



**ALL-WAP0559AC**



**Wireless N 300Mbit Outdoor 2,4Ghz Access Point**

## **DEFAULT VALUES**

<b>IP:</b>	<b>192.168.1.1</b>
<b>User name:</b>	<b>admin</b>
<b>Password:</b>	<b>admin</b>

# Chapter 1

# **Product Overview**

# Introduction

## Key Features

- Up to 26 dBm transmit power enabling long range connectivity
- Supports IEEE 802.11ac/a/n wireless standards with up to 866 Mbps data rate.
- Internal 19dBi high gain directional antenna
- Can be used with included PoE adapter or via 802.3at PoE 802.3at - capable switches.
- Can be supply 802.3af power source used with included PoE adapter power adapter or via 802.3at PoE - capable switches
- Secured Guest Network option available
- Advanced 256-QAM technology to achieve optimal performance throughout ultra-long distance



## Introduction

The ALL-WAP0559AC is a high-powered, ultra long-range 2x2 Wireless 802.11ac/a/n Outdoor Access Point with speeds up to 866 Mbps on both its high-powered 5 GHz radios. It can be configured as an: Access Point, Client Bridge or WDS (AP, Station & Bridge). The ALL-WAP0559AC is designed to operate in a variety of outdoor environments. Its high-powered, long-range characteristics make it a cost effective alternative to ordinary Access Points that don't have the range and reach to connect to a growing number of wireless CPEs who

wish to connect to a business network. The ALL-WAP0559AC supports the 5 GHz frequency band for communicating to other 5GHz frequency bands Access Points concurrently. Several ALL-WAP0559ACs can be networked in a campus setting using the 5 GHz band between countries. The ALL-WAP0559AC is easy to install in virtually any location with

its included PoE (Power over Ethernet) Adapter for quick outdoor installation. The ALL-WAP0559AC enables network administrators to control its transmit power and features settings for selecting VHT80 bandwidth to perform ture AC transmission. The ALL-WAP0559AC also supports wireless encryption including Wi-Fi Protected Access (WPA-PSK/ WPA2-PSK) Encryption and IEEE 802.1X with RADIUS.)

## System Requirements

The following are the Minimum System Requirements in order to configure the device.

- Computer with an Ethernet interface or wireless network capability
- Windows OS (XP, Vista, 7, 8), MacOS, or Linux-based operating systems
- Web-Browsing Application (i.e.: Internet Explorer, Firefox, Safari, or another similar browser application)

## Package Contents

The ALL-WAP0559AC package contains the following items:

- ALL-WAP0559AC Customer Premises Equipment
- PoE Adapter
- Pole Mount Strap
- Wall Mount Bracket Base
- Screw Sets Kit
- Rubber
- Sealing Nut
- Dynamic Stick
- QuickInstallation Guide

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# Technical Specifications

## Standard:

IEEE802.11ac/a/n on 5 GHz

IEEE802.3at

IEEE802.3af

## Antenna

Internal 19dBi high gain directional antenna

## Physical Interface

2x 10/100/1000 Gigabit Ethernet Port with PoE support

LAN(PoE) Port supports IEEE802.3at PoE Input

LAN Port supports IEEE802.3af PoE Output

## LED Indicator

Power

LAN 1

LAN 2

WLAN LED (Weak, Medium, Strong)

## Power Requirements

Include PoE Adapter, 54V/0.6A

IEEE802.3at support

## Operation Modes

Access Point

Client Bridge

WDS

WDS Detail

WDS AP

WDS Bridge

WDS Station

## Optimal Performance

Distance Control (Ack Timeout)

Multicast Supported

Data Rate Selection

Auto Channel Selection

BSSID Support

## Easily Management

VLAN Tag / VLAN Pass-through

Guest Network

QoS: Complaint with IEEE 802.11e/WMM

RADIUS Accounting

Wireless STA (Client) connection list

Traffic Shaping (Per SSID)

## Intuitive Tools

SNMP v1/v2c/v3 support

MIB I/II, Private MIB

Save Configuration as Default

CLI Support

WiFi-Scheduler/Auto Reboot

E-mail Alert

## Reinforcement Security

WEP Encryption-64/128/152 bit

WPA/WPA2 Enterprise (WPA-EAP using TKIP or AES)

Hide SSID in beacons

MAC address filtering up to 32 MACs per SSID

Https Support  
SSH

QoS (Quality of Service)

Compliant with IEEE 802.11e standard

Physical/Environment Conditions

Operating:

Temperature: -4 °F to 158 °F (-20 °C to 70 °C)

Humidity (non-condensing): 90% or less

Storage:

Temperature: -22 °F to 176 °F (-30 °C to 80 °C)

Humidity (non-condensing): 90% or less



# Physical Interface

## Dimensions and Weights

Dimension: 190mm (7.48")

Height: 38mm (1.9")

Weight: 527g (1.16lbs)



### 1 WLAN Signal LED: Applied on Client Bridge/WDS

(1) Red: Weak Signal: Connecting quality is bad.

(2) Yellow: Connecting quality is Normal.

(3) Green: Connection quality is Good.

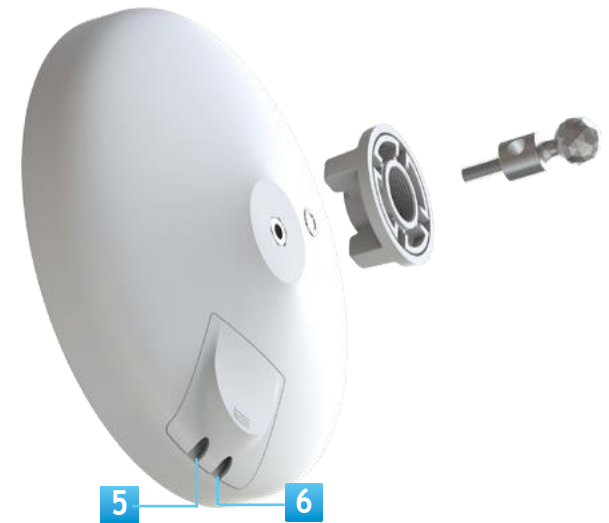
### 2 LAN(PoE) Signal LED

### 3 LAN Signal LED of the 2nd Port

### 4 Power Signal:

5 LAN Port 1 (802.3at PoE Input): Gigabit Ethernet port for RJ-45 cable.

6 LAN Port 2(802.3af PSE Output): Gigabit Ethernet port for RJ-45 cable.



# Chapter 2

## **Before You Begin**

# Computer Settings

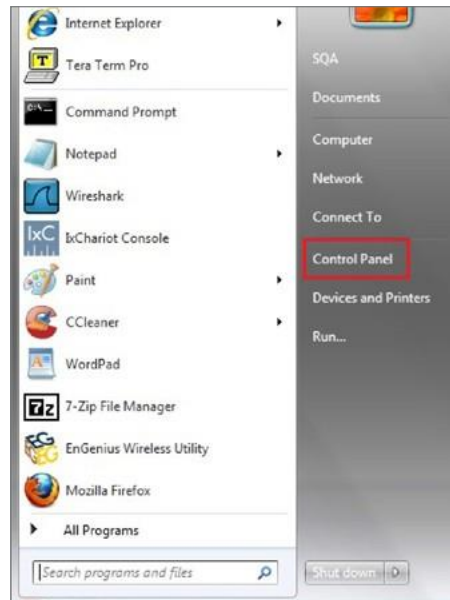
## Windows XP/Windows 7/Windows 8

In order to use the ALL-WAP0559AC, you must first configure the TCP/IPv4 connection of your Windows OS computer system.

1a. Click the Start button and open the Control Panel



WindowsXP



Windows 7

1b. Move your mouse to the lower right hot corner to display the Charms Bar and select the Control Panel in Windows 8 OS.



2a. In Windows XP, click Network Connections.



2b. In Windows 7/Windows 8, click View Network Status and Tasks in the Network and Internet section, then select Change adapter settings.



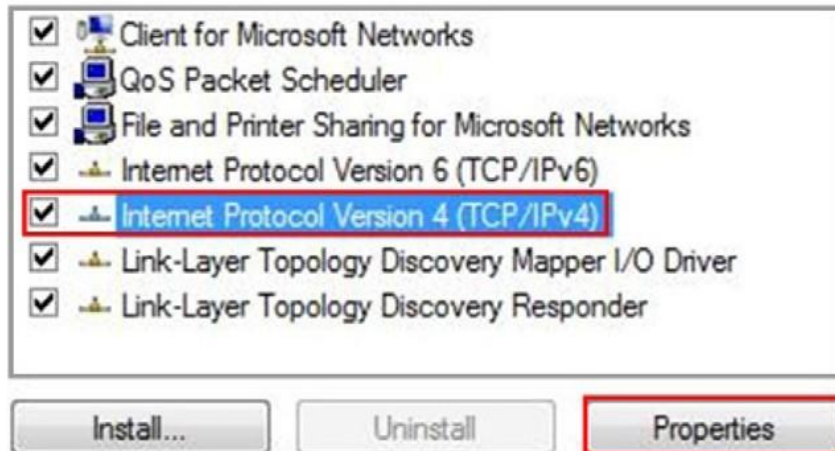
Network and Internet  
View network status and tasks  
Choose homegroup and sharing options



3. Right click on Local Area Connection and select Properties.



4. Select Internet Protocol Version 4 (TCP/IPv4) and then select Properties.



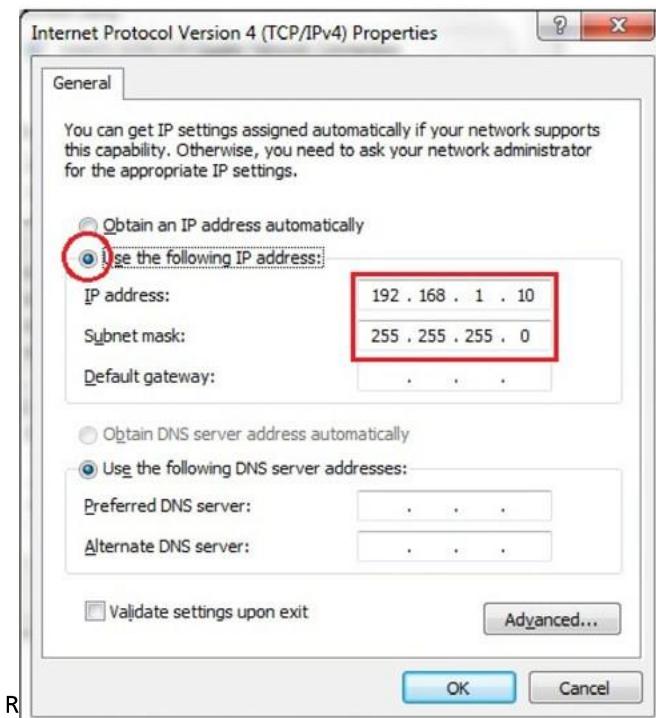
5. Select Use the following IP address and enter an IP address that is different from the ALL-WAP0559ACand Subnet mask, then click OK.

Note: Ensure that the IP address and Subnet mask are on the same subnet as the device.

Forexample: ALL-WAP0559ACIPaddress:

192.168.1.1 PCIPaddress: 192.168.1.2–  
192.168.1.255

PC Subnet mask: 255.255.255.0



## Apple Mac OSX

1. Goto System Preferences (Which can be opened in the Applications folder or selecting it in the Apple Menu).
2. Select Network in the Internet & Network section.



3. Highlight Ethernet.

4. In Configure IPv4, select Manually.
5. Enter an IP address that is different from the ALL-WAP0559AC and Subnet mask then press OK.

Note: Ensure that the IP address and Subnet mask are on the same subnet as the device.

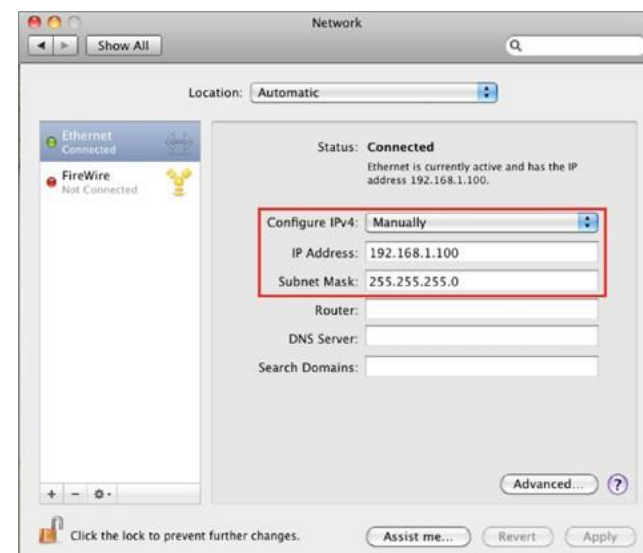
For example: ALL-WAP0559AC IP address:

192.168.1.1 PC IP address: 192.168.1.2-

192.168.1.255

PC Subnet mask: 255.255.255.0

6. Click Apply when done.



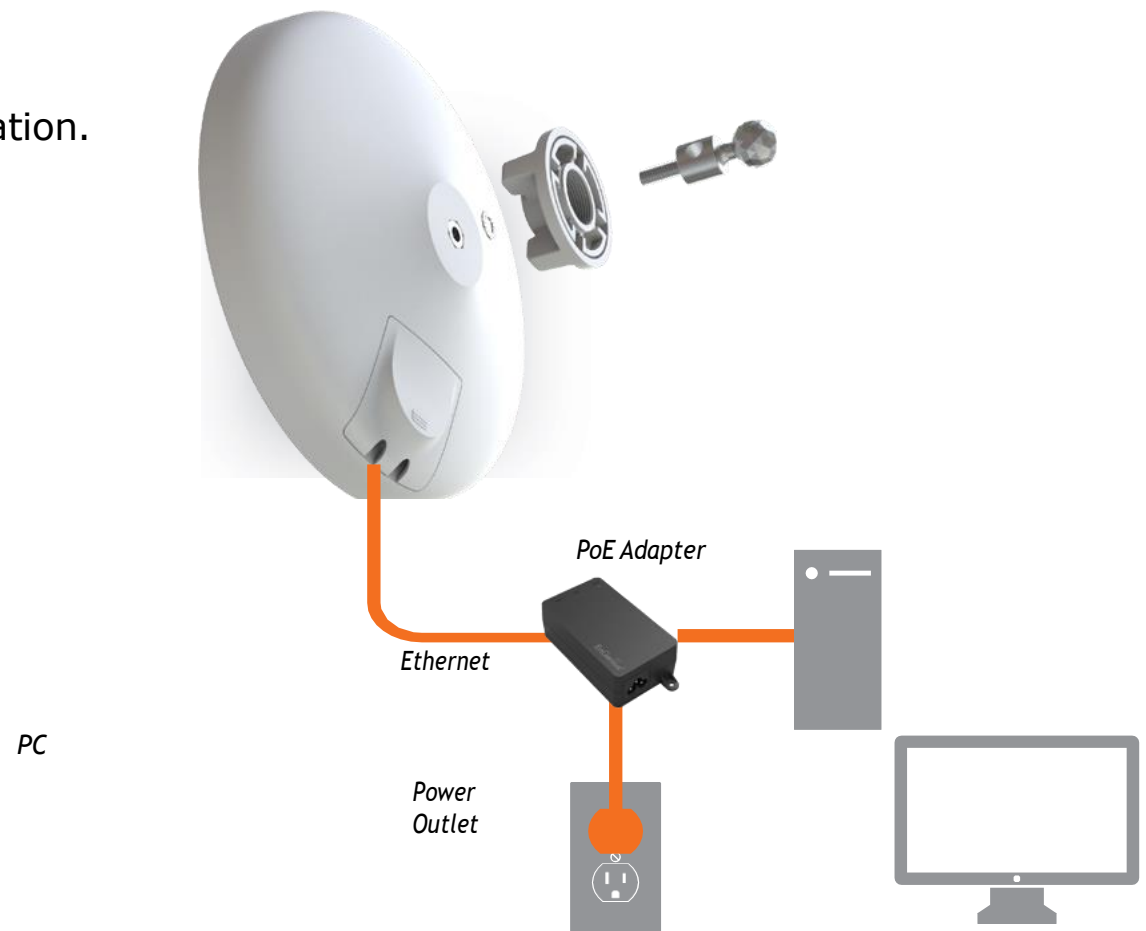
# Hardware Installation

1. Remove the rear bottom panel.
  2. Connect one end of the Ethernet cable into the main LAN port (PoE) of the Access Point and the other end to the AP Ethernet port on the PoE Adapter.
  3. Connect the Power cord to the PoE Adapter and plug the other end in to an electrical outlet.
  4. Connect the second Ethernet cable into the LAN port of the PoE Adapter and the other end to the Ethernet port on the computer.
  5. Place the panel back into device
- source when used with included PoE Adapter.

Note: The ALL-WAP0559AC should ONLY be powered via Ethernet cable connected to included supports both IEEE 802.3at PoE (Power over Ethernet) or the included PoE Adapter. You may use either one as the power source. Do NOT use both at the same time.

Note: The ALL-WAP0559AC can supply the 802.3af power

.This diagram depicts the hardware configuration.



To attach the ALL-WAP0559AC to a pole using the provided pole mounting kit:

# Mounting the ALL-WAP0559AC

Using the provided hardware, the ALL-WAP0559AC can be attached to a wall or a pole.

1. EnStation



2. PoE Adapter & PowerCord



3. Bracket



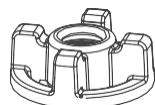
4. Pole Mounting Strap



5. ScrewSetKit



6. Sealing Nut



7. DynamicStick



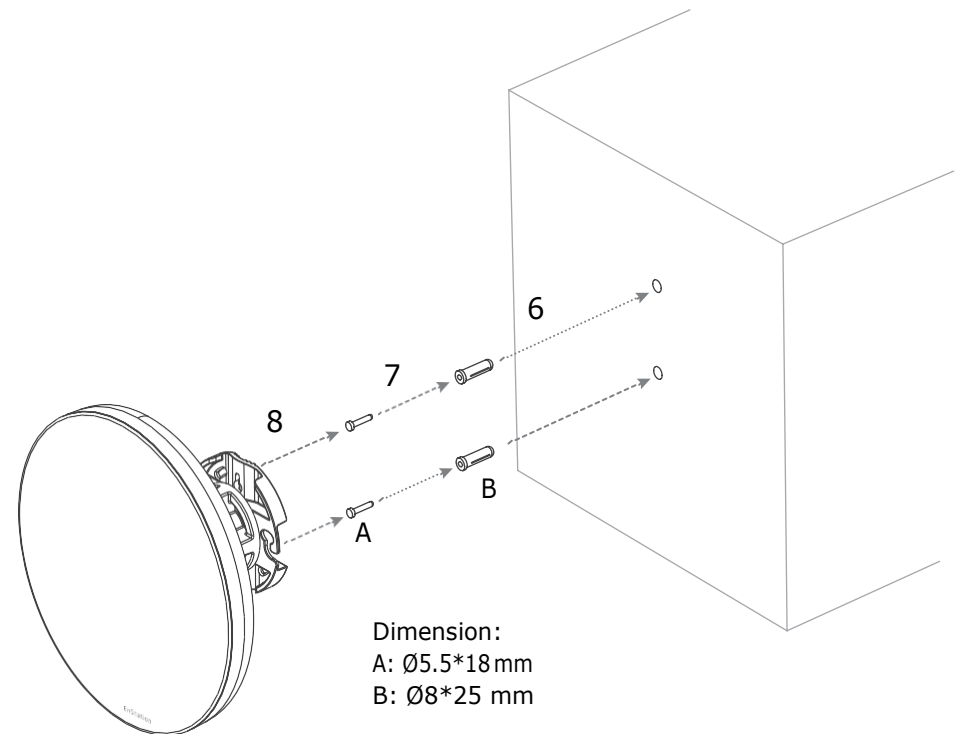
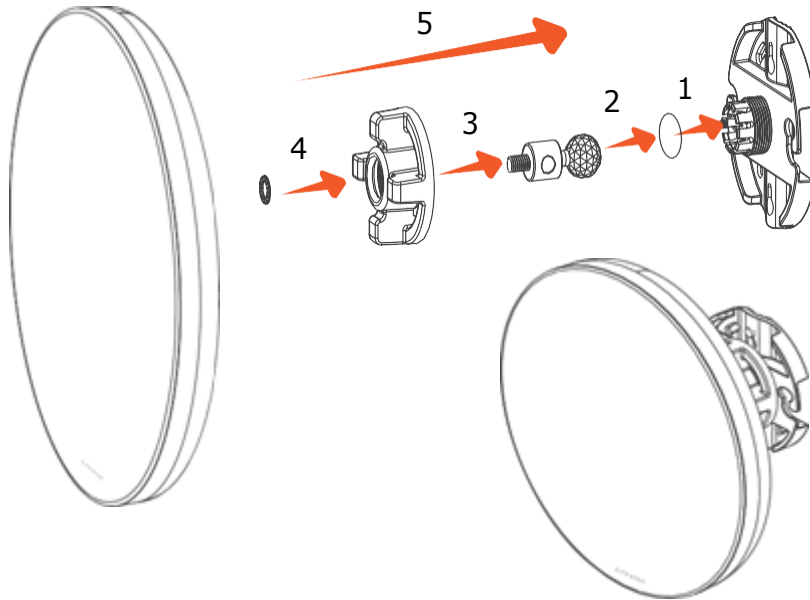
8. Rubber





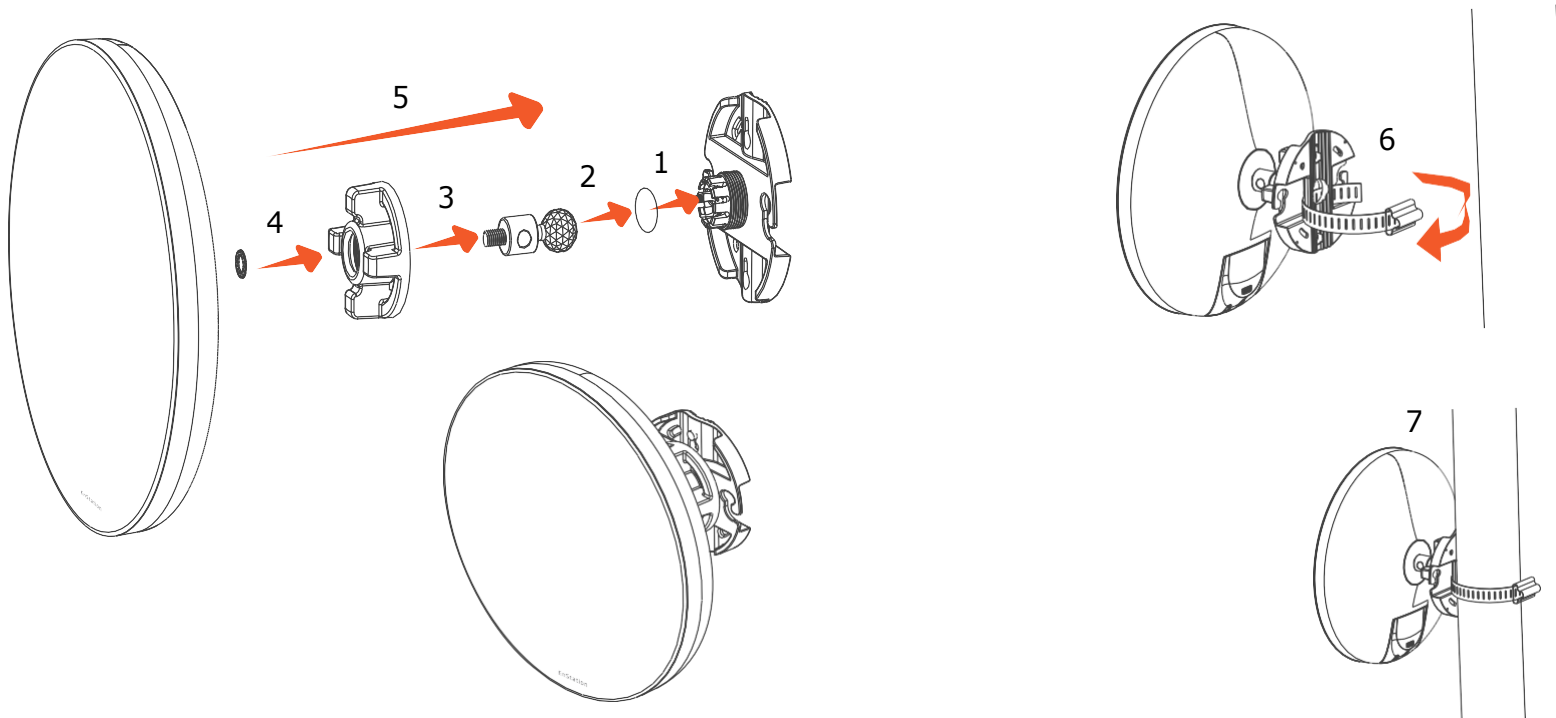
## Wall mounting the EnStation

1. Put the included rubber into the bracket.
2. Plug the dynamic stick into the bracket.
3. Screw the sealing nut and assembled parts, as well as tighten it.
4. Put the lock washer on the dynamic stick.
5. Assemble the mounting parts to the EnStation. .
6. Determine the mounting location. Mark and drill two pilot holes aligning to the screw holes of the bracket
7. Put wall anchors into the holes and insert screw into the wall anchor.
8. Screw and secure the bracket in the place.



## Pole mounting the EnStation

1. Put the included rubber into the bracket.
2. Plug the dynamic stick into the bracket.
3. Screw the sealing nut and assembled parts, as well as tighten it.
4. Put thenock washer on the dynamic stick.
5. Assemble the mounting parts to the EnStation. .
6. Thread the open end of the pole strap through the two tabs on the bracket.
7. Lock and tighten pole strap to secure bracket to the pole.



# Chapter 3

# **Configuring Your Access Point**

# Configuring Your Access Point

This section will show you how to configure the device using the web-based configuration interface.

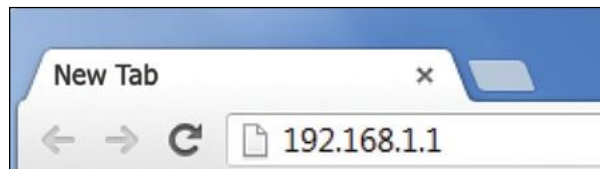
## Default Settings

Please use your Ethernet port or wireless network adapter to connect the Access Point.

IP Address	192.168.1.1
Username / Password	admin / admin

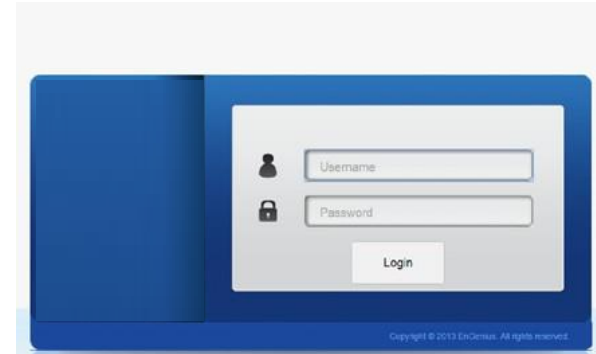
## Web Configuration

1. Open a web browser (Internet Explorer/Firefox/Safari/Chrome) and enter the IP Address `http://192.168.1.1`



Note: If you have changed the default LAN IP Address of the Access Point, ensure you enter the correct IP Address.

2. The default username and password are admin. Once you have entered the correct username and password, click the Login button to open the web-base configuration page.



3. If successful, you will be logged in and see the ALL-WAP0559AC UserInterface.

<b>Overview</b>	Device Information	
Device Status	Device Name	ENSTATIONAC
Connections	MAC Address	
Network	- LAN	88:DC:96:3A:9A:DB
Basic	- Wireless LAN - 5GHz	88:DC:96:3A:9A:DB
Wireless	Country	USA
Management	Current Local Time	Wed Aug 5 07:40:15 UTC 2015
Advanced	Firmware Version	2.0.0
Time Zone	Management VLAN ID	Untagged
WiFi Scheduler	LAN Information - IPv4	
Tools	IP Address	192.168.1.1
System Manager	Subnet Mask	255.255.255.0
Account	Gateway	192.168.1.1
Firmware	Primary DNS	0.0.0.0
Log	Secondary DNS	0.0.0.0
English	DHCP Client	Disable
	Spanning Tree Protocol (STP)	Disable

# Chapter 4

# **Building a Wireless Network**

The ALL-WAP0559AC has the ability to operate in various modes. This chapter describes the operating modes of the ALL-WAP0559AC.

## Access Point Mode

In Access Point Mode, ALL-WAP0559AC behaves like a central connection for stations or clients that support IEEE 802.11a/b/g/n networks. The stations and clients must be configured to use the same SSID (Service Set Identifier) and security password to associate with the ALL-WAP0559AC. The ALL-WAP0559AC supports up to eight (8) SSIDs per band at the same time for secure access.

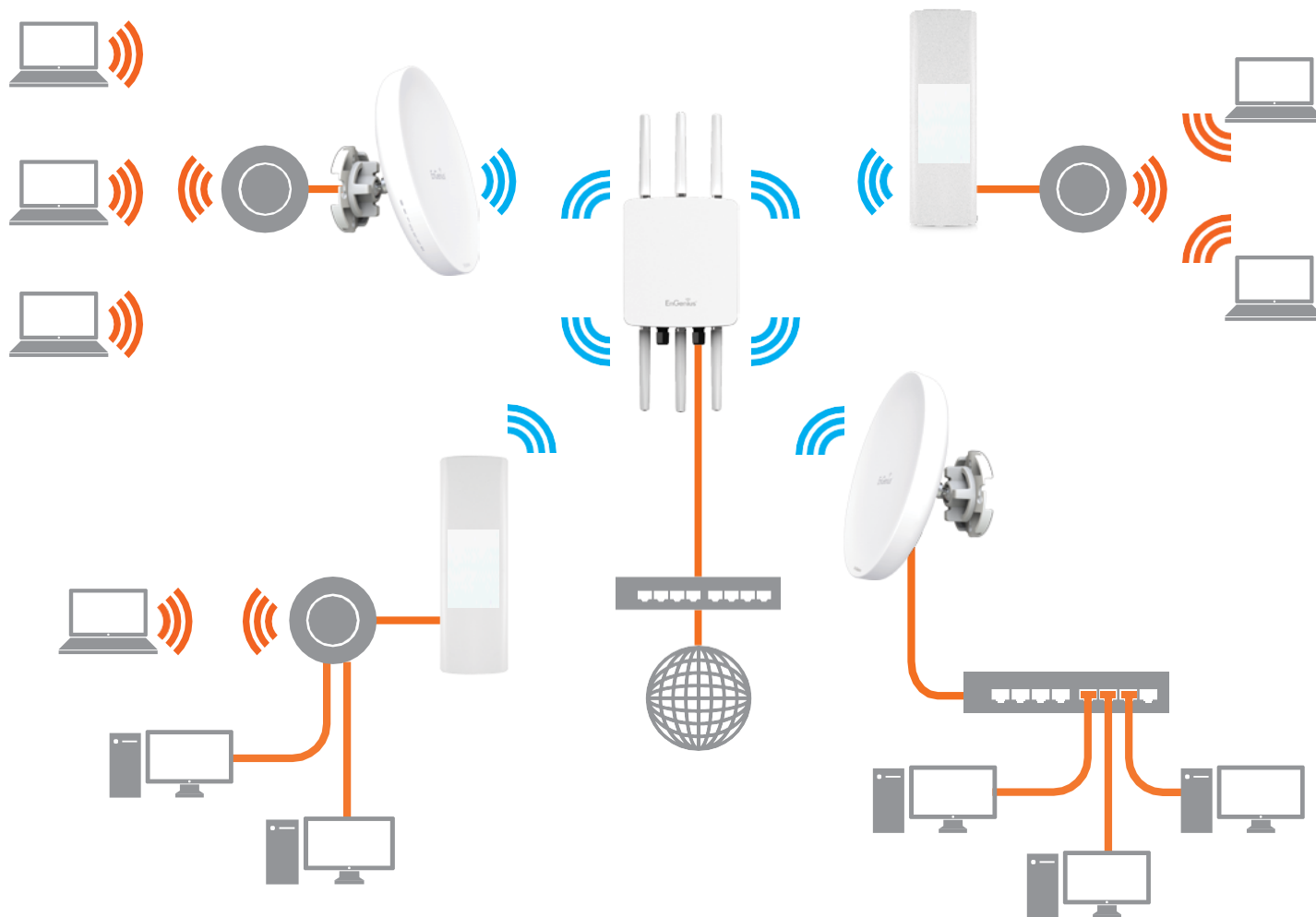
## WDS AP Mode



## Client Bridge Mode

The ALL-WAP0559AC essentially acts as a wireless adapter that connects to an access point to allow a system of wireless access to the network in the Client Bridge mode. Since the computers are on the same subnet, the ALL-WAP0559AC can broadcast to reach all end-devices.

If you use the client bridge mode in the ALL-WAP0559AC, you can use the AP Detection feature to scan for Access Points within range. When you find an Access Point, configure the ALL-WAP0559AC to use the same SSID and Security Password as the Access Point to associate with it.



The ALL-WAP0559AC also supports WDS AP mode. This operating mode allows wireless connections to the ALL-WAP0559AC using WDS technology. In this mode, configure the MAC addresses in both Access Points to enlarge the wireless area by enabling WDS Link settings. WDS supports up to four (4) AP MAC addresses.

## WDS Bridge Mode

In WDS Bridge Mode, the ALL-WAP0559AC can wirelessly connect different LANs by configuring the MAC address and





security settings of each ALL-WAP0559AC device. Use this mode when two wired LANs located a small distance apart want to communicate with each other. The best solution is to use the ALL-WAP0559AC to wirelessly connect two wired LANs, as shown in the following diagram.

WDS Bridge Mode can establish up to four WDS links, creating a star-like network.

Note: WDS Bridge Mode does not act as an Access Point. Access Points linked by WDS are using the same frequency channel. More Access Points connected together may lower throughput. This configuration can be susceptible to generate endless network loops in your network, so it is recommended to enable the Spanning Tree function to prevent this from happening.



## WDS Station Mode

Station mode expands the WDS by receiving a wireless signal/service and sharing it through the Ethernet port.



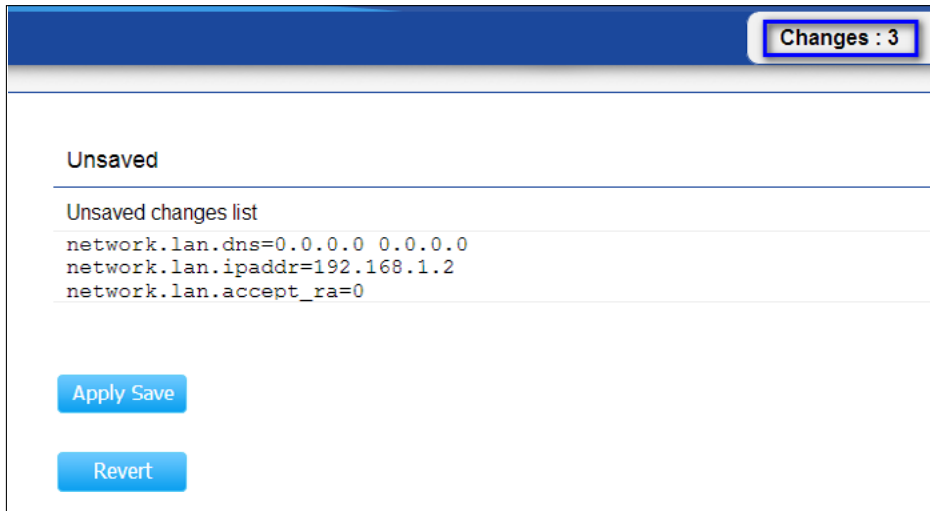
# Chapter 5

# Status

# Main Status

## Save Changes

This page lets you save and apply the settings shown under Unsaved changes list, or cancel the unsaved changes and revert to the previous settings that were in effect.



Changes : 3

Unsaved

Unsaved changes list

network.lan.dns=0.0.0.0 0.0.0.0  
network.lan.ipaddr=192.168.1.2  
network.lan.accept\_ra=0

Apply Save

Revert

## Device Status

Clicking the Device Status link under the Overview menu shows the status information about the current operating mode.

- The Device Information section shows general system information such as Device Name, MAC Address, Current Time, Firmware Version, and Management VLAN ID

Note: VLAN ID information is only applicable in Access Point or WDS AP mode.

### Device Information

Device Name	ENSTATIONAC
MAC Address	
- LAN	88:DC:96:3A:9A:DB
- Wireless LAN - 5GHz	88:DC:96:3A:9A:DB
Country	USA
Current Local Time	Wed Aug 5 07:40:15 UTC 2015
Firmware Version	2.0.0
Management VLAN ID	Untagged

- The LAN Information section shows the Local Area Network settings such as the LAN IP Address, Subnet mask, and DNS Address.

LAN Information - IPv4	
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Gateway	192.168.1.1
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
DHCP Client	Disable
Spanning Tree Protocol (STP)	Disable

- The Wireless LAN Information 5 GHz section shows wireless information such as Operating Mode, Frequency, and Channel. Since the ALL-WAP0559AC supports multiple- SSIDs, information about each SSID, the ESSID, and security settings, are displayed

Note: Profile Settings are only applicable in Access Point and WDS AP modes.

SSID, MAC address, RX and TX.

- The Statistics section shows Mac information such as

# Connection

## 5 GHz Connection List

Click the connection link under the Overview menu displays the connection list of clients associated to the ALL-WAP0559AC's 5 GHz, along with the MAC addresses and signal strength for each client. Clicking Refresh updates the client list.

Note: Only applicable in Access Point and WDS AP modes.

## WDS Link List

Click the connection link under the Overview menu. This page displays the current status of the WDS link, including WDS Link ID, MAC Address, Link Status and RSSI.

Note: Only applicable in WDS AP and WDS Bridge modes.

## Client Bridge Connection Status

Click the connection link under the Overview menu. This page displays the connection status between Access Point, including associated SSID, BSSID, connection status, wireless mode, current channel, security, Tx Data Rate(Mbps), Current noise level and signal strength.

# Chapter 6

# **Network**



# Basic IP Settings

## IPv4/IPv6 Settings

This page allows you to modify the device's IP settings.

IPv4 Settings	
IP Network Setting	Static IP ▾
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Gateway	192.168.1.1
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
IPv6 Settings	<input checked="" type="checkbox"/> Link-local Address
IP Address	
Subnet Prefix Length	
Gateway	
Primary DNS	
Secondary DNS	

**IP Network Settings:** Select whether the device IP address will use a static IP address specified in the IP address field or be obtained automatically when the device connects to a DHCP server.

**IP Address:** The IP address of this device.

**Subnet Mask:** The IP Subnet mask of this device.

**Gateway:** The Default Gateway of this device. Leave it blank if you are unsure of this setting.

**Primary/Secondary DNS:** The primary/secondary DNS address for this device.

**Save:** Click Save to confirm the changes.

## Spanning Tree Protocol (STP) Settings

This page allows you to modify the Spanning Tree settings. Enabling the Spanning Tree protocol will prevent network loops in your LAN network.

Spanning Tree Protocol (STP) Settings		
Status	Disable ▾	
Hello Time	2	seconds (1-10)
Max Age	20	seconds (6-40)
Forward Delay	4	seconds (4-30)
Priority	32768	(0-65535)

**Spanning Tree Status:** Enables or disables the Spanning Tree function.

**Hello Time:** Specifies Bridge Hello Time in seconds. This value determines how often the device sends handshake packets to communicate information about the topology throughout the entire Bridged Local Area Network.

**Max Age:** Specifies Bridge Max Age in seconds. If another bridge in the spanning tree does not send a hello packet for a long period of time, it is assumed to be inactive.

**Forward Delay:** Specifies Bridge Forward Delay in seconds. Forwarding delay time is the time spent in each of the Listening and Learning states before the Forwarding state is entered. This delay is provided so that when a new bridge comes onto a busy network, it analyzes data traffic before participating in the network.

**Priority:** Specifies the Priority Number. A smaller number has a greater priority than a larger number.

**Save:** Click Save to confirm the changes.

# Chapter 7

# **Wireless**

# Wireless

## Wireless Settings

Device Name: Enter a name for the device. The name you type appears in SNMP management. This name is not the SSID and is not broadcast to other devices.

Save: Click Save to confirm the changes.

This page displays the current status of the Wireless settings of the ALL-WAP0559AC.

## Wireless Network

5GHz	
Operation Mode	Access Point <input checked="" type="checkbox"/> Green
Wireless Mode	802.11 AC/N
Channel HT Mode	80MHz(AC Only)
Extension Channel	Lower Channel
Channel	Auto
Transmit Power	Auto
Data Rate	Auto
RTS / CTS Threshold (1 - 2346)	2346
Client Limit	127 <input checked="" type="radio"/> Enable <input type="radio"/> Disable
AP Detection	Scan
Distance (1-30km)	1 (0.6miles)

**OperationMode:** Select Operation Mode. The ENH220EXT supports multi-operation modes: Access Point, Client Bridge, or WDS(WDS AP, WDS Bridge, and WDS Station).

**Wireless Mode:** Supports 802.11ac/a/n mixed mode in 5 GHz.

**Channel HT Mode:** The default channel bandwidth is 20 MHz/ 40/80 MHz. The larger the channel, the greater the transmission quality and speed.

**Extension Channel:** Select the upper or lower channel. Your selection may affect the Auto channel function.

**Channel:** Select the appropriate channel and frequency.

Select Auto to enable auto-channel selection.

**Transmit Power:** Sets the power output of the wireless signal.

**Data Rate:** Select a data rate from the drop-down list. The data rate affects throughput of data in the ALL-WAP0559AC. Select the best balance for you and your network but note that the lower the data rate, the lower the throughput, though transmission distance is also lowered.

**RTS/CTS Threshold:** Specifies the threshold package size for RTC/CTS. A small number causes RTS/CTS packets to be sent more often and consumes more bandwidth.

**Client Limits:** Limits the total number of clients.

**Aggregation:** Merges data packets into one packet. This option reduces the number of packets, but also increases packet sizes.

**AP Detection:** AP Detection can select the best channel to use by scanning nearby areas for Access Points.

**Distance:** Specifies the distance between Access Points and clients. Note that longer distances may drop higher-speed connections.

**Save:** Click Save to confirm the changes or Cancel to cancel and return to previous settings.

## SSID Profile

**Current Profile:** You can configure up to sixteen (16) different SSIDs (eight (8) per band). If multiple client devices will be accessing the network, you can arrange the devices into SSID groups. Click Edit to configure the profile and check whether you want to enable extra SSID.

**SSID:** Specifies the SSID for the current profile.

**Suppressed SSID:** Check this option to hide the SSID from clients. If checked, the SSID will not appear in the site survey.

**Station Separation:** Click the appropriate radio button to allow or prevent communication between client devices.

**VID:** Specifies the VLAN tag for each profile. If your network

includes VLANs, you can specify a VLAN ID for packets pass through the Access Point with a tag.

**Wireless Security:** See the Wireless Security section.

**Isolation:** Restrict clients communicating with different VIDs by selecting the radio button.

**Save:** Click Save to accept the changes.

## Wireless Security

The Wireless Security section lets you configure the ALL-WAP0559AC's security modes: WEP, WPA-PSK, WPA2-PSK, WPA-PSK Mixed, WPA, WPA2, and WPA Mixed. It is strongly recommend that you use WPA2-PSK.

Wireless Security - 5GHz

Security Mode	WEP ▾
Auth Type	Open System ▾
Input Type	Hex ▾
Key Length	40/64-bit (10 hex digits or 5 ASCII char) ▾
Default Key	1 ▾
Key1	<input type="text"/>
Key2	<input type="text"/>
Key3	<input type="text"/>
Key4	<input type="text"/>

Auth Type: Select Open System or Shared Key.

Input Type:

ASCII: Regular Text (recommended)

Hexadecimal Numbers (For advanced users)

Key Length: Select the desired option and ensure that wireless clients use the same setting. Your choices are 64, 128, and 152-bit password lengths.

Default Key: Select the Key you wish to be the default. Transmitted data is ALWAYS encrypted using the Default Key; the other Keys are for decryption only. You must enter a Key Value for the Default Key.

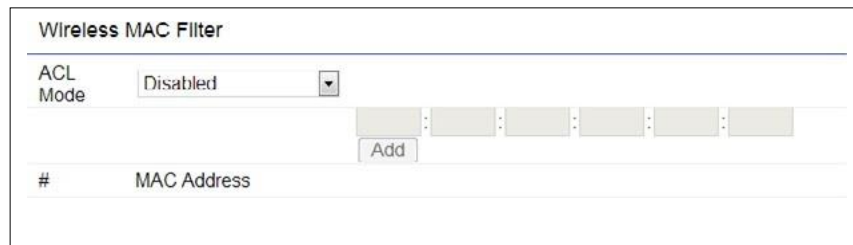
Encryption Key Number: Enter the Key Value or values you wish to use. Only the Key selected as Default is required. The others are optional.



## Wireless MAC Filtering

Wireless MAC Filtering is used to allow or deny network access to wireless clients (computers, tablet PCs, NAS, smartphones, etc.) according to their MAC addresses. You can manually add a MAC address to restrict permission to access the ALL-WAP0559AC. The default setting is: Disable Wireless MAC Filter.

Note: Only applicable in Access Point and WDS AP modes.



Wireless MAC Filter

ACL Mode: Disabled

MAC Address Table:

#	MAC Address

Add

ACLMode: Determines whether network access is granted or denied to clients whose MAC addresses appear in the MAC address table on this page. Your choices are: Disabled, Deny MAC in the list, or Allow MAC in the list.

MAC Address: Enter the MAC address of the wireless client.

Add: Click Add to add the MAC address to the MAC address table.

Delete: Delete the selected entries.

Save: Click Save to apply the changes.

# Wireless Advanced

## Wireless TrafficShaping

Traffic shaping regulates the flow of packets leaving an interface to deliver improved Quality of Service. The function will allow administrators to restrict the wireless bandwidth perSSID.

Wireless Traffic Shaping	
Enable Traffic Shaping	Disable ▾
Download Limit	100 Mbps (1-999)
Upload Limit	100 Mbps (1-999)

**Enable Traffic Shaping:** Check this option to enable Wireless TrafficShaping.

**Download Limit:** Specifies the wireless transmission bandwidth used for downloading.

**Upload Limit:** Specifies the wireless transmission bandwidth used for uploading.

**Save:** Click Save to confirm the changes.

## WPA-PSK (WPA Pre-Shared Key) Encryption:

Wireless Security - 5GHz	
Security Mode	WPA2-PSK ▾
Encryption	Both(TKIP+AES) ▾
Passphrase	
Group Key Update Interval	3600

**Encryption:** Select the WPA encryption type you would like. Please ensure that your wireless clients use the same settings.

**Passphrase:** Wireless clients must use the same Key to associate the device. If using ASCII format, the Key must be from 8 to 63 characters in length. If using HEX format, the Key must be 64 HEX characters in length.

**Group Key Update Interval:** Specifies how often, in seconds, the Group Key changes.

## WPA Mixed-Enterprise: Access Point / WDS AP mode

### Wireless Security - 5GHz

Security Mode	WPA Mixed-Enterprise ▾
Encryption	Both(TKIP+AES) ▾
Group Key Update Interval	3600
Radius Server	
Radius Port	1812
Radius Secret	
Radius Accounting	Disable ▾
Radius Accounting Server	
Radius Accounting Port	1813
Radius Accounting Secret	
Interim Accounting Interval	600

**Encryption:** Select the WPA encryption type you would like. Please ensure that your wireless clients use the same settings.

**Radius Server:** Enter the IP address of the Radius server.

**Radius Port:** Enter the port number used for connections to the Radius server.

**Radius Secret:** Enter the secret required to connect to the Radius server.

**Group Key Update Interval:** Specifies how often, in seconds, the Group Key changes.

**Radius Accounting:** Enable or disable accounting feature.

**Radius Accounting Server:** Enter the IP address of the Radius accounting server.

**Radius Accounting Port:** Enter the port number used for connections to the Radius accounting server.

**Radius Accounting Secret:** Enter the secret required to connect to the Radius accounting server.

**Interim Accounting Interval:** Specifies how often, in seconds, the accounting data sends.

**Note:** 802.11n does not allow WEP/WPA-PSK TKIP/WPA2-PSK TKIP security mode. The connection mode will automatically change from 802.11n to 802.11a.

## WDS Link Settings

Using the WDS (Wireless Distribution System) feature will allow a network administrator or installer to connect to Access Points wirelessly. Doing so will extend the wired infrastructure to locations where cabling is not possible or inefficient to implement.

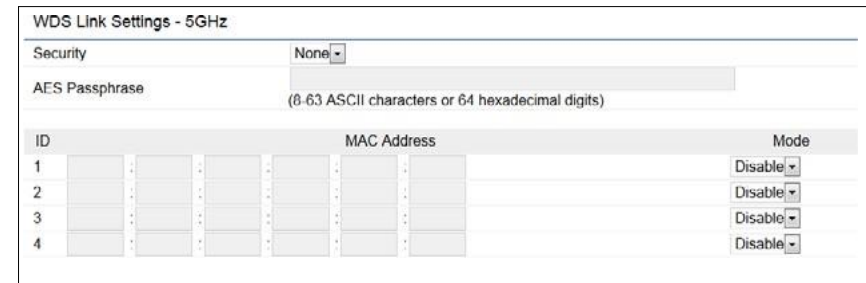
Note: Compatibility between different brands and models of Access Points is not guaranteed. It is recommended that the WDS network be created using the same models for maximum compatibility.

Also note: All Access Points in the WDS network need to use the same Channel and Security settings.

To create a WDS network, please enter the MAC addresses of the Access Points that you want included in the WDS. There can be a maximum of four Access Points.

Note: Only applicable in WDS AP and WDS Bridge modes.

## WDS Link Settings



WDS Link Settings - 5GHz		
Security	None	
AES Passphrase	(8-63 ASCII characters or 64 hexadecimal digits)	
ID	MAC Address	Mode
1		Disable
2		Disable
3		Disable
4		Disable

Security: Select None or AES from the drop-down list.

AES Passphrase: Enter the Key Values you wish to use. Other Access Points must use the same Key to establish a WDS link.

MAC Address: Enter the Access Point's MAC address to where you want to extend the wireless area.

Mode: Select to disable or enable from the drop-down list.

Save: Click Save to confirm the changes.

## Client Bridge/WDS Station Settings

Save: Click Save to accept the changes

### Wireless Settings - 5GHz

No.	SSID	Edit	Security
AP SSID	AP SSID_5G	Edit	None

No.: Display the setting value

SSID: You can click scan under AP detection to search perform the AP detection to select the proper SSID.

Edit: Click it to implement the advanced settings

### Wireless Setting - 5GHz

Preferred BSSID	<input type="text"/>
SSID	AP SSID_5G

### Wireless Security - 5GHz

Security Mode	Disabled
---------------	----------

Save current setting(s)

Prefer BSSID: You can insert the prefer BSSID or enter the specific SSID to be associated with the Access Point.

SSID: You can implement the AP detection to select the proper SSID.

Security Mode: Select the correct security mode and insert the correct encryption type. Please refer the wireless security section in page 42.

## Guest Network Settings

Adding a guest network allows visitors to use the Internet without giving out your office or company wireless security key. You can add a guest network to each wireless network in the 5 GHz ac/a/n frequencies.

**SSID:** Specifies the SSID for the current profile.

**Suppressed SSID:** Check this option to hide the SSID from clients. If checked, the SSID will not appear in the site survey.

**Station Separation:** Click the appropriate radio button to allow or prevent communication between client devices.

**IP Address:** The IP Address of this device.

**Subnet Mask:** The IP Subnet mask of this device.

**Starting IP Address:** The first IP Address in the range of the addresses by the DHCP server.

**Ending IP Address:** The last IP Address in the range of addresses assigned by the DHCP server.

## RSSI Threshold

RSSI Threshold ⓘ

Status	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
RSSI	<input type="text" value="-85"/> dBm (Range: -60dBm ~ -100dBm)

**RSSI Threshold:** Enable the Fast Handover feature by ensuring that each client is served by at least one Access Point at any time. Access Points continuously monitor the connectivity quality of any client in their range and efficiently share this information with other Access Points in the vicinity of that client to coordinate which of them should serve the client best.

**RSSI:** Enter the RSSI (Received Signal Strength Index) in order to determine the handover procedure which the current wireless link will terminate. RSSI is an indication of the power level being received by the antenna. Therefore, the higher the RSSI number, the stronger the signal.

# Chapter 8

# **Management**

## Management VLAN Settings

This page allows you to assign a VLAN tag to packets sent over the network. A VLAN is a group of computers on a network whose software has been configured so that they behave as if they were on a separate Local Area Network (LAN). Computers on VLAN do not have to be physically located next to one another on the LAN.

Note: Only applicable in Access Point and WDS AP modes.

Management VLAN Settings	
<b>CAUTION:</b> If you reconfigure the Management VLAN ID, you may lose connectivity to the access point. Verify that the switch and DHCP server can support the reconfigured VLAN ID, and then re-connect to the new IP address.	
Management VLAN	Enable <input type="checkbox"/> 4096

Management VLAN: If your network includes VLANs, you can enable Management VLAN ID for packets passing through the Access Point with a tag.

Save: Click Save to confirm the changes or Cancel to cancel and return to previous settings.

Note: If you reconfigure the Management VLAN ID, you may lose your connection to the ALL-WAP0559AC. Verify that the DHCP server supports the reconfigured VLAN ID and then reconnect to the ALL-WAP0559AC using the new IP address.



# Advanced Settings

## SNMP Settings

This page allows you to assign the Contact Details, Location, Community Name, and Trap Settings for a Simple Network Management Protocol (SNMP). SNMP is a networking management protocol used to monitor network attached devices. SNMP allows messages (called protocol data units) to be sent to various parts of the network. Upon receiving these messages, SNMP compatible devices (called agents) returns the data stored in their Management Information Bases.

SNMP Settings		
Status	Enable	
Contact		
Location		
Port	161	
Community Name (Read Only)	public	
Community Name (Read Write)	private	
Trap Destination		
- Port	162	
- IP Address		
- Community Name	public	
SNMPv3 Settings		
- Status	Enable	
- Username	admin	(1-31 Characters)
- Authorized Protocol	MD5	
- Authorized Key	12345678	(8-32 Characters)
- Private Protocol	DES	
- Private Key	12345678	(8-32 Characters)
- Engine ID		

**SNMP Enable/Disable:** Enables or disables the SNMP feature.

**Contact:** Specifies the contact details of the device.

**Location:** Specifies the location of the device.

**Community Name (Read Only):** Specifies the password for the SNMP community for read only access.

**Community Name (Read/Write):** Specifies the password for the SNMP community with read/write access.

**Trap Destination Address:** Specifies the IP address of the computer that will receive the SNMP traps.

**Trap Destination Community Name:** Specifies the password for the SNMP trap community.

**SNMPv3:** Enables or disables the SNMPv3 feature.

**User Name:** Specifies the username for SNMPv3.

**Auth Protocol:** Selects the authentication protocol type: MD5 or SHA.

**Auth Key:** Specifies the authentication key.

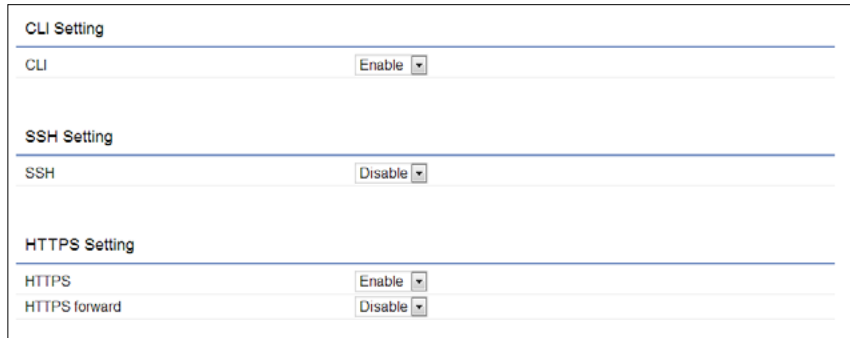
**Priv Protocol:** Selects the privacy protocol type: DES.

**Priv Key:** Specifies the privacy key for privacy.

**Engine ID:** Specifies the engine ID for SNMPv3.

**Apply Save:** Click Apply Save to apply the changes.

## CLI Settings



The CLI Settings form is divided into three sections: CLI Setting, SSH Setting, and HTTPS Setting. Each section contains a label and a dropdown menu. The CLI Setting dropdown is set to 'Enable'. The SSH Setting dropdown is set to 'Disable'. The HTTPS Setting section contains two dropdowns: 'HTTPS' set to 'Enable' and 'HTTPS forward' set to 'Disable'.

CLI Setting	
CLI	Enable

SSH Setting	
SSH	Disable

HTTPS Setting	
HTTPS	Enable
HTTPS forward	Disable

**CLI:** The Command Line Interface (CLI) allows you to type commands instead of choosing them from a menu or selecting an icon.

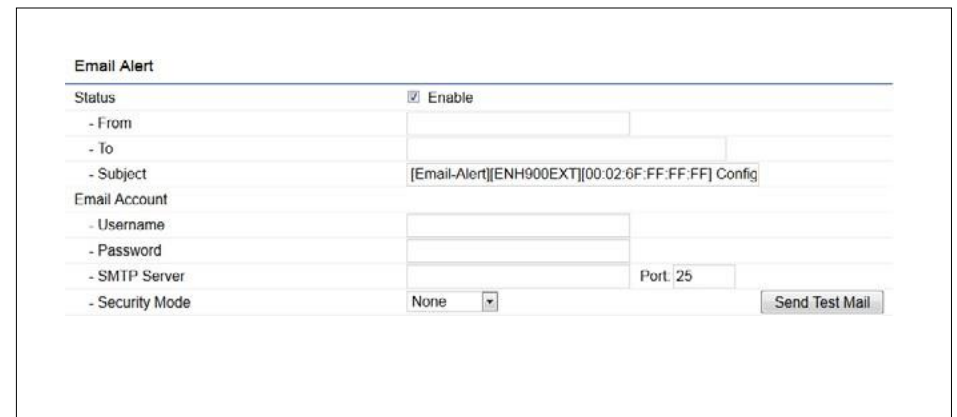
**SSH:** Enable Secure Shell (SSH) to make secure, encrypted connections in the network. Secure Shell is a network protocol that allows data to be exchanged using a secure channel between two network devices.

**HTTPS:** Enable HTTPS to transfer and display web content securely. The Hypertext Transfer Protocol over SSL (Secure Socket Layer) is a TCP/IP protocol used by web servers to transfer and display web content securely.

## Email Alert

You can use the Email Alert feature to send messages to the configured email address when particular system events occur.

**Note:** Do NOT use your personal email address as it can unnecessarily expose your personal email login credentials. Use a separate email account made for this feature instead.



The Email Alert form contains several fields and a checkbox. The 'Status' checkbox is checked and labeled 'Enable'. The 'From' field is empty. The 'To' field is empty. The 'Subject' field contains the text '[Email-Alert][ENH900EXT][00:02:6F:FF:FF:FF] Config'. The 'Email Account' section contains three fields: 'Username' (empty), 'Password' (empty), and 'SMTP Server' (empty). The 'Port' field is set to '25'. The 'Security Mode' dropdown is set to 'None'. A 'Send Test Mail' button is located at the bottom right.

Email Alert	
Status	<input checked="" type="checkbox"/> Enable
- From	
- To	
- Subject	[Email-Alert][ENH900EXT][00:02:6F:FF:FF:FF] Config
Email Account	
- Username	
- Password	
- SMTP Server	
- Port	25
- Security Mode	None
<input type="button" value="Send Test Mail"/>	

**From:** Enter the email address to show the sender of the email.

**To:** Enter the address that you wish to send emails to.

**Subject:** Enter the text that you wish to appear in the email's subjectline.

Username: Enter the username for the email account that will be used to send emails.

Password: Enter the password for the email account that will be used to send emails.

SMTP Server: Enter the IP address or hostname of the outgoing SMTP server.

Port: Enter the SMTP port number to use for outbound emails.

# Time Zone

## Time Setting

This page allows you to set the internal clock of the ALL-WAP0559AC.

Start: Select the day, month, and time when daylight savings time starts.

End: Select the day, month, and time when daylight savings time ends.

The screenshot shows a web interface for configuring the device's date and time. It is divided into two main sections: 'Date and Time Settings' and 'Time Zone'.

**Date and Time Settings**

- ☒ **Manually Set Date and Time**
  - Date: 2013 / 09 / 25
  - Time: 08 : 10 (24-Hour)
  -
- ☐ **Automatically Get Date and Time**
  - NTP Server: 209.81.9.7

**Time Zone**

- Time Zone: UTC+00:00 Gambia, Liberia, Morocco (dropdown menu)
- ☐ **Enable Daylight Saving**
  - Start: January - 1st - Sun - 12 am -
  - End: January - 1st - Mon - 12 am -

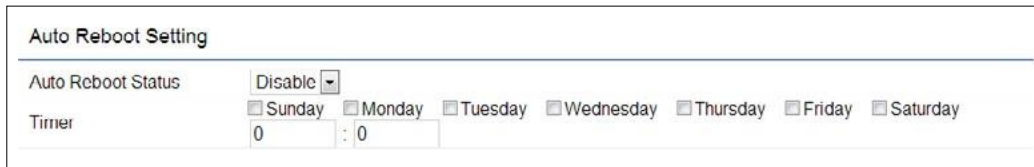
**Manually Set Date and Time:** Manually specify the date and time.

**Automatically Get Date and Time:** Select and check whether you wish to enter the IP address of an NTP server or use the default NTP server to have the internal clock set automatically.

**Enable Daylight Saving:** Check whether daylight savings applies to your area.

# Auto Reboot Settings

You can specify how often you wish to reboot the ALL-WAP0559AC.



The screenshot shows a web interface titled "Auto Reboot Setting". It contains two main sections. The first section, "Auto Reboot Status", has a dropdown menu currently set to "Disable". The second section, "Timer", includes a row of checkboxes for each day of the week: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. Below these checkboxes are two input fields for the time, both containing the number "0".

**Auto Reboot Setting:** Enables or disables the Auto Reboot function.

**Frequency of Auto Reboot:** Specifies how often you wish to reboot the ALL-WAP0559AC by Min, Hour, Day or Week.

**Timer:** Select the day and enter the time you would like to reboot automatically.

**Save:** Click Save to apply the changes.

# Wi-Fi Scheduler

The Wi-Fi Scheduler can be created for use in enforcing rules. For example, if you wish to restrict web access to Mon-Fri from 3pm to 8pm, you could create a schedule selecting Mon, Tue, Wed, Thu and Fri while entering a Start time of 3pm and End Time of 8pm to limit access to these times.

Status: Enables or disables the Wi-Fi scheduler function.

Wireless Radio: Select 2.4 GHz or 5 GHz from the drop-down list for the preferred band type.

SSID Selection: Select a SSID from the drop-down list.

Schedule Templates: Select a schedule template from the

drop-down list.

Day(s): Place a checkmark in the boxes for the desired days or select the All Week radio button to select all seven days of the week.

Duration: The Start Time is entered in two fields. The first box is for hours and the second box is for minutes. The End Time is entered in the same format as the Start time.

# Tools

## Ping Test Parameters

This page allows you to analyze the connection quality of the ALL-WAP0559AC and trace the routing table to a target in the network.

Ping Test Parameters

Target IP / Domain Name

Ping Packet Size

64

Bytes

Number of Pings

4

Start

Target IP: Enter the IP address you would like to search.

Ping Packet Size: Enter the packet size of each ping.

Number of Pings: Enter the number of times you wish to ping.

## Traceroute Test Parameter

Traceroute Test Parameters

Target IP / Domain Name

Start

Stop

Target IP: Enter the IP address you would like to trace

## Speed Test Parameters

Speed Test Parameters

Target IP / Domain Name

Time Period

20

sec

Check Interval

5

sec

Start

IPv4 Port

5001

IPv6 Port

5002

Target IP: Enter the IP address you would like to test.

Start Ping: Click Start Ping to begin pinging the target device (via IP).

Traceroute Target: Enter the IP address or domain name you wish to trace.

Start Traceroute: Click Start Traceroute to begin the trace route operation.

# Device Discovery

This page allows you to discover devices from network for Operation Mode, IP Address, System MAC Address and Firmware version.

Device Discovery

Device Name	Operation Mode	IP Address	System MAC Address	Firmware Version
<div>Scan</div>				



# Account

This page allows you to change the ALL-WAP0559AC username and password. By default, the username is: admin and the password is: admin. The password can contain from 0 to 12 alphanumeric characters and is case sensitive.

## Account Settings

Account Settings

Administrator Username	admin
Current Password	
New Password	
Verify Password	

Apply

Apply saved settings to take effect

**Administrator Username:** Enter a new username for logging in to the New Name entry box.

**Current Password:** Enter the old password for logging in to the Old Password entry box.

**New Password:** Enter the new password for logging in to the New Password entry box.

**Verify Password:** Re-enter the new password in the Confirm Password entry box for confirmation.

**Apply:** Click Apply to apply the changes.

# Firmware

## Firmware Upgrade

This page allows you to upgrade the firmware of the ALL-WAP0559AC.

Firmware Upgrade

Current Firmware Version: 2.0.0

Select the new firmware from your hard disk.

Browse...

No file selected.

Upload

### To Perform the Firmware Upgrade:

1. Click the Choose File button and navigate the OS file system to the location of the upgrade file.
2. Select the upgrade file. The name of the file will appear in the Upgrade File field.
3. Click the Upload button to commence the firmware upgrade.

**Note:** The device is unavailable during the Firmware upgrade process and must restart when the upgrade is completed. Any connections to or through the device will be lost.

# Backup/Restore

Backup/Restore Settings	
Factory Setting	
- Backup Setting	Export
- Restore New Setting	Browse... No file selected. Import
- Reset to Default	Reset
User Setting	
- Back Up Setting as Default	Backup
- Restore to User Default	Restore

## Factory Setting

The function allows you to export the current device configurations. When you export your configurations, you also can reload the saved configurations into the device through the Restore Saved Settings from a file section. If extreme problems occur, or if you have set the ALL-WAP0559AC incorrectly, you can use the Reset button in the Revert to Factory Default Settings section to restore all the configurations of the ALL-WAP0559AC to the original default settings.

**Backup Setting:** Click Export to save the current configured settings.

**Restore New Setting:** To restore settings that have been previously backed up, click Browse, select the file, and click Restore.

**Restore to Default:** Click Reset button to restore the ALL-WAP0559AC to its factory default settings.

## User Setting

The function allows you to backup the current device configurations into the ALL-WAP0559AC as the default value. If extreme problems occur, or if you have set the ALL-WAP0559AC incorrectly, you can push the Reset button to revert all the configurations of the ALL-WAP0559AC to the user default.

**Back Up Setting as Default:** Click Backup to backup the user settings you would like to the device's memory for the default settings.

**Restore to User Default:** Click Restore to restore user settings to the factory standard settings.

**Note1:** After setting the current settings as the default, you should click the Restore to Default on the web interface for reverting the settings into the factory default instead of pushing the reset button.

**Note2:** Please write down your account and password before saving. The user settings will now become the new default settings at the next successful login.

# Log

## System Log

The ALL-WAP0559AC automatically logs (records) events of possible interest in its internal memory. To view the logged information, click the Log link under the System Manager menu. If there is not enough internal memory to log all events, older events are deleted from the log. When powered down or rebooted, the log will be cleared.

## Remote Log

This page allows you to setup the Remote Log functions for the ALL-WAP0559AC.

Remote Log	Disable ▾
Log Server IP Address	0.0.0.0

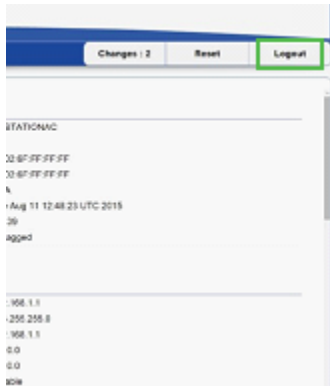
Syslog: Enables or disables the syslog function.

Log Server IP Address: Enter the IP address of the log server.

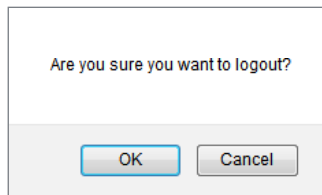
Remote Log: Enable or disable the remote log service.

Apply: Click Apply to apply the changes.

## Logout



Click Logout in Management menu to logout.



## Reset



In some circumstances, it may be required to force the device to reboot. Click on Reset to reboot or to reset the ALL-WAP0559AC.

### Reboot the Device

**CAUTION:** The device will be rebooted when pressing this button.

Reboot the Device

### Restore the device to default settings

**CAUTION:** All settings will be cleared and reset to either factory default or user default.

Restore to Factory Defaults

Restore to User Default

Hiermit erklärt ALLNET GmbH Computersysteme, dass sich das Gerät **ALL-WAP0559AC** in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EC oder RED 2014/53/EU befindet.  
Die Konformitätserklärung kann unter folgender Adresse gefunden werden: [www.allnet.de/downloads.html](http://www.allnet.de/downloads.html)

ALLNET GmbH Computersysteme declares that the device **ALL-WAP0559AC** is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC or RED 2014/53/EU. The Declaration of conformity can be found under this link:  
[www.allnet.de/downloads.html](http://www.allnet.de/downloads.html)

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82110 Germering

Tel. +49 (0)89 894 222 - 22  
Fax +49 (0)89 894 222 - 33  
Email: [info\(at\)allnet.de](mailto:info(at)allnet.de)



CE Marking is the symbol as shown on the top of this page. The letters "CE" are the abbreviation of French phrase "Conformity European" which literally means "European Conformity". The term initially used was "EC Mark" and it was officially replaced by "CE Marking" in the Directive 93/68/EEC in 1993. "CE Marking" is now used in all EU official documents.



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

This recycle logo indicates that this product is capable of being recycled, not that the product has been recycled or will be accepted in all recycling collection systems.



This symbol is **new RED** aligns the previous directive with the New Legislative Framework for the marketing of products. The revision takes account of the need for improved market surveillance, in particular for the traceability obligations of manufacturers, importers and distributors. It provides improved instruments for market surveillance, such as the possibility to require prior registration of radio equipment, within those categories affected by low levels of compliance.

The Directive requires **equipment to be constructed for efficient use of the radio spectrum, as well as electromagnetic compatibility, to avoid interference with terrestrial and orbital communications.**



The RoHS directive aims to restrict certain dangerous substances commonly used in electronic and electronic equipment. This RoHS compliant symbol indicates the component is tested for the presence of Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent chromium (Hex-Cr), Polybrominated biphenyls (PBB), and Polybrominated diphenyl ethers (PBDE). For Cadmium and Hexavalent chromium, there must be less than 0.01% of the substance by weight at raw homogeneous materials level. For Lead, PBB, and PBDE, there must be no more than 0.1% of the material, when calculated by weight at raw homogeneous materials. Any RoHS compliant component must have 100 ppm or less of mercury and the mercury must not have been intentionally added to the component.

## Sicherheitshinweise

Beachten Sie unbedingt folgende Hinweise:

- Öffnen Sie niemals das Gerät.
- Führen Sie niemals eine Installation während eines Gewitters durch.
- Stellen Sie sicher, dass Leitungen stolper- und trittsicher verlegt werden.
- Betreiben Sie das Gerät niemals in die Nähe von Wärmequellen.
- Stellen Sie das Gerät niemals auf Oberflächen, die wärmeempfindlich sind.
- Verwenden Sie das Gerät nicht in explosionsgefährdeten Bereichen.
- Eine Reparatur darf nur durch geschultes, autorisiertes Personal durchgeführt werden.
- Beachten Sie die Erdung gemäß dem Handbuch anzubringen.
- Setzen Sie dem Gerät keine höheren Belastungen aus als es die Gehäuseklassifizierung erlaubt.
- Bei nicht bestimmungsgemäßem Gebrauch ist eine Haftung durch ALLNET® ausgeschlossen.

## Aufstellungs- und Montageort

Allgemein:

Die Montage hat so zu erfolgen, dass das Netzkabel nicht unter Zug ist, da dies sich sonst lösen könnte bzw. der Stecker beschädigt werden könnte. Antennenanschlüsse sollten nach der Montage mit selbstverschweißendem Montageband gegen Feuchtigkeit geschützt werden.

Bitte verwenden ausschließlich PoE Stromquellen, die über den PoE Standard IEEE 802.3af/at verfügen oder den mitgelieferten Injektor.



## Safety Warnings

For your safety, be sure to read and follow all warning notices and instructions.

- Do not open the device. Opening or removing the device cover can expose you to dangerous high voltage points or other risks. Only qualified service personnel can service the device. Please contact your vendor for further information.
- Do not use your device during a thunderstorm. There may be a risk of electric shock brought about by lightning.
- Do not expose your device to dust or corrosive liquids.
- Do not use this product near water sources.
- Make sure to connect the cables to the correct ports.
- Do not obstruct the ventilation slots on the device.

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Version 2, June 1991

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