Data Sheet

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.

Orderable with either Cisco IOS® Software or the Lightweight Access Point Protocol (LWAPP), the Cisco Aironet 1200 Series uses radio and network management features to extend the security, scalability, reliability, ease of deployment, and manageability available in wired networks to the WLAN. In addition, when running Cisco IOS Software the Cisco Aironet 1200 Series supports link role flexibility which provides both access point and bridge functionality through configuration of each radio as an access point, repeater, root bridge, non-root bridge, or workgroup bridge. This configuration flexibility enables the Cisco Aironet 1200 Series to address applications ranging from basic wireless LAN coverage to wireless LAN coverage with wireless backhaul to more traditional bridging applications.

The Cisco Aironet 1200 Series is part of the award-winning Cisco Wireless Security Suite, which 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.

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

As the popularity of wireless LANs increases, enterprises are installing access points in more types of facilities, locations, and orientations. The Cisco Aironet 1200 Series is designed with this in mind. 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. The access point and integrated mounting system are designed for installation on walls, below ceilings, and, with its plenum ratable metal case, above suspended ceilings.

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
Cisco Integrated Wireless Network	Extends the security, scalabililty, reliability, ease of deployment, and manageability available in wired networks to the wireless infrastructure.
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.
Cisco IOS Software	Delivers enterprise-class features for connectivity, scalability, and high availability.
Lightweight Access Point Protocol (LWAPP)	Automatically detects the best available Cisco wireless LAN controller to download appropriate policies and configuration information with no hands-on intervention.
Link Role Flexibility (When Running Cisco IOS Software)	• Provides both access point and bridge functions through configuration of each radio as an access point, repeater, root bridge, non root bridge, or workgroup bridge. • Enables deployment flexibility including basic wireless LAN coverage, wireless LAN coverage with wireless backhaul, and more traditional bridging applications.
Security Architecture Client Authentication and Encryption	Cisco Wireless Security Suite supporting WPA and WPA2, including: • Authentication – 802.1X support, including Cisco LEAP, EAP-Flexible Authentication via Secure Tunneling (EAP-FAST), Protected EAP- Generic Token Card (PEAP-GTC), PEAP-Microsoft Challenge Authentication Protocol Version 2 (PEAP-MSCHAPv2), EAP-Transport Layer Security (EAP-TLS), EAP-Tunneled TLS (EAP-TTLS), and EAP-Subscriber Identity Module (EAP-SIM) to yield mutual authentication and dynamic, per-user, per-session encryption keys (WPA and WPA2) – MAC address and standard 802.11 authentication mechanisms • Encryption – AES-CCMP encryption (WPA2) – TKIP encryption enhancements: key hashing (per-packet keying), message integrity check (MIC) and broadcast key rotation via Cisco TKIP or WPA TKIP – Support for static and dynamic IEEE 802.11 WEP keys of 40 bits and 128 bits
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.

Feature	Benefit
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 LWAPP **NOTE:** The Cisco Aironet 1200 Series may be ordered with Cisco IOS Software to operate as an autonomous AP or with Lightweight Access Point Protocol (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; LWAPP 3.1 or later	
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)

Item	Specification		
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		
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)

Item	Specification	
Range	**802.11g: Outdoor**	**802.11g: Indoor**
	110 ft (34m) @ 54 Mbps	90 ft (27 m) @ 54 Mbps
	200 ft (61 m)@ 48 Mbps	95 ft (29 m) @ 48 Mbps
	225 ft (69 m) @ 36 Mbps	100 ft (30 m) @ 36 Mbps
	325 ft (99 m) @ 24 Mbps	140 ft (43 m) @ 24 Mbps
	400 ft (122 m) @ 18 Mbps	180 ft (55 m) @ 18 Mbps
	475 ft (145 m) @ 12 Mbps	210 ft (64 m) @ 12 Mbps
	490 ft (149 m) @ 11 Mbps	220 ft (67 m) @ 11 Mbps
	550 ft (168 m) @ 9 Mbps	250 ft (76 m) @ 9 Mbps
	650 ft (198 m) @ 6 Mbps	300 ft (91 m) @ 6 Mbps
	660 ft (201 m) @ 5.5 Mbps	310 ft (94 m) @ 5.5 Mbps
	690 ft (210 m) @ 2 Mbps	350 ft (107 m) @ 2 Mbps
	700 ft (213 m) @ 1 Mbps	410 ft (125 m) @ 1 Mbps
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)	
	Security • 802.11i, WPA2, WPA • 802.1X • AES, TKIP	
	Other • IEEE 802.11g • FCC Bulletin OET-65C • RSS-102	

Item	Specification
Antenna	**2.4 GHz Radio:** • Two RP-TNC connectors; 802.11g approved with: – AIR-ANT1728, AIR-ANT1729, AIR-ANT2012, AIR-ANT2506, AIR-ANT3213, AIR-ANT3549, AIR-ANT4941, AIR-ANT5959, and AIR-ANT2410Y-R
Network Management	BootP, Secure Shell (SSH) Protocol, Secure HTTP (HTTPS), Trivial File Transfer Protocol (TFTP), FTP, Telnet, console port, Simple Network Management Protocol (SNMP) MIB I and MIB II, CiscoWorks Resource Manager Essentials (RME), CiscoWorks Software Image Manager (SWIM), CiscoWorks Campus Manager, CiscoWorks CiscoView, and CiscoWorks WLSE
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	–4 to 122°F (–20 to 50°C), 10 to 90 percent humidity (noncondensing)
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	

ORDERING INFORMATION

Table 3 lists ordering information for Cisco Aironet 1200 Series access points. To place an order, visit the Cisco Ordering Home Page.

Table 3. Ordering Information

Part Number	Product Description
AIR-AP1231G-A-K9	802.11g Modular IOS AP; RP-TNC; Avail Cardbus Slot; FCC Cnfg
AIR-AP1231G-E-K9	802.11g Modular IOS AP; RP-TNC; Avail Cardbus Slot; ETSI Cnfg
AIR-AP1231G-I-K9	802.11g Modular IOS AP; RP-TNC; Avail Cardbus Slot; Israel Cnfg
AIR-AP1231G-J-K9	802.11g Modular IOS AP; RP-TNC; Avail Cardbus Slot; Japan Cnfg
AIR-LAP1231G-A-K9	802.11g Modular LWAPP AP; RP-TNC; Avail Cardbus Slot; FCC Cnfg
AIR-LAP1231G-E-K9	802.11g Modular LWAPP AP; RP-TNC; Avail Cardbus Slot; ETSI Cnfg
AIR-LAP1231G-I-K9	802.11g Modular LWAPP AP; RP-TNC; Avail Cardbus Slot; Israel Cnfg
AIR-LAP1231G-J-K9	802.11g Modular LWAPP AP; RP-TNC; Avail Cardbus Slot; Japan Cnfg

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 lease, 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.

TO DOWNLOAD THE SOFTWARE

Visit the Cisco Software Center to download Cisco IOS Software or LWAPP.

SERVICE AND SUPPORT

Cisco 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 Cisco 1200 Series access points, contact your local account representative or visit:
http://www.cisco.com/go/integratedwireless

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

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

Argentina • Australia • Austria • Belgium • Brazil • Bulgaria • Canada • Chile • China PRC • Colombia • Costa Rica • Croatia • Cyprus Czech Republic • Denmark • Dubai, UAE • Finland • France • Germany • Greece • Hong Kong SAR • Hungary • India • Indonesia • Ireland • Israel Italy • Japan • Korea • Luxembourg • Malaysia • Mexico • The Netherlands • New Zealand • Norway • Peru • Philippines • Poland • Portugal Puerto Rico • Romania • Russia • Saudi Arabia • Scotland • Singapore • Slovakia • Slovenia • South Africa • Spain • Sweden • Switzerland • Taiwan Thailand • Turkey • Ukraine • United Kingdom • United States • Venezuela • Vietnam • Zimbabwe

Printed in the USA C78-338061-01 03/06