

LTO 4 tape drives are now available in new TLS-8xxx and RLS-8xxx libraries and may be retrofitted into most older libraries.

Data Rate Considerations

LTO 4 has a native data rate of 120 MB/sec, and with compressible data, the transfer rate can be significantly higher. As such, Qualstar strongly recommends no more than one drive per SCSI bus and no more than one drive per 4 Gb Fibre Channel port.

Cable quality and length, termination, and system bandwidth may also be limitations when using faster tape drives, and may need to be upgraded. SCSI cables and host bus adapters rated for a minimum of 320 MB/sec must be used.

Backward Read and Write Compatibility

The LTO Ultrium specification for LTO 4 drives states that the drive will read and write LTO 3 cartridges, and only read LTO 2 cartridges.

Cleaning Cartridge

The LTO 4 drives use the LTO Universal Cleaning Cartridge.

Upgrading Existing TLS-8000 Libraries to LTO 4

Existing TLS-8000 libraries may be able to be upgraded to LTO 4. Libraries with Exec III or Exec IV must be updated to the latest firmware prior to upgrading drives. This can be done via Q-Link update, upload from a Windows platform, or via PROM replacement.

Libraries with Exec II will need to be upgraded to Exec IV before drives can be upgraded to LTO 4. Contact Qualstar Tech Support for assistance.

TLS libraries with SCSI interfaces must use separate buses for command and control. It is no longer feasible to daisy chain the library SCSI interface with an LTO 4 drive. The library interface will cause the bus speed to be set to a level that prevents the drive from operating at full speed.

When upgrading a TLS-8000 library with the Fibre Channel Option (FCO) to LTO 4, Qualstar recommends that the drives be replaced with Direct Fibre Attach (DFA) drives, and the current FCO be used for library communication only. Due to the high throughput of the LTO 4 drives, only one drive can be attached to each 4 Gb Fibre Channel port. So, to fully utilize the drive capacity of the library, DFA drives are recommended.

Upgrading Existing RLS Libraries to LTO 4

RLS-82xx SCSI libraries may be upgraded to LTO 4 LVD drives by updating the library firmware as discussed above.

RLS libraries with a SCSI interface must use a separate bus for command and control. It is no longer feasible to daisy chain the library's SCSI interface with an LTO 4 drive. The library interface will cause the bus speed to be set to a level that prevents the drive from operating at full speed.

The present RLS FCO is not sufficient to operate LTO 4 drives. If fibre channel operation is required, Qualstar recommends converting the library to "D" configuration and using LTO 4 DFA drives. The present FCO can be retained to interface the library controller to fibre channel if desired.