Release Notes

- **Spectra® 64K Library**
- **Spectra 20K Library**
- **Spectra 12K Library**

P.N. 90910852 Revision AG

Notices

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Release Notes: Spectra 64K, Spectra 20K, and Spectra 12K Library.

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Contents

Introduction

These release notes give you the latest information available and are an addendum to the User Guides shipped with the library.

Your satisfaction, feedback and ideas on our products and how we can better serve you are extremely valuable. We encourage you to call us at (800) 833-1132 or send an e-mail to *feedback@spectralogic.com*.

Note: To make sure you have the latest version of these release notes, check the electronic version at http://www.spectralogic.com/support/docs.cfm.

Related Publications

These release notes provide information specific to Spectra 12K, Spectra 20K, and Spectra 64K libraries. Use these notes in conjunction with the following publications:

- *Spectra 12K User Guide, P.N. 90910889*: Describes installing, operating and maintaining the Spectra 12K library.
- *Spectra 20K User Guide*, P.N. 90920001: Describes installing, operating and maintaining the Spectra 20K library.
- *Spectra 64K User Guide*, P.N. 90910851: Describes installing, operating and maintaining the Spectra 64K library.

Important Information

Upgrading Issues

G2 E-QIPs

Note: If your G2 E-QIP is configured for DHCP *and* it has been disconnected from the DHCP server, you may encounter warning or error messages stating *E-QIPs Failed.* This message will occur after every power cycle, or until the DHCP server is re-connected. Clear this message and wait for the G2 E-QIP to become available. This problem occurs because the LC will load faster than a G2 E-QIP with an unreachable DHCP sever. Once the G2 E-QIP becomes available, there is no longer a problem.

ITP or None Configuration

Note: **ITP** and **None** are no longer options for the G2 E-QIP. They have been replaced with a free **iSCSI** option.

If the Ethernet protocol previously enabled for the Gator G2 E-QIP was either **ITP** or **None**, it will be necessary to enable iSCSI on the Ethernet Options screen and re-save the parameters. After the LCM is rebooted, a error message on the LC will indicate that one or more of the G2 E-QIPs does not match the previous configuration. Clear this message and then enable iSCSI using this procedure:

Note: If **iSCSI** or **NDMP** was enabled on the previous firmware release, there should be no configuration problem on the G2 E-QIP. Only QIPs configured for **ITP** or **None** will have a problem.

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1. From the Controller Configuration Toolbar, select **Partitions** then select the desired partition and then select **Edit**.

2. In the Edit Partitions screen, select **Options** to view the Controller Options window (Figure 1).

Figure 1 *Controller Options window.*

3. Select iSCSI and then select Configure.
4. A window will display asking to confirm parameters, select **OK**. You may now configure iSCSI as your protocol.

Note: You may only choose NDMP as a protocol if you purchase NDMP as a keyed option.

Configuring IP Parameters

With static IP setup, enter parameters as normal. For DHCP, enter valid addresses before selecting DHCP and saving parameters.

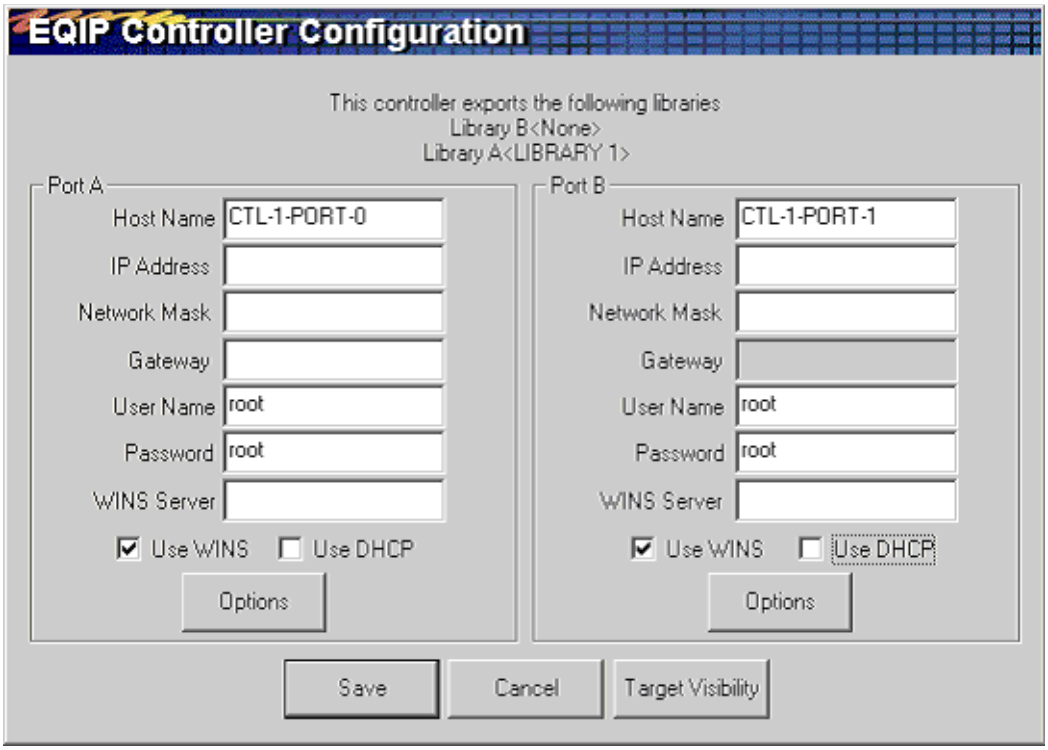


Figure 2 *The E-QIP Controller Configuration screen.*

Type in valid addresses for IP, Gateway and WINS before checking the Use DHCP and before clicking on Save.

The DHCP server will furnish the Ethernet parameters that will be used. The parameters that are entered by the User will be ignored.

Notes on Running in DHCP/WINS/DNS and iSNS Environments

Use of any of these options requires communication to an external server over the network. If this server is unavailable or cannot be reached at the library power up time the library or QIP will need to be reset after the server becomes ready.

Using DHCP. DHCP provides all the Ethernet set up information necessary to communicate on a particular network. An external server on the network provides the Ethernet set up information to the library. If the DHCP server is not present or cannot be reached at the time of library power up the library will not be able to communicate with any host on the network. On power up the library searches for a DHCP server only for about 3 minutes. If none is found the library or QIP will need to be reset in

order to re-initiate the DHCP server scan. The Spectra 2K has this option enabled by default.

Using WINS. WINS is used to be able to address the library or QIP by the hostname instead of the IP address. The library only will attempt to communicate and register the hostname with the WINS server during start-up. If the WINS server is not available or unreachable at that time the hostname will not get registered but the library or QIP will still be able to function on the network.

Using iSNS. The name service for iSCSI is iSNS. The iSNS server maintains a list of iSCSI target names for the devices on the network. The library or QIP will register the names of the devices, attached to it, with the iSNS server. The list of iSCSI devices on the network is made available to initiators for the purpose of establishing a connection. Once the library or QIP iSCSI targets are registered with the iSNS server, the iSNS option should *not* be disabled. To disable the iSNS option first, de-register the target devices from the iSNS server, and then turn off the iSNS option on the library or QIP.

The order of events is important when enabling or disabling iSNS:

1. Configure the Ethernet parameters using the LC.
2. Prepare iSNS server for device registration.
3. Connect the QIP to the iSNS server.
4. Enable iSNS option on QIP.
5. Reboot the QIP.

Note: All library Ethernet parameters need to be configured *prior* to registering with the iSNS server. Once the Ethernet parameters have been configured, it is then okay to enable iSNS and reboot the QIP.

If you registered your library with iSNS first, you can correct the problem in either of the following two ways:

- By stopping the iSNS service. To do this, remove the files MSISNS1.DAT and MSISNS0.DAT from the \\WINNT directory (on 2000). Then restart the iSNS service.
- Or, reboot the iSNS server.

Best Practices for iSCSI and IP SANs

IP SANs should be based on GigE 1000BaseT network topography. Since backups and storage networks create a good deal of traffic a dedicated subnet should be utilized. IP SANs should not be sharing bandwidth with regular user LAN traffic. To increase performance jumbo frames (9K MTU) should be used.

The best performance with iSCSI is achieved by setting the iSCSI parameters to the following state:

- R2T = no
- Immediate Data = Yes or no

The parameters below can be set to the maximum values listed below:

- First Burst Length = 128K
- Maximum Burst Length = 256K
- Maximum Max Receive Buffer Length = 64K

Best performance is achieved by setting these values to their maximum value.

Reporting End of Media/End of File for NDMP Backup Applications

Some versions of backup applications use the NDMP version 2 messaging for events like the reporting of EOM conditions. The NDMP mover agent for the tape library can be configured to report EOM conditions as EOF or EOM.

Setting EOM Reporting on 12K/20K/64K

The 12K/20K/64K Set QIP NDMP EOM option is configured through a Diagnostic utility (Figure 3)

Figure 3 *Library Diagnostics screen with Set QIP NDMP EOM option selected.*

Tap the Select Diagnostic button, and then select the controller to configure.

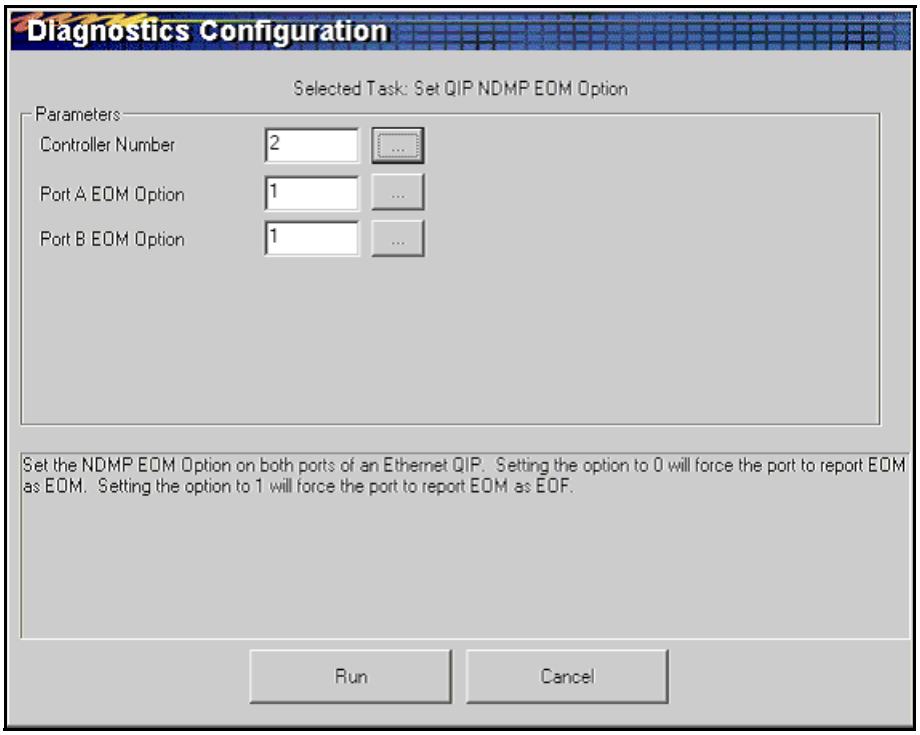


Figure 4 *Diagnostic: Set QIP NDMP EOM option screen.*

The note on the screen describes the message that will be reported when an EOM condition is encountered.

- 0 = EOM reported
- 1 = EOF reported

Updates to the Library User Guides

Chapter 10. Drive Use and Maintenance

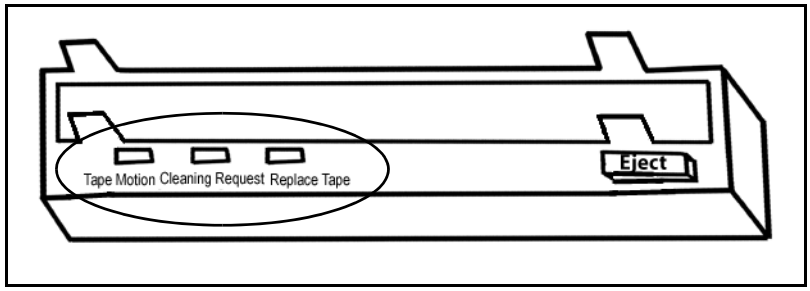
Getting Information from the Drive LEDs on AIT-3, AIT-4, and AIT-5 Drives

AIT-3, AIT-4, and AIT-5 drives have three light emitting diodes (LEDs):

Tape Motion
Indicates tape activity.

Cleaning Request
Indicates drive cleaning request and status of cleaning.

Replace Tape
Indicates the status of the media.



The AIT-3, AIT-4, and AIT-5 tape drive LEDs.

LED Information

This table summarizes the information presented by the different LEDs:

Type of Blink	LED Type		
	Tape Motion	**Cleaning Request**	**Replace Tape**
Off[a]	No Tape	Cleaning is not necessary	No media error occurred
On[b]	Tape Loaded	Cleaning request	Media error occurred
Slow Flash[c]	Read/write in progress	Cleaning is not completed	Media warning
Fast Flash[d]	Other tape access in progress	N/A	N/A
All Flash[e]	Hardware error occurred		

a. Off: no color in the LED
b. On: Blue and not blinking
c. Slow flash: flashes blue for 3-1/2 seconds and off for 1/2 second
d. Fast flash: flashes blue for 1/4 second and off for 1/4 second
e. All LEDs flashing: all flash blue for 1/4 second and off for 1 second

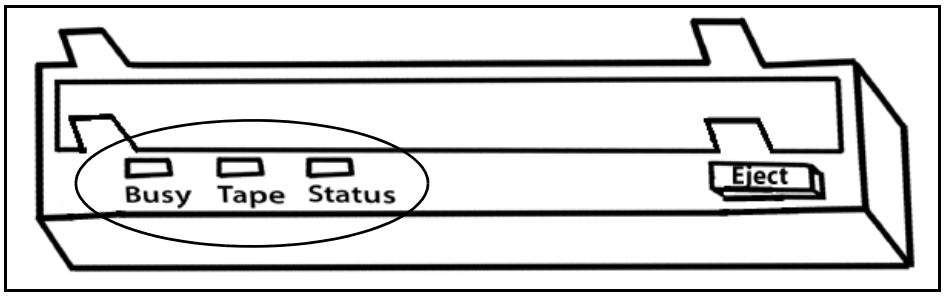
Getting Information from the Drive LEDs on AIT-1 and AIT-2 Drives

The AIT-1 and AIT-2 tape drives have three LEDs on the front of the drive:

Busy Indicates drive read and write activity.

Tape Indicates tape load and unload activity and error rate information.

Status Indicates the status of the tape drive, including whether the tape inside is write-protected, if it is a cleaning tape, or if the drive failed a self-test.



The AIT-1 and AIT-2 tape drive LEDs.

LED Information

The following table summarizes the information presented by the different drive LEDs:

Type of Blink	LED Type		
	Busy	**Tape**	**Status**
Off[a]	Not Busy	Unloaded	N/A
On[b]	SCSI Active	Loaded	Write protected
Fast Blink[c]	Drive active	Loading/Unloading	Cleaning tape at EOM
Slow Blink[d]	N/A	Error Rate Warning	Cleaning request
Single Pulse[e]	Waiting for reset	Waiting for eject	N/A
Double Pulse[f]	N/A	N/A	Self-test failure

a. Off: no color in the LED

b. On: green* and not blinking

c. Fast blink: blinks green for 1/4 second and off for 1/4 second

d. Slow blink: blinks green for 3-1/2 seconds and off for 1/2 second

e. One pulse: blinks green for 1/4 second and off for 1 second

f. Two pulse: blinks green for 1/4 second twice in a row then off for 1 second

If the drive's Tape LED indicates possible errors with the data on that tape, the errors may be caused by old media or physical damage to the media. Resolve the problem by copying the data to another tape and discarding the old tape.

Cleaning the AIT Drive Heads

You can now clean tape drives from the RLC:

1. From the RLC Library Inventory page, select the drive cleaning tape from the appropriate tape slot. Make sure the you have selected the partition with the appropriate drive to be cleaned.
2. Select the cleaning tape from either a tape slot or the E/E port, and then select the drive to be cleaned. The **Drive Clean** button displays.
3. Select **Drive Clean**. The cleaning tape moves to the drive and the drive cleaning process begins. Once the drive clean is complete, the tape is moved back to its original slot

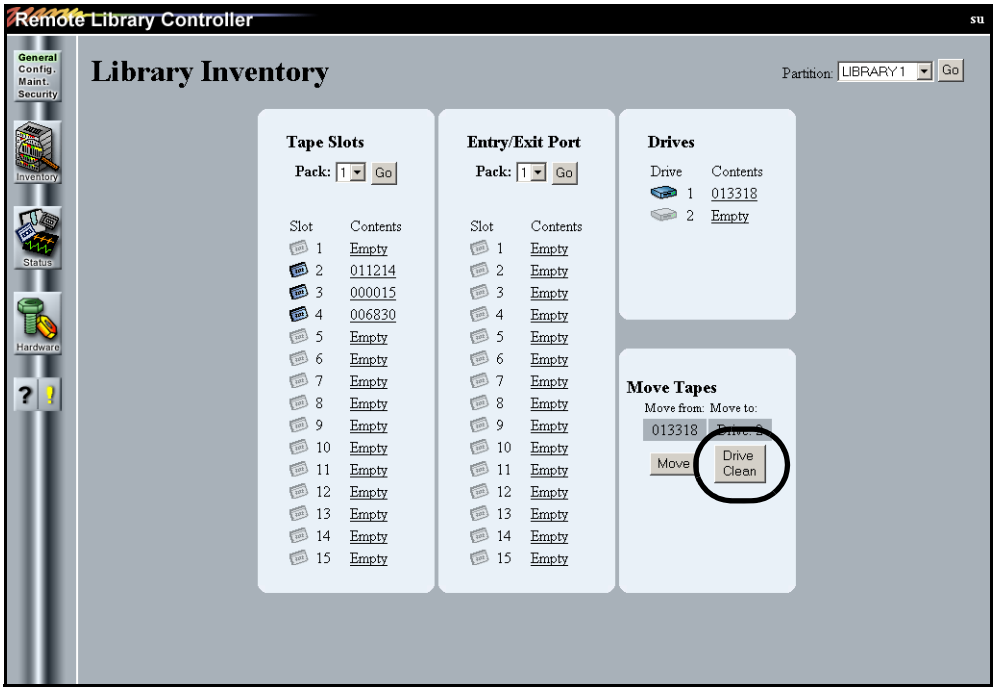


Figure 1 *The RLC Library Inventory page, with the Drive Clean button identified.*

Updating Tape Drive Firmware

Complete drive firmware upgrades to speed data backup and improve performance. You can upgrade using either firmware tapes or using a USB device with the firmware update (on libraries with a USB port). The procedure for Spectra 12K, Spectra 20K, and Spectra 64K libraries takes advantage of an advanced diagnostic that upgrades all of the drives automatically.

Note: The drive firmware tape is not a data tape, and it cannot be copied. Store the firmware tape away from other tapes that contain data.

Before you begin a drive upgrade, Spectra Logic recommends that you clean the drives; this ensures a smooth and rapid upgrade.

1. Make sure that the library power is on, no tapes are in any of the library's drives, and make sure no backup processes that are running to the library.
2. On the LC, select **Toolbars > General > Inventory**.
3. Select **Open/Close EE port** and insert the firmware tape into an available EE slot.
4. Note the slot number, then close the EE port.
5. Select **Toolbars > Maintenance > Diagnostics**.
6. Select **Advanced**, then select the Upgrade Drive Firmware diagnostic.
7. Select the appropriate parameters, then run the diagnostic.

   The diagnostic upgrades every specified drive using the firmware tape. When the upgrades complete, the results of the upgrade display on the LC.
8. Select **Toolbars > General > Inventory**.
9. Select **Open/Close EE port**, and remove the firmware tape from the EE port.

Note: Only advanced users should try to upgrade the drives manually.

- Open the library front door.
- Insert the firmware tape into the drive by hand.
- Repeat for every drive.
- Close the front door.
- Run the Reset Controller diagnostic; this resets all controllers associated with the upgraded drives.

The drive firmware is displayed by selecting Drive Config.

Chapter 11. Maintaining the Library

New Diagnostics

Forced Drive Eject This diagnostic sends a forced drive eject command to the selected drive.

> **Caution:** The forced drive eject command may damage the tape and/or the drive. You must manually remove the tape once ejected. Do *not* use the robotics to eject the tape.

Reset Drive This diagnostic is used to reset the selected drive. You can also access this diagnostic from the drive configuration screen. For more information refer to your user guide.

Get Drive Cleaning status This diagnostic is used to support the AIT-4 HPI issue. For more information on the AIT-4 HPI issue, go to www.spectralogic.com/SonyAIT4info.

Libraries with a USB Port

All new Spectra 20K and 64K libraries use USB devices in place of floppy drives.

Figure 2 *USB device on LCM*

Use the USB device for diagnostics, traces, and package updates.

Appendix C: Specifications

Power Requirements: Spectra 64K Library

Power requirements for the Spectra 64K library are listed in the table below:

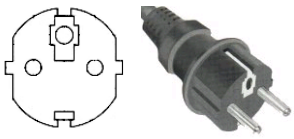
Source	Requirements
Input Voltage	200-240 volts-AC; 13 A maximum
Input Power	1475 Watts maximum
Input Frequency	50-60 Hz

Power Cable Specifications

Power Cable Specifications	
Power Cord	Three-conductor, 14-gauge
Power Input Connector	IEC 320-C19

Power Cable Types and Plug Types

The following table shows the Spectra 64K library power cables used in each country.

Power Cables and Plugs			
Part Number	**Country of Use**	**Plug Style**	
5500 7029	North America / Korea North America / Korea	L620P L6/30P	
6805	United Kingdom	BS 1363A	
6807	Japan	L6/20P	
6808	Continental Europe	CEE(7)VII	

The branch circuit that feeds the unit should have a circuit breaker rated at 20A. The twist lock plug is considered the disconnect for the unit. The plug must therefore be installed in an accessible location near the unit.

The cord locks provided should be installed to keep the cords from becoming disconnected from the dual AC input plugs. For instructions on installing cord locks, see *Installing Cord Locks*, below.

Caution: This library is designed to be used on single phase power only. If two power supplies that are not on the same phase are used, damage to the library could result.

Vorsicht: Diese Library kann nur an einen Stromkreis angeschlossen werden. Wenn zwei Netzteile installiert und an zwei verschiedene Stromkreise angeschlossen sind, kann das zu einem Defekt der Library führen.

Installing Cord Locks

If you are using the library's dual AC power option, cord locks should be installed. To install cord locks on your power supply, follow these steps.

1. Before installing the dual AC module in the unit, remove the four black screws that hold the input plugs in place (Figure 3).

Figure 3 *The four black screws.*

2. Place the cord locks on the cord ends so they are flush with the cutout (Figure 5); one cord must have the tightening screw on the top (Figure 4), and one cord must have the tightening screw on the bottom (Figure 5).

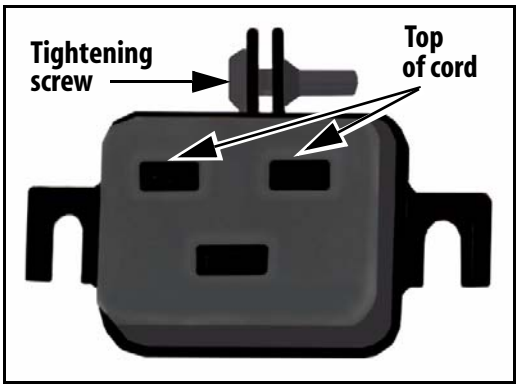


Figure 4 *A cord lock installed upward.*

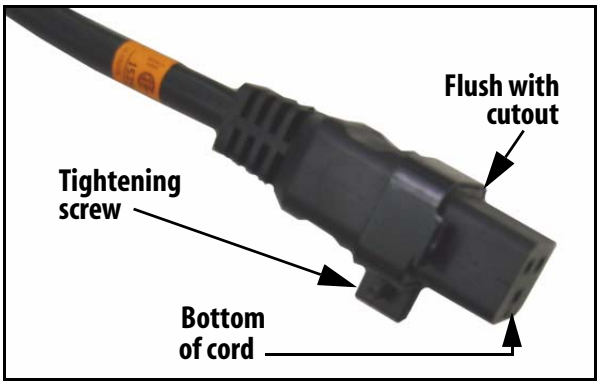


Figure 5 *A cord lock installed downward.*

3. Insert the power cords in the plugs with the cord locks attached. Make sure that the cords are seated firmly into the plugs and that the cord locks are flush against the plugs (Figure 6).

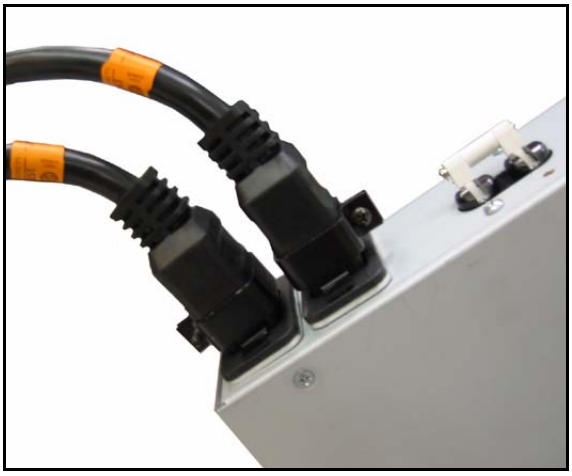


Figure 6 *The cord locks flush against the plugs.*

4. Use a #1 Phillips screwdriver to tighten the cord locks onto the cords.
5. Remove the cords from the plugs, making sure not to pull the plugs out of the dual AC, since the screws that hold them in have been removed.

6. Insert the dual AC into the chassis (Figure 7).

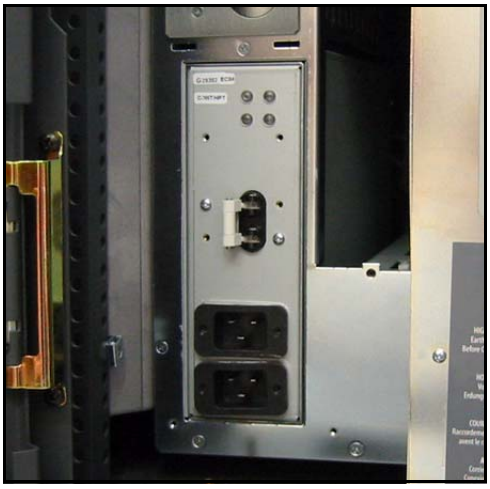


Figure 7 *The dual AC module in the chassis.*

7. Put the faceplate on over the power supply, making sure that the tabs on the top of the faceplate go into the slots on the chassis (Figure 8).

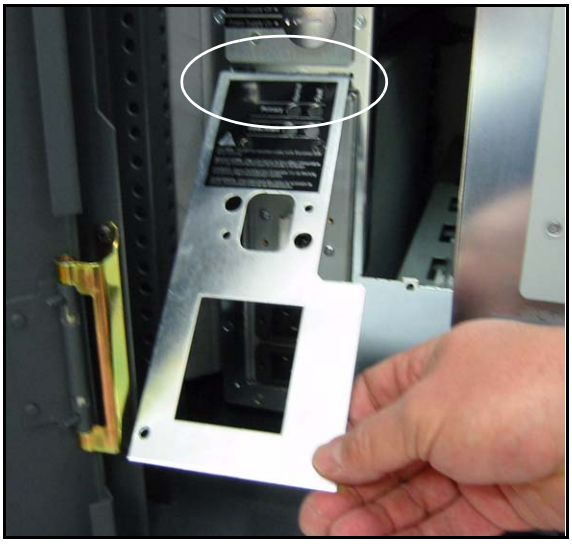


Figure 8 *The faceplate tabs inserted in the chassis.*

8. Use a #1 Phillips screwdriver to tighten the two beveled screws at the bottom of the faceplate (Figure 9).

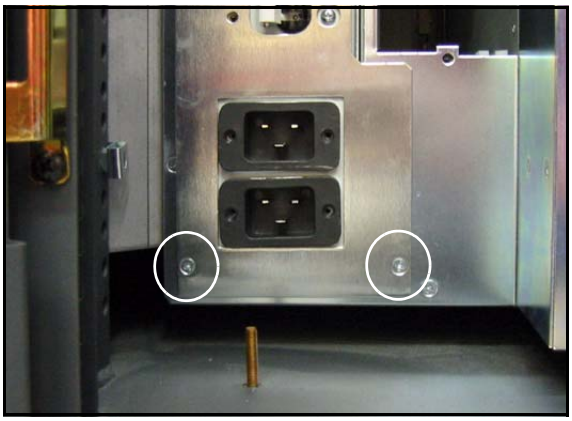


Figure 9 *The two screws in the bottom of the faceplate.*

9. Plug the cords into the plugs and tighten their four black screws over the cord locks (Figure 10).

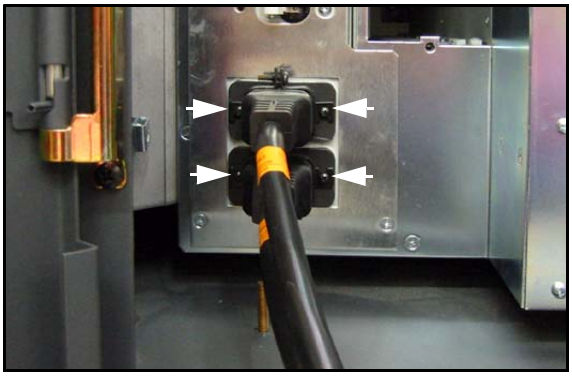


Figure 10 *The four black screws over the cord locks.*

10. Install the yellow circuit breaker cover with two of the pan-head screws (Figure 11).

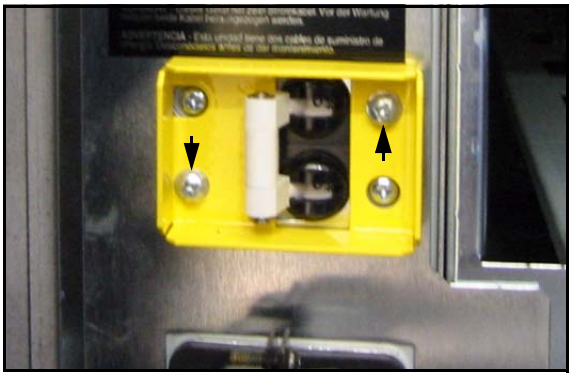


Figure 11 *The circuit breaker cover.*

11. Tighten the two pan-head screws at the top of the faceplate (Figure 12).

Figure 12 *The two screws at the top of the faceplate.*

Power Requirements: Spectra 12K and Spectra 20K Libraries

Power requirements for the Spectra 12K and 20K libraries are listed in the table below:

Source	Requirements
Input Voltage	100-240 volts-AC; 3-6 A maximum
Input Power	600 Watts maximum
Input Frequency	50-60 Hz

Power Cable The power cable included with the Spectra 64K library is a standard, three-conductor cord safe for 120-volt use in the United States and Canada. The cable has a molded NEMA 5-15P male connector to plug in the wall and a molded IEC60320 C13 female connector to plug in the library.

Outlet The outlet a customer must provide for the library is a NEMA 5-15R (5=110VAC, 15=Circuit Rated Amperage, R=Receptacle).

The branch circuit that feeds the unit should have a circuit breaker rated at 15A. The plug is considered the disconnect for the unit. The plug must therefore be installed in an accessible location near the unit.

Sony AIT-4 and AIT-5 Tape Drive Specifications

Parameter	Specification
Ambient operating temperature[a]	+40°F to +104°F (+5°C to +40°C)
Storage temperature	-40°F to +158°F (-40°C to +70°C)
Operating humidity	20% to 80% non-condensing
MTBF	400,000 hours @ 100% duty cycle
Average access time	44 seconds
Uncorrectable error rate	$< 1 \times 10^{-17}$ bits
Sustained transfer rate [b, c]	24 MB/sec native
Burst transfer rate [d]	160 MB/sec Synchronous maximum

a. The upper limit applies to the drives themselves. The temperature limits for the library are given in *Operating Environment Limits*. Be sure there is adequate air flow around the library at all times.

b. This is a per-drive value. Total sustained transfer rate for the library depends on the number of drives installed.

c. The sustained transfer rate per drive can increase by an average of 2.6 times the specified value with compression. Compression thoughput and capacity depends on the type of data.

d. The actual burst data transfer rate is limited by the performance of the SCSI host bus adapter, the SCSI bus interface controller, and the buffer control hardware of the drive.

Sony AIT Media Specifications

Capacity	AIT-2	AIT-3	AIT-4	AIT-5
Native	50 GB	100 GB	200 GB	400 GB
Compressed [a]	130 GB	260 GB	520 GB	1040 GB

a. Assuming 2.6:1 compression using ALDC.

Appendix D: Regulatory and Safety Standards

WEEE Directive

The following symbol on the back of this product indicates that his product meets the European Directive 2000/96/EC on Waste Electrical and Electronic Equipment known as the WEEE directive. This directive, only applicable in European Union countries, indicates that this product should not be disposed of with normal unsorted municipal waste.

Within participating European Union countries, special collection, recycling, and disposal arrangement have been established for this product. At the end of life, the product user should dispose of this product using special WEEE collection systems. These special systems mitigate the potential affects on the environment and human health that can result from hazardous substances that may be contained in this product.

European Union users should contact their local waste administration for WEEE collection instructions for this product.

Safety Standards

The Spectra 64K/20K/12K library complies with the following domestic and international product safety standards.

- IEC 60950:91+A1:92, A2:92, A3:95, and A4:96
- UL 60950 Third Edition ("Safety of Information Technology Equipment" based on IEC 60950)
- CSA C22.2 No. 950 (Canada: cUL Mark)
- EN 60950:92+A1, A2, A3, A4, and A11 (European Union [EU])
- Low Voltage Directive (EU: CE Mark)
- Electrical Equipment Law (Germany: GS Mark)

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

EU Declaration of Conformity

We:

Spectra Logic Corporation
1700 North 55th Street
Boulder, CO 80301
USA

declare under sole responsibility that the

Spectra 64K/20K/12K Library

to which this declaration relates, meets the essential health and safety requirements and is in conformity with the EU Directives listed below using the relevant section of the following EU standards and other normative documents:

EU EMC Directive 89/336/EEC Essential health and safety requirements relating to electromagnetic compatibility.

EN 55022 (CISPER 22) Class A Limits and methods of measurements of radio interference characteristics of information technology equipment.

EN 55024 1998, Information Technology Equipment - Immunity Characteristics Limits and Methods of Measurement. EN 61000-4-2 1995 + A1:1998+A2: 2001, Electrostatic Discharge

EN 61000-4-3 1995 + A1:1998 + A2:2001, ENV 50204: 1995, Radiated RF Immunity

EN 61000-4-4 1995 + A1:2001, Electrical Fast Transient/Burst

EN 61000-4-5 1995 + A1:2001 + A2:2001, Surge Immunity

EN 61000-4-6 1996 + A1:2001 + A2:2001, Conducted RF Immunity

EN 61000-4-8 1994 + A1:2001, Power Frequency H-field Immunity

EN 61000-4-11 1994 + A1:2001, Voltage Dips and Interrupts

EN 61000-3-2 2000, Power Line Harmonics

EN 61000-3-3 1995, Power Line Flicker

EC Low Voltage Directive 72/336/EEC Essential health and safety requirements relating to electrical equipment designed for use with certain violate limits.

EN 60950 (IEC 60950) Safety requirements of information technology equipment including electrical machines.

The Spectra 64K/20K/12K library complies with all safety-relevant provisions referring to:

- Protection against electrical hazards
- Protection against hazards such as:
  - Mechanical hazards
  - Fire hazards
  - Noise
  - Vibration

The safety issues of this information technology equipment type have been evaluated by a government-accredited European third-party organization, such as UL Demko International.

The CE marking has been affixed on this device according to Article 10 of the EU Directive 90/336/EEC.

Note: To meet CE certification requirements, you must be running your Spectra 64K/20K/12K library on an uninterruptable power supply.

All safety and regulatory information provided here is certified by Sustaining Engineering at Spectra Logic Corporation.

Neal Downey
Sustaining Engineering

Japan: VCCI Class A ITE

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Translation: This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective actions.

Germany

The Spectra 64K/20K/12K library is certified by geprüfte Sicherheit through UL Demko International. This is a voluntary certification that complies with German safety regulations to meet the demands of the industry.

This user guide complies with this certification by providing all safety-relevant information in the German language.

Updates to Safety-Relevant Information

The following safety-relevant information has been updated to include German translations to comply with the library's GS certification.

Warning: Risk of electrical shock. Do not remove the library cover. To remove AC power from the library, unplug the power cord from the power inlet. There are no user-serviceable parts within the library.

Warnung: Es besteht die Gefahr eines Stromschlags. Entfernen Sie nicht das Gehäuse der Library. Um die Library spannungsfrei zu schalten muß vorher das Netzkabel von der Stromversorgung getrennt werden. Innerhalb der Library gibt es keine Komponenten die durch den Benutzer gewartet werden können.

Caution: The library is heavy. Use extreme caution when unpacking and lifting the library. You will need at least three people to move and position the library.

Vorsicht: Die Library ist sehr schwer. Beim Auspacken und Anheben der Library sollten Sie mit großer Vorsicht vorgehen, um Beschädigungen zu vermeiden. Das Bewegen und Positionieren der Library sollte von mindestens drei Personen durchgeführt werden.

Firmware Support Process

The support model for Spectra Logic firmware will be based on the father/grandfather scheme. This will be implemented as follows:

Current Shipping Release Any issues found in the current release of firmware will be resolved either with a patch or a new release, depending on the types of changes needed. The current release will be completely supported.

One Release Prior to the Current Release Support will strongly recommend that customers using the previous release of firmware upgrade to the current release. If the customer is unwilling or unable to do this, Spectra Logic will provide patches to the previous release.

Two Releases Prior to the Current Release Customers will be asked to upgrade to the current release. There must be an extremely compelling reason to avoid upgrading. Patches to firmware that is two releases prior to the current release will be extremely rare.

Updating Library Firmware and Drive Firmware

To update library or tape drive firmware, go to Spectra Logic's web site at http://www.spectralogic.com/index.cfm?fuseaction=support.showContentAndChildren&catID=248&p=233.

Firmware History

BlueScale BLSC7072 Firmware Release

Enhancement:

Internal communication handling has been improved.

Supported:

With AIT-5 drives, the minimum level of drive firmware needed is level 0103-4000 or higher.

Issues Resolved:

- After successfully updating firmware, BlueScale no longer displays warnings that the current firmware does not match the package firmware level.
- AIT3-C drive firmware, level 020A0002 is now supported.
- The cleaning status in the Drive Details screen is now correct.
- After the LCM resets, the timeout to lock the screen now functions correctly.
- When the pax is blocked when picking a tape from a drive, BlueScale retries the operation.
- When bulk importing/export tapes during backups, if the exporting QIP goes offline, it can now be restarted using the reset button on the QIP.
- When a partition spans multiple QIPS and the library is moving tapes from one QIP to another QIP, tapes are not forcibly ejected from the non-exporting QIP drive.
- The BlueScale interface still displays the FQIP and EQIP when there is a problem unloading drives.
- Fixed a problem with forcibly ejecting tapes in AIT-5 drives.

BlueScale BLSC7070 Firmware Release

New Feature:

- Added support for Sony AIT-5 technology.

Known Issues:

- Users running Legato NetWorker 7.3.2:
  In NetWorker, manually configure (as opposed to auto-configuring) AIT-5 drives for now; a patch from Legato will be released in the future to address this.
- Users running BakBone NetVault 7.4.4:
  In a Spectra Logic library, AIT-5 drives should use AIT-4 emulation; a patch from BakBone will be released in the future to address this.

BlueScale BLSC7064 Firmware Release

Issues Resolved:

- No more memory leaks when returning sense data and read (08) command data.
- E-QIP no longer allows invalid iSCSI TargetName to login.
- F-QIP no longer crashes during partition configuration.
- Drive firmware upgrades no longer cause QIPs to crash.
- Host moves no longer fail after drive-to-slot moves are made on the front panel.
- Get AIT Drive Information Diagnostic no longer miscalculates hex values.
- Toggling queued unloads no longer causes library serial number to be incorrect.
- Library is no longer slow to come ready after front door is opened/closed, and on powering up.
- If empty drive is replaced with full drive, QIP inventory is correct.

BlueScale BLSC7063 Firmware Release

Library Component Change Notice:

Component-level change that does not affect functionality. The Library Controller Module (LCM) has changed slightly, and the new version is available starting in 2/2006. LCMs released prior to this time have floppy drives; LCMs released starting in February of 2006 supply USB ports in place of the floppy drives. Note that the old and new LCM modules have identical functionality.

The BlueScale firmware package BLSC7063 supports LCM changes, which do not affect functionality. The primary difference visible to the user is that the LCM now supplies a USB port, available in 20K and 64K libraries released after January, 2006, replacing the floppy drive used in earlier libraries. Use the USB and the floppy drive device for traces, package updates, and diagnostics. The USB port is located on the rear of the library.

Figure 1 *USB device on LCM*

Only 20K and 64K libraries shipped starting in 2/2006 have the new module. Screens on libraries using the new LCM now reference a USB device instead of a floppy disk. Also, an option is now available on package updates that lets you use the front panel to select the USB device as the source of the updates. Note that this takes more time (about 40 minutes per drive) than upgrading using a firmware tape (about 5 minutes per drive).

If the LCM in a library is replaced with the newer module, your library is also affected as outlined in these release notes.

As an example, 20K and 64K libraries with floppy drives display screens showing the **Save to Floppy**, such as the diagnostic results screen shown in Figure 2:

Figure 2 *Floppy option on Get Firmware Versions screen.*

The 20K and 64K libraries shipped with the USB port display the diagnostic results screen with the option **Save To USB Device**, shown in Figure 3

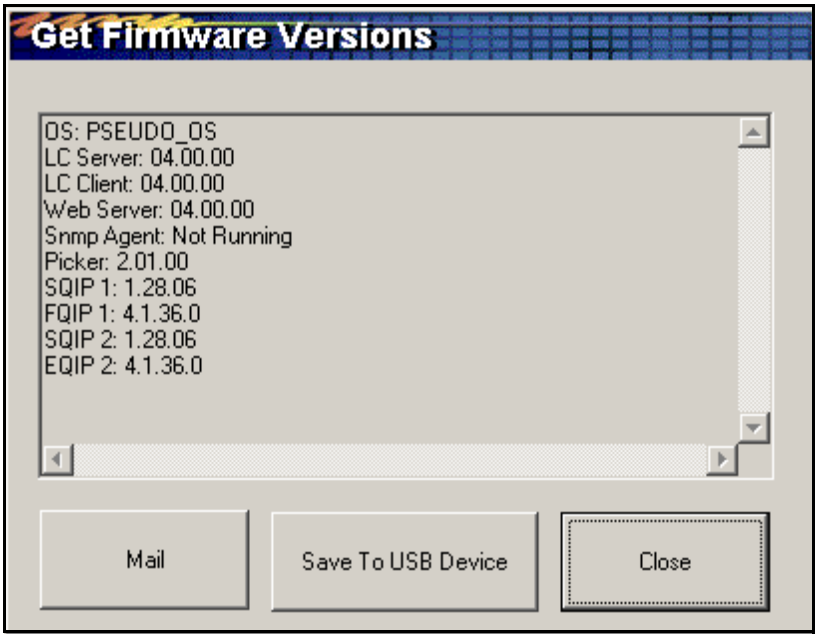


Figure 3 *USB device option on Get Firmware Versions screen*

Known Issues in this Release:

If your library's LCM is replaced, the following issues may need to be attended to.

- If your library's LCM is replaced, the hardware configuration data returns to default values in the LCM. Restore this data from the QIP using the front panel or remote library controller through the Partition Configuration screen. Choose **Rebuild** from the Configuration > Partitions > Shared Library Services screen.
- If your library's LCM is replaced, mail configuration information must be re-entered.
- If your library's LCM with a floppy disk drive is replaced with an LCM that supports USB devices, you will need to re-enter IP configuration information, SNMP configuration, and min/max temperatures.
- If your library's LCM with a floppy disk drive is replaced with an LCM that supports USB devices, a message displays stating that the operating system levels don't match. Delete this message from the System Messages screen and make sure the firmware is updated.

7.6.0.7 Firmware Release

New Features:

- Updated iSNS to support version 2.3/2.4 of MS_iSNS.
- Added support for QIP dump.

Issues Resolved:

- Fixed a problem where a drive emulation set to over 8 characters could not be set back to anything else.
- Fixed a problem with (6,29,0) sense data returned after QIP reset.

Known Issues:

- When upgrading drives, the Upgrading Drive Firmware diagnostic fails with a "Tape Stuck in Drive" message. This problem has *not* been corrected in 7.6.0.7 firmware.

  Workaround Drive firmware upgrades should be done by inserting the firmware tape into *each* drive manually and then cycling library power when finished.
- The Reset Drive diagnostic resets drives in pairs. It will not reset a single drive.

Upgrading the E-QIP from 4.2.87 to 7.6.0.7

> **Note:** The following steps must be performed in order to avoid an E-QIP crash caused by the Windows Operating System.

With Microsoft iSCSI Initiator version 2.0 running in Windows 2000 or 2003 Server and Veritas NetBackup v.5.1.

1. Remove the robot and tape drive devices from Veritas NetBackup Media and Device Management.
2. Open Microsoft iSCSI Initiator Properties, remove all current iSCSI Target Names of the E-QIP which are bound to the iSCSI Initiator under Persistent Target tab. Open Discovery tab, remove the Target Portal IP address of E-QIP.
3. Reboot the server.
4. At the library front panel, upgrade the E-QIP firmware from 4.2.87 to 7.6.0.7. Verify that the firmware upgraded successfully and that the E-QIP comes up correctly.
5. Open the Microsoft iSCSI Initiator Properties, open the Discovery tab and add the Target Portal IP address and the port of E-QIP.
6. Open the Target tab of iSCSI Initiator Properties, highlight the Target name of the E-QIP, hit LogOn button to get connected to the E-QIP. Verify that the new robot and tape drive devices are discovered and rebuilt properly under Device Manager.
7. Open the Veritas NetBackup Administration console, run Device Configuration to add and configure the robot and its tape drives.

With QLogic 4010 iSCSI Host Bus Adapter running in Windows 2000 or 2003 server and Veritas BackupExec v10

> **Note:** QLogic 4010 driver 2.0.5.3 (03/03/2004) works well with E-QIP version 4.2.87, but it does *not* work with E-QIP version 7.6.0.7. So, an upgrade of QLogic Driver to version 2.1.0.3 (4/29/05) or newer is needed to run with E-QIP version 7.6.0.7.

1. At the E-QIP, disconnect the ethernet cable from ethernet port.
2. Upgrade firmware from 4.2.87 to version 7.6.0.7. Verify the firmware upgraded successfully and that the E-QIP comes up correctly.

3. In windows 2000 or 2003 server, open the Device Manager, then open SCSI and RAID Controllers, and right click on QLogic iSCSI Adapter. Select Property, open the Driver tab, select Update Driver and follow the Upgrade Device Driver Wizard to complete upgrading the QLogic 4010 driver to version 2.1.0.3 (4/29/05). It will ask for rebooting the server.
4. Reboot the Windows server.
5. Reconnect the ethernet cable to the E-QIP ethernet port.
6. As the windows server completes booting up, the robot and tape drive device will be rebuilt. You do not need to reconfigure the robot and its tape drives in Veritas BackupExec v10.

4.2.82.0 Firmware Release Overview

Supported:

- 2K/12K/20K/64K – iSCSI, NDMP and Fibre Channel.
- RC2.0 of iSNS Server for Window 2000.
- RC2.1 of iSNS Server for Window 2003.

New Features:

- 12K/20K/64K – iSNS support.
- iSCSI is no longer a purchased option and does not require a key.

Issues Resolved:

- Removed ITP option.

Best Network Practices:

- Dedicated LAN
- 100 Base T switched (minimum)
- 1000BaseT (GigE)
- 1000BaseT (GigE) with jumbo frames (recommended)

Known Issues in this Release:

- iSCSI (CHAP) only validates Secret on login. Any username or Challenge will be granted access to the iSCSI devices as long as the password, or Secret, is correct.
- The maximum number of initiator sessions is 16 for 12K/20K/64K. Once that limited is reached additional session logins could be refused.
- Most iSCSI HBAs do not close their sessions when the host is shutdown or rebooted. If the session limit is reached, the library may need to be rebooted.
- Win 2003 server will not auto-configure the devices out port B on 12K/20K/64K.
- The maximum number of characters allowed for a hostname is **19**.

4.2.82.0 Firmware Release

Fibre Channel Support

- Fibre Channel support is 1G Fibre Channel on the F-QIP.
- Fibre Channel support is 2G Fibre Channel on the G2 F-QIP. (The G2 F-QIP can also negotiate to 1G Fibre Channel connection speeds.)

Ethernet Support

- NDMP and iSCSI are supported on the G2 E-QIP only
- Jumbo frames support is included with all Gigabit Ethernet products.

NDMP Support

- This release supports version 2 and version 3 of the NDMP protocol.

iSCSI Support

All Gigabit Ethernet products support the iSCSI protocol as ratified by the IETF in January 2003. IP SANs utilize iSCSI connectivity and are based on the following iSCSI initiators are supported:

- Microsoft iSCSI driver version 1.03.
- Intel Pro 1000 iSCSI Storage Adapter.
- QLogic QLA4010.
- Adaptec ASA-7211.

Support for backup applications is limited to those listed on the Spectra Logic *iSCSI Interoperability Matrix* or those certified by the individual ISVs (see the backup application vendor's Web site for more details).

The iSCSI name service (iSNS) for Microsoft is supported in this release. The Microsoft Release Candidate (RC 2.0) is supported on Windows 2000 and RC 2.1 is supported on Windows 2003.

System Requirements

Service Pack 4 or higher is required for iSCSI on Windows 2000 systems. See iSCSI HBA vendor documentation for specific requirements.