



Quantum SuperLoader 3 User's Guide Addendum DLT-V4 Tape Drive

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General Information

This addendum is a supplement to the *Quantum SuperLoader 3 User's Guide*. It addresses the specifications and additional instructions that may be required for the Quantum SuperLoader 3 autoloader with the Quantum DLT-V4 tape drive.

For all other information, please refer to the *Quantum SuperLoader 3 User's Guide*.

Overview

Data backup is essential to protect irreplaceable information. Backing up data to magnetic tape is an easy, cost-efficient method used by many small and medium businesses. However, most enterprises have so much data that a single backup tape is not enough; the information has to be spread across numerous tapes. To avoid constantly changing tapes manually, many tape backup systems include a Quantum SuperLoader 3 autoloader.

Each autoloader is a robot that includes a tape drive and one or two magazines for tape cartridges. The user's application can automatically load and unload tape cartridges as required for data backup or data retrieval. Quantum SuperLoader 3 autoloaders provide a compact, high capacity, but low cost method for simple, unattended data backup.

The Quantum SuperLoader 3 contains a Quantum DLT-V4 tape drive, a Quantum LTO-2 half-height tape drive, a Quantum LTO-3 tape drive, a Quantum VS160 tape drive, or a Quantum SDLT600 tape drive, and one or two magazines containing up to eight cartridges each. A single cartridge can be inserted directly via a password-protected mailslot. From the mailslot, the cartridge can be inserted into the tape drive provided there is no cartridge already in the drive, or you can load the cartridge into a magazine slot provided there is no cartridge already in the slot.

The front panel on the autoloader includes a liquid crystal display (LCD) screen and four function keys. A scrolling menu on the LCD screen allows you to obtain information from the autoloader and enter commands. The front panel also includes two light emitting diodes (LEDs) indicating the autoloader's ready status and error status.

The Quantum SuperLoader 3 connects to your host server via a SCSI connection allowing the host to send data and commands automatically. You can also connect to the autoloader using an Ethernet connection to perform administrative functions and download system updates.

SuperLoader 3 DLT-V4

The autoloader is SCSI-3 compatible and operates as a single SCSI ID/two LUN data storage device. The Quantum SuperLoader 3 DLT-V4 autoloader is equipped with a Quantum DLT-V4 tape drive and contains up to sixteen DLT VS1 data cartridges when utilizing two magazines, providing a compressed capacity of 5.1 Terabytes and a sustained data transfer rate of 36 GB per hour (native) or as high as 72 GB per hour compressed (assuming 2:1 compression).

The autoloader is compatible with the most popular operating systems and environments supporting a Ultra 160 SCSI-3 LVD interface but requires direct support from the operating system or a compatible backup application to take full advantage of its many features.

Physical Specifications

Rack Mount	
Height	8.9 cm (3.5 in.)
Width	45 cm (17.7 in.)
Length	75.46 cm (29.71 in.)
Package Weight (without media)	22.7 kg (50 lb.)
Footprint	0.32 square meters (3.4 square feet)

Autoloader Performance Specifications

Maximum data transfer rate	DLT-V4 Drive Native: 36 GB/hr. Compressed: 72 GB/hr. (assuming 2:1 compression ratio)
Drive Type	1 Quantum DLT-V4 drive
MCBF	400,000 cycles

Typical cycle time	All Drive Types < 40 seconds. One cycle consists of moving a cartridge from the tape drive to a magazine slot, selecting another magazine slot, and then moving the cartridge back to the tape drive. It does not include the time that the tape drive takes to unload or load/calibrate.
Average load time to BOT (after placing cartridge in drive)	VS1 = < 70 seconds
Average unload time (from BOT)	VS1 = 22 seconds (from BOT, no brush), 61 seconds (from BOT, brush)

Environmental Specifications

Temperature Range (Dry Bulb)

Operating	+10° to +35°C
Nonoperating	- 40°C to +65°C

Temperature Variation

Operating	10°C per hour
Nonoperating	20°C per hour

Humidity

Operating	20% to 80% noncondensing
Nonoperating	10% to 90% noncondensing
Gradient	10% per hour without condensation

Wet Bulb

Operating	26°C max
Nonoperating	29°C max

Altitude

Operating	-153 m to 3048 m
Nonoperating	-153 m to 12192 m

Autoloader Power Specifications

Line voltage	All Drive Types 60 Hz system: 90–265 VAC; 50 Hz system: 90–265 VAC
Line frequency	All Drive Types 47–63 Hz
AC Input current	All Drive Types 60 Hz system: 4.0 A (RMS) for 115 VAC 50 Hz system: 2.0 A (RMS) for 230 VAC
Power consumption	All Drive Types 60 Hz = 75 W; 50 Hz = 80 W

Autoloader Vibration Specifications

Operating	
Swept Sine Vibration	5–500 Hz, 0.25 G, 0.254 mm (0.01 in.) to smooth crossover, 1.8 rev/min, (X, Y, Z) axes
Random Vibration	0.25 Grms, 5–500 Hz (X, Y, Z) axes
Non-Operating	
Swept Sine Vibration	5–500 Hz, 0.75 G, 0.52 mm (0.02 in.) to smooth crossover, 1.8 rev/min, (X, Y, Z) axes
Random Vibration	1.06 Grms, 5–500 Hz (X, Y, Z) axes

Autoloader Shock Specifications

Operating	3 G, 5 ms half-sine, 3 pulses (+/-) per axis, X, Y, Z
Non-Operating	20 G, 8 ms half-sine, 3 shocks (+/-) per axis, X, Y, Z

Tape Drive Specifications

DLT-V4 Drive Specifications

Description	Quantum DLT-V4
Read/write transfer rate: maximum sustained (DLTtape VS1 media)	Noncompressed mode: 36 GB/hr. Compressed (2:1 typical): 72 GB/hr.
Burst transfer rate	160 MB/s
Average access time	68 seconds (from BOT)
Loading time to BOT (for previously written tape)	70 seconds (maximum)
Unloading time from BOT	22 seconds (no brush) 61 seconds (brush)
MCBF	> 400,000 cycles at 100% duty cycle
Interface type	Ultra 160 SCSI-3 LVD

Media Capacity

Media Type	Capacity
DLTtape VS1 storage capacity	5,120 GB (compressed) with 16 cartridges

Media Specifications

Characteristic	DLTtape VS1
DLTtape VS1 formatted capacity	160 GB (noncompressed) 320 GB (2:1 typical compression)
Basic description	Metal particle
Tape length	562.9 m (1,847 ft.)
Cartridge dimensions	10.41 x 10.41 x 2.54 cm (4.1 x 4.1 x 1.0 in)
Read compatibility	DLT-V4, DLT VS160, DLT VS80/DLT1
Write compatibility	DLT-V4
Shelf life	> 30 years with < 10% loss in demagnetization @ 20°C, 40% RH (noncondensing)
Cartridge life	1,000,000 passes (any point on the tape passing the recording head in either direction)
DLT VS1 Cleaning cartridge	20 uses