

Cisco Small Business 500 Series Wireless Access Points

High-Performance, Easy-to-Deploy, Secure Business-Class Wireless-N Connectivity

Highlights

- Provides cost-effective selectable or concurrent dual-radio Wireless-N connectivity for high capacity and additional users
- Gigabit Ethernet LAN interfaces with PoE enable flexible installation
- SmartSignal Antenna technology optimizes wireless coverage and reception
- Captive portal enables highly secure guest access with customized roles and rights
- Single Point Setup requires no controller, for easy cost-effective deployment of multiple access points
- Works right out of the box with easy installation and simple web-based configuration and wizard

Product Overview

In today's dynamic business environment, employees are becoming more mobile and collaborative than ever. To stay productive, they need dependable, business-class access to network applications throughout the office. The Cisco Small Business 500 Series Wireless Access Points provide a simple, cost-effective way to extend secure, high-performance mobile networking to your employees and guests, so they can stay connected anywhere in the office. This flexible solution lets you connect dozens of employees, and can scale to accommodate additional users and changing business needs.

The Cisco 500 Series access points use selectable or concurrent dual-band radios for improved coverage and user capacity. Gigabit Ethernet LAN interfaces with Power over Ethernet (PoE) support flexible installation and reduce cabling and wiring costs. Intelligent quality-of-service (QoS) features let you prioritize bandwidth-sensitive traffic for voice over IP (VoIP) and video applications. SmartSignal Antenna technology enables you to extend the reach of your wireless network by optimizing coverage, reception, and performance.

To provide secure guest access to visitors and other users, the Cisco 500 Series access points support a captive portal with multiple authentication options and the ability to configure rights, roles, and bandwidth. A customized guest login page lets you present a welcome message and access details, and reinforces your brand with company logos.

The Cisco 500 Series access points are easy to set up and use, with intuitive wizard-based configuration to get you up and running in minutes. An attractive design with flexible mounting options enables the access points to smoothly blend into any small business environment.

To enhance reliability and safeguard sensitive business information, the Cisco 500 Series access points support both Wi-Fi Protected Access (WPA) Personal and Enterprise, encoding all your wireless transmissions with powerful encryption. In addition, 802.1X RADIUS authentication helps keep unauthorized users out.

Designed to scale smoothly as your organization grows, the access points feature controllerless Single Point Setup that simplifies the deployment of multiple access points without additional hardware. With the Cisco 500 Series access points, you can extend business-class wireless networking to employees and guests anywhere in the office, with the flexibility to meet new business needs for years to come.

Figure 1 shows a typical Wireless Access Point configuration.

Figure 1. Typical Configuration

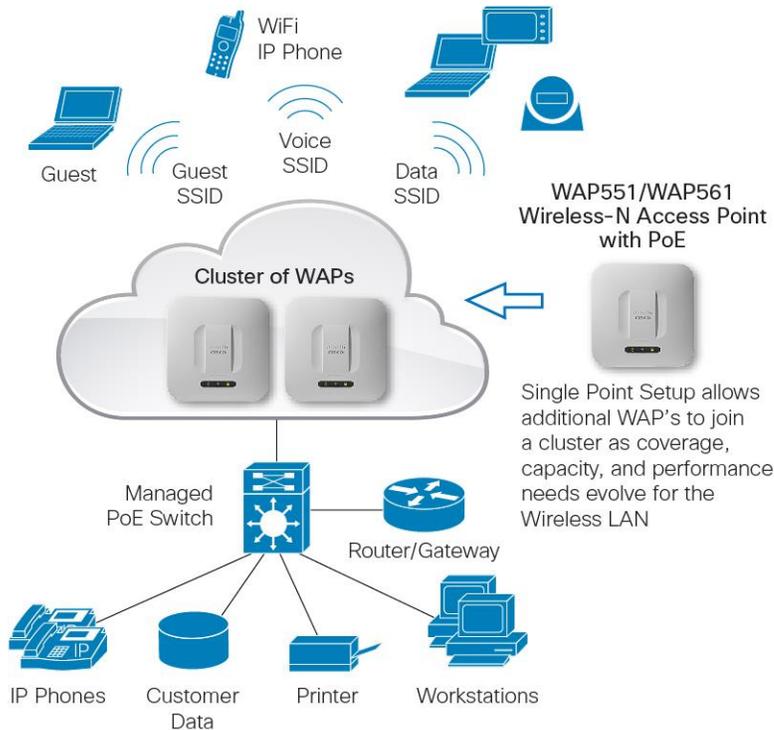


Figure 2. Front Panel of the Cisco WAP551/WAP561 Wireless-N Access Point with PoE



Figure 3. Back Panel of the Cisco WAP551/WAP561 Wireless-N Access Point with PoE



Features

- Selectable or concurrent dual-band radios support up to 450 Mbps per radio to maximize capacity and coverage.
- Single Point Setup, a controllerless technology, simplifies the deployment and management of multiple access points – without requiring additional hardware.
- The Gigabit Ethernet LAN interface enables a high-speed uplink to the wired network.
- Robust security, including WPA2, 802.1X with RADIUS secure authentication, and rogue access point detection, helps protect sensitive business information.
- Captive portal support enables highly secure, customized guest access with multiple rights and roles.
- SmartSignal Antenna increases the wireless coverage area by automatically optimizing the antenna pattern.
- Simple installation and intuitive web-based configuration and wizard enable fast, simple deployment and setup in minutes.
- Support for PoE enables easy installation without expensive additional wiring.
- Sleek design with 5 internal antennas on the WAP551 and 10 antennas on the WAP561, with a versatile mounting kit that enables installation on a ceiling or wall.
- Intelligent QoS prioritizes network traffic to help keep critical network applications running at top performance.
- Power-saving sleep mode and port control features help maximize energy efficiency.
- Workgroup Bridge mode lets you expand your network by wirelessly connecting to a second Ethernet network.
- Support for IPv6 lets you deploy future networking applications and operating systems without costly upgrades.
- Limited lifetime hardware warranty provides peace of mind.

Specifications

Table 1 lists the specifications, package contents, and minimum requirements for the Cisco 500 Series access points.

Table 1. Specifications for the Cisco 500 Small Business 500 Series Wireless Access Points

| Specifications | Description |
|---------------------------------------|--|
| Standards | IEEE 802.11n, 802.11g, 802.11b, 802.3af, 802.3u, 802.1X (security authentication), 802.1Q (VLAN), 802.1D (Spanning Tree), 802.11i (WPA2 security), 802.11e (wireless QoS), IPv4 (RFC 791), IPv6 (RFC 2460) |
| Ports | LAN Gigabit Ethernet auto sensing |
| Cabling type | Category 5e or better |
| Antennas | Internal antennas optimized for installation on a wall or ceiling |
| LED indicators | Power, WLAN, LAN |
| Operating system | Linux |
| Physical Interfaces | |
| Ports | 10/100/1000 Ethernet, with support for 802.3af PoE |
| Buttons | Reset button |
| Lock slot | Slot for Kensington lock |
| LEDs | Power, Wireless, Ethernet |
| Physical Specifications | |
| Physical dimensions (W x D x H) | 9.05 x 9.05 x .98 in. (230 x 230 x 25 mm) |
| Weight | WAP561: 1.51 lb or 685 g; WAP551: 1.41 lb or 640g |
| Network Capabilities | |
| VLAN support | Yes |
| Number of VLANs | 1 management VLAN plus 16 VLANs for SSIDs |
| 802.1X supplicant | Yes |
| SSID-to-VLAN mapping | Yes |
| Auto channel selection | Yes |
| Spanning tree | Yes |
| Load balancing | Yes |
| IPv6 | Yes <ul style="list-style-type: none"> • IPv6 host support • IPv6 RADIUS, syslog, Network Time Protocol (NTP), etc. |
| Layer 2 | 802.1Q-based VLANS, 16 active VLANS plus 1 management VLAN |
| Security | |
| WPA/WPA2 | Yes, including Enterprise authentication |
| Access control | Yes, management access control list (ACL) plus MAC ACL |
| Secure management | HTTPS |
| Wi-Fi Protected Setup (WPS) | Yes (soft WPS, no hardware push button) |
| SSID broadcast | Yes |
| Rogue access point detection | Yes |
| Mounting and Physical Security | |
| Multiple mounting options | Mounting bracket included for easy ceiling or wall mounting |
| Physical security lock | Kensington lock slot |
| Quality of Service | |
| Quality of service (QoS) | Wi-Fi Multimedia and Traffic Specification (WMM TSPEC) |

| Specifications | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|----------------|----------------|------|------|------|------|------|------|----------------|------|------|------------------------------------|------|------|------|------|--------------------------------------|------|------|------|------|------|------|------------------------------------|--------------------------------------|------|------|------|------|------|------|--|
| Performance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Wireless throughput | Up to 450 Mbps data rate (real-world throughput will vary) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Recommended user support | Up to 64 connective users, 30 active users per radio | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple-Access Point Management | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Single Point Setup | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of access points per cluster | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Active clients per cluster | 480 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Configuration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Web user interface | Built-in web user interface for easy browser-based configuration (HTTP/HTTPS) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Management | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Management protocols | Web browser, Simple Network Management Protocol (SNMP) v3, Bonjour | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Remote management | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Event logging | Local, remote syslog, email alerts | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Network diagnostics | Logging and packet capture | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Web firmware upgrade | Firmware upgradable through web browser, imported/exported configuration file | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dynamic Host Configuration Protocol (DHCP) | DHCP client | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IPv6 host | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HTTP redirect | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Wireless | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Frequency | WAP551: Selectable radio band (2.4 or 5 GHz) WAP561: Dual concurrent radios (2.4 and 5 GHz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radio and modulation type | Single radio (WAP551) or dual radio (WAP561), orthogonal frequency division multiplexing (OFDM) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WLAN | 802.11b/g/n 3x3 multiple-input multiple-output (MIMO) with 3 spatial streams 20 and 40 MHz channels PHY data rate up to 450 Mbps 802.11 dynamic frequency selection (DSF), EU version only | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Data rates supported | 802.11a/b/g: <ul style="list-style-type: none"> • 54, 48, 36, 24, 18, 12, 9, 6, 11, 5.5, 2, and 1 Mbps • 802.11n: <ul style="list-style-type: none"> ◦ 20-MHz bandwidth: MCS 0-15 for supported data rates ◦ 40-MHz bandwidth: MCS 0-15 for supported data rates | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Frequency band and operating channels | <table border="0"> <tr> <td>802.11b</td> <td>802.11a</td> </tr> <tr> <td>2412</td> <td>5180</td> </tr> <tr> <td>2437</td> <td>5320</td> </tr> <tr> <td>2462</td> <td>5500</td> </tr> <tr> <td>802.11g</td> <td>5700</td> </tr> <tr> <td>2412</td> <td>802.11n 20 MHz (5 GHz band)</td> </tr> <tr> <td>2437</td> <td>5180</td> </tr> <tr> <td>2462</td> <td>5320</td> </tr> <tr> <td>802.11n 20 MHz (2.4 GHz band)</td> <td>5500</td> </tr> <tr> <td>2412</td> <td>5700</td> </tr> <tr> <td>2437</td> <td>5825</td> </tr> <tr> <td>2462</td> <td>802.11n 40 MHz (5 GHz band)</td> </tr> <tr> <td>802.11n 40 MHz (2.4 GHz band)</td> <td>5190</td> </tr> <tr> <td>2422</td> <td>5510</td> </tr> <tr> <td>2437</td> <td>5795</td> </tr> <tr> <td>2452</td> <td></td> </tr> </table> | 802.11b | 802.11a | 2412 | 5180 | 2437 | 5320 | 2462 | 5500 | 802.11g | 5700 | 2412 | 802.11n 20 MHz (5 GHz band) | 2437 | 5180 | 2462 | 5320 | 802.11n 20 MHz (2.4 GHz band) | 5500 | 2412 | 5700 | 2437 | 5825 | 2462 | 802.11n 40 MHz (5 GHz band) | 802.11n 40 MHz (2.4 GHz band) | 5190 | 2422 | 5510 | 2437 | 5795 | 2452 | |
| 802.11b | 802.11a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2412 | 5180 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2437 | 5320 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2462 | 5500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 802.11g | 5700 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2412 | 802.11n 20 MHz (5 GHz band) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2437 | 5180 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2462 | 5320 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 802.11n 20 MHz (2.4 GHz band) | 5500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2412 | 5700 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2437 | 5825 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2462 | 802.11n 40 MHz (5 GHz band) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 802.11n 40 MHz (2.4 GHz band) | 5190 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2422 | 5510 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2437 | 5795 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2452 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Specifications | Description |
|------------------------------------|---|
| Nonoverlapping channels | 2.4 GHz <ul style="list-style-type: none"> • 802.11b/g <ul style="list-style-type: none"> ◦ 20 MHz: 3 • 802.11n <ul style="list-style-type: none"> ◦ 20 MHz: 3 5 GHz <ul style="list-style-type: none"> • 802.11a <ul style="list-style-type: none"> ◦ 20 MHz: 24 • 802.11n <ul style="list-style-type: none"> ◦ 20 MHz: 24 ◦ 40 MHz: 11 |
| Wireless isolation | Wireless isolation between clients |
| External antennas | None |
| Internal antennas | 5 internal dipole antennas for the WAP551 and 10 antennas for the WAP561 |
| Antenna gain in dBi | 5 dBi each antenna |
| Receiver sensitivity | 2.4 GHz <ul style="list-style-type: none"> • 802.11b/g <ul style="list-style-type: none"> ◦ 1 Mbps: -91 dBm ◦ 11 Mbps: -85 dBm ◦ 6 Mbps: -86 dBm ◦ 54 Mbps: -69 dBm • 802.11n/20 MHz <ul style="list-style-type: none"> ◦ MCS0: -86 dBm ◦ MCS7: -70 dBm ◦ MCS8: -85 dBm ◦ MCS15: -68 dBm • 802.11n/40 MHz <ul style="list-style-type: none"> ◦ MCS0: -84 dBm ◦ MCS7: -66 dBm ◦ MCS8: -83 dBm ◦ MCS15: -65 dB 5 GHz <ul style="list-style-type: none"> • 802.11a <ul style="list-style-type: none"> ◦ 6 Mbps: -82 dBm ◦ 54 Mbps: -67 dBm • 802.11n/20 MHz <ul style="list-style-type: none"> ◦ MCS0: -83 dBm ◦ MCS7: -68 dBm ◦ MCS8: -82 dBm ◦ MCS15: -66 dBm • 802.11n/40 MHz <ul style="list-style-type: none"> ◦ MCS0: -82 dBm ◦ MCS7: -64 dBm ◦ MCS8: -81 dBm ◦ MCS15: -62 dBm |
| Wireless distribution system (WDS) | Yes |
| Fast roaming | Yes |
| Multiple SSIDs | WAP551: 16 WAP561: 16 x 2 |
| Wireless VLAN map | Yes |
| WLAN security | Yes |
| Wi-Fi Multimedia (WMM) | Yes, with unscheduled automatic power save |

| Specifications | Description |
|---|---|
| Operating Modes | |
| Access point | Access Point mode, WDS Bridging, Workgroup Bridge mode |
| Environmental | |
| Power options | IEEE 802.3af Ethernet switch Cisco SB-PWR-INJ-xx POE power: Peak power: <ul style="list-style-type: none"> • WAP551: 7.872W • WAP561: 11.1W |
| Compliance | Safety: <ul style="list-style-type: none"> • UL 60950-1 • CAN/CSA-C22.2 No. 60950-1 • IEC 60950-1 • EN 60950-1 Radio approvals: <ul style="list-style-type: none"> • FCC Part 15.247, 15.407 • RSS-210 (Canada) • EN 300.328, EN 301.893 (Europe) • AS/NZS 4268.2003 (Australia and New Zealand) EMI and susceptibility (Class B): <ul style="list-style-type: none"> • FCC Part 15.107 and 15.109 • ICES-003 (Canada) • EN 301.489-1 and -17 (Europe) |
| Operating temperature | 0° to 40°C (32° to 104°F) |
| Storage temperature | -20° to 70°C (-4° to 158°F) |
| Operating humidity | 10% to 85% noncondensing |
| Storage humidity | 5% to 90% noncondensing |
| System memory | 64 MB RAM 32 MB flash |
| Package Contents | |
| <ul style="list-style-type: none"> • Cisco WAP551 or WAP561 Wireless-N access point • Ceiling/wall mounting kit • User guide on CD-ROM • Quick-start guide • Ethernet network cable | |
| Minimum Requirements | |
| <ul style="list-style-type: none"> • 802.11b, 802.11g, 802.11n wireless adapter with TCP/IP protocol installed per PC • Switch/router with PoE support or PoE injector • Web-based configuration: Java-enabled web browser | |
| Warranty | |
| Access point | Limited lifetime |
| Power supply | 1 year warranty |

Ordering Information

Table 2.

| Part Number | Description |
|-------------|---|
| WAP551-A-K9 | Cisco WAP551 Wireless-N Single Radio Selectable-Band Access Point with Single Point Setup (U.S., Canada, Mexico, Australia/New Zealand) |
| WAP561-A-K9 | Cisco WAP561 Wireless-N Dual Radio Selectable-Band Access Point with Single Point Setup (U.S., Canada, Mexico, Australia/New Zealand) |
| WAP551-E-K9 | Cisco WAP551 Wireless-N Single Radio Selectable-Band Access Point with Single Point Setup (Europe, the Middle East, and Africa) |
| WAP561-E-K9 | Cisco WAP561 Wireless-N Dual Radio Selectable-Band Access Point with Single Point Setup (Europe, the Middle East, and Africa) |

Cisco Limited Lifetime Warranty for Cisco Small Business Products

This Cisco Small Business product comes with a limited lifetime hardware warranty. Product warranty terms and other information applicable to Cisco products are available at www.cisco.com/go/warranty.

Cisco Small Business Support Service

This optional service offers affordable, 3-year peace-of-mind coverage. This subscription-based, device-level service helps you protect your investment and derive maximum value from Cisco Small Business products. Delivered by Cisco and backed by your trusted partner, this comprehensive service includes software updates, extended access to the Cisco Small Business Support Center, and expedited hardware replacement, should it be required.

For More Information

For more information on Cisco Small Business products and solutions, visit www.cisco.com/smallbusiness or www.cisco.com/go/wap500.



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