

# POWERLINE HD ETHERNET ADAPTER USER MANUAL

MODEL 503839\*

\* This manual can also be used for the  
PowerLine HD Ethernet Adapter Starter Kit,  
Model 503808



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N E T W O R K   S O L U T I O N S

INT-503839-UM-0608-01

# INTRODUCTION

Thank you for purchasing the INTELLINET NETWORK SOLUTIONS™ PowerLine HD Ethernet Adapter, Model 503839.\*

This easy-to-install device allows you to create a high-speed network for the computers in your home or office by simply plugging the adapter(s) into any electrical outlet. You immediately create a network using the existing AC power lines and can extend your home network into areas a wireless signal cannot reach. Attach multiple computers to the network by simply plugging them into additional adapters.

The PowerLine Turbo Ethernet Adapter provides a network connection speed of up to 200 Mbps and automatically senses the speed of a router or computer device, adjusting to accommodate 10 Mbps or 100 Mbps Ethernet devices. Quality of Service (QoS) further improves performance by prioritizing your important traffic through the use of up to eight priority levels.

An effective data throughput of up to 90 Mbps streams crystal-clear, 1080p high-definition (HD) video to the media streamer connected to your home entertainment center, making it the perfect choice for the connection of network-enabled gaming consoles and digital media devices such as Slingbox, Tivo, Xbox 360, Nintendo Wii or PlayStation 3. It's also Plug and Play (no drivers are required), and comes with the INTELLINET NETWORK SOLUTIONS Lifetime Warranty.

\* *This manual can also be used with the PowerLine HD Ethernet Adapter Starter Kit, Model 503808.*

**NOTE:** Some screen images have been modified to fit the format of this manual.

## FCC Warning

This device has been tested and found to comply with limits for a Class B digital device, pursuant to Parts 2 and 15 of 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 and radiates radio frequency energy and, if not installed and used in accordance with the user's manual, may cause interference, in which case the user will be required to correct such interference at his own expense.

## CE 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.

# HARDWARE INSTALLATION

The PowerLine HD Ethernet Adapter is designed for quick, easy installation.



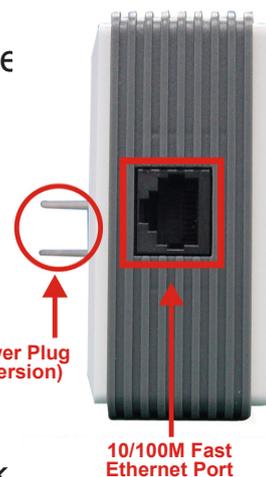
## 10/100M Fast Ethernet Port

Using the included Ethernet cable, connect the adapter to a network router, switch or other Ethernet-enabled device.

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

## AC Power Plug

Plug the device directly into an AC power outlet. Do not connect the PowerLine adapter to a power strip, extension cord or surge protector, as this may prevent it from working properly or degrade the network performance.



## Quick Setup Button

This front-panel button provides a quick option for joining an adapter to an established PowerLine network.

1. Press and hold the Quick Setup button until all LEDs are off (this may take more than 10 seconds). The adapter will reset the network ID setting and generate a random network ID. **NOTE:** Always reset the network ID before pairing the adapter with other PowerLine devices.
2. To join a new unit to the network, press the Quick Setup button on any adapter currently in the network and — within 3 seconds — press the Quick Setup button on the new adapter. A blinking Power LED indicates the pairing is in progress; a lighted Power LED means the unit is paired.

## LED Indicators

Power, PowerLine and Ethernet (as detailed below).

<u>LED</u>	<u>Status</u>	<u>Description</u>
Power	Solid blue	Power is on.
	Blinking	Device is paired or upgrading firmware.
	Off	Power is off.
PowerLine	Solid blue	A proper PowerLine link has been made.
	Blinking blue	There is activity on the link.
	Off	No PowerLine link has been made.
Ethernet	Solid blue	A proper Ethernet link has been made.
	Blinking blue	There is activity on the link.
	Off	No Ethernet link has been made.

# CONFIGURATION UTILITY INSTALLATION

The HomePlug AV Utility (for Windows 2000, XP or Vista) enables users to identify PowerLine devices on the PowerLine network. It also measures data rate performance, ensures privacy and performs diagnostics by setting user-defined, secure PowerLine networks.

To begin installation, insert the included setup CD into your CD-ROM drive to display the Autorun program. Click/select “Install Software (Utility)” on the menu screen; the install wizard will begin the software installation.

When the HomePlug AV Configuration Utility icon (right)

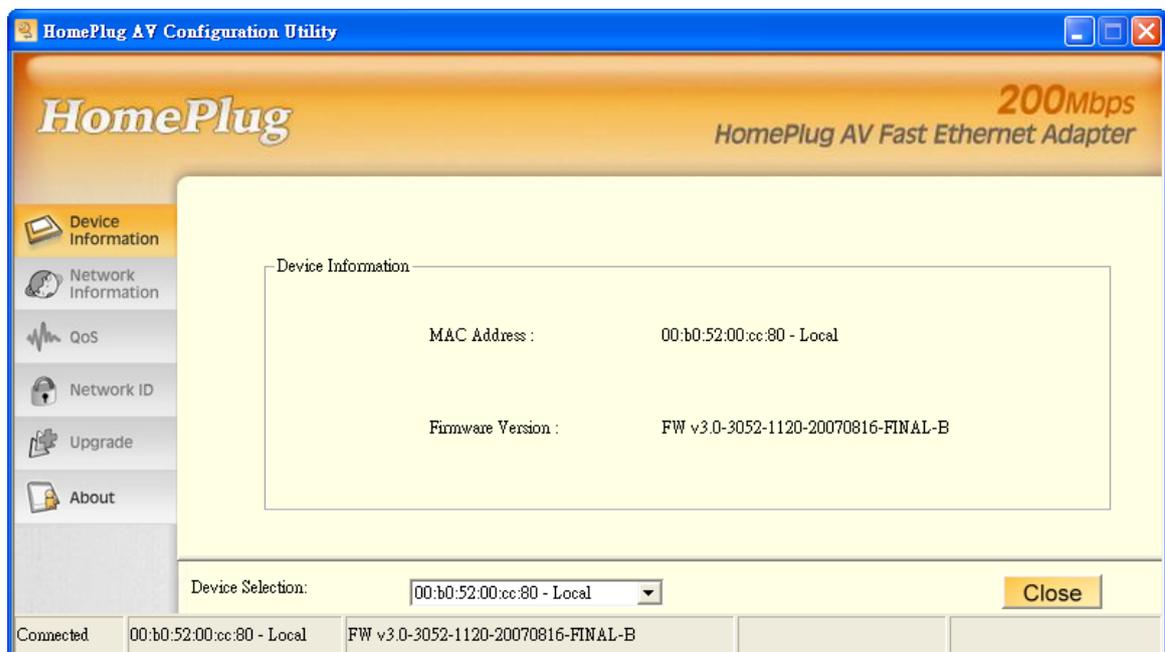


displays on the desktop, double-click on it to start the utility and access the various option screens.

The left-hand menu (shown on the screen image below) presents six sub-menus — Device Information, Network Information, QoS, Network ID (Security), Upgrade and About — each of which is explained in the following sections.

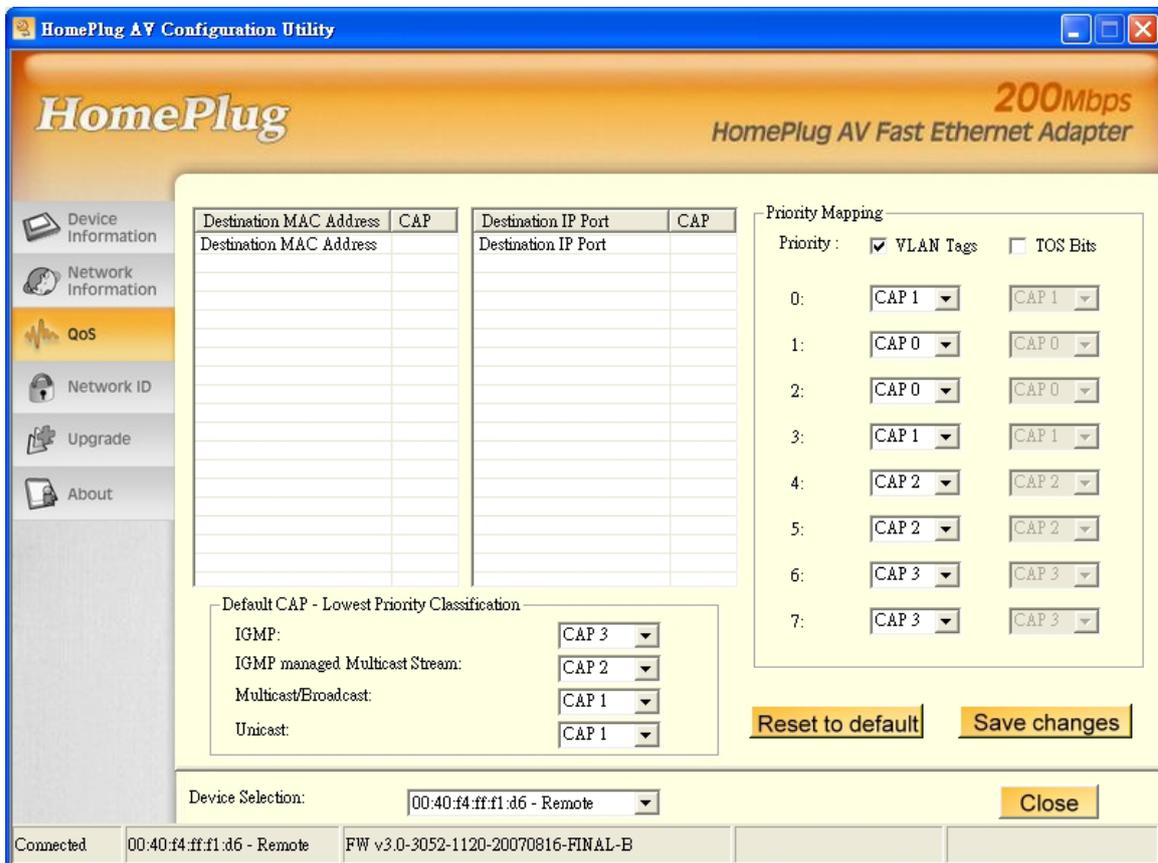


## Device Information



This screen presents the MAC address, firmware version and the connected PowerLine device.





## Device Selection

From the drop-down list, select the device you want to configure.

## 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. **NOTE:** 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 drop-down 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 (the group management frames, not the stream data).
- 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 CAP 1 for multicast frames not in a snooped group and for broadcast frames.
- Unicast (default CAP 1): sets the default channel access priority for unicast frames not matching any other classification or mapping.

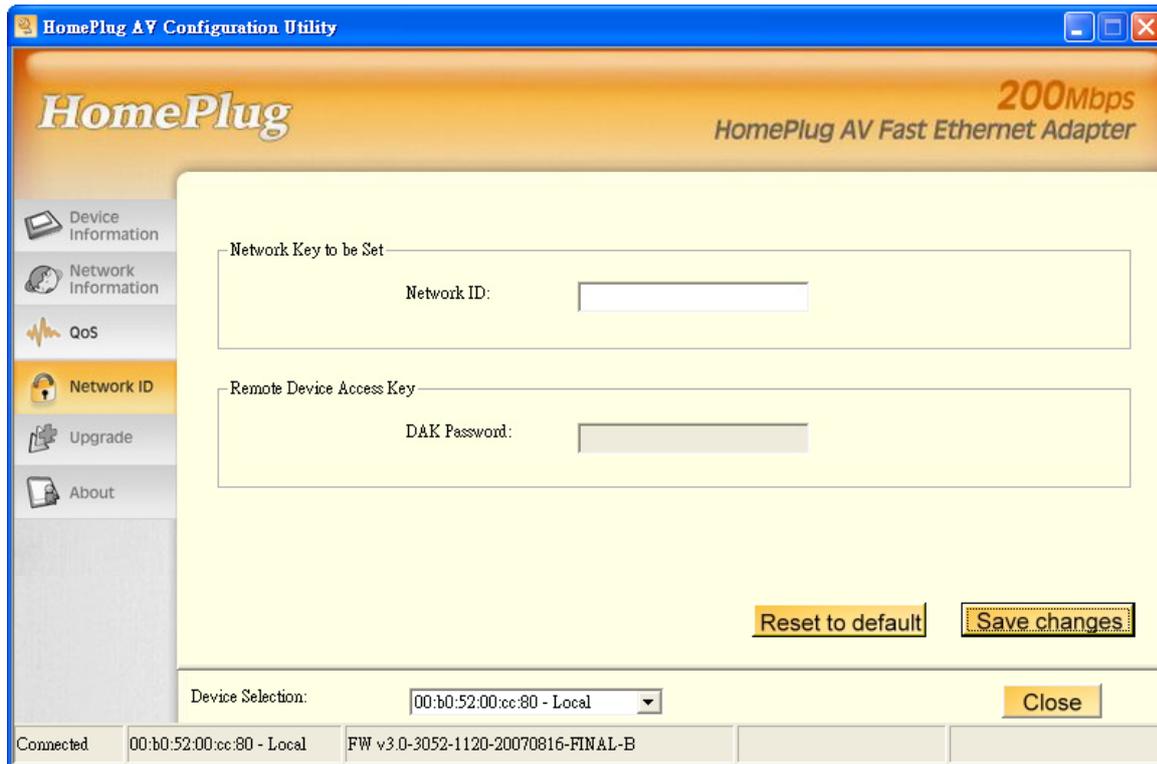
### Reset to default

Press “Reset to default” to restore the factory default QoS settings.

### Save changes

Press “Save changes” to save and execute the modified QoS settings.

## Network ID



This screen is used to set or change the network group ID.

### Device Selection

From the drop-down list, select the device you want to configure.

### Network ID

If “Device Selection” is set to the local device, enter the network ID in the “Network ID” field; then click “Save changes” to set the entered network ID.

If “Device Selection” is set to a remote device, enter the network ID in the “Network ID” field and enter the remote device access key in the “DAK Password” field; then click “Save changes” to set the entered network ID. (A DAK password is on each PowerLine device label.)

### Reset to default

Press “Reset to default” to restore the factory default settings of the adapter.

# Upgrade



## Device Selection

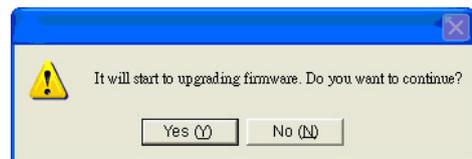
From drop-down list, select the device you want to configure.

## Reboot Device

Press “Reboot Device” to reset the node, which will restore the initial factory configuration.

## Firmware Upgrade

Click “Firmware Upgrade,” then locate the two firmware files (PIB file \*.pib and firmware file \*.nvm). When the confirmation windows display, click “Yes” to start the upgrade or “No” to abort it.



## About



This screen displays important reference information.

# TROUBLESHOOTING

When you initially plug in and turn on the power to a PowerLine adapter, the Power LED should light. After approximately 10 seconds, the PowerLine LED should also light, and the Ethernet LED should blink.

## ***If the Power LED fails to light:***

- If the AC power outlet is controlled by a wall switch, make sure the switch is in the On position.
- Verify that the wall socket is live. To do this, disconnect the PowerLine adapter and plug in another electrical product. If the Power LED still doesn't light and you've confirmed the power outlet is live, you have a hardware problem and should contact technical support.

## ***If the PowerLine LED fails to light (but the Power LED is lit):***

- Make sure that power is being provided to more than one PowerLine device. Another PowerLine device must be installed for successful communication across the PowerLine.
- Verify that the network password is the same on all devices.

## ***If the Ethernet LED fails to light and blink:***

- Make sure that the Ethernet cable is plugged in properly at both ends.
- Be sure you're using the correct cable on the router the first PowerLine adapter is connected to. When connecting the router's Internet port to a cable or DSL modem, use the cable (straight-through or crossover) supplied with the modem.
- On the attached Ethernet device or network adapter card, check that the Link LED is lit.

# SPECIFICATIONS

## Standards

- IEEE 802.3 10Base-T; IEEE 802.3u 100Base-TX; HomePlug AV

## General

- One 10/100 RJ-45 port
- One AC power line port
- Chipset: Intellon INT6300
- Link speed: up to 200 Mbps
- 128-bit AES Link Encryption with key management for secure power line communications
- Enhanced Quality of Service (QoS) with eight levels of prioritized random access, contention-free access, and segment and packet bursting
- Supports IGMP managed multicast IP transmissions

## LEDs

- Power; PowerLine Link/Activity; Ethernet Link/Activity

## Power

- Internal 90 – 260 V AC, 50 – 60 Hz
- Power consumption: 4.3 Watts (maximum)

## Environmental

- Dimensions: 75 (W) x 102 (L) x 34 (H) mm (2.9 x 4.0 x 1.4 in.)
- Weight: 0.35 kg (0.8 lbs.)
- Operating temperature: 0 – 40°C (32 – 104°F)
- Operating relative humidity: 10 – 90%, non-condensing
- Storage temperature: -25 – 70°C (-13 – 158°F)
- Storage relative humidity: 0 – 95%, non-condensing
- Power: AC 100 – 240 V / 50 – 60 Hz / 0.1 A

## Certifications

- FCC Part 15, Part B, Class B; CE Class B; RoHS

## Minimum System Requirements

- Existing PowerLine HD Ethernet Adapter
- TCP/IP protocol
- CD-ROM drive
- Configuration utility requires Windows 2000, XP, Vista

## Package Contents

- PowerLine HD Ethernet Adapter (2 devices in the Starter Kit, Model 503808)
- Setup CD-ROM with user manual
- One Ethernet network cable
- Quick start guide





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