



**ALL-WAP0324N**



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

## **DEFAULT VALUES**

**IP: 192.168.1.1**

**User name: admin**

**Password: admin**

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# Chapter 1

# **Product Overview**



# Introduction

## Key Features

- Up to 27 dBm transmit power enabling long range connectivity
- Support IEEE 802.11 b/g/n wireless standards with up to 300Mbps data rate.
- Two detachable 5dBi 2.4GHz Omni-directional antennas.
- Can be used with included power adapter or via PoE with PoE 802.3at - capable switches or injectors
- Secured Guest Network option available

## Introduction

The ALL-WAP0324N is a high-powered, long-range 2x2 Wireless 802.11 b/g/n Outdoor Access Point with speeds up to 300Mbps on its high-powered 2.4 GHz radios. It can be configured as an: Access Point, Client Bridge or WDS (AP, Station & Bridge). The ALL-WAP0324N 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 users who wish to connect to a business network. The ALL-WAP0324N is easy to install in virtually any location with its included PoE (Power over Ethernet) injector for quick outdoor installation. The ALL-WAP0324N enables network administrators to control its transmit power and features settings for selecting narrow

bandwidth and traffic shaping. The ALL-WAP0324N 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), Mac OS, or Linux-based operating systems
- Web-Browsing Application (i.e.: Internet Explorer, Firefox, Safari, or another similar browser application)

## Package Contents

The ALL-WAP0324N package contains the following items:\*

- ALL-WAP0324N Access Point
- 2 detachable 5 dBi 2.4 GHz Omni-directional Antennas
- Power Adapter
- PoE Injector (EPE-48GR)
- Grounding Cable
- Pole Mount Bracket
- Wall Mount Base
- Mounting Screw Set
- Quick Installation Guide

\*(all items must be in package to issue a refund):

# Technical Specifications

## Standard:

IEEE802.11b/g/n on 2.4 GHz

IEEE802.3at

## Antenna

2 x detachable 5dBi 2.4GHz Omni-directional Antennas

## Physical Interface

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

LAN1 Port supports IEEE802.3at PoE Input

## LED Indicator

Power

LAN 1

LAN 2

2.4 GHz

## Power Requirements

External Power Adapter, DC IN, 48V/0.5A

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

Band Steering

Fast Roaming

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, Per user)

## 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)**

Complaint 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

Length: 280.48mm (11.22")

Width: 217.65mm (8.58")

Depth: 55.50mm (2.1")

Weight: 1.88Kg (4.17 lbs)



- 1 **2.4 GHz Antennas:** Detachable 5 dBi 2.4 GHz Omni-directional
- 2 **LAN Port 1 (802.3at PoE Input):** Ethernet port for RJ-45 cable.
- 3 **LAN Port 2 :** Ethernet port for RJ-45 cable.

# Chapter 2

## **Before You Begin**

# Computer Settings

## Windows XP/Windows 7

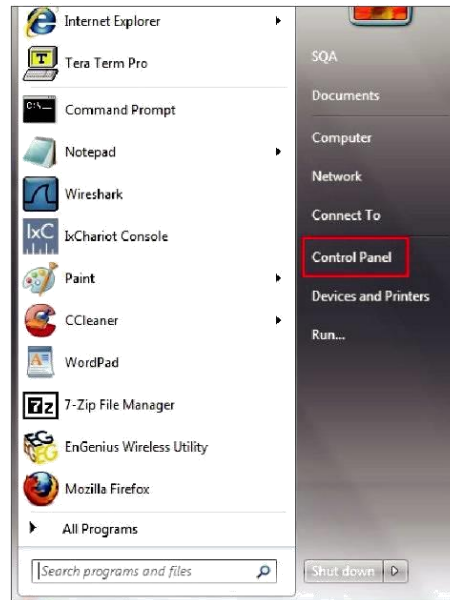
In order to use the ALL-WAP0324N, you must first configure the TCP/IPv4 connection of your Windows OS computer system.

the **Network and Internet** section, then

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



Windows XP



Windows 7

2a. In Windows XP, click **Network Connections**.



Network  
Connections

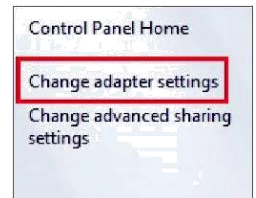
2b. In Windows 7, click **View Network Status and Tasks** in



Network and Internet

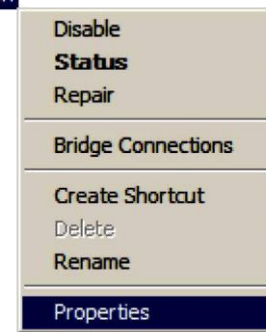
View network status and tasks

Choose homegroup and sharing options



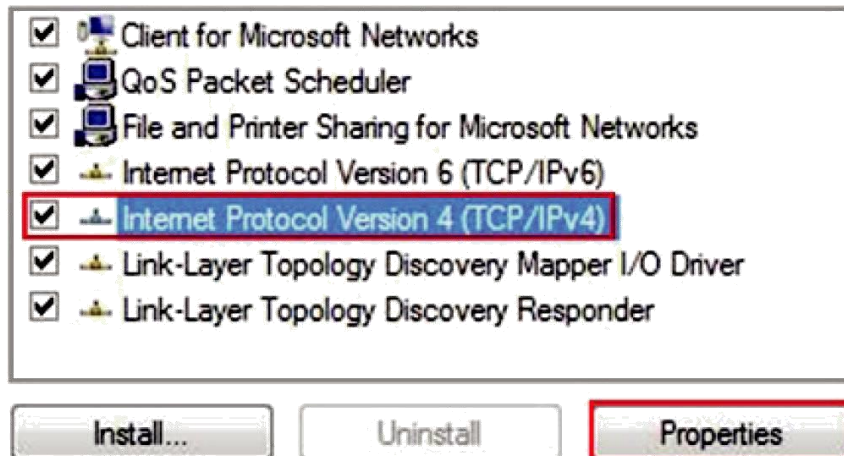
3.

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-WAP0324N and Subnet mask, then click **OK**.

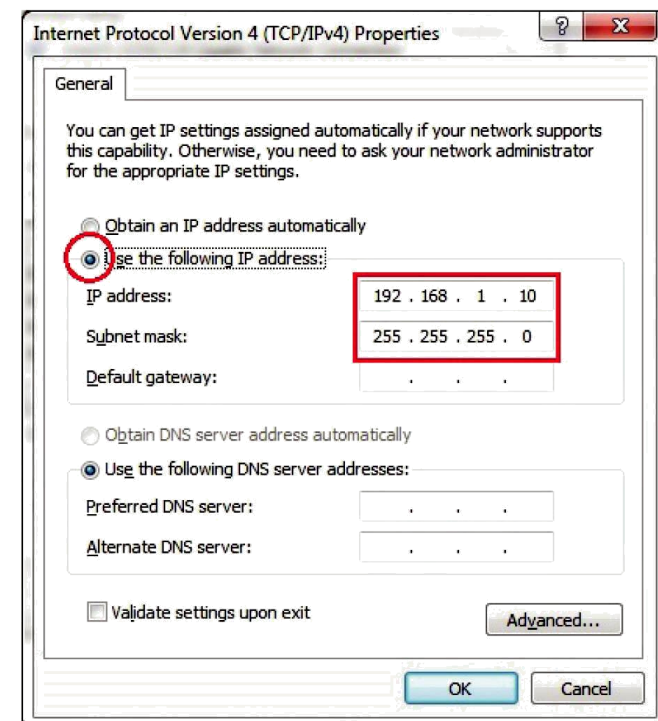


**Note:** Ensure that the IP address and Subnet mask are on the same subnet as the device.

For example: ALL-WAP0324N IP address: 192.168.1.1

PC IP address: 192.168.1.2 – 192.168.1.255

PC Subnet mask: 255.255.255.0





## Apple Mac OS X

1. Go to **System Preferences** (Which can be opened in the Applications folder or selecting it in the Apple Menu).
2. Select the **Network** section.



3. Highlight **Ethernet**.

4. In **Configure IPv4**, select **Manually**.

Applications folder or selecting it in the Apple Menu).

5. Enter an IP address that is different

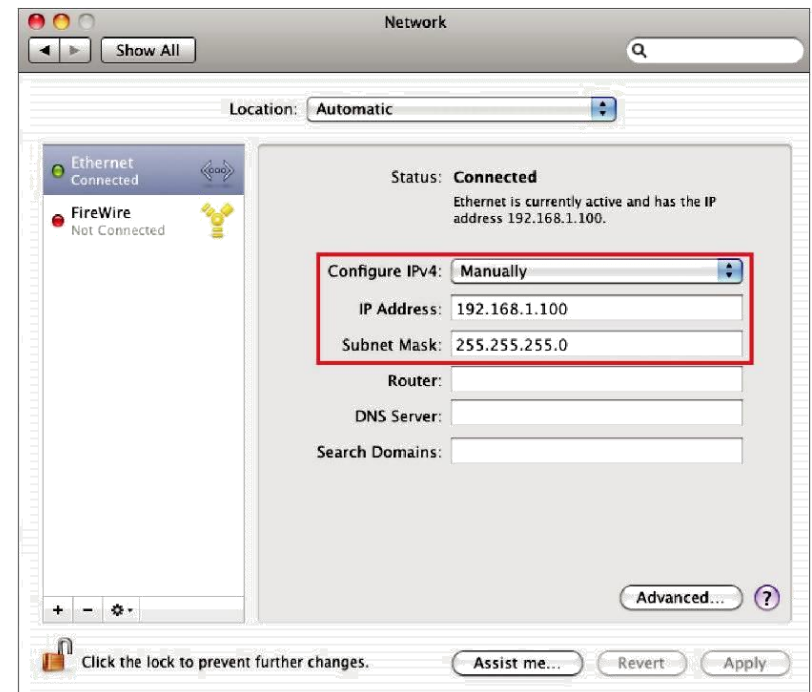
**Note:** Ensure that the IP address and Subnet mask are on

For example: ALL-WAP0324N IP address: 192.168.1.1

PC IP address: 192.168.1.2 – 192.168.1.255

PC Subnet mask: 255.255.255.0

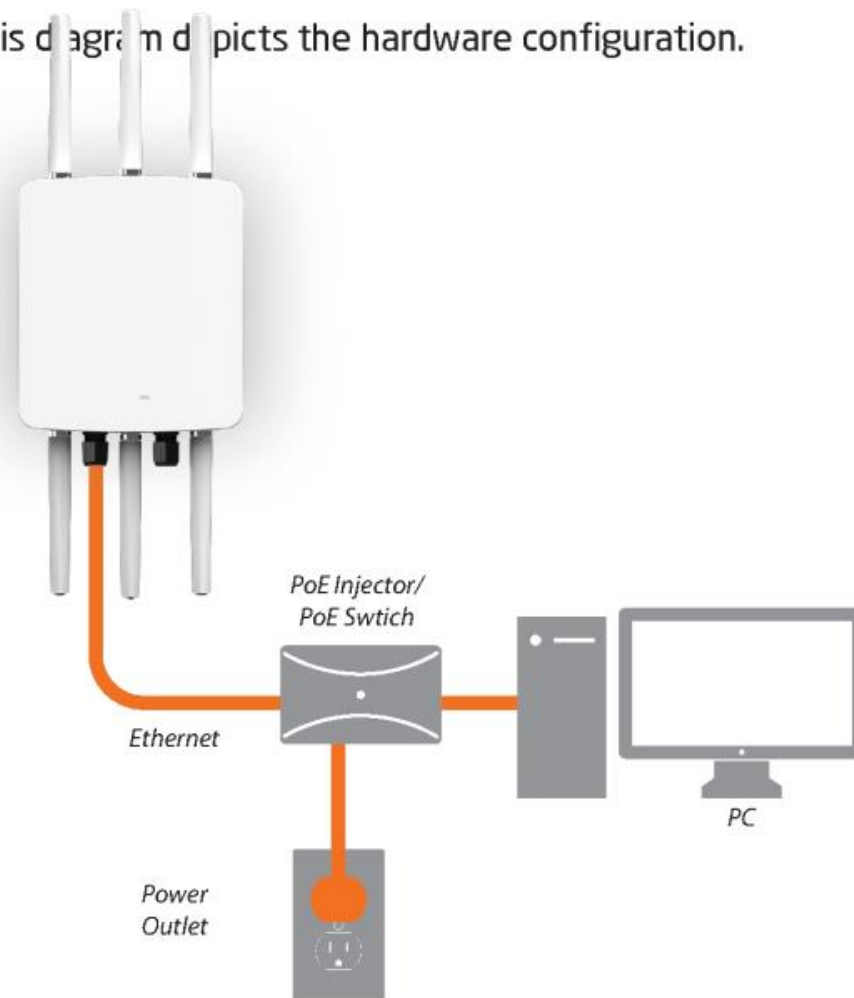
- 6.



# Hardware Installation

1. 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 injector.
2. Connect the **Power Adapter** to the **DC-IN** port of the PoE injector and plug the other end in to an electrical outlet.
3. Connect the second Ethernet cable into the **LAN port** of the PoE injector and the other end to the Ethernet port on the computer.
4. Screw on the provided antennas to the device. Once both connections are secure, verify the following:
  - a) Ensure that the **POWER** light is on (it will be green).
  - b) Ensure that the 2.4 GHz/5 GHz WLAN light is on (it will be green for both 5 GHz and 2.4 GHz).
  - c) Ensure that the LAN (Computer/ENH1750EXT Connection) light is on (it will be green).
  - d) Once all three lights are on, proceed to set up the Access Point using the computer.

This diagram depicts the hardware configuration.

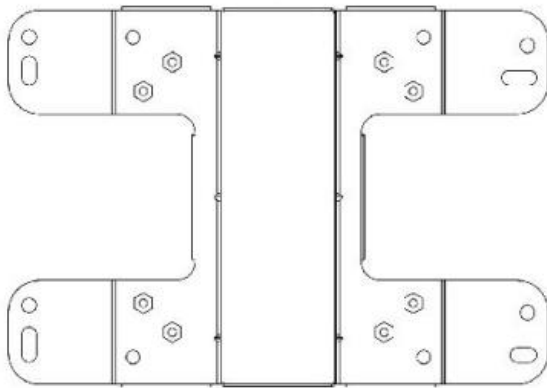


**Note:** The Access Point supports both IEEE 802.3at PoE (Power over Ethernet) or the included power injector.

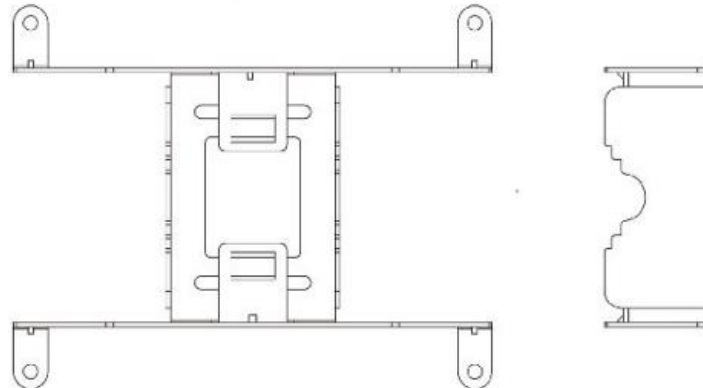
# Mounting the ALL-WAP0324N

Using the included accessories, the ALL-WAP0324N can be attached to a wall or a pole.

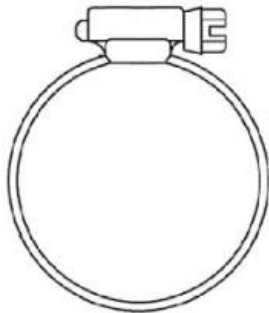
- 1. Wall Mount Kit: 260x180x7 (mm)**  
(10.2" x 7.09" x 0.28")



- 2. Pole Mount Kit 140x112x33 (mm)**  
(5.51" x 4.41" x 1.30")



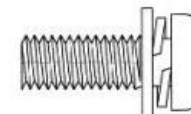
- 3. Pipe 63.5 (D) x 12.7 (mm)**  
(2.5"(D) x 0.5")



- 4. Tool 20(D) x 6 (mm)**  
(0.79"(D) x 0.24")

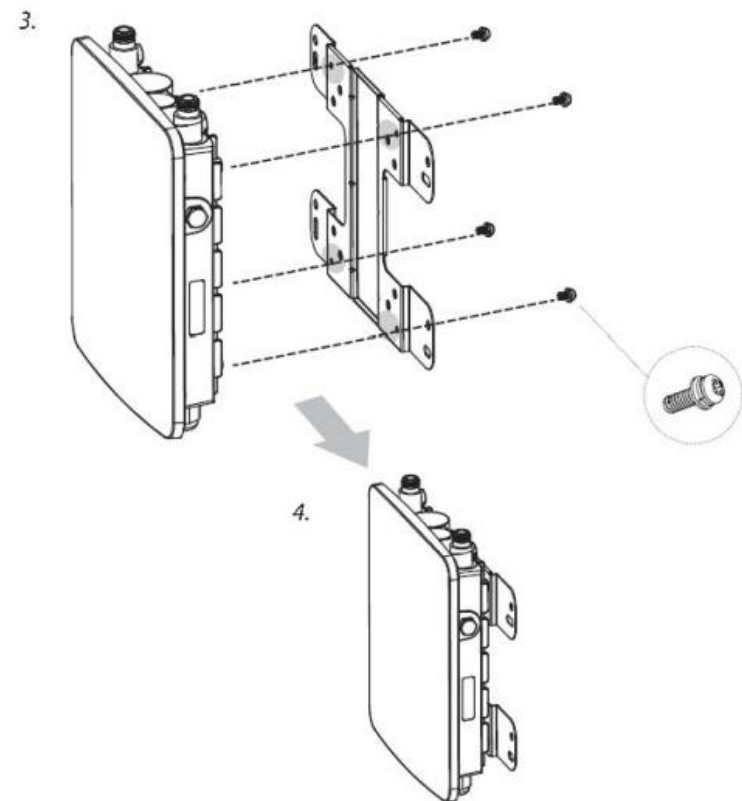
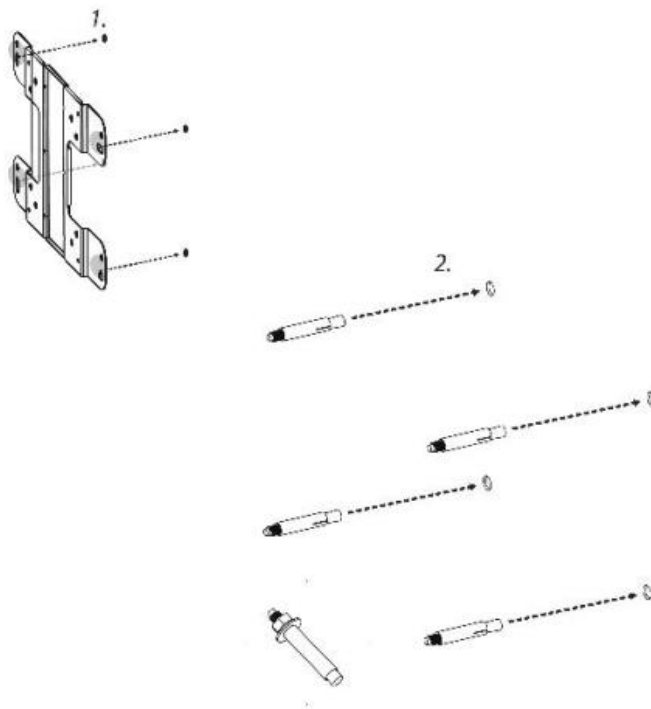


- 5. Screws: 6.5(D) x 9.95 (mm)**  
(0.26"(D) x 0.39")



## To attach the ALL-WAP0324N to a wall using wall mounting kit.

1. Mark the four locations of the mounting holes on the flat mounting surface.
2. Drill a 37 mm deep 8 mm hole in the markings and hammer the bolts into the openings.
3. Place the lock and flat washers on the four hex cap screws and drive the screws to attach the bracket to the back of the Access Point.
4. Tighten the flat washers to secure the bracket to the mounting surface.

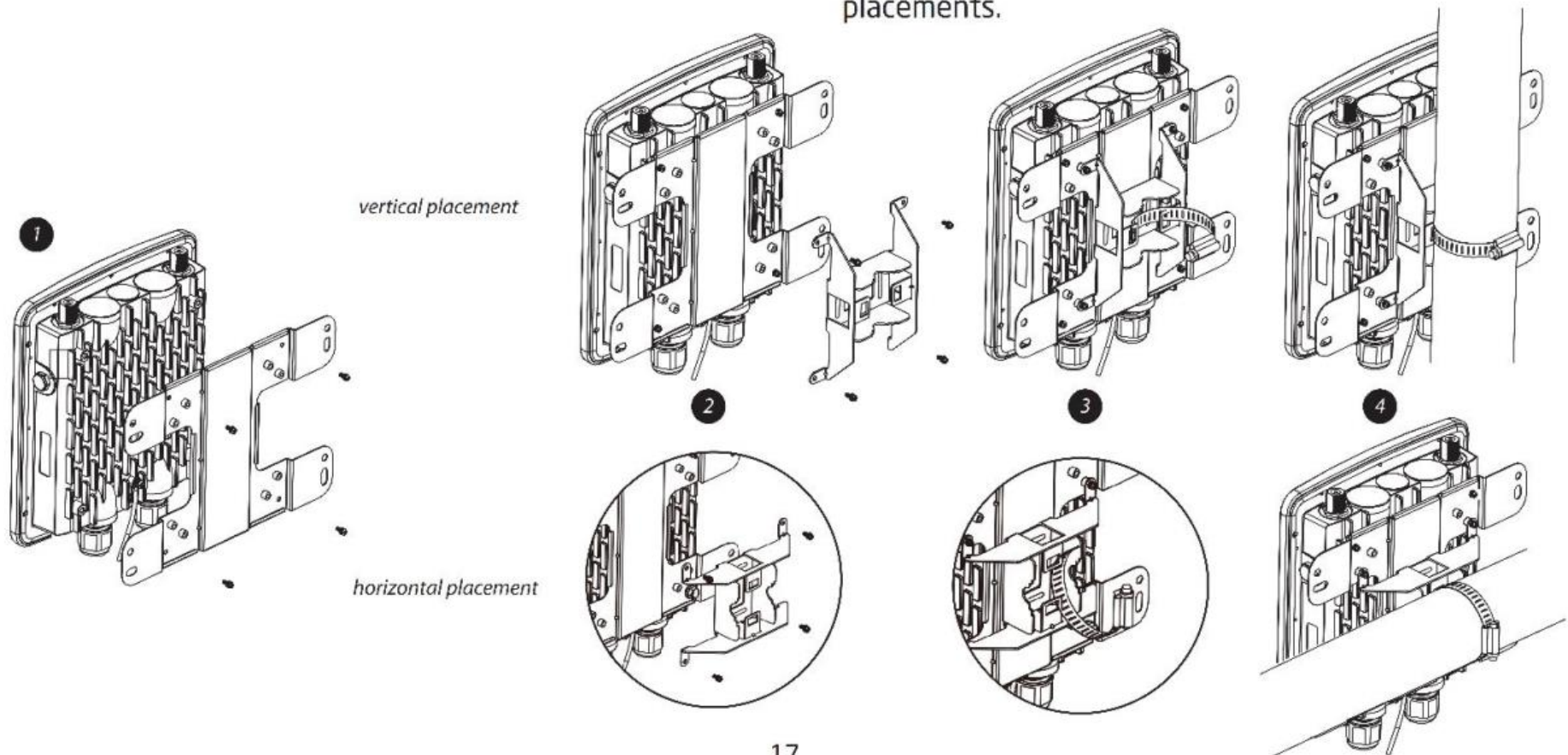




## To attach the ALL-WAP0324N to a pole using the provided pole mounting kit:

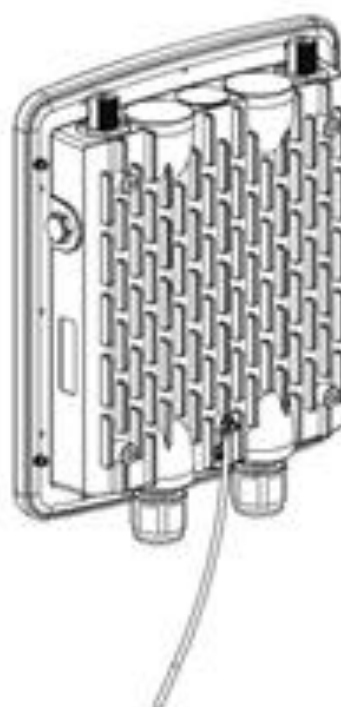
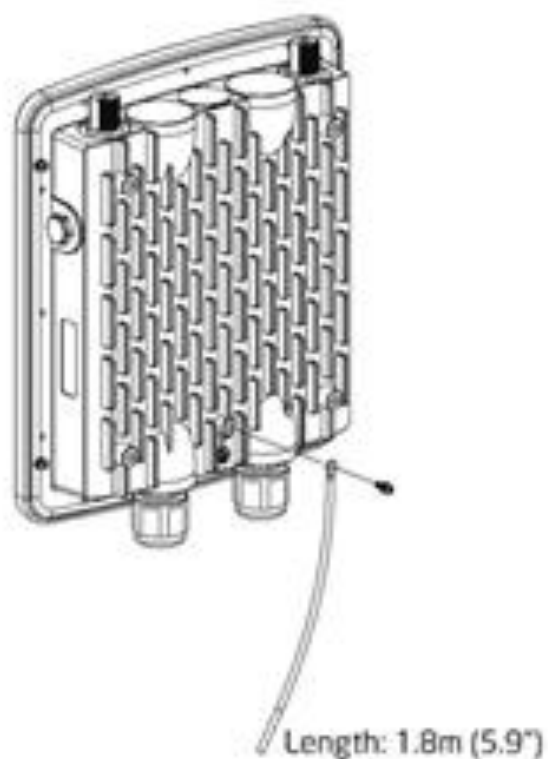
1. Place the lock and flat washers on the four hex cap screws and drive the screws to attach the bracket to the back of the Access Point.
2. Drive the four round head screws to attach the Pole Mount Bracket to the bracket.
3. Thread the open end of the Pole Strap through the two tabs on the Pole Mount Bracket.
4. Lock and tighten the Pole Strap to secure the Pole Mount Bracket to the pole.

**Note:** See diagram below for vertical and horizontal placements.



## To install the ground cable on the ALL-WAP0324N

1. Use the attached screws to pass the ground cable as shown in the figure below.
2. Assemble the ground cable on the device.



# 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.

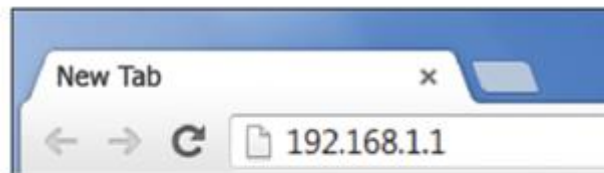
## Default Settings

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

IP Address	192.168.1.1
Username / Password	admin / admin

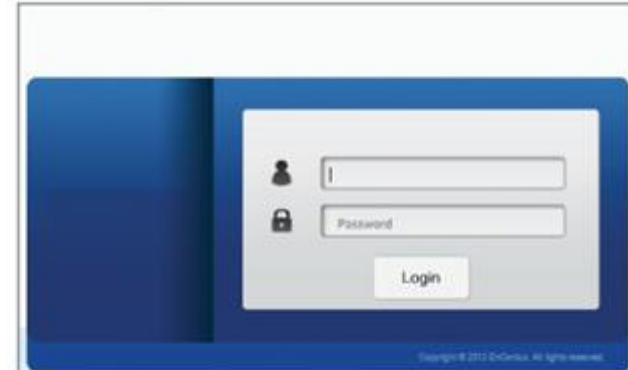
## Web Configuration

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

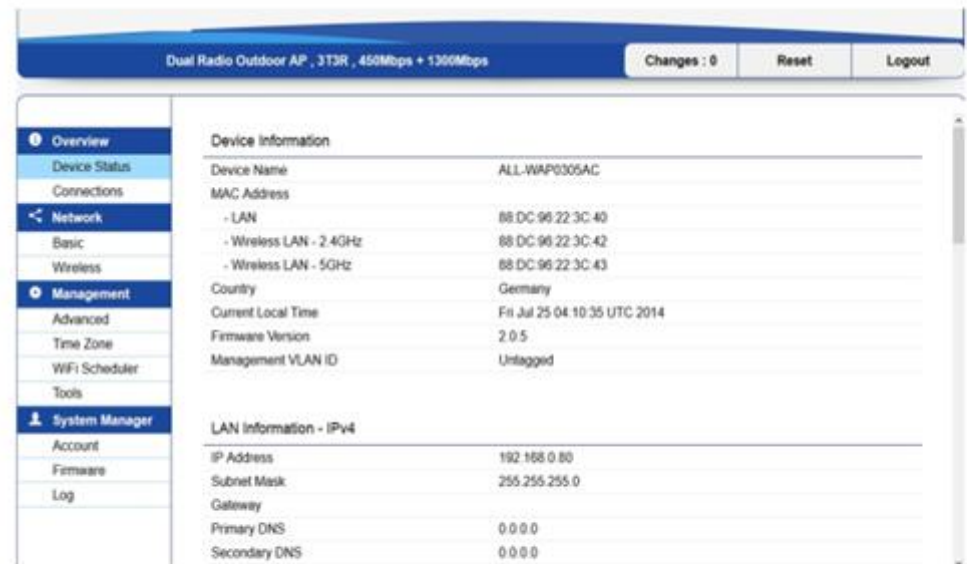


**Note:** If you have changed the default LAN IP Address of the Access Point, ensure you enter the correct IP Address.

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 User Menu.





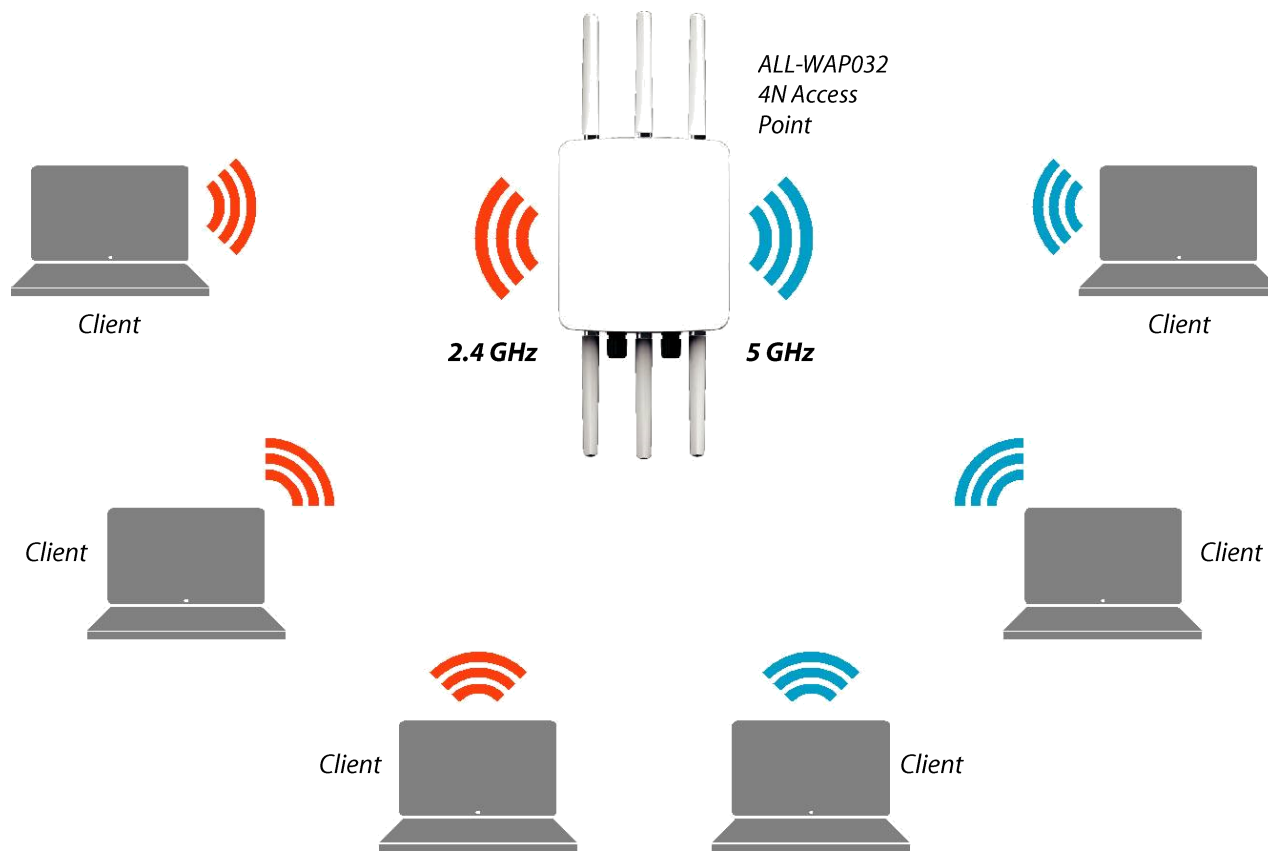
# Chapter 4

## **Building a Wireless Network**

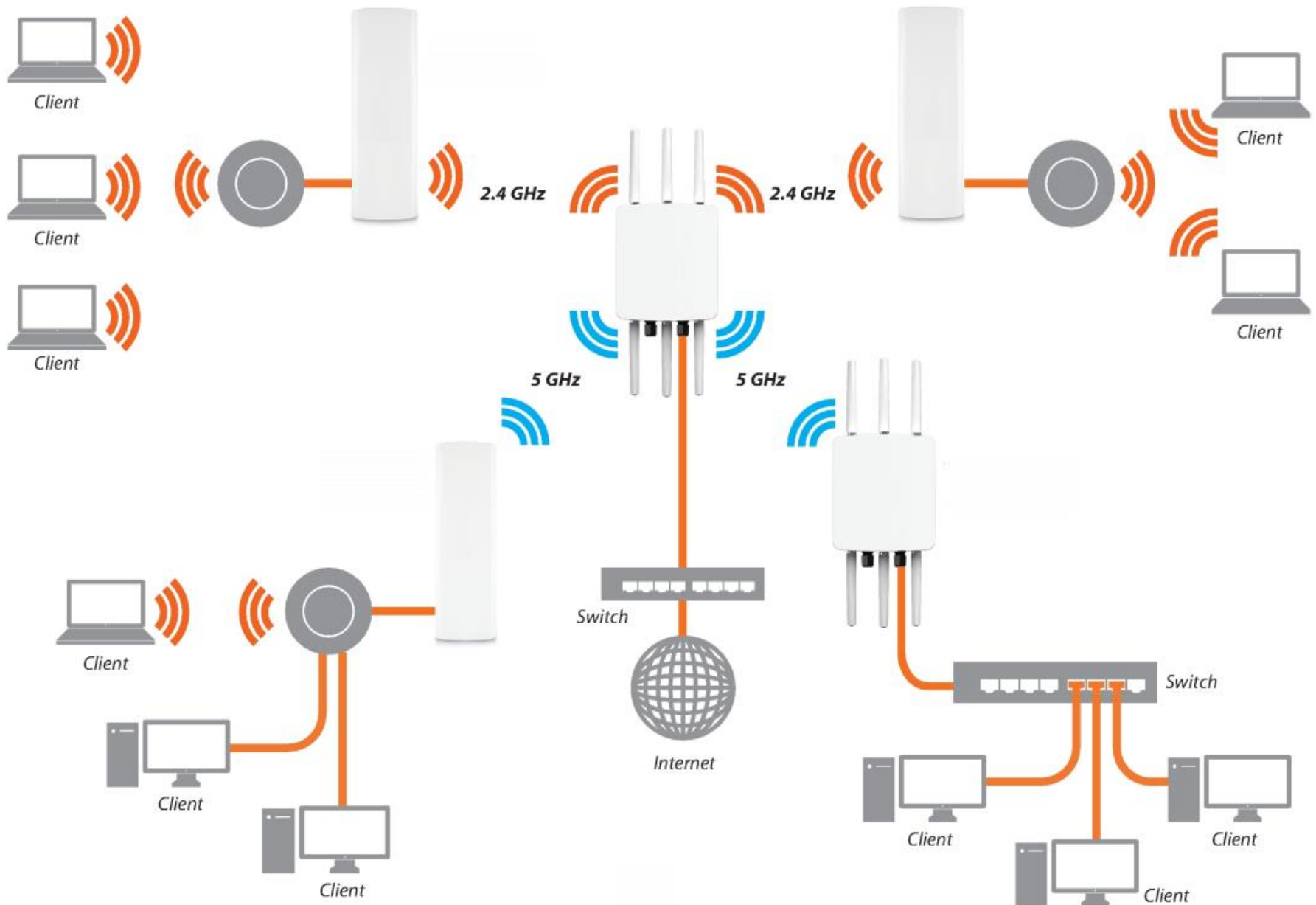
The ALL-WAP0324N has the ability to operate in various modes. This chapter describes the operating modes of the ALL-WAP0324N.

## Access Point Mode

In Access Point Mode, ALL-WAP0324N 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-WAP0324N. The ALL-WAP0324N supports up to eight SSIDs per band at the same time for secure access.

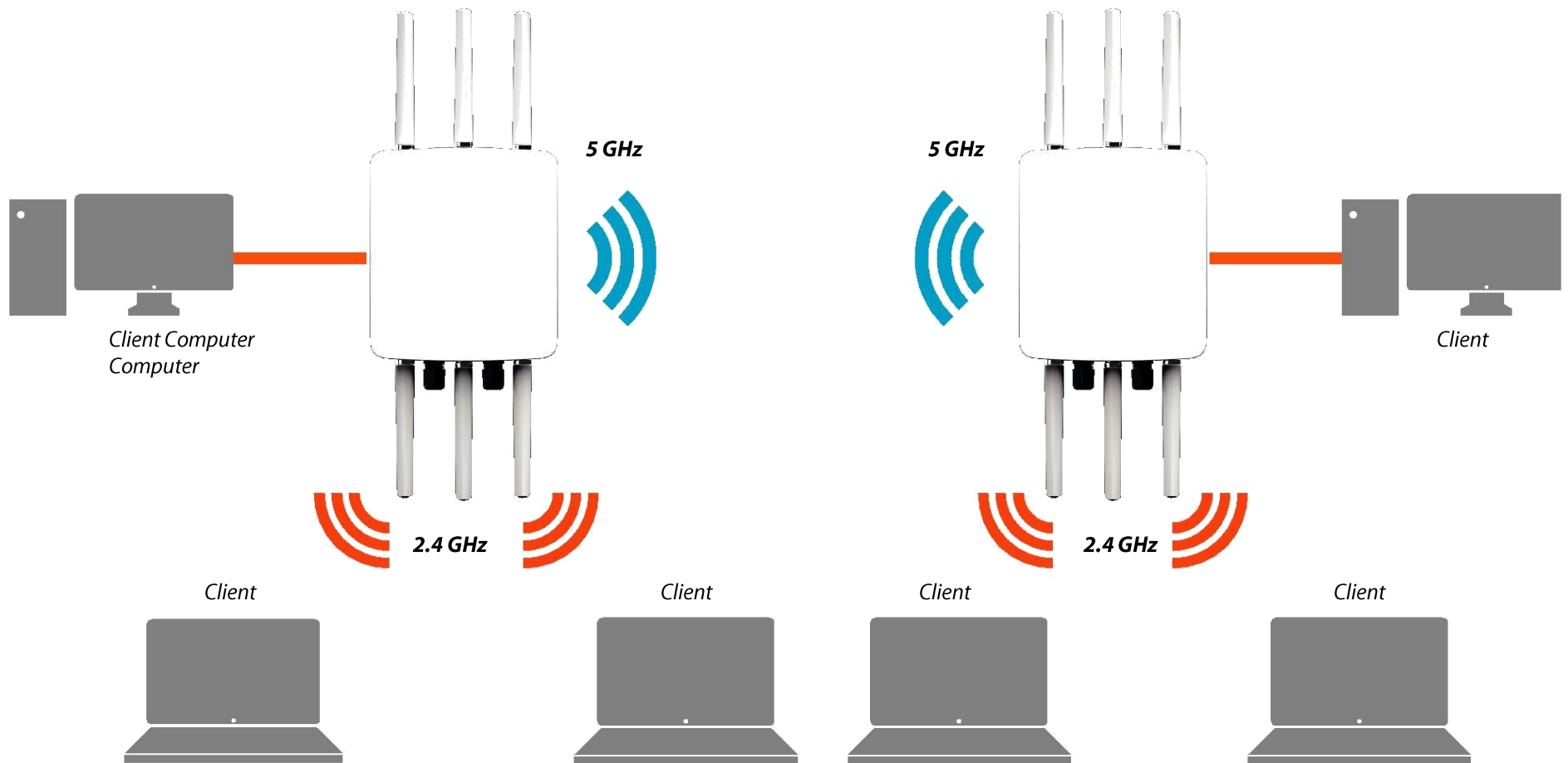


The ALL-WAP0305AC can be used as a centralized Outdoor Access Point with which other ALLNET Wireless N 2.4 or 5 GHz Outdoor Client Bridges can associate; leveraging the long-range capability of their internal high-gain directional antennas, resulting in a very cost-effective solution to expand a company network over a multiple building campus.



## WDS AP Mode

The ALL-WAP0324N also supports WDS AP mode. This operating mode allows wireless connections to the ALL-WAP0324N 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.

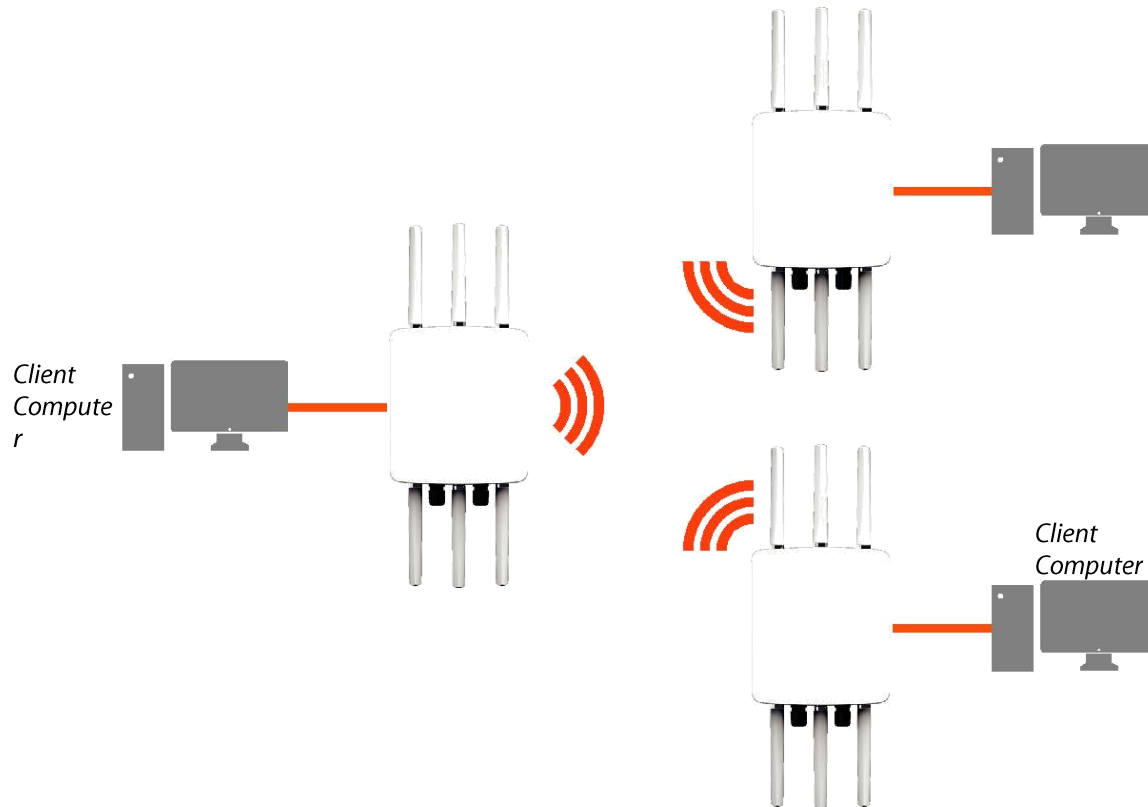


## WDS Bridge Mode

In WDS Bridge Mode, the ALL-WAP0324N can wirelessly connect different LANs by configuring the MAC address and security settings of each ALL-WAP0324N 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-WAP0324N 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.

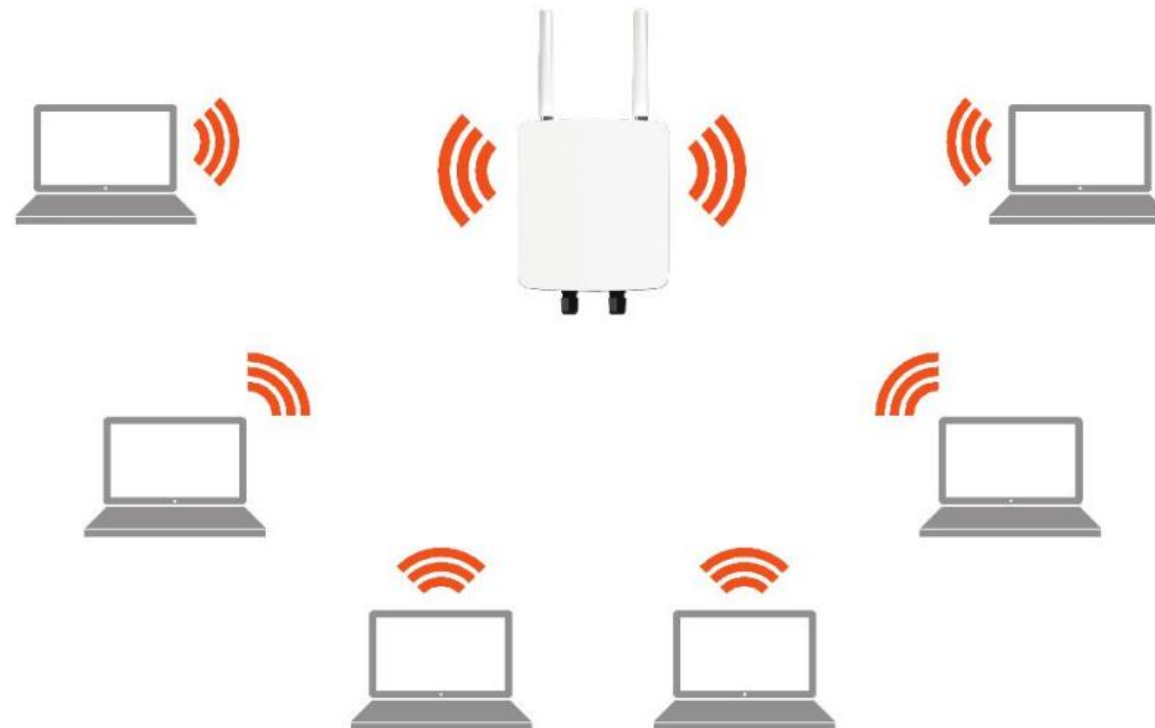
**Note:** WDS Bridge Mode does not act as an Access Point. Access Points linked by WDS are using the same frequency channel. More Access Points connected together may lower throughput. This configuration can be susceptible to generate endless network loops in your network, so it is recommended to enable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



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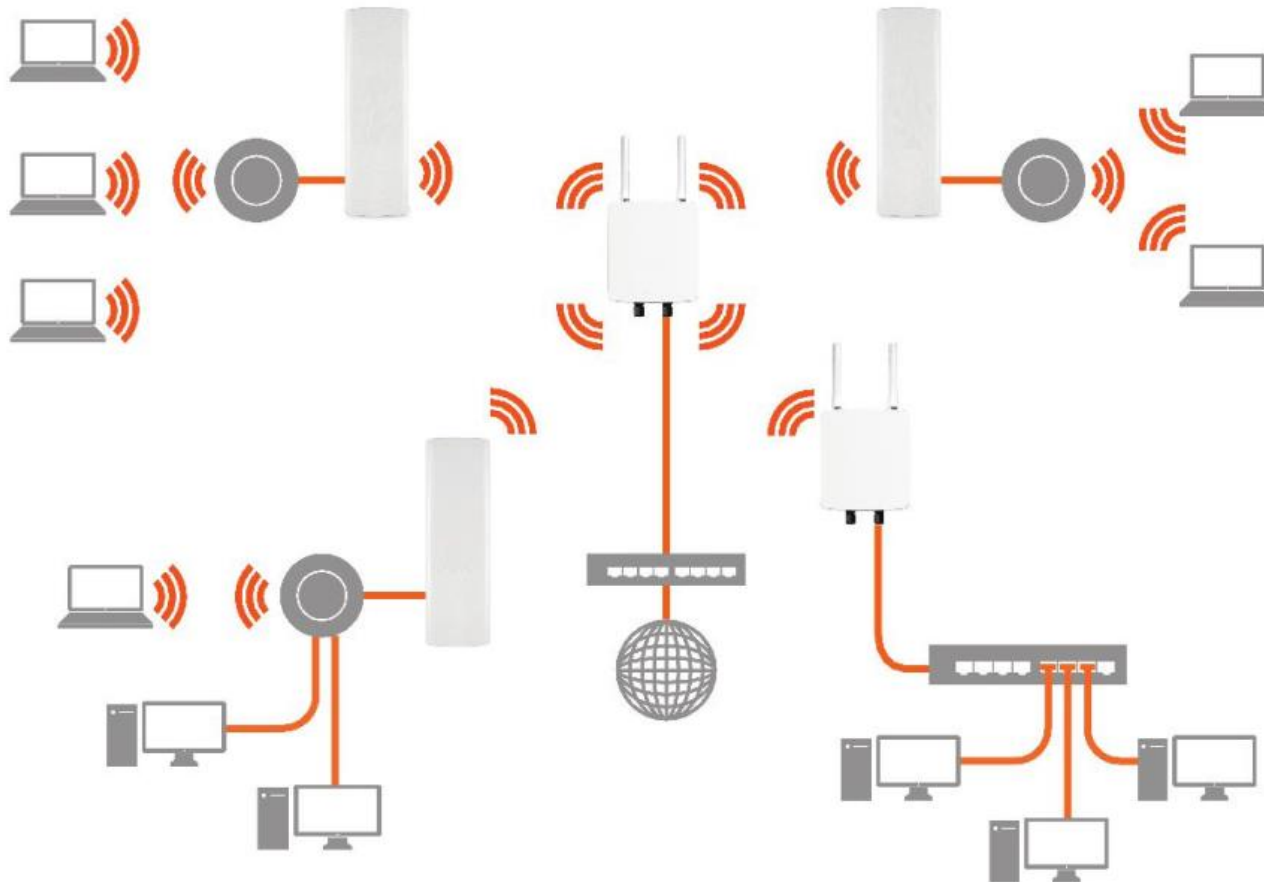
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## Client Bridge Mode

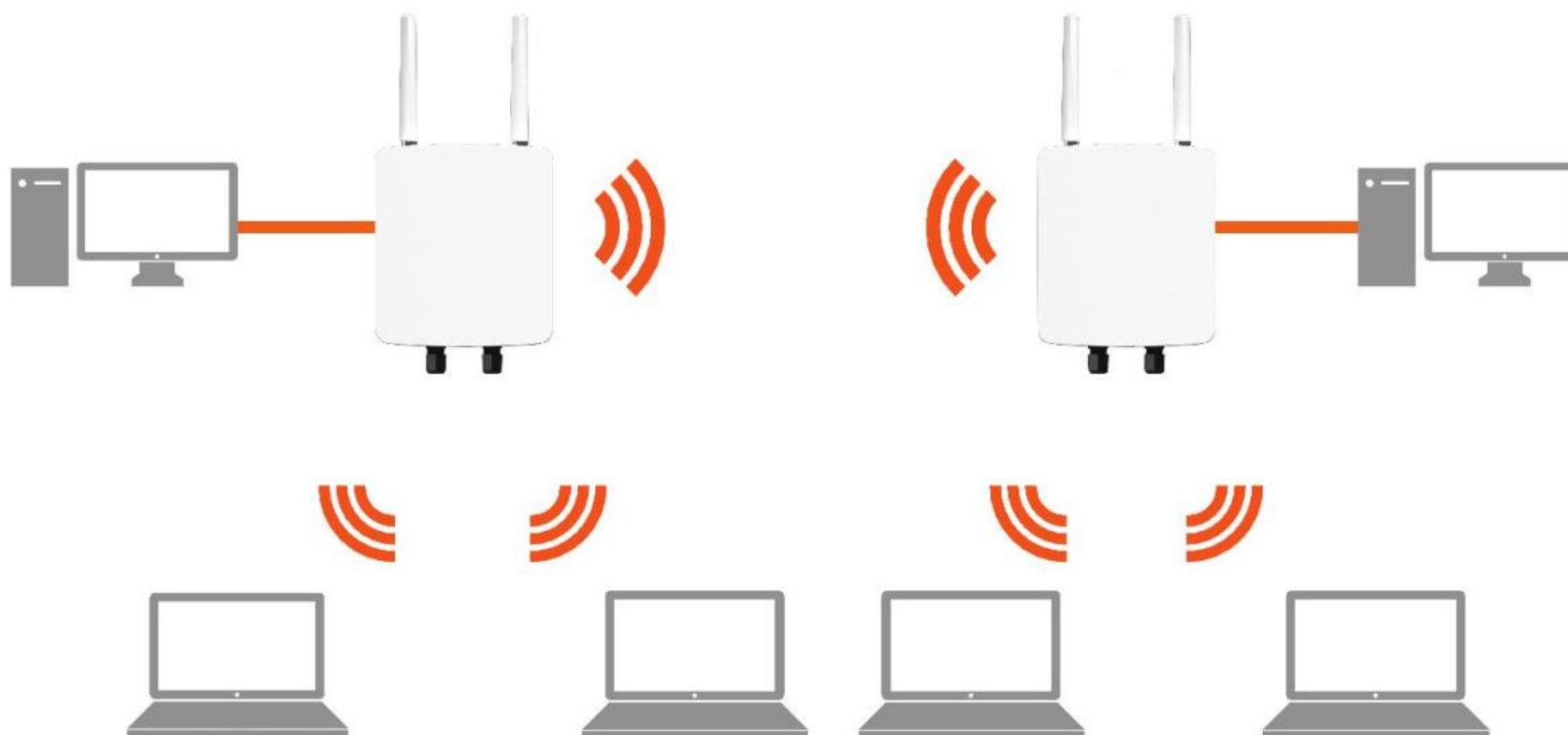
The ALL-WAP0324N essentially acts as a wireless adapter that connects to an access point to allow a system of wireless access to the network in the Client Bridge mode. Since the computers are on the same subnet, the ALL-WAP0324N can broadcast to reach all end-devices.

If you use the client bridge mode for the ALL-WAP0324N, you can use the AP Detection feature to scan for Access Points within range. When you find an Access Point, configure the ALL-WAP0324N to use the same SSID and Security Password as the Access Point to associate with it.



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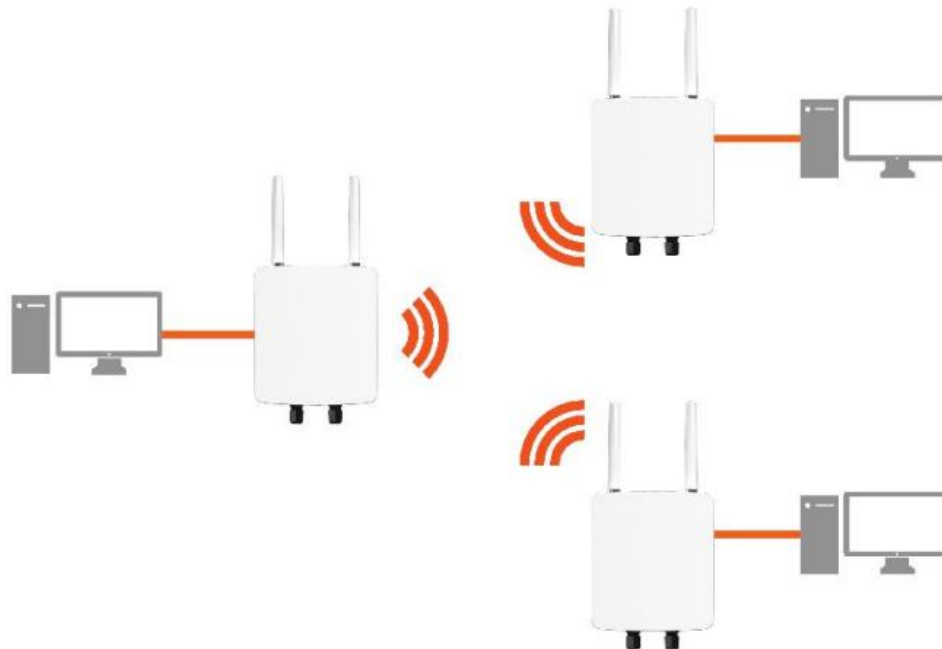


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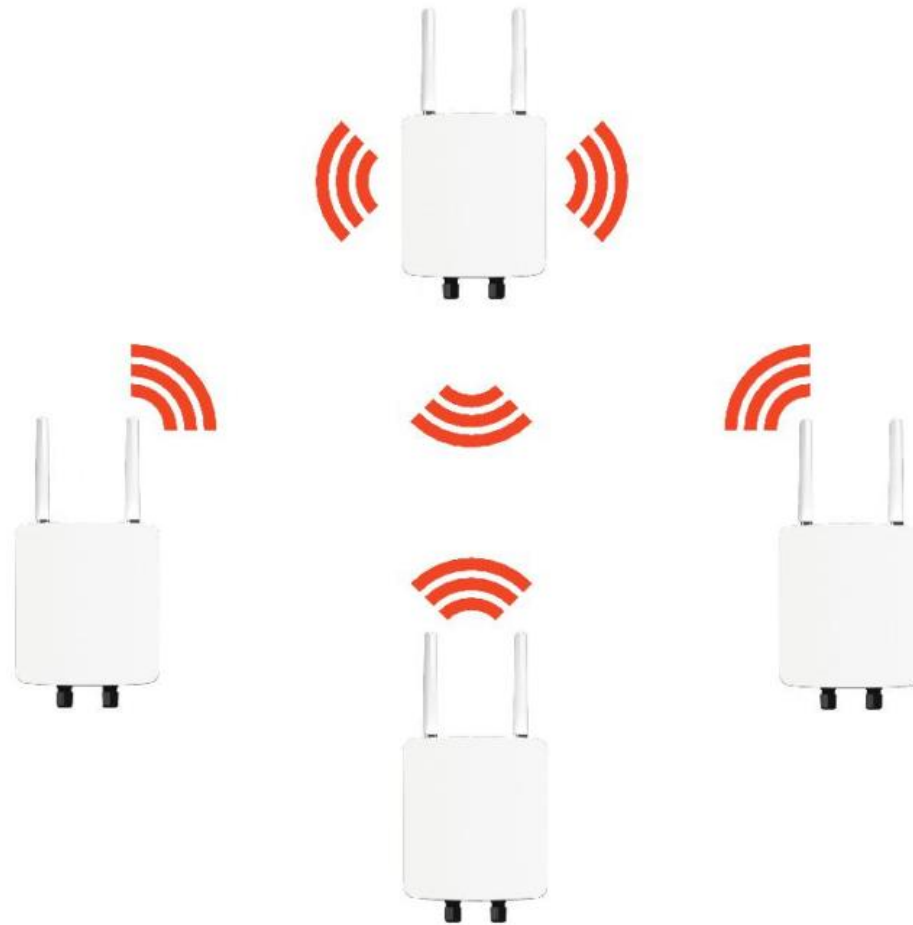
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## WDS Station Mode

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



# Chapter 5

## **Status**

# Main Status

## 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	ALL-WAP0324N
MAC Address	
- LAN	88:DC:96:4D:EE:DA
- Wireless LAN - 2.4GHz	88:DC:96:4D:EE:DB
Country	Germany
Current Local Time	Wed Apr 12 13:43:54 STD 2017
Firmware Version	1.0.3
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 **Statistics** section shows Mac information such as SSID, MAC address, RX and TX.

Statistics

SSID	MAC	RX(Packets)	TX(Packets)
Ethernet	88:DC:96:4D:EE:DA	85.408KB(1180 PKts.)	527.296KB(810 PKts.)
ALL-WAP0324N-1	88:DC:96:4D:EE:DB	0KB(0 PKts.)	0KB(0 PKts.)

- The **Wireless LAN Information 2.4 GHz** section shows wireless information such as Operating Mode, Frequency, and Channel. Since the ALL-WAP0324N 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.

Wireless LAN Information - 2.4GHz

Operation Mode	Access Point			
Wireless Mode	802.11 B/G/N			
Channel Bandwidth	20-40 MHz			
Channel	2.437 GHz (Channel 6)			
Distance	1000 M			
Profile	SSID	Security	VID	802.1Q
#1	ALL-WAP0324N-1	None	1	Disable
#2	ALL-WAP0324N-2	None	2	Disable
#3	ALL-WAP0324N-3	None	3	Disable
#4	ALL-WAP0324N-4	None	4	Disable
#5	ALL-WAP0324N-5	None	5	Disable
#6	ALL-WAP0324N-6	None	6	Disable
#7	ALL-WAP0324N-7	None	7	Disable
#8	ALL-WAP0324N-8	None	8	Disable

# Connection

## 2.4 GHz Connection List

Click the **connection** link under the **Overview** menu displays the connection list of clients associated to the ALL-WAP0324N page 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.

## 2.4 GHz 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.

Overview

Device Status

Connections

Network

Basic

Wireless

WPS

Management

Advanced

Time Zone

WiFi Scheduler

Tools

System Manager

Account

Firmware

Log

Connection List - 2.4GHz

SSID	MAC Address	TX	RX	RSSI	Block
SNWL	EC:55:F9:4C:D9:EA	227782Kb	59705Kb	-57dBm	<div>Kick</div>
SNWL	54:72:4F:66:89:42	323Kb	190Kb	-43dBm	<div>Kick</div>
SNWL	60:FA:CD:6E:93:0B	2556Kb	1209Kb	-50dBm	<div>Kick</div>
SNWL	60:36:DD:7F:3A:05	62466Kb	6127Kb	-47dBm	<div>Kick</div>
SNWL	48:60:BC:5E:8C:DF	1011Kb	191Kb	-52dBm	<div>Kick</div>
SNWL	E8:2A:EA:05:72:79	78334Kb	8725Kb	-38dBm	<div>Kick</div>
SNWL	20:A2:E4:23:41:63	255Kb	76Kb	-52dBm	<div>Kick</div>

## Client Bridge Connection Status

Click the **Connection** link under the **Overview** menu. This page displays the connection status between the Access Point, including associated the 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 (8-40)
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

## **2.4 GHz & 5 GHz**

### **Wireless**

# Wireless

## Wireless Settings

Wireless Settings

Device Name	ALL-WAP0324N
Country/Region	Germany ▼

**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-WAP0324N.

## 2.4 GHz Wireless Network

2.4GHz	
Operation Mode	Access Point <input checked="" type="checkbox"/> Green
Wireless Mode	802.11 B/G/N
Channel HT Mode	20/40 MHz
Extension Channel	Upper Channel
Channel	Auto
Transmit Power	Auto
Data Rate	Auto
RTS / CTS Threshold (1 - 2346)	2346
Client Limits	127 <input checked="" type="radio"/> Enable <input type="radio"/> Disable
Aggregation	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
	32 Frames
	50000 Bytes(Max)
AP Detection	Scan
Distance (1-30km)	1 (0.6miles)

**Operation Mode:** Select **Operation Mode**. The ALL-WAP0324N supports multi-operation modes: Access Point, Client Bridge, or WDS(WDS AP, WDS Bridge, and WDS Station).

**Wireless Mode:** Supports 802.11b/g/n mixed mode in 2.4

GHz.

**Channel HT Mode:** The default channel bandwidth is 20 MHz/ 40 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-WAP0324N. 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.



## 2.4 GHz SSID Profile

Wireless Settings - 2.4GHz

No.	Enable	SSID	Edit	Security	Hidden SSID	Client Isolation	VLAN Isolation	VLAN ID
1	<input checked="" type="checkbox"/>	ALL-WAP0324N-1	Edit	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
2	<input type="checkbox"/>	ALL-WAP0324N-2	Edit	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
3	<input type="checkbox"/>	ALL-WAP0324N-3	Edit	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3
4	<input type="checkbox"/>	ALL-WAP0324N-4	Edit	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4
5	<input type="checkbox"/>	ALL-WAP0324N-5	Edit	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5
6	<input type="checkbox"/>	ALL-WAP0324N-6	Edit	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6
7	<input type="checkbox"/>	ALL-WAP0324N-7	Edit	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7
8	<input type="checkbox"/>	ALL-WAP0324N-8	Edit	None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8

**Current Profile:** You can configure up to eight (8) 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 VLANs by selecting the radio button.

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



## Wireless Security

The Wireless Security section lets you configure the ALL-WAP0324N'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 - 2.4G	
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	
Key2	
Key3	
Key4	

**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.

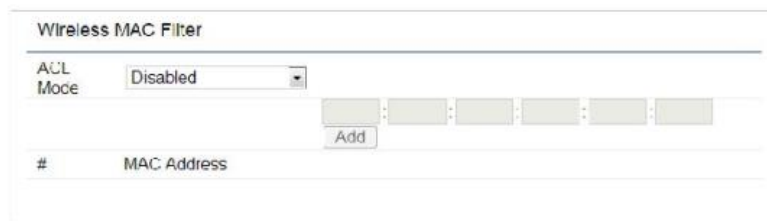
**Encryption Key Number:** Enter the Key Value or values you wish to use. Only the Key selected as Default is required. The others are optional.

## 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-WAP0324N. The default setting is: **Disable**

### Wireless MAC Filter.

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



The image shows a web-based configuration interface for 'Wireless MAC Filter'. At the top, the title 'Wireless MAC Filter' is displayed. Below it, there is a section for 'ACL Mode' with a dropdown menu currently set to 'Disabled'. To the right of the dropdown is a row of six empty input boxes for MAC address digits, separated by dots, with an 'Add' button below them. Below this is a table with a header row containing a '#' column and a 'MAC Address' column. The table body is currently empty.

**ACL Mode:** 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 Traffic Shaping

Traffic shaping regulates the flow of packets leaving an interface to deliver improved Quality of Service.

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 Traffic Shaping.

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

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

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

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

Wireless Security - 2.4G	
Security Mode	WPA2-PSK ▾
Encryption	Both(TKIP+AES) ▾
Passphrase	<input type="text"/>
Group Key Update Interval	3600 <input type="text"/>

**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 - 2.4G	
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

Fast Roaming	
Enable Fast Roaming	Enable ▾
Advanced Search	Enable ▾

**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 Radius 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 802.11g.

**Fast Roaming:** Enable Fast Roaming to serve mobile client devices that roam from Access Point to Access Point. Some applications running on Client devices require fast re-association when they roam to a different Access Point. Voice application.



## Client Bridge Setting

No.	SSID	Edit	Security
	AP SSID		None

**No.:** Display the setting value.

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

**Edit:** Click **Edit** to configure the advanced settings for the SSID.

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

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

Wireless Setting - 2.4GHz

Preferred BSSID ☐

SSID

Wireless Security - 2.4GHz

Security Mode Disabled

- Disabled
- WEP
- WPA-PSK
- WPA2-PSK
- WPA-Enterprise
- WPA2-Enterprise

**Save** Save current setting

**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.

## Guest Network Settings

Adding a guest network allows visitors to use the Internet without giving out your office or company wireless security key.

Guest Network Settings

Enable	SSID	Edit	Security	Hidden SSID	Client Isolation
<input type="checkbox"/>	ALL-WAP0324N-Guest	Edit	None	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Manual IP Settings

- IP Address	192.168.200.1
- Subnet Mask	255.255.255.0

Automatic DHCP Server Settings

- Starting IP Address	192.168.200.100
- Ending IP Address	192.168.200.200
- WINS Server IP	0.0.0.0

**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.

## Fast Handover

Fast Handover

Status	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
RSSI	-70 dBm (Range: -60dBm ~ -100dBm)

**Fast Handover:** 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 **Management VLAN**: If your network includes VLANs, you can enable **Management VLAN ID** for packets passing network whose software has been configured so that they behave as if they were on a separate Local Area Network through the Access Point with a tag. (LAN). Computers on VLAN do not have to be physically located next to one another on the LAN.

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

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

**Note:** If you reconfigure the Management VLAN ID, you may lose your connection to the ALL-WAP0324N. Verify that the DHCP server supports the reconfigured VLAN ID and then reconnect to the ALL-WAP0324N using the new IP address.

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 checked="" type="checkbox"/> 4096

# Advanced Settings

## SNMP Settings

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

This page allows you to assign the Contact Details, Location, Community Name, and Trap Settings for a Simple Network

### Community Name (Read Only):

Specifies the password for the SNMP community for read only access.

Management Protocol (SNMP). SNMP is a networking management protocol used to monitor network attached

**Community Name (Read/Write):** Specifies the password for the SNMP community with read/write access. devices. SNMP allows messages (called protocol data units) to be sent to various parts of the network. Upon receiving

**Trap Destination Address:** Specifies the IP address of the computer that will receive the SNMP traps. these messages, SNMP compatible devices (called agents) returns the data stored in their Management Information

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

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	

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

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

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

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

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

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

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

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

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

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

## CLI Settings

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 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 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.

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

**To:** Enter the address to receive email alerts.

**Subject:** Enter the text to appear in the email subject line.

## Email Alert

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

Email Alert	
Status	<input checked="" type="checkbox"/> Enable
- From	<input type="text"/>
- To	<input type="text"/>
- Subject	[Email-Alert]
Email Account	
- Username	<input type="text"/>
- Password	<input type="password"/>
- SMTP Server	<input type="text"/>
- Security Mode	None ▾
Port 25	
<input type="button" value="Send Test Mail"/>	

**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-WAP0324N.

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

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

Date and Time Settings

☐ Manually Set Date and Time

Date: 2013 / 09 / 25

Time: 08 : 10 (24-Hour)

Synchronize with PC

☒ Automatically Get Date and Time

NTP Server: 209.81.9.7

Time Zone

Time Zone: UTC+00:00 Gambia, Liberia, Morocco

☐ 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 **Automatically Get Date and Time** 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-WAP0324N.

Auto Reboot Setting	
Auto Reboot Status	Disable ▾
Timer	<input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
	<input type="text" value="0"/> : <input type="text" value="0"/>

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

**Frequency of Auto Reboot:** Specifies how often you wish to reboot the ALL-WAP0324N 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

**Day(s):** Place a checkmark in the boxes for the desired days or select the

**All Week** radio button to select all seven days

Mon-Fri from 3pm to 8pm, you could create a schedule selecting Mon, Tue,

Wed, Thu and Fri while entering a Start 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 of 3pm and End Time of 8pm to limit access to these times. Time is entered in the same format as the Start time.

WiFi Scheduler

Status

☒ Enable ☐ Disable

**NOTE:** Please assure that the Time Zone Settings is synced with your local time when enabling the Wi-Fi Scheduler.

Wireless Radio

2.4GHz ▾

SSID Selection

ALL-WAP0324N-1 ▾

Schedule Templates

Choose a template ▾

Schedule Table

Day	Availability	Duration
Sunday	available ▾	00 : 00 ~ 24 : 00
Monday	available ▾	00 : 00 ~ 24 : 00
Tuesday	available ▾	00 : 00 ~ 24 : 00
Wednesday	available ▾	00 : 00 ~ 24 : 00
Thursday	available ▾	00 : 00 ~ 24 : 00
Friday	available ▾	00 : 00 ~ 24 : 00
Saturday	available ▾	00 : 00 ~ 24 : 00

**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



# Tools

## Ping Test Parameters

This page allows you to analyze the connection quality of the ALL-WAP0324N and trace the routing table to a target in the network.

Ping Test Parameters	
Target IP / Domain Name	<input type="text"/>
Ping Packet Size	<input type="text" value="64"/> Bytes
Number of Pings	<input type="text" value="4"/>
<input type="button" value="Start"/>	<div></div>

Traceroute Test Parameters	
Target IP / Domain Name	<input type="text"/>
<input type="button" value="Start"/> <input type="button" value="Stop"/>	<div></div>

**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.

**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.

## Speed Test Parameters / LED Control

This page allows you to control LED on/off for Power, LAN interface, or 2.4 GHz WLAN interface.

Speed Test Parameters		
Target IP / Domain Name		
Time Period	20	sec
Check Interval	5	sec
<input type="button" value="Start"/>		
IPv4 Port	5001	
IPv6 Port	5002	

LED Control	
Power	<input type="button" value="Disable"/>
LAN	<input type="button" value="Enable"/>
WLAN-2.4GHz	<input type="button" value="Enable"/>
WLAN 5GHz	<input type="button" value="Enable"/>
<input type="button" value="Apply"/> Apply saved settings to take effect	

## LED Control

**Power:** Enables or disables the Power LED indicator.

**LAN:** Enables or disables the LAN LED indicator.

**WLAN-2.4 GHz:** Enables or disables the WLAN-2.4 GHz LED indicator.

## 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
<input type="button" value="Scan"/>				

## Account

This page allows you to change the ALL-WAP0324N 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	

**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-WAP0324N.

#### Firmware Upgrade

Current Firmware Version: 1.0.3

Select the new firmware from your hard disk.

Datei auswählen

Keine ausgewählt

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

This page allows you to save the current device configurations. When you save 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 [password](#) incorrectly, you can use the **Reset** button in the Revert to Factory Default Settings section to restore all the configurations of the [device](#) 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**.

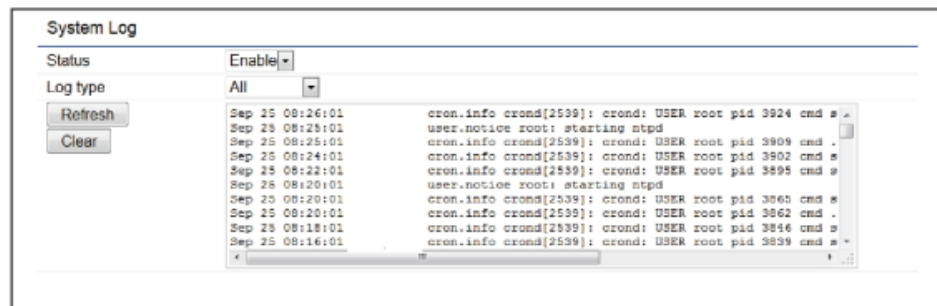
**Restore to Default:** Click **Reset** button to restore the [device](#) to its factory default settings.

Backup/Restore Settings	
Factory Setting	
- Backup Setting	<input type="button" value="Export"/>
- Restore New Setting	<input type="button" value="Browse..."/> No file selected. <input type="button" value="Import"/>
- Reset to Default	<input type="button" value="Reset"/>
User Setting	
- Back Up Setting as Default	<input type="button" value="Backup"/>
- Restore to User Default	<input type="button" value="Restore"/>

# Log

## System Log

The [System Log](#) 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.



The screenshot shows the 'System Log' window. At the top, there is a 'Status' dropdown menu set to 'Enable' and a 'Log type' dropdown menu set to 'All'. Below these are 'Refresh' and 'Clear' buttons. The main area displays a list of log entries with columns for date/time, log level, and message. The entries are as follows:

Date/Time	Log Level	Message
Sep 25 08:26:01	cron.info	crond[2539]: crond: USER root pid 3924 cmd s
Sep 25 08:28:01	user.notice	root: starting ntpd
Sep 25 08:28:01	cron.info	crond[2539]: crond: USER root pid 3909 cmd .
Sep 25 08:24:01	cron.info	crond[2539]: crond: USER root pid 3902 cmd s
Sep 25 08:22:01	cron.info	crond[2539]: crond: USER root pid 3895 cmd s
Sep 25 08:20:01	user.notice	root: starting ntpd
Sep 25 08:20:01	cron.info	crond[2539]: crond: USER root pid 3865 cmd s
Sep 25 08:20:01	cron.info	crond[2539]: crond: USER root pid 3862 cmd .
Sep 25 08:18:01	cron.info	crond[2539]: crond: USER root pid 3816 cmd s
Sep 25 08:16:01	cron.info	crond[2539]: crond: USER root pid 3839 cmd s

## Remote Log

This page allows you to setup the Remote Log functions



The screenshot shows the 'Remote Log' configuration window. It has two fields: 'Remote Log' with a dropdown menu set to 'Disable', and 'Log Server IP Address' with a text input field containing '0.0.0.0'.

**Syslog:** Enables or disables the syslog function.

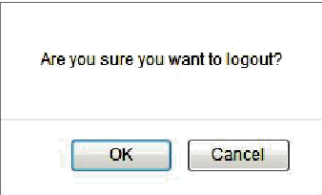
**Log Server IP Address:** Enter the IP address of the log server.

**Remote Log: Enable** or disable the remote log service.

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

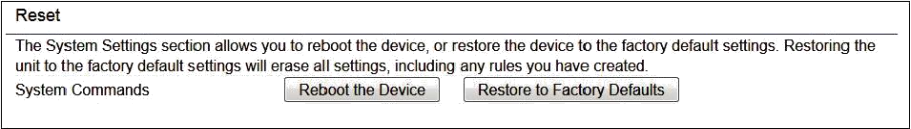
# Logout

Click **Logout** in Management menu to logout.



# Reset

To reset the device to Factory Default click on **Reset**.







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- Do not obstruct the ventilation slots on the device.

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