

# MegaRAID<sup>®</sup> iBBU05 LiON Battery Backup Unit



## Quick Installation Guide

Thank you for purchasing the LSI MegaRAID LiON (lithium ion) intelligent Battery Backup Unit 05 (iBBU05). The iBBU05 is designed for use on MegaRAID SAS RAID controllers. It protects the integrity of the cached data on a MegaRAID controller for up to 72 hours in the event of a complete AC power failure or a brief power outage.

LSI provides a family of MegaRAID intelligent Battery Backup Units for use with its high-performance MegaRAID RAID controllers. The LSI MegaRAID iBBUs provide an inexpensive alternative to using an uninterruptible power supply and a second level of fault tolerance when used in conjunction with an uninterruptible power supply.

This Quick Installation Guide explains how to install the iBBU05 on the following RAID controllers:

- MegaRAID SAS 8704ELP
- MegaRAID SAS 8708ELP
- MegaRAID SAS 8888ELP

Please take a few minutes to read this guide before you install the iBBU05. For more information about any topic covered in this guide, refer to the *Intelligent Battery Backup Units for 1078-based MegaRAID Products User's Guide* on your *MegaRAID Universal Software Suite* CD.

### OVERVIEW OF THE INTELLIGENT BATTERY BACKUP UNIT

An *intelligent* BBU has built-in functionality to charge the battery pack automatically and to communicate battery status information such as voltage, temperature, and current, to the host computer system.

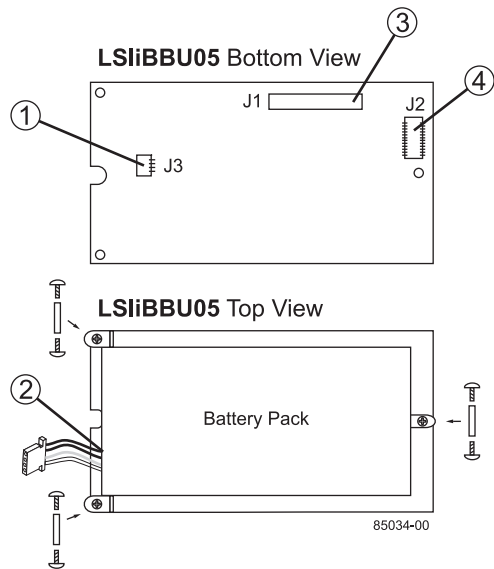
You can connect the iBBU05 directly to the MegaRAID SAS 8704ELP and SAS 8708ELP RAID controllers.

The iBBU05 does not mount directly to the MegaRAID SAS 8888ELP RAID controller. Instead, you can use the supplied 12-inch cable to connect the iBBU05 to the RAID controller. The iBBU05 is mounted inside the chassis within 10 inches of the controller.

**Note:** The LSI part number for the daughtercard is 25125.

**Figure 1** shows the top view and the bottom view of the iBBU05, the M2.50-0.45 x 5mm screws, and the 6mm standoffs. (The “top” side is the side that you can see after you install the iBBU05 on the RAID controller.) The iBBU05 combines a battery pack with a daughtercard.

**Figure 1 Intelligent Battery Backup Unit 05**



- 1 - J3 Battery Pack Harness Connector
- 2 - Battery Pack Harness
- 3 - J1 Connector
- 4 - J2 Board-to-board Connector

### Installing the iBBU05 on the SAS 8704ELP or SAS 8708ELP RAID Controller



Electrostatic discharge can damage the iBBU05 and the MegaRAID SAS RAID controller. Make sure that you install the iBBU05 at an ESD-safe workstation that meets the requirements of EIA-625 – “Requirements For Handling Electrostatic Discharge Sensitive Devices.” When you install the iBBU05, follow the ESD-recommended practices in the latest revision of IPC-A-610.

If the SAS 8704ELP or SAS 8708ELP RAID controller is already installed in a computer, follow these steps to remove it before you install the iBBU05.

- Step 1** Shut down the computer, turn off the power, and unplug the power cords.

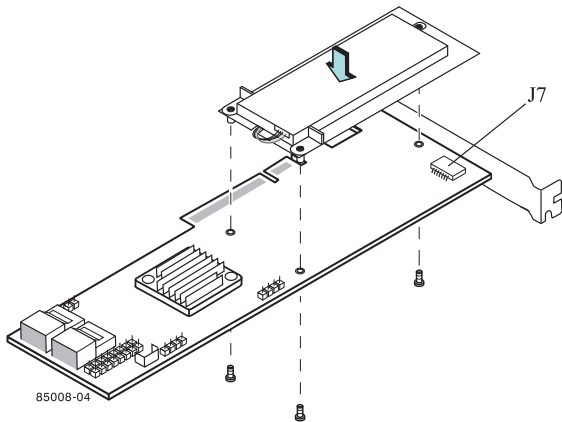


- Step 2** Remove the cover from the computer according to the instructions in the system user's manual to allow access to the controller.
- Step 3** Unplug all cables from the controller, remove the screw attaching the bracket to the computer case, and carefully remove the controller from the slot.
- Step 4** Place the controller on a flat, clean, static-free surface, and continue with the next section.

Perform the following steps to mount the iBBU05 directly to the RAID controller using the daughtercard. (All components are installed on the bottom of the card. The battery is installed on the top. The maximum height of components installed on the iBBU05 is 0.125".)

- Step 1** Insert the battery pack harness into the 5-pin J3 connector on the backside of the iBBU05.
- Step 2** With the RAID controller on a flat, clean, static-free surface, hold the iBBU05 daughtercard so that the battery side is up, and the J2 board-to-board connector lines up with the J7 BBU connector on the RAID controller, as shown in [Figure 2](#).

**Figure 2 Installing the LiON iBBU05 on the SAS 8708ELP RAID Controller**



- Step 3** Carefully press the iBBU05 onto the controller, so that the two connectors are firmly joined.
- Step 4** Use the Phillips-head screws that are provided to secure the iBBU05 to the controller with the M2.50-0.45 x 5mm screws, and the 6mm standoffs in the three screwholes. The standoffs are threaded at both ends and a 6mm screw goes into each end.

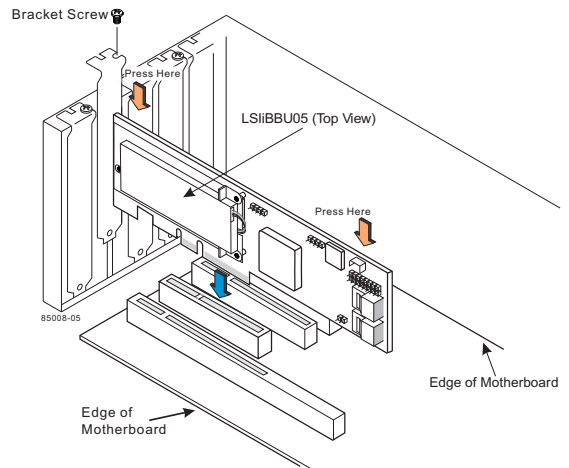
**Important:** Center the screwdriver carefully to avoid stripping the screwhead. Do not over-tighten the screws.

- Step 5** Install the controller in the computer in the PCI Express slot, as shown in [Figure 3](#).

**Important:** Never apply pressure to the iBBU05 when you insert the controller. Instead, press down only on the top edge of the controller, as shown in [Figure 3](#).

Press down gently but firmly to seat the card correctly in the slot. The bottom edge of the controller must be flush with the slot. Secure the controller to the computer chassis with the bracket screw.

**Figure 3 Installing the SAS 8708ELP RAID Controller**



- Step 6** Attach the controller to the computer chassis with the bracket screw.
- Step 7** Attach the cables, as needed, to the connectors on the controller.
- Step 8** Replace the computer cover and reattach the power cords.
- Step 9** Turn on the power to the computer.

**Important:** Refer to the *MegaRAID SAS Software User's Guide* for information about running the RAID configuration utilities and to the *MegaRAID SAS Device Drivers Installation User's Guide* for information about installing software drivers.

### Installing the iBBU05 on the MegaRAID SAS 8888ELP RAID Controller

The iBBU05 does not mount directly to the SAS 8888ELP RAID controller. Instead, use the supplied 12-inch cable to connect the iBBU05 to a RAID controller. The battery backup

unit must be mounted inside the chassis within 10 inches of the RAID controller.

Because server and workstation chassis vary from vendor to vendor, there is no standard mounting option that is compatible with the various system configurations. Therefore, the iBBU05 battery kit contains only the battery and the cable, allowing VAR's and chassis manufacturers to customize the location of the remote battery to provide the most flexibility within various environments.

Follow these steps to install the iBBU05 remotely.

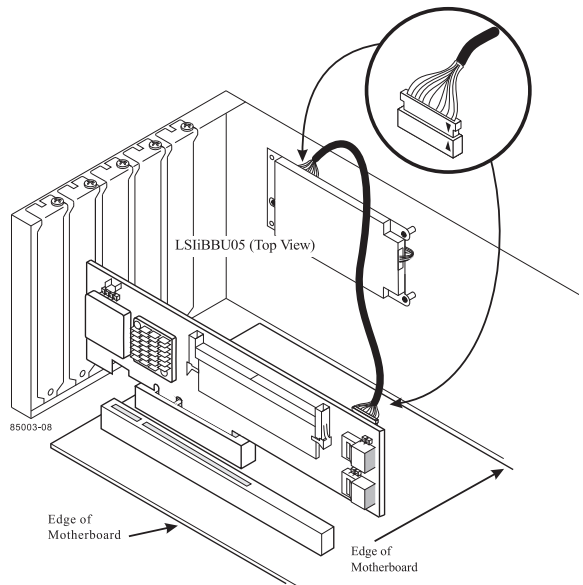
- Step 1** Ground yourself, and remove the iBBU05 from the package.
- Step 2** Use the three Phillips-head screws that are provided to secure the iBBU05 to the motherboard or to the server chassis.
- Step 3** Insert the battery pack harness connector at the end of the 5-pin cable into the J2 connector on the bottom side of the iBBU05.

**Note:** The cable connector is polarized and can be inserted into the J10 board battery connector only if the rails on the harness connector align with the slots on the J10. **Do not** force the cable into the 20-pin in-line connector. The cable end inserts into the connector with minimal resistance.

- Step 4** Connect the J1 connector on the iBBU05 to the J10 battery backup connector on the backside of the SAS 8888ELP RAID controller, as shown in [Figure 4](#).

The iBBU05 does not connect directly to the MegaRAID controllers. Instead, it uses the supplied 20-pin, 10-inch cable to connect to a controller. There are black triangles on the connectors to help you install them properly. Insert the cable connectors into the controller connector and the iBBU connector so that the black triangles are aligned, as shown in the example in [Figure 4](#).

**Figure 4 Connecting the iBBU05 on the SAS 8888ELP RAID Controller**



## Disposing of Battery Backup Units

**Warning:** If the iBBU05 is damaged in any way, toxic chemicals may be released.

The material in the battery pack contains heavy metals that can contaminate the environment. Federal, state, and local regulations prohibit the disposal of rechargeable batteries in public landfills. Be sure to recycle the old battery packs properly. Comply with all applicable battery disposal and hazardous material handling laws and regulations in the country or other jurisdiction where you are using the iBBU05.



**WARNING**

There is danger of an explosion if the battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

## TECHNICAL SUPPORT

For assistance in installing, configuring, or running your SAS RAID controller, contact LSI Customer and Technical Support.

**Phone Support:**

1-800-633-4545 (North America)

**Web Site:**

<http://www.lsi.com/support>



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