

LSI 9300-8i

LSI Broadcom SAS 9300-8i Host Bus Adapter Instruction Manual

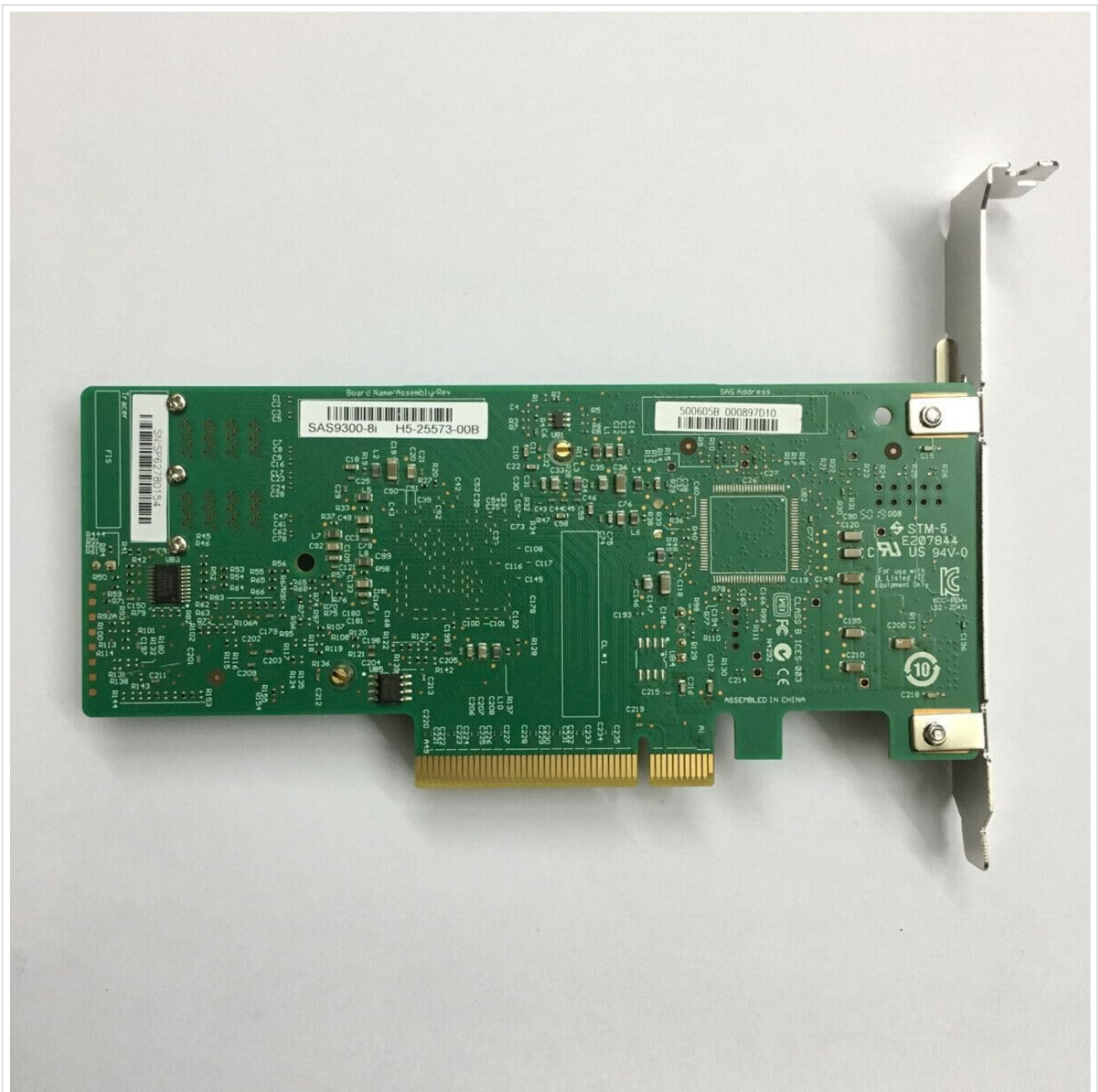
Model: 9300-8i

1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of the LSI Broadcom SAS 9300-8i Host Bus Adapter (HBA). The 9300-8i is designed to enhance connectivity and performance for servers and storage enclosures, supporting both SAS and SATA devices.

2. PRODUCT OVERVIEW

The LSI 9300-8i is a 12Gbps SAS HBA based on the SAS 3008 IO controller. It features eight internal 12Gbps SAS and SATA ports, supporting up to 1024 SAS and SATA devices. The adapter utilizes eight PCI Express 3.0 lanes for high-speed data transfer and is backward compatible with previous SAS and PCIe generations.



This image displays the LSI Broadcom SAS 9300-8i Host Bus Adapter, highlighting its circuit board components, SAS9300-8i model designation, and H5-25573-00 part number. Key features visible include the SFF-8643 mini-SAS HD internal connectors and the PCI Express interface.

3. SETUP AND INSTALLATION

3.1 Physical Installation

1. **Power Off System:** Ensure the computer system is completely powered off and disconnected from the power source.
2. **Open Chassis:** Open the computer chassis to access the motherboard's PCIe slots.
3. **Select PCIe Slot:** Identify an available PCI Express 3.0 x8 or larger slot. The adapter is compatible with 1U/2U rack-mounted servers and workstations and includes a low-profile bracket for smaller form factors.
4. **Insert Adapter:** Carefully insert the LSI 9300-8i HBA into the selected PCIe slot, ensuring it is fully seated. Secure the adapter with the chassis retention mechanism.
5. **Close Chassis:** Close the computer chassis and reconnect the power source.

3.2 Cable Connections

The 9300-8i features two SFF-8643 mini-SAS HD internal connectors. Use appropriate mini-SAS HD to SAS/SATA breakout cables to connect your storage devices.

- Connect one end of the SFF-8643 cable to the HBA's internal connector.
- Connect the other end (typically 4x SATA or SAS connectors) to your SAS or SATA hard drives/SSDs.
- Ensure all power connections to the storage devices are properly made.

3.3 Driver Installation

After physical installation, drivers may be required for the operating system to recognize the HBA. Drivers are typically available from the manufacturer's support website.

- **Supported Operating Systems:** Windows Server, Linux, Unix.
- **Windows Users:** For Windows 10/11, it may be necessary to use the latest Windows Server 2019 drivers. Install the drivers and reboot the system for the card to be detected.

4. OPERATING THE HBA

4.1 Basic Functionality

Once installed and drivers are loaded, the LSI 9300-8i HBA will provide connectivity for your SAS and SATA storage devices. It operates at up to 12Gbps for SAS and 6Gbps for SATA per lane.

4.2 Device Compatibility

The HBA supports a wide range of SAS and SATA devices, allowing for flexible storage architecture designs and protecting existing infrastructure investments. It can connect to up to 1024 devices.

4.3 Performance

The adapter leverages PCI Express 3.0 for high throughput. It automatically negotiates with older SAS and PCIe generations, supporting SAS data transfer rates of 6Gbps and 3Gbps, and SATA data transfer rates of 3Gbps per lane.

5. MAINTENANCE

5.1 Cooling

The LSI 9300-8i HBA can generate significant heat under heavy load. Adequate airflow within the system chassis is crucial for optimal performance and longevity. Consider installing a dedicated 40mm fan directly on the heatsink if the card consistently runs at high temperatures (e.g., above 70°C under load) to maintain stable operation.

5.2 Firmware Updates

Periodically check the manufacturer's website for updated firmware. Firmware updates can improve compatibility, performance, and address known issues. Follow the manufacturer's instructions carefully when performing firmware updates to avoid damaging the device.

6. TROUBLESHOOTING

6.1 Adapter Not Detected

- Ensure the HBA is fully seated in the PCIe slot.
- Verify that the correct drivers are installed for your operating system.
- Try the adapter in a different PCIe slot if available.

6.2 Drive Connectivity Issues

- Check all SFF-8643 and SATA/SAS cable connections for proper seating.
- Ensure storage devices are receiving adequate power.
- Verify that the correct cables (SFF-8643) are being used.

6.3 Overheating

- Improve case airflow by adding or repositioning fans.
- Consider installing a dedicated 40mm fan on the HBA's heatsink.
- Ensure the heatsink is free of dust and debris.

7. SPECIFICATIONS

Model Number	9300-8i (H5-25573-00)
Interface	PCI Express 3.0 x8
Connectors	2 x SFF-8643 mini-SAS HD Internal
Data Transfer Rate	Up to 12Gb/s SAS, 6Gb/s SATA
Device Support	Up to 1024 SAS/SATA devices
Form Factor	Low Profile
Operating Systems	Windows Server, Linux, Unix
Dimensions (LxWxH)	10.51 x 5.98 x 2.6 inches
Weight	5 ounces

8. WARRANTY AND SUPPORT

For information regarding product warranty, technical support, and additional resources, please refer to the official LSI (now Broadcom) website or contact their customer support directly. Keep your purchase receipt for warranty claims.