Cisco Aironet 1530 Series Outdoor Access Points

Cisco Aironet® 1530 Series outdoor access points support a wide variety of applications. With their sleek profile, you can deploy them wherever you need coverage while meeting your aesthetic requirements. A fully operational system requires at least the following items:

- Access point
- Power source
- Antennas: 2.4 GHz, 5 GHz, or dual band (Cisco Aironet 1532E Outdoor Access Point only)
- Mounting bracket
- Software selection

Use this guide to identify the items that you need for your deployment. Note that accessories are available as configurable options and as spares. An equal sign (=) at the end of the part number indicates that the part is a spare: for example, **AIR-PWRINJ1500-2=.**

Consult your Cisco representative for additional assistance in ordering mesh and other networking equipment.

Access Points

The Cisco Aironet 1530 Series is available in two models:

- **Cisco Aironet 1532I (internal antennas):** The Cisco Aironet 1532I Outdoor Access Point is a low-profile, lightweight model in the Cisco Aironet 1530 Series. The smaller size and sleeker look helps it blend in with the surrounding environment. The Cisco Aironet 1532I access points are dual-radio systems with internal antennas and comply with IEEE 802.11b/g/n (2.4 GHz) and 802.11a/n (5 GHz) standards. The 2.4-GHz radio is a 3x3 multiple-input and multiple-output (MIMO) radio that supports up to three spatial streams. The 5-GHz radio is a 2x3 MIMO radio that supports two spatial streams.
- **Cisco Aironet 1532E (external antennas):** The Cisco Aironet 1532E Outdoor Access Point is also a low-profile and lightweight model, but it supports a flexible radio coverage area through the use of external antennas. With the unique Cisco Flexible Antenna Port technology, the antenna ports can be software configured for dual-band or single-band operation.

Table 1 lists the part numbers for the access point models in the Cisco Aironet 1530 Series.

Table 1. Cisco Aironet 1530 Series Models

Part Number	Description
AIR-CAP1532I-x-K9	802.11n Low-Profile Outdoor AP, Internal Ant., x Reg Dom.
AIR-CAP1532E-x-K9	802.11n Low-Profile Outdoor AP, External Ant., x Reg Dom.

In Table 1, “x” is a placeholder for the regulatory domain designator. Please see http://www.cisco.com/go/aironet/compliance to determine which regulatory domain is used in your country. Note that the regulatory domain used in your country might differ depending on access point model and that some models are not available for all countries.

The following items are included with every model:

- Access point
- Grounding lug
- DC power connector
- One liquid-tight adapter for sealing the cable ingress connection
- Sealant for the antenna connections
- Antiseizing compound for the mounting brackets

Network Connection

The Cisco Aironet 1530 Series access points can connect to the network wirelessly or through a wired Ethernet connection.

- Wireless: An access point that connects to the network through another access point over a wireless backhaul is known as a mesh access point (MAP). The backhaul radio is built in, and no wired connection is needed for MAPs. An access point that acts as the gateway for mesh nodes is known as a root access point (RAP). RAPs connect to the network through a wired Ethernet connection. In these cases, a liquid-tight adapter is provided with the access point to seal the cable entry.
- Ethernet: The Cisco Aironet 1530 Series supports 10/100/1000 Gigabit Ethernet using a shielded RJ-45 connector with minimum Category 5 cable. Please see your local supplier for an outdoor-rated cable and shielded connectors.

Power

Table 2 provides the powering options for each model.

Table 2. Powering Options for the Cisco Aironet 1530 Series

Part Number	AC	DC	Power over Ethernet (PoE)
AIR-CAP1532I-x-K9	AC/DC adapter	24-57 VDC	UPoE or PoE+(802.3at)*
AIR-CAP1532E-x-K9	AC/DC adapter	24-57 VDC	PoE+(802.3at)

* When the Cisco Aironet 1532I is powered using Enhanced PoE (PoE+) power, the access point will automatically disable one of the 2.4-GHz transmitters.

AC Power

To power the Cisco Aironet 1530 Series from an AC power source, an external AC/DC power adapter is required. When powering the Cisco Aironet 1530 Series from streetlight power, please note that the maximum voltage is 277 VAC and requires the power adapter and the street light tap. Table 3 lists the power adapter and tap part numbers.

Table 3. AC/DC Power Adapter and Streetlight Tap

Part Number	Description
AIR-PWRADPT-1530=	Power Adapter (AC/DC) - Outdoor AP1530 Series
AIR-PWRADPT2-1530=	Power Adapter (AC/DC) - Outdoor AP1530 Series, for Japan only
AIR-PWR-ST-LT-R3P=	Power cord, 4 ft, Streetlight Tap

Power over Ethernet

The Cisco Aironet 1530 Series can be powered over the Ethernet connection. Power can be sourced directly from an appropriately powered switch port or from an inline power injector. The approved power injectors are listed in Table 4.

Table 4. Power Injector for Use with Power over Ethernet

Part Number	Description
AIR-PWRINJ1500-2=	1520/1550/1530 Series Power Injector
AIR-PWRINJ-30=	Power Injector - 30W for AP1530 - Spare

You must also specify the country type power cord for the power injector. The AIR-PWRINJ1500-2= and AIR-PWRINJ-30= power injectors are for indoor environments only.

The Cisco Aironet 1530 Series access points use a standard RJ-45 Ethernet connector. Cisco does not provide an Ethernet cable for the Cisco Aironet 1530 Series. You will need to source an outdoor-rated, Category 5 or better Ethernet cable and shielded RJ-45 connectors from a local supplier. A liquid-tight gland is provided with the access point to seal this cable entry point from weather.

DC Power

The Cisco Aironet 1530 Series access points support power from an external 24 to 57 VDC power supply with a minimum of 30 watts (W). A terminal block is included with your access point for this purpose, with liquid-tight adapter to weatherproof the connection. When using DC power, please consult the hardware installation guide for instructions on how to correctly assemble the connector.

The Cisco Aironet 1530 Series can be installed with redundant power sources. When multiple power sources are available, the access point will use power in the following priority:

1. DC power
2. PoE

Antennas

The Cisco Aironet 1532E access points are equipped with a combination of radios operating in the 2.4- and 5-GHz bands. Both radios can support two transmit and two receive streams using Maximal Ratio Combining (MRC), which takes advantage of multipath signals received across the two antennas to improve signal quality.

Table 5 describes the antennas available for the Cisco Aironet 1532E access points, listing part numbers for the antennas as well as gain and other details.

Table 5. Antennas for the Cisco Aironet 1532E Access Point

Part Number	Frequency Band	Gain	Type	Required Quantity
AIR-ANT2547VG-N	2.4/5 GHz	4/7 dBi	Omnidirectional	2
AIR-ANT2547V-N	2.4/5 GHz	4/7 dBi	Omnidirectional	2
AIR-ANT2588P3M-N=	2.4/5 GHz	8/8 dBi	Directional	1
AIR-ANT2450V-N	2.4 GHz	5 dBi	Omnidirectional	2
AIR-ANT2480V-N	2.4 GHz	8 dBi	Omnidirectional	2
AIR-ANT2413P2M-N=	2.4 GHz	13 dBi	Directional	1
AIR-ANT5180V-N	5 GHz	8 dBi	Omnidirectional	2
AIR-ANT5114P2M-N=	5 GHz	14 dBi	Directional	1

For additional antenna specifications, see the Cisco Aironet Antenna and Accessories Reference Guide.

The access points are provided with a moldable sealant to protect the antenna connector from weather. Consult the installation guide for proper installation.

Lightning Arrestors

When you use cables between the antenna and the Cisco Aironet 1532E access point, Cisco recommends that you add lightning arrestors to each port, particularly when the deployment is in an area with high lightning activity. The lightning arrestor listed in Table 6 provides robust protection against induced currents in the RF cabling generated by nearby lightning strikes.

Note: The lightning arrestor does not protect against direct lightning strikes on the access point.

Table 6. Lightning Arrestor for the Cisco Aironet 1530 Series

Part Number	Description
AIR-ACC245LA-N=	2.4 and 5 GHz Lightning Arrestor, N Connector

Mounting Brackets

Cisco Aironet 1530 Series outdoor access points can be mounted on poles or walls (Table 7).The standard vertical, pole-mounting brackets can be ordered as an option or as a spare. The mounting brackets with tilt mechanism can be ordered separately as a spare.

Table 7. Mounting Brackets for the Cisco Aironet 1530 Series

Part Number	Description
AIR-ACC1530-PMK1 (=)	Standard Pole/Wall Mount Kit for AP1530 Series
AIR-ACC1530-PMK2=	Pole Mount Kit for AP1530 Series with Tilt Adjustment

Both pole-mount kits include two sets of stainless-steel bands to fit poles from 2 to 8 inches in diameter. For larger poles, consult a local provider.

Software Requirements

The Cisco Aironet 1530 Series requires the minimum software releases noted in Table 8.

Table 8. Minimum Software Releases

Part Number	Minimum Software Release
AIR-CAP1532I-x-K9	Software Release 7.6 or later
AIR-CAP1532E-x-K9	Software Release 7.6 or later
Additional functions are available for the access points with more recent releases. Please see the applicable release notes for more information about features available with newer releases.	

Software Ordering Option

Cisco Aironet 1530 Series access points can be deployed in unified or autonomous mode. The access point boots in the default mesh mode and can reboot in autonomous mode with a command-line interface (CLI) command. Both unified and autonomous images are included in the software part number in Table 9.

Table 9. Software Option for Cisco Aironet 1530 Series

Part Number	Description
SWAP1530-CMB-A1-K9	1530 Series Combined Unified and Autonomous SW

Optional Items

Cover and Solar Shield

Cisco 1530 Series outdoor access points can be deployed with an optional paintable cover to enable the access point to blend into the surroundings.

Accessory Kit

Additional cable glands and other spare items are available in an accessory kit (Table 10). This kit contains the following items:

- 10 cable glands
- 1 console port cover
- 2 Ethernet and power port covers
- 1 DC power connector
- 1 ground lug and screws

Table 10. Cisco Aironet 1530 Series Accessories

Part Number	Description
AIR-ACC1530-CVR=	Cover and Solar Shield for AP1530 Series
AIR-ACC1530-KIT1=	Spare accessory kit for AP1530 Series

Ordering Information

To place an order, visit the Cisco ordering website at http://www.cisco.com/en/US/ordering/index.shtml.

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