



# Barracuda 36ES Installation Guide

Model ST336737LW/LC, ST318437LW/LC, ST318417N/W  
SCSI interface disc drive

Publication Number: 75789522, Rev. A, December 2000

## Handling precautions/electrostatic discharge protection

- Disc drives are fragile. Do not drop or jar the drive and 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, p/n 75789512.

## Drive characteristics

	ST336737 LW/LC	ST318437 LW/LC	ST318417 N/W
Formatted capacity	36.954 Gbytes	18.400 Gbytes	18.400 Gbytes
Total # of data blocks	72,176,566 (44D53B5h)	35,937,500 (2245CDBh)	35,937,500 (2245CDBh)
Cylinders (user accessible)	29,850	29,850	29,850
Heads (user accessible)	4	2	2
Disc rotation +/- 5%	7,200 rpm	7,200 rpm	7,200 rpm
Operating voltages	+5V +12V	+5V +12V	+5V +12V
Typical operating current (amps)	0.83 0.57	0.78 0.30	0.78 0.30

## What you need

- Phillips 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, reduced power consumption, increased allowable cable lengths, and improved device connectivity.

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

**Note.** To operate 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 4

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

N and W model drives are not multimode devices. They are single-ended (SE) devices and cannot be configured to operate in LVD mode.

## 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 Barracuda 36ES 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 bus (cable), 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 LW model drive, the ID may be set using either J6 or J5 (located on the rear of the drive).
- If you have an LC model drive, the host normally sets the ID over the I/O interface, so this step may be skipped.
- 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.

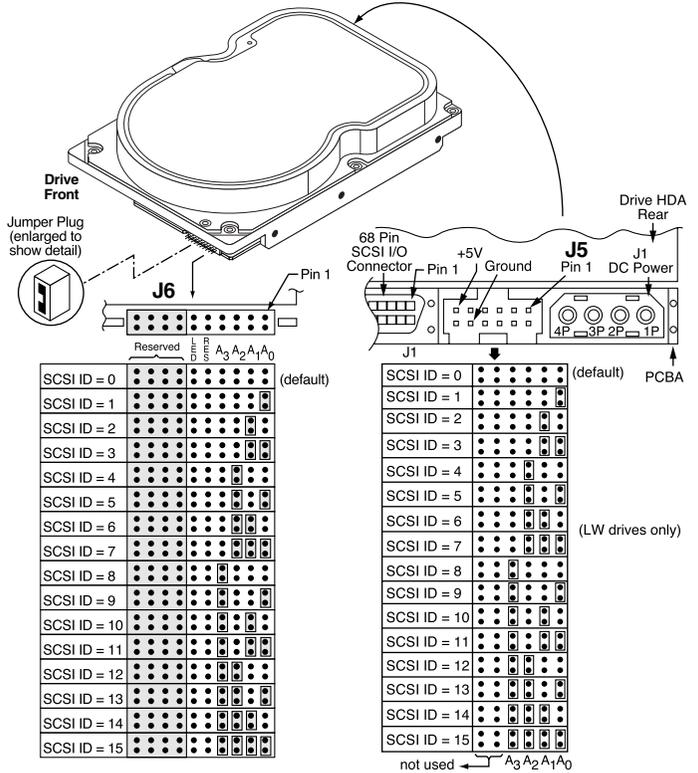


Figure 1. Setting the SCSI ID

### 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).

N and W models have non-removable internal terminators that you can enable using J2 pins 15 and 16. These terminators are enabled in the default configuration. To disable these internal terminators, simply remove the jumper from J2 pins 15 and 16. See Figure 3.

LW and LC models do 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 4 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 other end of the bus and internally terminated. You can configure your bus with another device on the other end if you remove termination from the host adapter.

### 3. Configure terminator power

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.

- Host systems designed to use LC drives normally provide termination power from the host adapter or other source. For this reason, LC model drives cannot be configured to provide termination power to the bus.

