

# **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.

If this device is going to be operated in  $5.15 \sim 5.25$ GHz frequency range, then it is restricted in indoor environment only.

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.

# €0560@

دة Česky [Czech]	<i>TRENDnet</i> tímto prohlašuje, že tento <i>TEW-670APB</i> je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede <i>TRENDnet</i> erklærer herved, at følgende udstyr <i>TEW-670APB</i> overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt <i>TRENDnet</i> , dass sich das Gerät <i>TEW-670APB</i> in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab <i>TRENDnet</i> seadme <i>TEW-670APB</i> vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
■English	Hereby, <i>TRENDnet</i> , declares that this <i>TEW-670APB</i> is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente <i>TRENDnet</i> declara que el <i>TEW-670APB</i> cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
العلمة Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ <i>TRENDnet</i> ΔΗΛΩΝΕΙ ΟΤΙ <i>TEW-670APB</i> ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente <i>TRENDnet</i> déclare que l'appareil <i>TEW-670APB</i> est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
it Italiano [Italian]	Con la presente <i>TRENDnet</i> dichiara che questo <i>TEW-670APB</i> è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo <i>TRENDnet</i> deklarē, ka <i>TEW-670APB</i> atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo <i>TRENDnet</i> deklaruoja, kad šis <i>TEW-670APB</i> atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Ind Nederlands [Dutch]	Hierbij verklaart <i>TRENDnet</i> dat het toestel <i>TEW-670APB</i> in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
ImitMalti[Maltese]	Hawnhekk, <i>TRENDnet</i> , jiddikjara li dan <i>TEW-670APB</i> jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
hu Magyar [Hungarian]	Alulírott, <i>TRENDnet</i> nyilatkozom, hogy a <i>TEW-670APB</i> megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Polski [Polish]	Niniejszym <i>TRENDnet</i> oświadcza, że <i>TEW-670APB</i> jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Pt Português [Portuguese]	<i>TRENDnet</i> declara que este <i>TEW-670APB</i> está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
া Slovensko [Slovenian]	<i>TRENDnet</i> izjavlja, da je ta <i>TEW-670APB</i> v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.

Slovensky [Slovak]	<i>TRENDnet</i> týmto vyhlasuje, že <i>TEW-670APB</i> spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi Suomi [Finnish]	<i>TRENDnet</i> vakuuttaa täten että <i>TEW-670APB</i> tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Swedish]	Härmed intygar <i>TRENDnet</i> att denna <i>TEW-670APB</i> står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

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# ABOUT THIS GUIDE

Congratulations on your purchase of this 300Mbps Dual Band Wireless N Access Point. This manual helps to describe the innovating wireless technology that can help you build a wireless network easily! The manual contains detailed instructions in operation of this product. Please keep this manual for future reference.



# **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.

Configuring the Wireless LAN Access Point. Provides instructions on how to configure the AP and it's features.

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

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# **INTRODUCTION**

The 300Mbps Dual Band Wireless N Access Point (TEW-670APB) creates a high performance dual band wireless n network with up to 14x the speed and 4x the coverage of wireless g.

Create a wireless network using either the more common 2.4GHz or the uncongested low-interference 5GHz wireless radio frequency with Dual Band wireless n technology.

Extend your wireless network by adding additional wireless access points using the Wireless Distribution System (WDS) feature. Monitor device status with SNMP v3 reporting. Advanced wireless encryption secures your wireless network. Provide high speed Dual Band wireless coverage to stream HD media, download files and surf the Internet.

# Features

- ◆ Wi-Fi Compliant with IEEE 802.11n (Draft 2.0), IEEE 802.11b, IEEE 802.11b and IEEE 802.11a standards.
- Non-concurrent Dual Band architecture: create either a 2.4 or 5Ghz wireless network.
- Add a wireless network with Access Point mode or expand your network with Wireless Distribution System (WDS).
- Built in DHCP server allows for IP address distribution on the local network.
- ◆ 1 x 10/100Mbps Auto-MDIX LAN port
- Supports 64/128-bit WEP(for 11b/g), WPA/WPA2, and WPA-PSK/WPA2-PSK
- Allow or restrict wireless access with MAC filtering
- Easy wireless setup via WiFi Protection Setup.

# 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:

- ◆ TEW-670APB
- ◆ Multi-Language Quick Installation Guide
- Power Adapter
- 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.

# **Front panel**

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

Contract the states					
Dual Band Wireless N Access Poin TEW-6704P8	it				
	•				
	POWER	STATUS	WLAN	LAN	

# **Power:**

This indicator lights green when the Access Point is turned on.

# Status:

This indicator blinkswhen the WLAN AP is working successfully. Otherwise, an on or off means the function of the WLAN AP has failed.

# LAN:

This indicator lights green when the LAN port has successfully connected to an Ethernet network. Otherwise, the indicator blinks while transmitting and receiving data on the Ethernet network.

# WLAN:

This indicator blinks during 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 a switch/hub.

#### RESET

Press the "RESET" button for more than 5 seconds buttonto reset the settings back to factory default.

#### Power

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

#### Antenna

Two external 3 dBi 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/Router**

- 1. Plug in one end of the RJ45 network cable to a 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 connected to the RJ45 port, while the LAN is linked 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 easy configurations through a 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 encryption settings are 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 to the Wireless AP through LAN

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 on 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) on the address bar.



When the below screen appears enter your 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 in the main screen: Wizard, Status, Basic Setting, IP Setting, Advanced Setting, Security and Tools.

🕙 TREND	INET	Dual Band Wireless N Access Point TEW-670APB
Wizard	Status	
Status	Firmware	
Basic Setting	Firmware Version:	1.00 Date : Wed, 29 Oct 2008
IP Setting	LAN	
Advanced Setting	MAC:	00:03:2f:00:09:12
Security		192.168.10.100
Tools		255.255.255.0 192.168.10.254
	Send:	
	Receive:	594
	Wireless	
	S SID:	TRENDnet670
	Encryption:	
	Channel:	
	Send:	
	Receive:	0 View Log
		Wireless Station
		Copyright © 2008 TRENDnet. All Rights Reserved.

# Wizard

The setup wizard is provided as the part of the web configuration utility. Users can simply follow the step-by-step process to configure the Access Point in 4 easy steps. Click on the **"Wizard"** button and the following screen will appear. Please click **"Next"** to continue.



# Step 1: Set your new password

Enter a new password and 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.

TEW-670APB Setup Wizard							
Enter the SSID of the wireless network, and select the frequency channel that this Access Point will operate in. Click Next to continue setup, or Exit to quit setup wizard.							
SSID	TRENDnet670						
Channel	6 💌						
Operation Band	○ 5GHz						
802.11 Mode	Mixed 802.11n, 802.11g and 802.11b 🝷						
Channel Width	Auto 20/40 MHz 🔻						
Back	K Next Cancel						

#### **Step 3: Secure your Wireless Network**

The default security setting is set to NONE. There are four options: BEST (WPA2), BETTER (WPA), GOOD (WEP) and NONE. Please select the type of security and click "**Next**" to continue.



#### BEST (WPA2 Personal)



**Passphrase:** The length should be at least 8 characters long and click "Next" to continue.

## BETTER (WPA Personal)



**Passphrase:** The length should be at least 8 characters long and click "Next" to continue.



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.

Wireless Security Password: Enter your WEP security key and click "Next" to continue.

#### **Step 4: Save and Restart**

The Setup wizard is now completed. The new settings will be take effect after the Access Point has restarted. Please click "**Restart**" to save the new configuration and reboot the Access Point. Click "**Exit**" to quit without making any changes. Users also can go back to modify the setting by clicking "**Back**".



#### Status

This page shows the following information.

	NET	Dual Band Wireless N Access Point TEW-670APB
Wizard	Status	
	Firmware	
Basic Setting	Firmware Version:	1.00 Date : Wed, 29 Oct 2008
IP Setting	LAN	
Advanced Setting	MAC:	00:03:2f:00:09:12
Security	IP Address:	192.168.10.100
	Subnet Mask:	255.255.255.0
Tools	Gateway:	192.168.10.254
	Send:	467
	Receive:	656
	Wireless	
	S SID:	TRENDnet670
	Encryption:	disable
	Channel:	6
	Send:	0
	Receive:	0
		View Log
		Wireless Station
	11.	Copyright © 2008 TRENDnet. All Rights Reserved.

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

**LAN:** Shows the Mac address, IP address (default: 192.168.10.100), Subnet Mask and Gateway Address. The current LAN traffic calculated in terms of number of packets sent and received by the AP through a wired connection is also displayed.

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

Wireless Station: Shows the connected wireless stations.

**View Log:** Click the "View Log" button to display the View Log page. The View Log page records every event and the time that it happens to the AP.

ि म	REND	DNET			Dual Band Wireless N Access Po TEW-670A
View Lo	g				
First Page	Last Page	Previous Page	Next Page	Clear Log	Refresh

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 allows users to set the AP's Name, SSID, Channel, 802.11 Mode, Channel Width and Authentication settings.

Wizard	Basic Setting	
Status	AP Name	TEW-670APB
Basic Setting	SSID	TRENDnet670
P Setting	Channel	6 Domain:FCC1_FCCA
Advanced Setting	802.11 Mode	2.4GHz 802.11 b/g/n mixed mode 💌
Security	Channel Width	20 MHz
Fools	Authentication	Disable
		Apply Cancel Help

**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 only 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

Wizard       Basic Setting         Status       AP Name       TEW-670APB         Basic Setting       StD       TRENDnet670         IP Setting       Channel       6 ♥ Domain:FCC1_FCCA         Advanced Setting       802.11 Mode       2.4GHz 802.11 b/g/n mixed mode ♥         Security       Channel Width       20 MHz       ♥         Tools       Key Type       Open System O Shared Key         WEP Key       64bits O 128bits         Mode       HEX ♥       0.1.000000000         0.3.000000000       0.4.000000000		IET	Dual Band Wireless N Access Point TEW-670APB
AP Name       TEW-670APB         Basic Setting       SSD         IP Setting       Channel         Advanced Setting       802.11 Mode         2.4GHz 802.11 b/g/n mixed mode          Security       Channel Width         20 MHz          Tools       Key Type         Ø Open System       Shared Key         WEP Key       Ø 64bits         1.       000000000         2.       000000000         3.       000000000	Wizard	Basic Setting	
IP Setting       Channel       © Domain:FCC1_FCCA         Advanced Setting       802.11 Mode       2.4GHz 802.11 b/g/n mixed mode          Security       Channel Width       20 MHz         Tools       Key Type       Open System       Shared Key         WEP Key       © 64bits       128bits         Mode       HEX       ©       1.000000000         0       3.000000000       0	Status	AP Name	TEW-670APB
Advanced Setting       802.11 Mode       2.4GHz 802.11 b/g/n mixed mode          Security       Channel Width       20 MHz          Tools       Enable WEP            Key Type       Open System © Shared Key           WEP Key       64bits © 128bits           Mode       HEX            01.       000000000       2.       000000000        3.	Basic Setting	SSID	TRENDnet670
Security       Channel Width       20 MHz         Tools       Enable WEP          Key Type       Open System       Shared Key         WEP Key       64bits       128bits         Mode       HEX          I.       000000000          3.       000000000	IP Setting	Channel	6 Somain:FCC1_FCCA
Security       Authentication       Enable WEP         Tools       Key Type       Open System       Shared Key         WEP Key       © 64bits       128bits         Mode       HEX       •         01.       000000000       •         02.       000000000       •         03.       000000000       •	Advanced Setting	802.11 Mode	2.4GHz 802.11 b/g/n mixed mode 💌
Key Type         Open System         Shared Key           WEP Key              •             4bits         128bits           Mode         HEX              •             •	Security	Channel Width	20 MHz 👻
Key Type         Open System         Shared Key           WEP Key 64bits              128bits            Mode              HEX 91. 000000000 2. 000000000 3. 000000000 3. 000000000 3. 000000000 3. 000000000 3. 000000000 3. 000000000 3. 000000000 3. 000000000	Tools	Authentication	Enable WEP
Mode HEX © 1. 000000000 © 2. 000000000 © 3. 000000000		Кеу Туре	Open System      Shared Key
<ul> <li>● 1. 000000000</li> <li>○ 2. 000000000</li> <li>○ 3. 000000000</li> </ul>		WEP Key	⊙ 64bits ◯ 128bits
Apply Cancel Help		Mode	1. 000000000     2. 000000000     3. 000000000     4. 000000000

**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.

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

	Basic Setting		Wizard	Basic Setting	
	AP Name	TEW-670APB	Status	AP Name	TEW-670APB
etting	SSID	TRENDnet670	Basic Setting	SSID	TRENDnet670
ng	Channel	6 V Domain:FCC1_FCCA	IP Setting	Channel	6 Domain:FCC1_FCCA
ed Setting	802.11 Mode	2.4GHz 802.11 b/g/n mixed mode 💌	Advanced Setting	802.11 Mode	2.4GHz 802.11 b/g/n mixed mode 💌
	Channel Width	20 MHz	Security	Channel Width	20 MHz
	Authentication	Enable WPA 👻	Tools		Enable WPA2 💌
	PSK/EAP		Lanarase -		○ PSK ④ EAP
	Cipher Type			Cipher Type	
	RADIUS Server 1	IP		RADIUS Server 1	IP
		Port			Port
		Shared Secret			Shared Secret
	RADIUS Server 2 (optional)	IP		RADIUS Server 2 (optional)	IP
	(opuonai)	Port		(optional)	Port
		Shared Secret			Shared Secret

If WPA or WPA2 EAP is selected, the above screen is shown. Please set the parameters of the RADIUS server.

**Cipher Type:** Select the cipher type for TKIP or AES encryption, Select Auto to auto detect 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 or WPA2Auto PSK is selected the below screen will appear.

	ÎNET	Dual Band Wireless N Access Point TEW-670APB		INET	Dual Band Wireless N Access Point TEW-670APB
Wizard	Basic Setting		Wizard	Basic Setting	
Status	AP Name	TEW-670APB	Status	AP Name	TEW-670APB
Basic Setting	SSID	TRENDnet670	Basic Setting	SSID	TRENDnet670
IP Setting	Channel	6 V Domain:FCC1_FCCA	IP Setting	Channel	6 Domain:FCC1_FCCA
Advanced Setting	802.11 Mode	2.4GHz 802.11 b/g/n mixed mode 💌	Advanced Setting	802.11 Mode	2.4GHz 802.11 b/g/n mixed mode 💌
Security	Channel Width	20 MHz	Security	Channel Width	20 MHz
Tools	Authentication	Enable WPA	Tools	Authentication	Enable WPA2 💌
	PSK/EAP	● PSK ○ EAP	TOOIS	PSK/EAP	
	Cipher Type	● TKIP ○ AES ○ Auto		Cipher Type	● TKIP ○ AES ○ Auto
	Passphrase	••••••		Passphrase	•••••
	Confirmed Passphrase	•••••		Confirmed Passphrase	
		Apply Cancel Help			Apply Cancel Help
		Copyright © 2008 TRENDnet. All Rights Reserved.			Copyright © 2008 TRENDnet. All Rights Reserved.

**Cipher Type:** Select the cipher type for TKIP or AES encryption, Select Auto to auto detect the cipher type.

Passphrase: The length should be at least 8 characters long.

# **IP Setting**

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

S TRENDr	NET	Dual Band Wireless N Access Point TEW-670APB
Wizard	IP Setting	
Status	LAN IP	
Basic Setting	LAN IP	Obtain IP Automatically
IP Setting	Address	192.168.10.100
Advanced Setting	Subnet Mask	255.255.255.0
Security	Gateway	192.168.10.254
Tools	DHCP Server	
TOOIS	DHCP Server	r 🛇 Enabled 💿 Disabled
	Start IP	192.168.10.101
	End IP	192.168.10.200
	Domain Name	
	Lease Time	1 Hour -
		Apply Cancel Help
		Copyright © 2008 TRENDnet. All Rights Reserved.

**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 be obtained by a DHCP server. Otherwise, if the "Fixed IP" is selected you must enter the values for the IP address, Subnet Mask and Gateway., The default IP address of this AP is 192.168.10.100 with the subnet mask of 255.255.255.0 and Gateway address of 192.168.10.254. Click the "**Apply**" button for the changes to be effective.

**DHCP Server:** Selected the "Enable" button to allow the AP to automatically assign IP addresses to devices connecting to the WLAN.

**Start IP / End IP:** Enter the IP address range that the DHCP Server will use to assign 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 time a network user is assigned with their current dynamic IP address.

# **Advanced Wireless Setting**

This page contains configurations for advanced users, changes applied reflects the wireless performance and operating modes.

S TREND	NET	Dual Band Wireless N Access Point TEW-670APB
Wizard	Advanced Wireles	55
Status Basic Setting	Mode	
	Mode	AP     Site Survey
IP Setting		O Wireless Bridge
Advanced Setting		O Repeat Mode
Security	Beacon Interval	100 (msec, range:20~1000, default:100)
Tools	RTS Threshold	2346 (range: 256~2346, default:2346)
	Fragmentation Threshold	2346 (range: 1500~2346, default:2346, even number only)
	DTIM Interval	1 (range: 1~255, default:1)
	SSID broadcast	
	WDS	O Enable ③ Disable
	WMM	● Enable ○ Disable
		No Acknowledgement
		Apply Cancel Help
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**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

Wizard	Advanced Wireless		
Status	Mode		
Basic Setting	Mode	© AP	Site Survey
IP Setting		Wireless Bridge	
Advanced Setting		Repeat Mode	
Security	Remote AP MAC/SSID	MAC SSID	
Tools	Beacon Interval	100 (msec, range:20~1000, default:	100)
	RTS Threshold	2346 (range: 256~2346, default:2346	)
	Fragmentation Threshold	2346 (range: 1500~2346, default:234	6, even number on
	DTIM Interval	1 (range: 1~255, default:1)	
	SSID broadcast	Enable       O     Disable	
	WDS	Enable Disable	
	WMM	Enable     O   Disable	
		No Acknowledgement	

WDS Wireless Bridge mode configuration

**Site Survey:** This button allows user to enable the Site Survey function to scan for the available wireless networks and establish wireless communications with one. Select one of them listed to establish communications and click "Apply" button.

	BSS	SSID	Security	Channel
۲	00:14:D1:3F:98:FE	TRENDnet	No	6
$\bigcirc$	00:1C:F0:FB:52:1C	012	No	6
$\bigcirc$	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 extend the WLAN coverage range.

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



Repeater mode application

	DNET	Dual Band Wireless N Access Point TEW-670APB
Wizard	Advanced Wireless	
Status	Mode	
Basic Setting		AP Site Survey
IP Setting		Wireless Bridge
Advanced Setting	0	Repeat Mode
Security	Remote AP MAC/SSID	AC SSID
Tools	Beacon Interval 10	0 (msec, range:20~1000, default:100)
	RTS Threshold 234	46 (range: 256~2346, default:2346)
	Fragmentation Threshold 23	46 (range: 1500~2346, default:2346, even number only)
	DTIM Interval	(range: 1~255, default:1)
	SSID broadcast 💿	Enable O Disable
	wds 💿	Enable 🔘 Disable
	WMM 💿	Enable O Disable
		No Acknowledgement
		Apply Cancel Help
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Repeater mode configuration

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

	BSS	SSID	Security	Channel
۲	00:14:D1:3F:98:FE	TRENDnet	No	6
$\bigcirc$	00:1C:F0:FB:52:1C	0TZ	No	6
$\bigcirc$	00:1A:11:DB:FD:10	Gordon655	No	8
	Apply			

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

**Beacon Interval:** The period of time in milliseconds that AP sends out a beacon. Default is 100 milliseconds.

**RTS Threshold:** The size of RTS/CTS packet size. Default is 2346 bytes.

**Fragmentation Threshold:** 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 locate 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 WDS function allows the TEW-670APB in Bridge mode or Repeater mode to connect to this TEW-670APB.

**WMM:** Enable 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 users can configure the security features supported by this Access Point.

	ET	Dual Band Wireless N Access Point TEW-670APB
Status	Security	
Basic Setting IP Setting Advanced Setting Security Tools	Administrator ID: AP Password New: Confirm: 4AC Filter	Apply Cancel
	MAC Filter	© Enabled  © Disabled Apply Cancel Help Cancel Help Cancel Help

**Password**: Allows user to change the 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.

	NET	Dual Band Wireless N Access Point TEW-670APB
Wizard	Tools	
Status	Backup Configuratio	n Settings
Basic Setting	Backup Current Settings	Backup
Advanced Setting	Restore Configuration	n Settings
Security	Restore Settings	Browse Upload
Tools	Factory Default Sett	ings
	Restore to factory default	Restore
	Firmware Upgrade	
	Current Firmware Version:	1.00
	Firmware Date:	Wed, 29 Oct 2008
	Firmware Upgrade	Browse Upload
	Wi-Fi Protected Setu	p
	Wi-Fi Protected Setup	Inabled Disabled
	Status	UnConfigured Configured
	Self-PIN Number	00023221
	Client PIN Number	Start PIN
	Push Botton Configuration	Start PBC
	SNMP	
	SNMPv3	© Enabled   Disabled
		Apply Cancel Help
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**Backup Current Setting:** Click on "**Backup Current Setting**" button, which will open a FileSave Dialog box, where users can save the current settings and configurations to a file.

**Restore Configuration Settings:** Click on the "**Browse**" button to open a FileOpen Dialog box, where users can load previously saved 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: Displays the default PIN number of the Access Point.

**Client PIN Number:** Type the Client's PIN number to negotiate with the Access Point via WPS protocol. It is only used when users want their station to join the WLAN'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 the Access Point 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/Activity)	
Frequency	2.4G Band:	
	802.11 b:2412 ~ 2484 MHz	
	802.11 g/n:2412 ~ 2472 MHz (2412 ~ 2462MHz for FCC)	
	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	
	802.11g: typical 15dBm	
	802.11n: typical 12dBm	
	5G Band: (Average Power)	
	802.11a: typical 13dBm	
	802.11n: typical 11dBm	
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: $0 \sim 40$ °C, Storage: $-10 \sim 70$ °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,	

# NETWORK GLOSSARY

Access Point - A device that allows wireless-equipped computers and other devices to communicate with a wired network. Also used to expand the range of a wireless network.

Ad-hoc - A group of wireless devices communicating directly with each other (peer-to-peer) without the use of

an access point.

AES (Advanced Encryption Standard) - A security method that uses symmetric 128-bit block data encryption.

**Bandwidth** - The transmission capacity of a given device or network.

Bit - A binary digit.

**Boot** - To start a device and cause it to start executing instructions.

Broadband - An always-on, fast Internet connection.

Browser - An application program that provides a way to look at and interact with all the information on the World Wide Web.

Cable Modem - A device that connects a computer to the cable television network, which in turn connects to the Internet.

Daisy Chain - A method used to connect devices in a series, one after the other.

DDNS (Dynamic Domain Name System) - Allows the hosting of a website, FTP server, or email server with a fixed domain name (e.g., www.xyz.com) and a dynamic IP address.

Default Gateway - A device that forwards Internet traffic from your local area network.

DHCP (Dynamic Host Configuration Protocol) - A networking protocol that allows administrators to assign temporary IP addresses to network computers by "leasing" an IP address to a user for a limited amount of time, instead of assigning permanent IP addresses.

DMZ (Demilitarized Zone) - Removes the Router's firewall protection from one PC, allowing it to be "seen" from the Internet.

**DNS** (**D**omain Name Server) - The IP address of your ISP's server, which translates the names of websites into IP addresses.

**Domain** - A specific name for a network of computers.

**Download** - To receive a file transmitted over a network.

**DSL** (**D**igital Subscriber Line) - An always-on broadband connection over traditional phone lines.

**Dynamic IP Address** - A temporary IP address assigned by a DHCP server.

**EAP** (Extensible Authentication Protocol) - A general authentication protocol used to control network access.

Many specific authentication methods work within this framework.

**Encryption** - Encoding data transmitted in a network.

**Ethernet** - IEEE standard network protocol that specifies how data is placed on and retrieved from a common transmission medium.

**Firewall** - A set of related programs located at a network gateway server that protects the resources of a network from users from other networks.

**Firmware** - The programming code that runs a networking device.

FTP (File Transfer Protocol) - A protocol used to transfer files over a TCP/IP network.

Full Duplex - The ability of a networking device to receive and transmit data simultaneously.

**Gateway** - A device that interconnects networks with different, incompatible communications protocols.

**Half Duplex** - Data transmission that can occur in two directions over a single line, but only one direction at a time.

**HTTP** (HyperText Transport Protocol) - The communications protocol used to connect to servers on the World Wide Web.

Infrastructure - A wireless network that is bridged to a wired network via an access point.

**IP** (Internet **P**rotocol) - A protocol used to send data over a network

**IP** Address - The address used to identify a computer or device on a network.

**IPCONFIG** - A Windows 2000 and XP utility that displays the IP address for a particular networking device.

**IPSec** (Internet Protocol Security) - A VPN protocol used to implement secure exchange of packets at the IP layer.

**ISP** (Internet Service Provider) - A company that provides access to the Internet.

LAN - The computers and networking products that make up your local network.

MAC (Media Access Control) Address - The unique address that a manufacturer assigns to each networking device.

Mbps (MegaBits Per Second) - One million bits per second; a unit of measurement for data transmission.

**NAT** (Network Address Translation) - NAT technology translates IP addresses of a local area network to a different IP address for the Internet.

**Packet** - A unit of data sent over a network.

**Passphrase** - Used much like a password, a passphrase simplifies the WEP encryption process by automatically generating the WEP encryption keys for Linksys products.

**Ping** (Packet Internet Groper) - An Internet utility used to determine whether a particular IP address is online.

**POP3** (Post Office Protocol 3) - A standard mail server commonly used on the Internet.

**Port** - The connection point on a computer or networking device used for plugging in cables or adapters.

**P**ower **o**ver **E**thernet (**PoE**) - A technology enabling an Ethernet network cable to deliver both data and power.

**PPPoE** (**P**oint to **P**oint **P**rotocol **o**ver **E**thernet) - A type of broadband connection that provides authentication (username and password) in addition to data transport.

**PPTP** (**P**oint-to-**P**oint **T**unneling **P**rotocol) - A VPN protocol that allows the Point to Point Protocol (PPP) to be tunneled through an IP network. This protocol is also used as a type of broadband connection in Europe.

**RADIUS** (Remote Authentication Dial-In User Service) - A protocol that uses an authentication server to control network access.

**RJ-45** (Registered Jack-45) - An Ethernet connector that holds up to eight wires.

**Roaming** - The ability to take a wireless device from one access point's range to another without losing the connection.

**Router** - A networking device that connects multiple networks together.

**Server** - Any computer whose function in a network is to provide user access to files, printing, communications, and other services.

SMTP (Simple Mail Transfer Protocol) - The standard e-mail protocol on the Internet.

**SNMP** (Simple Network Management Protocol) - A widely used network monitoring and control protocol.

**SPI** (Stateful Packet Inspection) **Firewall** - A technology that inspects incoming packets of information before allowing them to enter the network.

**SSID** (Service Set **ID**entifier) - Wireless network's name.

Static IP Address - A fixed assigned address to a computer or device that is connected to a network.

**Static Routing** - Forwarding data in a network via a fixed path.

Subnet Mask - An address code that determines the size of the network.

**Switch** - 1. A data switch that connects computing devices to host computers, allowing a large number of devices to share a limited number of ports. 2. A device for making, breaking, or changing the connections in an electrical circuit.

**TCP** (Transmission Control Protocol) - A network protocol for transmitting data that requires acknowledgement from the recipient of data sent.

**TCP/IP** (Transmission Control Protocol/Internet Protocol) - A set of instructions PCs use to communicate over a network.

**Telnet** - A user command and TCP/IP protocol used for accessing remote PCs.

**TFTP** (**T**rivial **F**ile **T**ransfer **P**rotocol) - A version of the TCP/IP FTP protocol that has no directory or password capability.

**Throughput** - The amount of data moved successfully from one node to another in a given time period.

**TKIP** (Temporal Key Integrity Protocol) - a wireless encryption protocol that provides dynamic encryption keys for each packet transmitted.

**Topology** - The physical layout of a network.

**TX Rate** - Transmission Rate.

**Upgrade** - To replace existing software or firmware with a newer version.

**Upload** - To transmit a file over a network.

URL (Uniform Resource Locator) - The address of a file located on the Internet.

**VPN** (Virtual Private Network) - A security measure to protect data as it leaves one network and goes to another over the Internet.

WAN (Wide Area Network)- The Internet.

**WEP** (Wired Equivalent Privacy) - A method of encrypting network data transmitted on a wireless network for greater security.

WLAN (Wireless Local Area Network) - A group of computers and associated devices that communicate with each other wirelessly.

**WPA** (Wi-Fi **P**rotected Access) - a wireless security protocol using TKIP (Temporal Key Integrity Protocol) encryption, which can be used in conjunction with a RADIUS server.

# **Limited Warranty**

TRENDnet warrants its products against defects in material and workmanship, under normal use and service, for the following lengths of time from the date of purchase.

TEW-670APB	3 years
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If a product does not operate as warranted above during the applicable warranty period, TRENDnet shall, at its option and expense, repair the defective product or deliver to customer an equivalent product to replace the defective item. All products that are replaced will become the property of TRENDnet. Replacement products may be new or reconditioned.

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