Broadcom 05-50075-00

Broadcom HBA 9500-16e Tri-Mode Storage Adapter User Manual

Model: 05-50075-00

1. INTRODUCTION

The Broadcom HBA 9500-16e is a high-performance Tri-Mode Storage Adapter designed for advanced server and application environments. This adapter provides robust connectivity and data transfer capabilities, supporting a wide range of storage devices.

Key Features:

- Connects up to 1024 SAS/SATA devices or 32 NVMe devices, offering extensive storage expansion.
- Delivers maximum connectivity and performance crucial for high-end servers and demanding applications.
- Utilizes PCIe 4.0 connectivity to provide the necessary bandwidth for critical applications.
- Features Universal Bay Management (UBM) readiness for streamlined storage management.

2. WHAT'S IN THE BOX

Upon opening the product packaging, verify that all components are present and undamaged. The standard package includes:

- One (1) Broadcom HBA 9500-16e Tri-Mode Storage Adapter

3. SETUP AND INSTALLATION

This section provides general guidelines for installing the Broadcom HBA 9500-16e adapter into a compatible system. Always refer to your system's documentation for specific installation procedures.

System Requirements:

- Compatible Devices: Personal Computers, Servers with an available PCI slot.
- Supported Operating Systems: Windows Server, Linux, macOS.

Installation Steps:

1. **Power Off System:** Ensure your computer or server is completely powered off and disconnected from the power source before beginning installation.

2. **Open Chassis:** Carefully open the computer or server chassis to access the internal components.

3. **Locate PCI Slot:** Identify an available PCI slot on the motherboard. The HBA 9500-16e uses a standard PCI interface.

4. **Insert Adapter:** Align the adapter with the PCI slot and gently but firmly press it down until it is securely seated. Ensure the bracket is aligned with the chassis opening.

5. **Secure Adapter:** Secure the adapter with the retaining screw or clip provided by your chassis manufacturer.

6. **Connect Cables:** Connect your SAS, SATA, or NVMe storage devices to the appropriate ports on the adapter.

7. **Close Chassis:** Close the computer or server chassis and reconnect the power source.

8. **Install Drivers:** Power on the system. Once the operating system loads, install the necessary drivers for the Broadcom HBA 9500-16e. Drivers are typically available on the Broadcom support website.

Figure 3.1: Broadcom HBA 9500-16e Tri-Mode Storage Adapter. This image shows the green circuit board with a large black heatsink covering the main chip, and the silver PCI bracket with multiple external ports on the left side.

4. OPERATING THE ADAPTER

Once installed and drivers are loaded, the Broadcom HBA 9500-16e adapter will function as an interface between your system and connected storage devices. It supports SAS, SATA, and NVMe protocols, allowing for flexible storage configurations.

- **Device Recognition:** After successful driver installation, connected storage devices (SAS, SATA, NVMe) should be recognized by your operating system.
- **Storage Management:** Use your operating system's disk management tools or specific Broadcom utilities (if available) to configure and manage the connected drives, including creating RAID arrays if supported by your system's firmware or software.
- **Performance:** The PCIe 4.0 interface ensures high-speed data transfer, optimizing performance for demanding storage workloads.

5. MAINTENANCE

The Broadcom HBA 9500-16e is designed for reliable operation with minimal maintenance. However, following these general guidelines can help ensure its longevity and optimal performance:

- **Keep System Clean:** Regularly clean the interior of your computer or server to prevent dust buildup on the adapter's heatsink and components. Dust can impede airflow and lead to overheating.
- **Ensure Proper Ventilation:** Operate the system in a well-ventilated environment to maintain optimal operating temperatures for all internal components, including the HBA.
- **Driver Updates:** Periodically check the Broadcom support website for updated drivers or firmware. Keeping drivers current can improve compatibility, performance, and stability.
- **Physical Inspection:** During system maintenance, visually inspect the adapter for any signs of damage or loose connections.

6. TROUBLESHOOTING

If you encounter issues with your Broadcom HBA 9500-16e adapter, consider the following common troubleshooting steps:

- **Adapter Not Detected:**

  - Ensure the adapter is fully seated in the PCI slot.
  - Try the adapter in a different PCI slot if available.
  - Verify that the system's BIOS/UEFI settings are configured to recognize PCIe devices.

- **Storage Devices Not Recognized:**

  - Check all data cables (SAS, SATA, NVMe) for secure connections to both the adapter and the storage devices.
  - Ensure storage devices are properly powered.
  - Verify that the correct drivers for the HBA are installed and up to date.
  - Check the operating system's disk management utility to see if the drives appear as uninitialized or unallocated.

- **Performance Issues:**

  - Confirm that the adapter is installed in a PCIe 4.0 compatible slot for optimal bandwidth.
  - Ensure system cooling is adequate to prevent thermal throttling.
  - Check for conflicting drivers or software.

- **System Instability:**

  - Reinstall the HBA drivers.
  - Check system event logs for error messages related to the adapter.

- Ensure your system's power supply is sufficient for all installed components.

If issues persist, consult the Broadcom support website or contact their technical support for further assistance.
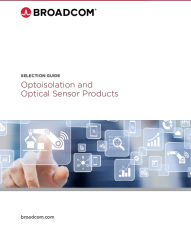
7. SPECIFICATIONS

Feature	Detail
Brand	Broadcom
Model Number	05-50075-00
Series	05-50075-00
Hard Drive Interface	NVMe, SAS, SATA (Tri-Mode)
Hardware Interface	PCIe 4.0
Compatible Devices	Personal Computers, Servers
Operating System Support	Windows Server, Linux, macOS
Item Weight	10.4 ounces (approx. 0.65 lbs)
Item Dimensions (LxWxH)	2.71 x 6.6 inches
Maximum Device Connectivity	Up to 1024 SAS/SATA devices or 32 NVMe devices

8. WARRANTY AND SUPPORT

Warranty information for the Broadcom HBA 9500-16e Tri-Mode Storage Adapter is typically provided by the manufacturer at the time of purchase or can be found on their official website. Please retain your proof of purchase for warranty claims. For technical support, driver downloads, firmware updates, and additional documentation, please visit the official Broadcom support website. You may need the model number (05-50075-00) and serial number of your adapter when seeking support.

Note: This manual provides general guidance. Specific details may vary based on product revisions or system configurations.

Related Documents - 05-50075-00

	[Broadcom Storage Solutions Selection Guide: HBAs, MegaRAID, SafeStore, CacheCade](#) Comprehensive selection guide for Broadcom's storage solutions, including Host Bus Adapters (HBAs), MegaRAID controller cards, SafeStore software, CacheCade Pro 2.0, and various SAS, SATA, and U.2 enabled cables for enterprise data centers.
	[BCM56070 Hardware Design Guidelines](#) This document provides hardware design guidelines for the Broadcom BCM56070 family of devices, detailing electrical characteristics for high-speed I/O interfaces, connection diagrams, and routing examples.
	[Broadcom Optoisolation and Optical Sensor Products Selection Guide](#) Comprehensive selection guide from Broadcom covering optoisolation and optical sensor products, detailing features, applications, and upgrade paths for various industrial, automotive, and consumer electronics needs.
	[Broadcom MegaRAID SAS 9361-8i: High Performance 12 Gb/s PCI Express SATA+SAS RAID Controller](#) Product brief for the Broadcom MegaRAID SAS 9361-8i, detailing its high-performance 12 Gb/s PCI Express SATA+SAS RAID controller capabilities, features, advantages, and technical specifications for next-generation servers and storage.
	[Eberspächer Airtronic / Airtronic M: Tekninen kuvaus, asennus-, käyttö- ja huolto-ohjeet](#) Tämä Eberspächerin Airtronic ja Airtronic M -sarjan ilmalämmittimien tekninen kuvaus, asennusopas, käyttöohjeet ja huolto-ohjeet tarjoaa kattavaa tietoa laitteiden turvallisesta asennuksesta, käytöstä ja ylläpidosta. Nämä lämmittimet on suunniteltu tarjoamaan luotettavaa suorituskykyä ja mukavuutta erilaisissa ajoneuvoissa ja sovelluksissa.