

# hp StorageWorks

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## ESL9000/TL800 series tape library diagnostic software guide

Part Number: 243493-005

### **Fifth Edition (August 2002)**

This guide is to be used as step-by-step instructions for installing and using the HP LibDiag serial diagnostics tool on the following libraries:

- ESL9198
- ESL9322
- ESL9326
- ESL9595
- TL810
- TL812
- TL894
- TL895
- TL820
- TL822
- TL826
- TL893
- TL896



i n v e n t

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ESL9000/TL800 series tape library diagnostic software guide  
Fifth Edition (August 2002)  
Part Number: 243493-005

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# About this Guide

## Document Conventions

The conventions included in Table 1 apply in most cases.

**Table 1: Document Conventions**

Element	Convention
Key names, menu items, buttons, and dialog box titles	<b>Bold</b>
File names and application names	<i>Italics</i>
User input, command names, system responses (output and messages)	Monospace font COMMAND NAMES are uppercase unless they are case sensitive
Variables	<i>Monospace, italic font</i>
Website addresses	Sans serif font ( <a href="http://www.compaq.com">http://www.compaq.com</a> )

## Symbols in Text

These symbols may be found in the text of this guide. They have the following meanings.



**WARNING:** Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or loss of life.

---



**CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.

---

**IMPORTANT:** Text set off in this manner presents clarifying information or specific instructions.

**NOTE:** Text set off in this manner presents commentary, sidelights, or interesting points of information.

## Symbols on Equipment

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Any enclosed surface or area of the equipment marked with these symbols indicates the presence of electrical shock hazards. Enclosed area contains no operator serviceable parts.

**WARNING:** To reduce the risk of injury from electrical shock hazards, do not open this enclosure.

---



Any RJ-45 receptacle marked with these symbols indicates a network interface connection.

**WARNING:** To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.

---



Any surface or area of the equipment marked with these symbols indicates the presence of a hot surface or hot component. Contact with this surface could result in injury.

**WARNING:** To reduce the risk of injury from a hot component, allow the surface to cool before touching.

---



Power supplies or systems marked with these symbols indicate the presence of multiple sources of power.

**WARNING:** To reduce the risk of injury from electrical shock, remove all power cords to completely disconnect power from the power supplies and systems.

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**Any product or assembly marked with these symbols indicates that the component exceeds the recommended weight for one individual to handle safely.**

**WARNING: To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manually handling material.**

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## Getting Help

If you still have a question after reading this guide, contact service representatives or visit our website.

## Technical Support

In North America, call technical support at 1-800-OK-COMPAQ, available 24 hours a day, 7 days a week.

**NOTE:** For continuous quality improvement, calls may be recorded or monitored.

Outside North America, call technical support at the nearest location. Telephone numbers for worldwide technical support are listed on the HP website: <http://www.compaq.com>.

Be sure to have the following information available before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Detailed, specific questions.

## Product Website

The HP website has the latest information on this product, as well as the latest drivers. Access the HP website at: <http://www.compaq.com/storage>. From this website, select the appropriate product or solution.

## **Authorized Reseller**

For the name of your nearest authorized reseller:

- In the United States, call 1-800-345-1518.
- In Canada, call 1-800-263-5868.
- Elsewhere, see the HP website for locations and telephone numbers.

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## Preparing for Diagnostic Procedures

This chapter contains procedures for:

- Installing the diagnostic software program onto the diagnostic PC
- Connecting the PC to the library
- Starting and exiting the program

It also contains a brief discussion of on-line help and error messages.

### Installing the Diagnostic Software Program

The diagnostic software program runs under Microsoft Windows 95, Windows 98, Windows NT, and Windows 2000.

To install the software:

1. After the diagnostic PC is on and has booted, insert the diagnostics CD-ROM into the CD-ROM drive. If the install program does not start up automatically, locate the *setup.exe* file on your CD-ROM and double-click it to start installation.

**NOTE:** The diagnostics program requires approximately 2.6 MB of hard disk space.

2. Follow the onscreen instructions.

**NOTE:** The INSTALL program creates a directory called *LIBDIAG* on the C: drive. All required files are copied into that directory.

## Connecting the Diagnostic PC to the Library

The diagnostic software interfaces to the library at the DIAG port (RS-232 serial link). It runs from PC communications port 1 (COM1) as the default or COM2. (See “Starting the Diagnostic Software.”)

To connect the diagnostic PC to the library:

1. Verify that the library front door and load port door are in the closed positions.
2. At the rear of the library, connect the RS-232 cable (provided in the accessories kit) to the port marked DIAG.

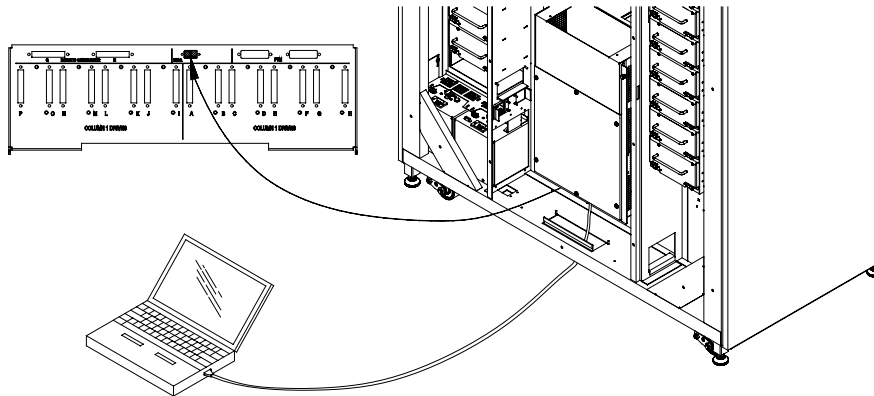


Figure 1–1: Rear panel

## Starting the Diagnostic Software



**CAUTION:** The diagnostic software is intended to be used for troubleshooting and testing of the library by trained Field Service Engineers. Using the diagnostic software as a demonstration tool may result in damage to the hardware.

---

To execute the diagnostic software:

1. If applicable, apply power to the library as follows:
  - a. Verify that the front door and load port are closed, all outer skins are attached, and the rear panel RS-232 diagnostic port connection is secured.
  - b. At the rear panel, set the power switch to the “I” (on) position.

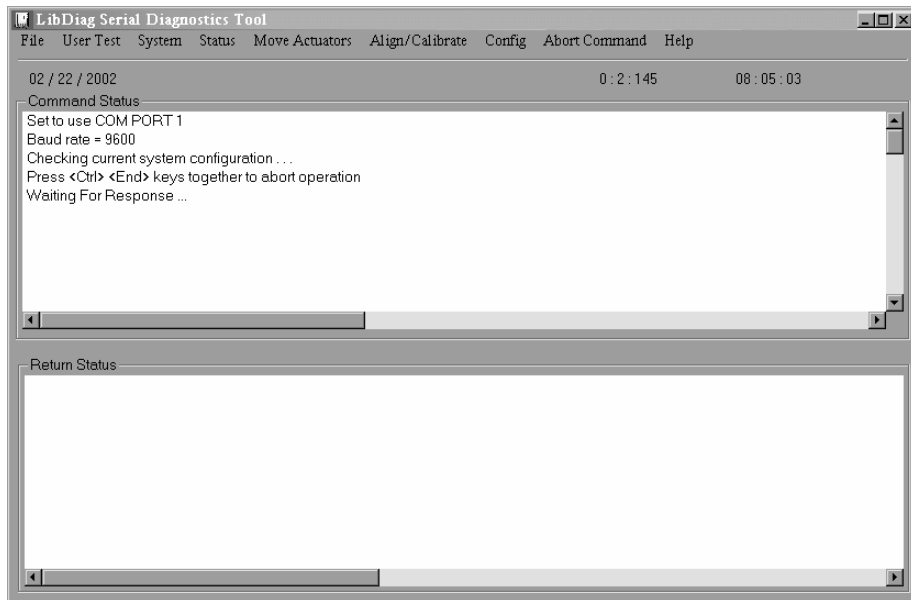
- c. After the library has completed post and inventory, verify that the control panel status display area shows System On-line.

**NOTE:** *System On-line* is only displayed if the library power-up state is set to on-line. Otherwise, *System Off-line* (standby) is displayed. For information about the library power-up state, refer to the *hp StorageWorks ESL9000 Series Tape Library Reference Guide*.

2. Take the library off-line as follows:
  - a. With the library power applied and System On-line displayed, press the control panel STANDBY switch.
  - b. Verify that System Off-line is displayed.
3. Double-click the library diagnostics icon on the PC desktop.
4. Select the appropriate baud rate when prompted.

**NOTE:** The baud rate must be set to 2400 for TL820, TL822, TL826, TL893, and TL896 libraries and 9600 for all other libraries.

5. Select the appropriate COM port used on the PC.
6. After several seconds, verify that the Main Menu is displayed.



**Figure 1–2: Main menu**

## Using On-Line Help

The on-line help file can be viewed at any time when running the software by clicking on the Help menu. The help file explains how to use the software and describes special features.

## On-line Error Messages

The diagnostic software automatically displays an error code description whenever an error is received from the component being diagnosed. These error descriptions are contained in the error message data file called *LIBDIAG.MSG*. An index file, *LibDiag.NDX*, is included to provide pointers to each error code description.

## Exiting the Diagnostic Software

To exit the diagnostic software:

1. At the Main Screen, click File > Exit.
2. Click **OK** to terminate the diagnostic software.
3. If applicable, remove the RS-232 cable from the rear panel and return the library to the on-line state.

---

## Menu Overview and Storage Locations

This chapter describes the structure of the diagnostic software program and describes:

- Menu structure
- Numbering convention used to designate the location of:
  - Storage bins
  - Load port bins
  - Tape drives

### Menu Structure

The diagnostic software is divided into three parts:

- Main Menu Screen
- Command Status Window
- Return Status Window

## **Main Menu**

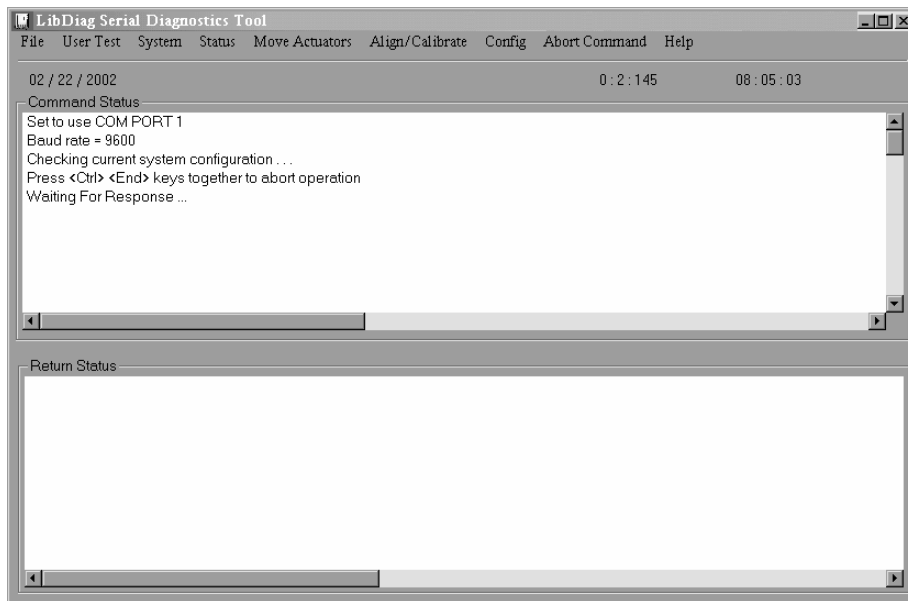
The Main Menu is displayed several seconds after executing the LIBDIAG command. At the top of the LibDiag screen, the Main Menu bar is displayed showing the nine main categories of diagnostic functions, which are:

- File
- User Test
- System
- Status
- Move Actuators
- Align/Calibrate
- Config
- Abort Command
- Help

Below the Main Menu Bar, the Information Line is displayed containing the:

- Current Date (mm/dd/yy)
- Elapsed Time (hhh:mm:ss) of the previous command
- Real-Time (hh:mm:ss)





**Figure 2–1: Main menu**

## Command Status Window

The Command Status Window displays communications between the diagnostic software and the library. For each command sequence, it lists the command names and the number of commands executed, as well as the elapsed time.

This window is often partially hidden by pull-down menus or pop-up windows. To view the full window, use the scroll bar to view the portions of the window that have already scrolled off the screen.

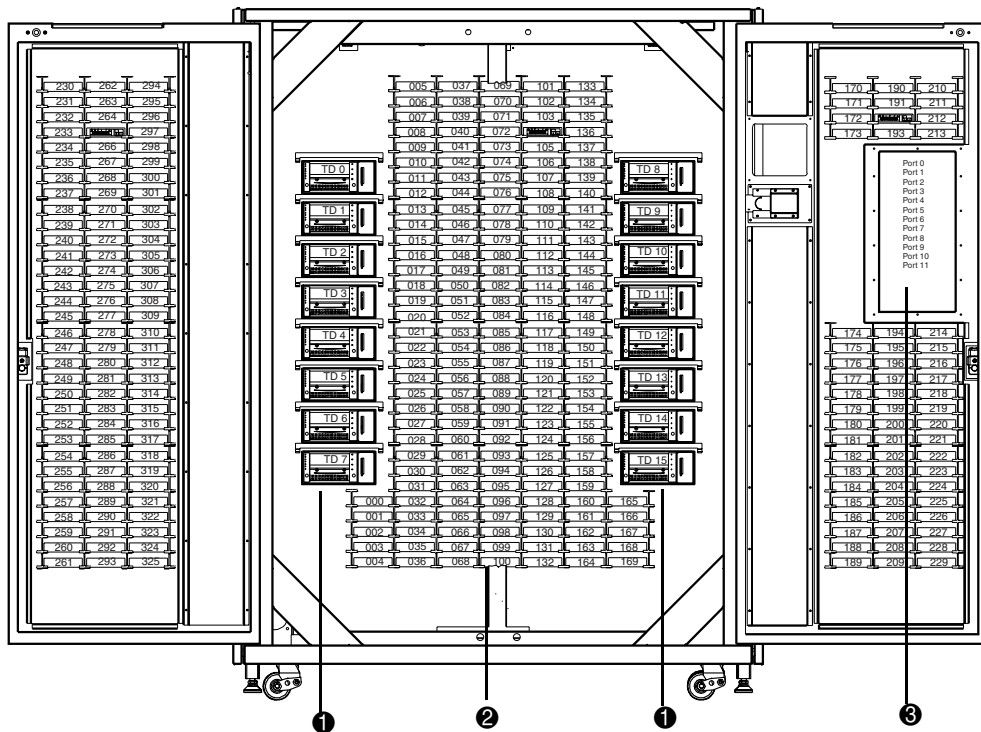
## Return Status Window

The Return Status Window displays detailed information concerning a function that you have selected.

## Location of Bins and Tape Drives

Figure 2-2 shows the numbering conventions for an ESL9326 library.

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 2-2: Library numbering conventions**

- ❶ Tape drives
- ❷ Storage bins
- ❸ Load port bin

---

## Diagnostic Functions and Procedures

This chapter provides detailed instructions for using each of the diagnostic functions. Each section includes a description of the options that can be selected and additional features or rules that apply specifically to that option.

The options in this chapter are arranged in the order in which they appear in the Main Menu Screen, from left to right.

### Main Menu

The Main Menu screen contains nine categories of diagnostic functions.

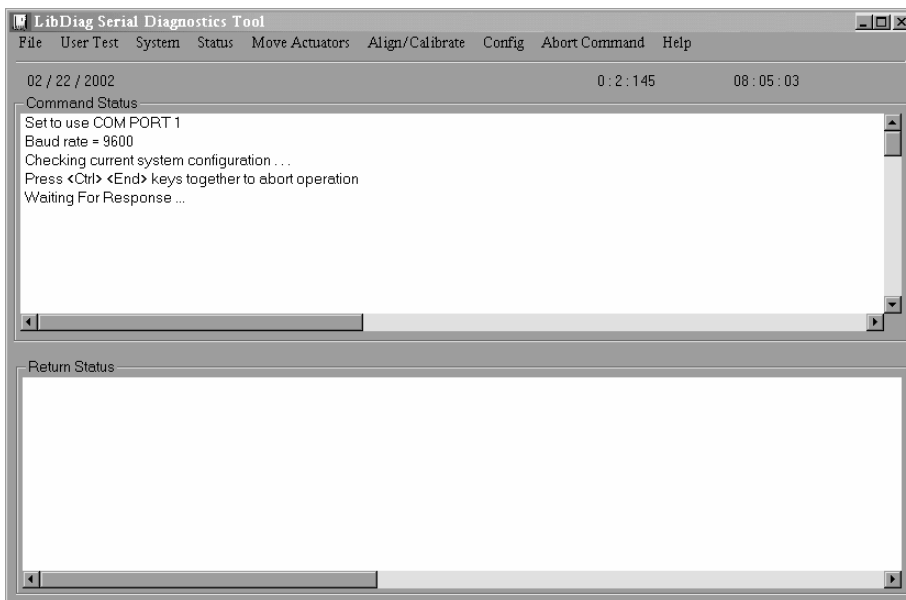


Figure 3–1: Main menu

**Table 3–1: Diagnostic Software Menu Structure**

<b>File</b>	<b>User Test</b>	<b>System</b>	<b>Status</b>	<b>Move Actuators</b>
Exit	Loop Mode	Exercise Horizontal	Actuator Status	Self Test All
	Set Loop Count	Exercise Vertical	Report Statistics	Home All
	Track Mode	Exercise Extension	Reset Statistics	Horizontal Axis
	User Input Cmd	Exercise Gripper	SysTest Info	Vertical Axis
	Start Capture	Exercise Rotary	System Info	Extension Axis
	End Capture	Report Calibrations	Display Serial #	Gripper
	Test Files	Bin Sys Test	Element Status	Rotary
		Bin/Drive Sys Test	System Monitor	Drive Door
		Random Bin Sys Test		Pass Through
		Random Bin/Drive Sys Test		Load Port
				Unload Tape
				Move Cartridges
				Barcode Cartridges
<b>Align/Calibrate</b>	<b>Configuration</b>	<b>Abort Command</b>	<b>Help</b>	
Calibrate	Configure System		Help	
Library SCSI ID	Report System		Contents	
Report Lib SCSI ID	Configure Storage		Index	
Drive SCSI ID	Report Storage			
Reset Drive	Initialization			
Report Drive	Recovery			
Bin Position	Auto Drive Unload			
Drive Position	Barcode Retries			
Load Port Position	Auto Inventory			
PTM Position	Multiple Unit			
	Exabyte			
	No Barcode Reader			
	Clean Tape			
	STOP Mode			
	Serialization			
	Serial # & IEEE ID			
	XXXXX Identity			
	Visible Barcode			
	Media Type Prefix			
	Serial Download			
	SCSI Download			

## User Tests Menu

The User Tests Menu lets you enable/disable the Loop Mode, log the Command Status Window messages to a designated disk file through Track Mode, and display your own user-defined test scripts.

After you create a user-defined test script, the file name is displayed in the User Tests Menu window below the End Capture command line.

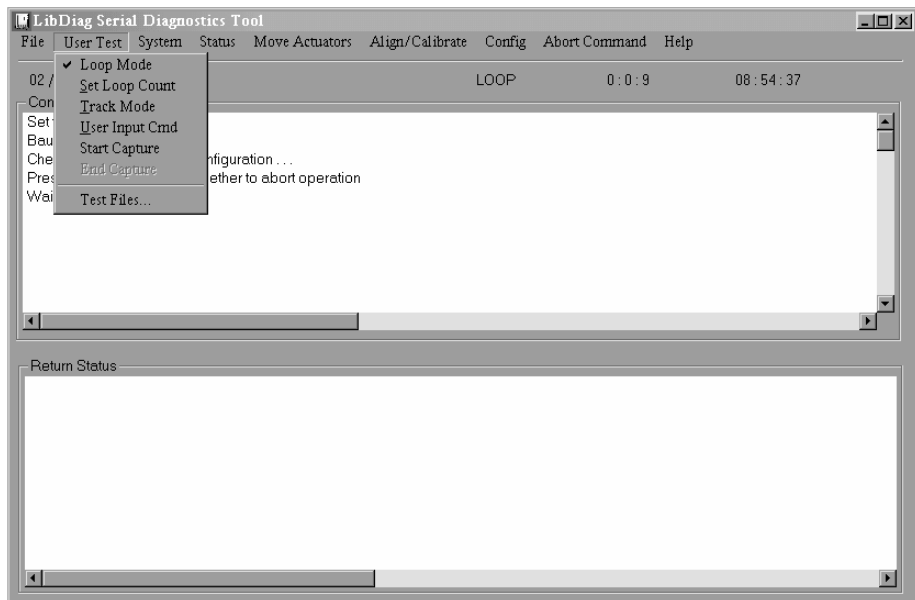


Figure 3–2: User Test menu

## Loop Mode

When selected, this option repeats commands or sequences of commands continuously. When active, the Loop Mode option (in the pull-down menu) and display are on.

Commands running under this mode are terminated by clicking Abort Command.

**NOTE:** When Abort Command is received, the software waits for the completion of the current command or cycle, then terminates the function and returns to the menu.

## Enable Loop Mode

1. Select the User Test menu.
2. Select Loop Mode.

LOOP is displayed on the status line of the main menu.

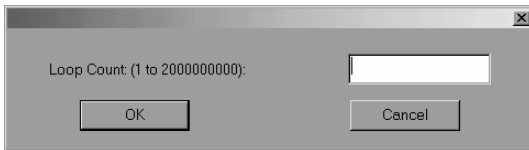
## Disable Loop Mode

1. With LOOP displayed on the status line, select the User Test menu.
2. Select Loop Mode.

## Set Loop Count

To set loop count:

1. Select the User Test menu.
2. Select Set Loop Count.



**Figure 3-3: Set loop count**

3. Enter the number of times you want the loop to be tested and click **OK**.

## Track Mode

Track Mode provides the capability to log all messages scrolled in the Command Status Window to a disk file defined by you.

## Enable Track Mode

1. Select the User Test menu.
2. Select Track Mode.



**Figure 3–4: Track file name**

3. Type in a file name, then click **OK** to define the disk file and enable the tracking mode.

**NOTE:** The file name is limited to eight alphanumeric characters, that is, the standard alphabet (upper and lower case) and the numerals 0 through 9. No other characters are valid in defining a file name.

**NOTE:** If you do not enter a file name when requested, the default file name is *LIBDIAG*.

4. TRACK appears on the status line.

## Disable Track Mode

1. Select the User Test menu.
2. Select Track Mode.
3. Verify that TRACK is no longer displayed on the status line.

The message sequence is saved in a file named *filename.TRK*, where *filename* is the file name you specified above. The file is stored in the same directory with the diagnostic software program.

## User Input Command

This option is a development tool that allows commands to be entered as an ASCII string of characters. It is not expected to be used during normal field service functions. When selected, a password must be entered before the function executes.

1. Select the User Test menu.
2. Select User Input Cmd.
3. Type in an authorized password and then click **OK**.

**NOTE:** The default password is LibDiag.

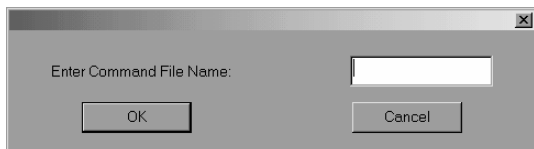
4. Type in a single line of text representing the function that you want performed, for example, `SELFTEST ALL`. This command represents the following menu selection:  
Move Actuators Menu: Self Test All
5. Press **Enter** to execute the command.

## User-Defined Tests Files

The selections at the bottom of the User Tests Menu reflect the diagnostic routines that you create. Create diagnostic routines by capturing one or more commands and saving the commands to a disk file.

## Capture Commands

1. Select User Test Menu.
2. Select Start Capture.



**Figure 3–5: Enter command file name**

3. Type in a file name and then click **OK**.

**NOTE:** The file name is limited to eight alphanumeric characters, that is, the standard alphabet (upper and lower case) and the numerals 0 through 9. No other characters are valid in defining a file name.

**NOTE:** If the file name you select already exists, you may choose to either append it, or overwrite it.

4. Select a test that you want to run to execute and capture the command.
5. Repeat step 4 for all additional commands.
6. Select End Capture from the User Test Menu to end the capture mode.

The command sequence is saved in a file named *filename.TST*, where *filename* is the file name you specified above. All files with the *.TST* extension are automatically added to the User Tests Menu and are selectable in the same manner as other options. The file is stored in the same directory with the diagnostic software program.



**NOTE:** Test routines can be created in simulation mode, which is faster than if the library is connected to the diagnostic PC.

## System Tests Menu

The System Tests Menu provides high level command options that exercise entire hardware components as well as test routines that run all library actuators.

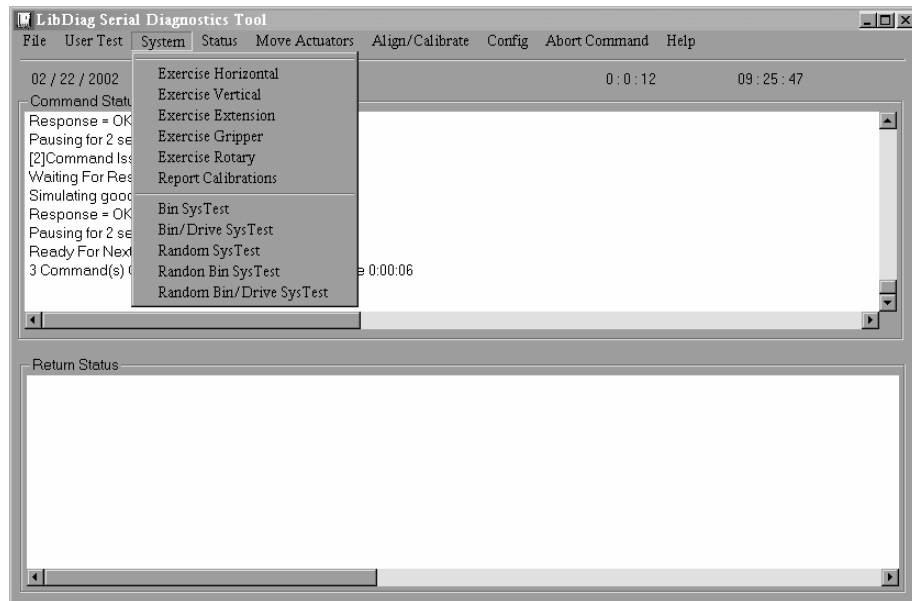


Figure 3–6: System Test menu

### Exercise Horizontal

This test homes the horizontal axis and moves it to two additional positions. You can use it to verify the proper operation of the horizontal actuator and of the horizontal home, limit, and confirmation sensors.

### Exercise Vertical

This test homes the vertical axis and moves it to two additional positions. You can use it to verify the proper operation of the vertical actuator and of the vertical home and confirmation sensors.

## **Exercise Extension**

Exercise Extension homes the extension axis and moves it to two additional positions. You can use this test to verify the proper operation of the extension actuator and of the extension home and sensor.

## **Exercise Gripper**

This option closes and opens the gripper. Use it to verify the proper operation of the gripper actuator and gripper open and close sensors.

## **Exercise Rotary**

This test exercises the rotary by moving it to the front and back position.

## **Report Calibrations**

This option reports the extension axis value and vertical position value for each drive and for bin 0.

## **Bin SysTest**

This option runs a test that picks from and places to all bins. The test is sequential; it starts with bin 0 and continues in order through the bins.

The test finds a bin with a tape and places it into the next available bin. A test run is complete when each bin has been picked from and placed to.

## **Bin/Drive SysTest**

This option runs a test that picks from each bin and places to a drive and also picks from a drive and places to each bin. The test is sequential; it starts with bin 0 and continues in order through the bins.

The test finds a bin with a tape and places it into the next available drive. If no drive is available, the tape is placed into the next available bin. When a drive unloads a tape, it is picked from the drive and placed into the next available bin. A test run is complete when each bin has been picked from and placed to.

## Random SysTest

This option runs a test that randomly picks from and places to both bins and drives.

The test randomly finds a bin with a tape and places it into the next available drive. If no drive is available, the tape is randomly placed into an available bin. When a drive unloads a tape, it is picked from the drive and randomly placed into an available bin. A test run is complete when each bin has been picked from and placed to.

## Random Bin SysTest

This option runs a test that randomly moves tapes between bins.

The test randomly finds a bin with a tape and randomly places it into an available bin. A test run is complete when each bin has been picked from and placed to.

## Random Bin/Drive SysTest

This option runs a test that randomly moves tapes between bins and drives. This test differs from the Random SysTest because it does not move tapes between bins.

The test randomly finds a bin with a tape and places it into the next available drive. If no drive is available, then no moves are performed until an empty drive is available. When a drive unloads a tape, it is picked from the drive and randomly placed in an available bin. A test run is complete when each bin has been picked from and placed to.

**NOTE:** All of the SysTests ask if you want to run the tests with or without barcodes on. If you select to run the tests with barcode on, the barcode labels are verified and checked against the inventory.

## Status Menu

The Status Menu reports:

- Actuator status
- Statistical information
- System configuration information

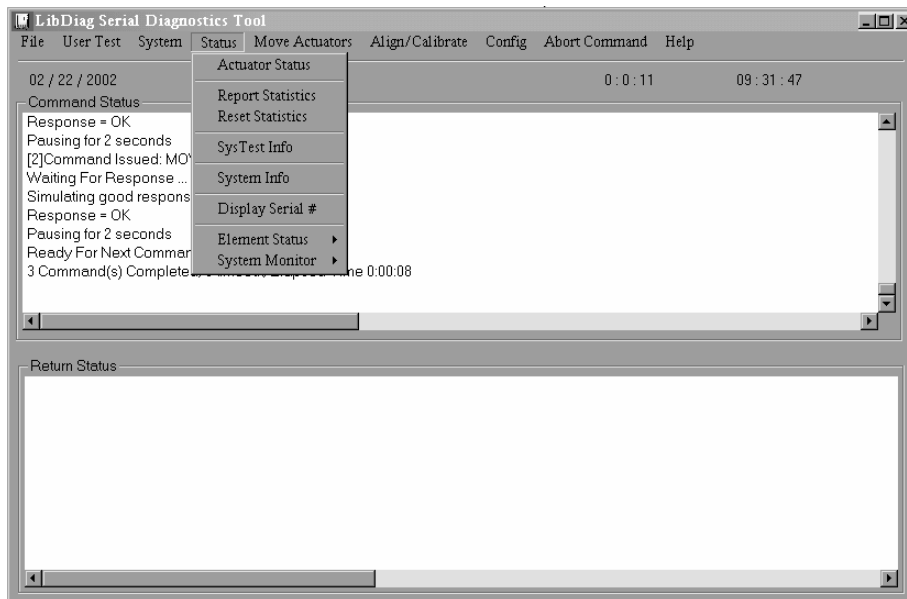


Figure 3-7: Status menu

## Actuator Status

Actuator Status reports (in the Return Status Window) the position of each of the four actuators (horizontal, vertical, extension, gripper) in the library. You can use this option to test for proper operation and tracking of each actuator.

To display the status of the actuators:

1. Select the Status menu.

**IMPORTANT:** Perform a Self Test All and Home All before selecting Actuator Status. If you do not perform these functions, you may receive erroneous status information.

2. Select Actuator Status. The Return Status Window shows the position of every actuator in the library, pauses for four seconds, then updates the display with the current changes in the position of each actuator location.
3. Press Abort Command to terminate the report.

## Report Statistics

This option displays a screen of statistical information that is stored in the non-volatile RAM on the library robotic controller. The information returned includes the:

- Total power-on hours (POH) for the library
- Command time
- Numbers of actuations for each of the axes
- Numbers of picks and places into bins and drives
- Number and type of retries performed by the library to continue its operation

To display the library statistics:

1. Select the Status menu.
2. Select Report Statistics. The Return Status Window displays the statistics.

## Reset Statistics

This option resets the statistics table. It is a development tool and is not expected to be used for normal field service functions. When selected, the password must be entered before the function is executed.

## SysTest Info

This option polls the library for the results of the last system test run on the library. The values are saved in non-volatile RAM so that a power cycle to the library does not reset them.

The return string contains the following items in the following order:

- Total number of picks and places
- Last operations status (example: B8302)
- Total test time in msec
- Test type (examples: RANDOM or BIN)

- Average drive-to-bin move time in msec
- Average bin-to-drive move time in msec
- Average bin-to-bin move time in msec
- Longest move time in msec
- Number of bad barcode reads
- Number of places to each drive
- Number of places to bins
- Number of places to load port
- Next-to-last operation (example: Pick B:10)
- Last operation (example: Place D:1)

To poll the library for the results of the last system test run on the library and save them in non-volatile RAM:

1. Select the Status menu.
2. Select SysTest Info.

## **System Info**

System Info reports the model number, current firmware revision and configuration of the library.

To display the system information for the library:

1. Select the Status menu.
2. Select System Info to display the information in a Return Status Window.

## Display Serial#

This command lets you to enter the serial number of the library. This information is displayed next to the date on the Information Line.

To display the serial number:

1. Select the Status menu.
2. Select Display Serial#.



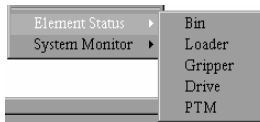
**Figure 3–8: Enter serial number**

3. Enter the serial number of the library and click **OK**.

## Element Status

Element Status reports element addresses for bins, loader, gripper, drive, and PTM.

1. Select the Status menu.
2. Select Element Status.



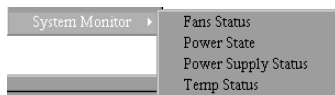
**Figure 3–9: Element status menu**

3. Select an option.

## System Monitor

System Monitor displays the current status of the fans, power state, power supply and temperature state.

1. Select the Status menu.
2. Select System Monitor.



**Figure 3–10: System monitor menu**

3. Select the desired option.



## Move Actuators Menu

The Move Actuators Menu lets you test the library actuators and the tape drive insert/release handle (drive door) actuators, unload cartridges from the tape drives, move individual cartridges within the library, and read the bar code labels of individual cartridges.

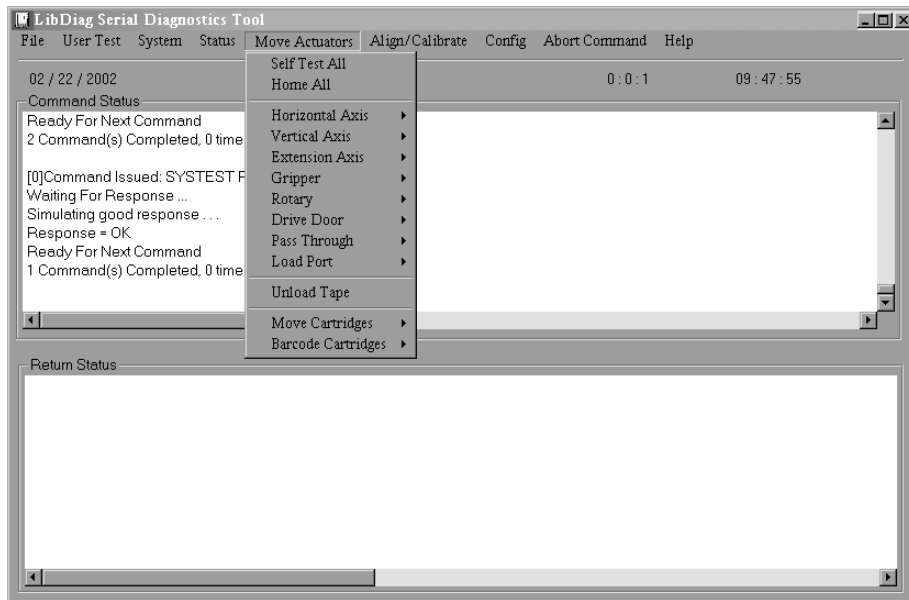


Figure 3–11: Move Actuators menu

### Self Test All

Self Test All sends a short electrical pulse to the extension axis, gripper, and drive door motors and then reads the encoder or sensor data associated with each motor. This operation is used to verify that these motors and their associated encoder or sensors respond as instructed.

To self-test the motors in the system:

1. Select the Move Actuators menu.
2. Select Self Test All.

## Home All

Home All returns all actuators to their home position.

To home all actuators:

1. Select the Move Actuators menu.
2. Select Home All.

## Horizontal Axis

This option tests individual movements of the horizontal axis.

**Table 3-2: Horizontal Axis Submenu Functions**

Option	Description
Self Test	Activates the horizontal axis mechanism to verify normal operation.
Home	Returns the horizontal axis to its home position.
Move To Bin	Moves the horizontal axis directly in front of a bin location that you specify via a pop-up window.
Move To Load Port	Moves the horizontal axis directly in front of the load port bin that you specify via a pop-up window.
Move To Drive	Moves the horizontal axis directly in front of the drive that you specify via a pop-up window.
Move To Position	Moves the horizontal axis to a position relative to the home location. Enter a number (in the pop-up window) to specify the position. The position is specified in inches. A positive number moves the axis toward the rear of the library. A negative number moves the axis toward the front.
Move to PTM	Moves the horizontal axis directly in front of the PTM position the user selects.

To actuate the horizontal axis:

1. Select the Move Actuators menu.
2. Select Horizontal Axis.

3. Select the desired test. For a Move to... option, a pop-up window is displayed asking you to enter one of the following based on your selection:
  - Storage Bin
  - Drive Number
  - Loader Slot Number
  - Position
  - PTM
4. Enter the appropriate information and click **OK**.

## Vertical Axis

This option tests individual movements of the vertical axis.

**Table 3-3: Vertical Axis Submenu Functions**

Option	Description
Self Test	Activates the Vertical Axis Mechanism to verify normal operation.
Home	Returns the vertical axis to its home position.
Move To Bin	Moves the vertical axis directly in front of a bin location that you specify via a pop-up window.
Move To Load Port	Moves the vertical axis directly in front of the load port bin that you specify via a pop-up window.
Move To Drive	Moves the vertical axis directly in front of the drive that you specify via a pop-up window.
Move To Position	Moves the vertical axis to a position relative to the home location. Enter a number (in the pop-up window) to specify the position. The position is specified in inches. A positive number moves the axis toward the top of the library. A negative number moves the axis toward the bottom.
Move to PTM	Moves the vertical axis directly in front of the PTM position the user selects.

To actuate the vertical axis:

1. Select the Move Actuators menu.
2. Select Vertical Axis.

3. Select the desired test. For a Move to... option, a pop-up window is displayed asking you to enter one of the following based on your selection:
  - Drive Number
  - Position
  - Bin# For Face
  - Loader Slot Number
  - PTM
4. Enter the appropriate information and press **OK**.

## Extension Axis

Extension Axis tests individual movements of the extension axis.

**Table 3-4: Extension Axis Submenu Functions**

Option	Description
Self Test	Actuates the extension drive motor and then reads the returned encoder, home sensor, home sensor interrupt, and current feedback information to verify that the motor, encoder, and other sensors are working properly.
Home	Returns the extension axis to its home position.
Move To Load Port	Moves the extension axis directly in front of the load port bin that you specify via a pop-up window.
Move to PTM	Moves the extension axis directly in front of the PTM position the user selects.
Move To Drive	Moves the Extension Axis directly in front of the Drive that you specify via a pop up window.
Move To Position	Moves the extension axis to a position relative to the home location. Enter a number (in the pop-up window) to specify the position. The position is specified in inches. A positive number moves the axis toward the storage bins. A negative number moves the axis away from the storage bins.

To actuate the extension axis:

1. Select the Move Actuators menu.
2. Select Extension Axis.

3. Select the desired test. For a Move to... option, a pop-up window is displayed asking you to enter one of the following based on your selection:
  - Drive Number
  - Loader Slot Number
  - Position
  - PTM
4. Enter the appropriate information and press **OK**.

## Gripper

This option tests individual movements of the gripper assembly.

**Table 3–5: Gripper Submenu Functions**

Option	Description
Self Test	Opens and closes the gripper jaw to verify proper functioning of the motor and the gripper sensors.
Home	Returns the gripper to its home position; that is, closes the gripper jaw.
Open	Opens the gripper jaw.
Close	Closes the gripper jaw.

To actuate the gripper:

1. Select the Move Actuators menu.
2. Select Gripper.
3. Select the desired test.

## Rotary

This option tests the individual movements of the rotary assembly.

**Table 3–6: Rotary Submenu Functions**

Option	Description
Self Test	Actuates the Rotary to verify proper functioning of the Rotary Mechanism.
Home	Moves the Rotary to the home position.
Move Front	Rotates the Rotary so that the gripper is facing the front doors.
Move Back	Rotates the Rotary so that the gripper is facing away from the front doors.

To actuate the rotary assembly:

1. Select the Move Actuators menu.
2. Select Rotary.
3. Select the desired test.

## Drive Door (DLT Drives Only)

This option tests the stepper motors, which control the tape drive insert/release handle (drive door).

**Table 3–7: Drive Door Submenu Functions**

Option	Description
Self Test	Opens and closes the drive door to verify proper functioning of the stepper motor and sensor operation.
Home	Moves the drive door to the home position; that is, closes the drive door.
Open	Opens the drive door to the raised position
Close	Closes the drive door to the lowered position.

To actuate a tape drive door:

1. Select the Move Actuators menu.
2. Select Drive Door.



**Figure 3–12: Select drive door**

3. Enter the drive number and click **OK**.
4. Select the desired test.

## Pass Through

This option tests individual movements of the PTM.

**Table 3–8: Pass Through Submenu Functions**

Option	Description
Self Test	Actuates the pass through mechanism to verify proper functioning.
Home	Moves the pass through to home position.
Move Inside	Moves the pass through to an inside position.
Move Outside	Moves the pass through to an outside position.
Pick	Lets you pick a cartridge from the specified pass through.
Place	Lets you place a cartridge to the specified pass through.

To test individual movements of the PTM:

1. Select the Move Actuators menu.
2. Select Pass Through.
3. Select the desired test.

## Load Port

This option allows you to pick and place cartridges from and to the load port bins.

**Table 3–9: Load Port Submenu Functions**

Option	Description
Lock	Locks the load port to resume normal library operation.
Unlock	Unlocks the load port to allow loading and unloading of media.

To pick (place) cartridges from (to) the load port bins:

1. Select the Move Actuators menu.
2. Select Load Port.
3. Select the desired Pick or Place test.
4. Enter the number of the bin that you want to pick (place) from (to) and click **OK**.

## Unload Tape

This option rewinds the cartridge to the beginning-of-tape. You can then pick the cartridge from the drive.

To unload a cartridge from the drive:

1. Select the Move Actuators menu.
2. Select Unload Tape.
3. Enter the number of the drive containing the cartridge to be rewound and click **OK**.

**NOTE:** When you execute this command, the tape completely rewinds. Depending on the tape position, it takes 10 to 120 seconds before the tape drive Operate Handle indicator lights.

## Move Cartridges

This option allows you to pick (place) cartridges from (to) storage and load port bins, tape drives, and a PTM. You can also use this test to read a bar code label from a cartridge in a specific location.



Before running this test, the library must have a current inventory of the cartridges. The gripper must be free before picking a cartridge from a bin or drive, and must be gripping a cartridge before placing a cartridge into a bin or drive.

**Table 3–10: Move Cartridges Submenu Functions**

Option	Description
Pick From Bin	Picks a cartridge from the specified storage bin.
Pick From Load Port	Picks a cartridge from the specified load port bin.
Pick from PTM	Picks a cartridge from the PTM.
Pick From Drive	Picks a cartridge from the specified tape drive.
Place Into Bin	Places a cartridge into the specified storage bin.
Place Into Load Port	Places a cartridge into the specified load port bin.
Place Into PTM	Places a cartridge into the PTM.
Place Into Drive	Places a cartridge into the specified tape drive.

## Picking a Cartridge

To pick a cartridge:

1. Select the Move Actuators menu.
2. Select Move Cartridges.
3. Select Pick From Bin, Pick From Load Port, Pick From Drive, or Pick from PTM.

**NOTE:** There must be a cartridge in the source bin or drive that you select.

4. Enter one of the following based on your selection in step 3:
  - Storage Bin
  - Loader Slot Number
  - Drive Number
  - PTM Number
5. Enter the appropriate information and click **OK**.

## **Placing a Cartridge**

To place a cartridge:

1. Select the Move Actuators menu.
2. Select Move Cartridges.
3. Select Place Into Bin, Place Into Load Port, Place Into Drive, or Place Into PTM.

**NOTE:** The destination bin or drive that you select must be empty.

4. Enter one of the following based on your selection in step 3:
  - Storage Bin
  - Loader Slot Number
  - Drive Number
  - PTM Number
5. Enter the appropriate information and click **OK**.

## Barcode Cartridges

This option reads the barcode for a designated cartridge. When the option is selected, specify the bin number, drive number, load port bin, or PTM number for the operation.

**Table 3–11: Barcode Cartridges submenu items**

Option	Description
Barcode - Bin	Reads the barcode of a cartridge in the specified storage bin.
Barcode - Load Port	Reads the barcode of a cartridge in the specified load port bin.
Barcode - Drive	Reads the barcode of a cartridge in the specified tape drive.
Barcode - PTM	Reads the barcode of a cartridge in the specified PTM.

To read a cartridge barcode label:

1. Select the Move Actuators menu.
2. Select Barcode Cartridges.
3. Select Barcode - Bin, Barcode - Load Port, Barcode - Drive, or Barcode - PTM.

**NOTE:** The destination bin or drive that you select must be occupied.

4. Enter one of the following based on your selection in step 3:
  - Storage Bin
  - Loader Slot Number
  - Drive Number
  - PTM Number

## Align/Calibrate Menu

Calibration is the process of setting the horizontal, vertical, and extension location values for each bin, tape drive, load port, and pass through location within the library. The calibration values are stored in non-volatile RAM (NVRAM). Use the Align/Calibrate Menu to perform an automatic calibration on all element locations in the library, or calibrate the storage bins, load port bins, drives, and PTMs individually. This menu also includes the option for setting and changing the SCSI addresses of the library and drives.

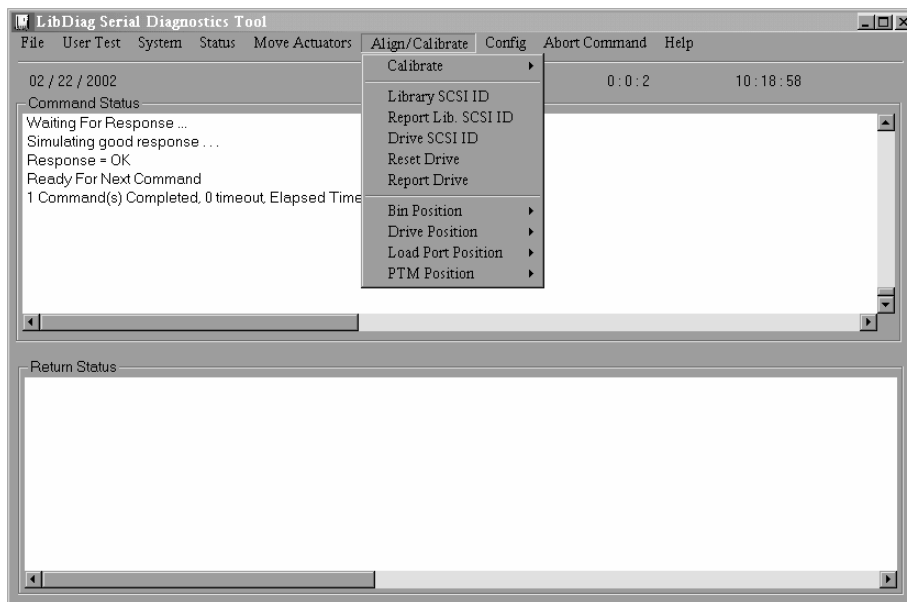


Figure 3–13: Align/Calibrate menu

## Calibrate

This option lets you calibrate the entire library automatically or calibrate the storage bins, load port bins, tape drives, selected PTM, all PTMs, or service individually.

**Table 3–12: Calibrate Submenu Functions**

Option	Selecting this option calibrates the...
All	Entire library
Bin	Storage bins only
Drive	Tape drives only
Load Port	Load port bins only
Selected PTM	Specified PTM only
All PTM	All PTMs
Service	Entire library and loads the default values for all elements

To auto-calibrate the library:

1. Select the Align/Calibrate.
2. Select Calibrate.
3. Select the desired option.

## Library SCSI ID

This option lets you set the SCSI ID (0-15) of the library.

To set the SCSI ID of the library:

1. Select the Align/Calibrate menu.
2. Select Library SCSI ID.
3. Enter the number representing the library SCSI ID and click **OK**.

**NOTE:** After changing the SCSI address of the library, the host controller must issue a “SCSI Bus Reset” for the new SCSI ID to be set, or the library must be powered off and on again to reset the SCSI ID.

## Report Lib. SCSI ID

This option returns the SCSI ID (0-15) in the Command Status Window.

To display the SCSI ID of the library:

1. Select the Align/Calibrate menu.
2. Select Report Lib. SCSI ID.

The SCSI ID information is displayed in the Return Status Window.

## Drive SCSI ID

This option allows you to set the SCSI ID (0-15) of each drive in the library.

To set or change the SCSI ID of a drive:

1. Select the Align/Calibrate menu.
2. Select Drive SCSI ID.
3. Enter the drive number.
4. Enter the drive SCSI ID.

**NOTE:** The Reset Drive command must be performed for the new drive SCSI IDs to be set. Alternately, the host controller must issue a “SCSI Bus Reset” for the new SCSI IDs to be set, or the library must be powered off and on again to reset the SCSI ID. It is recommended that the Report Drive command be performed after the drives have been reset to verify that the SCSI IDs are set or changed as desired.

## Reset Drive

The drive must be reset after you use the Drive SCSI ID command above. This command takes approximately 10 seconds to complete.

To reset a drive SCSI ID:

1. Select the Align/Calibrate menu.
2. Select Reset Drive.
3. Enter the drive number and click **OK**.

## Report Drive

Report Drive displays the configuration of each drive. The information that is reported includes the drive model, the drive and controller microcode revisions, the drive SCSI ID, serial number, cleaning states, tape type, and tape density.

To display the configuration of a drive:

1. Select the Align/Calibrate menu.
2. Select Report Drive.
3. Enter the drive number and click **OK**.

The data for the selected drive is displayed in the Return Status Window.

## Bin Position

Bin Position provides the capability to report or change the horizontal, vertical, and extension location values for each storage bin in the library.

It is not possible to change any of the location values of one storage bin independently of all the other storage bins. Each bin location has the same horizontal and extension value as all other storage bins in a pack. Each bin location has a fixed vertical value relative to all other bin locations in that pack. When any storage bin location is changed, the values for all storage bin locations in that pack are changed accordingly.



**CAUTION:** Changing the calibration values can result in degraded operation of the library. This option should only be used by authorized service personnel.

**Table 3–13: Bin Position Submenu Functions**

Option	Description
Current Vertical Pos	Updates the vertical location value for the specified bin with the current physical location of the vertical axis. When this option is selected, a “WARNING!” pop-up window is displayed. Click on <b>YES</b> to clear the warning. When cleared, enter the desired storage bin number and click <b>OK</b> .
Input Vertical Pos	Updates the vertical calibration value for the specified bin. Enter the desired storage bin number and the desired vertical calibration value.

**Table 3–13: Bin Position Submenu Functions**

Option	Description
Report Vertical Pos	Displays the current vertical calibration value for a specified bin. Enter the desired bin number, and the current vertical calibration value for that bin is displayed.
Current Extension Pos	Saves the current physical location of the extension axis as the calibration value for that storage bin.
Input Extension Pos	Updates the extension calibration value for the specified bin. Enter the desired storage bin number and the extension calibration value.
Report Extension Pos	Displays the current extension calibration value for a specified bin.
All-Current Hz. Pos	Updates the horizontal location values for all bins in the same column as the specified bin with the current physical location of the horizontal axis. The horizontal location values for bins in the other two columns are also updated so that the horizontal distance between the bins in adjacent columns is fixed at 4.600 inches.
All-Input Hz. Pos	Updates the horizontal calibration value for all bins in the same column as the specified bin. The horizontal location values in the other two columns are also updated so that the horizontal distance between the columns is fixed at 4.600 inches.
All-Report Hz. Pos	Displays the current horizontal calibration value for a specified bin. This command performs the same function as Pack-Report Hz.
Pack-Current Hz. Pos	Updates the horizontal location values for all bins in the same pack as the specified bin with the current physical location of the horizontal axis. The horizontal location values for bins in the other packs remain unchanged.
Pack-Input Hz. Pos	Updates the horizontal calibration value for all bins in the same pack as the specified bin. The horizontal location values for bins in the other packs remain unchanged.
Pack-Report Hz. Pos	displays the current horizontal calibration value for a specified bin. This command performs the same function as All-Report Hz. Pos.



## Drive Position

Drive Position provides the capability to report or change the horizontal, vertical, and extension location values for each drive in the library.

**Table 3–14: Drive Position Submenu Functions**

Option	Description
Current Vertical Pos	Updates the vertical location value for the specified drive with the current physical location of the vertical axis. When this option is selected, a “WARNING!” pop-up window is displayed. Click <b>YES</b> to clear the warning. When cleared, enter the desired drive number and click <b>OK</b> .
Input Vertical Pos	Updates the vertical calibration value for the specified drive. Enter the desired drive number and the desired vertical calibration value.
Report Vertical Pos	Displays the current vertical calibration value for a specified drive. Enter the desired drive number, and the current vertical calibration value for that drive is displayed.
Current Extension Pos	Saves the current physical location of the extension axis as the calibration value for that drive.
Input Extension Pos	Updates the extension calibration value for the specified drive. Enter the desired drive number and the desired extension calibration value.
Report Extension Pos	Displays the current extension calibration value for a specified drive.
Current Horiz. Pos	Updates the horizontal location value for the selected drive with the current physical location of the horizontal axis.
Input Horiz. Pos	Updates the horizontal calibration value for the selected drive with the input value.
Report Horiz. Pos	Displays the current horizontal calibration value for a specified drive.

## Load Port Position

Load Port Position provides the capability to report or change the horizontal, vertical, and extension location values for the load port bins in the library.

**Table 3–15: Load Port Position Submenu Functions**

Option	Description
Current Vertical Pos	Updates the vertical location value for the specified load port bin with the current physical location of the vertical axis. When this option is selected, a “WARNING!” pop-up window is displayed. Click <b>YES</b> to clear the warning. When cleared, enter the desired load port bin number and click <b>OK</b> .
Input Vertical Pos	Updates the vertical calibration value for the specified load port bin. Enter the desired load port bin number and the desired vertical calibration value.
Report Vertical Pos	Displays the current vertical calibration value for a specified load port bin. Enter the desired load port bin number, and the current vertical calibration value for that load port bin is displayed.
Current Extension Pos	Saves the current physical location of the extension axis as the calibration value for that load port bin.
Input Extension Pos	Updates the extension calibration value for the specified load port bin. Enter the desired load port bin number and the desired extension calibration value.
Report Extension Pos	Displays the current extension calibration value for a specified load port bin.
Current Horiz. Pos	Updates the horizontal location value for the selected load port bin with the current physical location of the horizontal axis.
Input Horiz. Pos	Updates the horizontal calibration value for the selected load port bin with the input value.
Report Horiz. Pos	Displays the current horizontal calibration value for a specified load port bin.

## PTM Position

This option provides the capability to report or change the horizontal, vertical, and extension location values for a PTM.

**Table 3–16: PTM Submenu Functions**

Option	Description
Current Vertical Pos	Updates the vertical location value for the specified PTM with the current physical location of the vertical axis. When this option is selected, a pop-up window is displayed. Enter the desired specific PTM number and click <b>OK</b> .
Input Vertical Pos	Updates the vertical calibration value for the specified PTM. Enter the desired PTM number and the desired vertical calibration value in the pop-up window and click <b>OK</b> .
Report Vertical Pos	Displays the current vertical calibration value for a specified PTM. Enter the desired PTM number, and the current vertical calibration value for that PTM is displayed.
Current Extension Pos	Saves the current physical location of the PTM as the calibration value for that PTM.
Input Extension Pos	Updates the extension calibration value for the specified PTM. Enter the desired PTM number and the desired extension calibration value.
Report Extension Pos	Displays the current extension calibration value for a specified PTM.
Current Horiz. Pos	Updates the horizontal location value for the specified PTM with the current physical location of the horizontal axis. When this option is selected, a pop-up window is displayed. Enter the desired specific PTM number and click <b>OK</b> .
Input Horiz. Pos	updates the horizontal calibration value for the selected PTM with the input value.
Report Horiz. Pos	Displays the current horizontal calibration value for a specified PTM.

## Configuration Menu

The Config Menu provides the capability to:

- Set or display the overall library configuration
- Initialize an inventory sequence, NVRAM and/or the bar code scanner
- Enable/disable recovery options and/or the tape cleaning feature
- Perform a flash download

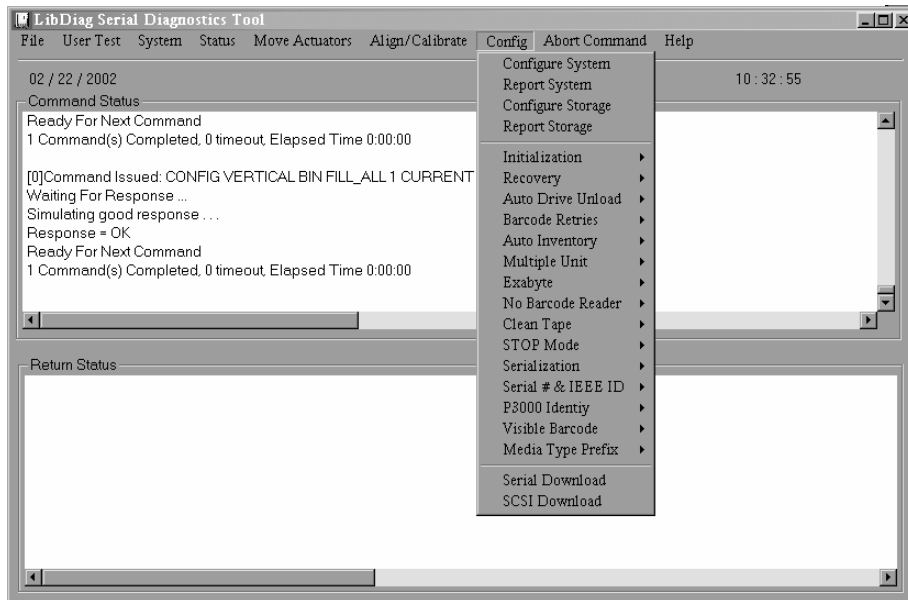


Figure 3–14: Configuration menu

## Configure System

This option allows you to select the proper model number of the library. To configure the library:

1. Select the Config menu.
2. Select Configure System.
3. Select the appropriate model number.

4. Enter the number of bins.
  5. Enter the number of drives.
- NOTE:** Drives must be contiguous within the library.
6. Enter the desired SCSI ID of the library and click **OK**.

**Table 3–17: ESL9000 Series Model Numbers**

Model No.	Name	Product ID	Max. Drives/Bins	Drive Type
6318280*	ESL9198	ESL9000 Series	8/198	DLT8000
6318281	ESL9198	P2000 6318281	8/198	DLT8000
6318285*	ESL9198	ESL9000 Series	8/198	SDLT
6318286	ESL9198	P2000 6318286	8/198	SDLT
6437080*	ESL9322	ESL9000 Series	8/322	SDLT/LTO Ultrium 1
6437085	ESL9322	P4000 6437085	8/322	SDLT/LTO Ultrium 1
6310080*	ESL9326	ESL9000 Series	16/326	DLT7000
6310081	ESL9326	ESL9000 Series	16/170	DLT7000
6310082	ESL9326	P3000 6310082	16/326	DLT7000
6310085*	ESL9326	ESL9000 Series	16/326	DLT8000
6313080*	ESL9326	ESL9000 Series	16/326	SDLT
6313081	ESL9326	ESL9000 Series	16/170	SDLT
6313082	ESL9326	P3000 6438250	16/326	SDLT
6438280*	ESL9595	ESL9000 Series	16/595	SDLT/LTO Ultrium 1
6438081	ESL9595	ESL9000 Series	16/399	SDLT/LTO Ultrium 1
6438285	ESL9595	P7000 6438250	16/595	SDLT/LTO Ultrium 1

\* indicates a default model number

**Table 3–18: TL800 Series Model Numbers**

Model No.	Name	Product ID	Max. Drives/Bins	Drive Type
6210040	TL810	TL810	4/48	DLT2000
6210000	TL812	ACL4/52	4/48	DLT4000
6210010	TL812	TL810	4/48	DLT4000

**Table 3–18: TL800 Series Model Numbers**

<b>Model No.</b>	<b>Name</b>	<b>Product ID</b>	<b>Max. Drives/Bins</b>	<b>Drive Type</b>
6210040	TL812	TL810	4/48	DLT7000
6200203	TL820	TL820	3/264	DLT2000
6200216	TL820	ACL 2640	3/264	DLT2000
6200213	TL822	TL820	3/264	DLT4000
6200213	TL893	TL820	3/264	DLT7000
6200221	TL826	ACL 2640	6/176	DLT4000
6200221	TL896	ACL 2640	6/176	DLT7000
6200223	TL826	TL820	6/176	DLT4000
6200223	TL896	TL820	6/176	DLT7000
6210030	TL894	ACL4/52	4/48	DLT7000
6210040	TL894	TL810	4/48	DLT7000
6240081	TL895	TL810	7/96	DLT7000
6240080	TL895	TL895	7/96	DLT7000
6240050	TL895	ACL 7100	7/96	DLT7000

## Report System

Report System displays the current library configuration, including model number, number of bins, number of drives, and the library SCSI ID in the Return Status Window.

To display the current library configuration:

1. Select the Config menu.
2. Select Report System.

The information is displayed in the Return Status Window.

## Configure Storage

Configure Storage lets you select the proper storage configuration for your system.

To select the proper storage configuration:

1. Select the Config menu.
2. Select the desired storage configuration and click **OK**.

## Report Storage

Report Storage reports the status of storage elements in your system.

To see the storage elements status report:

1. Select the Configure menu.
2. Select Report Storage.
3. Select the desired storage configuration and click **OK**.

## Initialization

To select an initialization option:

1. Select the Config menu.
2. Select Initialization.
3. Select the desired option:
  - Init Inventory
  - Init PTM Inventory
  - Init Non-Vol RAM

## Init Inventory

Initialize Inventory starts a cartridge inventory sequence that scans the cartridges in the storage bins, the load port bins, the tape drives, and the PTM, and then records the location and identity of all barcode labeled cartridges. If all bins in the library are filled with bar code labeled cartridges, the entire inventory sequence takes approximately 5-6 minutes.

## Init PTM Inventory

Initialize PTM Inventory starts a cartridge inventory sequence that scans the cartridges in the PTM only.

To do a PTM inventory only:

1. Select the Config menu.
2. Select Initialization
3. Select Init PTM Inventory.

## Init Non-Vol RAM

Use this option to initialize or reset NVRAM.

**NOTE:** The calibration values are kept in NVRAM on the robotic controller board. If a new robotic controller board is installed in the library, it is recommended that NVRAM be initialized before performing the calibration procedures.

To initialize the NVRAM:

1. Select the Config menu.
2. Select Initialization.
3. Select Init Non-Vol RAM.

## Recovery

This option accesses a submenu with the following options:

- Enable
- Disable
- Report

### Enable Recovery

When recovery is enabled, the library attempts to recover from internal anomalies to complete a command sent from the diagnostic PC (or host).

**NOTE:** When the library is powered-on, the enable/disable recovery switch is automatically set to be enabled. This is the default condition for this feature, and it should remain enabled except when troubleshooting a problem.

To enable recovery:

1. Select the Config menu.
2. Select Recovery.
3. Select Enable.

### Disable Recovery

When recovery is disabled, a command that cannot be successfully completed on the first attempt immediately generates an error response. Always leave recovery enabled when returning the library to the on-line state for operator use.



To disable error recovery:

1. Select the Config menu.
2. Select Recovery.
3. Select Disable.

## Report Recovery

This option reports the current recovery setting (enabled or disabled).

To report the current recovery setting:

1. Select the Config menu.
2. Select Recovery.
3. Select Report.

## Auto Drive Unload

This option accesses a submenu with the following options:

- Enable
- Disable
- Report (reports the current status of Auto Drive Unload)

**NOTE:** Auto Drive Unload is set by default to enable. If you disable this feature then the drives will not auto unload on a Pick From Drive command.

## Barcode Retries

This option allows you to set the number of retries the scanner should attempt to read a barcode.

**NOTE:** The default is eight retries. It is recommended that you do not change this value.

Report indicates the current number of retries set for that specific library.

When you select Barcode Retries, a submenu with the following options is displayed:

- Number of retries
- Report

## **Auto Inventory**

When auto inventory is enabled, the library performs an inventory automatically when the library is powered up.

When you select Auto Inventory, a submenu with the following options is displayed:

- Enable
- Disable
- Report (reports whether auto inventory is enabled or disabled)

## **Multiple Unit**

This allows you to set the library configuration to any one of the following:

- Single unit
- Master unit
- Slave unit
- Report

## **Exabyte**

Not applicable to ESL or TL series libraries.

## **No Barcode Reader**

When this option is disabled, the library scans barcodes during the inventory process. When this option is enabled, the library does not scan barcodes but instead only uses the cartridge-in-gripper sensor to determine the presence of a cartridge in each drive and bin.

When you select No Barcode, a submenu with the following options is displayed:

- Enable
- Disable
- Report (reports whether the no barcode option is enabled or disabled)

## Clean Tape

This option accesses a submenu with the following options:

- Enable Clean Tape
- Disable Clean Tape
- Report Clean Tape

### Enable Clean Tape

Use this option to activate auto-cleaning.

**NOTE:** Enabling or disabling auto-cleaning through the diagnostic software is temporary. When library power is cycled, the auto-cleaning mode will revert back to the last state selected by the host controller via the “Mode Select” command. The library is shipped from the factory with auto-cleaning disabled.

To enable auto-cleaning:

1. Select the Config menu.
2. Select Clean Tape.
3. Select Enable Clean Tape.
4. Verify, through Report Clean Tape, that auto-cleaning has been enabled.

### Disable Clean Tape

Use this option to deactivate auto-cleaning.

**NOTE:** Enabling or disabling auto-cleaning through the diagnostic software is temporary. When library power is cycled, the auto-cleaning mode will revert back to the last state selected by the host controller via the “Mode Select” command. The library is shipped from the factory with auto-cleaning disabled.

To disable auto-cleaning:

1. Select the Config menu.
2. Select Clean Tape.
3. Select Disable Clean Tape.
4. Verify, through Report Clean Tape, that auto-cleaning has been disabled.

## Report Clean Tape

When this option is selected, information is provided (in the Return Status Window) indicating whether auto-cleaning is enabled or disabled and providing the status of each drive (that is, whether cleaning is needed or not). In addition, information is returned showing the bin location and number of uses for each cleaning cartridge in the library.

To display the state of the auto-cleaning feature:

1. Select the Config menu.
2. Select Clean Tape.
3. Select Report Clean Tape.

The information is displayed in the Return Status Window.

## STOP Mode

Stop Mode accesses a submenu with the following options that allows you to set the status of the library when troubleshooting:

- Stop On
- Stop Off
- Stop Report

## Serialization

This option allows you to activate the serialization of your library through a submenu listing the following:

- Enable
- Disable

**NOTE:** Disable is not a valid command for ESL or TL series libraries. Serialization is always enabled.

- Report

## Serial # IEEE ID

This option lets you report on and set a serial number and IEEE ID number. Select Serial # IEEE to access the following submenu items:

- Config Serial #
- Report Serial #
- Set IEEE ID
- Report IEEE ID

**NOTE:** On some ESL9000 libraries you cannot change the serial number or IEEE ID number due to the internal library identification process, however you can still get reports on these items.

## P3000 Identity

Not supported on ESL or TL series libraries.

## Visible Barcode

This option allows the visible barcode length to be set from six up to eight characters. The submenu contains the following options:

- Config Length
- Report Length

## Media Type Prefix

This option allows the 7th and 8th barcode characters, which identify the media type, to become the prefix for the barcode label. The submenu contains the following options:

- Enable
- Disable
- Report

## Serial Download

Serial download is used to load robotics firmware revisions using the serial port. The firmware downloaded through this method remains in the system until new robotics firmware is downloaded.

**NOTE:** The hex file (S6211250.HEX) for downloading must be copied into the same directory as LibDiag.

To perform a serial download:

1. Select the Config menu.
2. Select Serial Download.
3. Select the file you want to download and click **OK**.
4. Enter Y and click **OK**.

**NOTE:** The download will take approximately 60-90 minutes. When complete “SERIAL DOWNLOAD COMPLETED” is displayed in the Command Status Window.



**CAUTION:** To avoid damage to the equipment do not turn off the library during this process.

---

## SCSI Download

SCSI Download is used to load robotics firmware revisions using the SCSI bus. The firmware downloaded through this method remains in the system until new robotics firmware is downloaded.

To perform a SCSI download:

1. Make sure the Library is connected to the Host Computer through SCSI. (This can be verified by performing a normal SCANBUS).
2. Select the Config menu.
3. Select SCSI Download.
4. Select the file you want to download, and then click **OK**.
5. Click **YES** to confirm.

**NOTE:** The SCSI Download takes approximately 5 - 7 minutes. When completed, a “SCSI DOWNLOAD COMPLETE” is displayed in the Command Status Window.



**CAUTION:** To avoid damage to the equipment, do not turn off the library during this process.

---

## Initializing the Library

Perform the following procedure to initialize the library after downloading a new program or replacing the robotics controller board:

1. Initialize non-volatile RAM (NVRAM).
2. Configure the library for the number of existing drives. You can do this either of the following ways:
  - Use the Configure System from the Configuration menu.
  - Use the # Drives: option on the Configure: Library Settings via the control panel.
3. Calibrate the entire library using the All option on the Calibrate submenu.
4. Power cycle the library.



**CAUTION:** When power cycling the library, leave the power off at least 15 seconds before turning the power back on.

---

## Abort Command

This feature allows you to terminate or cancel any test in progress.

To abort a test:

1. Initiate any test from the pull-down menu selection except Home All.
2. Once the test is in progress, select Abort Command.

**NOTE:** It may take several seconds for this command to take effect.

## Help

This feature allows you to access the Help file associated with the entire program. When accessed, a submenu with the following is displayed:

- Help
- Contents
- Index

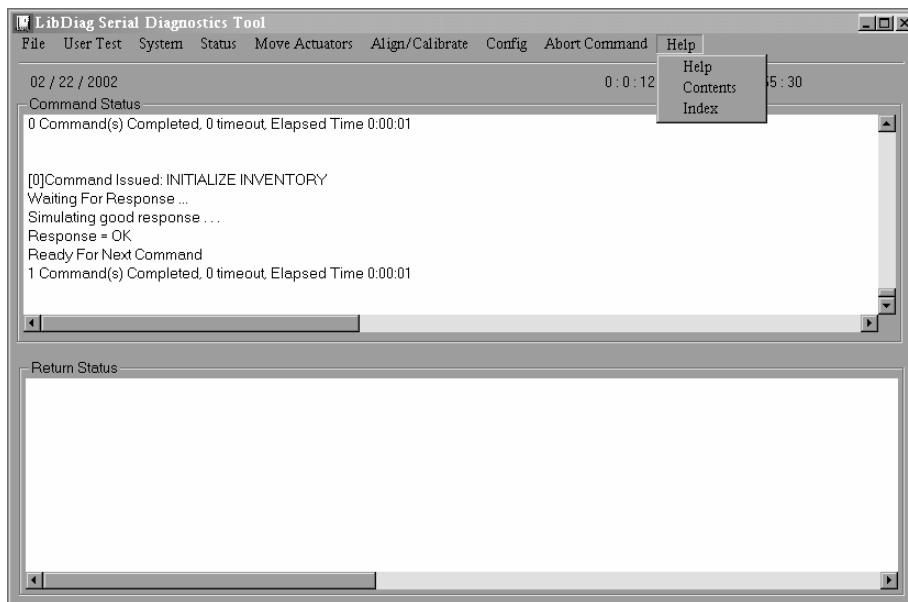


Figure 3–15: Help menu



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