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- › [Dell](#) /
- › [Dell PowerEdge R630 Server User Manual](#)

Dell PER630-HS-8-SFF-RPS

Dell PowerEdge R630 Server User Manual

Model: PER630-HS-8-SFF-RPS

1. INTRODUCTION

The Dell PowerEdge R630 is a high-performance 1U rack server designed for demanding data center environments. It offers robust processing power, extensive memory capacity, and flexible storage options, making it suitable for virtualization, databases, and high-performance computing applications. This manual provides essential information for the safe and efficient setup, operation, and maintenance of your server.



Figure 1.1: Angled view of the Dell PowerEdge R630 server, showcasing its compact 1U form factor and front panel layout.

2. SAFETY INFORMATION

Observe the following safety precautions to prevent injury and damage to the equipment:

- **Electrical Safety:** Always disconnect all power cords from the electrical outlets before opening the server chassis or performing any maintenance. Ensure proper grounding.
- **Heavy Equipment:** The server is heavy. Use proper lifting techniques or assistance when moving or installing the unit into a rack.
- **Ventilation:** Ensure adequate airflow around the server. Do not block ventilation openings. Operate the server within specified environmental conditions.
- **Static Discharge:** Use an anti-static wrist strap when handling internal components to prevent electrostatic discharge (ESD) damage.

3. PACKAGE CONTENTS

Verify that all components are present in the shipping box. The standard package typically includes:

- Dell PowerEdge R630 Server Unit
- Power Cables (quantity may vary based on power supply configuration)
- Documentation (Quick Start Guide, Safety Information)



Figure 3.1: The Dell PowerEdge R630 server securely packaged in its shipping box, alongside included power cables.

4. PHYSICAL OVERVIEW

4.1 Front Panel Features

The front panel provides access to drive bays, control buttons, and diagnostic indicators.



Figure 4.1: Front view of the Dell PowerEdge R630 server, highlighting the eight 2.5-inch small form factor (SFF) drive bays, control panel, and optical drive.

- **Drive Bays:** Eight 2.5-inch small form factor (SFF) hot-swappable drive bays.
- **Control Panel:** Includes power button, NMI button, system identification button, and status LEDs.
- **Optical Drive:** Optional DVD-ROM drive.
- **USB Ports:** Two USB 2.0 ports.

4.2 Rear Panel Features

The rear panel provides connectivity for power, network, and other peripherals.

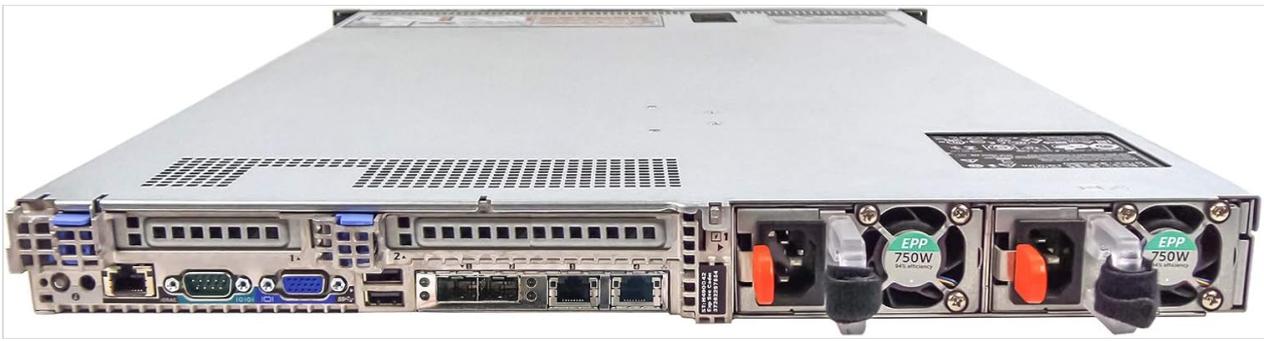


Figure 4.2: Rear view of the Dell PowerEdge R630 server, showing dual redundant power supplies, network ports, and various I/O connections.

- **Power Supply Units (PSUs):** Dual redundant hot-swappable power supplies.
- **Network Ports:** Multiple Ethernet ports for network connectivity.
- **VGA Port:** For connecting a monitor.
- **USB Ports:** Two USB 2.0 ports.
- **Serial Port:** For console access.
- **iDRAC Port:** Dedicated port for remote management.
- **PCIe Expansion Slots:** For additional expansion cards.

5. SETUP

Follow these steps for initial server setup:

1. **Rack Installation:** Install the server into a standard 19-inch server rack using compatible rack rails (sold separately). Ensure the rack is stable and properly grounded.
2. **Power Connection:** Connect the provided power cables to the server's power supply units and then to grounded electrical outlets or a UPS. For redundancy, connect each power supply to a separate power source.
3. **Network Connection:** Connect Ethernet cables from your network infrastructure to the server's network ports.
4. **Peripheral Connection (Optional):** Connect a monitor to the VGA port, and a keyboard/mouse to the USB ports for local access during initial setup.
5. **Initial Boot:** Press the power button on the front panel. Observe the Power-On Self-Test (POST) process.
6. **BIOS/UEFI Configuration:** During POST, press the indicated key (usually F2 or Del) to enter the BIOS/UEFI setup utility for initial configuration, such as boot order or time settings.
7. **iDRAC Configuration:** Configure the Integrated Dell Remote Access Controller (iDRAC) for remote management. This typically involves setting an IP address for the iDRAC port.
8. **Operating System Installation:** Install your preferred server operating system (e.g., Windows Server, Linux distribution, VMware ESXi) using a bootable USB drive, optical media, or network installation.

6. OPERATING

Once the server is set up and the operating system is installed, you can begin normal operation.

- **Remote Management (iDRAC):** Utilize iDRAC for comprehensive remote management, including power control, virtual console access, and hardware monitoring, without needing physical access to the server.
- **System Monitoring:** Regularly monitor server health using the operating system's tools or Dell's OpenManage software. Pay attention to CPU usage, memory utilization, disk health, and temperature readings.

- **Virtualization:** The PowerEdge R630 is well-suited for hosting virtual machines. Ensure your virtualization software is properly configured and resources are allocated efficiently.
- **Data Backup:** Implement a robust data backup strategy to protect critical information stored on the server.

7. MAINTENANCE

Regular maintenance helps ensure optimal performance and longevity of your server.

- **Cleaning:** Periodically clean dust from the server's exterior and ventilation openings using compressed air. Ensure the server is powered off and unplugged before cleaning.
- **Firmware Updates:** Keep the server's firmware (BIOS, iDRAC, RAID controller, network adapters) updated to the latest versions. Refer to the Dell support website for available updates and installation instructions.
- **Component Replacement:** The PowerEdge R630 supports hot-swappable drives and power supplies, allowing replacement without powering down the server. For other components like memory or CPUs, power down the server and follow Dell's service manual procedures.
- **Disk Health:** Monitor the health of your hard drives or SSDs. Replace failing drives proactively to prevent data loss.

8. TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

- **No Power:**
 - Verify power cables are securely connected to both the server and the power source.
 - Check the status LEDs on the power supply units. If an LED is off or amber, the PSU may be faulty or not receiving power.
 - Ensure the power outlets are functional.
- **Server Not Booting:**
 - Listen for POST beeps or observe diagnostic LEDs/LCD messages for error codes.
 - Check the boot order in BIOS/UEFI settings.
 - Ensure all memory modules and expansion cards are properly seated.
- **Network Connectivity Issues:**
 - Verify Ethernet cables are correctly connected and link lights are active.
 - Check network adapter settings within the operating system.
 - Confirm network switch/router functionality.
- **Overheating:**
 - Ensure the server is in a well-ventilated area and rack.
 - Clean any dust buildup from the server's fans and vents.
 - Verify that all cooling fans are operational.

9. SPECIFICATIONS

| Feature | Description |
|--------------|---------------------|
| Model Number | PER630-HS-8-SFF-RPS |

| | |
|-------------------------|-------------------------------------|
| Processor Configuration | 2X 2.40GHz 16 Cores (as configured) |
| Memory | 64GB (as configured) |
| Storage Controller | H330 (as configured) |
| Hard Disk Configuration | 8X 600GB 10K (as configured) |
| Product Dimensions | 24 x 36 x 8 inches |
| Item Weight | 39.4 pounds |
| Manufacturer | Dell Computers |

10. WARRANTY AND SUPPORT

This Dell PowerEdge R630 server is a renewed product. It is backed by the [Amazon Renewed Guarantee](#), which provides eligibility for replacement or refund within 90 days of purchase if you are not satisfied.

For technical support or warranty claims, please contact the seller, StrongIT, through your Amazon purchase history. For general Dell documentation and drivers, visit the official Dell support website.