

TRENDnet[®]



Quick Installation Guide
TEW-940APBO (v1.xR)

Table of Contents

1 English

1. Before You Start
2. Hardware Installation and Configuration
3. Mounting

<https://www.trendnet.com/qig/1435>



1. Before You Start

Package Contents

- TEW-940APBO
- Quick Installation Guide
- Proprietary/Passive PoE injectors (54V DC, 0.6A)
- Mounting Hardware

Minimum Requirements

- Computer with a network port and web browser
- A network switch or router with an available network LAN port
- Additional TEW-940APBO wireless AX1200 directional access point or TEW-941APBO omni-directional access point for point-to-point bridging
- 4 x RJ-45 network cables
- Power drill and Phillips bit or Phillips screwdriver for mounting
- Flat head bit or screwdriver for pole mounting clamp

Note: The TEW-940APBO does not support IEEE 802.3at/af PoE standards. You must use the proprietary/passive power over Ethernet injector that is supplied with the TEW-940APBO. This installation guide will walk you through the installation and configuration of two TEW-940APBO access points to establish a wireless point to point bridge using one in access point mode and the other using client bridge mode. The RJ-45 Ethernet cable between the passive PoE injector and access point can have a maximum length of up to 60 m (197 ft.).

IMPORTANT NOTE: The device can be reset from both the hardware reset button located on the device under the panel or on the included passive PoE injector. To reset the access point factory default, make sure the access point is connected and powered on using the included passive PoE injector, then push and hold the reset button on either the access point or injector for 15 seconds and release.

2. Hardware Setup and Configuration

Note:

- The default IP address of the TEW-940APB0 is 192.168.10.100. To configure the TEW-940APB0, your network adapter must have an IP address within the 192.168.10.x subnet (e.g. 192.168.10.10).
- The initial configuration should be completed in a testing environment with two TEW-940APB0 access points approximately 15 ft. (5 m) apart from one another with the front of the access points directly facing each other.
- Configure and connect the access points before mounting.

Phase 1: Overview

In this installation guide, we will assume the following:

Router Settings

Default Gateway IP address: 192.168.10.1

Subnet Mask: 255.255.255.0

The TEW-940APB0 access points will be configured using the following settings:

TEW-940APB0 #1

IP Address: 192.168.10.50

Netmask (Subnet Mask): 255.255.255.0

IP Gateway (Default Gateway): 192.168.10.1

Primary DNS: 192.168.10.1

Operation Mode: Access Point

Wireless Security: WPA3-SAE AES Encryption

TEW-940APB0 #2

IP Address: 192.168.10.51

Netmask (Subnet Mask): 255.255.255.0

IP Gateway (Default Gateway): 192.168.10.1

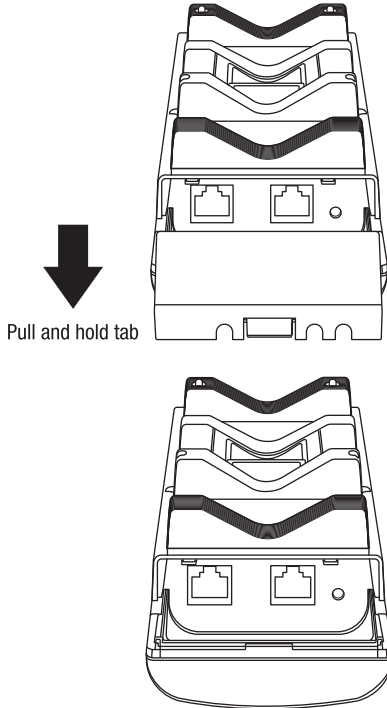
Primary DNS: 192.168.10.1

Operation Mode: Client Bridge

Wireless Security: WPA3-SAE AES Encryption

Phase 2: TEW-940APB0 Unit #1 Hardware Setup and Configuration

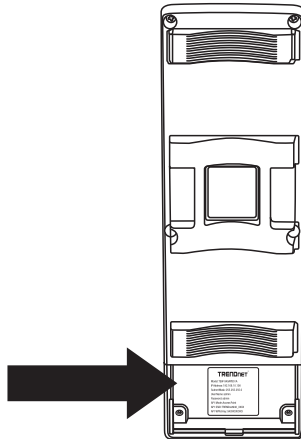
1. Remove the cover of the access point by pulling and holding the bottom tab in the vertical direction down (based on the access point orientation below) and sliding the cover below away from the access point.



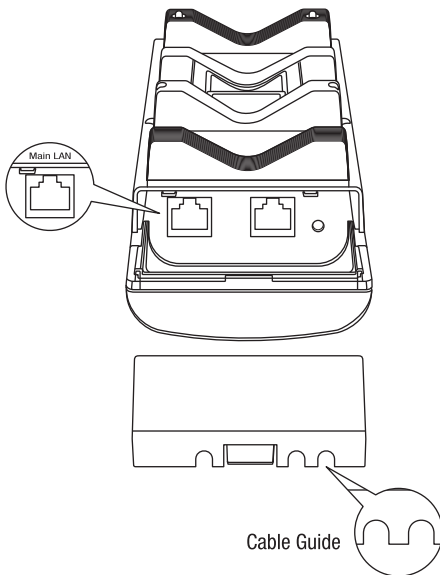
2. Write down the SSID and WPA3 Key of the first TEW-940APB0 access point. The SSID and WPA3 Key can be found on the inside of the device cover where the Ethernet LAN ports are located (shown below).

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Model: TEW-940APB0 /A
IP Address: 192.168.10.100
Subnet Mask: 255.255.255.0
User Name: admin
Password: admin
AP1 Mode: Access Point
AP1 SSID: TRENDnet940_XXXX
AP1 WPA3 Key: 940XXXXXXXXX



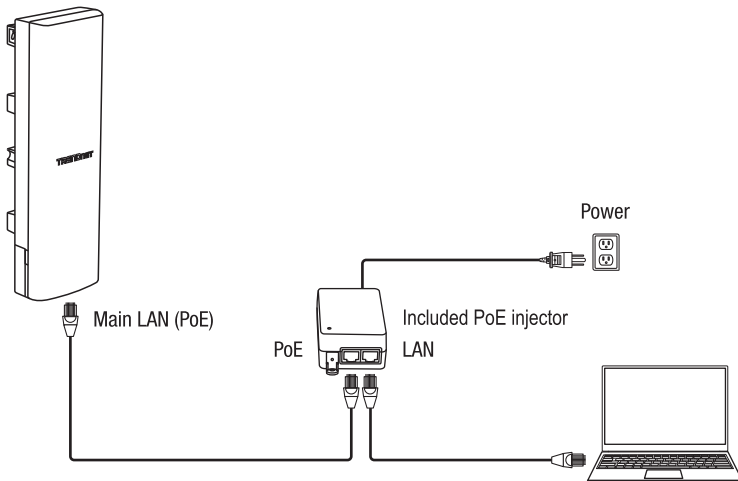
- Using a network cable, connect one end of the cable to the Main LAN (PoE) port.

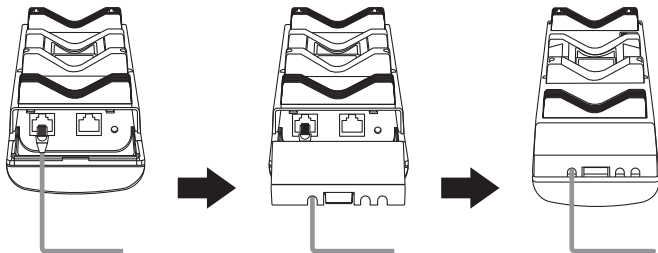


- Connect the other end of the network cable to the **PoE** port on the included PoE injector.
- Using another network cable, connect one end to the **LAN** port on the included PoE injector.
- Connect the other end of the network cable to your computer's Ethernet port.
- Attach the power cord to the PoE injector and plug the connected power cord into a power outlet.
- Confirm the device is powered on through the LED indicators. Please refer to the LED definition table below.

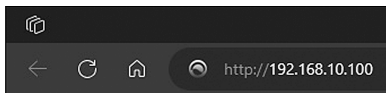
9. Confirm the device is powered on through the LED indicators. Please refer to the LED definition table below.

LED	Status	Description
PWR	Solid Green	Device is receiving power
LAN	Solid Green	1G Data link established
	Solid Orange	100M/10M Data link established
	Blinking	Data transmission
WLAN	Solid Green	5GHz radio is enabled
	Blinking	Data transmission
Link Quality (Only functions if TEW-940APB0 is in Client Bridge operation mode)	Solid Green (Best)	When connected to remote wireless access point in client bridge mode, indicates wireless connection quality.
	Solid Orange (Better)	
	Solid Red (Good)	





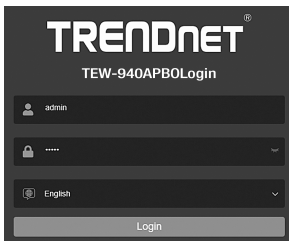
10. Assign a static IP address to your computer's network adapter in the subnet of **192.168.10.x** (e.g. 192.168.10.25) and subnet mask of **255.255.255.0**. For more information on assigning a static IP address to your computer's network adapter, please refer to item Q1 in the last section of the installation guide, Installation Tips and Troubleshooting.
11. Open your web browser and type the IP address of the access point in the address bar, then press **Enter**. The default IP address is 192.168.10.100.



12. When prompted, select your language from the Language drop-down list and enter the User **Name** and **Password**, then click **Login**. By default:

- User Name: **admin**
- Password: **admin**

Note: User Name and Password are case sensitive.

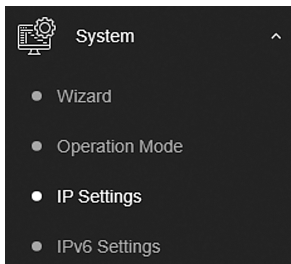


13. Enter the new admin password settings in the fields provided and click **Apply** to change the default admin password.

Note: You will immediately need to log into the access point configuration page with the new password settings.

Administrator Settings	
Administrator Settings	
Account	admin
New Password (Max: 20 Characters)
Verify Password
Apply	

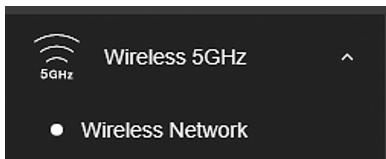
14. In the left navigation menu, click **System** and **IP Settings**.



15. Click the **Connection Type** drop-down list and select **STATIC**, and enter the IP address **192.168.10.50**, Subnet Mask **255.255.255.0**, Default Gateway **192.168.10.1**, and Primary DNS Server **192.168.10.1**, then click **Apply**.

LAN Connection Type	
Connection Type	STATIC
LAN Interface Setting	
IP Address	192.168.10.50
Subnet Mask	255.255.255.0
Default Gateway	192.168.10.1
DNS Server Setting	
Primary DNS Server	192.168.10.1
Secondary DNS Server	

16. In the left navigation menu, click **Wireless 5GHz** and **Wireless Network**.



17. For the first entry that is pre-configured, click **Edit** in the right column.

Current Profiles					
Index	Status	SSID	Security Mode	Password	Edit / Add
1	Enabled	TRENDnet940_C172	WPA3-Personal/WPA3-SAE Mixed/AES		Edit

18. At the top under Wireless Settings, you can change the default SSID in the **SSID** field.

Note: Please note the SSID as it will be needed to connect the second access point to create the wireless bridge.

Wireless Settings

SSID	TRENDnet940_C172
------	------------------

19. Under the Wireless Security section, click the drop-down to select the wireless security mode to use.

Note: For general wireless client device compatibility, it is recommended to use the highest supported WPA3-Personal Mixed AES.

Wireless Security

Security Mode	<div style="border: 1px solid #ccc; padding: 2px;">WPA3-Personal Mixed</div> <div style="border: 1px solid #ccc; padding: 2px; margin-top: 2px;"> Disabled WPA2-Personal WPA2-Personal Mixed WPA3-Personal WPA3-Personal Mixed WPA-Enterprise WPA2-Enterprise WPA2-Enterprise Mixed 3500 </div>
WPA Cipher	
Pre-Shared Key	
Key Update Interval	Seconds

20. Enter the WiFi Password or Pre-Shared Key in the **Pre-Shared Key** field and click **Apply** at the bottom of the page. (8-63 alphanumeric characters)

Note: Please make note of the WiFi password or pre-shared key assigned as it will be used for the configuration of the second access point to make the wireless bridge.

WPA	
WPA Cipher	AES
Pre-Shared Key	*****
Key Update Interval	3600 Seconds

21. In the top right main menu, click on the **Save button**  to commit the configuration changes.

Phase 3: TEW-940APB0 Unit #2 Hardware Setup and Configuration

When configuring the second TEW-940APB0 access point, repeat 1-14 of the steps in Phase 2 setup and configuration.

1. In Step 15, click the **Connection Type** drop-down list and select **STATIC**, and enter the IP Address **192.168.10.51**, Subnet Mask **255.255.255.0**, Default Gateway **192.168.10.1**, and Primary DNS Server 1.1.1.1, then click **Apply**.

Note: You will need to log back into the access point management page using the new IP address settings.

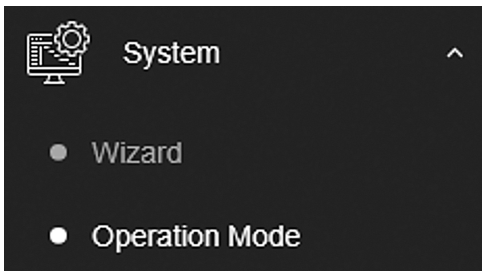
LAN Connection Type	
Connection Type	STATIC

LAN Interface Setting	
IP Address	192.168.10.51
Subnet Mask	255.255.255.0
Default Gateway	192.168.10.1

DNS Server Setting	
Primary DNS Server	1.1.1.1
Secondary DNS Server	

Apply Cancel

2. In the left navigation menu, click **System** and **Operation Mode**.



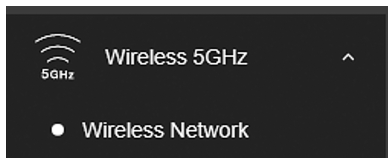
3. Click **Operation Mode** drop-down list and select **Client Bridge**, then click **Apply**.

Device Name : TEW-940APBO

5GHz Operation Mode Client Bridge

Apply Cancel

4. In the left navigation menu, click **Wireless 5GHz** and **Wireless Network**.



5. In the Wireless Network section, click on **Site Survey**.

Wireless Network

Wireless Mode 802.11 ax

SSID Target SSID Site Survey

Preferred BSSID Disabled

6. In the Site Survey list, find the SSID configured on the first access point TEW-940APBO and select it by clicking on the entry.

SSID	BSSID	Channel	Signal Level	Type	Security	Mode
	88 DC 96 66 85 5A	40	-53 dbm	11AC WHITE	OPEN	AP
TRENDnet01_C172	88 DC 97 1C C1 73	40	-21 dbm	11AXA HEUR	WPA3-SAE Mixed	AP
TRENDnet_HDMI	02 C0 8F 8D 82 F5	40	-55 dbm	11AC WHITE	WPA2-PSK	AP

7. The details of the selected SSID will be entered in to the wireless section automatically. Under the Wireless Security section under WPA, enter the **Pre-Shared Key** configured on the first access point and click **Apply**.

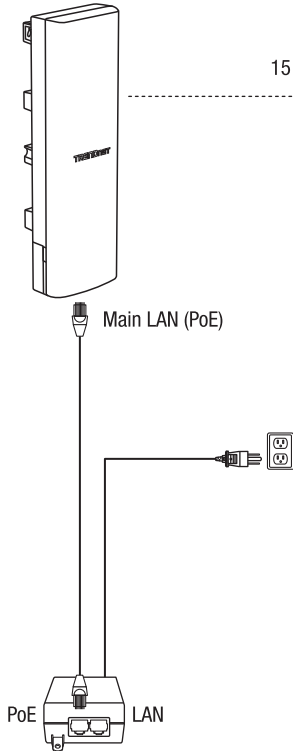
Wireless Network	
Wireless Mode	802.11 ac
SSID	TRENDnet940_C172 Site Survey
Preferred BSSID	Enabled
	88 DC:37 1C:C1:73
<small>Note: Enter the SSID/Wireless Network Name of the wireless network you would like to connect to in the field below or click Site Survey to scan for the available wireless networks to connect.</small>	
Wireless Security	
Security Mode	WPA3-Personal Mixed
WPA	
WPA Cipher	AES
Pre-Shared Key	*****
Apply	Cancel

8. In the top right main menu, click on the **Save button**  to commit the configuration changes.

Phase 4: Confirm Connectivity

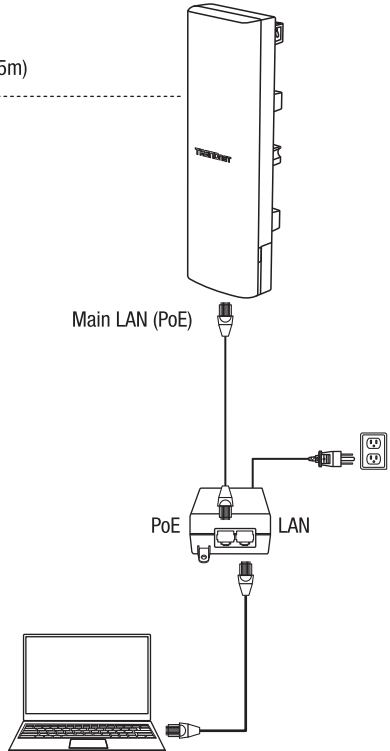
1. Leave your computer connected to second TEW-940APBO #2 and keep the access point configuration page open.
2. Make sure both TEW-940APBO #1 and TEW-940APBO #2 access points are powered on approximately 15 ft. (5 m) apart from one another.

TEW-940APBO #1



TEW-940APBO #2

15 ft. (5m)



3. To verify connectivity, in the TEW-940APBO #2 access point configuration page, click **Management** and click **Diagnostics**. Under the Ping Test Parameter section, enter the **IP Address** of the first TEW-940APBO #1, 192.168.10.50, then click **Ping**.

Ping Test Parameter	
IP Address	192.168.10.50
Packet Length	64
Number of Pings	4

Ping

4. Ping replies and 0% packet loss will indicate a successful point to point bridge connection between the TEW-941APBO #1 and TEW-941APBO #2 access points.

Note: If the connectivity test fails, wait for about 1 minute and try again. Make sure there are no obstacles between the two access points when running the connectivity test and make sure the access points are not too close together.

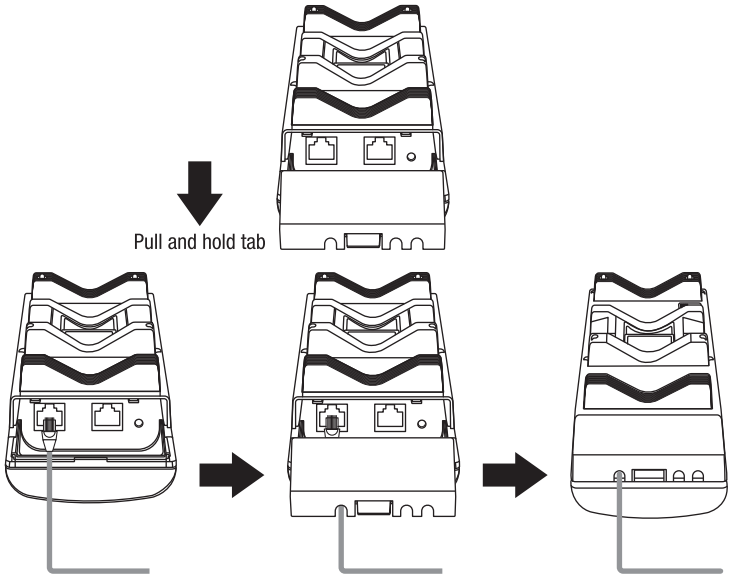
Diagnostics Result

```

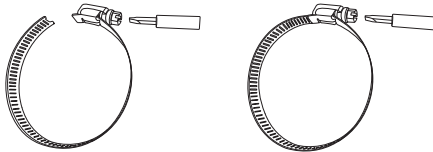
PING 192.168.10.50 (192.168.10.50): 64 data bytes
72 bytes from 192.168.10.50: seq=0 ttl=64 time=4.873 ms
72 bytes from 192.168.10.50: seq=1 ttl=64 time=4.072 ms
72 bytes from 192.168.10.50: seq=2 ttl=64 time=4.104 ms
72 bytes from 192.168.10.50: seq=3 ttl=64 time=4.136 ms
--- 192.168.10.50 ping statistics ---
4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 4.072/4.296/4.873 ms
  
```

3. Mounting

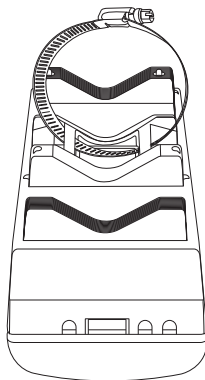
1. Route the Ethernet cable through one of the cable openings and reinstall the cover.



2. Loosen and open the pole mounting clamp using a flat head screwdriver or power drill turning the screw counter clockwise.

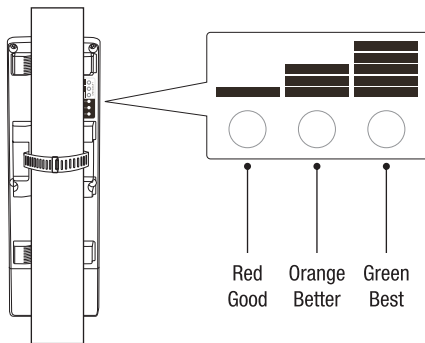


3. Insert the pole mounting clamp into the two openings at the back of the access point.

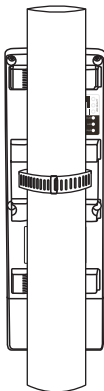


4. Secure the access point to the mounting location by turning the mounting clamp screw clockwise.

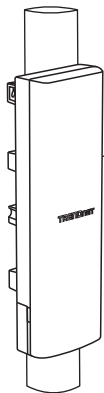
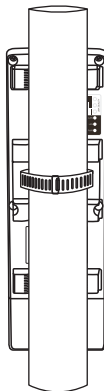
Note: When access point is set to Client Bridge mode operation, the TEW-940APB0 features WiFi link/connection quality LEDs located on the back of the access point to assist in determining the optimal mounting position. (Red = Good, Orange = Better, Green = Best)



TEW-940APB0 #1



TEW-940APB0 #2

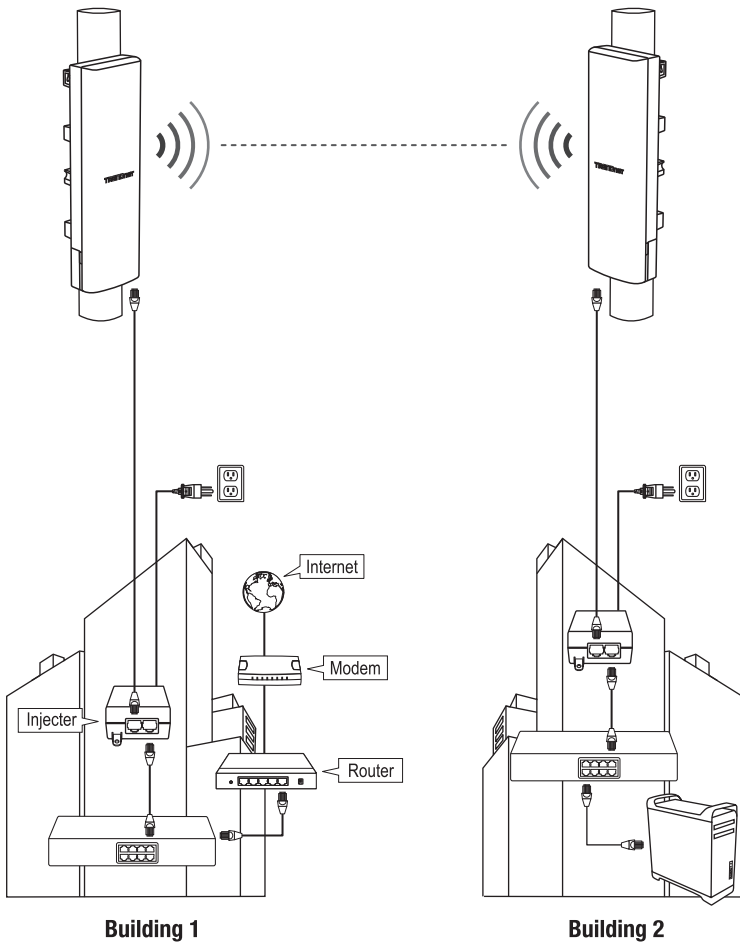


15 ft. (5m)



Note: Please make sure that the access points are mounted with the same vertical height, within line of sight, and facing the direction of each other to allow for the optimal connectivity. The link quality LED on the access point configured in client bridge may assist in the optimal mounting position.

Completed Installation Reference



Installation Tips and Troubleshooting

Q1: How do I configure my computer's network adapter with a static IP address?

Note: Please note that although the following procedures are provided to follow for your operating system network adapter settings to be used as general guidelines, however, it is strongly recommended that you consult your computer or operating system manufacturer directly for assistance on the proper procedure for configuring network settings. If you are experiencing difficulties, please contact your computer or operating system manufacturer for assistance.

Windows 2000/XP/Vista/7/8/8.1/10/11

1. On your keyboard, press **Windows Logo + R** keys simultaneously to bring up the Run dialog box.
2. In the dialog box, type **ncpa.cpl** to bring up the Network Connections window.
3. Right-click the **Local Area Connection** or **Ethernet** icon, click **Properties**, and double-click **Internet Protocol Version 4 (TCP/IPv4)**.
4. Then click **Use the following IP address** and assign your network adapter a static IP address. See example static IP address settings below.
 - IP address: 192.168.10.25
 - Subnet mask: 255.255.255.0
5. Click **OK** on both TCP/IPv4 Properties and Local Area Connection Properties windows.

MAC OS X

1. From the **Apple** drop-down list, select **System Preferences**.
2. Click the **Network** icon.
3. From the **Location** drop-down list, select **Automatic**.
4. Select and view your Ethernet connection.
 - For MAC OS 10.4, from the **Show** drop-down list, select **Built-in Ethernet** and select the **TCP/IP** tab.
 - For MAC OS 10.5 and above, in the left column, select **Ethernet**.
5. Configure TCP/IP to use a static IP.
 - From the **Configure IPv4** or **Configure** drop-down list, select **Manually** and assign your network adapter a static IP address. Then click the **Apply** or **Apply Now** button. See example static IP address settings below.
 - IP address: 192.168.10.25
 - Subnet mask: 255.255.255.0
6. You may be prompted to restart your computer to apply the new IP address settings.

Q2: I configured my computer's network adapter with a static IP address, how do I reconfigure my computer's network adapter to default settings and obtain an IP address automatically using DHCP?

Note: Please note that although the following procedures are provided to follow for your operating system network adapter settings to be used as general guidelines, however, it is strongly recommended that you consult your computer or operating system manufacturer directly for assistance on the proper procedure for configuring network settings. If you are experiencing difficulties, please contact your computer or operating system manufacturer for assistance.

Windows 2000/XP/Vista/7/8/8.1/10/11

1. On your keyboard, press **Windows Logo + R** keys simultaneously to bring up the Run dialog box.
2. In the dialog box, type **ncpa.cpl** to bring up the Network Connections window.
3. Right-click the **Local Area Connection** or **Ethernet** icon, click **Properties**, and double-click **Internet Protocol Version 4 (TCP/IPv4)**.
4. Then click **Obtain an IP address automatically** and **Obtain DNS server address automatically**.
5. Click **OK** on both TCP/IPv4 Properties and Local Area Connection Properties windows.

MAC OS X

1. From the **Apple** drop-down list, select **System Preferences**.
2. Click the **Network** icon.
3. From the **Location** drop-down list, select **Automatic**.
4. Select and view your Ethernet connection.
 - In MAC OS 10.4, from the **Show** drop-down list, select **Built-in Ethernet** and select the **TCP/IP** tab.
 - In MAC OS 10.5 and above, in the left column, select **Ethernet**.
5. Configure TCP/IP to use a static IP.
 - From the **Configure IPv4** or **Configure** drop-down list, select **Using DHCP** and click the **Apply** or **Apply Now** button.
6. You may be prompted to restart your computer to apply the new IP address settings.

Q3: I typed `http://192.168.10.100` in my Internet Browser Address Bar, but an error message says “The page cannot be displayed.” How can I access the wireless access point management page?

1. Double check all physical cable and port connections.
2. Make sure the PWR/LAN/2.4GHz/5GHz LEDs on the wireless access point front panel are on.
3. Make sure your computer's network adapter is configured with a static IP address. (Refer to Q1 for instructions on assigning a static IP address).
4. Make sure your computer is connected to the access point network LAN port and LAN LED is on.
5. Since the access point default IP address is 192.168.10.100, make sure there are no other network devices assigned an IP address of 192.168.10.100

Note: After checking all of the recommended items above, please attempt to access the wireless access point management page again.

Q4: How do I find the current IP address of my computer's network adapter?

Note: Please note that although the following procedures are provided to follow for your operating system network adapter settings to be used as general guidelines, however, it is strongly recommended that you consult your computer or operating system manufacturer directly for assistance on the proper procedure for configuring network settings. If you are experiencing difficulties, please contact your computer or operating system manufacturer for assistance.

Command Prompt Method

Windows 2000/XP/Vista/7/8/8.1/10/11

1. On your keyboard, press **Windows Logo + R** keys simultaneously to bring up the Run dialog box.
2. In the dialog box, type **cmd** to bring up the command prompt.
3. In the command prompt, type **ipconfig /all** to display your IP address settings.

MAC OS X

1. Navigate to your **Applications** folder and open Utilities.
2. Double-click on **Terminal** to launch the command prompt.
3. In the command prompt, type **ipconfig getifaddr <en0 or en1>** to display the wired or wireless IP address settings.

Note: **en0** is typically the wired Ethernet and **en1** is typically the wireless Airport interface.

Graphical Method

Windows XP/Vista/7/8/8.1/10/11

1. On your keyboard, press **Windows Logo + R** keys simultaneously to bring up the Run dialog box.
2. In the dialog box, type **ncpa.cpl** to bring up the Network Connections window.
3. Double-click the Local Area Connection icon and click the Details button to view the current IP address settings.

Note: The computer's network adapter must be enabled and connected to view the current IP address settings.

MAC OS X

1. From the **Apple** menu, select **System Preferences**.
2. In System Preferences, from the **View** menu, select **Network**.
3. In the Network preference window, click a network port (e.g., Ethernet, AirPort, modem). If you are connected, you'll see your IP address settings under "Status:"

Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

No.	Type	Connector	Gain (dBi)			Remark
1	Patch	I-PEX	Ant. 1 (5150-5850MHz)		Ant. 2 (5150-5850MHz)	For Model: TEW-940APB0 and TEW-940APB02K use only
			13.35		13.42	
2	Dipole	RSMA	5150MHz	5550MHz	5850MHz	For Model: TEW-940APB0 use only
			5.12	5.09	5.17	
3	Patch	I-PEX	Ant. 1 (5150-5925MHz)		Ant. 2 (5150-5925MHz)	For Model: TEW-940APB0 and TEW-940APB02K use only
			15.5		15.5	

Certifications

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



Waste electrical and electronic products must not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or Retailer for recycling advice.

Technical Support

If you have any questions regarding the product installation, please contact our Technical Support. Toll free US/Canada: **1-855-373-4741**
Regional phone numbers available at www.trendnet.com/support

TRENDnet

20675 Manhattan Place
Torrance, CA 90501
USA

Applies to PoE Products Only: This product is to be connected only to PoE networks without routing to the outside plant.

Note

The Manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Advertencia

En todos nuestros equipos se mencionan claramente las características del adaptador de alimentación necesario para su funcionamiento. El uso de un adaptador distinto al mencionado puede producir daños físicos y/o daños al equipo conectado. El adaptador de alimentación debe operar con voltaje y frecuencia de la energía eléctrica domiciliar existente en el país o zona de instalación.

Product Warranty Registration

Please take a moment to register your product online. Go to TRENDnet's website at: www.trendnet.com/register