

PL-85PEW_MK2

USER MANUAL



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85-PEW USER MANUAL

1 Product Introduce

With the 85-PEW wallmount Wireless Access Point HomePlug Turbo then a power socket becomes a WLAN connection. With the combination of these two technologies, even complicated WiFi darkspots or areas that used to be unreachable with wiring are now able to support up to 54 Mbps wireless connectivity. Suitable for use in a wide range of both residential (in-home) and commercial (offices, apartments, hotels, warehouses) network applications. No cables, no drilling. These adapters enable the effortless creation of a high-speed network that supports video, voice and data.

1.1 Feature

- Wallmount type and power voltage range of 100 to 240 VAC 50/60Hz
- IEEE 802.11b/g compliant and HomePlug 1.0 Turbo compliant
- Support QAM 256/64/16, QPSK, BPSK, and ROBO modulation schemes
- PLC Up to 85 Mbps data rate on the power line.
- 56-bit DES Link Encryption for PLC
- IEEE 802.11b/g
- WAP, WAP2, 64/128/152-bit WEP, SSID hide
- Wireless module supports AP
- Support GUI WEB interface

1.2 System Requirements

Operating System	Any OS supported but need Microsoft Windows to run HomePlug utility
CPU	Intel Pentium III or better
RAM	At least 128MB
Screen Resolution	Any resolution
Free Disk Space	At least 20MB
Network Interface	At least one Fast Ethernet (100 Mbps) network card, and Ethernet Cord

1.3 Package Contents

- 85-PEW x 1
- CD ROM x 1
- RJ45 Ethernet cable x 1

2 Safety Notice:

This device is intended for connection to the AC power line. For installation instructions, please refer to the installation section of this guide. The following precautions should be taken when using this product.

- Read all instructions before installing and operating this product.
- Follow all warnings and instructions marked on the product.
- Unplug the device from the wall outlet before cleaning. Use a damp cloth for cleaning. Do not use liquid cleaners or aerosol cleaners.
- Do not operate this product near water.
- This product should never be placed near or over a radiator or heat register.
- Do not use an extension cord between the device and the AC power source.
- Only a qualified technician should service this product. Opening or removing covers may result in exposure to dangerous voltage points or other risks.
- Unplug the device from the wall outlet and refer the product to qualified service personnel for the following conditions:
 - If liquid has been spilled into the product
 - If the product has been exposed to rain or water
 - If the product does not operate normally when the operating instructions are followed
 - If the product exhibits a distinct change in performance


3 About the Adapter

3.1 The Ethernet Interface

Ethernet : The Ethernet port connects to an Ethernet network cable. The other end of the cable will connect to your computer or other Ethernet-enabled network device.

3.2 The Adapter's Buttons

RST: The RST button can restore the factory defaults.

 *Note: If resetting the 85-PEW will erase all of settings which you have set before, and replace them with the factory defaults, please be careful for not push the reset button if you want to retain the former settings.*



3.3 The Adapter's LEDs

All Adapter's LEDs are located on the front panel, there are 3 LEDs to indicate the adapter's status.

Power: Green, The Power LED lights up when the Adapter is powered on.

PLC: Green, flashing to indicate data activity over the powerline connect

Lan: Green, flashing to indicate data activity over the Ethernet connect

WLAN: Green, when the WiFi module is ready for wireless use. It flashes when data activity over WiFi link

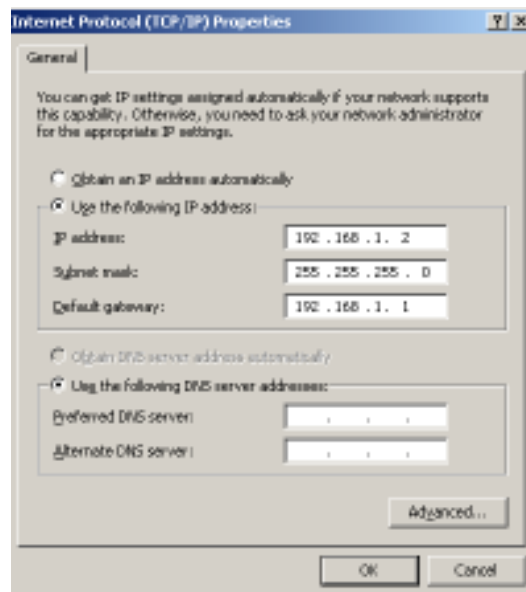
4 First Use of the 85-PEW

This chapter explains how to connect the Access Point for setup.

1. Put the 85-PEW to the AC power socket directly.
2. Then using an end of Ethernet network cable to connect to the 85-PEW Ethernet port, and another end connect to your PC Ethernet port.

Now that you've connected the 85-PEW to your wired network, the next step is to setup the 85-PEW.

3. The 85-PEW default IP address is 192.168.1.1, you should set your PC's IP address in the same subnet, see the figure bellow



When you finished all above, open IE and input <http://192.168.1.1> at the URL column to login 85-PEW web page.

To set up your wireless module, please see next chapter “WiFi WEB Configuration”.

5 WiFi WEB Configuration

5.1 Login

Input <http://192.168.1.1> at the URL column, pop up login window as figure1:

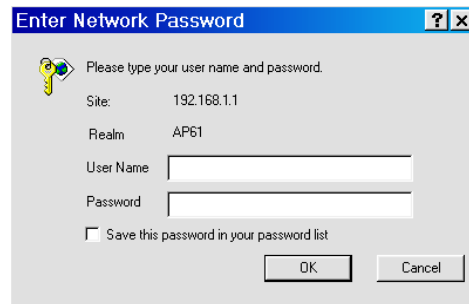


Figure5-1 login system

The default User Name is admin, and the Password is password, then click OK to confirm.

5.2 Overview

After login it will appear the default page Overview, and the Overview page will show the current status information, including firmware version, LAN interface, wireless channel and MAC address, Statistic Information, figure2.



Statistical Info:						
LAN:	0	0	0	0	0	0
Wireless:	10971	1415	156762	49305	865	0

Figure5-2 Overview Window

1. System

Firmware Version

This means the current WiFi module firmware Version

Time

This means the current WiFi module firmware build time.

2. LAN Interface

MAC Address

The Ethernet interface physics address.

IP address/Subnet Mask

The Ethernet interface IP address and subnet mask

DHCP Server

This shows if enable the DHCP server function or not.

Active DHCP Leases

This displays the arranged IP pool range

3. Wireless LAN 2.4GHz

Channel

Shows the current channel which the wireless network settings.

MAC Address

The WiFi interface physics address

4. Statistic Information

This column shows the packets statistic information of WiFi module

Click **Refresh status** will refresh the Statistic information.

5.3 LAN Function

This page allows you to configure the LAN interface.

The screenshot shows the 'Lan Function' configuration page for a 'PLC Wireless Extender'. The page has a blue header and a left-hand navigation menu. The main content area is titled 'Lan Function' and contains a form for configuring LAN settings. The form includes fields for IP Address (192.168.1.1), Subnet Mask (255.255.255.0), DHCP Server (radio buttons for Disable and Enable, with Enable selected), Lease time (72 Hour), and IP Address Pool (192.168.1.100 to 192.168.1.200). A SUBMIT button is located at the bottom left of the configuration area.

Figure5-3 LAN Configuration Window

1. Static

IP Address

User can set a fixed private IP address in Ethernet interface.

Subnet Mask

According to the net segment to set the subnet mask.

2. DHCP Server

DHCP server will automatically assigns an IP address to each computer on LAN, Unless it already has one, it is highly recommended that enable the device as a DHCP server. When **Disable** is selected, the function of DHCP Server is shut off, when **Enable** is selected, start the function of DHCP Server, and next step to fill up the following item.

DHCP Lease Time

It means the life time of assigned IP which the DHCP server lease to.

IP Pool Range

It means the IP address range which DHCP Server lease to.

Click **submit** then the WiFi Module will act under the current parameter.

5.4 Wlan Function

This page allows you to configure the wireless LAN interface



Figure5-4 Wireless Window

1. Basic

Mode

It means which WiFi protocol mode used, it consists three types of mode: 802.11b, 802.11b/g Compatible and 802.11g Only. Select the appropriate network mode, it is highly recommend to set 802.11b/g Compatible.

SSID

SSID means Service Set Identifier, the field is filled up with the wireless network name shared among all devices, and it is case-sensitive and must not exceed 32 alphanumeric characters, which may be any keyboard character, and make sure this setting is the same for all devices in wireless network.

Channel

Select the appropriate channel from the list provided to correspond with your network settings. All devices in wireless network must use the same channel in order to function correctly.

Beacon Interval

If the value of Beacon Interval is small, it can accelerate the link speed, if the value is big, it can help to save power. The default value is 100.

Data Rate

Here is the wireless physics rate, it is highly recommended to set auto. For auto, the data rate will auto negotiate according to the situation. For a fixed data rate, you should accord to the WiFi mode (such as 802.11b or 802.11g) setting the appropriate data rate.

Click **submit** then the WiFi Module will act under the current parameter.

5.5 Security

This page allows you to configure security for the wireless LAN interface



Figure5-5 Security Configuration Window

Encrypt

Click Enable to start the Encryption and click Disable to shut down the application.

Authentication Type

The default value is Open System, and also Shared Key can be used. For Open System, the sender and the recipient do NOT use a WEP key for authentication. For Shared Key authentication, the sender and recipient use a WEP key for authentication. In most cases, please keep the default.

WLAN WEP

The encryption key can be 64-bit or 128-bit, higher encryption levels offer higher levels of security, but due to the complexity of the encryption, they may decrease network performance. It is used to provide access control to the wireless network and encryption security for every data transmission. To decode data transmission, all device in the same wireless network must use an identical WEP key.

Default Key ID

WEP Key can be grouped, and which can be selected via index.

WEP Key1-4

WEP keys used to create an encryption scheme for wireless network transmissions. when not using a Passphrase, you can manually enter a set of values, and do not leave a key field blank. If you are using 64-bit WEP encryption, the key must be exactly 10 hexadecimal characters in length. If you are using 128-bit WEP encryption, the key must be exactly 26 hexadecimal characters in length. Valid hexadecimal characters are “0”-“9” and “A”-“F”.

Click **submit** then the WiFi Module will act under the current parameter, and save all changes to Flash.

5.6 Management

This page allows you to upgrade the firmware and change router password



Figure5-6 System Configuration Window

1. Firmware Upgrade

Current Firmware Version:

This column shows the current firmware version.

Locate New Firmware:

Clicking **Browser** to select the new firmware from your PC, and clicking **Upgrade** start to download the new firmware to the device.



2. Settings Manage

Clicking **submit** start to download the new firmware to the device.



3. Save to Flash

Click the **submit** button, then will save all the modify configuration in Flash.



4. reboot

Click the **submit** button, then will reboot the device.



5. Factory Default

Click **submit** his button to restoring the settings to factory value.



6. Change Password


New Password

Set up a new password for login WiFi web.

Confirm Password

Input the new password again.

6 Installing PLC Utility

 *Note: Above all you should verify that there is no any other Powerline Utility installed on your computer before installing this utility. If there is another utility installed, please uninstall it and restart your computer.*

Please insert the Utility CD-ROM into the computer's CD-ROM drive, and double clicking the setup.exe, then an installation utility similar to the one shown in Figure 4-2. Click the Next button to continue.



Figure 6-1 Setup Wizard

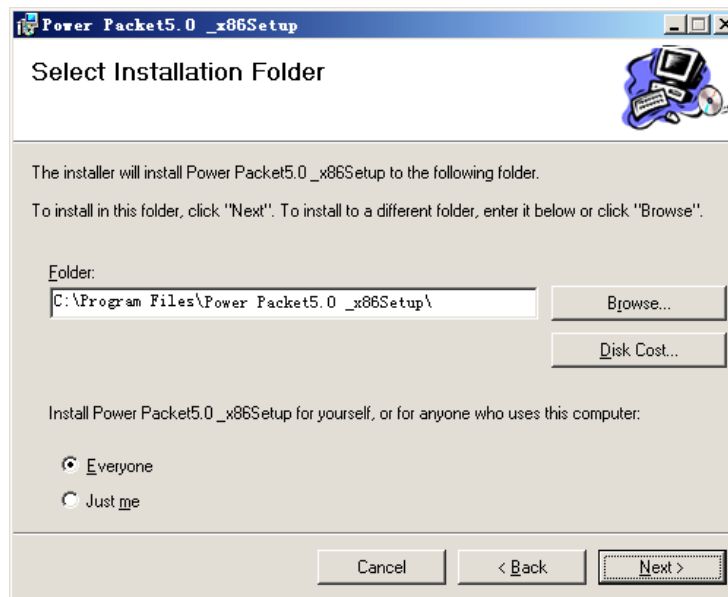


Figure 6-2 Select Installation Folder

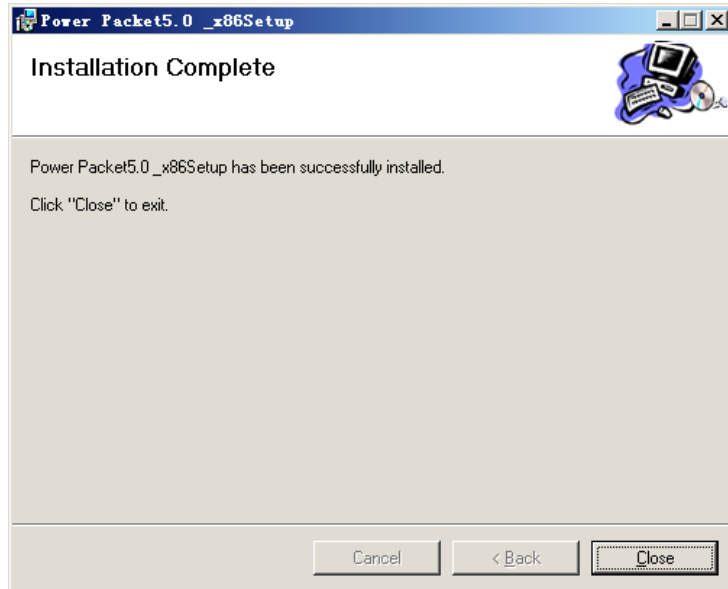


Figure 6-3 Installation Complete

Click "Close" to complete installation.

7 How to Use the Utility Software

7.1 Main Tab

The **Main** screen provides a list of all powerline devices logically connected to the computer when the utility is running.

The top panel shows local HomePlug devices connected to the computer's NIC (Network Interface Card). the user can click the Connect button to its right. Once connected to the local device, the utility will automatically scan the power line periodically for any other HomePlug devices. If no local HomePlug devices are discovered, the status area above the connect button will indicate with a message 'NO HOMEPLUG ADAPTERS DETECTED'.

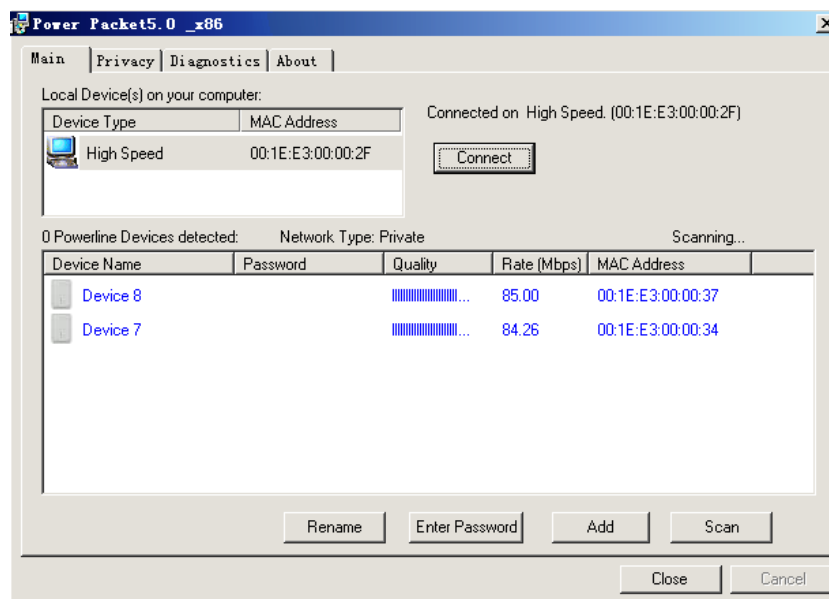


Figure 7-1: Main Tab information

The lower panel displays all the HomePlug remote devices, discovered on the current logical network. The total number of remote devices connected on the same network can be found on top of the Remote device panel. The Network type (Public or Private) is also displayed based on the network status of the local device. The scan status option is displayed on the top right corner above the Remote devices panel showing whether the Autoscan functionality is turned ON or OFF. The following information is displayed for all devices that appear in the lower panel.

Device Name

This column shows the default device name, which may be user re-defined. A user can change the name by either using the rename button or by clicking on the name and editing in-place.

MAC Address

This column shows the Remote device's MAC address.

Password

This column by default is blank and “**Enter Password**” button can be used to enter it.

To set the **Password** of the device (required when creating a private network), first select the device by clicking on its name in the lower panel and then click on the Enter Password button. A dialog box will appear as shown in Figure 5-2 to type the password. The selected device name is shown above the password field and the password can be verified by hitting the OK button. The Password field accepts the Device password in any case formats, with or without dashed between them.

A confirmation box will appear if the password was entered correctly. If a device was not found, the user will be notified along with the suggestions to resolve common problems. This process might take a few seconds to get completed.



Figure 7-2: Set Device Password


Add

This button is used to add a remote device to the existing network by entering the device password of the device. A dialog box will appear as shown below in Figure 6. The dialog box allows the user to enter both a device name and the password.

A confirmation box will appear if the password was entered correctly and if the device was found in the powerline network. If a device was not found, the user will be notified and suggestions to resolve common problems will be presented.



Figure 7-3: Add Remote Device

 *Note: The device must be present on the power line (plugged in) in order for the password to be confirmed and added to the network. If the device could not be located, a warning message will be shown.*

Scan

This button is used to perform an immediate search of the HomePlug devices connected to the Powerline network. By default, the utility automatically scans every few seconds and updates the display screen.

7.2 Privacy Tab

The **Privacy** screen provides the user with an option to maintain security for their logical network and also to select the devices that has to be included in the network. The appearance is shown in Figure 5-4.

All HomePlug devices are shipped using a default logical network (network name), which is normally “**HomePlug**”. The **Privacy** dialog screen allows user to change to a private network by changing the network name (network password) of devices.

The user can always reset to the HomePlug network (Public) by entering “HomePlug” as the network name or by clicking on the **Use Default** button.

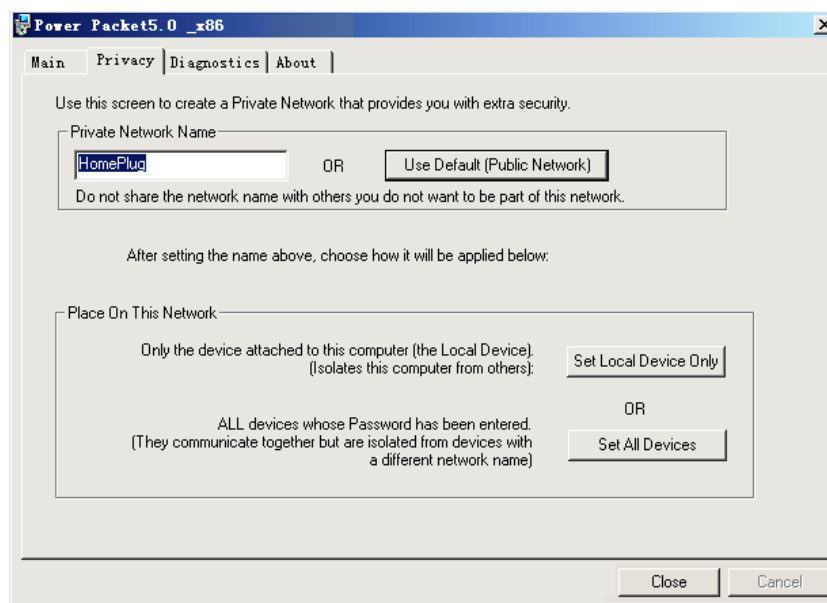



Figure 7-4: Privacy Screen

 *Note: Changing the network name to anything other than HomePlug will show the network type on the main screen as Private.*

Set Local Device Only

This button can be used to change the network name (network password) of the local device. If a new network password is entered, all the devices seen on the Main panel prior to this will be no longer present in the new network, effectively making the local devices not to communicate to the devices who were in the old logical network. Devices previously set up with the same logical network (same network name) will appear in the device list afterward selecting this option.

Set All Devices

This button is used to change the logical network of all devices that appear on the Main panel whose Device's Password had been entered for the same logical network. A dialog window

will appear to report the success of this operation. For devices whose device password's were not entered, this operation will fail and will report a failure message.

7.3 Diagnostics Tab

The **Diagnostics** screen shows System information and a history of all remote devices seen over a period of time. The appearance is shown in Figure 5-5.

The **Upper panel** shows technical data concerning software and hardware present on the host computer which were used to communicate over HomePlug on the Powerline network. It shall include the following:

- Operating System Platform/Version
- Host Network Name
- User Name
- MAC Address of all NICs (Network interface card) connected to the host
- Identify versions of all Driver DLLs and Libraries used (NDIS) and optionally
- HomePlug chipset manufacturer name (Turbo Only devices)
- MAC Firmware Version (Turbo Only devices)
- MAC addresses of all devices connected locally to the host
- Version of the Configuration Utility
- Vendor name

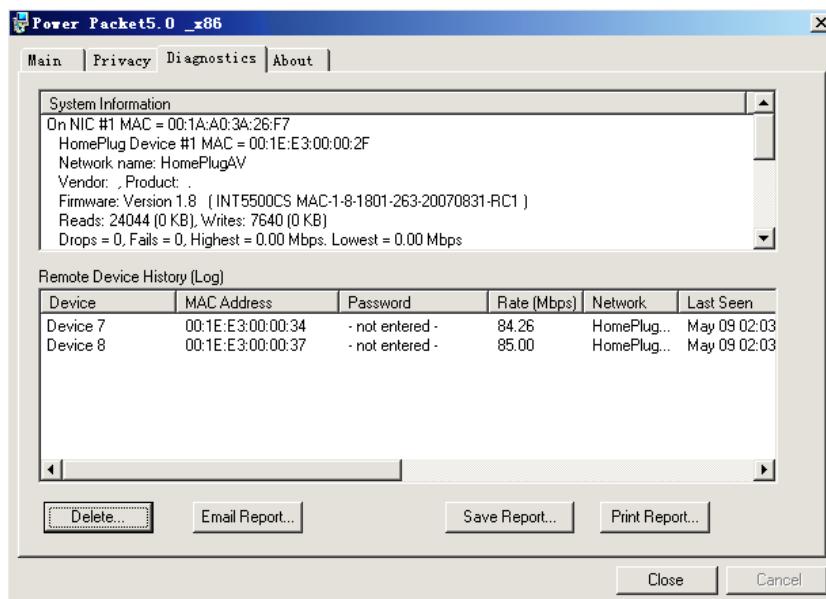


Figure 7-5: Diagnostics Screen

The **Lower panel** contains a history of all remote devices seen on the computer over a certain period of time. All devices that were on the powerline network are listed here along with a few other parameters. Devices that are active on the current logical network will show a transfer rate in the Rate column; devices on other networks, or devices that may no longer exist are shown with a “?” in the Rate column. The following remote device information is available from the diagnostics screen:

- Device Alias Name
- Device MAC Address
- Device Password
- Device Last known rate

- Device Last Known Network name
- HomePlug chipset manufacturer name
- Date device last seen on the network
- MAC Firmware Version

The diagnostics information displayed may be saved to a text file for later use, or can be printed for reference for a technical support call. Devices, which are not part of the network anymore, can be deleted using the delete button. A dialog window pops up with a confirmation message if we try to delete a device whose password has been entered.

7.4 About Tab

The **About** screen shows the software version and provides a html link to the manufactory website. Clicking on the web address field will open a web browser and take the user directly to the web site.

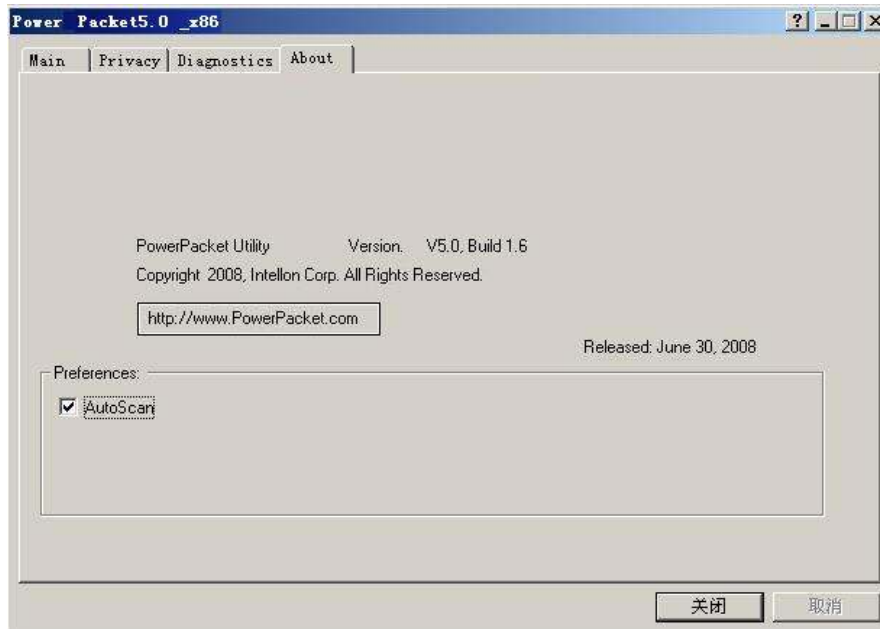


Figure 7-6: About Dialog Tab

Preferences

The lower part of the panel may display options for turning the auto-scan feature on or off.

Appendix A Specifications

Chipset	Intellon INT5500
Protocol	HomePlug 1.0 Turbo
System Support	All OS
PLC Rate	85Mb
Modulation Band	4-21MHz
Modulation Schemes	Supports 256/64/16/-QAM, QPSK, BPSK and ROBO
Encryption	56 DES
LED's	Power Ethernet: Ethernet Link and Activity Data: PLC Link and Activity
Push Button	RST: Restore the default factory parameter
Consumption	5W
Operating Temperature	0° to 45° C
Storage Temperature	-20 ° to 70 ° C
Operating Humidity	10% to 90% Non-condensing
Storage Humidity	5% to 90% Non-Condensing
Input Rating	100-240 VAC, 50/60Hz
Certifications	CE, UL, FCC Part 15 Class B
Green Standard	RoHS
Physical Characteristics	L×W×H: 117mm×75mm×47mm
Weight	179g

Appendix B Acronyms and Abbreviations

CSMA/CA	Carrier Sense Multiple Access / Collision Avoidance
DAK	Device Access Key
IGMP	Internet Group Management Protocol
PLC	Power Line Communication
VLAN	Virtual Local Area Network
AP	Access Point
WLAN	Wireless Local Area Network
WEP	Wired Equivalent Privacy