H3C

H3C WA2110-AG
Wireless LAN Access Point
Quick Start

About This Manual

Related Documentation

In addition to this manual, each WA2110-AG Wireless LAN Access Point documentation set includes the following:

Manual	Content
H3C Wireless Control Manager Operation Manual	The manual is a guide for the user to perform the operations correctly. It is organized into the parts of interface, VLAN, system management, wireless configuration, IPv4, IPv6, port configuration, multicast protocol, 802.1X, AAA, SSH, ACL, QoS, as well as acronyms used in the manual.
H3C Wireless Control Manager Command Manual	The manual gives the user a detailed description of the operating commands. It is organized into the parts of interface, VLAN, system management, wireless configuration, IPv4, IPv6, port configuration, multicast protocol, 802.1X, AAA, SSH, ACL, QoS, as well as a command index.

Organization

H3C WA2110-AG Wireless LAN Access Point Quick Start is organized as follows:

Chapter	Contents
1 Product Overview	It briefly introduces the applications and the features of the H3C WA2110-AG Wireless LAN Access Point.
2 Installation	It briefly introduces the appearance, installation, and troubleshooting of H3C WA2110-AG Wireless LAN Access Point.

Conventions

The manual uses the following conventions:

I. Command conventions

Convention	Description
Boldface	The keywords of a command line are in **Boldface**.
italic	Command arguments are in *italic*.
[ ]	Items (keywords or arguments) in square brackets [ ] are optional.
{ x | y | ... }	Alternative items are grouped in braces and separated by vertical bars. One is selected.
[x | y | ...]	Optional alternative items are grouped in square brackets and separated by vertical bars. One or none is selected.

Convention	Description
{ x | y | ... } *	Alternative items are grouped in braces and separated by vertical bars. A minimum of one or a maximum of all can be selected.
[x | y | ...] *	Optional alternative items are grouped in square brackets and separated by vertical bars. Many or none can be selected.
&<1-n>	The argument(s) before the ampersand (&) sign can be entered 1 to n times.
#	A line starting with the # sign is comments.

II. GUI conventions

Convention	Description
< >	Button names are inside angle brackets. For example, click <OK>.
[ ]	Window names, menu items, data table and field names are inside square brackets. For example, pop up the [New User] window.
/	Multi-level menus are separated by forward slashes. For example, [File/Create/Folder].

III. Symbols

Convention	Description
⚠ Warning	Means reader be extremely careful. Improper operation may cause bodily injury.

Convention	Description
⚠ Caution	Means reader be careful. Improper operation may cause data loss or damage to equipment.
📖 Note	Means a complementary description.

Environmental Protection

This product has been designed to comply with the requirements on environmental protection. For the proper storage, use and disposal of this product, national laws and regulations must be observed.

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Chapter 1 Product Overview

1.1 Introduction to H3C WA2110-AG

Developed by Huawei-3Com Technology Co., Ltd. (Huawei-3Com) independently, the H3C WA2110-AG is a managed wireless LAN access point device. The H3C WA2110-AG is designed for use with a Huawei-3Com wireless control manager, and requires hardware installation only. All configuration for the access point takes place on the Huawei-3Com wireless control manager.

Such wireless control managers include:

- H3C WX5002 wireless control manager
- Switch with the H3C LS8M1WCM128A0 card

1.2 Technical Specifications

The H3C WA2110-AG can be powered through 802.3af-compliant power over Ethernet (PoE). Table 1-1 lists the technical specifications of the H3C WA2110-AG.

Table 1-1 Technical specifications

Index	Value
Maximum power consumption	6 W
Ethernet interface standard	802.3af
Wireless interface standard	802.11a, and 802.11b/g
Operating temperature	0°C to 45°C (32°F to 113°F)

Index	Value
Relative humidity (noncondensing)	10% to 90%

Note:

The H3C WA2110-AG also can be powered through a power adaptor (which does not come with the device. You should purchase it separately. For details, contact our local agents). For the power adaptor, the input voltage is 100 to 240 VAC, 50 to 60 Hz, and the input voltage is 48 VDC.

Chapter 2 Installation

This chapter contains the following contents:

- Product Appearance
- Safety precautions
- Installation procedure
- Connecting the access point to a wireless control manager
- Troubleshooting

2.1 Product Appearance

The figure below shows the appearance of an H3C WA2110-AG device.
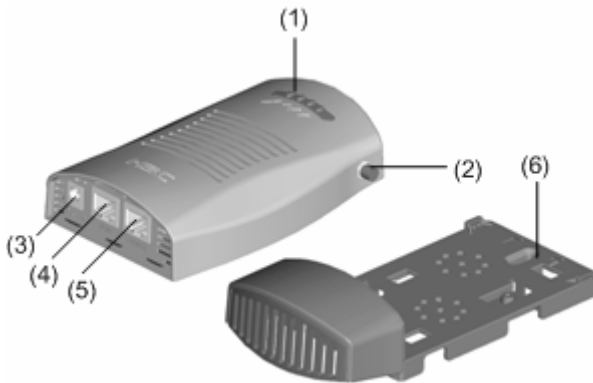
(1) LED	(2) Antenna connector
(3) Power interface	(4) 10/100 Base-TX Ethernet interface
(5) Console port	(6) Mounting bracket

Figure 2-1 Appearance of an H3C WA2110-AG

The figure below shows its LEDs.
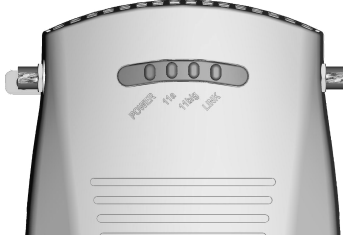
(1) Power LED   (2) 802.11a LED
(3) 802.11b/g LED   (4) Ethernet status LED

Figure 2-2 LEDs of an H3C WA2110-AG

Table 2-1 describes the meaning of the LEDs.

Table 2-1 Status of LEDs

LED	Meaning
Power	Indicate the working status of power supply: ON: The device works properly. OFF: The device is not powered on or the device is faulty.
11a	Indicate the status of the wireless link (the device works in the 11a mode): OFF: The wireless line is not initialized or is faulty. Slow blinking: Only a small amount of data is transmitted or received through the wireless line. Fast blinking: A large amount of data is transmitted or received through the wireless line.

LED	Meaning
11b/g	Indicate the status of the wireless link (the device works in the 11b/g mode):
	OFF: The wireless is not initialized or is faulty.
	Slow blinking: A small amount of data is transmitted or received through the wireless line.
	Fast blinking: A large amount of data is transmitted or received through the wireless line.
Link	Indicate the working status of the Ethernet port:
	ON: A link is present.
	OFF: No link is present.
	Blinking: Data is being transmitted or received through the Ethernet port.

2.2 Safety Precautions

This device must be installed in compliance with related safety standards and specifications. For the safety of people and equipment, only professional network personnel should install the device.

⚠ Caution:

- To comply with FCC radio frequency (RF) exposure limits, a minimum body-to-antenna distance of 20 cm (8 in.) must be maintained when the access point is in operation.

2.3 Installation Procedure

This section covers the following contents:

- Preparing installation tools
- Checking the device before installation
- Attaching the antennas
- Mounting the access point

2.3.1 Preparing Installation Tools

Prepare the following tools before the installation:

- Mounting bracket and screws (accompanying the device)

- Electric screwdriver and Phillips screwdriver
- One electric drill and several auxiliary drill bits

2.3.2 Checking the Device Before Installation

Before mounting the H3C WA2110-AG, connect it to the power supply (if applicable) and an Ethernet, and check the status of LEDs to ensure that the H3C WA2110-AG can work properly. In addition, record the MAC address of the access point for future use.

2.3.3 Attaching the Antennas

Screw the antennas on to the antenna connectors on the access point and hand-tighten them. After network startup, you may need to adjust the antennas to fine-tune coverage in your area. For best results, adjust the antennas so that they are perpendicular with the floor or ceiling.

⚠ Caution:

Do not handle the antenna tips, especially after they are connected to the access point. This could lead to electrostatic discharge (ESD), which could damage the equipment.

2.3.4 Mounting the Access Point

The access point can be mounted on walls, ceilings or tabletops.

I. Wall, Ceiling Mounting

To mount the access point to a wall, follow the given steps below:

1) Remove the access point from the mounting bracket.
2) Route the power cable (if you use an external power supply) and Ethernet cable on the back of the mounting bracket, as shown in Figure 2-3.

⚠ Caution:

For easy installation and removal of the access point from the mounting bracket, make sure that there is sufficient flexibility with the cable and that the cable is long enough. If not enough cable is routed through the back of the mounting bracket, or if the cable is inflexible, it can be difficult to install or remove the access point from the mounting bracket.
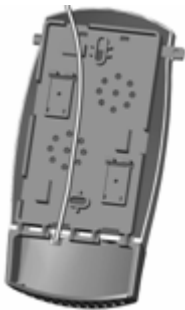
Figure 2-3 Cabling on the back

3) Mount the mounting bracket to a wall or ceiling, as shown in Figure 2-4.

Figure 2-4 Mount the mounting bracket

4) Connect the Ethernet cable (and power cable, if applicable) to the port(s) on the front of the access point.
5) Align the bottom of the access point with the mounting bracket, and press the access point backward. Then, the access point can be mounted in the mounting bracket properly.
6) To prevent the access point from being stolen, insert the locking bar (as shown in (1) of Figure 2-5) into the opening in the side of the mounting bracket. Push the locking bar through the opening until the hole on the locking bar is exposed. Insert a lock through the hole on the locking bar (as shown in (2) of Figure 2-5), and then close the lock to secure it in place.
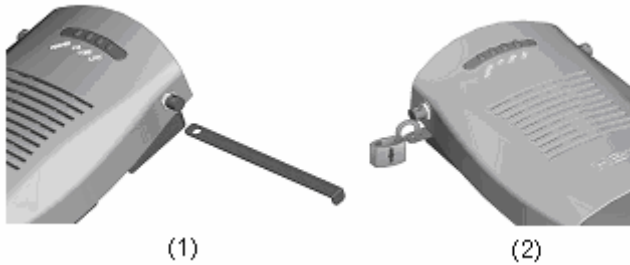
Figure 2-5 Install the locking bar

⚠ Caution:

Do not place the access point on any type of metal surface. Select a location that is clear of obstructions and provides good reception.

II. Tabletop Mounting

To install the access point on a flat surface such as a table or desktop, follow the given steps below:

1) Remove the access point from the mounting bracket.
2) Place the access point on the table.
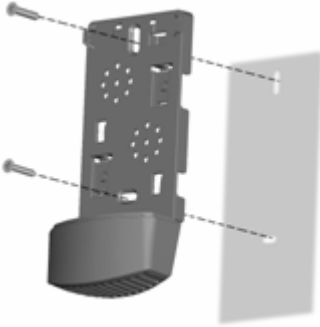3) Connect the Ethernet cable (and power cable, if applicable) to the port(s) on the front of the access point.

2.4 Connecting the Access Point to a Wireless Control Manager

You can connect the access point directly to a wireless control manager or indirectly to a wireless control manager through an intermediate Layer 2 or Layer 3 network. In either case, use Category 5 cable with straight-through signaling for each access point connection.

![warning icon] **Warning:**

Do not connect or disconnect Ethernet cables or otherwise work with the access point during periods of lightning activity.

You are recommended to install and configure the wireless control manager before installing the access point. If the wireless control manager is already installed and configured for the access point, you can immediately verify whether the device works normally after you plug the cable into the access point. For instructions on configuring the wireless control manager, refer to *H3C Wireless Control Manager Operation Manual* and *H3C Wireless Control Manager Command Manual*.

2.5 Troubleshooting

For details about troubleshooting, log on to www.huawei-3com.com and refer to *H3C WA2110-AG Wireless LAN Access Point Troubleshooting Manual.*

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Chapter 1 Regulatory compliance statement

1.1 European Community CE Certification DoC

Declaration of Conformity

I hereby declare that the product

Product name:Wireless Access Point, Model name:H3C WA2110-AG, Brand name:H3C
(Name of product, type or model, batch or serial number)

satisfies all the technical regulations applicable to the product within the scope of Council
Directives 1999/5/EC:

EN 300 328 V 1.6.1
EN 301 893 V 1.3.1
EN 301 489-1 V 1.6.1
EN 301 489-17 V 1.2.1
EN 50371:2002
EN 60950-1:2004

All essential radio test suites have been carried out.

NOTIFIED BODY: Compliance Certification Services
– Address:

47173 Benicia Street
Fremont, CA 94538
USA
Identification Number: 0984

MANUFACTURER or AUTHORISED REPRESENTATIVE:
– Address:

HANGZHOU H3C TECHNOLOGIES CO., LTD
310 LIUHE ROAD, ZHIJIANG SCIENCE PARK,
HANGZHOU 310053, P. R. CHINA

This declaration is issued under the sole responsibility of the manufacturer and, if applicable, his authorised representative.

– Point of contact:

Sun Li/Tel: +86(10)8277-4654/Fax: +86(10)8277-4214
(Name, telephone and fax number)

Sun Li

Beijing/2007-03-27
(Place, date of issue)

(Signature)
SUN LI
REGULATORY COMPLIANCE MANAGER
(Name and title in block letters)

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Chapter 2 Regulatory Compliance Information

2.1 Regulatory compliance standards

Table 2-1 Regulatory compliance standards

Discipline	Standards
EMC	CISPR22 CLASS B
	EN 55022 CLASS B
	CISPR24
	EN 55024
	IEC 61000-3-2
	IEC 61000-3-3
	EN 61000-4-3
	EN 61000-6-1
	EN 61000-6-2
	EN 61000-6-3
	EN 61000-6-3
	EN 61000-6-4
	EN 301 489-1
	EN 301 489-17
	ETSI EN 300 386

Discipline	Standards
RF	FCC part2 SubpartB 2.1093 EN 301 328 EN 301 893
Safety	UL 60950-1:2003 CAN/CSA C22.2 No 60950-1-03 IEC 60950-1:2001 EN 60950-1/A11:2004

2.2 European Regulatory compliance

H3C WA2110-AG complies with the following European R&TTE Directive 1999/5/EC.

Regulatory statement (R&TTE / WLAN IEEE 802.11b & 802.11g)

European standards dictate maximum radiated transmit power of 100mW EIRP and frequency range 2.400-2.4835GHz; In France, the equipment must be restricted to the 2.4465-2.4835GHz frequency range and must be restricted to indoor use.

2.2.1 EU Compliance information

1. CE Mark

$C\epsilon 0984$!

Equipment may be operated in the following country:

AT	BE	CY	CZ	DK	EE	FI	FR
DE	GR	HU	IE	IT	LV	LT	LU
MT	NL	PL	PT	SK	SI	ES	SE
GB	IS	LI	NO	CH	BG	RO	TR

⚠ **Note:**

Select the country in which the product is installed to ensure product operation is in compliance with local regulations.

For information on how to select the country, refer to the *"Wireless Configuration Command" module in H3C Wireless Control Manager Command Manual*.

<u>**CE Declaration of Conformity**</u>

For the following equipment: (Wireless Access Point)

To ensure compliance with the requirements of R&TTE RF exposure, a minimum body to antenna distance of 20cm (8 inch) must be maintained when the device is operated.

Is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC), Low-voltage Directive (73/23/EEC) and the Amendment Directive (93/68/EEC), the procedures given in European Council Directive 99/5/EC and 89/3360EEC.

The equipment was passed. The test was performed according to the following European standards:

- EN 300 328 V.1.6.1
- EN 301 489-1 V1.6.1 / EN 301 489-17 V1.2.1
- EN 301 893 V1.3.1
- EN 60950: 2004
- EN 50371:2002

2. Intended use: IEEE 802.11 a/b/g radio LAN device.

2.2.2 EU Country Restriction in 2.4GHz band

This H3C WA2110-AG product may be used indoors or outdoors in all countries of the European Community using the 2.4GHz band: Channel 1-13.

2.2.3 EU Country Restriction in 5GHz band

1. The frequency band 5150-5250MHz can not be used outdoors.

2.3 USA regulatory compliance

2.3.1 FCC Part 15

1. US Federal Communications Commission (FCC) EMC Compliance

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generate, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be

determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

---Reorient or relocate the receiving antenna.

---Increase the separation between the equipment and receiver.

---Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

---Consult the dealer or an experienced radio/TV technician for help.

2.3.2 RF Requirements

1.   RF exposure Hazard Warning

To ensure compliance with the requirements of FCC RF exposure, a minimum body to antenna distance of 20cm (8 inch) must be maintained when the device is operated.

2.   RF Frequency Requirements

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

This device is for indoor use only when it is operated at 5.15 to 5.25GHz frequency range.

3.15.19(a)(3)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

4.Radio Frequency Interference Requirements:

This device is restricted to INDOOR USE due to its operation in the 5.15 to 5.25GHz frequency range. According to FCC 15.407(e), requires this product to be used indoors for the frequency range 5.15 to 5.25GHz to reduce the potential for harmful interference to co-channel of the Mobile Satellite Systems.

5.Regulatory Information:

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution of the connecting cables and equipment other than manufacturer specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Manufacturer and its authorized resellers or

distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

3. Antennas

Only use the supplied antenna. Unauthorized antennas, modifications or change to the antennas could violate FCC regulations and void the user's authority to operate the equipment.

Chapter 3 Safety Information

Sicherheitsinformationen

3.1 General Requirements Allgemeine Anforderungen

In order to reduce the technically unavoidable residual risk to a minimum, it is imperative to follow the rules below:

Um das technisch bedingte Restrisiko auf ein Minimum zu begrenzen, ist es unbedingt erforderlich, die folgenden Regeln zu beachten:

● Read all the instructions before operation.

● Lesen Sie alle Anweisungen sorgfältig durch, bevor Sie mit dem Arbeiten beginnen.

● Do not block ventilation openings while the system is on, and keep at least 5 cm distance from ventilation openings and walls or other things which may block the openings.

● Sorgen Sie dafür, dass die Öffnungen der Ventilation zu keinem Zeitpunkt verschlossen, verstopft oder anderweitig blockiert sind. Zwischen den Ventilationsöffnungen und Wänden bzw. anderen Gegenständen muss stets ein Abstand von mindestens 5cm bestehen.

● For AC supplied model: To ensure the safety of the equipment and human body, please unplug the AC power connector and do not use the fixed terminal in the lightning weather. Furthermore, please do not touch the terminal or antenna connector in such weather.

● Mit Wechselstrom betriebenes Modell: Um die Sicherheit des Personals und der Ausrüstung zu gewährleisten, muss der Stecker aus der Steckdose gezogen werden, wenn die Gefahr eines Blitzeinschlages besteht. Verwenden Sie bei Blitzgefahr keine festinstallierten Steckdosen. Berühren Sie bei Blitzgefahr nicht die Antenne.

3.2 Electricity Safety Elektrische Sicherheit

● Conducting articles, such as watch, hand chain, bracelet and ring are prohibited during the operation.

● Es ist nicht erlaubt während dieser Arbeiten leitende Gegenstände wie Uhren, Armbänder, Armreifen und Ringe am Körper zu tragen.

● When water is found in the rack, or the rack is damp, please immediately switch off the power supply.

● Sollte sich Wasser im Baugruppenträger befinden oder der Baugruppenträger feucht sein, ist die Energiezufuhr sofort zu unterbrechen und das System abzuschalten.

- When operation is performed in a damp environment, make sure that water is kept off the equipment.
- Muss in einem feuchten Umgebung gearbeitet werden, ist sicherzustellen, dass kein Wasser in die Ausrüstung dringen kann.