

Raidon iR5440 — Compact 4-bay 2.5" SATA Hardware RAID Module

High-density hardware RAID storage for 1U ODD form factor systems

The [Raidon iR5440](#) is a compact 4-bay 2.5-inch SATA hardware RAID module designed to bring RAID 5 protection and high-density storage to systems with a 1U ODD-bay footprint.

RAIDONTEK It enables system integrators to add protected storage, hot-swap serviceability, and system-level monitoring without requiring a RAID card or system redesign.

Supporting RAID 0, RAID 5, BIG, and JBOD, the iR5440 provides flexible configuration options for performance, capacity expansion, or data protection. Its full-metal chassis, hot-swappable trays, active cooling, rebuild-progress LEDs, buzzer alerts, and Windows-based STATUSGUARD GUI monitoring make it suitable for industrial PCs, surveillance systems, edge-computing platforms, compact servers, and professional workstations. **Features**

- **Compact 4-Bay 2.5-Inch SATA Storage Design**

The iR5440 supports four 2.5-inch SATA HDDs or SSDs in a compact 1U ODD form factor, making it suitable for space-limited industrial PCs, embedded systems, edge devices, small servers, and short-depth rackmount platforms.



- **Hardware RAID 0, RAID 5, BIG, and JBOD Support**

Multiple RAID modes support performance, protection, or capacity expansion:

RAID Modes	Practical Use
RAID 0	Stripes data across drives for maximum performance. No redundancy
RAID 5	Uses distributed parity for balanced performance and single-drive fault tolerance
BIG	Combines multiple drives into one large volume. No redundancy
JBOD	Allows each drive to operate independently. Requires Port Multiplier support

RAID 5 can tolerate one drive failure and continue operating while the failed drive is replaced and the array is rebuilt.



- **Single SATA Host Connection**

The iR5440 connects to the host system through one SATA III 6.0Gb/s interface. In RAID 0, RAID 5, and BIG modes, the hardware RAID controller manages all four drives and presents the array as a single volume, freeing host SATA ports for other devices and simplifying system integration.



Note: In JBOD mode, the host SATA controller must support Port Multiplier to detect all drives individually.

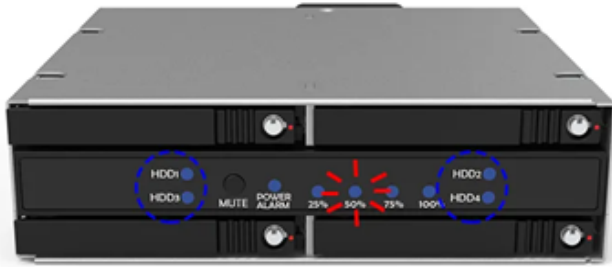
- **Hot-Swappable Full-Metal Drive Trays**

Each bay uses a removable 2.5-inch full-metal tray with a secure locking mechanism. The hot-swap design supports faster drive replacement and easier field maintenance.



- **RAID Rebuild and System Status Indicators**

Front-panel LEDs indicate drive activity, drive failure, and RAID rebuild progress. Rebuild progress is displayed at 25%, 50%, 75%, and 100%, allowing technicians to monitor array recovery quickly.



- **Raidon STATUSGUARD GUI Monitoring for Windows OS**

Raidon STATUSGUARD GUI software provides RAID status monitoring, device management, drive-health checking, alerts, and event log review through a Windows-based graphical interface

Note: STATUSGUARD GUI is available for Windows OS. Linux systems may use standard OS-level storage tools.

- **Thermal and Fan-Failure Alerts**

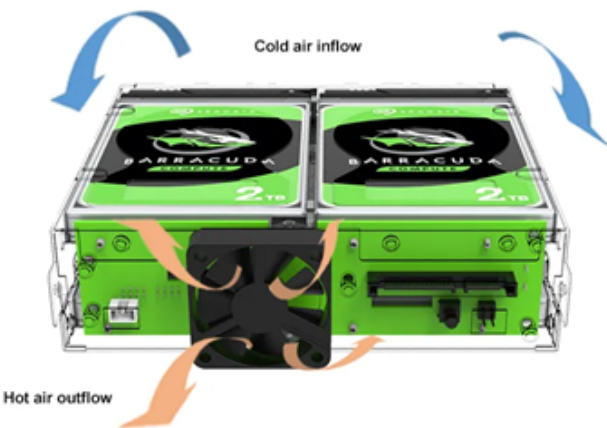
The iR5440 includes overheat and fan-failure monitoring with LED and buzzer alerts. A buzzer mute switch allows users to silence the alarm after the issue has been acknowledged.



A buzzer mute switch

- **Full-Metal Chassis with Active Cooling**

The full-metal enclosure improves durability and heat dissipation. A built-in 40 mm low-noise fan supports stable thermal control in compact system environments.



Applications

- **Industrial Automation and Control Systems**

Protects logs, control data, and local system records from single-drive failure, helping reduce downtime risk

- **Surveillance and Security Systems**

Supports recording continuity during a drive failure with RAID 5 protection and hot-swap serviceability

- **Edge Platforms**

Adds protected local storage in compact 1U ODD-bay systems where PCIe RAID cards may not be practical

- **Professional Workstations**

Suitable for CAD/CAM, 3D rendering, media production, and scientific workloads, allowing users to configure RAID 0 for maximum performance or RAID 5 for protected storage

- **Small Servers and Backup Systems**

Suitable for small servers and local backup systems that require compact RAID storage

Important Usage Notes

- JBOD mode requires a SATA host controller with Port Multiplier support
- RAID 0, RAID 5, and BIG modes present the array as a single volume and do not require Port Multiplier support
- Configure RAID mode before installation
- Drives previously used in a RAID 5 array should be fully erased and re-initialized before reuse
- RAID 5 is not a backup solution. Important data should always be backed up separately
- Use SATA HDDs or SSDs suitable for RAID or continuous-operation workloads
- 2 SATA drives may be supported when used with a Raidon SROCK SATA adapter installed in the drive tray

Product Specifications



A. Mute Button
 B. HDD Status Indicator LED
 C. Tray Key Lock
 D. HDD tray
 E. Power & Alarm LED Status Indicator
 F. Rebuilding Status Indicator
 G. Jumper for RAID mode setting
 H. Rset Button
 I. 7+15 Pin SATA Connector
 J. Fan Connector
 K. Cooling Fan

Model No	iR5440
Host Interface	7+15-pin SATA III 6.0Gb/s port ×1
Supported Drives	2.5" SATA III / II / I HDDs or SSDs ×4
RAID Modes	RAID 0 / RAID 5 / BIG / JBOD
System Monitoring	Fan failure, overheat, and HDD/SSD failure
Cooling System	40 mm low-noise fan
Operating System Support	Windows, Linux

Monitoring & Protection	RAID rebuild progress LEDs: 25% / 50% / 75% / 100%; overheat / fan-failure LED and buzzer alerts
GUI Monitoring	Raidon STATUSGUARD GUI software for Windows OS
Certifications	CE, FCC, RoHS, REACH
Dimensions	148 × 140 × 43 mm (W × L × H)
Packaging	10 pieces per carton
Included Accessories	iR5440 ×1, including removable HDD/SSD trays with locks ×4 SATA cable ×1, keys ×4, accessory kit bags ×3 Quick Installation Guide ×1