

ProLiant ML370 - Configuring Integrated Smart Array Option Module

In this document:

- ROC Features
-

Configuring Integrated Smart Array Option Module

Overview



Bottom View



The ProLiant ML370 provided a RAID SCSI controller upgrade option with a ROC (RAID on a Chip) module. Embedded on the server's System Board is the Symbios 53C1510 chipset which is a dual channel Wide Ultra2 SCSI controller with support for ROC. This version of ROC is leveraged from the fully integrated RAID controller on the ProLiant 8500. The ROC module is installed on the ProLiant ML370's System Board to provide for RAID capability. With this module removed, operation reverts to standard Wide Ultra2 SCSI (SCSI Adapter) from Channel 1 or Channel 2. 8MB of Read Cache is located on the ROC upgrade module.

Channel 1

The default configuration for Channel 1 of ROC is cabled to the server's external SCSI connector found on the rear of the chassis. RAID is not officially supported on Channel 1 (SCSI port 1) for the ML370. Channel 1 is designed to support standard SCSI removable media and storage devices. Channel 1 can also be configured to support internal tape drives when these devices are installed in the server's Removable Media Bays. If tape drives are configured internally from Channel 1, the server's external SCSI connector is not operational and should not be interfaced to any external SCSI devices. If an external SCSI device is connected to the external SCSI port when the internal SCSI port 1 is in use by another SCSI device, the system on POST will give an error code of 1776.

NOTE: Tape Drive Support

Tape drive support is possible from either channel of the ROC, but not both channels simultaneously. Also from a single SCSI channel, devices can be configured internally or externally but not from both simultaneously. Channel 2 (SCSI port 2) is reserved for the hot-plug and optional drive cages, (4 bay and 2 bay cages). Therefore Channel 1 (SCSI port 1 on the system board) can be used for both internal or external standard SCSI tape drives. But Tape Libraries and Tape AutoLoaders are not supported externally from the ROC controller. If an optional SCSI controller is installed in an available PCI slot, then external

Tape Libraries and Tape AutoLoaders can be connected to the server.

Channel 2

Channel 2 is configured in the default configuration to be interfaced to the server's 4 x 1" internal disk drive cage supporting Wide Ultra2 and Ultra3 SCSI Hot Plug disk drives. Up to a maximum of 6 x 1" drives can be configured from ROC. If configured, the optional 2 x 1" Wide Ultra2 SCSI Removable Media Bay Disk Drive Cage must be daisy chained to the 4 x 1" drive cage providing the maximum 6 x 1" drive support.

Important: Not documented in the installation card for the 2 x 1" Removable Media Bay Drive Cage is the installation of a communications cable as well as the short SCSI cable that daisy chains the two drive cages. If this communication cable is not installed between the blue colored connectors at the rear of each drive cage, the disk drive's LEDs will not be functional in the 2 x 1 drive cage. Order spare's cable kit: 327920-001 for this communications cable if needed. (This kit is for the PL1850R, but contains this cable. This 2 x 1' drive cage is the same as used for the PL1850R.) As a result, RAID sets can be configured across both drive cages using Channel 2.

ROC Features

The following is a summary of the main features of ROC:

- Dual Channel Wide Ultra2 SCSI performance; 80MB/s per channel, based on the Symbios 53C1510 chipset.
- Channel 2 - internal disk drive cage. Channel 1 - internal **or** external for both additional SCSI storage **or** tape drive support including Hot Plug tape options.
- Support for up to a maximum of (4 x 1") Wide Ultra2/Ultra3 SCSI Hot Plug disk drives.
- 8MB Read Cache. (Write Cache is not available due to lack of battery backup).

NOTE: Read Cache Read Cache is located on the ROC Module.

- Support for RAID 0, 0+1, and 5 from Channel 2, only.
- Channel 1 supports standard SCSI operation, both internal **or** external tape devices are supported. ROC does not support Tape Libraries or Tape AutoLoaders from either Channel.
- Channel 1 has both an internal and external connector.
- The external connector is VHDCI (68 pin).
- Offline Spare with auto data recovery.
- Processor: 32-Bit RISC
- LVD, Low Voltage Differential, Interface required by Wide Ultra2/Ultra3SCSI protocol.
- Support for Dynamic RAID Migration.
- Online Capacity Expansion.
- Online Capacity Extension
- Online RAID Level Migration

- Online Stripe-Size Migration
- Support for drive migration to higher performance Compaq Smart Array Controllers in a PCI Slot.
- Supported Smart Array Controller Utilities: ACU, ADU, CIM, SmartStart, and StoraWorks Virtual Replicator.
- Pre-Failure Warranty of SCSI hard drives.
- Backward compatible with Fast, Fast-Wide SCSI, and Wide Ultra SCSI-3 devices.
- Supported by the StoraWorks Virtual Replicator, SVR. (optional) SVR provides the following capabilities:
 1. "Snapshots" of production data can be created to reduce backup and restore windows from hours to minutes.
 2. Pools storage for quick response to changing storage capacity needs.
 3. Create "virtual volumes" of up to one terabyte and invoke policy-based automation to simplify system data and storage management.

ProLiant ML370 - Installing Integrated Smart Array Option Module

Installing Integrated Smart Array Option Module

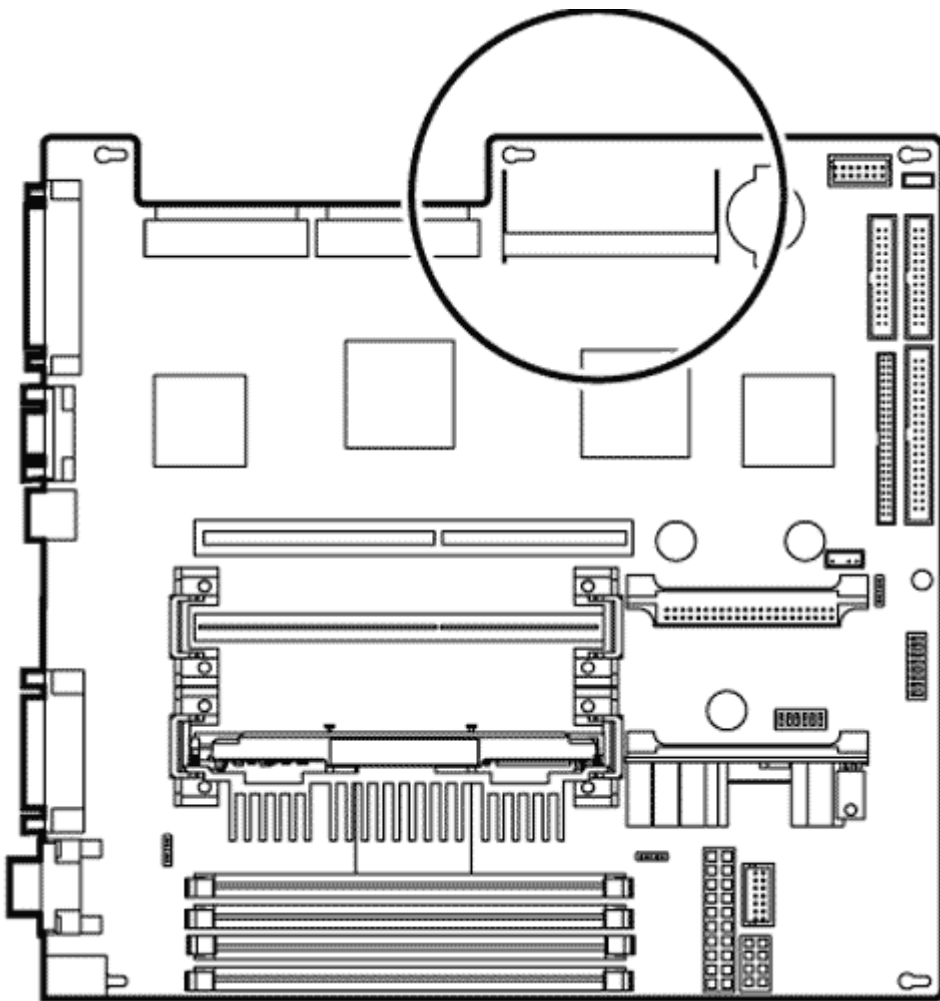


CAUTION: Back up all data stored on existing drives before installing the controller. All data stored on non-array drives is destroyed when the new controller is installed.

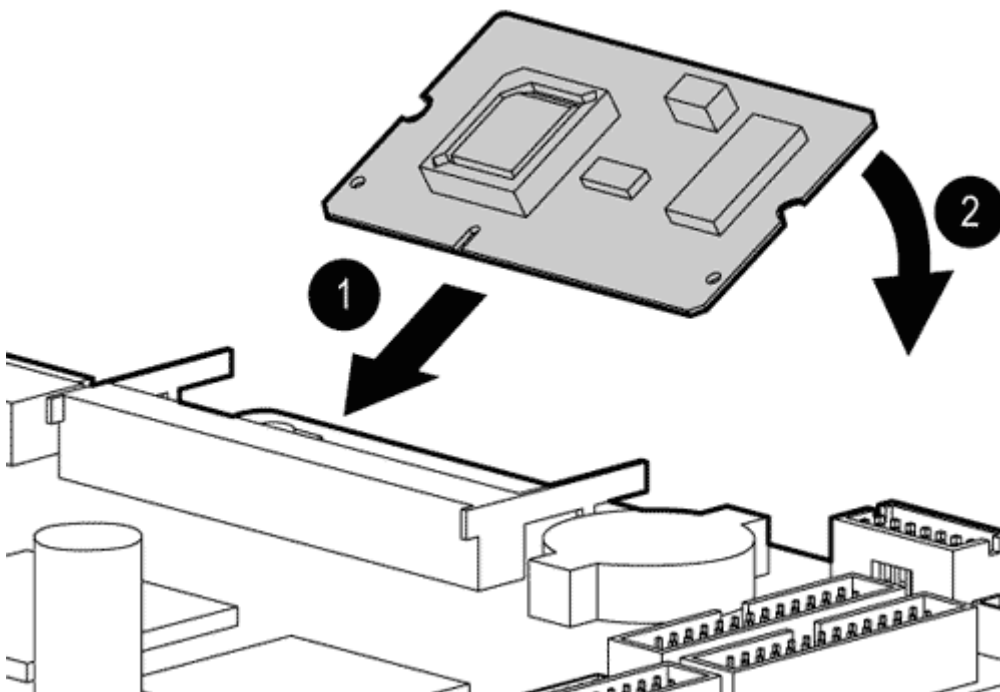
NOTE: The Controller Module is Keyed The controller module is keyed to fit the controller slot with the notch toward the bracket wall. If the module does not snap into place, check the direction of the notch.

Install the controller on the system board:

1. Put the server in Standby mode by turning off power at the power switch.
2. Disconnect the power cord and all external devices.
3. Open the small access panel
4. Locate the Integrated Smart Array Controller slot on the system board, as shown in the following figure.
5. Insert the tab end of the controller into the slot at an angle, as shown in the following figure.
6. Press down evenly on both sides of the controller until it clicks into place.
7. Close the server and reconnect the power cord.
8. Turn on power to the server and allow the system to detect and configure the controller.
9. Restore any data that was backed up from the server before the controller was installed.



Locating the Integrated Smart Array Controller on the system board



Installing the Integrated Smart Array Controller



CAUTION: You are required to restore all data stored on the server after installing the optional Integrated Smart Array Controller. Any information that was not backed up before installation is now permanently deleted.

For information on configuring the Integrated Smart Array Controller, refer either to the documentation that shipped with the option kit or to the Compaq Integrated Smart Array Controller User Guide.

© 2003 Hewlett-Packard Company ·