Cisco CISCO1921-SEC/K9

Cisco 1921 Series Router User Manual

Model: CISCO1921-SEC/K9

1. Introduction

This manual provides essential information for the installation, operation, and maintenance of your Cisco 1921 Series Integrated Services Router (ISR). The Cisco 1921 is designed to deliver highly secure data, mobility, and application services for small offices and enterprise branch offices. It features embedded hardware encryption acceleration and advanced security services.
Please read this manual thoroughly before attempting to install or operate the device to ensure proper functionality and safety.

2. Safety Information

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

- **Power Disconnection:** Always disconnect power before installing or removing interface cards or performing any maintenance.
- **Ventilation:** Ensure adequate airflow around the router to prevent overheating. Do not block ventilation openings.
- **Power Source:** Connect the router only to the specified power source (100-240 V~, 50-60 Hz, 1A).
- **Grounding:** Ensure the router is properly grounded to prevent electrical shock.
- **Environment:** Operate the device in a clean, dry environment within specified temperature and humidity ranges.
- **Professional Installation:** If you are unfamiliar with network equipment installation, seek assistance from a qualified professional.

3. Package Contents

Verify that your package contains the following items:

- Cisco 1921 Series Router
- Rackmounts
- AC Power Cable (Cab-AC)
- Documentation (this manual)

If any items are missing or damaged, contact your vendor immediately.

4. Physical Overview

The following image illustrates the rear panel of the Cisco 1921 Series Router, highlighting key ports and indicators.

Figure 4.1: Rear Panel of Cisco 1921 Series Router. This view shows the two EHWIC slots (EHWIC 0 and EHWIC 1) for interface cards, a FLASH slot, AUX and CONSOLE ports (RJ-45), two Gigabit Ethernet ports (GE 0/0 and GE 0/1), a USB port, a BAUD/RESET button, a PoE port (48VDC 1.67A), a grounding point, the Cisco logo, and the AC power input (100-240 V~, 50-60 Hz, 1A) with an integrated power switch.

4.1. Rear Panel Components

- **EHWIC Slots (EHWIC 0, EHWIC 1):** These slots are for installing Enhanced High-Speed WAN Interface Cards. *Important: Do not install interface cards with power applied to the router.*
- **FLASH:** Slot for a CompactFlash memory card, used for storing the Cisco IOS image and configuration files.
- **AUX Port:** An RJ-45 auxiliary port, typically used for out-of-band management via a modem.
- **CONSOLE Port:** An RJ-45 console port for direct, local management and initial configuration using a terminal emulator.
- **Gigabit Ethernet Ports (GE 0/0, GE 0/1):** Two RJ-45 ports for high-speed network connections.
- **USB Port:** A USB Type-A port for connecting USB flash drives for configuration backup, restoration, or software upgrades.
- **BAUD/RESET Button:** A recessed button for resetting the router or changing the console baud rate.
- **PoE Port:** A Power over Ethernet port, providing 48VDC at 1.67A for compatible devices.
- **Grounding Point:** For connecting an earth ground wire.

- **Power Input:** AC power receptacle (100-240 V~, 50-60 Hz, 1A) with an integrated power switch.

5. Setup

5.1. Site Preparation

- Place the router on a stable, flat surface or install it in a standard 19-inch equipment rack using the provided rackmounts.
- Ensure the operating environment is within the recommended temperature and humidity ranges.
- Provide at least 3 inches (7.6 cm) of clearance around the router for proper ventilation.

5.2. Connecting Power

1. Ensure the power switch on the rear panel is in the OFF (O) position.
2. Connect the AC power cable to the power input receptacle on the router's rear panel.
3. Connect the other end of the AC power cable to a grounded electrical outlet.
4. If required, connect a grounding wire to the grounding point on the router and to a suitable earth ground.

5.3. Initial Network Connections

- **Console Connection:** For initial configuration, connect a console cable (RJ-45 to DB-9 or USB) from your computer's serial port or USB port to the router's CONSOLE port. Configure your terminal emulator (e.g., PuTTY, Tera Term) with the following settings: 9600 baud, 8 data bits, no parity, 1 stop bit, no flow control.
- **Ethernet Connections:** Connect your local network devices (switches, computers) to the Gigabit Ethernet ports (GE 0/0, GE 0/1). Connect your WAN uplink (e.g., modem) to the designated WAN interface, which might be one of the GE ports or an installed EHWIC.

6. Operating Instructions

6.1. Powering On the Router

After all physical connections are made, switch the power button on the rear panel to the ON (I) position. The router will begin its boot sequence. Observe the system LEDs for status indications.

6.2. Accessing the Command-Line Interface (CLI)

Once the router has booted, you can access the Cisco IOS CLI via the console connection. This interface is used for all configuration and management tasks. Basic commands include:

- enable: Enters privileged EXEC mode.
- configure terminal: Enters global configuration mode.
- show running-config: Displays the current active configuration.
- copy running-config startup-config: Saves the current configuration to NVRAM.

For detailed configuration, refer to Cisco's official documentation for Cisco IOS.

6.3. Basic Network Configuration

Initial configuration typically involves setting hostnames, IP addresses on interfaces, routing protocols, and security features. The CISCO1921-SEC/K9 model includes advanced security services, which can be configured via the IOS Zone-Based Firewall.

7. Maintenance

7.1. Software Updates

Regularly check the Cisco support website for the latest IOS software images and security updates. Updating the software ensures optimal performance, security, and access to new features. Always follow Cisco's recommended upgrade procedures.

7.2. Cleaning

Keep the router clean and free of dust. Use a soft, dry cloth to wipe the exterior. Do not use liquid cleaners or aerosol sprays directly on the device. Ensure ventilation openings are clear of obstructions.

7.3. Configuration Backup

Periodically back up your router's configuration to a TFTP server or a USB flash drive. This allows for quick restoration in case of configuration loss or device replacement.

8. Troubleshooting

8.1. No Power

- Verify the power cable is securely connected to both the router and the electrical outlet.
- Ensure the power switch on the rear panel is in the ON (I) position.
- Check the power outlet with another device to confirm it is functional.

8.2. No Network Connectivity

- Check the link status LEDs on the Ethernet ports. If they are off, verify cable connections and the status of the connected device.
- Confirm IP address configurations and routing tables using the CLI.
- Ensure that any firewalls or access control lists (ACLs) are not blocking traffic.

8.3. Router Not Responding

If the router becomes unresponsive, you may need to perform a reset. Locate the recessed**RESET** button on the rear panel. Use a paperclip or similar pointed object to press and hold the button for a few seconds. This will typically reboot the router. Consult Cisco documentation for specific reset procedures, as a factory reset might require different steps.

9. Specifications

Feature	Detail
Model Name	CISCO1921-SEC/K9
Product Dimensions	13.5 x 11.5 x 1.75 inches
Item Weight	6.75 pounds
Power Input	100-240 V~, 50-60 Hz, 1A
Connectivity Technology	Wired
Special Feature	Internet Security
Included Components	Rackmounts, AC Power Cable
Compatible Devices	Personal Computer

Feature	Detail
Date First Available	September 14, 2004

10. Warranty and Support

10.1. Warranty Information

This product typically comes with a **30 DAYS WARRANTY FOR DEFECTIVE ONLY** from the reseller. For specific warranty terms and conditions, please refer to your purchase agreement or contact your point of sale. Note that Cisco's official warranty policies may vary, and equipment not purchased from an authorized reseller might have limited or no direct Cisco warranty support.

10.2. Technical Support

For technical assistance, configuration guidance, or advanced troubleshooting, it is recommended to consult the official Cisco documentation available on the Cisco website. You may also contact Cisco Technical Assistance Center (TAC) if you have an active service contract.