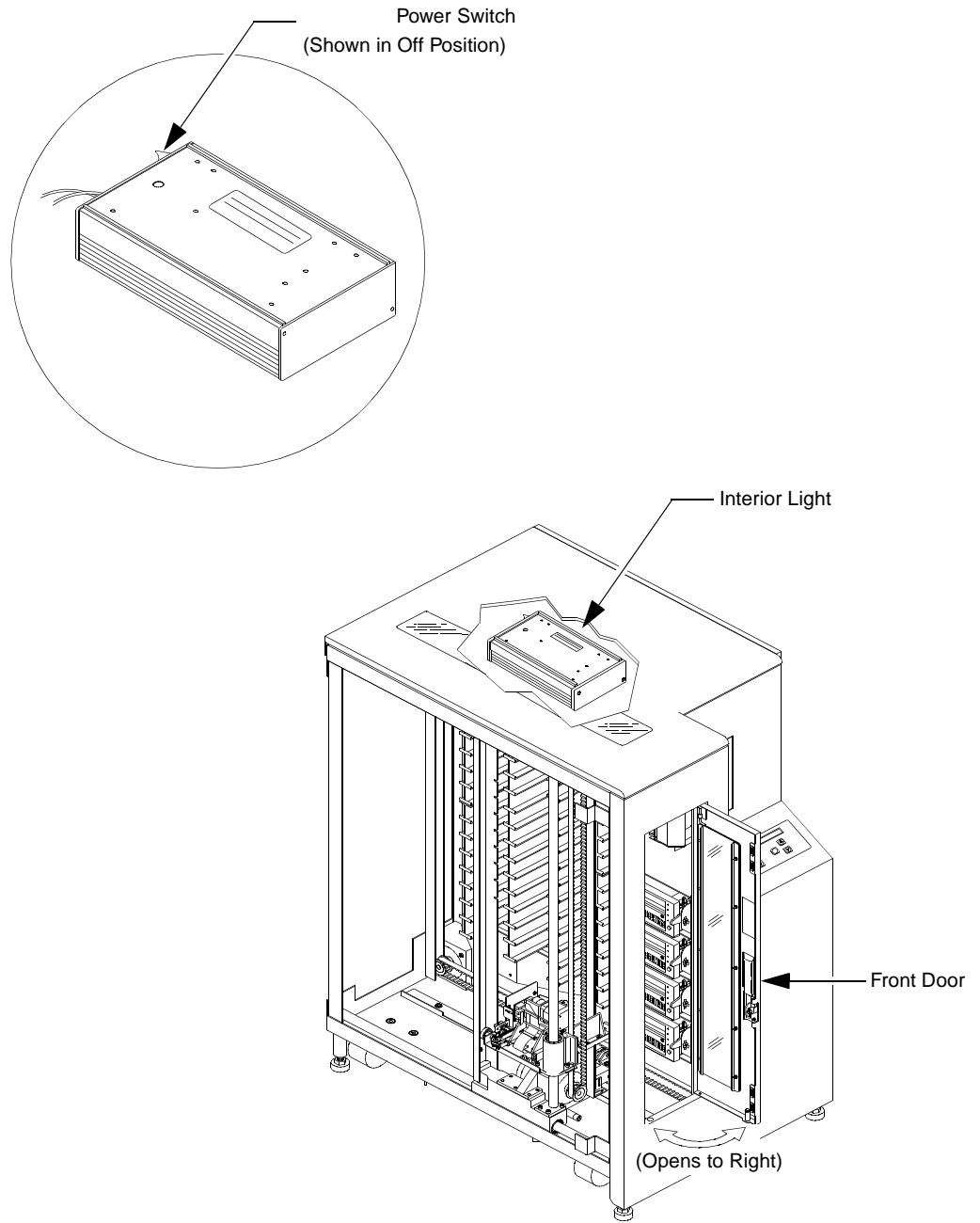
Warning: To prevent injury from moving components, always press the control panel *STOP* button before opening the front door.

- 3 Using a 5/32” hex wrench, unlatch the front door.
- 4 Open the library front door.

Note: The front door is the only access for manually turning the interior light On or Off.

- 5 Reach through the front door and set the light switch (located on the far side of the light) to the desired position.
- 6 Close and latch the library front door.
- 7 Press (to release) the control panel STOP button.
- 8 Press (to release) the control panel STANDBY button and verify that the library completes the initialization sequence, and “System On-line” is displayed in the SDA.

Figure 15 Turning the
Interior Light On/Off



Operating Procedures Using the Menu Mode

This section contains procedures for entering and exiting the control panel menu mode and instructions for executing the operator tasks listed below:

- Setting or changing the library or tape drive SCSI addresses
- Defining the state of the library after the power-up sequence has completed
- Enabling or disabling the automatic drive cleaning option
- Enabling or disabling the retry operation option
- Setting or changing the language displayed in the SDA
- Adjusting the SDA contrast level
- Unloading a tape cartridge from a specific drive
- Directing cleaning tape cartridges to specific drives for cleaning
- Performing the initial loading of the library
- Displaying the status of the library
- Performing an inventory of the library

Entering the Menu Mode

To enter the menu mode:

- 1 Press the control panel STANDBY button and verify the SDA shows System Off-line.
- 2 Press the SELECT button to enter the menu mode.
- 3 Verify the following is displayed in the SDA:

Menu: Configuration

Exiting the Menu Mode

There are two different ways to exit from menu mode.
The fast method:

- 1 From anywhere in the menu, press the SELECT and ↑ or ↓ buttons, simultaneously and verify that System Off-line is displayed in the SDA.

Note: After an operation is executed, the results displayed in the SDA, must be cleared before the quick method of exiting will be available. To clear the results of an operation from the SDA, press the ↑ or ↓ button.

Or the conventional method:

- 1 Use the ↑ and ↓ buttons to navigate to an Exit option, then press the SELECT button. (This method will take you one-level up in the menu each time that you perform it.)
- 2 Continue to perform step #1 until the following is displayed in the SDA.

```
Menu:
Exit
```

- 3 Press SELECT one final time to exit the menu mode.

Setting/Changing the Library SCSI Address

To set or change the library SCSI address:

- 1 Enter the menu mode.
- 2 Press the SELECT button to choose the Configuration menu and verify the following is displayed in the SDA:

```
Menu: Configurati
Inquiry
```

- 3 Press the ↓ button one (1) time to bypass the Inquiry menu and verify the following is displayed in the SDA:

```
Menu: Configurati
SCSI Address
```

- 4 Press the SELECT button to choose the SCSI Address sub-menu and verify the following is displayed in the SDA:

```
Menu: SCSI Adres
Robotics
```

- 5 Press the SELECT button to choose the Robotics sub-menu and verify the following is displayed in the SDA:

```
Menu: Robotics
SCSI ID 0
```

- 6 Use the ↑ and ↓ buttons to navigate to the SCSI ID number for the library (SCSI ID 0, SCSI ID 1...SCSI ID 7).
- 7 With the proper SCSI ID number displayed on line #2, press the SELECT button.
- 8 Exit the menu mode.

Note: After changing the SCSI address of the library, one of two things must happen to set the new SCSI ID. The host controller must issue a “SCSI Bus Reset,” or the library must be powered off and on again.

Setting/Changing a Tape Drive SCSI Address

To set or change a tape drive SCSI address:

- 1 Enter the menu mode.
- 2 Press the SELECT button to choose the Configuration menu and verify the following is displayed in the SDA:

```
Menu: Configurati
Inquiry
```

- 3 Use the ↓ button to bypass the Inquiry menu and verify the following is displayed in the SDA:

```
Menu: Configurati
SCSI Address
```

- 4 Press the SELECT button again to choose SCSI Address and verify the following is displayed in the SDA:

```
Menu: SCSI Address
Robotics
```

- 5 Use the ↓ button to bypass the Robotics sub-menu and verify the following is displayed in the SDA:

```
Menu: SCSI Address
Drive 0
```

- 6 Use the ↑ and ↓ buttons to navigate to the proper drive number (Drive 0, Drive 1, Drive 2, Drive 3), where:

Menu Mode Physical Location

Drive 0 = **Top Drive**
Drive 1 = **Second Drive**
Drive 2 = **Third Drive**
Drive 3 = **Bottom Drive**

- 7 With the proper drive number displayed on line #2, press the SELECT button and verify the following is displayed in the SDA:

```
Menu: Drive 0
SCSI ID 0
```

- 8 Use the ↑ and ↓ buttons to navigate to the SCSI ID number for the selected drive (0...7 for libraries with DLT 2000 or DLT 4000 tape drives and 0...15 for libraries with DLT 7000 tape drives).

- 9 With the proper SCSI ID number displayed on line #2, press the SELECT button.
- 10 Exit the menu mode.

Note: After changing the SCSI address of the drives, one of three things must happen to set the new SCSI ID. The Reset Drives command must be performed from the Diagnostic Software Package, the host controller must issue a “SCSI Bus Reset,” or the library must be powered off and on again.

Defining the Library Power-Up State

To define the library power-up state:

- 1 Enter the menu mode.
- 2 Press the SELECT button to choose the Configuration menu and verify the following is displayed in the SDA:

```
Menu: Configurati
Inquiry
```

- 3 Use the ↓ button to bypass the Inquiry menu and verify the following is displayed in the SDA:

```
Menu: Configurati
Power-Up State
```

- 4 Press the SELECT button to choose the Power-Up State menu and verify the following is displayed in the SDA:

```
Menu: Power-Up St
On-line<
```

Note: *System On-line* is the default. If you want to change the power-up state to standby, proceed to step 6. Otherwise, exit the menu mode.

- 5 Use the ↓ button to bypass the System On-line option and verify the following is displayed in the SDA:

```
Menu: Power-Up St
Standby
```

- 6 With the desired option displayed on line #2, press the SELECT button.
- 7 Exit the menu mode.

Enabling/Disabling the Auto Clean Option

To enable or disable the auto clean option:

- 1 Enter the menu mode.
- 2 Press the SELECT button to choose the Configuration menu and verify the following is displayed in the SDA:

```
Menu: Configurati
Inquiry
```

- 3 Use the ↓ button to bypass the Inquiry, SCSI Address and Power-Up State menus and verify the following is displayed in the SDA:

```
Menu: Configurati
Auto Clean
```

- 4 With Auto Clean displayed on line #2 of the SDA, press the SELECT button and verify the following is displayed in the SDA:

```
Menu: Auto Clean
Enabled
```

Note: *Auto Clean Disabled* is the default. If you want to enable the automatic cleaning, proceed to step 6. Otherwise, exit the menu mode.

- 5 With the desired option displayed on line #2, press the SELECT button.
- 6 Exit the menu mode.

Enabling/Disabling the Retry Option

To enable or disable the retry option:

- 1 Enter the menu mode.
- 2 Press the SELECT button to choose the Configuration menu.
- 3 Verify the following is displayed in the SDA:

```
Menu: Configurati
Inquiry
```

- 4 Use the ↓ button to bypass the Inquiry, SCSI Address, Power-Up State and the Auto Clean menus and verify the following is displayed in the SDA:

```
Menu: Configurati
Retries
```

- 5 With Retries displayed on line #2 of the SDA, press the SELECT button and verify the following is displayed in the SDA:

```
Menu: Retries  
Enabled<
```

Note: *Retries Enabled* is the default. If you want to disable this feature, proceed to step 6. Otherwise, exit the menu mode.

- 6 Use the ↓ button to bypass the Enabled option and verify the following is displayed in the SDA:

```
Menu: Retries  
Disabled
```

- 7 With the desired option displayed on line #2, press the SELECT button.
- 8 Exit the menu mode.

Enabling/Disabling the Auto Load Feature

To enable or disable the auto load feature:

- 1 Enter the menu mode.
- 2 Press the SELECT button to choose the Configuration menu.
- 3 Verify the following is displayed in the SDA:

```
Menu: Configurati  
Inquiry
```

- 4 Use the ↓ button to bypass the Inquiry, SCSI Address, Power-Up State, Number of Drives, Auto Clean, and Retries menus and verify the following is displayed in the SDA:

```
Menu: Configurati  
Auto Load
```

- 5 With Auto Load displayed on line #2 of the SDA, press the SELECT button and verify the following is displayed in the SDA:

```
Menu: Auto Load  
Disabled<
```

Note: *Auto Load Disabled* is the default. If you want to enable this feature, proceed to step 6. Otherwise, exit the menu mode.

- 6 Use the ↓ button to bypass the Enabled option and verify the following is displayed in the SDA:

```
Menu: Auto Load
Enabled
```

- 7 With the desired option displayed on line #2, press the SELECT button.
- 8 Exit the menu mode.

Setting/Changing the Status Display Area Language

To set or change the status display area language:

- 1 Enter the menu mode.
- 2 Press the SELECT button to choose the Configuration menu.
- 3 Verify the following is displayed in the SDA:

```
Menu: Configurati
Inquiry
```

- 4 Use the ↓ button to bypass the Inquiry, SCSI Address, Power-Up State, Auto Clean, Retries and Auto Load sub-menus and verify the following is displayed in the SDA:

```
Menu: Configurati
Language
```

Note: With Language displayed on line #2 of the SDA, press the SELECT button and verify the following is displayed in the SDA:

```
Menu: Language
English<
```

Note: *English* is the default. If you want to change the language, proceed to step 6. Otherwise, exit the menu mode.

- 5 Use the ↑ and ↓ buttons to navigate to the desired language.
English
Francais
Deutsch
Espanol
Italiano
- 6 With the desired language displayed on line #2, press the SELECT button.
- 7 Exit the menu mode.

Adjusting the Display Area Contrast

To adjust the display area contrast:

- 1 Enter the menu mode.
- 2 Press the SELECT button to choose the Configuration menu.
- 3 Verify the following is displayed in the SDA:

```
Menu: Configurati
Inquiry
```

- 4 Use the ↓ button to bypass the Inquiry, SCSI Address, Power-Up State, Auto Clean, Retries, Auto Load and Language sub-menus and verify the following is displayed in the SDA:

```
Menu: Configurati
Set View
```

- 5 With Set View displayed on line #2 of the SDA, press the SELECT button and verify the following is displayed in the SDA:

```
Menu: Set View
Contrast 9
```

Note: *Contrast 5* is the default contrast setting. If you want to change the contrast, proceed to step 6. Otherwise, exit the menu mode.

- 6 Use the ↑ and ↓ buttons to navigate to the desired contrast.

```
Contrast 9
Contrast 8
Contrast 7
Contrast 6
Contrast 5<
Contrast 4
Contrast 3
Contrast 2
Contrast 1
Exit
```

- 7 With the desired contrast displayed on line #2, press the SELECT button.
- 8 Exit the menu mode.

Unloading a Drive

To unload a drive:

- 1 Enter the menu mode.

- 2 Use the ↓ button to bypass the Configuration menu and verify the following is displayed in the SDA:

```
Menu:  
Drive Control
```

- 3 Press the SELECT button to choose the Drive Control menu.
- 4 Verify the following is displayed in the SDA:

```
Menu: Drive Contr  
Unload
```

- 5 Press the SELECT button to choose the Unload sub-menu and verify the following is displayed in the SDA:

```
Menu: Unload  
Drive 1
```

- 6 Use the ↑ and ↓ buttons to navigate to the proper drive number.

Drive 0 = **Top Drive**
Drive 1 = **Second Drive**
Drive 2 = **Third Drive**
Drive 3 = **Bottom Drive**

- 7 With the proper drive number displayed on line #2, press the SELECT button and verify the following is displayed in the SDA:

```
Menu: Drive n  
..Working..
```

Where “n” = the number of the drive that you selected.

- 8 When the following is displayed in the SDA, exit the menu mode.

```
Menu: Unload  
Drive n
```

Cleaning a Drive

To clean a drive:

- 1 Enter the menu mode.
- 2 Use the ↓ button to bypass the Configuration menu and verify the following is displayed in the SDA:

```
Menu:  
Drive Control
```

- 3 Press the SELECT button to choose the Drive Control menu.

- 4 Verify the following is displayed in the SDA:

```
Menu: Drive Contr
Unload
```

- 5 Use the ↓ button to bypass the Unload sub-menu and verify the following is displayed in the SDA:

```
Menu: Drive Contr
Clean
```

- 6 Press the SELECT button to choose the Clean sub-menu and verify the following is displayed in the SDA:

```
Menu: Clean
Drive 1
```

- 7 Use the ↑ and ↓ buttons to navigate to the proper drive number.

Drive 0 = **Top Drive**
Drive 1 = **Second Drive**
Drive 2 = **Third Drive**
Drive 3 = **Bottom Drive**

- 8 With the proper drive number displayed on line #2, press the SELECT button and verify the following is displayed:

```
Menu: Drive n
..Working..
```

Where “n” = the number of the drive that you selected.

- 9 When the following is displayed in the SDA, exit the menu mode.

```
Menu: Clean
Drive n
```

Displaying the Library's Actuator or Sensor Status

To display the library's actuator or sensor status:

- 1 Enter the menu mode.
- 2 Use the ↓ button to bypass the Configuration, Drive Control, Calibration, System Test and Robot Control menus and verify the following is displayed in the SDA:

```
Menu:
Diagnostics
```

- 3 Press the SELECT button to choose the Diagnostics menu and verify the following is displayed in the SDA:

```
Menu: Diagnostics
Home All
```

- 4 Press the ↓ button two (2) times to bypass the Home All and Selftest All sub-menus. Then verify the following is displayed in the SDA:

```
Menu: Diagnostics
Status Actuator
```

- 5 Use the ↑ and ↓ buttons to scroll to the function that you want to display (Status Actuator or Status Sensor).

Note: *Status Sensor* is not currently supported.

- 6 With the selection displayed on line #2, press the SELECT button.
- 7 Use the ↑ and ↓ buttons to scroll through the (SDA line #2) displays to review the information returned.

Examples are shown below.

Status Actuator Example

```
Menu: Status Actu
1.51 11.8 3.25 C
```

1.51 = **Horizontal position**
11.8 = **Vertical position**
3.25 = **Extension position**
C = **Gripper state (Closed, Open and Unknown)**

- 8 When you have finished viewing the status of the library sensors or actuators, exit the menu mode.

Performing an Inventory

To perform an inventory:

- 1 Enter the menu mode.
- 2 Use the ↓ button to bypass the Configuration, Drive Control, Calibration, System Test and Robot Control menus and verify the following is displayed in the SDA:

```
Menu:
Diagnostics
```


- 3 Press the SELECT button to choose the Diagnostics menu and verify the following is displayed in the SDA:

```
Menu: Diagnostics
Home All
```

- 4 Press the ↓ button five (5) times to bypass the Home All, Selftest All, Status Actuator, Status Sensor and Move Actuator sub-menus. Then verify the following is displayed in the SDA:

```
Menu: Diagnostics
Inventory
```

- 5 With Inventory displayed on line #2, press the SELECT button.

Note: With a full library, the inventory will take less than three minutes if all of the cartridges are properly bar code labeled. The actual inventory time can take longer if the library is not completely full or if any of the cartridges are not properly labeled. When the library is full of unlabeled cartridges the inventory will take over twenty-seven minutes.

- 6 When the SDA returns to the previous menu as shown below (i.e., inventory is complete), exit the menu mode.

```
Menu: Inventory
Success
```

Chapter 3

Operator Troubleshooting

This chapter provides explanations of status messages displayed in the Control Panel Status Display Area (SDA) as well as the associated action necessary (if any) to rectify specific problems.

Operator Troubleshooting

Table 4 is a listing of all status messages displayed in the SDA. Column #1, "Status Message," shows the two lines of the SDA. (If there is only one line of text in the message, it is displayed on line #1.) The "Description/Action" column provides a brief explanation of the message and, where necessary, steps that you can take to resolve any problem associated with the message.

Table 4 Status Messages

Status Message	Description/Action
System On-line.	The library is on-line and ready to communicate with the host computer.
System Off-line.	The library is off-line and ready to accept commands from the diagnostic PC (DIAG port) or enter the control panel menu mode.
Going On-line... Please Wait.	The library is transitioning from off-line to on-line but must complete a command that is (currently) executing. When finished, System On-line is displayed in the SDA.
Going Off-line... Please Wait.	The library is transitioning from on-line to off-line but must complete a command that is (currently) executing. When finished, System Off-line is displayed in the SDA.
System Power-Up.	This is the first message displayed in the SDA when the library power is cycled from off to on.
Initializing... Wait for On-line.	This is the second message displayed in the SDA, after System Power-Up, when the library power is cycled from off to on. (When the library successfully completes initialization, System On-line is displayed.)

Status Message	Description/Action
On-line Init Fail	In the event of an initialization failure (library power has been cycled from off to on), this message is displayed in the SDA following the Initializing...Wait for On-line message. (When the library successfully completes initialization, System On-line is displayed in the SDA.)
System Stopped	The control panel STOP button was pressed.
System DoorOpen	The library front door is open.

Other Problems

In addition to the status messages described in the previous section, there are other problems that may occur. Table 5 lists two of these problems and the steps to take to resolve them.

Note: Coordinate your efforts with the System Administrator.

Table 5 Other Problems

Problem	Resolution
A tape drive is not ejecting the cartridges properly.	1) Use the procedure “Unloading a Tape” on page 18 to remove the cartridge. 2) If the problem persists, notify your FSE.
One or more cables are disconnected from the rear panel.	1) Perform the procedure “Defining the Library’s Power-Up State” on page 16. 2) Reconnect the cables referencing figure 6 on page 9. 3) Perform the procedure “Applying Power to the Library” on page 22.

Note: For any other problem not listed, notify your FSEs.

Glossary

A

actuators Robotic components that move inside the library to manipulate cartridges. These include the gripper, extension axis, vertical and horizontal axes.

automated tape library A robotic storage and retrieval system for DLT tape cartridges.

B

bar code label The identification label on DLT tape cartridges.

bar code scanner A device that is mounted on the extension axis that reads the cartridge bar code labels.

C

calibration The software measurements and configuration required for successful operation of the library.

CHM Cartridge handling mechanism

control panel The panel on the front of the library that contains the status display area, as well as indicators and control buttons.

D

DLT Digital linear tape

E

EIA/TIA-574 A serial communications cabling and protocol standard for nine pin connectors, sometimes referred to as RS-232. The diagnostic port (DIAG), on the rear of the library, uses this protocol.

extension axis assembly Mounted onto the vertical axis, the extension axis assembly consists of the gripper assembly and the horizontal axis on which the gripper assembly is mounted.

extension axis belt The drive belt connecting the extension motor/gearbox to the gripper.

F

FCC Class A Standard established by the U.S. Federal Communications Commission governing electromagnetic emissions.

FSA Fixed storage array. This is a 3-column by 16-row fixture mounted inside the library. Its purpose is to store up to 48 cartridges in the library.

FSE Field service engineer

G

gripper assembly The assembly that mounts on the extension axis and grips cartridges, referred to as the gripper.

H

horizontal belt The drive belt connecting the horizontal motor to the horizontal axis assembly.

host Host computer

host computer The computer that issues SCSI commands to control the library robotics.

L

Load Port The operator accessible component of the library that allows up to four cartridges to be import/export loaded and unloaded into/from the library.

M

MTBF Mean Time Between Failures

MTTR Mean Time To Repair

N

NVRAM Nonvolatile RAM

O

offline Not ready for communications with a host. This mode is required for configuration, diagnostic, and maintenance operations.

online Ready for communications with a host.

P

PC Personal computer

pick The act of removing a cartridge from one location in preparation for placing it in another location.

place The act of placing a cartridge in a location after it has been picked from another location.

PROM Programmable read-only memory

R

RAM Random access memory

rear panel The rear cosmetic panel of the library that contains the AC power switch, AC power receptacle and connectors for attaching external cabling to the library.

S

SCSI Small computer system interface. A communications standard for attaching peripheral equipment to computers.

SDA Status Display Area. This is a 16-character (5x7 dot-matrix Liquid Crystal Display {LCD}) /2-line display. It shows status messages that describe the operating state of the library. It is also used for displaying menu options while the library is in the Menu Mode.

T

tape drive The mechanism that reads and writes data from and to a tape cartridge.

U

UL Underwriters Laboratories

V

vertical belt The drive belt connecting the vertical motor to the vertical axis assembly.

vertical carriage assembly The crossbar and linear bearings mounted on the vertical rails and all components mounted on the crossbar.

Z

ZIF Connector Zero Insertion Force Connector

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