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> Cisco 5508 Series Wireless LAN Controller User Manual

Cisco AIR-CT5508-50K9

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MODEL: AIR-CT5508-50-K9

1. PRODUCT OVERVIEW

The Cisco 5508 Wireless LAN Controller 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. Optimized for 802.11n performance and maximum scalability, this controller offers enhanced uptime by simultaneously managing up to 50 access points. It provides superior performance for reliable streaming video and toll-quality voice, alongside improved fault recovery for a consistent mobility experience in demanding environments. The 5508 is built to support a higher density of clients and deliver more efficient roaming, offering significantly increased throughput compared to older 802.11 a/g networks.



Figure 1: Top-down view of the Cisco 5508 Series Wireless LAN Controller, showcasing its compact rack-mountable form factor.

2. SETUP GUIDE

2.1 Unpacking and Initial Inspection

- Carefully remove the controller from its packaging.
- Inspect the unit for any signs of physical damage that may have occurred during shipping.
- Verify that all components listed in the packing slip are present.

2.2 Physical Installation

The Cisco 5508 controller is designed for rack-mounting. Ensure adequate ventilation around the unit.



Figure 2: Front panel of the Cisco 5508 Controller, showing network ports (Gigabit Ethernet and SFP), USB ports, console port, and status LEDs.

- Mount the controller securely into a standard 19-inch equipment rack using appropriate rack-mount kits.
- Connect network cables to the Gigabit Ethernet ports (RJ45) or SFP ports on the front panel as required for your network topology.
- Connect the power cables to the power supply units located at the rear of the controller. The controller supports dual power supplies for redundancy.



Figure 3: Rear view of the Cisco 5508 Controller, highlighting the bays for redundant power supply units.



Figure 4: Detailed view of the AC power supply units (AIR-PWR-5500-AC) for the Cisco 5508 Controller, showing power inputs and status indicators.

2.3 Initial Configuration

- Connect a console cable (RJ45) from your management workstation to the console port on the controller's front panel.
- Use a terminal emulation program (e.g., PuTTY, Tera Term) to access the command-line interface (CLI).
- Follow the on-screen prompts to perform initial setup, including setting up management IP addresses, subnet masks, and default gateways.

3. OPERATING INSTRUCTIONS

3.1 Powering On/Off

- To power on, ensure all power cables are securely connected and then flip the power switches on the rear power supply units to the 'ON' position.
- Observe the front panel LEDs (PS1, PS2, SYS, ALM) to monitor the boot process and operational status.
- To power off, gracefully shut down the system via the management interface if possible, then flip the power

switches to the 'OFF' position and disconnect power cables.

3.2 Connecting Access Points

The Cisco 5508 controller automatically discovers and manages Cisco Aironet Access Points. Once connected to the network, access points will attempt to join the controller.

- Ensure access points are powered on and connected to the network where the controller is accessible.
- Configure appropriate network settings (VLANs, DHCP) to allow APs to discover and communicate with the controller.

3.3 Basic Network Management

The controller can be managed via a web-based graphical user interface (GUI) or the command-line interface (CLI).

- Access the web GUI by entering the controller's management IP address into a web browser.
- Use the GUI for common tasks such as monitoring network status, configuring WLANs, managing access points, and viewing client information.
- The CLI provides advanced configuration options and is accessible via the console port or SSH/Telnet.

4. MAINTENANCE

4.1 Regular Checks

- Periodically check the environmental conditions (temperature, humidity) of the installation site. The operating temperature should not exceed 40 degrees Celsius.
- Verify that all network and power cables are securely connected.
- Monitor the status LEDs on the front panel for any abnormal indications (e.g., Alarm LED).

4.2 Firmware Updates

Regularly check the Cisco support website for the latest firmware updates. Keeping the controller's firmware up-to-date ensures optimal performance, security, and access to new features.

- Download firmware images only from official Cisco sources.
- Follow the specific upgrade procedures outlined in the release notes for each firmware version.

4.3 Cleaning

- Ensure the controller is powered off and disconnected from power before cleaning.
- Use a soft, dry cloth to wipe down the exterior surfaces.
- Use compressed air to gently clear dust from ventilation grilles and fan openings to maintain proper airflow.

5. TROUBLESHOOTING

5.1 Common Issues and Solutions

- **No Power:** Check power cable connections to the controller and the power outlet. Verify that the power supply LEDs on the rear are illuminated.
- **No Network Connectivity:** Ensure Ethernet cables are properly connected to the correct ports. Check the link/activity LEDs on the front panel ports. Verify IP configuration.
- **Access Points Not Joining:** Confirm that APs can reach the controller's management IP address. Check firewall rules and ensure proper DHCP/DNS configuration for AP discovery.

5.2 LED Status Indicators (Front Panel)

- **PS1/PS2 (Power Supply):** Indicates the status of the respective power supply unit. Typically green for operational.
- **SYS (System):** Indicates the overall system status. Green for normal operation, amber/red for warnings or faults.
- **ALM (Alarm):** Illuminates to indicate a system alarm or critical event. Refer to system logs for details.

6. SPECIFICATIONS

The following table provides key technical specifications for the Cisco 5508 Series Wireless LAN Controller.

Feature	Specification
Model Number	AIR-CT5508-50K9
Manufacturer	CISCO - HW WIRELESS
Product Dimensions (L x W x H)	22 x 18 x 2 inches
Item Weight	27 pounds
Case Material	Metal
Upper Temperature Rating	40 Degrees Celsius
Interface Type	RJ45 (Ethernet, Console), SFP, USB
Number of Ports	55 (referring to AP capacity)
Compatible Devices	Cisco Access Point
Switch Type	Managed
Color	Blue
CPU	OCTEON CN5645-NSP
RAM	1024MB DRAM
HDD	32MB Flash
Operating System	Cisco IOS



Figure 5: Internal specifications label for the Cisco AIR-CT5508-K9, detailing components like CPU, RAM, and storage.



Figure 6: Various regulatory and warning labels found on the Cisco 5508 Controller, including FCC compliance and laser safety information.

7. WARRANTY AND SUPPORT

For detailed warranty information and technical support, please refer to the official Cisco documentation or visit the Cisco support website. Ensure you have your product model number (AIR-CT5508-50-K9) and serial number ready when contacting support.

Manufacturer: CISCO - HW WIRELESS

For further assistance, please visit the [Cisco Support Website](#).