802.11a/b/g/n Wireless LAN

2.4GHz / 5GHz Dual Band

Access Point

User Guide

Regulatory notes and statements

Wireless LAN, Health and Authorization for use

The use of Wireless LAN devices may be restricted in some situations or environments for example:

·On board of airplanes, or

·In an explosive environment, or

·In case the interference risk to other devices or services is perceived or identified as harmful

In case the policy regarding the use of Wireless LAN devices in specific organizations or environments (e.g. airports, hospitals, chemical/oil/gas industrial plants, private buildings etc.) is not clear, please ask for authorization to use these devices prior to operating the equipment.

Regulatory Information/disclaimers

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The Manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, of the substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

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.

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

EN 50385: 2002

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 wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 301 489-1 V1.6.1: (2005-09)

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 V1.2.1 (2002-08)

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

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.

CE0560①

cs Česky [Czech]	*[Jméno výrobce]* tímto prohlašuje, že tento *[typ zařízení]* je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede *[fabrikantens navn]* erklærer herved, at følgende udstyr *[udstyrets typebetegnelse]* overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt *[Name des Herstellers]*, dass sich das Gerät *[Gerätetyp]* in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab *[tootja nimi = name of manufacturer]* seadme *[seadme tüüp = type of equipment]* vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, *[name of manufacturer]*, declares that this *[type of equipment]* is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
es Español [Spanish]	Por medio de la presente *[nombre del fabricante]* declara que el *[clase de equipo]* cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ *[name of manufacturer]* ΔΗΛΩΝΕΙ ΟΤΙ *[type of equipment]* ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente *[nom du fabricant]* déclare que l'appareil *[type d'appareil]* est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
it Italiano [Italian]	Con la presente *[nome del costruttore]* dichiara che questo *[tipo di apparecchio]* è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo *[name of manufacturer / izgatavotāja nosaukums]* deklarē, ka *[type of equipment / iekārtas tips]* atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo *[manufacturer name]* deklaruoja, kad šis *[equipment type]* atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
nl Nederlands [Dutch]	Hierbij verklaart *[naam van de fabrikant]* dat het toestel *[type van toestel]* in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
mt Malti [Maltese]	Hawnhekk, *[isem tal-manifattur]*, jiddikjara li dan *[il-mudel tal-prodott]* jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
hu Magyar [Hungarian]	Alulírott, *[gyártó neve]* nyilatkozom, hogy a *[... típus]* megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
pl Polski [Polish]	Niniejszym *[nazwa producenta]* oświadcza, że *[nazwa wyrobu]* jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
pt Português [Portuguese]	*[Nome do fabricante]* declara que este *[tipo de equipamento]* está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
sl Slovensko [Slovenian]	*[Ime proizvajalca]* izjavlja, da je ta *[tip opreme]* v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	*[Meno výrobcu]* týmto vyhlasuje, že *[typ zariadenia]* spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi Suomi [Finnish]	*[Valmistaja = manufacturer]* vakuuttaa täten että *[type of equipment = laitteen tyyppimerkintä]* tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin

		muiden ehtojen mukainen.
SW	Svenska [Swedish]	Härmed intygar *[företag]* att denna *[utrustningstyp]* står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

TABLE OF CONTENT

ABOUT THIS GUIDE

Congratulations on your purchase of this IEEE 802.11a/b/g/n Dual Band Wireless LAN Access Point. This manual helps to features the innovating wireless technology that can help you build a wireless network easily! This manual contains detailed instructions in operation of this product. Please keep this manual for future reference.

With a WLAN (IEEE 802.11a/b/g/n) Access Point, a mobile computer can share data with another mobile computer in a wireless way. Easy-to-use utilities are bundled with WLAN Access Point for configuration and monitoring purposes.

WLAN networking can wirelessly transmit and receive data, minimizing the need for wired connections, at a speed of up to 300Mbps. With WLAN networking, you can locate your PC wherever you want without wires and cables.

WLAN networking provides users with an access to real-time information anywhere in their organization. The mobility provides productivity and service, which are not available under wired networks.

Purpose

This manual discusses how to install the WLAN Access Point.

Overview of this User's Guide

Introduction. Describes the 802.11a/b/g/n Dual Band WLAN Access Point and its features.

Unpacking and Setup. Helps you get started with the basic installation of the 802.11a/b/g/n Dual Band WLAN Access Point.

Hardware Installation. Describes the LED indicators of the AP.

Software Installation. Tells how to setup the driver and the utility setting.

Technical Specifications. Lists the technical (general, physical and environmental) specifications of the 802.11a/b/g/n Dual Band WLAN Access Point.

UNPACKING AND SETUP

This chapter provides unpacking and setup information for the Access Point.

Unpacking

Open the box of the Access Point and carefully unpack it. The box should contain the following items:

◆ One 802.11a/b/g/n Dual Band Wireless Access Point

◆ Two 2dBi gain dipole antennas

◆ One external power adapter

◆ One CD-Rom (User's guide)

If any item is found missing or damaged, please contact your local reseller for replacement.

Setup

The setup of the Wireless Access Point can be performed using the following steps:

◆ Locate an optimum location for the Wireless LAN Access Point (AP). The best place for your AP is usually the center of your wireless network, with line of sight to all of your mobile stations.

◆ Visually inspect the Ethernet RJ45 port connector and make sure that it is fully plugged in to the system's Ethernet switch/hub port.

◆ Fix the direction of the antennas. Try to place the AP in a position that can best cover your wireless network. Normally, the higher you place the antenna, the better the performance will be. The antenna's position enhances the receiving sensitivity.

◆ Visually inspect if the Power Adapter was fully plugged to the device power jack.

HARDWARE INSTALATION

Front panel

The figure below shows the LED Indicator of the Wireless LAN Access Point.

Power:

This indicator lights green when the Access Point receives power. Otherwise, it turns off.

Status:

This indicator blinking green means the WLAN AP is working successfully. Otherwise, this indicator always on or off means the function of the WLAN AP has failed.

LAN:

The indicator lights green when the LAN port is connected to an Ethernet network successful. Otherwise, the indicator blinking green while transmitting or receiving data on the Ethernet network.

WLAN:

The indicator blinking green whiles the Wireless LAN activity.

Rear Panel

The figure below shows the rear panel of the Access Point
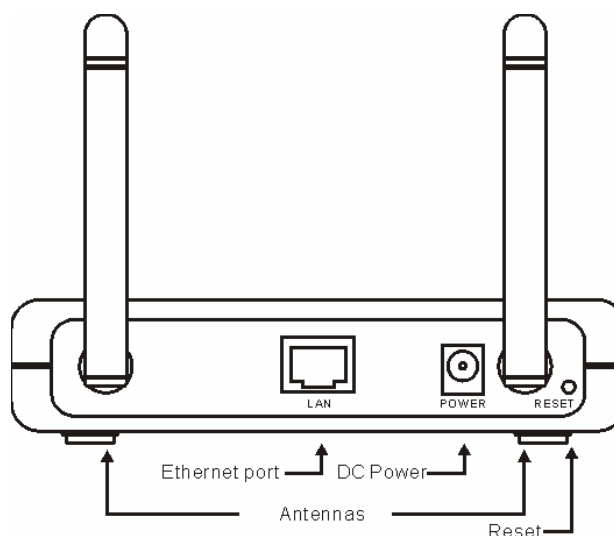
Rear Panel

LAN

Ethernet port with 10/100Mbps Fast Ethernet connections, connect this port to switch/hub.

RESET

The Reset function is to reset the setting back to factory default setting, once you press the "RESET" button more than 5 seconds.

Power

Connect the Power Adapter DC plug to the AP's power jack.

Antenna

Two external dipole antennas.

Side Panel

The figure below shows the side panel of the IEEE 802.11b/g/n Wireless Broadband Router.

Side Panel

WPS

Push this button to execute the Wi-Fi Protected Setup process.

Hardware connections
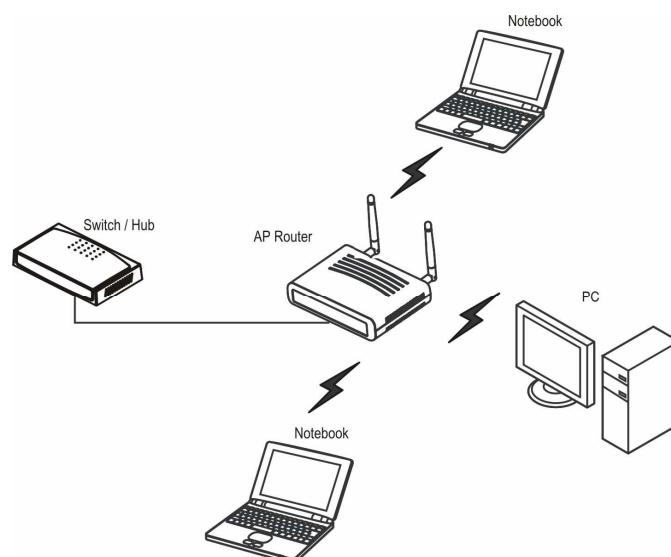
Connect to the Switch/Hub

1. Plug in one end of the RJ45 network cable to the Switch/Hub port,

2. Plug in the other end of the RJ45 network cable to the Wireless Access Point.

Check the installation

The LEDs of the Access Point are clearly visible and the status of the network link can be seen instantly:

1. With the power source on, once the device is connected, the Power, LAN and WLAN port LEDs will light up indicating a normal status.

2. If the LAN Port's Link indicator does not light up then check the RJ-45 cable if it is firmly feed to the RJ45 port, while the LAN is link up to the Switch/Hub, the LAN port's LED will light up.

CONFIGURING THE WIRELESS LAN ACCESS POINT

The Wireless Access Point has a Web GUI interface for the configuration. The AP can be configured through the Web Browser. A network manager can manage, control and monitor the AP from the local LAN. This section indicates how to configure the AP to enable its functions.

Login to the Wireless AP through WLAN

Before configuring the Wireless AP through WLAN, make sure that the SSID, Channel and the WEP was set properly.

The default setting of the Wireless AP that you will use:

◆ SSID: TRENDnet670

◆ Wireless Mode: Access point

◆ Channel: 6

◆ Channel Width: 20MHz

◆ Security: disabled

◆ IP address: 192.168.10.100

Login

Before you configure this device, note that when the AP is configured through an Ethernet connection, make sure the manager PC must be set on same the **IP network**. For example, when the default network address of the default IP address of the AP is ***192.168.10.100***, then the manager PC should be set at 192.168.10.x (where x is a number excluding 100), and the default subnet mask is 255.255.255.0.

Open Internet Explorer 6.0 or above Web browser.

Enter IP address ***http://192.168.10.100*** (the factory-default IP address setting) to the address location.
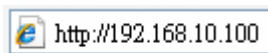
When there is a screen needs to enter the User name and Password, both of the default Username and Password is "admin"
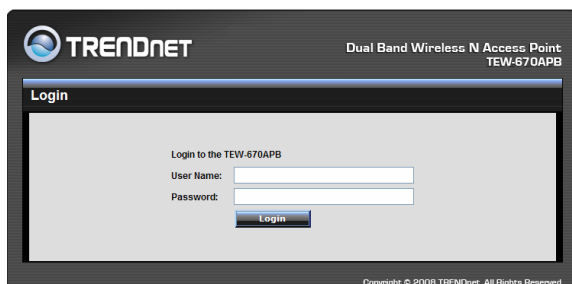
Main Screen of the Access Point

The screen will show the status of the AP when you login to the AP.

There are seven main functions included in the top side of the main screen: Wizard, Status, Basic Setting, IP Setting, Advanced Setting, Security and Tools. Point the selections in the top side of the menu screen.
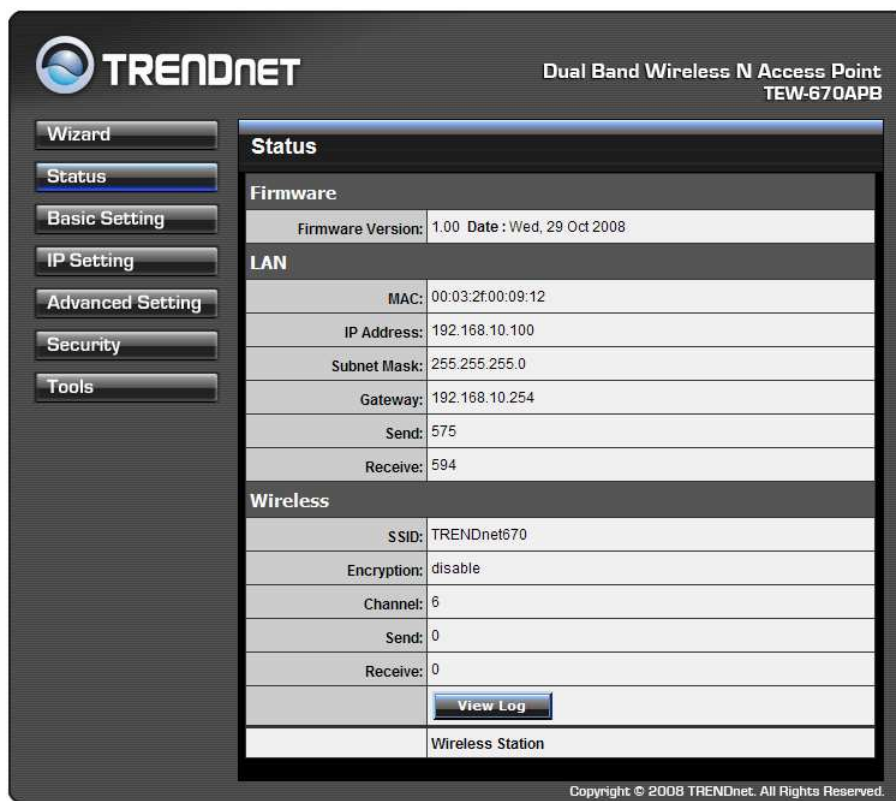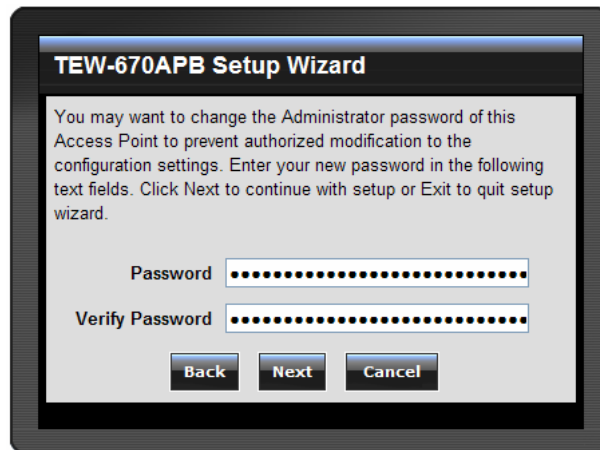
Wizard

Setup wizard is provided as the part of the web configuration utility. User can simply follow the step-by-step process to get Access Point configuration ready to run in 4 easy steps by clicking on the **"Wizard"** button on the function menu. The following screen will appear. Please click **"Next"** to continue.

Step 1: Set your new password
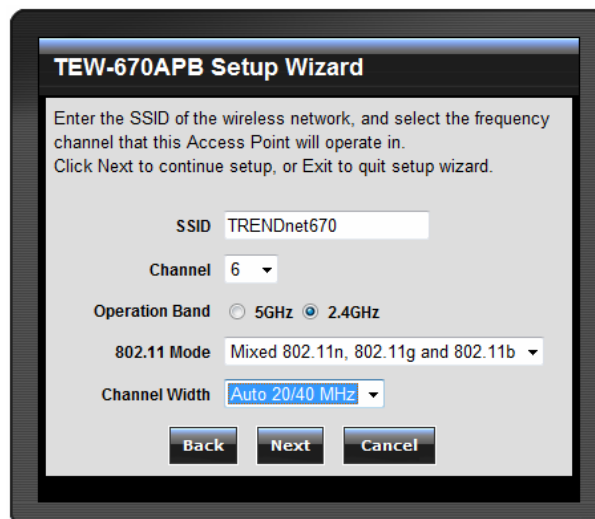
User can change the password and then click **"Next"** to continue.

Step2: Set the SSID, Channel, Operation Band, 802.11 mode and Channel Width

Please type the name of SSID and select the Channel, Operation Band, 802.11 mode and Channel Width. Then, click **"Next"** to continue.

Step 3: Secure your Wireless Network

The security setting default is set to NONE. There are four options: BEST (WPA2), BETTER (WPA), GOOD (WEP) and NONE. Please click **"Next"** to continue the security setting.
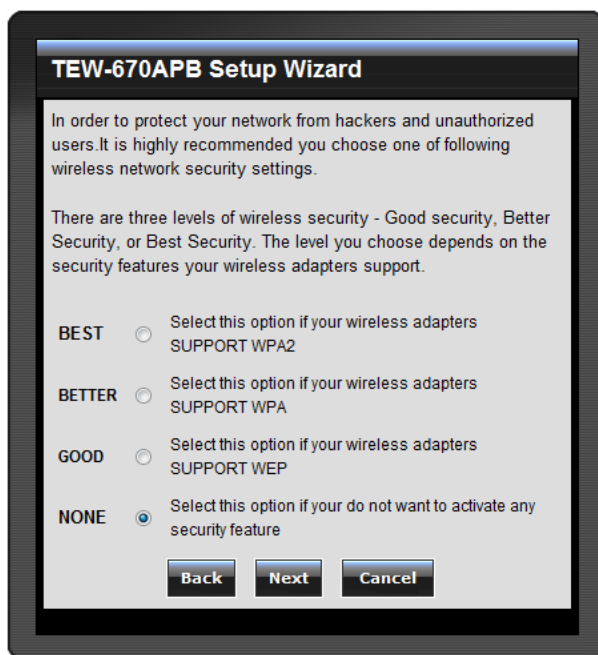
BEST (WPA2 Personal)
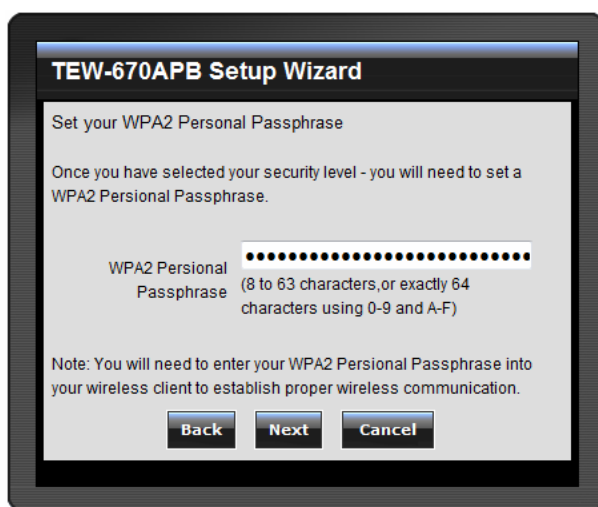
Passphrase: The length should be 8 characters at least. click **"Next"** to continue.

BETTER (WPA Personal)
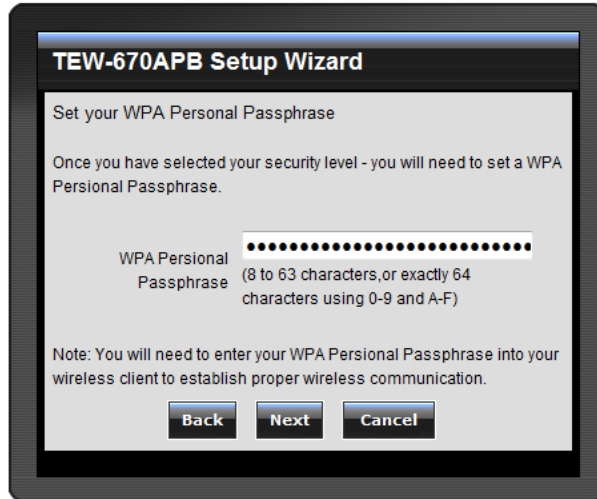
Passphrase: The length should be 8 characters at least. click **"Next"** to continue.

GOOD (WEP)

Key Type: Select the key format from the drop-down list HEX or ASCII.

Key Size: Select the level of encryption from the drop-down list. The WLAN Router supports, 64 and 128-bit encryption.

Wireless Security Password: Setting the WEP security key here and click **"Next"** to continue.
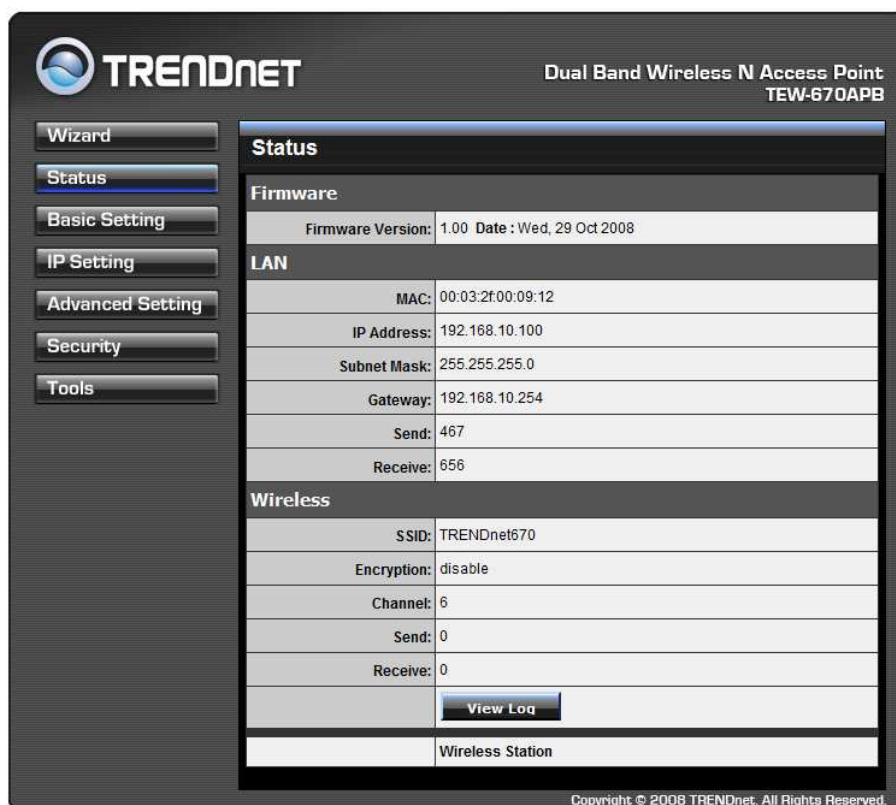
Step 4: Save and Restart

The Setup wizard is now completed. The new settings will be effective after the Access Point restarted. Please click **"Restart"** to save the new configuration and reboot the Access Point. If user does not want to make any changes, please click **"Exit"** to quit without any changes. User also can go back to modify the setting by clicking **"Back"**.

Status

This page as below shows the following information.

Firmware Version: Shows the current firmware version and released date code.

LAN: Shows the Mac address, IP address (default: 192.168.1.1), Subnet Mask, Gateway Address. The current LAN traffic calculated in terms of number of packets sent and received by AP through wired connection is also displayed.

Wireless: Shows the Mac address, current SSID, the status of Encryption Function (Enable or Disable), the current using channel. The current wireless traffic calculated in terms of number of packets sent and received by AP through wireless communication is also displayed.

Wireless Station: Shows the connected wireless station in list.

View Log: Click the "View Log" button will pop-up a View Log page. The View Log page records every event and the time that it happens.
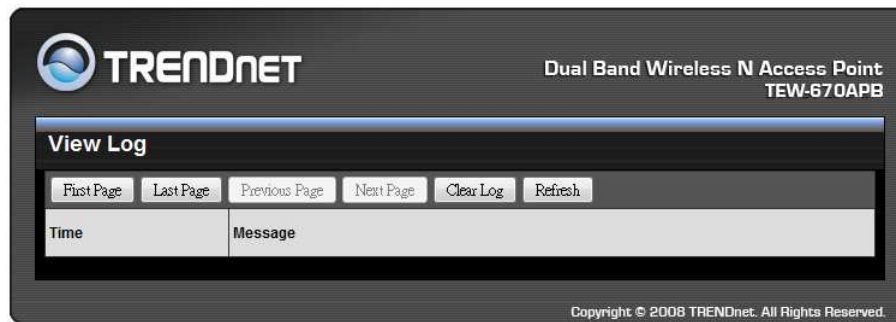
Click "First Page" to view the first page of the log.

Click "Last Page" to view the final page of the log.

Click "Previous Page" to view the page just before the current page.

Click "Next Page" to view the page just after the current page.

Click "Clear Log" to delete the contents of the log and begin a new log.

Click "Refresh" to renew log statistics.

Basic Setting

This page allow user setting the AP Name, SSID, Channel, 802.11 Mode, Channel Width and Authentication settings.

AP Name: Type the AP name in the text box. The AP name is required by DHCP identify (host name).

SSID: Service Set Identifier, which is a unique name shared among all clients and nodes in a wireless network. The SSID must be identical for each clients and nodes in the wireless network.

Channel: Select a channel for wireless communications. The channel of any wireless device must match the channel selected here in order for the wireless device to access the network via the AP

802.11 Mode: Select one of the following:

● **2.4GHz 802.11 b/g mixed mode** - Select if you are using both 802.11g and 802.11b wireless clients in 2.4GHz operation band.

● **2.4GHz 802.11 n only** - Select if you are using 802.11n wireless clients only in 2.4GHz operation band.

● **2.4GHz 802.11 b/g/n mixed mode** - Select if you are using 802.11b, 802.11g and 802.11n wireless clients in 2.4GHz operation band.

● **5GHz 802.11 a/n mixed mode** - Select if you are using 802.11a and 802.11n wireless clients in 5GHz operation band.

Note: For FCC domain device, you can only select Channel 1~11

For ETSI domain device, you can only select Channel 1~13

Channel Width: Select the Channel Width:

- **20MHz** - Select if you are not using any 802.11n wireless clients.
- **Auto 20/40** - This is the default setting. Select if you are using both 802.11n and non-802.11n wireless devices.

Authentication Type: The authentication type default is set to open system. There are four options: Disabled, WEP, WPA, and WPA2.

WEP Encryption
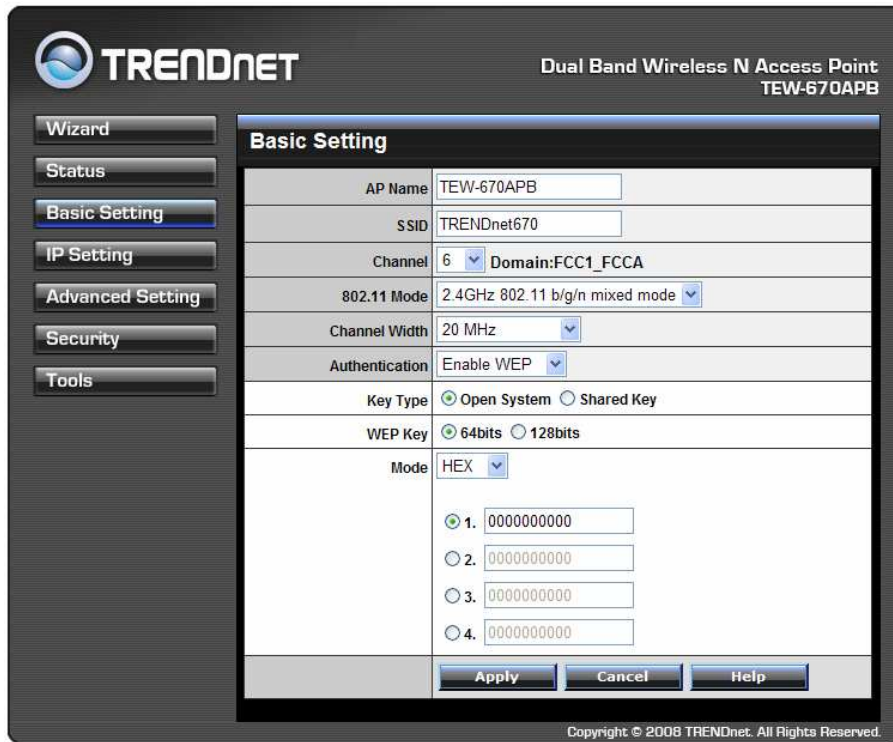
Key Type: Open System and Shared Key requires the user to set a WEP key to exchange data with other wireless clients that have the same WEP key..

WEP Key: Select the level of encryption from the drop-down list. The WLAN Router supports, 64 and 128-bit encryption.

Mode: Select the key type: ASCII or HEX

Key 1 ~ Key 4: Enables users to create up to 4 different WEP keys. Manually enter a set of values for each key. Select a key to use by clicking the radio button next to the key.

WPA/WPA2-EAP Security

If WPA or WPA-Auto EAP is selected, the above screen is shown. Please set the length of the encryption key and the parameters for the RADIUS server.

Cipher Type: Select the cipher type for TKIP or AES encryption, Selected Auto for auto detects the cipher type.

RASIUS Server 1/2:

1. Enter the IP address, Port used and Shared Secret by the Primary Radius Server.

2. Enter the IP address, Port used and Shared Secret by the Secondary Radius Server. (optional)

WPA-PSK/WPA2-PSK Security

If WPA, WPA2 or WPA-Auto PSK is selected.

Cipher Type: Select the cipher type for TKIP or AES encryption, Selected Auto for auto detects the cipher type.

Passphrase: The length should be 8 characters at least.

IP Setting

This page allow user to set LAN port properties, such as the IP address, subnet mask, DNS and DHCP Server setting.

LAN IP: Select the LAN IP configuration type "Obtain IP Automatically" or Fixed IP". If the "Obtain IP Automatically" is selected, the IP address will obtain by DHCP server. Otherwise, if the "Fixed IP" is selected, the default IP address of this AP is 192.168.10.100 with the subnet mask of 255.255.255.0 and Gateway address is 192.168.10.254, user can enter other values for IP Address, Subnet Mask and Gateway, click **"Apply"** button for the changes to be effective.

DHCP Server: selected the "Enable" to enable the DHCP Server to allow the AP to automatically assign IP addresses to devices connecting to the WLAN.

Start IP / End IP: Type an IP address range that DHCP will use the IP address range to assign IP addresses to all WLAN devices connected to the AP.

Domain Name: Type the local domain name of the network in the text box. This item is optional.

Lease Time: The lease time specifies the amount of connection time a network user be allowed with their current dynamic IP address.

Advanced Wireless Setting

This page contains configurations for advanced users, which the change reflects the wireless performance and operating modes.
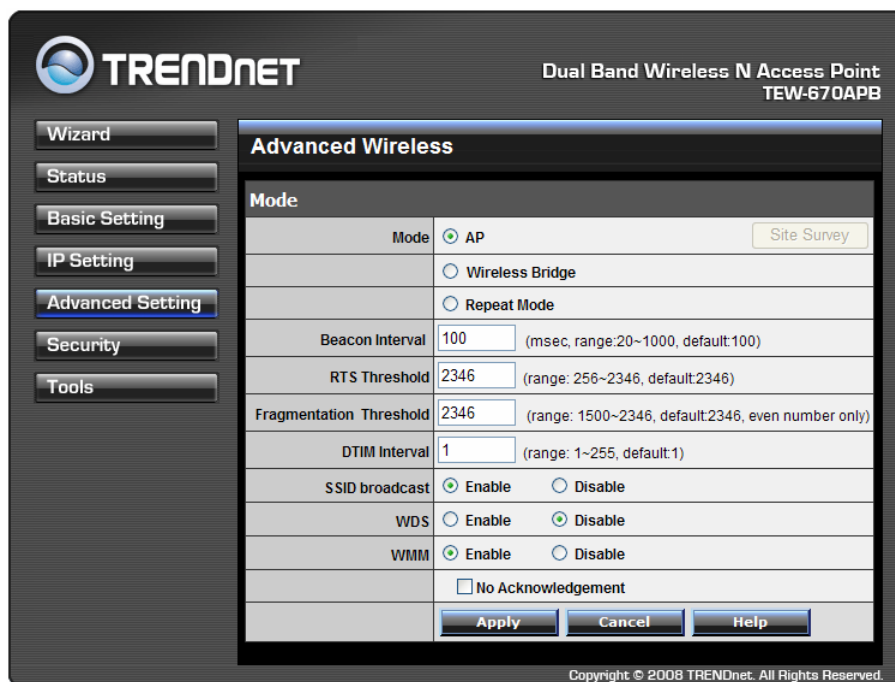
Mode: The WLAN AP supports three operation modes for Access Point, Wireless Bridge, Repeater modes.

Access Point Mode

Configure the AP to Access Point mode; with this mode, WLAN clients can access LAN or other WLAN clients through this AP.
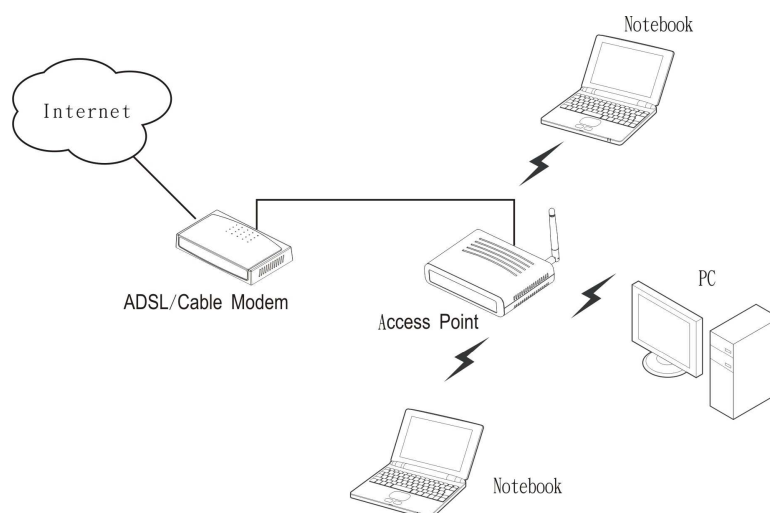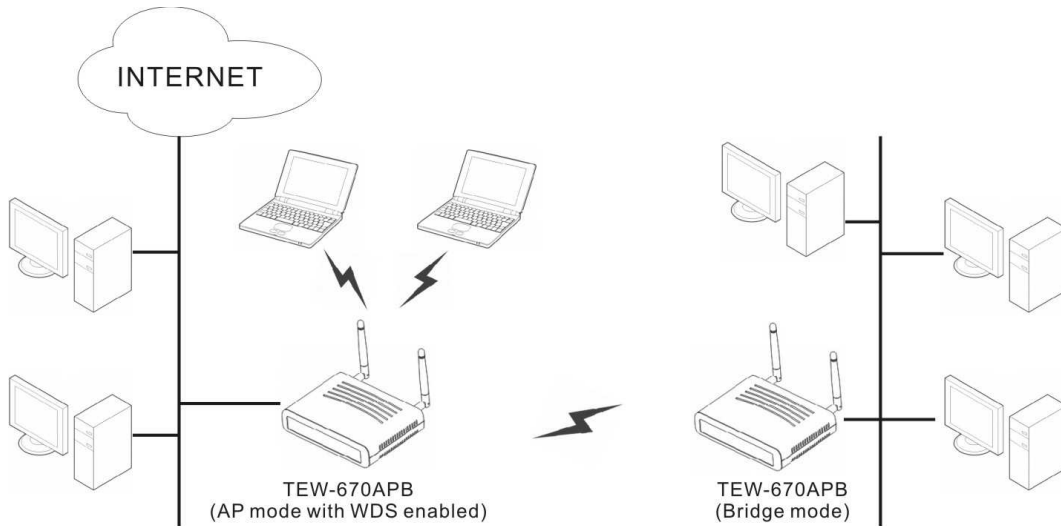

AP mode application

Wireless Bridge mode

Configure to the wireless bridge mode; the TEW-670APB will be a LAN to LAN wireless Ethernet bridge between two separated Ethernet LAN segments.

Note: The Wireless Bridge mode only supports in using two more of the TEW-670APB.

Wireless Bridge mode application

WDS Wireless Bridge mode configuration

Site Survey: This button allows user to enable the Site Survey function to scan for the available wireless network and establish wireless communications with one. Selected one of them in list to establish communications and click "Apply" button.

	BSS	SSID	Security	Channel
⊙	00:14:D1:3F:98:FE	TRENDnet	No	6
○	00:1C:F0:FB:52:1C	orz	No	6
○	00:1A:11:DB:FD:10	Gordon655	No	8

[Apply]   [Exit]

Remote AP MAC/SSID: Enter the MAC address and SSID of the opposite AP here.

Repeater mode

Configure the AP to Repeater mode; the AP will be a wireless LAN repeater that will be extended the WLAN coverage range.

Note: The Wireless Bridge mode only supports in using two more of the TEW-670APB.

INTERNET

TEW-670APB,SSID:TRENDnet
(AP mode with WDS enabled)

TEW-670APB,SSID:TRENDnet
(Repeater mode)

Repeater mode application

Repeater mode configuration

Site Survey: This button allows user to enable the Site Survey function to scan for the available wireless network and establish wireless communications with one. Selected one of them in list to establish communications and click "Apply" button.
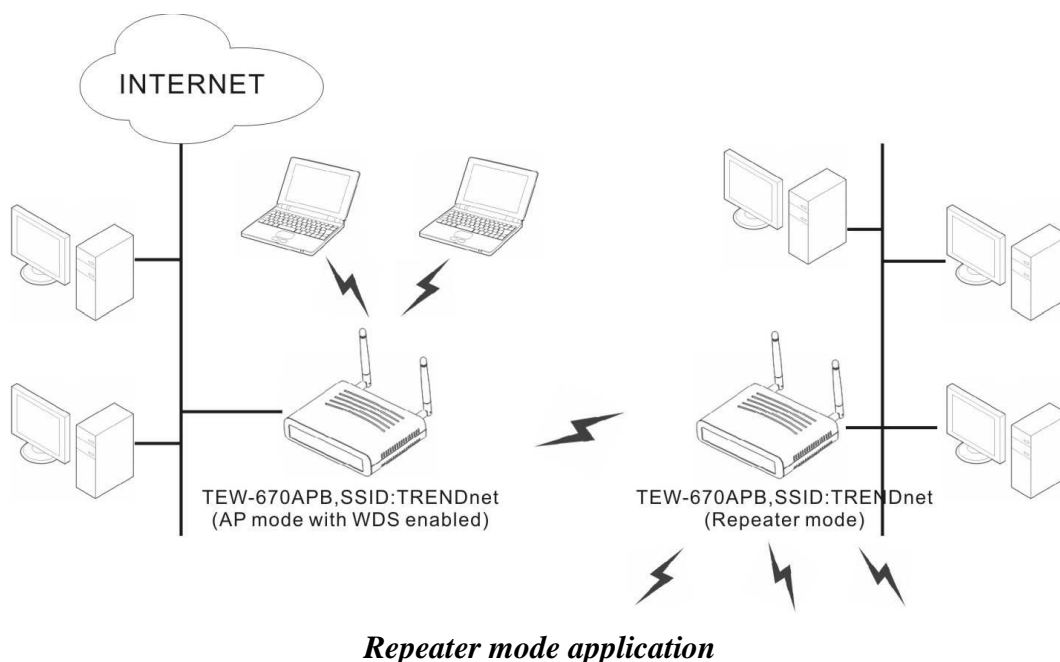

Remote AP MAC/SSID: Enter the MAC Address and SSID of the Remote AP who will be repeated.

Beacon Interval: To set the period of time in milliseconds that AP sends out a beacon. Default is 100 milliseconds.

RTS Threshold: To set the size of RTS/CTS packet size. Default is 2346 bytes.

Fragmentation Threshold: To set the number of bytes used for the fragmentation boundary for directed messages. Default is 2346 bytes.

DTIM Interval: This value indicates the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window for listening to broadcast and multicast messages. When the access point has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM interval value. Access point clients hear the beacons and awaken to receive the broadcast and multicast messages.

SSID Broadcast: While SSID Broadcast is enabled, all wireless clients will be able to communicate with the access point. For secure purpose, user may want to disable SSID broadcast to allow only those wireless clients with the AP SSID to communicate with the access point.

WDS: Enabled the WDS function allows the other of the TEW-670APB in Bridge mode or Repeater mode connect to this TEW-670APB.

WMM: Enabled the WMM (QoS for wireless network) function to improve the quality of video and voice applications for your wireless clients.

Security

This page is where user configures the security features supported by this Access Point.

Password: Allow user to change the new login password. Here are the necessary steps:

1. Enter the new password in the **"AP Password New:"** field.
2. Enter the new password again in the **"Confirm"** field.
3. Click **"Apply"**

MAC Filter: MAC Filter function controls the MAC of the network devices that are listed in this table for access authorization or denial. There have three choices:

◆ Enable / Disable MAC Filters

◆ Only **allow** PCs with MAC listed below to access device

◆ Only **deny** PCs with MAC listed below to access device

The maximum number of MAC addresses that can be stored is 20. User can browse through the MAC address saved by selecting the MAC Filter List.

For any changes made in the security page, click "Apply" for the changes to be effective.

Tools

Four functions are provided in this page, Backup, Restore Settings, Restore default settings and Firmware Upgrade.
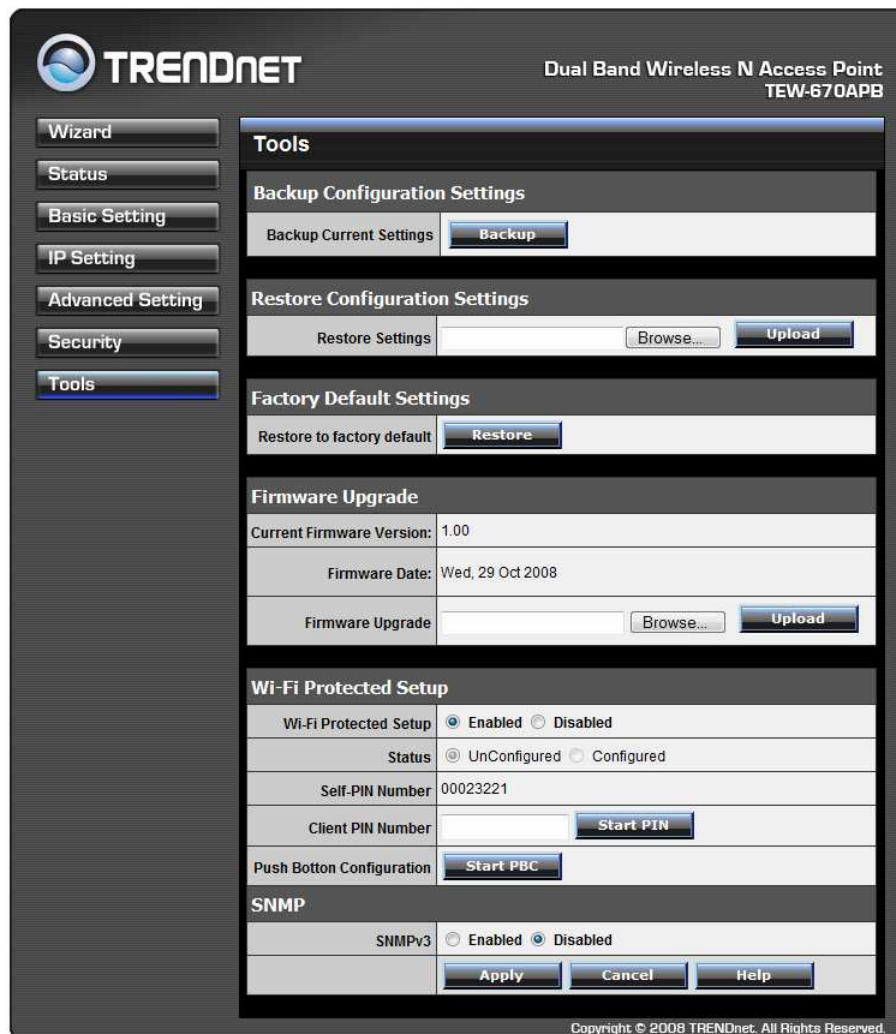
Backup Current Setting: Click on "**Backup Current Setting**" button, which will open a FileSave Dialog box, where user gets to save all the current settings and configurations to a file.

Restore Configuration Settings: Click on the **"Browse"** button to open a FileOpen Dialog box, where user gets to select the file, which saves previous settings and configurations. Upon selecting the saved file, click **"Upload"** and complete the restore process when the access point re-operates after it restarts.

Factory default settings: Click on **"Restore"** button to restore the access point back to its manufacture default settings.

Firmware Upgrade: Click on the **"Browse"** button to open a FileOpen Dialog box, where gets to select the firmware file, which download from the web for the latest version. Upon selecting the firmware file, click **"Upload"** and complete the firmware upgrade process when the Access Point re-operates after it restarts.

Wi-Fi Protected Setup

Wi-Fi Protected Setup: Enable or Disable the WPS (Wi-Fi Protected Setup) function

Status: Display the state (Un-configured State/Configured State) information of WPS.

Self-PIN Number: Display the default PIN number of WLAN Router.

Client PIN Number: Type Client PIN number the client uses to negotiate with WLAN Router via WPS protocol. It is only used when users want their station to join Router's network.

Push Button Configuration: Clicking the *Start PBC* button will invoke the Push Button Configuration (PBC) method of WPS. It is only used when WLAN Router acts as a Registrar.

SNMP: Enable or Disable the SNMP function.

TECHNICAL SPECIFICATIONS

General	
Standards	IEEE 802.11a/b/g/n (draft 2.0) IEEE 802.3u 10/100BASE-TX Fast Ethernet
Signal Type:	DSSS (802.11b) OFDM (802.11a/g/n)
Modulation:	QPSK / BPSK / CCK / OFDM
LED Indicators:	Power, Status, LAN (Link/Activity), WLAN (Link)

Frequency	2.4G Band:
	    802.11 b:2412 ~ 2484 MHz
	    802.11 g/n:2412 ~ 2472 MHz
	5G Band:
	    802.11a/n:5180~5240 MHz/5745-5825MHz

Channel	IEEE802.11b/g/n(2.4G Band):
	    USA: Channel 1 ~ 11
	    Europe: Channel 1 ~ 13
	IEEE802.11a/n(5G Band):
	    USA: Channel 36~48/149~165
	    Europe/Japan: Channel 36~48

Data Encryption:	64 bit / 128 bit WEP Encryption, WPA, WPA2, WPA-PSK, WPA2-PSK
Data Transfer Rate	Fast Ethernet: 10/100Mbps 802.11a: 6,9, 12,18, 24, 36, 48,54Mbps(auto sense) 802.11b: 1, 2, 5.5, 11Mbps (auto sense) 802.11g: 6,9, 12,18, 24, 36, 48,54Mbps(auto sense) 802.11n: up to 300Mbps

Receiver Sensitivity	2.4G Band:
	802.11b: typical -85dBm (11Mbps)
	802.11g: typical -75dBm (54Mbps)
	802.11n: typical -65dBm (300Mbps)
	5G Band:
	802.11a: typical -76dBm (54Mbps)
	802.11n: typical -65dBm (300Mbps)
Transmit Power	2.4G Band: (Average Power)
	802.11b: typical 15dBm+/- 2dB (Tx1+Tx2)
	802.11g: typical 15dBm+/- 2dB (Tx1+Tx2)
	802.11n: typical 12dBm+/-2dB (Tx1+Tx2)
	5G Band: (Average Power)
	802.11a: typical 13dBm+/-2dB (Tx1+Tx2)
	802.11n: typical 11dBm+/-2dB (Tx1+Tx2)
Transmission Range	Outdoor: 100~300M (depends on environment)
	Indoor: 50~100M (depends on environment)
Network Cable	2-pair UTP/STP Cat. 3,4,5 (100 m)
Interface	1 x 10/100Mbps RJ45 port
Antenna:	2 x 3 dBi Dipole Antennas
Physical and Environmental	
DC inputs	DC 5V /2.5A
Power Consumption	6 W (Max)
Temperature	Operating: 0 ~ 40 ^{o}C, Storage: -10 ~ 70 ^{o}C
Humidity	Operating: 10% ~ 90%, Storage: 5% ~ 90%
Dimensions	145.1 x 107.8 x 35.5 mm (W x H x D) without Antenna
EMI:	FCC Class B, CE Mark B,