

Cisco AIR-CT5508-50-K9

Cisco 5500 Series Wireless Controller User Manual

Model: AIR-CT5508-50-K9

1. INTRODUCTION

The Cisco 5500 Series Wireless LAN Controller (WLC) is a highly scalable and flexible platform designed to enable system-wide services for mission-critical wireless deployments in medium to large-sized enterprises and campus environments. This controller, specifically the AIR-CT5508-50-K9 model, is optimized for 802.11n performance and maximum scalability, supporting up to 50 Cisco Access Points simultaneously. It provides enhanced uptime, superior performance for reliable streaming video and toll-quality voice, and improved fault recovery for a consistent mobility experience. This manual will guide you through the installation, configuration, and maintenance of your Cisco 5508 WLC.

2. PRODUCT OVERVIEW



Figure 2.1: Cisco 5508 Wireless LAN Controller (AIR-CT5508-50-K9)

This image displays the Cisco 5508 Wireless LAN Controller from a slightly elevated front-right perspective. The front panel features ventilation grilles. The rear panel, visible on the left, includes multiple Ethernet ports, console ports, and USB ports. The device has a dark grey or black casing.

2.1 Key Features

- Supports up to 50 Cisco Access Points.
- Optimized for 802.11n wireless standards.
- High scalability for medium to large enterprise networks.
- Enhanced uptime and fault recovery.
- Superior performance for real-time applications like voice and video.

3. SETUP AND INSTALLATION

3.1 Unpacking the Controller

Carefully unpack the Cisco 5508 WLC from its shipping container. Verify that all components listed in the packing list are present and undamaged. Retain the packaging materials for future transport or storage.

3.2 Physical Installation

The Cisco 5508 WLC is designed for rack mounting. Ensure adequate ventilation around the unit. Follow these steps for installation:

1. Mount the controller securely in a standard 19-inch equipment rack using the provided rack-mount kit.
2. Ensure proper grounding of the rack and the controller.
3. Connect the power cord to the controller's power input and then to a grounded AC power outlet.

3.3 Network Connections

Connect the necessary network cables to the controller's rear panel ports:

- **Gigabit Ethernet Ports:** Connect to your network switch infrastructure. These ports handle data traffic from access points and client devices.
- **Management Port:** Use this dedicated port for out-of-band management access.
- **Console Port:** Connect a serial cable from a management workstation to this port for initial configuration and command-line interface (CLI) access.
- **USB Ports:** For future use or specific accessory connections.

4. OPERATING THE CONTROLLER

4.1 Initial Configuration

After physical installation and power-up, the controller requires initial configuration. This is typically done via the console port using a terminal emulator (e.g., PuTTY, Tera Term) with the following settings: 9600 baud, 8 data bits, no parity, 1 stop bit, no flow control.

Follow the on-screen prompts to set up basic network parameters, administrator credentials, and management interfaces.

4.2 Management Interfaces

- **Command-Line Interface (CLI):** Accessible via the console port or SSH/Telnet. Provides full control over the controller's functions.
- **Graphical User Interface (GUI):** Accessible via a web browser. Provides an intuitive interface for configuration, monitoring, and troubleshooting. Navigate to the controller's IP address in your web browser.

4.3 Access Point Management

The Cisco 5508 WLC automatically discovers and manages Cisco Access Points (APs). Once an AP connects to the network and discovers the controller, it will download its configuration and begin serving wireless clients. Ensure proper network connectivity and firewall rules to allow APs to communicate with the controller.

5. MAINTENANCE

5.1 Firmware Updates

Regularly check the Cisco support website for the latest firmware versions. Firmware updates provide new features, bug fixes, and security enhancements. Follow the official Cisco documentation for the correct firmware upgrade procedure to avoid service interruptions.

5.2 Configuration Backup and Restore

It is critical to regularly back up your controller's configuration. This allows for quick recovery in case of a system failure or misconfiguration. Configuration files can typically be backed up to an external TFTP, FTP, or SFTP server.

5.3 Environmental Considerations

Maintain the operating environment within specified temperature and humidity ranges to ensure optimal performance and longevity of the device. Ensure proper airflow and keep ventilation openings clear of obstructions.

6. TROUBLESHOOTING

6.1 Common Issues

- **No Power:** Verify power cord connection, power outlet, and power supply status. Check power LED indicators.
- **Network Connectivity:** Ensure Ethernet cables are properly connected and network switches are operational. Check port status LEDs.
- **Access Points Not Registering:** Verify network reachability between APs and the controller, check firewall rules, and ensure correct controller discovery methods are configured on the APs.
- **Login Issues:** Confirm correct username and password. If forgotten, refer to Cisco documentation for password recovery procedures.

6.2 LED Indicators

Refer to the controller's front panel LEDs for quick status checks. Common LEDs include Power, System Status, and Port Status. Consult the Cisco 5500 Series documentation for a detailed explanation of each LED's behavior.

6.3 Basic Diagnostic Steps

1. Check physical connections.
2. Verify power and system status LEDs.
3. Ping the controller's IP address from a management workstation.
4. Access the CLI via console and check system logs for error messages.

7. SPECIFICATIONS

Attribute	Value
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Brand Name	Cisco
Product Model	AIR-CT5508-50-K9
Product Type	Wireless LAN Controller
Gigabit Ethernet Port	Yes
Management Port	Yes
USB	Yes
Power Source	Power Supply
Item Weight	28.6 pounds
Date First Available	May 15, 2014

8. WARRANTY AND SUPPORT

Cisco products typically come with a standard limited hardware warranty. For specific warranty terms and conditions applicable to your Cisco 5508 Wireless LAN Controller, please refer to the warranty documentation included with your purchase or visit the official Cisco website.

For technical support, software downloads, and additional documentation, please visit the Cisco Support Community or contact Cisco Technical Assistance Center (TAC) through your service contract. Ensure you have your product serial number and relevant network details ready when contacting support.

Cisco Support Website: <https://www.cisco.com/c/en/us/support/index.html>

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