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

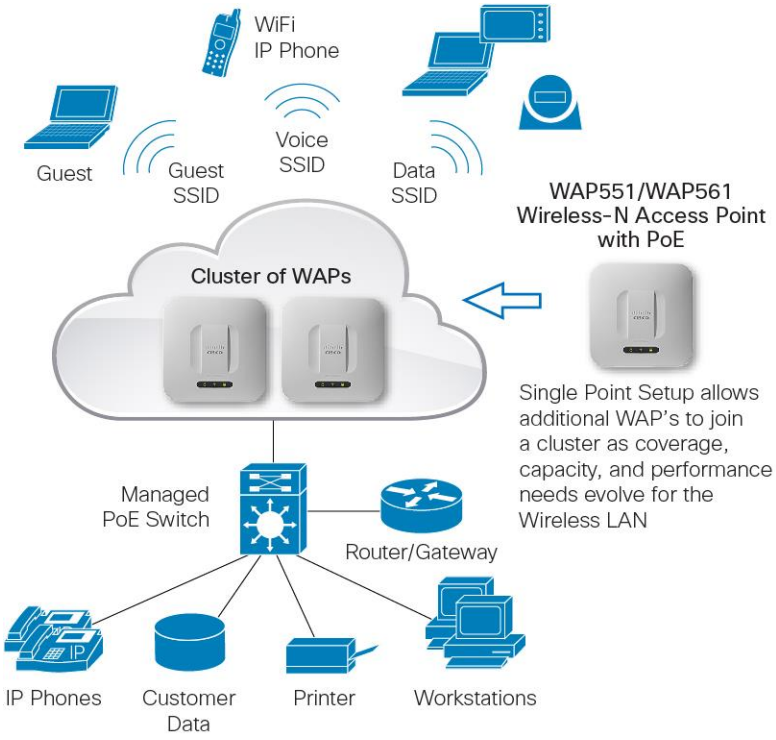

Figure 2. Front Panel of the Cisco WAP551/WAP561 Wireless-N Access Point with PoE

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 • 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: • 54, 48, 36, 24, 18, 12, 9, 6, 11, 5.5, 2, and 1 Mbps • 802.11n: ◦ 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	**802.11b** 2412 2437 2462 **802.11g** 2412 2437 2462 **802.11n 20 MHz (2.4 GHz band)** 2412 2437 2462 **802.11n 40 MHz (2.4 GHz band)** 2422 2437 2452 **802.11a** 5180 5320 5500 5700 **802.11n 20 MHz (5 GHz band)** 5180 5320 5500 5700 5825 **802.11n 40 MHz (5 GHz band)** 5190 5510 5795

Specifications	Description
Nonoverlapping channels	**2.4 GHz** • 802.11b/g ◦ 20 MHz: 3 • 802.11n ◦ 20 MHz: 3 **5 GHz** • 802.11a ◦ 20 MHz: 24 • 802.11n ◦ 20 MHz: 24 ◦ 40 MHz: 11
Transmitted output power	• WAP551: ◦ 802.11a@54Mbps: 13dBm ◦ 802.11b@11Mbps: 19dBm ◦ 802.11g@54Mbps: 16dBm ◦ 802.11n@HT20, HT40, MCS15: 14dBm • WAP561: ◦ 802.11a@54Mbps: 13dBm ◦ 802.11b@11Mbps: 19dBm ◦ 802.11g@54Mbps: 16dBm ◦ 802.11n@HT20, HT40, MCS15: 14dBm
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** • 802.11b/g ◦ 1 Mbps: –91 dBm ◦ 11 Mbps: –85 dBm ◦ 6 Mbps: –86 dBm ◦ 54 Mbps: –69 dBm • 802.11n/20 MHz ◦ MCS0: –86 dBm ◦ MCS7: –70 dBm ◦ MCS8: –85 dBm ◦ MCS15: –68 dBm • 802.11n/40 MHz ◦ MCS0: –84 dBm ◦ MCS7: –66 dBm ◦ MCS8: –83 dBm ◦ MCS15: –65 dB **5 GHz** • 802.11a ◦ 6 Mbps: –82 dBm ◦ 54 Mbps: –67 dBm • 802.11n/20 MHz ◦ MCS0: –83 dBm ◦ MCS7: –68 dBm ◦ MCS8: –82 dBm ◦ MCS15: –66 dBm • 802.11n/40 MHz ◦ MCS0: –82 dBm ◦ MCS7: –64 dBm ◦ MCS8: –81 dBm ◦ MCS15: –62 dBm

Specifications	Description
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
Operating Modes	
Access point	Access Point mode, WDS Bridging, Workgroup Bridge mode
Environmental	
Power options	IEEE 802.3af Ethernet switch Cisco SB-PWR-INJ2-xx POE power: Peak power: • WAP551: 7.872W • WAP561: 11.1W
Compliance	Safety: • UL 60950-1 • CAN/CSA-C22.2 No. 60950-1 • IEC 60950-1 • EN 60950-1 Radio approvals: • 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): • 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	
• 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	
• 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.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at **www.cisco.com/go/offices.**

Printed in USA C78-727995-03 06/15