

## Lenovo 930-8i

# Lenovo ThinkSystem RAID 930-8i 2GB Flash PCIe 12Gb Adapter User Manual

## INTRODUCTION

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Welcome to the user manual for the Lenovo ThinkSystem RAID 930-8i 2GB Flash PCIe 12Gb Adapter. This document provides essential information for the proper installation, configuration, and maintenance of your RAID controller. Please read this manual thoroughly before using the product to ensure optimal performance and system stability.

## PRODUCT OVERVIEW

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The Lenovo ThinkSystem RAID 930 family consists of high-performance RAID-on-chip (ROC) adapters designed for internal 12 Gbps SAS connectivity. These adapters offer robust data protection and management features for server environments, supporting a wide range of RAID levels and advanced capabilities.

### Key Features:

- Support for intermixing of 12 Gbps and 6 Gbps drives.
- PCIe 3.0 x8 host interface for high-speed data transfer.
- Integrated 2GB or 4GB flash-backed cache for enhanced performance and data integrity.
- Supports RAID levels 0, 1, 10, 5, 50, 6, and 60, as well as JBOD mode.
- Extensive RAS (Reliability, Availability, Serviceability) and management features.

### Product Image:



Image: The Lenovo ThinkSystem RAID 930-8i adapter, showcasing its PCIe interface, heat sink for thermal management, and SAS connectors for drive connectivity.

## PACKAGE CONTENTS

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Verify that your package contains the following items:

- Lenovo 7Y37A01084 ThinkSystem RAID 930-8i 2GB Flash PCIe 12Gb Adapter
- (Additional items such as documentation or cables may be included depending on the specific product variant and region.)

## SPECIFICATIONS

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Feature	Detail
Brand	Lenovo
Model Number	930-8i
Series	930
Hardware Interface	PCI Express x8
Cache	2GB or 4GB Flash-backed
Supported RAID Levels	0, 1, 10, 5, 50, 6, 60, JBOD

Drive Compatibility	12 Gbps and 6 Gbps SAS/SATA drives
Compatible Devices	Desktop, Laptop, Server
Operating System Support	Windows, Linux
Item Weight	Approximately 6.1 ounces (173 grams)
Product Dimensions (LxWxH)	9 x 5.5 x 1.5 inches (22.86 x 13.97 x 3.81 cm)
Manufacturer	Lenovo Group Limited

## INSTALLATION (SETUP)

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This section outlines the general steps for installing the Lenovo ThinkSystem RAID 930-8i adapter into a compatible system. Always refer to your server or workstation's documentation for specific installation procedures and safety guidelines.

### Safety Precautions:

- Ensure the system is powered off and disconnected from all power sources before installation.
- Wear an anti-static wrist strap to prevent electrostatic discharge (ESD) damage to components.
- Handle the adapter by its edges, avoiding contact with the gold connectors or components.

### Installation Steps:

1. **Prepare the System:** Power down your computer or server and unplug the power cord. Open the system chassis to access the internal components.
2. **Locate an Available PCIe Slot:** Identify an available PCIe 3.0 x8 or larger slot on your motherboard. The adapter requires a full-height bracket.
3. **Insert the Adapter:** Carefully align the adapter with the chosen PCIe slot. Apply even pressure to both ends of the adapter until it is fully seated in the slot. Secure the adapter with the retention mechanism or screw provided by your system chassis.
4. **Connect SAS Cables:** Connect the appropriate SAS cables from the RAID adapter's SAS ports to your SAS/SATA hard drives or backplane. Ensure secure connections.
5. **Close the System:** Once the adapter and cables are securely installed, close the system chassis and reconnect the power cord.
6. **Power On and Configure:** Power on the system. During boot-up, access the RAID controller's BIOS or UEFI configuration utility to set up RAID arrays as needed. Refer to the Lenovo documentation for detailed RAID configuration instructions.

For detailed driver installation and firmware updates, visit the official Lenovo support website.

## OPERATION

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After successful installation and initial configuration, the Lenovo ThinkSystem RAID 930-8i adapter operates transparently within your system, managing connected drives and RAID arrays.

### RAID Array Management:

RAID array management is typically performed through the RAID controller's BIOS/UEFI utility during system boot or via an operating system-based utility provided by Lenovo. These tools allow you to:

- Create, delete, and modify RAID arrays.
- Monitor the health and status of drives and arrays.
- Perform maintenance tasks such as rebuilding degraded arrays.
- Configure global hot spares.

## Operating System Integration:

Ensure that the necessary drivers for the RAID 930-8i adapter are installed in your operating system (Windows, Linux). These drivers enable the operating system to communicate with the controller and access the configured storage volumes.

## MAINTENANCE

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Regular maintenance helps ensure the longevity and optimal performance of your RAID adapter and storage system.

- **Firmware Updates:** Periodically check the Lenovo support website for updated firmware for your RAID adapter. Firmware updates can provide performance improvements, bug fixes, and enhanced compatibility.
- **Driver Updates:** Keep your operating system drivers for the RAID controller up to date.
- **Physical Inspection:** During system maintenance, visually inspect the adapter for any signs of damage or loose connections. Ensure proper airflow around the adapter's heatsink.
- **Data Backup:** Regularly back up critical data from your RAID arrays. While RAID provides data redundancy, it is not a substitute for a comprehensive backup strategy.
- **Monitor Drive Health:** Use the RAID management utility to monitor the health status of individual drives within your arrays. Replace failing drives promptly.

## TROUBLESHOOTING

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This section provides general troubleshooting tips for common issues. For more complex problems, consult the Lenovo support website or contact technical support.

### Common Issues and Solutions:

1. **Adapter Not Detected:**

**Solution:** Ensure the adapter is fully seated in the PCIe slot. Verify that the PCIe slot is functional. Check system BIOS/UEFI settings for PCIe slot enablement.

2. **Drives Not Detected:**

**Solution:** Check all SAS/SATA cable connections between the adapter and drives/backplane. Ensure drives are properly powered. Verify drive health.

3. **RAID Array Degraded/Failed:**

**Solution:** Identify the failed drive using the RAID management utility. Replace the failed drive with a compatible spare. The array should begin rebuilding automatically. Monitor the rebuild process.

4. **Performance Issues:**

**Solution:** Ensure drivers and firmware are up to date. Check for proper cooling within the system. Verify drive health and ensure no background processes are heavily utilizing the storage.

#### 5. System Boot Failure:

**Solution:** If the system fails to boot after adapter installation, try removing the adapter and booting the system. If it boots, re-check installation steps. Ensure the boot order in BIOS/UEFI is correctly configured to boot from the RAID volume.

Always consult the system event logs and the RAID controller's diagnostic tools for specific error messages.

## WARRANTY AND SUPPORT

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For information regarding the warranty coverage of your Lenovo ThinkSystem RAID 930-8i adapter, please refer to the warranty documentation included with your product or visit the official Lenovo support website.

#### Lenovo Support:

- **Website:** <https://support.lenovo.com>
- **Contact:** Refer to the support website for regional contact information and technical assistance.

When contacting support, please have your product model number (930-8i) and serial number ready.