



User's Guide

TPL-302E

FCC Warning

This equipment has been tested and found to comply with the regulations 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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if it's not installed and used in accordance with this user's guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



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INTRODUCTION

Thanks for purchasing of the 200M Powerline AV to Fast Ethernet Adapter. This Adapter will allow your Ethernet device to connect to other Ethernet devices through AC power line.

About the 200M Powerline AV to Fast Ethernet Adapter

The 200M Powerline AV to Fast Ethernet Adapter allows user to connect with other Ethernet enabled devices through AC power line at home or office.

The 200M Powerline AV to Fast Ethernet Adapter is designed to provide the Plug-and-Play installation, user just connected the Ethernet cable on the Adapter and Ethernet enabled device and plugged the Adapter to AC outlet.

Terms/Usage

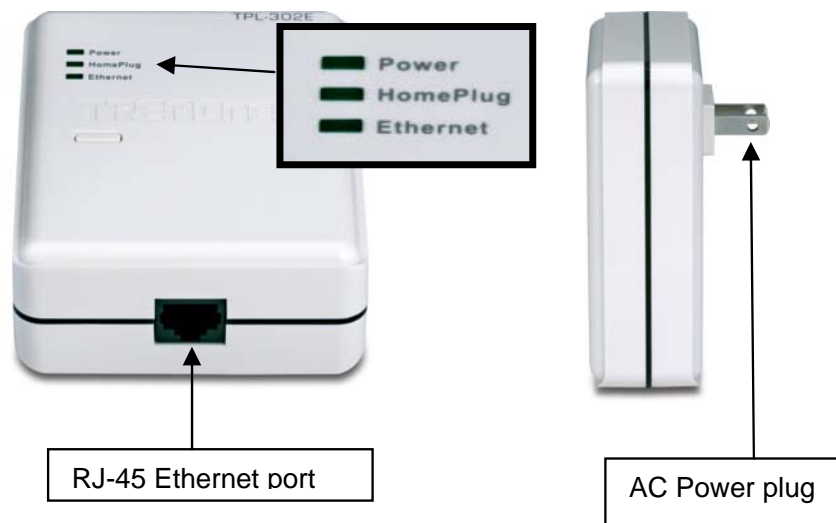
In this guide, the term “the TPL-302E” refers to the 200M Powerline AV to Fast Ethernet Adapter.

Product Features

- ◆ Compliant with 200M Powerline AV specifications
- ◆ Compliant with IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX specification
- ◆ ANSI/IEEE 802.3 Auto-negotiation and Auto MDI and MDIX
- ◆ Powerline speed up to 200Mbps
- ◆ 3 LED indicators for Power, Powerline Activity and Ethernet port Link/Activity
- ◆ Support quickly setup button

IDENTIFYING EXTERNAL COMPONENTS

This section identifies all the major external components of the 200M Powerline AV to Fast Ethernet Adapter.



10/100M Fast Ethernet Port

Connect to Ethernet enabled device.

AC Power Plug

Plugging into the AC power outlet.

LED Indicators

LED	Display	Status description
Power	On	The TPL-302E is connected to the AC power line and operation normal.
	Off	The TPL-302E is not connected to the AC power line.
	Blinking	The TPL-302E is goes to firmware upgrade or on pairing.
Powerline	On	The TPL-302E is the PowerLine addresser.
	Off	The PCL is not join to PowerLine group
	Blinking	The TPL-302E is the PowerLine joiner.
Ethernet	On	The TPL-302E is connected to the Ethernet network
	Off	The TPL-302E is not connect to Ethernet network
	Blinking	The TPL-302E is on transmission data to/from Ethernet network.

Quick Setup Button

The button is used to setup the TPL-302E to join into the Powerline network group quickly.

Resetting the network ID

Press the *Quick Setup* button until all LEDs extinguish (more than 10 seconds), the TPL-302E will reset the network ID setting and generate a random network ID. **Always reset the network ID before pairing the TPL-302E.**

Pairing the TPL-302E

When new TPL-302E adapters want to join to existing Powerline Network, press the ***Quick Setup*** button on any exist TPL-302E adapter and press the new TPL-302E adapter's ***Quick Setup*** button within ***three seconds*** at the same time, the ***Power LED*** will start blinking, it means the TPL-302E adapters goes to pairing process, when finished the pairing, the Power LED will be steady on.

INSTALLATION

The 200M Powerline AV to Fast Ethernet Adapter is designed to be simple and easy installation.

10/100M Fast Ethernet Port

Connect to Ethernet enabled device.

AC Power Plug

Plugging into the AC power outlet.

LED Indicators

Detailed LED description shows on Page 3.

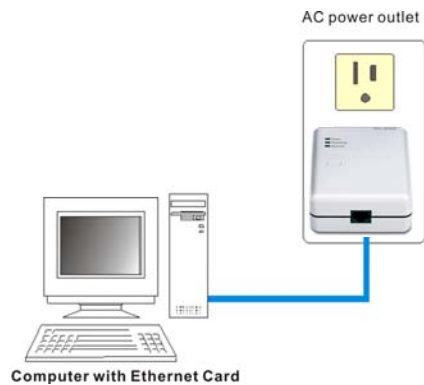
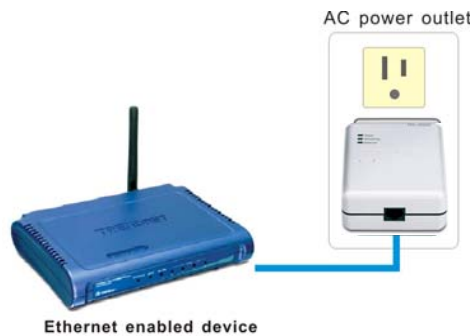
Quick Setup Button

The button is use to setup the TPL-302E to join into the Powerline network group quickly.

Connecting to network

You can connect the 200M Powerline AV to Fast Ethernet Adapter directly to the PC's network adapter, switch, or any other Ethernet enabled device.

Note: The Ethernet port on the Adapter supports 10/100M Auto-MDI/MDIX function, you can use a straight-through or a crossover Ethernet cable when connecting to another Ethernet enabled device.)

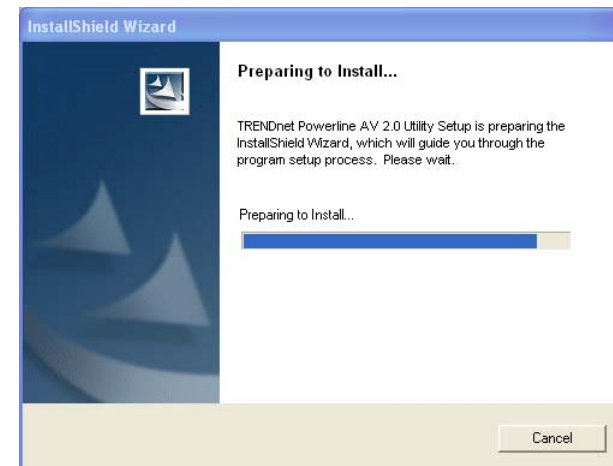


Configuration Utility

The Powerline AV Utility for Windows OS enables the users to identify TPL-302E devices on the power line network, measures data rate performance, ensures privacy and performs diagnostics by setting user defined secure power line networks.

Install Configuration Utility

Insert the Powerline AV utility CD into your CD-ROM drive and the Auto-run program will appear. Alternatively this can also be done manually by double clicking the autorun.exe file on the CD.



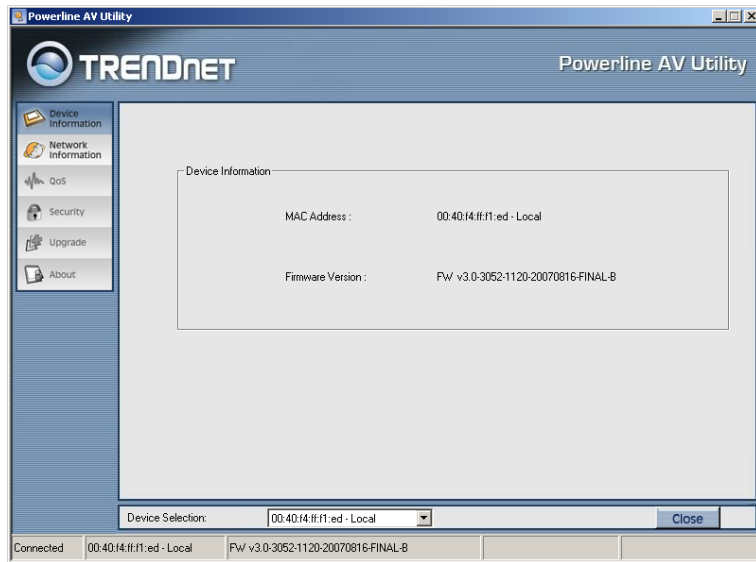
Click the "Install Software" on the menu to install the Powerline AV Utility, the install wizard will begin the software installation. Follow the install wizard instructions completed the Powerline AV Utility install.

Using the Powerline AV Utility



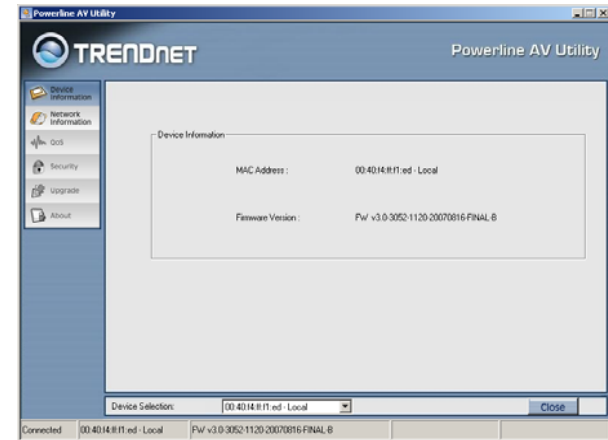
To start the Powerline AV Utility, double click the icon on the desktop, the Configuration Utility will be executed.

The Configuration Utility was divided into four functions, Device Information, Network Information, QoS, Security, Upgrade and About, for details instruction, follow the below section.



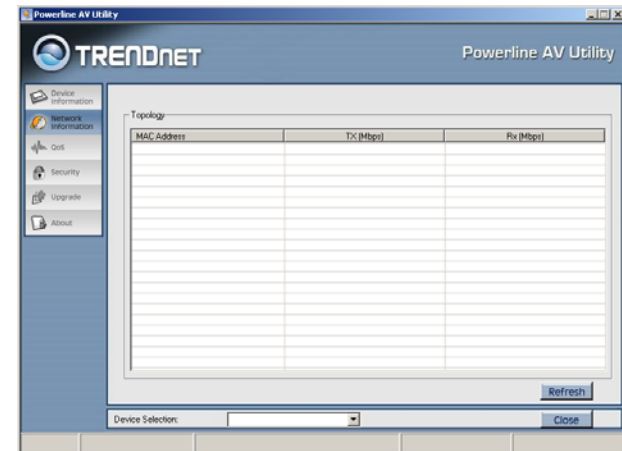
Device Information

The Device Information screen shows the device information including the MAC address, Firmware Version and the connected TPL-302E device.



Network Information

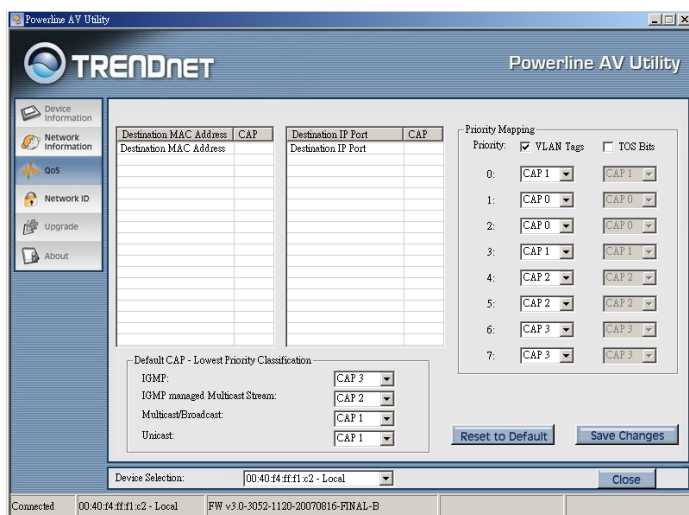
The Network Information screen shows all devices that were on the power line network are listed here. Devices that are active on the current logical network will show a transfer rate and receiver rate.



QoS

QoS requirements are different for various data types such as streaming video or music, voice and raw data. To provide higher QoS for streaming data, priority levels can be set using tags at the beginning of data frames. Virtual Local Area Network (VLAN) 802.1p priority tags on Ethernet frames are used to specify 8 (0 – 7) levels of ‘user priority’.

The 200M Powerline AV to Fast Ethernet Adapter allows 4 levels of Channel Access Priority (CAP (0 – 3)). Therefore, the 8 levels of VLAN Ethernet tags must be mapped to the 4 levels of CAP priority, where CAP 3 is the highest priority and CAP 0 is the lowest. CAP 3 priority might be used for voice and network management frames, CAP 2 is used for streaming video and music while CAP 1 and CAP 0 are used for data. Mapping VLAN tags or TOS bits to CAP levels is easily done using the VLAN Priority Mapping function on the QoS tab window.



Device Selection

Select the device from the drop down list and configure the device selected.

List View

The QoS tab includes two list views to provide simple channel access priority (CAP) classification for individual MAC addresses and IP Ports. There is a collective limit of eight across both lists. No delimiters, colons, or dashes are allowed in the MAC address format.

Priority Mapping

The ‘Priority Mapping’ group contains both VLAN and TOS Bit mapping capability. When selected, packets matching the VLAN or TOS Bit priority will be assigned the Powerline contention priority (Channel Access Priority, CAP) as set in the corresponding dropdown box. If a packet has both VLAN and TOS in it, VLAN will override TOS.

Default CAP

The ‘Default CAP’ group allows for default priority mapping of packets that do not have a VLAN or TOS bit. Settings are available for Unicast (directed to a host).

- IGMP - (default CAP 3) - sets the channel access priority for IGMP frames - these are the group management frames, not the stream data
- Unicast - (default CAP 1) - sets the default channel access priority for unicast frames not matching any other classification or mapping.
- IGMP managed Multicast Stream (default CAP 2) - sets the default channel access priority for stream data belonging to a snooped IGMP multicast group.
- Multicast/Broadcast - sets the default CAP1 for multicast frames not in a snooped group and for broadcast frames.

Reset to default

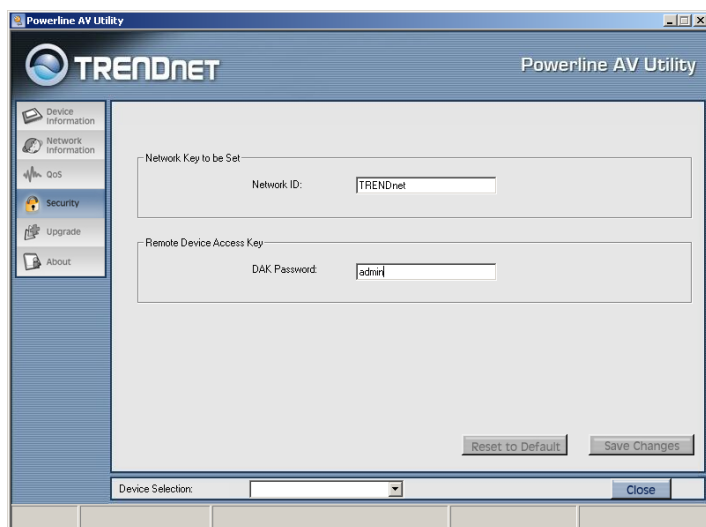
Press the **Reset to default** button to restore the factory default QoS setting.

Save changes

Press the **Save changes** button to save and execute the modified QoS setting.

Network ID

This Network ID window is used to set or change the network group id.



Device Selection

Select the device form drop down list will be configure.

Setting the local device Network ID

If the **Device Selection** is selected to **local device** Device Selection: [00:10:52:00:cc:80 - Local], enter the network ID in Network ID filed then click **Save changes** button to sets the entered Network ID.

If the **Device Selection** is selected to **remote device** Device Selection: [00:10:52:00:00:00 - Remote], enter the network ID in Network ID filed and enter the remote device access key in DAK password field then click **Save changes** button to sets the entered Network ID. (The DAK password is show on each TPL-302E's device label).

Reset to Default

Press the **Reset to Default** button to restore the factory default network id setting for "TRENDnet".

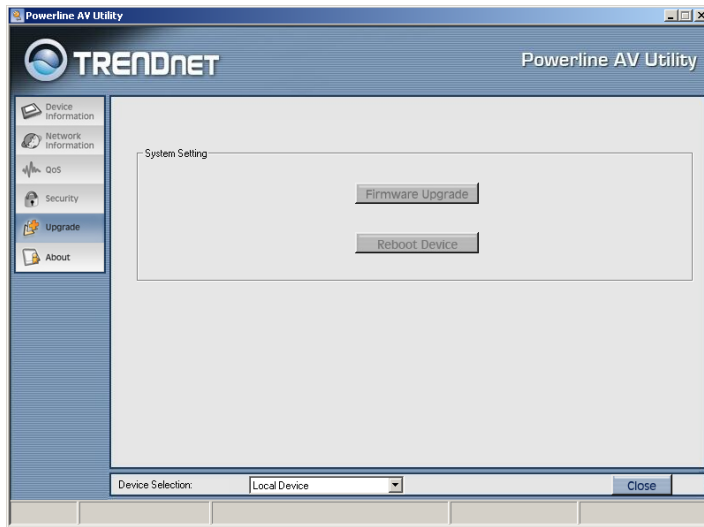
Upgrade

Device Selection

Select the device form drop down list will be configure.

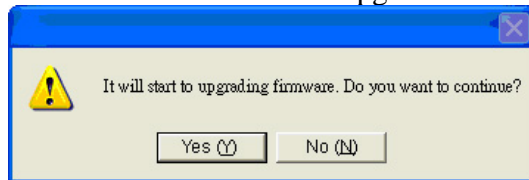
Reboot Device

Press the **Reboot Device** button to reset the node, which will restore the initial factory configuration.



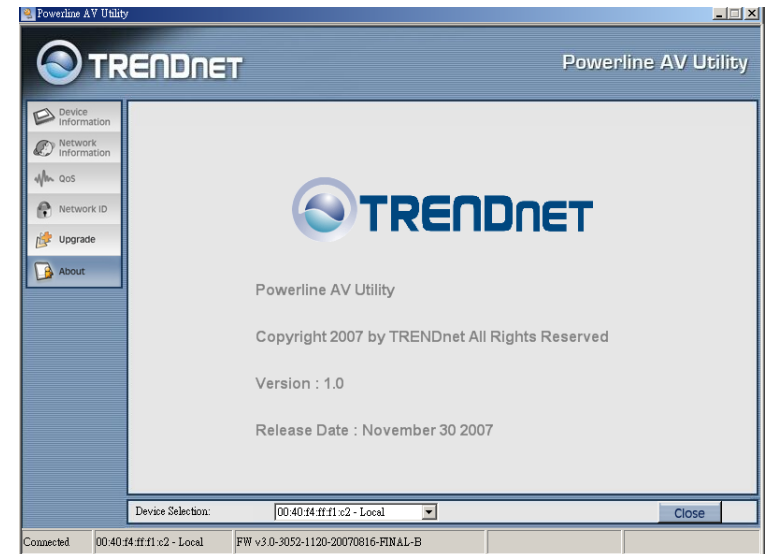
Firmware Upgrade

To upgrade the firmware, press the **Firmware Upgrade** button and then locate the two firmware files (PIB file *.pib and firmware file *.nvm), the confirmation windows will pop up, click **Yes** to start the firmware upgrade or click **No** to abort the firmware upgrade.



About

The About screen shows the Powerline AV Configuration Utility information including utility version and release date.



SPECIFICATIONS

Hardware	
Standards	IEEE 802.3, IEEE 802.3u Powerline AV (2.0)
Interface	10/100Mbps Auto-MDIX RJ45 Port Power Prongs
Frequency Band	2 ~ 30 MHz
Modulation	OFDM, QAM, BPSK, ROBO
Speed	Powerline: Up to 200Mbps LAN: 10/100Mbps
Supported OS	Windows 2000/XP(32/64)/Vista(32bit)
Nodes	Up to 16 client notes
Encryption	128-bit AES
LED	Power, HomePlug, Ethernet
Dimension (L x W X H)	78 x 30 x 102 mm (3 x 1.2 x 4 inches)
Weight	140g (5 oz.)
Power Source	Input: 100~240V AC, 160mA
Consumption	4.2 watts (max.)
Temperature	0° ~ 40° C (32° ~ 104° F)
Operating Humidity	0% to 90% (Non-Condensing)
Certification	FCC, CE

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-302E – 3 years

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.

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 through 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 office within the applicable warranty period for a Return Material Authorization (RMA) number, accompanied by a copy of the dated proof of the purchase. Products returned to TRENDnet must be pre-authorized by TRENDnet with RMA number marked on the outside of the package, and sent prepaid, insured and packaged appropriately for safe shipment.

WARRANTIES EXCLUSIVE: IF THE TRENDNET PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, THE CUSTOMER'S SOLE REMEDY SHALL BE, AT TRENDNET'S OPTION, REPAIR OR REPLACEMENT. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. TRENDNET NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE OR USE OF TRENDNET'S PRODUCTS.

TRENDNET SHALL NOT BE LIABLE UNDER THIS WARRANTY IF ITS TESTING AND EXAMINATION DISCLOSE THAT THE ALLEGED DEFECT IN THE PRODUCT DOES NOT EXIST OR WAS CAUSED BY CUSTOMER'S OR ANY THIRD PERSON'S MISUSE, NEGLIGENCE, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPTS TO REPAIR OR MODIFY, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING, OR OTHER HAZARD.

LIMITATION OF LIABILITY: TO THE FULL EXTENT ALLOWED BY LAW TRENDNET ALSO EXCLUDES FOR ITSELF AND ITS SUPPLIERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATE, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT TRENDNET'S OPTION. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

Governing Law: This Limited Warranty shall be governed by the laws of the state of California.

Note: AC/DC Power Adapter, Cooling Fan, cables and Power Supply carry 1-Year Warranty



TRENDnet Technical Support

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Toll Free Telephone: 1(866) 845-3673

24/7 Tech Support



Europe (Germany • France • Italy • Spain • Switzerland • UK)

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English/Espanol - 24/7

Francais/Deutsch - 11am-8pm, Monday - Friday MET

Worldwide

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English/Espanol - 24/7

Francais/Deutsch - 11am-8pm, Monday - Friday MET

Product Warranty Registration

Please take a moment to register your product online.

Go to TRENDnet's website at <http://www.trendnet.com/register>

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