Cisco Aironet 1200 Series Access Points

Product Overview

Cisco® Aironet® 1200 Series access points deliver the investment protection, versatility, and enterprise-class features demanded by wireless LAN customers. It is designed specifically for challenging environments like factories, warehouses, and large retail establishments that require the antenna versatility associated with connectorized antennas, as well as a rugged metal enclosure and a broad operating temperature range.

The Cisco Aironet 1200 Series meets the needs of today's applications and protects future network infrastructure investments. The modular design of the 1200 Series provides a high-performance 802.11g configured access point that allows for either single- or dual-radio configuration. While the 802.11g-configured access point meets the needs of most customers and applications that may not have a current need for 802.11a, an easy 802.11a upgrade kit is available, to increase scalability and performance with complete backward compatibility for legacy clients.

The Cisco Aironet 1200 Series is a component of the Cisco Unified Wireless Network, a comprehensive solution that delivers an integrated, end-to-end wired and wireless network. Using the radio and network management features of the Cisco Unified Wireless Network for simplified deployment, the Cisco Aironet 1200 Series extends the security, scalability, reliability, ease of deployment, and manageability available in wired networks to the wireless LAN.

The Cisco Aironet 1200 Series is available in two versions: unified or autonomous. Unified access points operate with the Lightweight Access Point Protocol (LWAPP) and work in conjunction with Cisco wireless LAN controllers and the Cisco Wireless Control System (WCS). When configured with LWAPP, the Cisco Aironet 1200 Series can automatically detect the best-available Cisco wireless LAN controller and download appropriate policies and configuration information with no manual intervention. Autonomous access points are based on Cisco IOS® Software and may optionally operate with the CiscoWorks Wireless LAN Solution Engine (WLSE). Autonomous access points, along with the CiscoWorks WLSE, deliver a core set of features and may be field-upgraded to take advantage of the full benefits of the Cisco Unified Wireless Network as requirements evolve.

The Cisco Aironet 1200AG Series has achieved National Institute of Standards and Technology (NIST) FIPS 140-2 level 2 validation and is in process for Common Criteria validation under the National Information Assurance Partnership (NIAP) program. The Cisco Aironet 1200 Series supports 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA, and numerous Extensible Authentication Protocol (EAP) types. WPA and WPA2 are the Wi-Fi Alliance certifications for interoperable, standards-based wireless LAN security. These certifications support IEEE 802.1X for user-based authentication, Temporal Key Integrity Protocol (TKIP) for WPA encryption, and Advanced Encryption Standard (AES) for WPA2 encryption. These certifications help to ensure interoperability between Wi-Fi-certified wireless LAN devices from different manufacturers.

The Cisco Aironet 1200 Series hardware-accelerated AES encryption supports enterprise-class, government-grade secure encryption over the wireless LAN without compromising performance. IEEE 802.1X authentication helps to ensure that only authorized users are allowed on the network. The series also provides backward compatibility and support for WPA client devices running TKIP, the RC4 encryption algorithm.

Cisco Aironet 1200 Series Access Points operating with LWAPP support Cisco Unified Intrusion Detection System/Intrusion Prevention System (IDS/IPS), a software feature that is part of the Cisco Self-Defending Network and is the industry's first integrated wired and wireless security solution. Cisco Unified IDS/IPS takes a comprehensive approach to security—at the wireless edge, wired edge, WAN edge, and through the data center. When an associated client sends malicious traffic through the Cisco Unified Wireless Network, a Cisco wired IDS device detects the attack and sends shun requests to Cisco wireless LAN controllers, which will then disassociate the client device.

Autonomous or unified Cisco Aironet 1200 Series Access Points support management frame protection for the authentication of 802.11 management frames by the wireless network infrastructure. This allows the network to detect spoofed frames from access points or malicious users impersonating infrastructure access points. If an access point detects a malicious attack, an incident will be generated by the access point and reports will be gathered on the Cisco wireless LAN controller, Cisco WCS, or CiscoWorks WLSE.

Benefits and Features

Investment Protection for Future Network Needs

With large storage capacity and support for Cisco management tools, the Cisco Aironet 1200 Series provides the capacity and the means to upgrade firmware and deliver new features as they become available. For additional investment protection, the Cisco Aironet 1200 Series comes complete with an integrated mounting system that secures the device using the customer's choice of laptop security cables or standard padlocks. The reliability of the 802.11g solution makes the Cisco Aironet 1200 Series a wise investment for enterprise customers. It provides field-proven reliability, featuring a Cisco Aironet fifth-generation 2.4 GHz radio. An available 802.11a radio module upgrade maximizes capacity and performance, delivering up to 54 Mbps data rates on all 12 available channels and allowing the wireless network to scale to accommodate a large number of users. With the Cisco Aironet 1200 Series, a single access point can operate one radio for 802.11b/g clients, while supporting new users by adding a second 802.11a radio to scale network performance and capacity.

Installation Options Increase Flexibility

The Cisco Aironet 1200 Series access point and integrated mounting system are designed for installation on walls, below ceilings, and, with its plenum ratable metal case, above suspended ceilings. With its broad operating temperature range and cast-aluminum housing, this device provides the ruggedness required in factories, warehouses, and the most challenging environments. Support for inline power over Ethernet (PoE) and local power maximizes powering option flexibility.

Figure 1. Cisco Aironet 1200 Series Access Points 802.11a Radio Modules

All available radios (802.11a, 802.11b, and 802.11g) provide a variety of transmit power settings to adjust coverage area size. To extend the flexibility of deployments, the 802.11a radio module is available in two versions (Figure 1). Both versions provide up to 12 nonoverlapping channels in the 5 GHz band (subject to local regulations); an additional 11 will become available in 2005 with a field firmware upgrade. One version offers dual antenna connectors for use with a wide variety of Cisco antennas to achieve extended range and application-specific coverage. The second has an integrated antenna design that incorporates diversity omnidirectional (5 dBi) and patch antennas (9 dBi). For ceiling, desktop, or other horizontal installations, the integrated omnidirectional antenna provides an optimal coverage pattern and maximum range. For wall-mount installations, the patch antenna provides a hemispherical coverage pattern that uniformly directs the radio energy from the wall and across the room. Both the omnidirectional and patch antennas provide diversity for maximum reliability, even in high-multipath environments such as offices and other indoor environments. Coupled with the broadest selection of 2.4 GHz and 5 GHz antennas in the industry, this provides users with unparalleled flexibility in cell size and coverage patterns.

Table 1. Features and Benefits of Cisco Aironet 1200 Series Access Points

Feature	Benefit
Modular Platform	Allows single or dual radio configuration. Provides numerous configuration and upgrade options.
Field-Upgradeable to Dual 802.11a/g Operation	Offers great flexibility and investment protection, allowing network administrators to deploy a wireless network optimized to their particular applications, even as their needs evolve.
Link-role Flexibility	Autonomous access points can function as an access point or bridge, whether set up as a single-band or dual-band platform, allowing each radio to be individually configured as an access point repeater, root bridge, non-root bridge, or workgroup bridge, enabling a broad array of applications.
Cisco Unified IDS/IPS	This integrated software feature is part of the Cisco Self-Defending Network and is the industry's first integrated wired and wireless security solution. When a trusted client acts maliciously, the wired IDS detects the attack and sends shun requests to Cisco WLAN controllers, which will then disassociate the client device.
Management Frame Protection	This feature provides for the authentication of 802.11 management frames by the wireless network infrastructure. This allows the network to detect spoofed frames from access points or malicious users impersonating infrastructure access points. If an access point detects a malicious attack, an incident will be generated by the access points and reports will be gathered on the Cisco wireless LAN controller, Cisco WCS, or CiscoWorks WLSE.
Rugged Metal Housing	Supports deployment in factories, warehouses, the outdoors (in a NEMA enclosure), and other industrial environments.
UL 2043 Plenum Rating and Extended Operating Temperature	Supports installation in environmental air spaces, such as areas above suspended ceilings.
Multipurpose and Lockable Mounting Bracket	Provides greater flexibility in installation options for site-specific options, as well as theft deterrence.
Both Local and Inline Power Support	Power can be supplied using the Ethernet cable, eliminating the need for costly electrical power line runs to remotely installed access points. Can be powered by Cisco inline power switches, single port power injectors, or local power.
Hardware-Assisted AES Encryption	Provides high security without performance degradation.
IEEE 802.11i-Compliant; WPA2-Certified and WPA-Certified	Helps to ensure interoperable security with wireless LAN client devices from other manufacturers.

Summary/Conclusion

Cisco Aironet 1200 Series modular access points feature antenna connectors for greater range or coverage versatility using a broad selection of available Cisco antennas, as well as a rugged, metal housing for operation over extended temperature ranges typical of demanding environments. The 802.11g radio delivers industry-leading range and throughput, meeting the performance requirements of industrial and enterprise applications, while hardware-assisted AES encryption provides uncompromised support for interoperable IEEE 802.11i and WPA2 security. While the 802.11g-configured Cisco Aironet 1200 Series meets the needs of many industrial applications, its modular design allows dual radio configuration and field upgradeability so administrators can deploy a wireless network optimized for their evolving requirements.

Product Specifications

Table 2 lists product specifications for Cisco Aironet 1200 Series access points.

Table 2. Product Specifications for Cisco Aironet 1200 Series

Item	Specification	
Part Number	• AIR-AP1231G-x-K9 Cisco IOS Software • AIR-LAP1231G-x-K9 Cisco Unified Wireless Network Software **NOTE:** The Cisco Aironet 1200 Series may be ordered with Cisco IOS Software to operate as an autonomous AP or with Cisco Unified Wireless Network Software using LWAPP. When the 1200 Series is operating as a lightweight AP a WLAN controller is required. • Regulatory Domains: (x=Regulatory Domain) • A=FCC • E=ETSI • I=Israel • J=TELEC (Japan) Customers are responsible for verifying approval for use in their individual countries. To verify approval and to identify the regulatory domain that corresponds to a particular country please visit http://www.cisco.com/go/aironet/compliance. • Not all regulatory domains have been approved. As they are approved, the part numbers will be available on the Global Price List.	
Software	• Cisco IOS Software Release 12.3(8)JA or later (autonomous). • Cisco IOS Software Release 12.3(11)JX or later (Lightweight Mode). • Cisco Unified Wireless Network Software Release 4.0 or later.	
Security	**Authentication** **Security Standards** • WPA • WPA2 (802.11i) • Cisco TKIP • Cisco message integrity check (MIC) • IEEE 802.11 WEP keys of 40 bits and 128 bits **802.1X EAP types:** • EAP-Flexible Authentication via Secure Tunneling (EAP-FAST) • Protected EAP-Generic Token Card (PEAP-GTC) • PEAP-Microsoft Challenge Authentication Protocol Version 2 (PEAP-MSCHAP) • EAP-Transport Layer Security (EAP-TLS) • EAP-Tunneled TLS (EAP-TTLS) • EAP-Subscriber Identity Module (EAP-SIM) • Cisco LEAP **Encryption** • AES-CCMP encryption (WPA2) • TKIP (WPA) • Cisco TKIP • WPA TKIP • IEEE 802.11 WEP keys of 40 bits and 128 bits	
Data Rates Supported	802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps	
Network Standard	IEEE 802.11b and IEEE 802.11g	
Uplink	Autosensing 802.3 10/100BASE-T Ethernet	
Radio Module Form Factor	802.11a: CardBus (32-bit)	802.11b or 802.11g: Mini-PCI (32-bit)
Frequency Band and Operating Channels	**Americas (FCC)** 2.412 to 2.462 GHz; 11 channels **ETSI** 2.412 to 2.472 GHz; 13 channels **Israel** 2.432 to 2.472 GHz; 9 channels	**Japan (TELEC)** • 2.412 to 2.472 GHz; 13 channels Orthogonal Frequency Division Multiplexing (OFDM) • 2.412 to 2.484 GHz; 14 channels Complementary Code Keying (CCK)
Nonoverlapping Channels	802.11g: 3	

Item	Specification		
Wireless Modulation	802.11g: Direct sequence spread spectrum (DSSS); OFDM		
Receive Sensitivity (Typical)	**802.11a:** • 6 Mbps: –87 dBm • 9 Mbps: –87 dBm • 12 Mbps: –85 dBm • 18 Mbps: –84 dBm • 24 Mbps: –81 dBm • 36 Mbps: –78 dBm • 48 Mbps: –73 dBm • 54 Mbps: –72 dBm	**802.11b:** • 1 Mbps: –94 dBm • 2 Mbps: –91 dBm • 5.5 Mbps: –89 dBm • 11 Mbps: –85 dBm **802.11g:** • 6 Mbps: –90 dBm • 9 Mbps: –84 dBm • 12 Mbps: –82 dBm • 18 Mbps: –80 dBm • 24 Mbps: –77 dBm • 36 Mbps: –73 dBm • 48 Mbps: –72 dBm • 54 Mbps: –72 dBm	
Available Transmit Power Settings **(Maximum power setting will vary by channel and according to individual country regulations)**	**802.11a:** OFDM: • 17 dBm (50 mW) • 15 dBm (30 mW) • 14 dBm (25 mW) • 11 dBm (12 mW) • 8 dBm (6 mW) • 5 dBm (3 mW) • 2 dBm (2 mW) • –1 dBm (1 mW)	**802.11b** CCK: • 100 mW (20 dBm) • 50 mW (17 dBm) • 30 mW (15 dBm) • 20 mW (13 dBm) • 10 mW (10 dBm) • 5 mW (7 dBm) • 1 mW (0 dBm)	**802.11g:** OFDM: • 30 mW (15 dBm) • 20 mW (13 dBm) • 10 mW (10 dBm) • 5 mW (7 dBm) • 1 mW (–1 dBm)
Range	**802.11g: Outdoor** • 110 ft (34m) @ 54 Mbps • 200 ft (61 m)@ 48 Mbps • 225 ft (69 m) @ 36 Mbps • 325 ft (99 m) @ 24 Mbps • 400 ft (122 m) @ 18 Mbps • 475 ft (145 m) @ 12 Mbps • 490 ft (149 m) @ 11 Mbps • 550 ft (168 m) @ 9 Mbps • 650 ft (198 m) @ 6 Mbps • 660 ft (201 m) @ 5.5 Mbps • 690 ft (210 m) @ 2 Mbps • 700 ft (213 m) @ 1 Mbps	**802.11g: Indoor** • 90 ft (27 m) @ 54 Mbps • 95 ft (29 m) @ 48 Mbps • 100 ft (30 m) @ 36 Mbps • 140 ft (43 m) @ 24 Mbps • 180 ft (55 m) @ 18 Mbps • 210 ft (64 m) @ 12 Mbps • 220 ft (67 m) @ 11 Mbps • 250 ft (76 m) @ 9 Mbps • 300 ft (91 m) @ 6 Mbps • 310 ft (94 m) @ 5.5 Mbps • 350 ft (107 m) @ 2 Mbps • 410 ft (125 m) @ 1 Mbps	

Item	Specification
Ranges and actual throughput vary based upon numerous environmental factors so individual performance may differ.	
Compliance	**Standards** **Safety** • UL 60950 • CAN/CSA C22.2 No. 60950 • IEC 60950 • UL 2043 **Radio Approvals** • FCC Part 15.247 • RSS-210 (Canada) • EN 300.328 • ARIB-STD 33 (Japan) • ARIB-STD 66 (Japan) • AS/NZS 4268:2003 (Australia and New Zealand) **EMI and Susceptibility (Class B)** • FCC Part 15.107 and 15.109 • ICES-003 (Canada) • VCCI (Japan) • EN 301.489-1 and -17 (Europe) • EN 60601-1-2 EMC requirements for the Medical Directive 93/42/EEC **Security** • NIST FIPS 140-2 level 2 validation • 802.11i, WPA2, WPA • 802.1X • AES, TKIP **Other** • IEEE 802.11g • FCC Bulletin OET-65C • RSS-102
Antenna	• 2.4 GHz • Dual RP-TNC connectors
LEDs	Three indicators on the top panel report Ethernet activity and status, device operating status, and radio activity and status.
Housing	Die-cast aluminum
Dimensions (H x W x D)	1.660 x 6.562 x 7.232 in. (4.22 x 16.67 x 18.37 cm); add 0.517 in. (1.31 cm) height for mounting bracket
Weight	1.725 lb (0.783 kg); add 0.4 lb (0.181 kg) for mounting bracket
Environmental	• Non-operating (storage) temperature: -40 to 185°F (-40 to 85°C) • Operating temperature: –4 to 122°F (–20 to 50°C) • Operating humidity: 10 to 90 percent (non-condensing)
Memory and Processor	• IBM PowerPC405 (200 MHz) • 16 MB RAM; 8 MB Flash memory
Input Power Requirements	• 90 to 240 VAC ±10 percent (power supply) • 48 VDC ±10 percent
Power Draw	13W maximum
Warranty	One year
Wi-Fi Certification	

Service and Support

Cisco Systems® offers a wide range of services programs to accelerate customer success. These innovative programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you to protect your network investment, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business. For more information about Cisco Services, see Cisco Technical Support Services or Cisco Advanced Services.

For More Information

For more information about the Cisco Aironet 1200 Series, visit http://www.cisco.com/go/wireless or contact your local account representative.

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