



# Cheetah 15K.3 SCSI Installation Guide

## ST373453LW/LC, ST336753LW/LC and ST318453LW/LC

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### Handling precautions/Electrostatic discharge protection

- Disc drives are fragile. Do not drop or jar the drive. Handle the drive only by the edges or frame.
- Drive electronics are extremely sensitive to static electricity. Keep the drive in its antistatic container until you are ready to install it. Wear a wrist strap and cable connected to ground. Discharge static from all items near or that will contact the drive. Never use an ohmmeter on any circuit boards.
- Turn off the power to the host system during installation.
- Always use forced-air ventilation when operating the drive.
- Use caution when troubleshooting a unit that has voltages present.
- Do not disassemble the drive; doing so voids the warranty.
- Return the entire drive for depot service if any part is defective.
- Do not apply pressure or attach labels to circuit board or drive top.

### Electromagnetic compliance

See Safety and Regulatory Agency Specifications, part number 75789512.

### Drive characteristics

	ST373453 LW/LC	ST336753 LW/LC	ST318453 LW/LC
Formatted capacity	73.4 Gbytes	36.7 Gbytes	18.4 Gbytes
Total # of data blocks	143,374,744 (88BB998h)	71,687,372 (445DCCCh)	35,843,686 (222EE66h)
Cylinders (user accessible)	31,310	31,310	31,310
Heads (user accessible)	8	4	2
Disc rotation +/- 5%	15,000 RPM	15,000 RPM	15,000 RPM
Operating voltages	+5V +12V	+5V +12V	+5V +12V
Typical operating current (amps)	1.02 1.15	1.02 0.97	1.00 0.86

### What you need

- Screwdriver and four 6-32 UNC drive mounting screws
- Forced-air ventilation to provide adequate drive cooling
- An unused drive power connector (not applicable to LC models)

To operate at LVD transfer rates, you may also need an LVD-capable SCSI host adapter, LVD I/O cable and active negation external terminator.

### Multimode interface

This drive can operate in single-ended (SE) or low voltage differential (LVD) mode. This multimode capability provides backwards compatibility so you can use it with or without an LVD-capable host adapter. The primary benefits of LVD technology include faster transfer rates, increased allowable cable lengths, and improved device connectivity.

You can configure the drive to detect between SE and LVD modes automatically or force it to operate in SE mode only. To configure this option, see Figure 2.

**Note.** To operate at Ultra2 rates or faster in LVD mode, all devices on the same bus (cable) must be running in LVD mode. If you add any SE device to the bus, all devices on that bus operate in SE mode.

**Note.** Some LVD host adapters provide an LVD connector and an SE connector on the same host adapter to allow you to run SE and LVD drives concurrently at their maximum capabilities. Check your SCSI host adapter documentation. See Figure 3.

**Caution.** Do not mix LVD drives on the same bus with high voltage differential (HVD) devices—drive damage may occur.

## Installation instructions

### 1. Set the SCSI ID

Determine which SCSI IDs are already being used in the system and then assign this disc drive a SCSI ID that isn't already being used. Use the J6 connector located on the front of the drive to set the SCSI ID (see Figure 1).

- Most Cheetah® 15K.3 drives are factory set with the SCSI ID set at 0. If this is the only SCSI drive in your system and there are no other SCSI devices on the daisychain, you can leave this drive's SCSI ID set to 0 and proceed to the next step.
- The host system's SCSI controller usually uses SCSI ID 7.
- If you have an LC model drive, the host normally sets the ID over the I/O interface, so you don't need to worry about this step.
- If you have an LW model drive, some systems provide a cable designed to connect to the J5 jumper block on the drive to remotely set the ID. You can connect this cable to J5 and use the host-provided remote switch to set the SCSI ID. This J5 connector is not present on LC model drives.

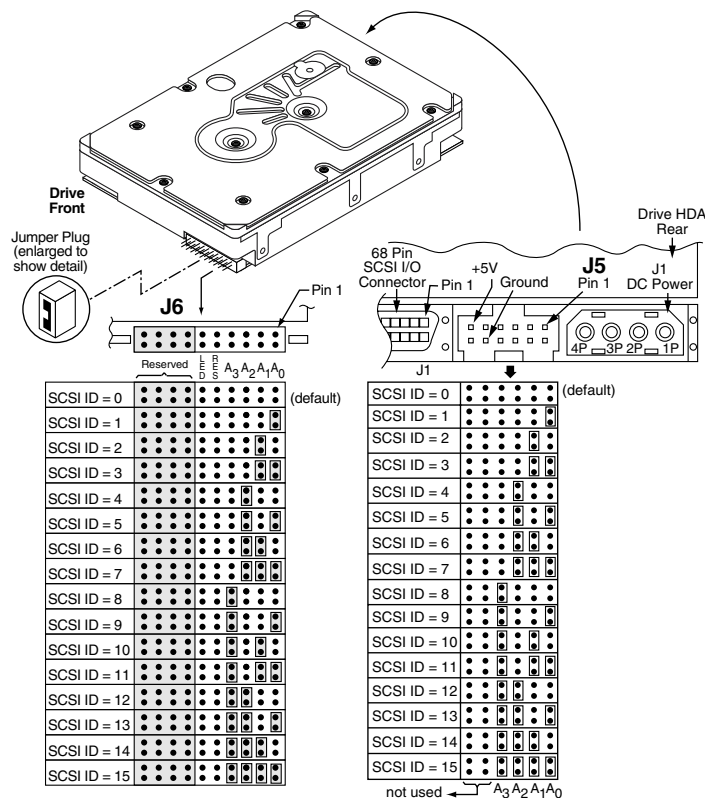


Figure 1. Setting the SCSI ID

### 2. Configure termination

If you are installing the drive in a system that has other SCSI devices installed, terminate only the end devices on the SCSI bus (cable). This drive does not have internal terminators or any other way of adding internal termination on the drive. You must provide external termination when termination is required. This is normally done by adding an inline terminator on the end of the cable. See Figure 3 for an illustration showing a system configuration that uses an external terminator.

- Use active (ANSI SCSI-2 Alternative 2) single-ended terminators when terminating a bus operating in single-ended mode.
- Use SPI-2-compliant active low voltage differential terminators when terminating a SCSI Ultra2 bus operating in LVD mode.
- The host adapter is normally on the end of the bus and internally terminated. You can configure your bus with another device on the end if you remove termination from the host adapter.

### 3. Configure terminator power (LW model only)

Terminators have to get power from some source. The default configuration results in the drive not supplying termination power to the bus. You should normally leave this drive set at this default unless your host system requires the drive to supply termination power to the bus. To configure this drive to supply termination power to the bus, place a jumper on J2 pins 1 and 2 as shown in Figure 2.

