User's Guide

TRENDNET®

Powerline 500 AV2 Adapter
Powerline 500 AV2 Adapter Kit

TPL-408E / TPL-408E2K

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Product Overview

TPL-408E
Package Contents
- TPL-408E: Powerline 500 AV2 Adapter
- Multi-language Quick Installation Guide
- CD-ROM (Utility & User's Guide)
- Network cable (1.5 m / 5 ft.)

TPL-408E2K
Package Contents
- 2 x TPL-408E: Powerline 500 AV2 Adapter Kit
- Multi-language Quick Installation Guide
- CD-ROM (Utility & User's Guide)
- 2 x Network cable (1.5 m / 5 ft.)

If any package contents are missing or damaged, please contact the retail store, online retailer, or reseller/distributor from which the product was purchased.

Features

TRENDnet's Powerline 500 AV2 Adapter, model TPL-408E, uses an electrical outlet to create a 500 Mbps Powerline network. No CD installation required—encrypted TRENDnet adapters auto-connect out of the box. Two adapters are needs to start a network. Connect one adapter to a router and plug in another adapter on your electrical system for instant Internet access.

TRENDnet's Powerline 500 AV2 Adapter Kit, model TPL-408E2K, comes with two Powerline adapters to create a high performance Powerline network using an existing electrical system.

- 500 Mbps Powerline networking
- TRENDnet adapters auto-connect out of the box
- Pre-encrypted for your security
- High performance Gigabit port
- Power Save mode reduces electrical consumption by up to 80%

Benefits

Ease of Use
- No CD Installation
- Simply plug in the adapters—all TRENDnet adapters auto-connect out of the box

Cross Compatible
- TRENDnet Powerline 500 and 200 adapters work with each other

Compact
- Compact form factor saves space around a crowded electrical outlet

Pre-Encrypted Security
- For your security the adapter arrives pre-encrypted

Sync Button
- Press the Sync button to change existing encryption keys

Powerline 500
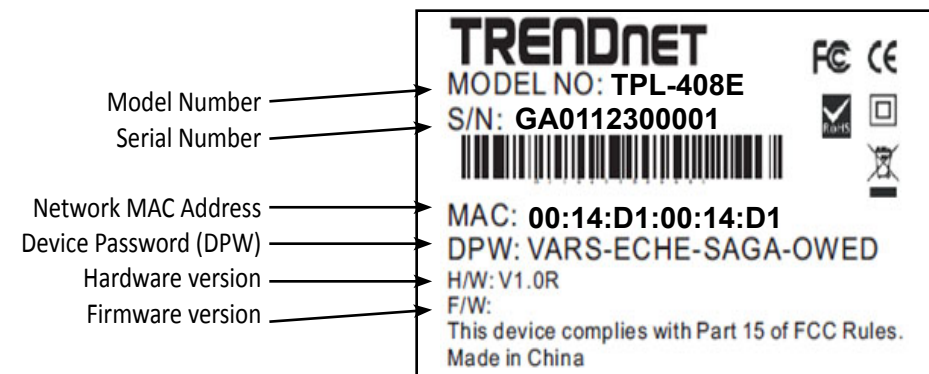- 500 Mbps Powerline networking over existing electrical lines

Whole Home Coverage
- Connects over electrical lines for distances of up to a 5000 square foot home (300 m / 984 ft)

Energy Savings
- Power Save mode reduces electrical consumption by up to 80%

* 8 active adapter can stream data at the same time. Additional adapters may decrease network performance. 500Mbps is the maximum theoretical powerline data rate. Actual throughput will vary depending on the environment. Networked Powerline devices must be plugged into power outlets that are on the same electrical system. GFCI outlets and AFCI circuit breakers may degrade powerline network signals.

Product information on device label

Model Number — MODEL NO: **TPL-408E**
Serial Number — S/N: **GA0112300001**
Network MAC Address — MAC: **00:14:D1:00:14:D1**
Device Password (DPW) — DPW: VARS-ECHE-SAGA-OWED
Hardware version — H/W: V1.0R
Firmware version — F/W:

This device complies with Part 15 of FCC Rules.
Made in China

Product Outlook

Network (ETH) LED

Powerline (PL) LED

Power (PWR) LED

Gigabit Network Port
Connect network cables from
Powerline Adapter to your
computer, game console, network
TV, and other network devices.

Sync button
Synchronize with other
Powerline Adapters.

Power plug (US)
Plugs directly into an
available power outlet.
Not on power strip.

Reset button
Resets the unit to
factory defaults.

Power plug (UK)   **Power plug (EU)**

Push Buttons

Button	Action	Function
Sync	Push for 2 seconds	Initiate Powerline synchronization and generate random private network name on first adapter (PWR LED will start blinking).
		Match the network name on secondary or additional adapter and connect to first adapter. (PWR LED will start blinking)
		Note: To establish connectivity, the secondary or additional Powerline Adapter's Sync button must also be pushed within 2 minutes (120 sec) of pushing the Sync button of the first adapter.
Reset	Push for 1 second	Reset device to factory defaults (All LEDs will turn off and turn back on). Note: Will reset to the factory default private network name "HomePlug AV".

Save Mode: The device will automatically standby to reduce power usage when there is no network traffic for more than 10~20 minutes. It will automatically resume back to full speed service when traffic resumes.

Diagnostic LEDs
Indicates the device and connection status

LED	Color	Sequence	Definition
PWR (Power)	Green	Solid	Device powered on
	Green	Blinking	Powerline synchronization in progress
	N/A	Off	Device powered off
PL (Powerline)	Green	Solid	Powerline connected (Best)
	Green	Blinking	Syncing or Powerline data transmitting/receiving (Best)
	Amber	Solid	Powerline connected (Better)
	Amber	Blinking	Powerline data transmitting/receiving (Better)
	Red	Solid	Powerline connected (Good)
	Red	Blinking	Powerline data transmitting/receiving (Good)
	N/A	Off	Powerline is not synced or connected
ETH (Gigabit Ethernet Connection)	Green	Solid	Network connection established
	Green	Blinking	Data transmission is detected
	N/A	Off	Network standby or no network connection

Note: Powerline (PL) LED color indicates the strength and quality of the Powerline connection through the electrical system. The following factors may affect the powerline network's connection quality:

- *Noise – Generated by appliances which use your electrical system (e.g. Microwaves, ovens, hair dryer, irons, dishwashers, etc.). The quality of your household electrical wiring may also cause additional noise on your electrical system.*
- *Distance – Long lengths of electrical wiring through your electrical system between connected Powerline Adapters.*

Application Diagram

Powerline Networking Solution

Internet

Gigabit   Powerline
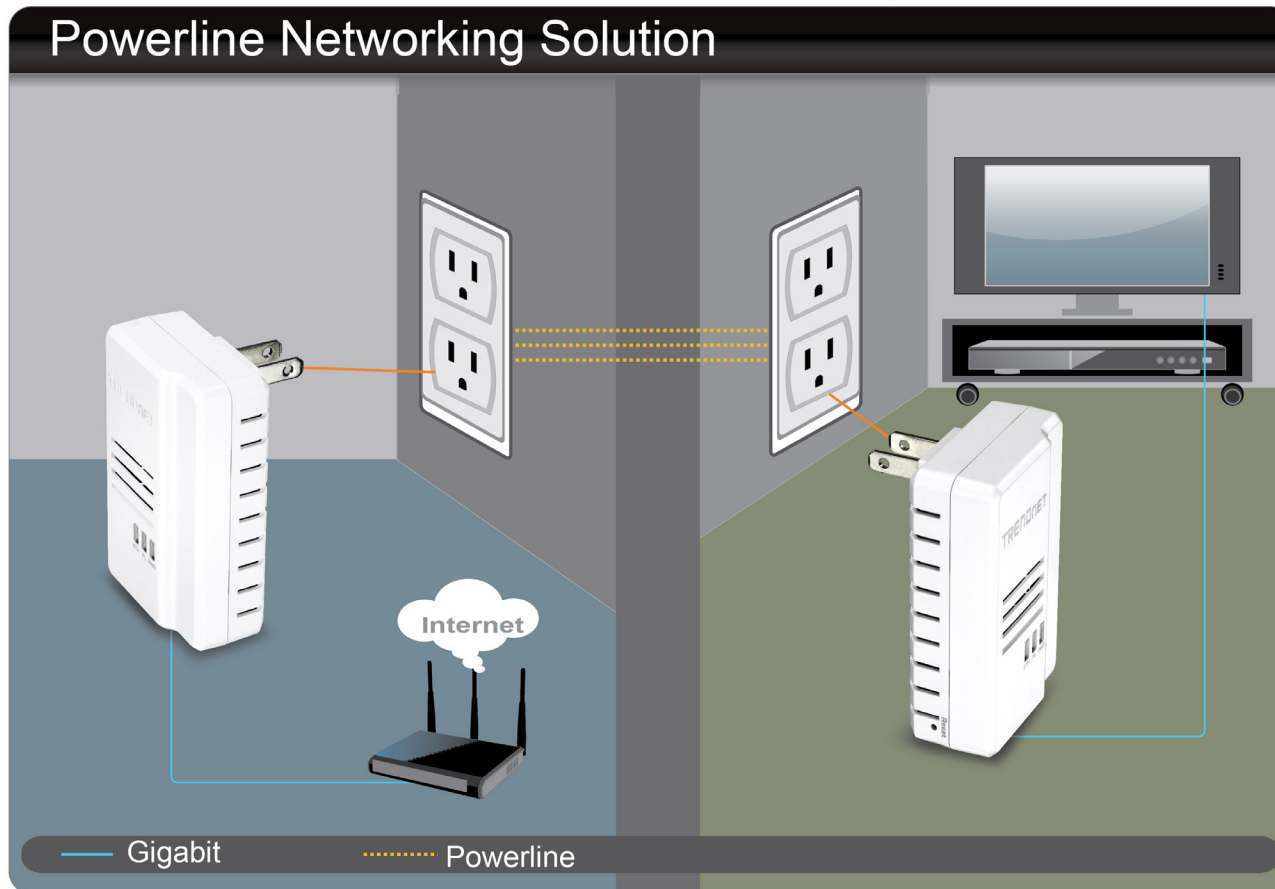
Diagram Explanation:

The first Powerline unit is networked to a router which is in turn connected to a modem (typically supplied by your Internet Service Provider (ISP)) that provides Internet connectivity. A second Powerline Adapter is plugged into a wall power outlet near a media center and is providing Internet connectivity to a game a game console and a Blu-ray player / media player via Ethernet.

Installing Your Powerline Adapter

Before you install

1. Before you proceed with the installation, verify the following:
   - Verify that you already have Internet access through your existing network.
   - Verify that you have an available Ethernet port (also known as a LAN port) on you router.
   - Verify that you have at least two Powerline Adapters. Two or more Powerline Adapters are required to create a powerline network.
     Note: The TPL-408E2K package comes with two TPL-408E adapters. The TPL-408E package includes only a single Powerline Adapter. TPL-408E works with all TRENDnet 500AV2, 500 AV and 200 AV series. For better performance, TRENDnet 500 AV2 or 500AV series are recommended as the second Powerline Adapter.

2. Plan the location of where you will install your Powerline Adapters.
   - Avoid plugging the adapters into power strips, extension cords, or surge protectors as this may prevent the adapter from functioning correctly or degrade performance.
   - Avoid plugging the adapters into wall power outlets that are controlled by a light switch to prevent the Powerline Adapter from being turned off accidentally.
   - Avoid plugging the adapters into wall power outlets that are located near appliances that consume a lot of power (e.g. refrigerators, washers, dryers) as this may degrade performance.
   - Make sure there is an available wall power outlet in the room where the router is installed and also near the router.
   - Make sure there is an available wall power outlet in the room where you want to extend network connectivity.
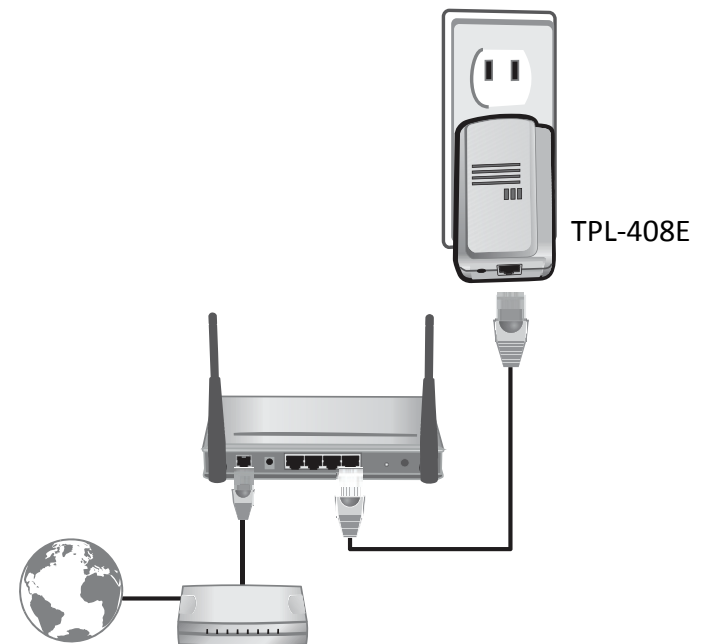
Connecting a Powerline Adapter to your router

1. Plug the Powerline Adapter into an available wall power outlet near your router.
Note: This will allow devices connected to your powerline network to access the Internet and other devices connected to your network.

2. Connect the included Ethernet cable (also called a network cable) from the Ethernet port (also called network port) of your Powerline Adapter to an available Ethernet port (also called LAN port) on your router.

3. Once the Powerline Adapter is installed and connected to your router, verify that the **Power (PWR) LED** is on or blinking and the Network LED is on or blinking.

TPL-408E

Adding adapters to your network

Once you have installed and connected the first Powerline Adapter to your router, you can easily extend your network to other rooms by adding additional Powerline Adapters.

To extend your network using an additional Powerline Adapter:

1. First, make sure the first Powerline Adapter is installed and connected to your router.
*Note: This will allow devices connected to your powerline network to access the Internet and other devices connected to your network. See "Connecting a Powerline Adapter to your router" on page 6*

2. Plug in the additional Powerline Adapter to an available wall power outlet in another room near a computer or network device (e.g. game consoles, network-enabled TVs, network attached storage, network media server/players, etc.) you want to connect to your network.

3. Connect one end of the included Ethernet cable to the Ethernet port on your Powerline Adapter and then connect the other end to the Ethernet port on your computers or another network enabled device.

4. After the additional Powerline Adapter is connected and installed to your computer or network device, wait for the **Powerline (PL) LED** to turn on. After the **Powerline (PL) LED** turns on, verify that the **Power (PWR) LED** is on, the **Powerline (PL) LED** is on or blinking, and the **network LED** is on or blinking.

Note: To verify that your Powerline Adapters are connected successfully to your network, you can check if the computer(s) or network device(s) can access the Internet through your powerline network.

TPL-408E
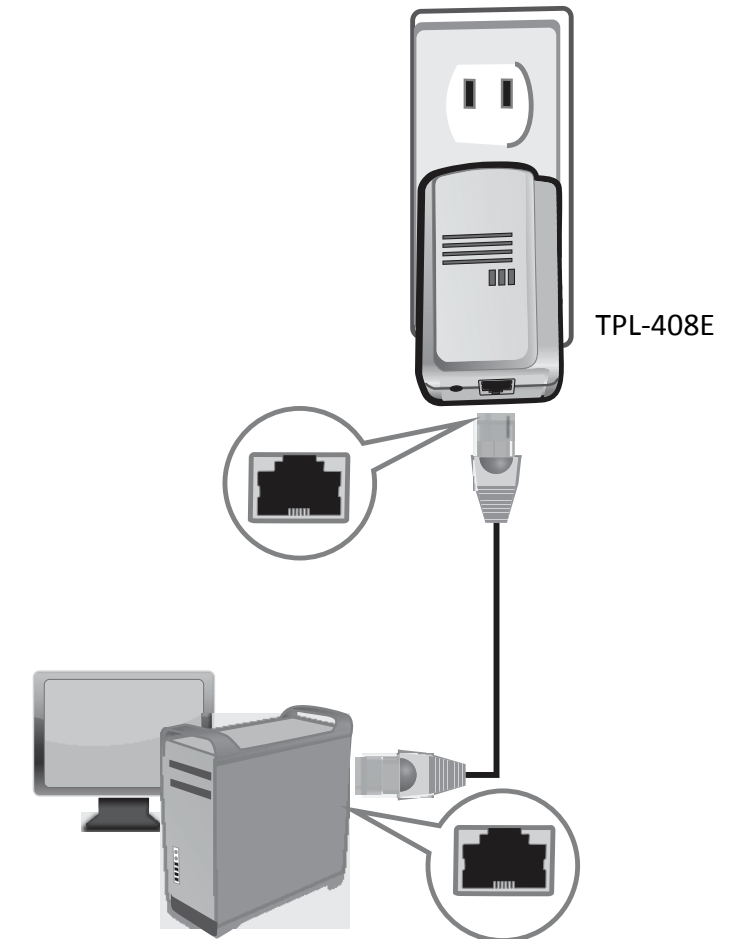
To install additional Powerline Adapters in other rooms, repeat the steps above for each adapter.

Secure Your Powerline Network

Powerline Adapters join powerline network by using network name. TRENDnet HomePlugAV certified Powerline Adapters have the same default network name "HomePlugAV". All out-of-the-box TRENDnet HomePlugAV Powerline Adapters have can be connected to each other without further configuration. To add network security to your network, you can change your Powerline network name away from the factory default name. With a private custom network name, no one can connect to your Powerline network with an out-of-the-box HomePlugAV adapter.

TRENDnet recommends you change the Powerline network name away from the factory default name to increase network security. Once configured, the Powerline network name will be saved. The adapter can be moved freely within its operating range without having to reconfigure the network name. If a mistake is made in the settings, the adapter can be reset to the factory default settings by pressing the reset **Reset** button for 1 second.

There are two ways to change the default network name:

1. (Recommended) Use the physical **Sync** button on your Powerline Adapter to generate a random private network name. See "Using the Sync Button" in next section.
    OR
2. Create a customized private network name for your powerline network by using the included Powerline Utility. See "Using the Powerline Utility" on page 10.
    * If the Powerline Adapter settings have been changed, the adapter must be reset to the factory default settings to be recognized by Powerline Utility.

<u>**Using the Sync button**</u>

Change your default network name using the Sync button

The physical **Sync** button on the Powerline Adapter provides an easy method of changing the network name. The **Sync** button generates a random network name for your powerline network. To create a customized network name, see "Using the Powerline Utility" on page 10.

Note: *The default network name assigned to TRENDnet Powerline Adapters is* ***HomePlugAV****. Before changing the default network name, please make sure your Powerline Adapters are already installed and connected using the default network name.*
See "Installing Your Powerline Adapter" on page 6.
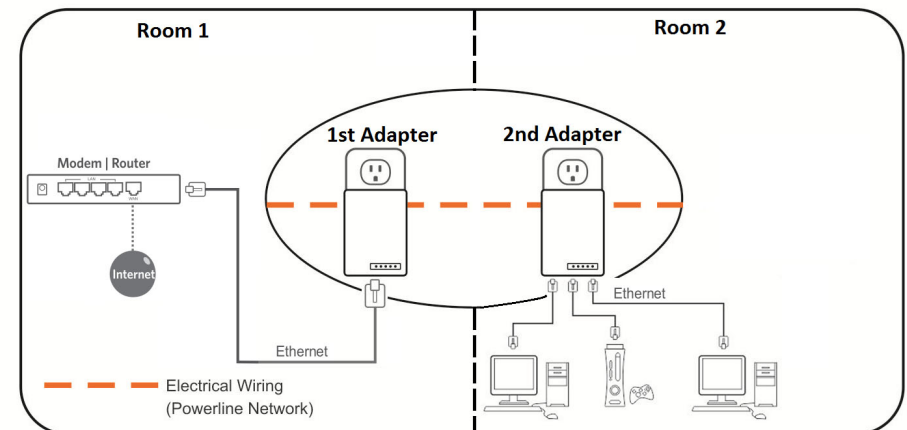
Changing the network name and associating two Powerline Adapters:

Note: Not all TRENDnet Powerline Adapters has the same push button behaviors. Consult the user's guide of the model you have for how to reset and start Powerline Synchronization.

1. Verify that all Powerline Adapters are already installed and connected using the default network name, see "Installing Your Powerline Adapter" on page 6.

Prepare your adapters:
2. On one of the connected Powerline Adapters, push and hold the **Sync** button for 15 seconds and then release it. All LEDs will turn off and turn back on. This will erase the current network name assigned to the first Powerline Adapter.
Note: Once you have completed this step, the other Powerline Adapter will no longer be able to communicate to this Powerline Adapter.

3. On the other Powerline Adapter, push and hold the **Sync** button for 15 seconds then release it. All LEDs will turn off and turn back on. This will erase the current network name assigned to the second Powerline Adapter.

Start association:
4. Complete setp 4 and setp 5 within 2 minutes, push and hold the **Sync** button on the first Powerline Adapter for 2 seconds and then release it. The **Power (PWR) LED** will start blinking. This will generate a random network name on the first Powerline Adapter.

5. Push and hold the **Sync** button on the second Powerline Adapter for 2 seconds and release it. The **Power** (**PWR**) **LED** will start blinking. This will create a connection between both Powerline Adapters using

the new network name. All LEDs will turn off and turn back on and the **Powerline (PL) LED** will turn on the when adapters are connected.

Adding adapters using the Sync button

If you have changed the default network name assigned to your Powerline Adapters, additional adapters will not automatically connect to your powerline network after they are plugged into a wall power outlet. You have to change the network name on additional Powerline Adapter in order to join your existing powerline network.
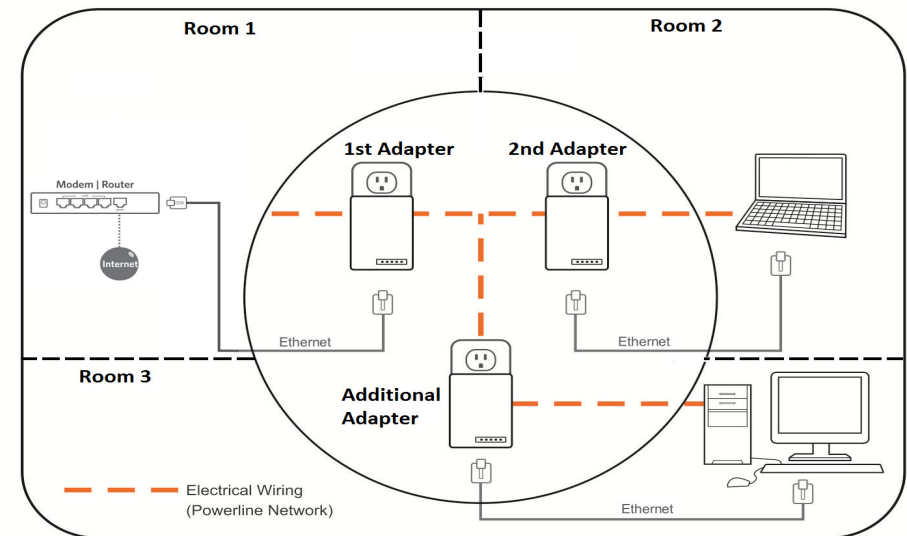
Configuring an additional Powerline Adapter to connect and use the network name of your existing powerline network:

Note: Not all TRENDnet Powerline Adapters has the same push button behaviors. Consult the user's guide of the model you have for how to reset and start Powerline Synchronization.

1. Verify that all existing Powerline Adapters are already installed and connected.

Prepare your adapter:
2. Push and hold the **Sync** button on the additional Powerline Adapter for 15 seconds and then release it. All LEDs will turn off and turn back on. This will erase the current network name assigned to the additional Powerline Adapter.

Start association:
3. Push and hold the **Sync** button on one of the existing Powerline Adapters connected to your powerline network for 2 seconds and then release it. The **Power** (**PWR) LED** will start blinking.

4. Within 2 minutes, push and hold the **Sync** button on the additional Powerline Adapter for 2 seconds and release it. The **Power** (**PWR) LED** will start blinking. This will reconfigure your additional Powerline Adapter to connect and use the network name of your existing powerline network. All LEDs will turn off and turn back on and the **Powerline (PL) LED** will turn on the adapters are connected.

Configure to add additional Powerline Adapters to your existing powerline network, repeat the steps above for each adapter.

Using the Powerline Utility

The Powerline Utility allows you doing following jobs:
1. Create a customized network name for your powerline network and apply it to multiple Powerline Adapters at the same time.
2. View Powerline Adapters connected to your network (using the MAC address) and the approximate connection quality and speed of each Powerline Adapter.
3. View and upgrade Powerline Adapter firmware.
   Note: *Link speed displayed in the utility of your Powerline Adapters to another through your electrical system is estimated. Actual link speed may vary.*

Before installing and using the utility, please ensure the following:
1. *Write down the **Device Password (DPW)** (16-digit characters A-Z only) and **MAC Address** (12-digit characters a-f, A-F, 0-9) of each Powerline Adapter as this will be required to change the network name for multiple Powerline Adapters. See "Product information on device label" on page 2.*
2. *Make sure your computer in which you are installing the utility is connected to your network and your Powerline Adapters are also connected to your network.*
3. *If you have changed your network name using the **Sync** button and you are creating a customized network name, it is required to reset all powerline devices to factory defaults using the physical **Reset** button on your Powerline Adapter before using the utility. See"Push Buttons" on page 4.*
4. *Please ensure that your Powerline Adapters are already installed and connected and the Ethernet port on each adapter is connected to a device powered on.*

Powerline Utility System Requirements

- Windows® 8, Windows® 7, Windows® Vista, or Windows® XP
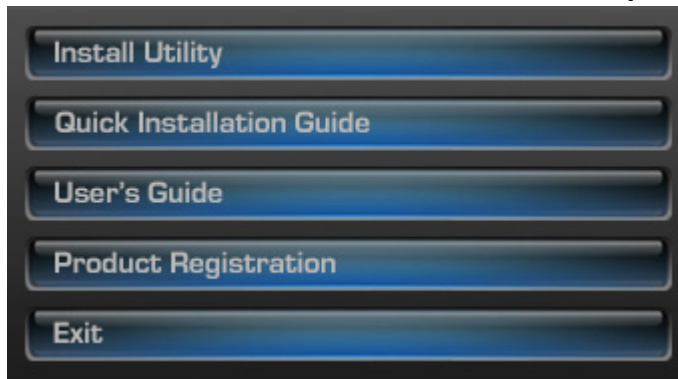- Microsoft® .NET Framework 3.5 installed

Software Installation

1. Insert the included CD-ROM into your computer's CD-ROM drive.

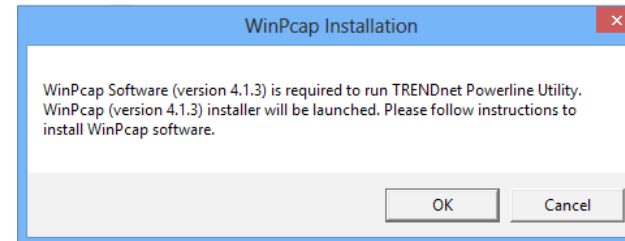2. At the CD Autorun Prompt window, click *Run Autorun.exe* .
Note: If the Autorun prompt does not appear automatically, open the CD contents and double-click Autorun.exe.

3. At the CD-ROM main menu, click **Install Utility**.

The installer will check if you have a previous WinPcap utility.

4. Click **OK**.

Note: The Powerline Utility requires WinPcap as a base application. If this prompt does not appear, you may already have the WinPcap application installed. Windows 8 require WinPcap 4.1.3. Windows 7 and older will work with previous versions of WinPcap. If you have installed a previous version of WinPcap, please uninstall it manually. And then, start the installation from the beginning.

5. At the WinPcap installer window, click **Next**.
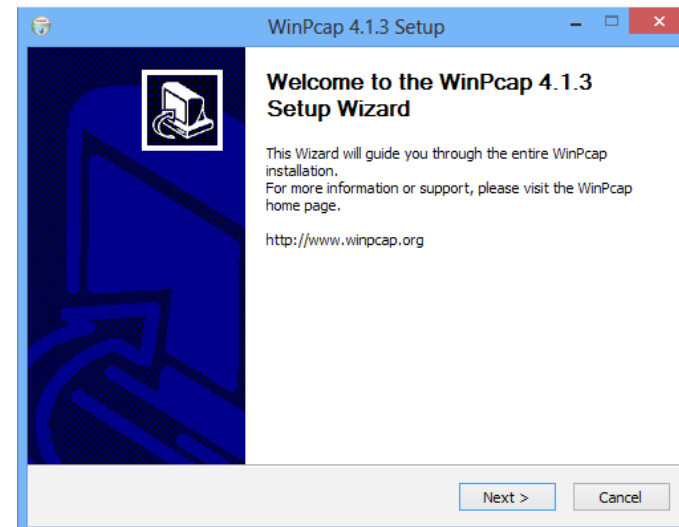
6. Click **Yes** to allow installation.
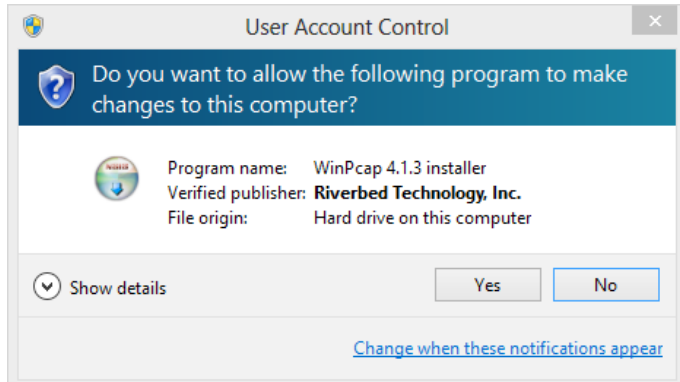
7. Review the license agreement and click **I Agree**.
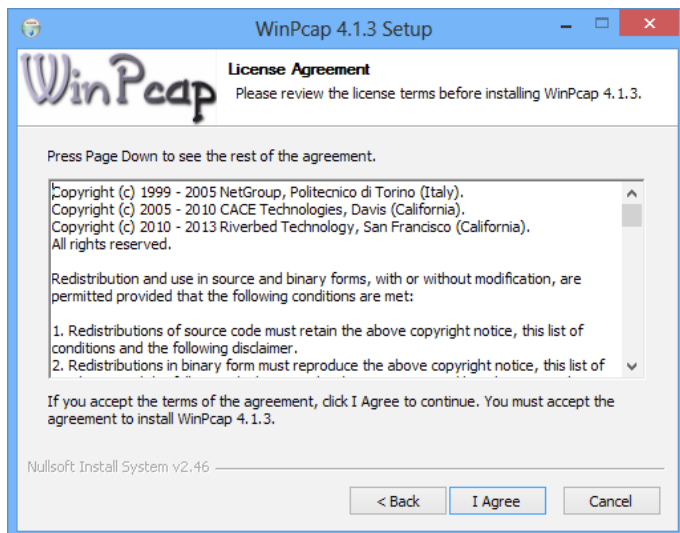
8. In the Installation Options window, leave the **Automatically start the WinPcap driver at boot time** checked and click **Install**.
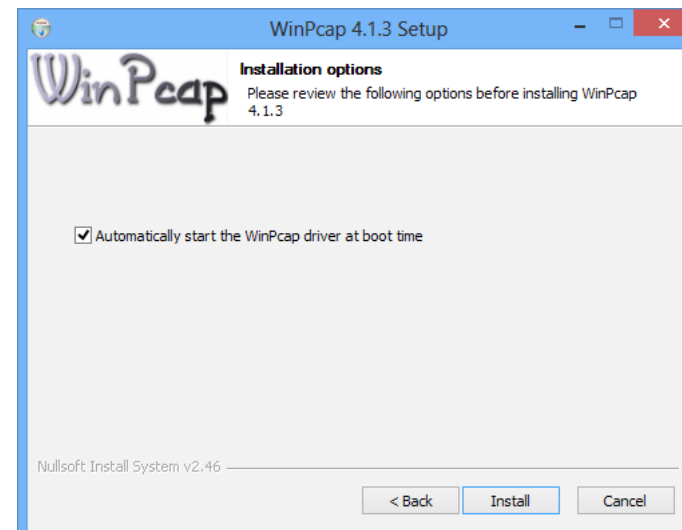
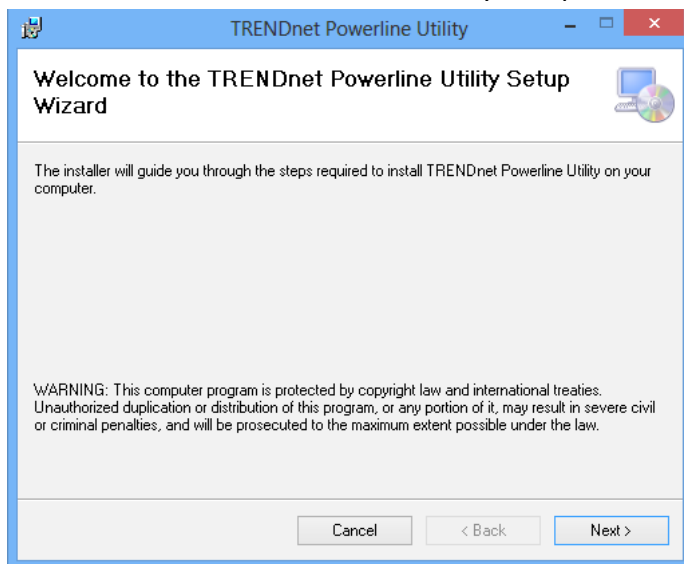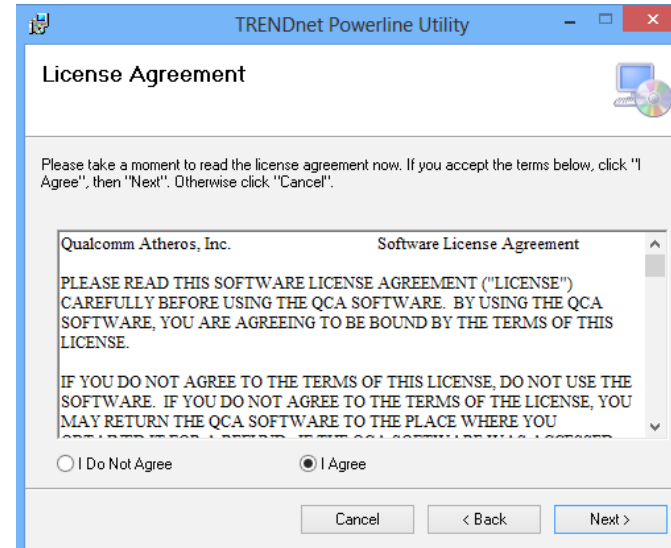9. Wait for the WinPcap installation to complete.
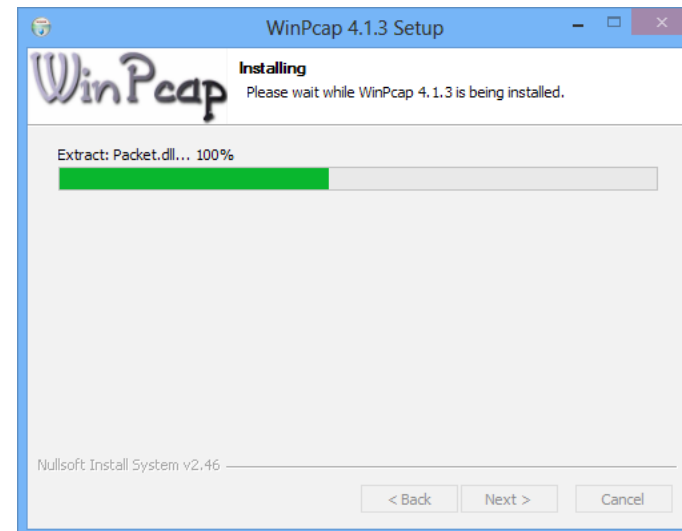
10. After the process has been completed, click **Finish.**
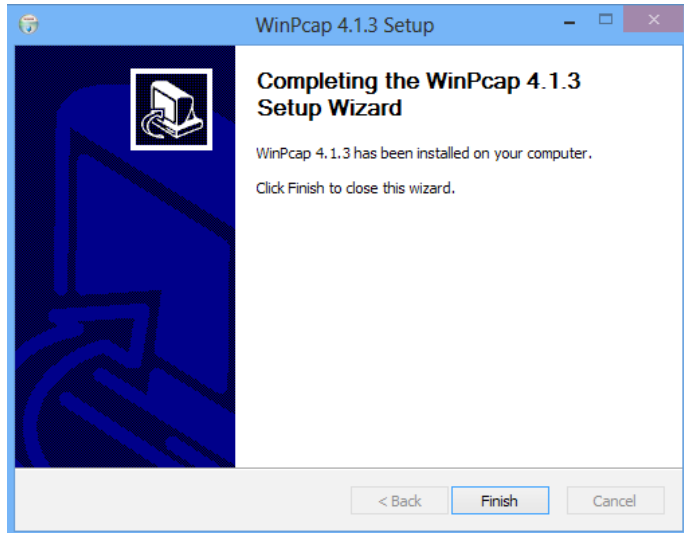
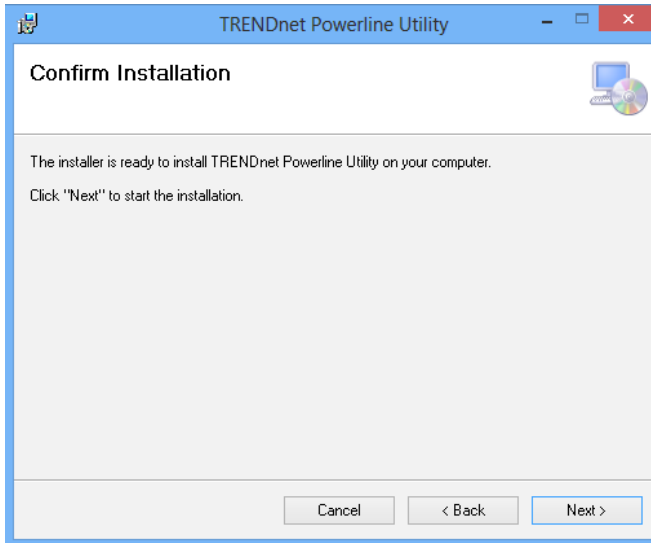11. At the TRENDnet Powerline Utility Setup Wizard, click **Next**.

12. In the License Agreement window, click **I Agree**, and then click **Next**.

13. In the Select Installation Folder window, click **Next**.
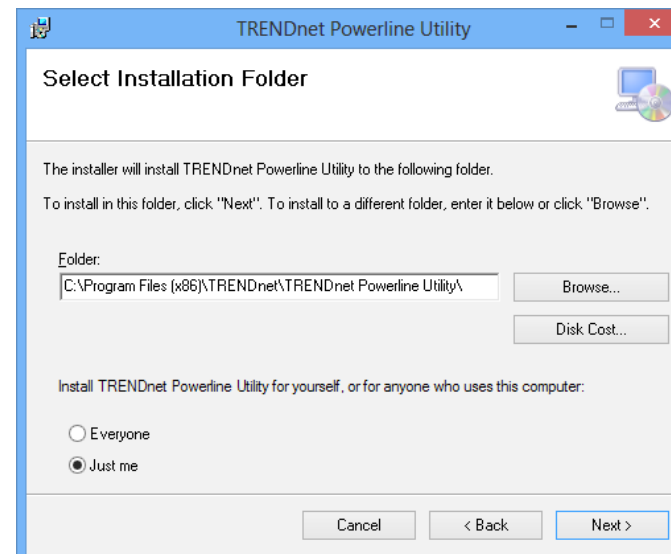
14. In the Confirm Installation window, click **Next**.

15. Wait for the Powerline Utility installation to complete. At the Installation Complete window, click **Close**.
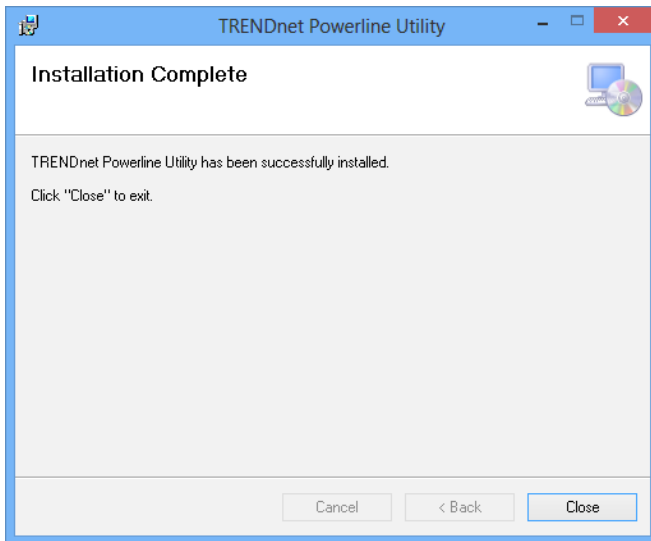
Using the Utility

Before using the utility, please ensure the following:
1. *Write down the* **Device Password (DPW)** *(16-digit characters A-Z only) and* **MAC Address** *(12-digit characters a-f, A-F, 0-9) of each Powerline Adapter as this will be required to change the network name for multiple Powerline Adapters. See "Product information on device label" on page 2.*
2. *Make sure the computer in which you are installing the utility is connected to your network and your Powerline Adapters are also connected to your network.*
3. *If you have changed your network name using the* **Sync** *button and you are creating a customized network name, it is required to reset all powerline devices to defaults using the physical* **Reset** *button on your Powerline Adapter first before using the utility. See "Push Buttons" on page 4.*
4. *Please ensure that your Powerline Adapters are already installed and connected and the Ethernet port on each adapter is connected to a device powered on.*

Upon completing the software installation, a desktop shortcut is automatically created. Double-click the icon to start the utility or open the utility if it is already running. Closing the utility will exit the application.

You can also launch the utility from Start Menu.
Start > Programs (or All Programs) > TRENDnet > TRENDnet Powerline Utility
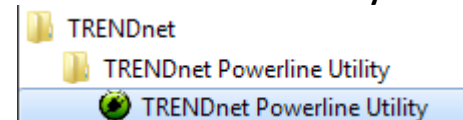
Powerline Utility - Map View

Local Device
All Powerline Adapters connected to the same network as your computer will be listed here.

The default device name is main chip number, followed by the MAC address and firmware version number. You can mouse over the header and adjust column width by clicking and dragging this cursor ✛ .

Remote Devices
These are Powerline Adapters in remote locations connected to a selected local Powerline Adapter on the electrical system.

You can mouse over the header and adjust the column width by clicking and dragging this cursor ✛ to see more information.
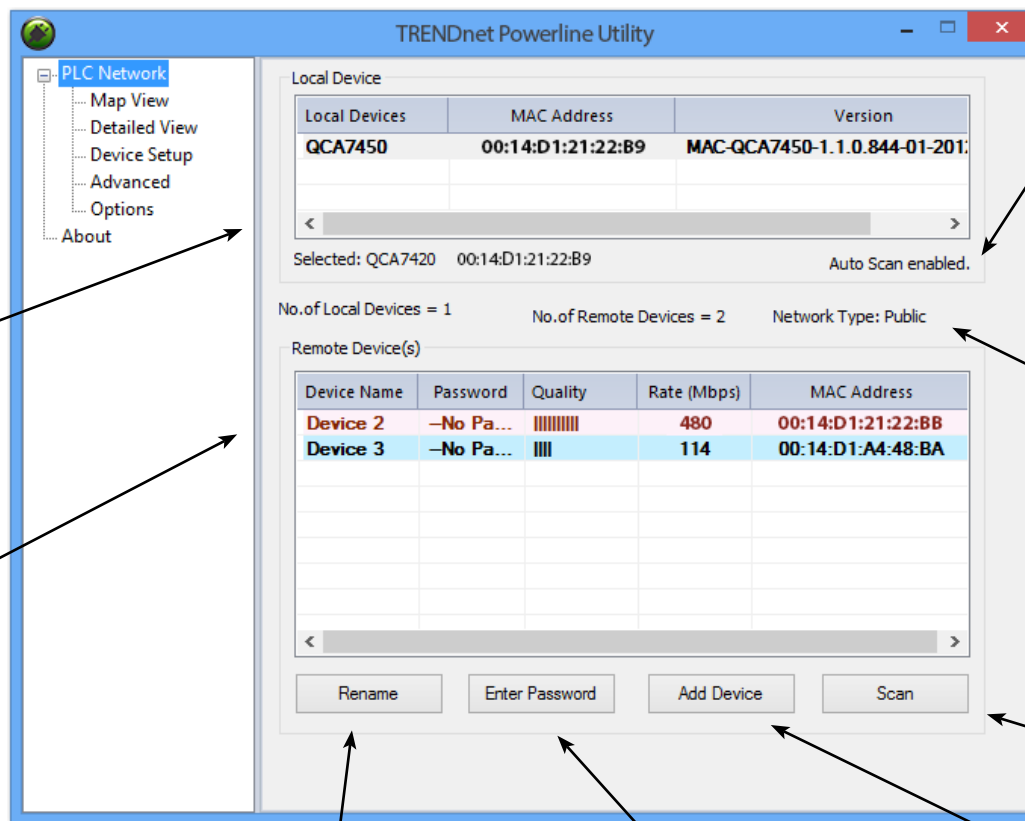
Auto Scan
Auto Scan is selected by default. The utility will scan for remote devices in specific intervals (default: 2 sec, you can change it from 2 to 60 secs).
Auto scan can be disabled by deselecting it. Remote adapters can be scanned manually by clicking the **Scan** button below.

Network Type
The default network type is public. When the network name is customized and changed, it becomes private.

Scan
Manually scan remote Powerline devices which has same network name

Add Device
Add remote Powerline Adapter

Manage your device
Highlight a device by clicking the row and click buttons below

Rename
Change device name to meaningful names such as "living room"

Enter Password
Enter device DPW here. You can manage the remote adapter if only you enter the DPW.

* DPW *(Device Password) is shown on device label*
** *TPL-408E has a Power Save Mod. The device setting can only be changed when the device is active.*
To keep remote Powerline Adapter in an active state, you can power cycle the device or connect it to a network device, such as a router or a computer.

Rename remote device

(Click and select a remote device and then click **Rename** button in Map View)

Enter a meaningful name for easy management

Enter Password

(Click and select a remote device and then click **Enter Password** button in Map View)

The device password (DPW) can be found on device label. You have to enter DPW in order to manage Powerline Adapter remotely.

Add Device

(Click **Add Device** button in Map View)

Enter device name and DPW to add an adapter manually

Scan

Click **Scan** button in Map View to scan other powerline devices manually.

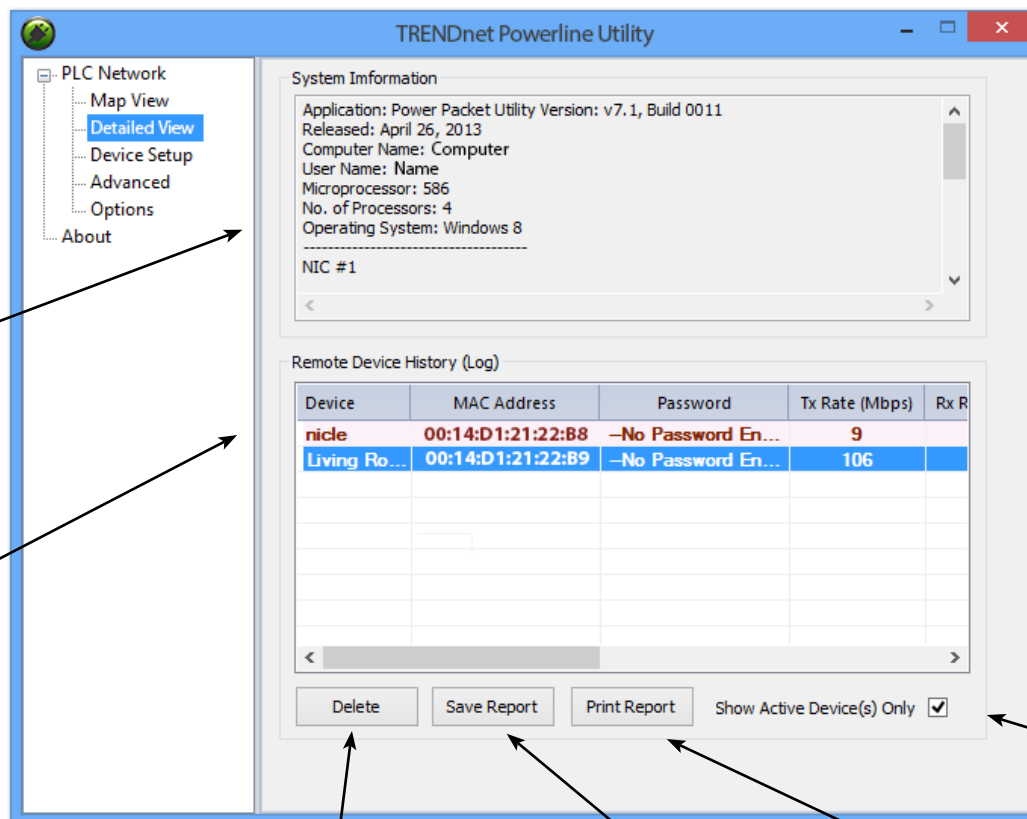**Powerline Utility - Detailed View**

System Information
System Information section shows this utility version, your computer information, network adapters installed on your computer.

Remote Devices
Powerline Adapters in remote locations connect to your network shows here.

Show Active Device(s) Only
Un-check this check box, you can include all device information on network, even it is not in active state.

Manage your report
Highlight the device by clicking the row and click buttons below

Delete
Delete the device from status report (Un-select auto scan in About section to prevent the deleted device added in again.)

Save Report
Click this button to save above information for later use.

Print Report
*Click this button sending above information to your default printer.*

**** DPW** (Device Password) is shown on device label*

Powerline Utility - Device Setup

Private Network Name
This is the network name of your powerline network. Default is "HomePlugAV". When network name set to "HomePlugAV", it considered a public network because very out of box Powerline Adapter can join this network. Powerline Adapters connect to each other only when network name is the same. Change network name and make your network private is recommended to increase your privacy.

You have to remember your network name (Private Network Name). It will be encrypted and save to device. Even Powerline Utility cannot read it in plain text again. When you visit this Private Settings again and the Private Network Name show UnknownNetworkName, it means the network name is private.
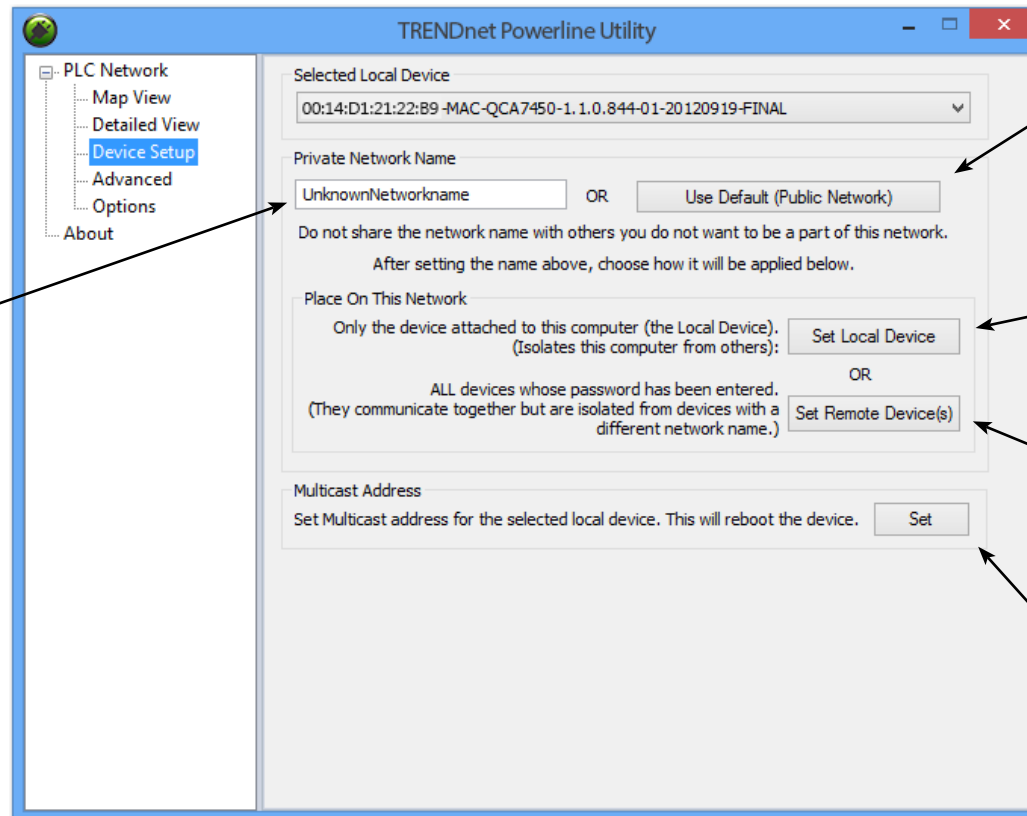
Use Default
If you don't remember what network name you set previously, you can set the network public. Then set it back to private later.

Set Local Device
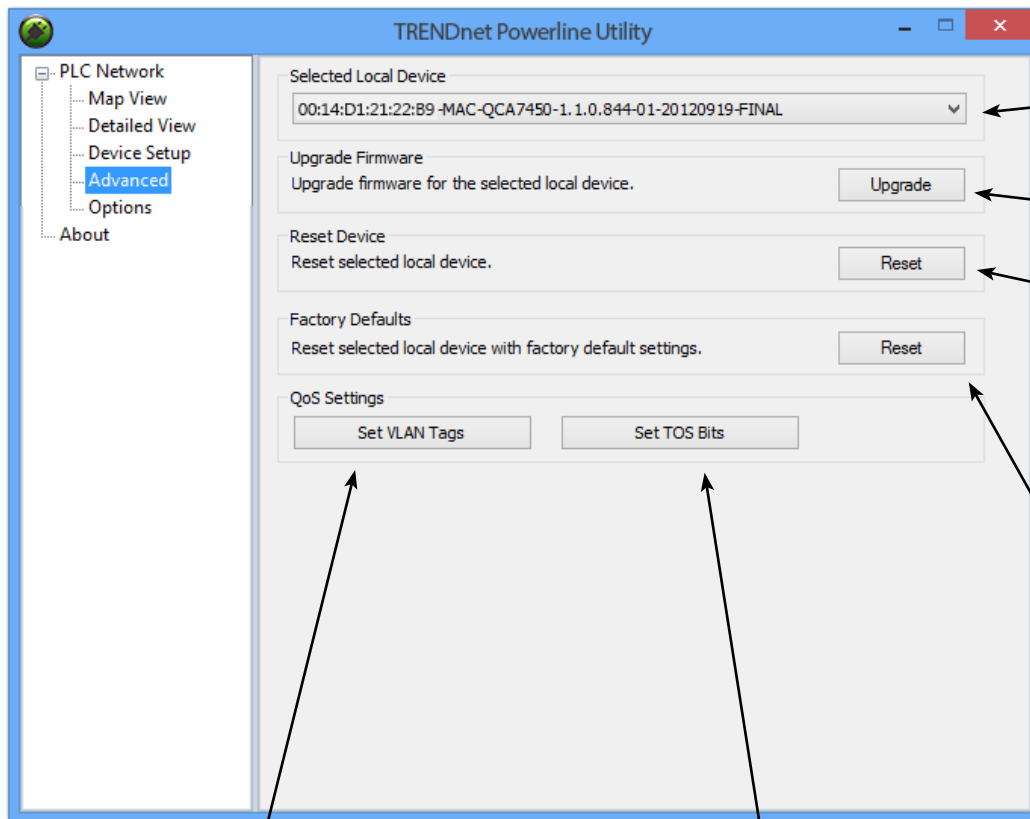Change network name on device selected above.

Set Remote Devices
All devices currently connected locally to your computer or connected remotely through powerline network will set to the new network name.

Multicast Address
Click this button to synchronize multicast address on all adapters on same powerline network.

Powerline Utility - Advanced
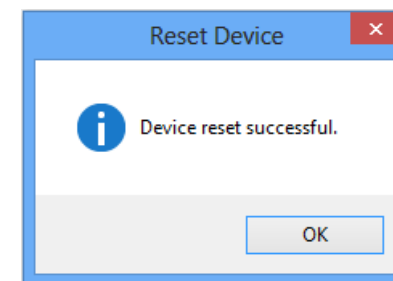

Select Local Device
This advanced feature supports local devices only. Choose one of your local device and proceed the advance setting.

Upgrade Firmware
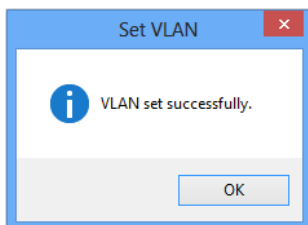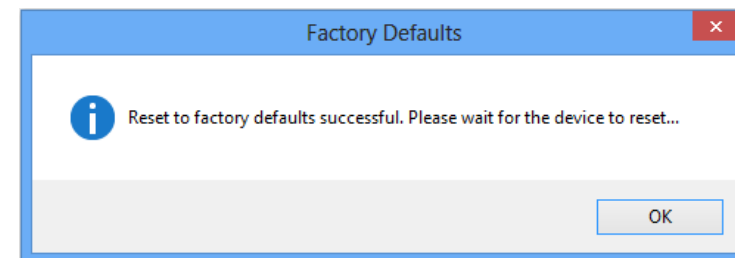Click this button to upgrade device firmware.

Reset Device
Cleanup device active jobs and start fresh again.

Factory Defaults
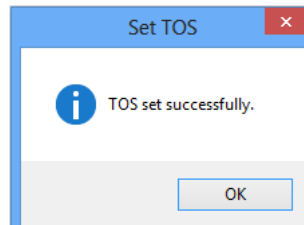Clean up all your settings on adapter. Always click this button after you upgrade firmware.
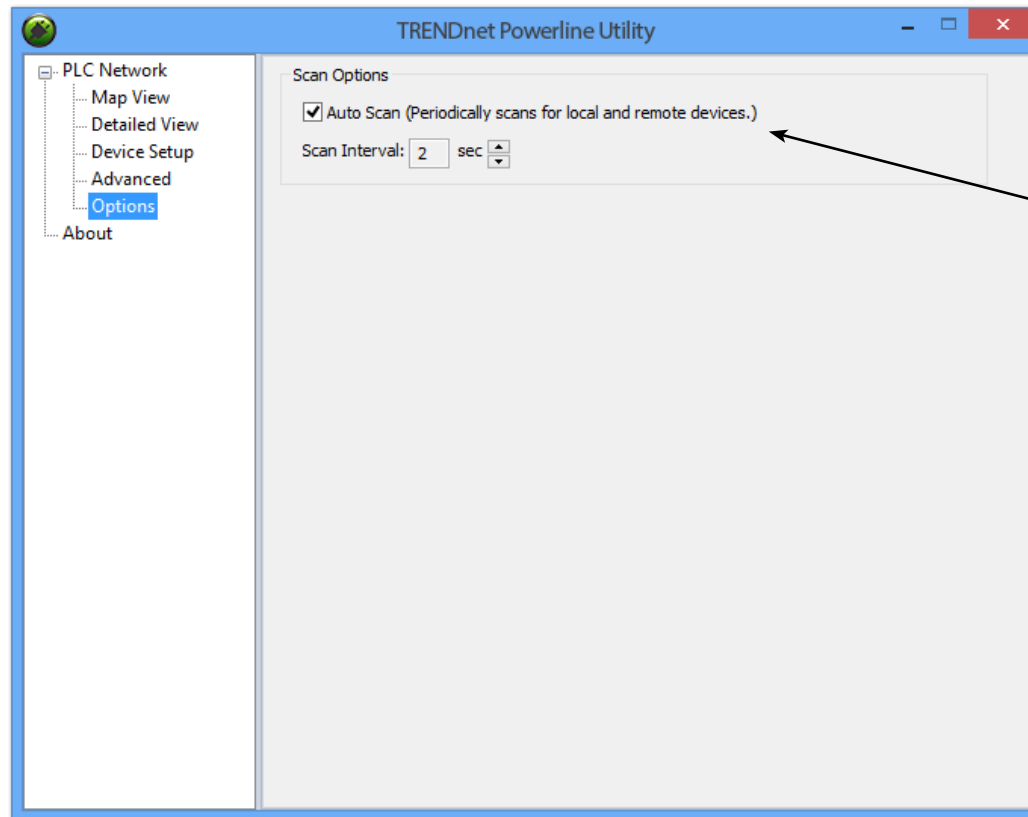
Set VLAN Tags
Set VLAN tag for stream identity

Set TOS Bits
Setup Type-of-Service bits to differentiate packets

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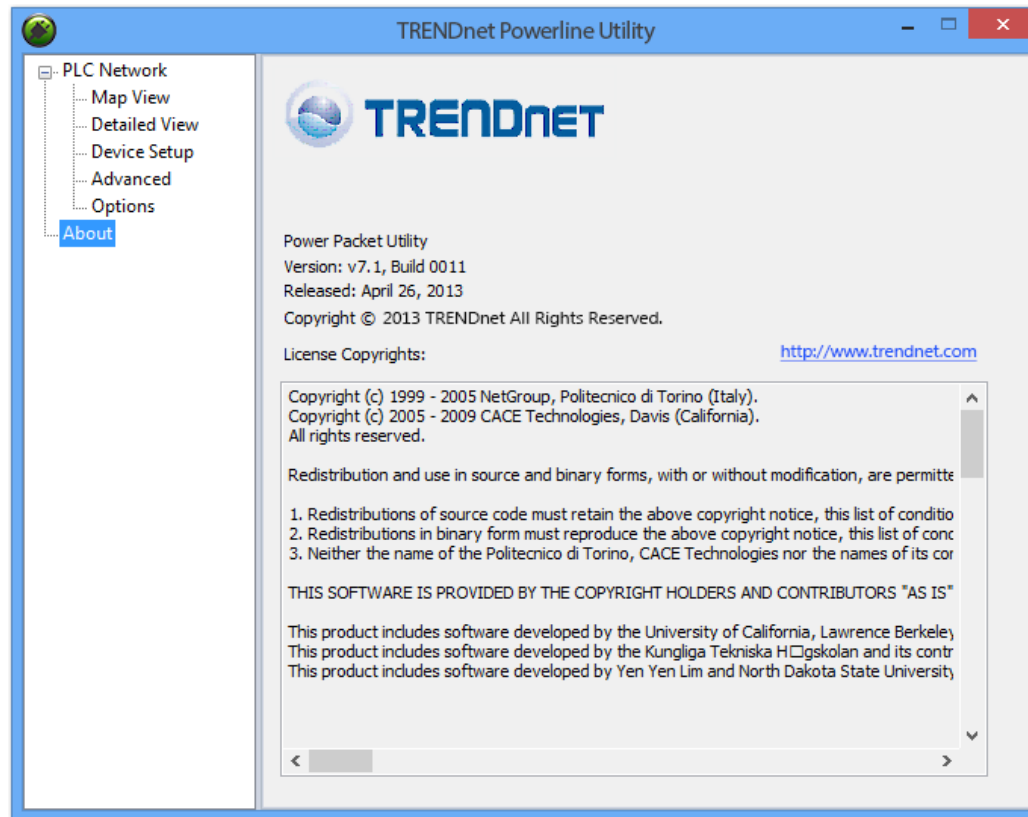**Powerline Utility - Options**

Scan Options
By default, the Powerline utility scans adapters attached to the network every 2 seconds. You can change the scanning frequency from 2 seconds tup to 60 seconds or stop auto scan. You can then scan devices manually by clicking **Scan** button in **Map View.**

Powerline Utility - About

About Powerline Utility
This Powerline Utility manages TPL-408E and most legacy HomePlug certified Powerline Adapters.

For more information, please visit our website www.trendnet.com

Technical Specifications

Standards	IEEE 1901, HomePlug® AV2, IEEE 802.3, IEEE 802.3x, IEEE 802.3u

Interface	• Gigabit Ethernet Auto-MDIX RJ-45 port
	• Power plug
	   o A: North America Type B (NEMA 5–15)
	   o EU: Euro Type C (CEE 7/16)
	   o UK : United Kingdom Type G (BS 1363)

Frequency Band	2 ~ 68 MHz
Modulation	OFDM Symbol Modulation on link synchronization, 1024/256/64/8 - QAM, QPSK, BPSK, ROBO Carrier
Protocol	TDMA, and CSMA/CA
Speed	Powerline: up to 500Mbps** Ethernet: up to 2Gbps with Full Duplex mode
Utility OS Compatibility	Windows® 8, Windows® 7, Windows® Vista, and Windows® XP
Nodes	Active nodes up to 8 nodes* for simultaneous access
Coverage	Up to 300m (984ft.)
Security	128-Bit AES (Advanced Encryption Standard)

LED	Power (PWR) Powerline (PL) with Connection Quality Indication • Best (Green) • Better (Amber) • Good (Red) • No connection (Off) Fast Ethernet Connection (1-4) • Solid • Blinking • Off
Buttons	Sync, Reset
Dimension (L x W X H)	A: 105 x 75 x 57 mm (4.1 x 3.0 x 2.2 in.) EU: 105 x 75 x 73 mm (4.1 x 3.0 x 2.87 in.) UK: 105 x 75 x 65 mm (4.1 x 3.0 x 2.56 in.)
Weight	A: 147 g (5.2 oz) EU: 170 g (6.0 oz) UK: 159 g (5.6 oz)
Power Source	100~240V AC, 50~60Hz
Consumption	Active mode: 4 Watts (max.) Standby mode: 0.5 Watts (max.)
Temperature	Operating: 0° ~ 40°C (32° ~ 104°F) Storage: -20° ~ 70°C (-4° ~ 158°F)
Humidity	Max. 90% (non-condensing)
Certifications	CE, FCC, HomePlug® AV

* 8 active adapter can stream data at the same time. You can configure up to 64 adapters in the same network. Additional adapters may decrease network performance. **500Mbps is the maximum theoretical Powerline data rate. Actual throughput will vary depending on environment. Networked Powerline devices need to be plugged into power outlets that are on the same electrical system. GFCI outlets and AFCI circuit breakers may degrade powerline network signals.

Troubleshooting

Please reference the items below if you continue to experience difficulty with installing and using your Powerline Adapters.

- Power-cycle the Powerline Adapters by disconnecting them from their power outlets for 15 seconds and then reconnect them.

- If the Powerline (PL) LED is red, try plugging the Powerline Adapter into another available power outlet. The quality of the connection may be better in a different power outlet.

- If you are having issues connecting the Powerline Adapters after changing the network name using the Sync button or Powerline utility, reset the Powerline Adapters to defaults using the physical Reset button.

- Using a pin or paperclip; press and hold the Reset button for 1 second on each Powerline Adapter. All LEDs will turn off then turn back on. This will reset the Powerline Adapters to their default settings. The default network name is HomePlugAV.

- The Powerline Adapters can provide better connectivity and performance when plugged directly into a power outlet. Connecting the Powerline Adapters to a power strip or surge protector may degrade or block Powerline signals.

- Avoid using the Powerline Adapters on GFI protected outlets and electrical systems with AFCI circuit breakers. They may degrade or block powerline signals.

- The Powerline Adapters should not be used in areas with excessive heat.

- Florescent and incandescent lighting can generate significant powerline interference.

- If your building has more than one circuit breaker box, the Powerline Adapter may not be able to establish connectivity between them. In this case, connect a Powerline Adapter into a power outlet located on each of the circuit breaker boxes. Then connect an Ethernet cable between the Powerline Adapters to bridge the two circuits together.

In addition to this User's Guide, you can find help below:

- http://www.trendnet.com/support (documentation, downloads, FAQs, how to contact technical support)

- Autorun CD (Quick Installation Guide)

Appendix

## Overlapping powerline networks

It is possible to create multiple powerline networks on the same electrical system separated and grouped by different network names. The powerline networks will work and communicate independently of each other which can provide security between different groups of Powerline Adapters. For example, if you have five Powerline Adapters (Adapter A, Adapter B, Adapter C, Adapter D, Adapter E), you can group Adapters A, B, and C together on one powerline network and group Adapters D and E on a different powerline network. Each group will use a different network name.

Note: It is recommended that only a maximum of up to 4 powerline networks can be created per electrical system. Any additional powerline networks above the recommended may result in significant degradation in powerline performance.
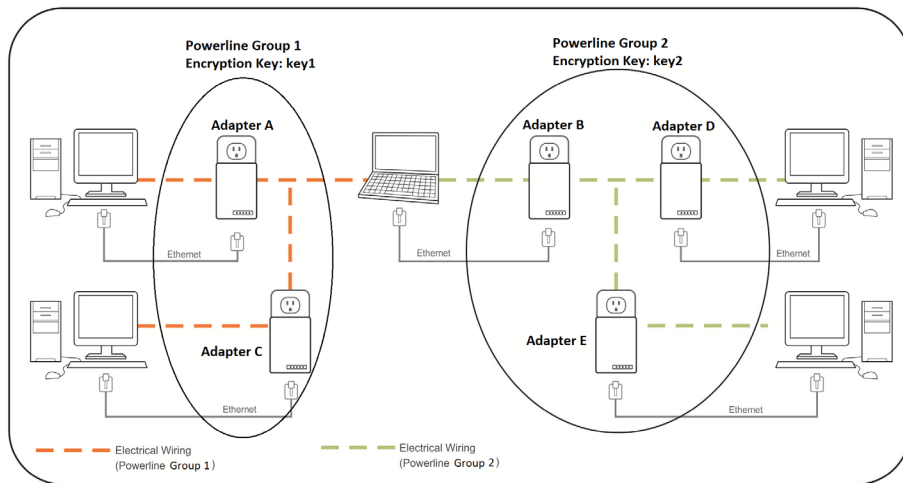
Move Powerline Adapters between different overlapping powerline networks

*Note: Assuming all Powerline Adapters are TRENDnet Powerline Adapters and for reference in the diagram and this procedure, the adapters will be labeled **Adapter A, B, C, D**, and **E. Adapters A, B,** and **C** are currently connect together to form one powerline network and **Adapters D** and **E** form another powerline network. Adapter B will be disconnected from Adapters A and C and connected to Adapters D and E.*
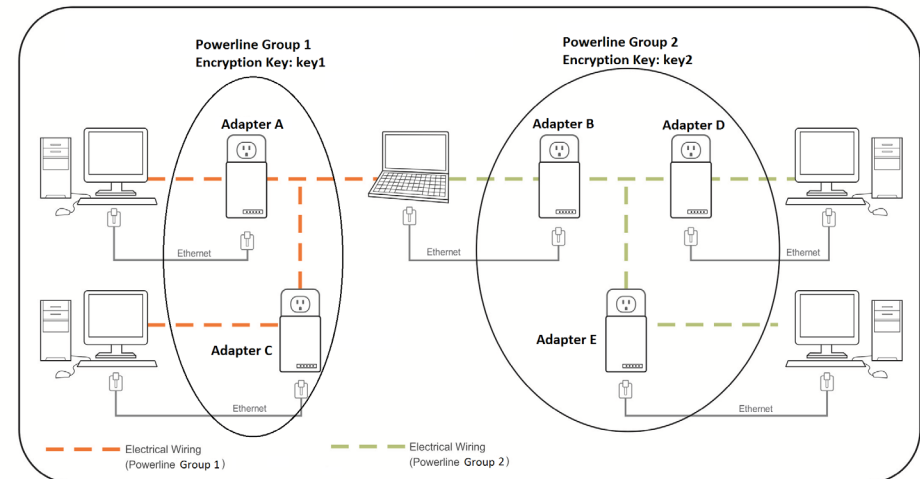
1. Push and hold the Sync button on **Adapter B** for 15 seconds and release it. All LEDs will turn off and turn back on. This will erase the current network name assigned to **Adapter B** and disconnect from **Adapter A** and **Adapter C**.

2. Push and hold the **Sync** button on **Adapter D** for 2 seconds and release it. The **Power (PWR) LED** will start blinking.

3. Within 2 minutes, push and hold the **Sync** button on **Adapter B** for 2 seconds and release it. The **Power (PWR) LED** will start blinking. This will establish connectivity between **Adapter B**, **Adapter D**, and **Adapter E** by reconfiguring the network name of **Adapter B** to match the network name of **Adapter D** and **Adapter E**. All LEDs will turn off and turn back on and the **Powerline (PL) LED** will turn on the when adapters are connected.

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.

RoHS

This product is RoHS compliant.

### Europe – EU Declaration of Conformity

This device complies with the essential requirements of the Directive 2004/108/EC, /2006/95/EC and 2009/125/EC:

EN55022 : 2010, class B
EN 61000-6-3 : 2007 + A1 :2011
EN 61000-3-2 : 20086 + A1 : 2009 + A2 : 2009, class A
EN 61000-3-3 : 2008
EN 50412-2-1 :2005, class 1, type 2

EN 60950-1 :2006 + A11 : 2009 + A1 : 2010 + A2 : 2011 : Safety of Information Technology Equipment including electrical business equipment

[cs]Česky [Czech]	TRENDnet tímto prohlašuje, že tento TPL-408E je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 2004/108/ES.
[da]Dansk [Danish]	Undertegnede TRENDnet erklærer herved, at følgende udstyr TPL-408E overholder de væsentlige krav og øvrige relevante krav i direktiv 2004/108/EF.
[de]Deutsch [German]	Hiermit erklärt TRENDnet, dass sich das Gerät TPL-408E in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2004/108/EG befindet.
[et]Eesti [Estonian]	Käesolevaga kinnitab TRENDnet seadme TPL-408E vastavust direktiivi 2004/108/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
[en]English	Hereby, TRENDnet, declares that this TPL-408E is in compliance with the essential requirements and other relevant provisions of Directive 2004/108/EC.
[es]Español [Spanish]	Por medio de la presente TRENDnet declara que el TPL-408E cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2004/108/CE.
[el]Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ TRENDnet ΔΗΛΩΝΕΙ ΟΤΙ TPL-408E ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2004/108/ΕΚ.
[fr]Français [French]	Par la présente TRENDnet déclare que l'appareil TPL-408E est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2004/108/CE.
[it]Italiano [Italian]	Con la presente TRENDnet dichiara che questo TPL-408E è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2004/108/CE.
[lv]Latviski [Latvian]	Ar šo TRENDnet deklarē, ka TPL-408E atbilst Direktīvas 2004/108/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
[lt]Lietuvių [Lithuanian]	Šiuo TRENDnet deklaruoja, kad šis TPL-408E atitinka esminius reikalavimus ir kitas 2004/108/EB Direktyvos nuostatas.

[nl] Nederlands [Dutch]	Hierbij verklaart TRENDnet dat het toestel TPL-408E in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2004/108/EG.
[mt]Malti [Maltese]	Hawnhekk, TRENDnet, jiddikjara li dan TPL-408E jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 2004/108/EC.
[hu]Magyar [Hungarian]	Alulírott, TRENDnet nyilatkozom, hogy a TPL-408E megfelel a vonatkozó alapvetõ követelményeknek és az 2004/108/EC irányelv egyéb elõírásainak.
[pl]Polski [Polish]	Niniejszym TRENDnet oświadcza, że TPL-408E jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 2004/108/EC.
[pt]Português [Portuguese]	TRENDnet declara que este TPL-408E está conforme com os requisitos essenciais e outras disposições da Directiva 2004/108/CE.
[sl]Slovensko [Slovenian]	TRENDnet izjavlja, da je ta TPL-408E v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 2004/108/ES.
[sk]Slovensky [Slovak]	TRENDnet týmto vyhlasuje, že TPL-408E spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 2004/108/ES.
[fi]Suomi [Finnish]	TRENDnet vakuuttaa täten että TPL-408E tyyppinen laite on direktiivin 2004/108/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
[sv]Svenska [Swedish]	Härmed intygar TRENDnet att denna TPL-408E står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2004/108/EG.

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.

- TPL-408E – 3 Year Warranty
- AC/DC Power Adapter, Cooling Fan, and Power Supply carry 1 year warranty.

If a product does not operate as warranted during the applicable warranty period, TRENDnet shall reserve the right, at its expense, to repair or replace the defective product or part and deliver an equivalent product or part to the customer. The repair/replacement unit's warranty continues from the original date of purchase. All products that are replaced become the property of TRENDnet. Replacement products may be new or reconditioned. TRENDnet does not issue refunds or credit. Please contact the point-of-purchase for their return policies.

TRENDnet shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to TRENDnet pursuant to any warranty.

There are no user serviceable parts inside the product. Do not remove or attempt to service the product by any unauthorized service center. This warranty is voided if (i) the product has been modified or repaired by any unauthorized service center, (ii) the product was subject to accident, abuse, or improper use (iii) the product was subject to conditions more severe than those specified in the manual.

Warranty service may be obtained by contacting TRENDnet within the applicable warranty period and providing a copy of the dated proof of the purchase. Upon proper submission of required documentation a Return Material Authorization (RMA) number will be issued. An RMA number is required in order to initiate warranty service support for all TRENDnet products. Products that are sent to TRENDnet for RMA service must have the RMA number marked on the outside of return packages and sent to TRENDnet prepaid, insured and packaged appropriately for safe shipment. Customers shipping from outside of the USA and Canada are responsible for return shipping fees. Customers shipping from outside of the USA are responsible for custom charges, including but not limited to, duty, tax, and other fees.

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Product Warranty Registration

Please take a moment to register your product online.
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