TRENDNET®

User's Guide

TEW-638PAP
1.01

Federal Communication Commission Interference Statement

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 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.

IMPORTANT NOTE:
FCC 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.

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

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

European Union Notice:

Radio products with the CE marking comply with the R&TTE Directive (1999/5/EC), the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:
- EN 60950   Product Safety
- EN 300 328   Technical requirement for radio equipment
- EN 301 489-1/-17   General EMC requirements for radio equipment

Trademark recognition

All product names used in this manual are the properties of their respective owners and are acknowledged.

EUROPE – EU DECLARATION OF CONFORMITY

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

- **EN60950-1:2006**
  Safety of Information Technology Equipment

- **EN50385 : (2002-08)**
- Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40 GHz) - General public

- **EN 300 328 V1.7.1: (2006-10)**
- Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

- **EN 301 489-1 V1.8.1: (2008-04)**
- Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
- **EN 301 489-17 V1.3.2 (2008-04)**
- Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment; Part 17: Specific conditions for 2,4 GHz wideband transmission systems, 5 GHz high performance RLAN equipment and 5,8 GHz Broadband Data Transmitting Systems
-

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

$C\epsilon$0560 $\bigcirc\!\!\!\!!$

cs Česky [Czech]	*TRENDware* tímto prohlašuje, že tento TEW-638PAP je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede *TRENDware* erklærer herved, at følgende udstyr TEW-638PAP overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt *TRENDware*, dass sich das Gerät TEW-638PAP in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab *TRENDware* seadme TEW-638PAP vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, *TRENDware*, declares that this TEW-638PAP is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
es Español [Spanish]	Por medio de la presente *TRENDware* declara que el TEW-638PAP cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ *TRENDware* ΔΗΛΩΝΕΙ ΟΤΙ TEW-638PAP ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente *TRENDware* déclare que l'appareil TEW-638PAP est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
it Italiano [Italian]	Con la presente *TRENDware* dichiara che questo TEW-638PAP è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo *TRENDware* deklarē, ka TEW-638PAP atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo *TRENDware* deklaruoja, kad šis *[equipment type]* atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
nl Nederlands [Dutch]	Hierbij verklaart *TRENDware* dat het toestel TEW-638PAP in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
mt Malti [Maltese]	Hawnhekk, *TRENDware*, jiddikjara li dan TEW-638PAP jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
hu Magyar [Hungarian]	Alulírott, *TRENDware* nyilatkozom, hogy a TEW-638PAP megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
pl Polski [Polish]	Niniejszym *TRENDware* oświadcza, że TEW-638PAP jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
pt Português [Portuguese]	*TRENDware* declara que este TEW-638PAP está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
sl Slovensko [Slovenian]	*TRENDware* izjavlja, da je ta *[tip opreme]* v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	*TRENDware* týmto vyhlasuje, že TEW-638PAP spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi Suomi [Finnish]	*TRENDware* vakuuttaa täten että TEW-638PAP tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
sv Svenska [Swedish]	Härmed intygar *TRENDware* att denna TEW-638PAP står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

Contents

Package Contents

- TEW-638PAP wireless n AP

- CAT-5 Ethernet Cable (the TEW-638PAP's Ethernet ports is Auto-MDIX)

- Power Adapter (12.0V, 0.5A)

- CD-ROM with Manual & Wizard

- Quick Installation Guide

Using a power supply with a different voltage than the one included with your product will cause damage and void the warranty for this product.

NOTE

Minimum System Requirements

Installation Requirements

- Web Browser: Internet Explorer (6 or higher) Mozilla or Safari.
- A computer with a network adapter or wireless adapter properly installed.
- CD-ROM drive
- A router with an available network LAN port.
- A RJ-45 network cable.

Introduction

The versatile 300Mbps Wireless N Access Point is designed to create a scalable high speed wireless n network or to connect a wired device to an existing wireless network.

Use multiple 300Mbps Wireless N Access Points together to extend your network using Wireless Distribution System (WDS), Wireless Bridge and AP Client Modes.

Expand a wireless network without running additional cabling with Wireless Distribution Service (WDS) technology by connecting multiple access points wirelessly. Use Wireless Bridge Mode to connect devices such as game consoles, printers and digital video recorders (DVR) to your wireless network. Advanced antenna technology (MIMO) increases wireless coverage and WPA / WPA2 encryption protects your wireless network.

FEATURES

- Compact high performance wireless n access point

- Wireless Bridge mode for Ethernet-to-wireless bridging function

- Works as an access point and a wireless adapter

- Compliant with IEEE 802.wireless n, IEEE 802.wireless g and 802.11b standards

- compatible with 802.11b/g/n networks

- Up to a 300Mbps data rate using an 802.wireless n

- Expand a wireless network using AP client mode or Wireless Distribution System (WDS)

- Support for the 802.11e Quality of Service (QoS) standard

- 2 removable antennas to support high speed performance and expanded coverage

- Supports Wi-Fi Protected Setup (WPS) feature allowing you to integrate other WPS devices into your network quickly

- Indoor coverage up to 100 meters (328ft.)*

- Outdoor coverage up to 300 meters (984ft.)*

HARDWARE OVERVIEW

Rear View	Auto MDI/MDIX 10/100Mbps LAN Ports
	This port automatically senses the cable type when connecting to Router.
	Reset Button
	Pressing the reset button restores the AP to its original factory default settings.
	Power Switch (EU version)
	On/off Switch
	DC-IN
	The DC power input connector is a single jack socket to supply power to the TEW-638PAP. Please use the Power Adapter provided on the TEW-638PAP package.

Power Switch
EU Version

Front View	WLAN LED
	A solid light indicates that the wireless segment is ready. This LED blinks green during wireless data transmission.
	WPS LED
	This LED blinks green during WPS function is enabled.
	LAN LED
	A solid light indicates a connection to a Router on the LAN port. This LED blinks green during data transmission
	POWER LED
	A solid green light indicates a proper connection to the power supply
	WPS Button
	Press the button to enable WPS function.

INSTALLATION CONSIDERATIONS

There are a number of factors that can impact the range of wireless devices.

1. Adjust your wireless devices so that the signal is traveling in a straight path, rather than at an angle.   The more material the signal has to pass through the more signal you will lose.
2. Keep the number of obstructions to a minimum. Each obstruction can reduce the range of a wireless device.   Position the wireless devices in a manner that will minimize the amount of obstructions between them.
3. Building materials can have a large impact on your wireless signal. In an indoor environment, try to position the wireless devices so that the signal passes through less dense material such as dry wall.   Dense materials like metal, solid wood, glass or even furniture may block or degrade the signal.
4. Antenna orientation can also have a large impact on your wireless signal. Use the wireless adapter's site survey tool to determine the best antenna orientation for your wireless devices.
5. Interference from devices that produce RF (radio frequency) noise can also impact your signal. Position your wireless devices away from anything that generates RF noise, such as microwaves, radios and baby monitors.
6. Any device operating on the 2.4GHz frequency will cause interference. Devices such as 2.4GHz cordless phones or other wireless remotes operating on the 2.4GHz frequency can potentially drop the wireless signal.   Although the phone may not be in use, the base can still transmit wireless signal.   Move the phone's base station as far away as possible from your wireless devices.

If you are still experiencing low or no signal consider repositioning the wireless devices or installing additional access points.   The use of higher gain antennas may also provide the necessary coverage depending on the environment.

Getting Started

For a typical wireless setup at home or office, please do the following:

1. Insert Setup Wizard CD into your CD-ROM drive.
2. The Welcome screen appears on your monitor. Click **Setup Wizard** button.

3. Read the License Agreement and click **Next** to continue the installation.
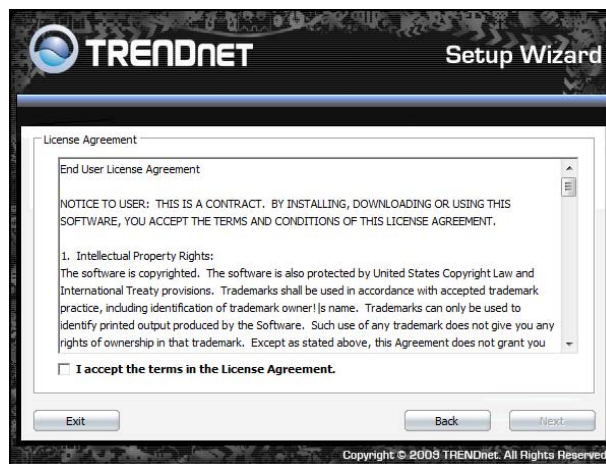
4. Connect an Ethernet cable from the LAN port on your Router to the LAN port on the TEW-638PAP, click **Next button** to continue.
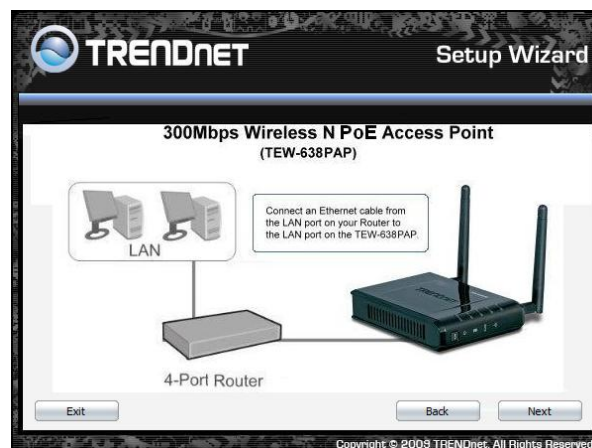
1. Plug in the power adapter of the TEW-638PAP and plug in the device that you will be connecting together. Verify the Power & Ethernet LEDs are light. *EU Version please make sure the power switch is on the On position*

5. Your computer will detect TEW-638PAP and the Device List screen appears on your monitor. Click **Configure** button to continue (default TEW-638PAP IP Address is 192.168.10.100).
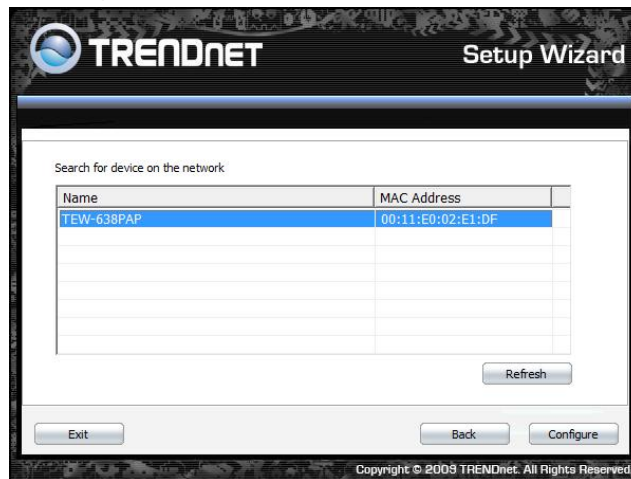
6. Enter password for the Access Point. The default password is **"admin"**. Click **Login** button to continue.
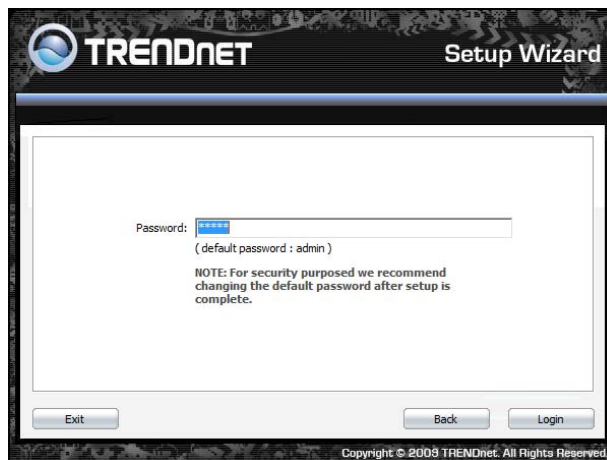
ACCESS POINT MODE

1. To setup TEW-638PAP or add/connect your wireless client to this AP, please select **"Access Point"** and click **Next** to continue
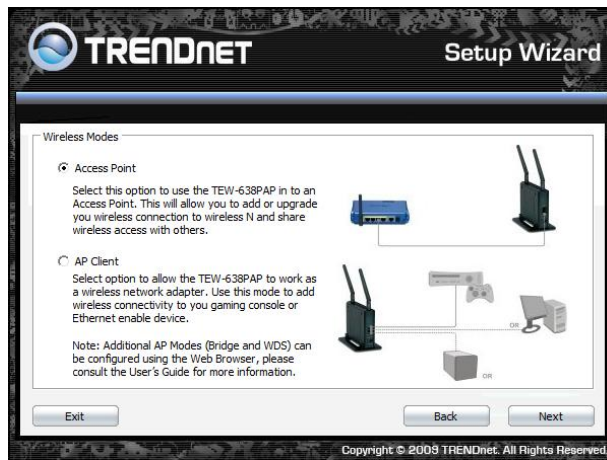
2. To attain an IP address automatically, you can select **"Dynamic IP address configuration";** to change IP address, you can select **"Static IP address configuration"** and click **Next** button to continue.

3. The default IP address is 192.168.10.100, you can choose to obtain network setting automatically, or set the IP address manually. After setting, click **Next** to continue.
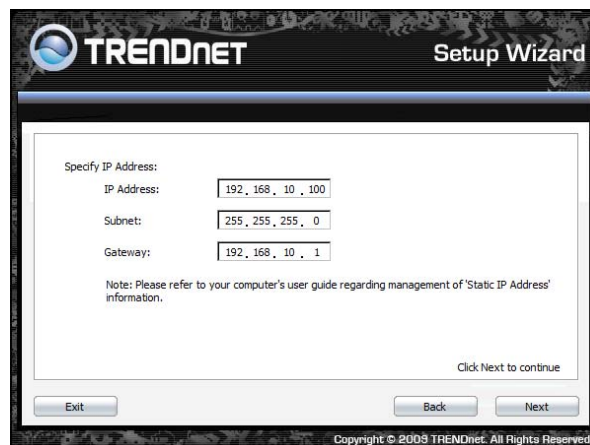
4. Select **Wi-Fi Protected Setup** to connect your wireless client device to this AP, and click **Next** button.
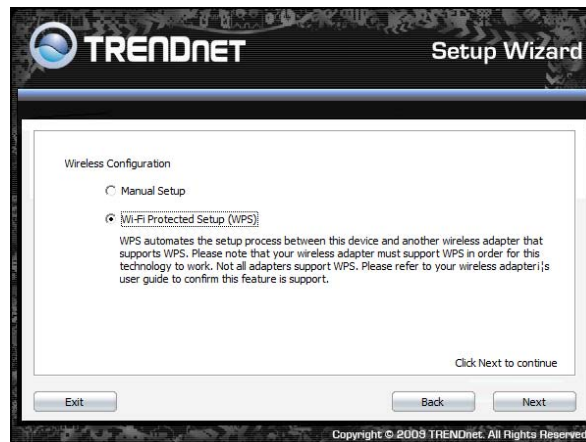
5. Use **Push Button Method,** click **Connect** button to continue. You also need to enable WPS function of the wireless client device to make connection.
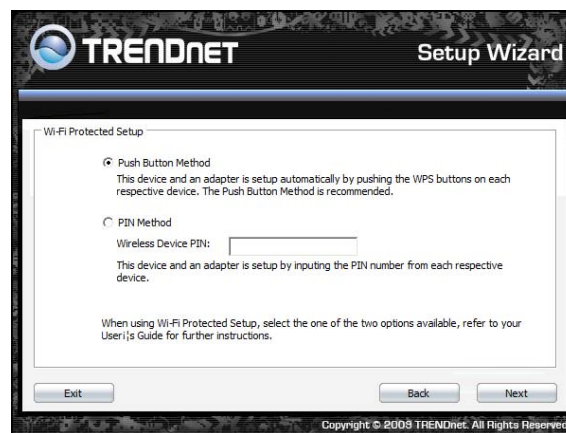
6. Use **PIN Method** and enter your wireless client PIN number on **Wireless Device PIN**, and then click **Connect** button to make wireless connection.
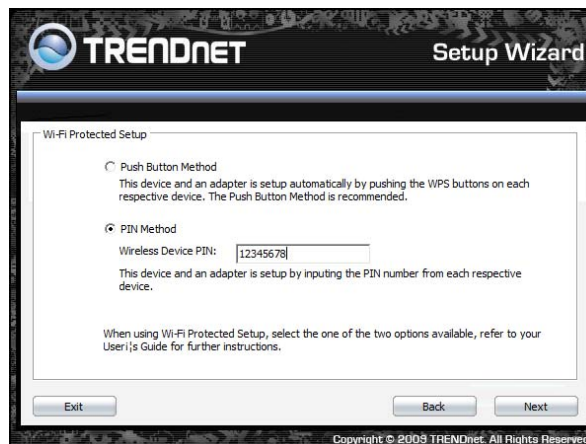
7. To set TEW-638PAP security, select **Manual setup** and click **Next** button
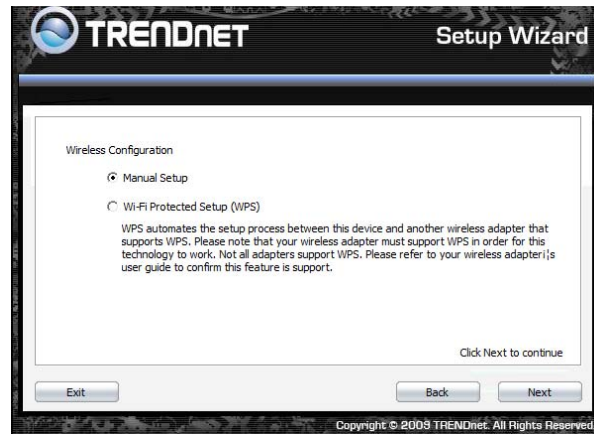
8. Enter **SSID** of TEW-638PAP, click **Next** button.
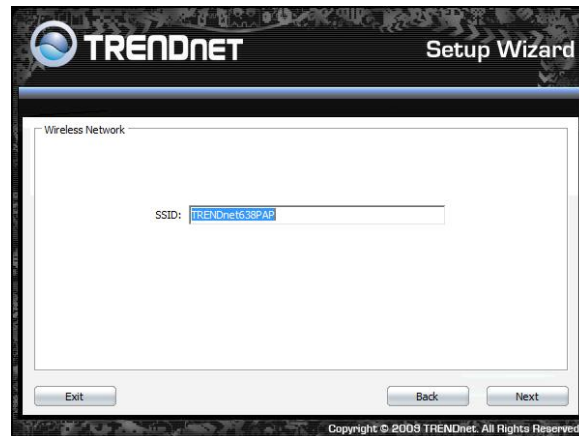
9. Choice Wireless Mode.
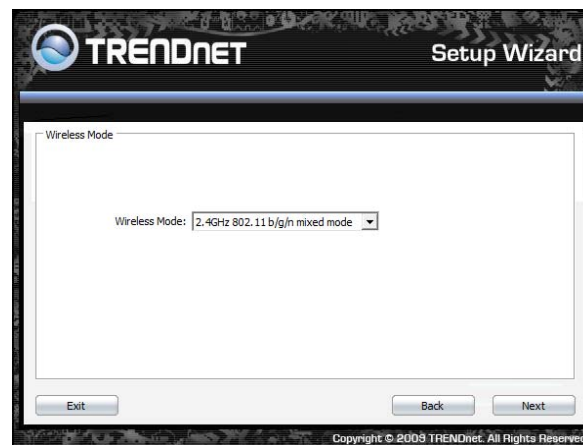
10. To disable **Security Mode,** select **None** and click **Next** button.
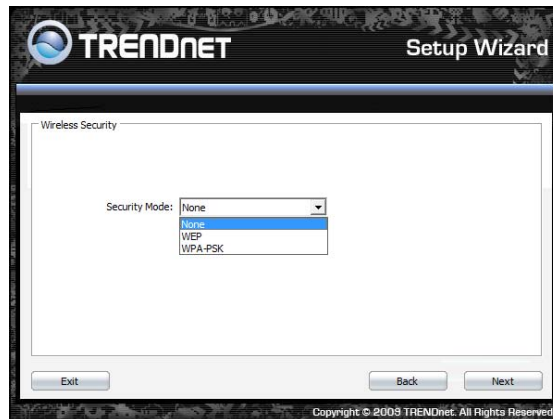
11. To use WEP security, select **WEP** and click **Next** button. Select **64-bit** or **128-bit** WEP key length, and enter your WEP key. For 64-bit encryption, enter 10 hexadecimal characters, For 128-bit encryption, enter 26 hexadecimal characters. Click **Next** to continue the setting.
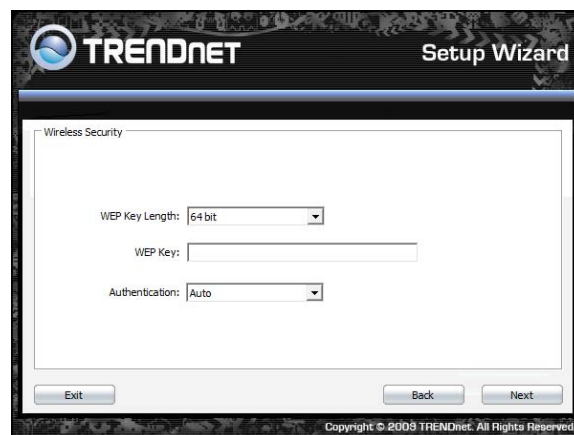
12. To use WPA or WPA2 security, select **WPA or WPA2** and click **Next** button. Select **WPA Mode: WPA Only, WPA2 Only, WPA or WPA2,** and set **Pre-Shared Key** by entering 8 ~ 63 characters. Click **Next** to continue the setting.
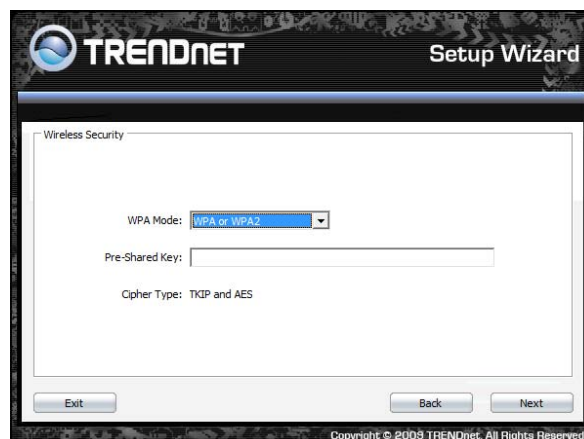
13. Confirm your new settings. It is recommended that you save or print your wireless settings with the **Save** or **Print** buttons. Once finished, click **Configure** to continue.
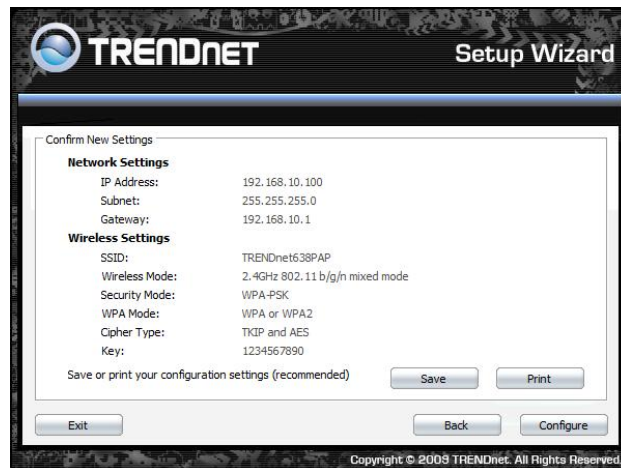
14. Save you setting to a text file in a desired location.
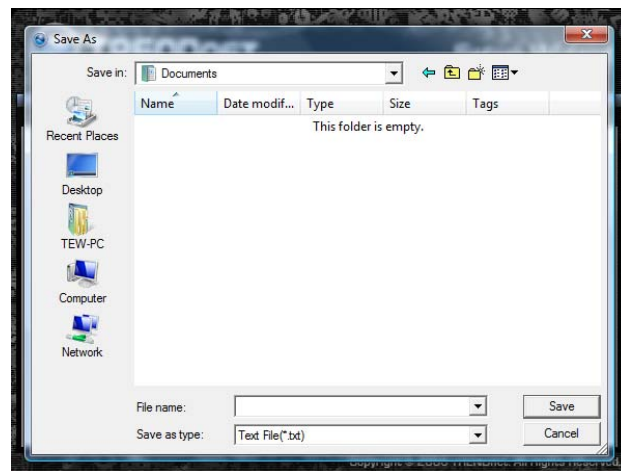
15. Congratulations you have configured you TEW-638PAP.
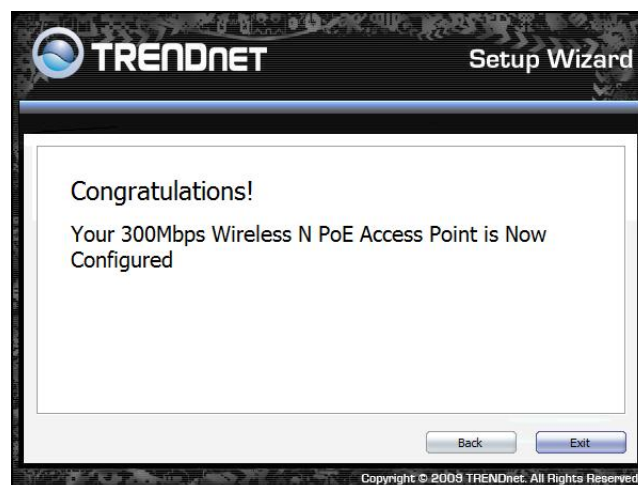
AP CLIENT MODE

For a typical wireless setup at home, please do the following:

2. Insert Setup Wizard CD into your CD-ROM drive.

3. The Welcome screen appears on your monitor. Click **Setup Wizard** button.
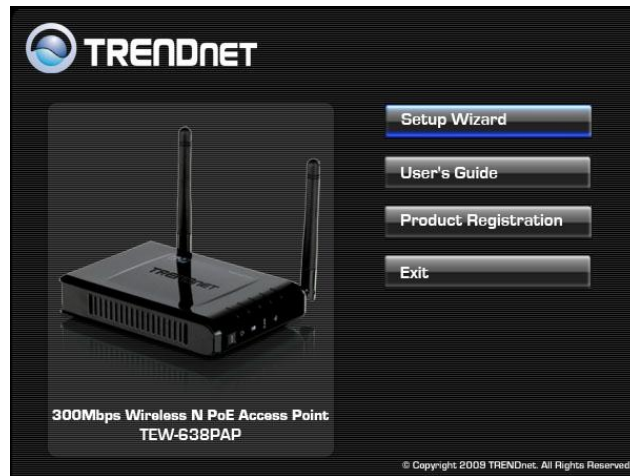
4. Read the License Agreement and click **Next** to continue the installation.

5. Connect an Ethernet cable from the LAN port on your Router to the LAN port on the TEW-638PAP, click **Next button** to continue.
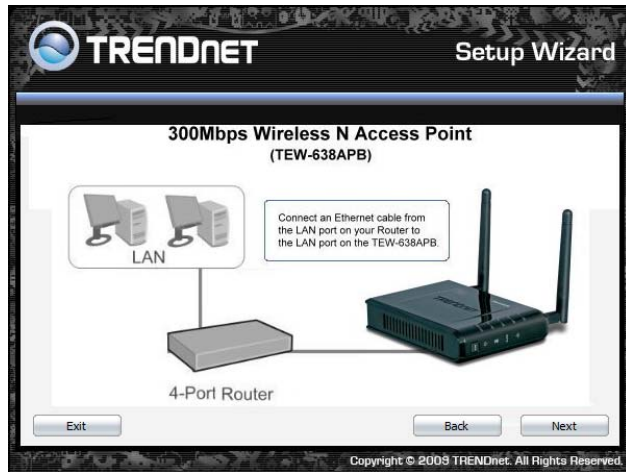
6. Plug in the power adapter of the TEW-638PAP and plug in the device that you will be connecting together. Verify the Power & Ethernet LEDs are light. *EU Version please make sure the power switch is on the On position*

7. Your computer will detect TEW-638PAP and the Device List screen appears on your monitor. Click **Configure** button to continue (default TEW-638PAP IP Address is 192.168.10.100).
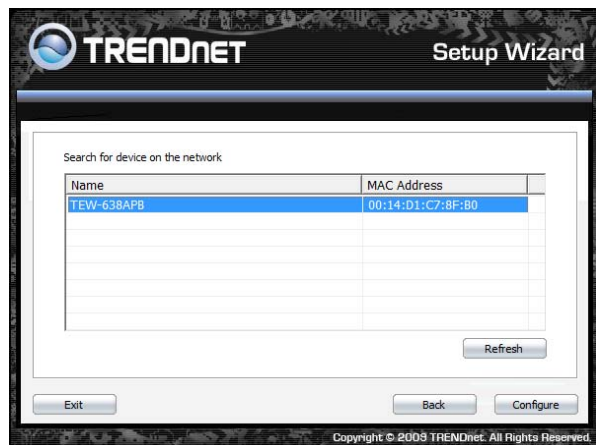
8. Enter password for the Access Point. The default password is **"admin"**. Click **Login** button to continue.
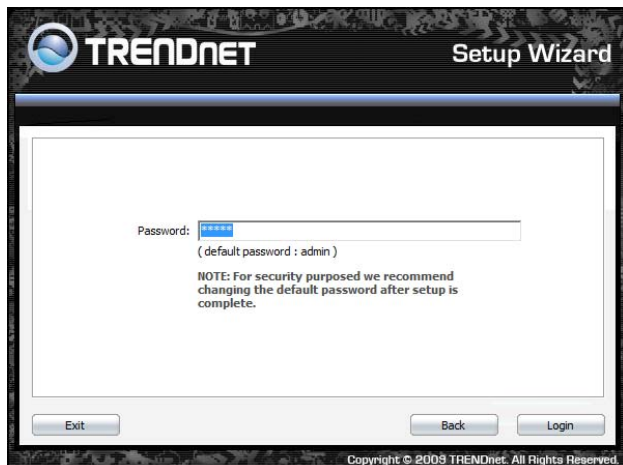
9. Select "**AP Client**" option to allow the TEW-638PAP to work as a wireless network adapter. Click **Next** button to continue.
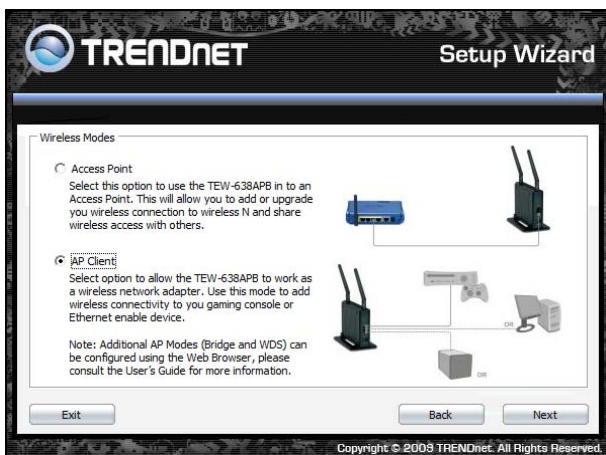
10. Press Refresh and select the Access Point you would like to connect and click **Connect**.
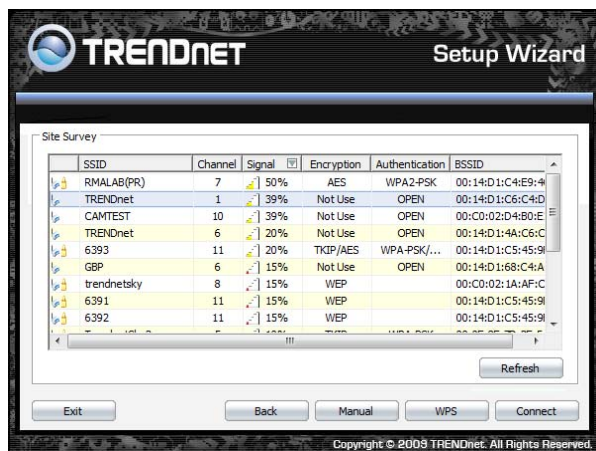
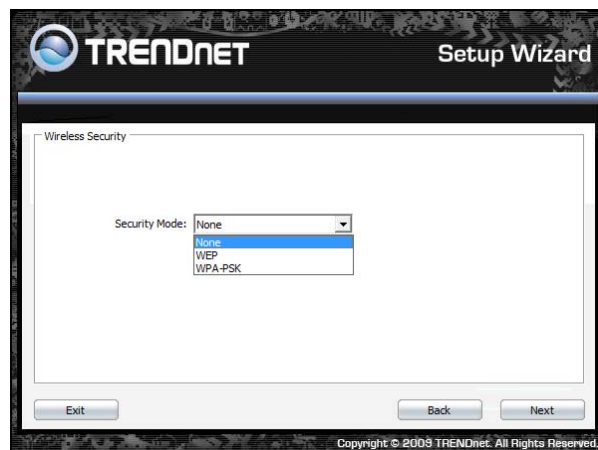11. Verify the SSID selected is correct and click **Next**
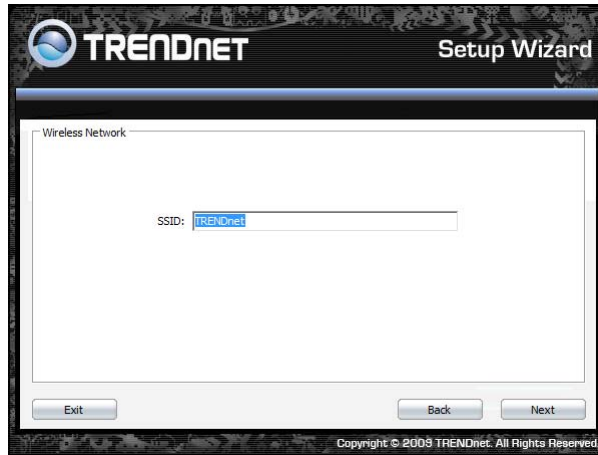
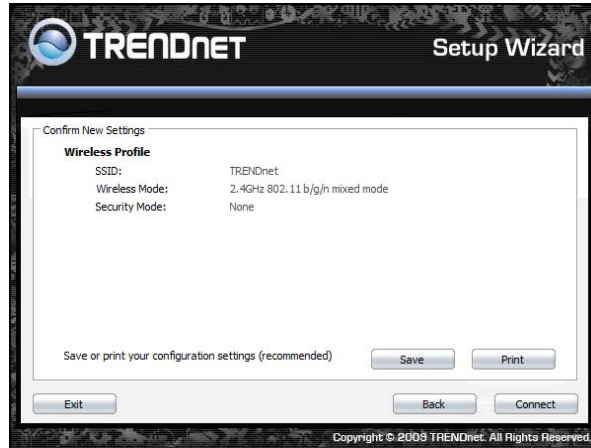12. Select the 802.11 mode you would like to connect with and click **Next.**
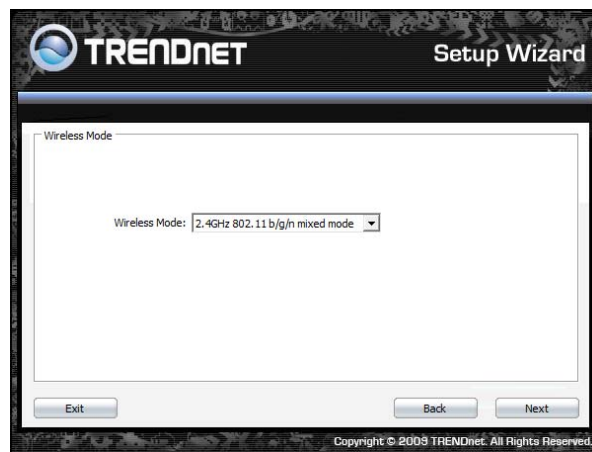
13. Select the wireless encryption set on the access point you are connecting to.
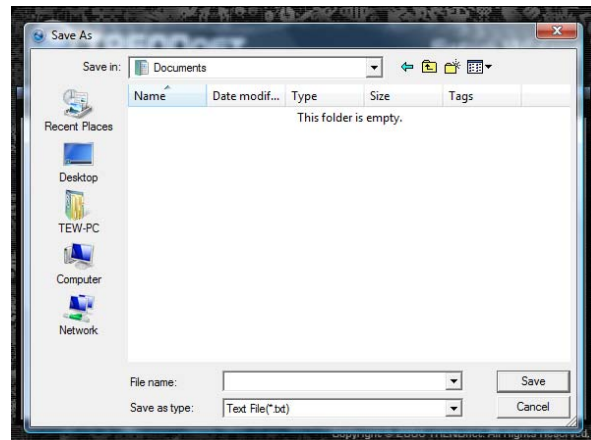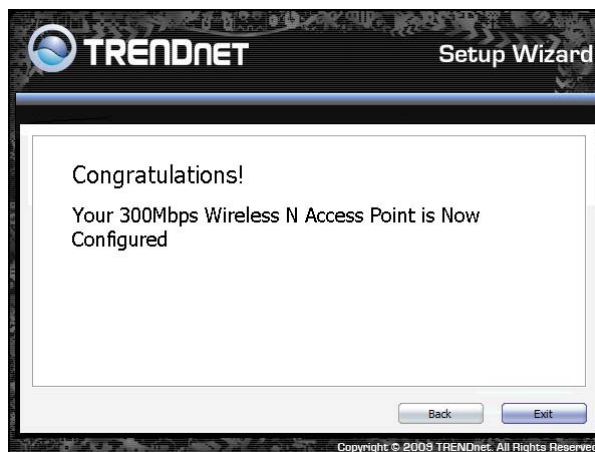
14.

15. Confirm your new settings. It is recommended that you save or print your wireless settings with the **Save** or **Print** buttons. Once finished, click **Continue** to continue.

16. You can also save your setting to a text file in a desired location.

17. Congratulations you have configured you TEW-638PAP.

Using the Configuration Menu

Whenever you want to configure your TEW-638PAP, you can access the Configuration Menu by opening the Web-browser and typing in the IP Address of the TEW-638PAP.

> ➤ Open the Web browser.
> ➤ Type in the current **IP Address** of the AP (i.e. http://192.168.10.100).

NOTE   If you have changed the default IP Address assigned to the TEW-638PAP (192.168.10.100), make sure to enter the correct IP Address.

> ➤ Type **admin** in the **User Name** field.
> ➤ The **Password** is **admin**.
> ➤ Click **Login In.**
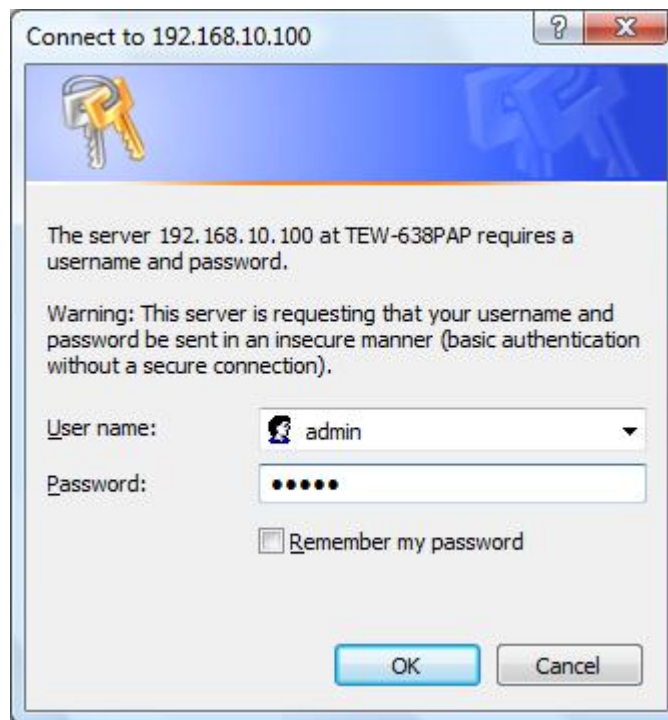
OPERATION MODE SETTING

Access Point
This mode setting allows the TEW-638PAP to work as an Access Point. This will allow for wireless connectivity from this device to other wireless clients. This mode also includes the use of the AP mode to connect Local Area Networks (LAN) together (Point to Point bridging) and extend the wireless coverage with Wireless Distribution System (WDS).
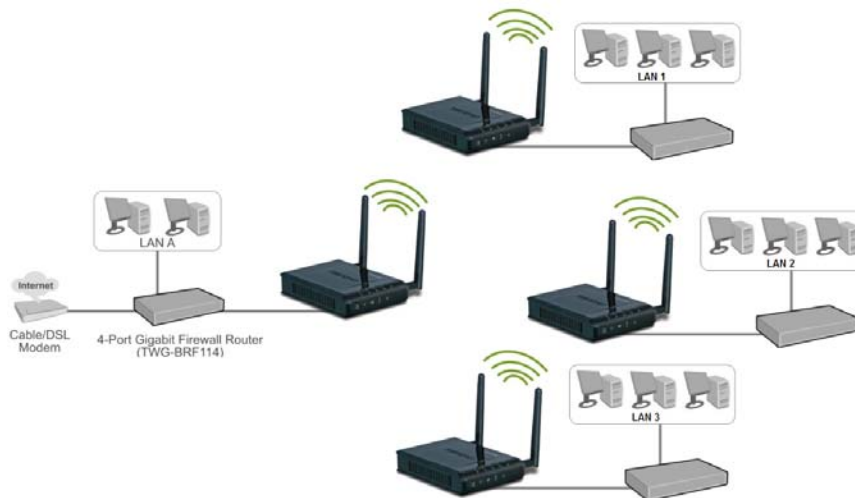

Access Point Mode

AP Mode Support (Repeat)

AP WDS Mode (Point to Point)


AP WDS Mode (multi point)

AP Client

This mode setting allows the TEW-638PAP to work just like a wireless adapter. By using AP Client mode, the TEW-638PAP can connect to any device that has an Ethernet port (RJ-45 connector) and support for TCP/IP protocol. Devices like Network storage, network enable printers, and gaming consoles can now be wirelessly enable by connect the TEW-638PAP in the AP Client mode.

AP Client Mode

After selecting the **operation mode** click on **Apply** to save the setting at the bottom of the window.

NETWORK LAN SETTING
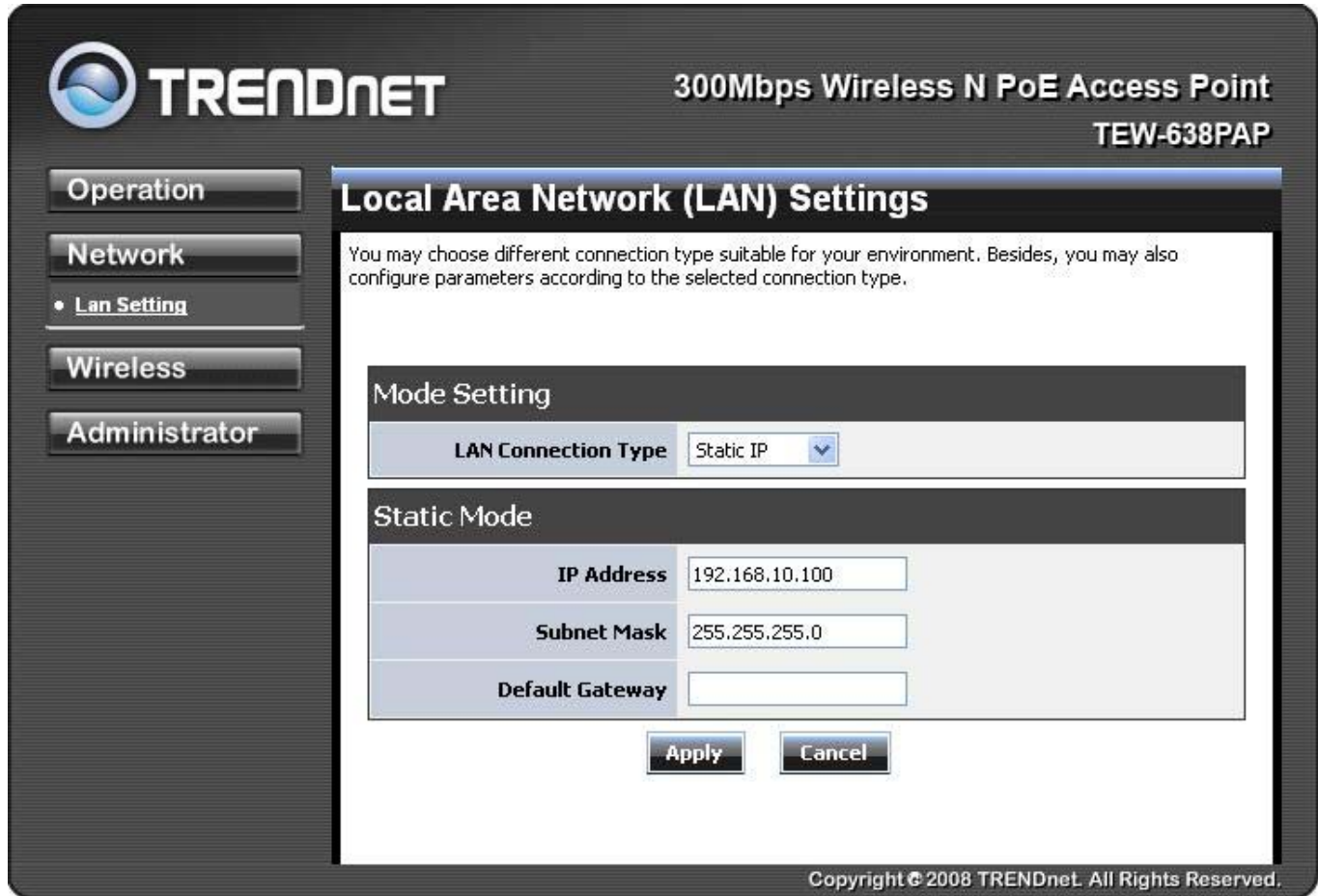
These are the settings of the LAN (Local Area Network) interface for the Access Point. The Access Point's local network (LAN) settings are configured based on the IP Address and Subnet Mask assigned in this section. The IP address is also used to access this Web-based management interface.

LAN Connection Type

Choose **"Static IP (fixed IP)"** if your router does not support DHCP or if for any other reason you need to assign a fixed address to the AP. In this case, you must also configure the following fields.

IP Address

The IP address of the AP on the local area network. Assign any unused IP address in the range of IP addresses available for the LAN. For example, 192.168.10.100.

Subnet Mask

The subnet mask of the local area network.

Default Gateway

The IP address of the router on the local area network.

Choose **"DHCP (Auto Config)"** if your router supports DHCP and you want the router to assign an IP address to the AP.

WIRELESS

The wireless section is used to configure the wireless settings for your Access Point. Note that changes made in this section may also need to be duplicated on wireless clients that you want to connect to your wireless network.

To protect your privacy, use the wireless security mode to configure the wireless security features.

The Wireless tab provides the following configuration options: Basic, Advanced, MAC Filter, Security, WPS and Station List.

Wireless Basic - Access Point

AP Mode Support

AP Mode Support allows you to "repeat" a wireless signal from an existing access point.

Select the radio button to enable or disable "AP Mode Support". When enabled you have the option of defining the specific access point to repeat off of by entering in the remote access points or wireless router's wireless MAC address into the "AP MAC Addr. (Optional)" field. You must also configure the TEW-638AP with the same SSID, channel and wireless encryption settings of the remote access point.

AP Mode Support enabled

Wireless Mode

If all of the wireless devices you want to connect with this Access Point can connect in the same transmission mode, you can improve performance slightly by choosing the appropriate "Only" mode. If you have some devices that use a different transmission mode, choose the appropriate "Mixed" mode.

Wireless Modes

802.11b/g mixed mode (2.4GHz) **-** This wireless mode works in the 2.4GHz frequency range and will allow both wireless b and wireless g client to connect and access the TEW-638PAP at 11Mbps for wireless b, at 54Mbps for wireless g and share access at the same time. Although the wireless b/g operates in the 2.4GHz frequency, it will allow the use of other 2.4GHz client devices (Wireless n/g @ 54Mbps) to connect and access at the same time.

802.11n only (2.4GHz) **-** This wireless mode works in the 2.4GHz frequency range and will only allow the use of wireless n client devices to connect and access the TEW-638PAP up to 300Mbps*. Although the wireless n operates in the 2.4GHz frequency, this mode will only permit wireless n client devices to work and will exclude any other wireless mode and devices that are not wireless n only.

802.11b/g/n mixed mode (2.4GHz) **-** This wireless mode works in the 2.4GHz frequency range and will only allow the use of wireless g client devices to connect and access the TEW-638PAP at 11Mbps for wireless b, 54Mbps for wireless g and up to 300Mbps* for wireless n and share access at the same time. Although the wireless b/g/n operates in the same 2.4GHz frequency, it will allow the use of other 2.4GHz client devices (Wireless b/g/n) to connect and access at the same time.

Wireless Name (SSID)

When you are browsing for available wireless networks, this is the name that will appear in the list (unless Broadcast Network Name is set to Disable, see below). This name is also referred to as the SSID. For security purposes, it is highly recommended to change from the pre-configured network name. Add up to three additional SSIDs to create virtual wireless networks from one wireless Access Point.

Multiple SSID

This Access Point support multiple SSID function, you can assign three more SSID for the TEW-638PAP. Create virtual SSID wireless networks (WLAN) with different type of wireless security for each virtual WLAN that is created. When using the wireless adapter wireless site survey tool, there will be additional wireless network to connect with once the feature is enabled.

Multiple SSID (Virtual WLANs)