

# **PlugLine Smart Energy AV Master**

# **User's Guide**

PL7667-MST

66-0366-02Rev.003

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR ASOKA REPRESENTATIVE FOR A COPY.

The following information is for FCC compliance of Class A devices: This equipment has been tested and found to comply with the limits for a Class A 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 not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to correct the interference at their own expense.

Modifying the equipment without Asoka's written authorization may result in the equipment no longer complying with FCC requirements for Class A digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference or radio or television communications at your own expense.

You can determine whether your equipment is causing interference by turning it off. If the interference stops, it was probably caused by the Asoka equipment or one of its peripheral devices. If the equipment causes interference to radio or television reception, try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the equipment to one side or the other of the television or radio.
- Move the equipment farther away from the television or radio.
- Plug the equipment into an outlet that is on a different circuit from the television or radio. (That is, make certain the equipment and the television or radio is on circuits controlled by difference circuit breakers or fuses.)

Modifications to this product not authorized by Asoka could void the FCC approval and negate your authority to operate the product.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. ASOKA DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLED, INCLUDING, WITHOUT LIMITATION, THOSE OR MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE OR TRADE PRACTICE.

IN THE EVENT SHALL ASOKA BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OF INABILITY TO USE THIS MANUAL, EVEN IF ASOKA HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Revision	Date	Description
66-0366-02Rev.003	Sep. 2013	Release

# Table of Contents

Chapter	Title	Page
1	Introduction	5
2	Important Safety Instructions for the PlugLink	7
3	Overview	8
4	Installation	12
5	Getting Started with the PlugLink	15
6	Basic PL7667-MST Configuration	19
7	PL7667-MST Administration	26
8	Reset and network of PLC	31
Appendix A	Quick Guide to the PlugLink Default Settings	34

### Audience

This guide is designed as a reference for the networking or computer technician responsible for installing a PlugLink PL7667-MST, hereafter referred to as the *gateway*. It is assumed that you are familiar with and have a working knowledge of the concepts and terminology associated with Ethernet and local area networking.

### Purpose

This guide describes the hardware and software features of the PlugLink PL7667-MST. It describes the physical and performance characteristics of the PL 7667-MST, explains how to install and configure the PL7667-MST, and provides troubleshooting information and specifications.

### Conventions

This guide employs the conventions described below to convey instructions and information.

Command descriptions use the following conventions:

- Commands and keywords are in *italic text*.
- Arguments for which you supply values are in **bold**.
- Square brackets ([]) indicate optional elements.
- Braces ({ }) group require choices and vertical bars (|) separate the alternative elements.
- Braces and vertical bars within square brackets ([{| }]) indicate a required choice within an optional element.

Interactive examples use the following conventions:

- Terminal sessions and system displays are in normal screen font.
- Information to be entered in is in **bold text**.

Notes, cautions and tips use these conventions and symbols:

Note Means <i>reader take note</i> . Notes contain helpful suggestions or references to materials not contained in this manual.	
Means <i>reader be careful.</i> In this situation, you might do something the could result in equipment damage or loss of data.	
	Means <i>the following will help you solve a problem.</i> The tips information might not be troubleshooting or even an action, but could be useful information.

### **Obtaining Documentation**

You can access the most current PlugLink<sup>™</sup> documentation on the Asoka website at this URL:

http://www.asokausa.com

### **Document Feedback**

You can submit comments via email to custserv@asokausa.com

You can also submit your comments via regular mail by writing to the following address:

Asoka USA Corporation Attn: Customer Service, 2620 Augustine Drive Suite 230 Santa Clara, CA 95054 USA

We appreciate your comments.

### Important Safety Instruction for the PlugLink PL7667-MST

The following precautions should be taken when using this product:

- Read all instructions before installing and operating this product.
- Do not open the cover on this product and/or alter this product in any way.
- Follow common household electrical safety practices.

If you have any questions or concerns regarding these safety measures, please contact Technical Support at +1 408 550 8167 or email at <u>support@asokausa.com</u> Monday through Friday from 9:00 am to 5:00 pm PST (excluding holidays.)

### Overview

This chapter provides information about the following topics:

- Features
- Package Contains
- Front Panel Description
- Rear Panel Description

#### Features

PlugLink 7667-MST features:

- Utilizes the existing electrical wiring to distribute data services
- IEEE 802.3, 802.3u, 802.3x, 802.3z/ab, 802.1q
- One auto-negotiating 10/100BASE-T Ethernet port
- Status LEDs showing Ethernet activity and link status
- Up to 200Mbps of data transmission
- Energy control

### Package Contains

Open the package and check that you have all the following items:

- 1. PlugLink PL7667-MST
- 2. 6' Ethernet cable
- 3. Warranty and Support Information Card

If any of the parts are incorrect, missing, or damaged, please contact the retailer where you made your purchase. Keep the carton, including the original packing materials, in case you need to return the unit for repair.

#### The Top Panel

The top panel of the PL7667 contains one power switch. See Figure 3-1.



Figure 3-1: PL7667-MST Top Panel

### The Front Panel

The front panel of the PL7667 contains the one Power Outlet..



Figure 3-2: PL7667-MST Front Panel

#### Side Panel

You can use the status lights to verify connections. Viewed from top to bottom, the table bellow describes the lights on the side panel of the unit.

Table 3-1: Status Light Descriptons

Power	On Off	Device is powered on Device has no power
PLC Activity	Blinking Red Blinking Yellow	Low Connection Good Connection

	Blinking Green Off	Excellent Connection No Connection
ETH Link	On	Ethernet Connectivity
	Blinking	Ethernet Traffic
	Off	No Ethernet Connectivity

### The Bottom Panel

The bottom panel of the PL7667-MST contains one (1) Ethernet port as shown below.



Figure 3-3: PL7667-MST Bottom Panel

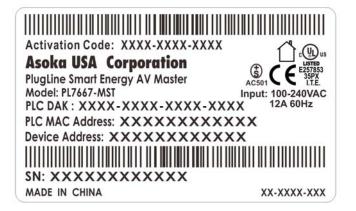
### The Rear Panel

The rear panel is where the product label is located. The product label contains the items listed below.

- Model number
- Unique device password (PLC DAK)
- Powerline MAC Address (PLC MAC)
- Ethernet MAC Address
- Serial number



For future convenience, please write this information down in your Warranty Support Information card.

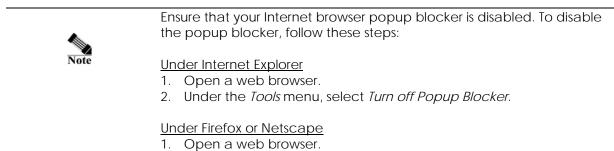


#### **Operating System and Browser Support**

You can access the web-based interface by using the operating systems and browsers listed in Table 3-2.

OS	Minimum Service Pack or Patch	Microsoft Internet Explorer	Mozilla Firefox	Netscape Communicator	Other
Windows 98SE	Second Edition	5.5 or above	1.x or above	7.x +	Opera 7 +
Windows ME		5.5 or above	1.x or above	7.x +	Opera 7 +
Windows 2000		5.5 or above	1.x or above	7.x +	Opera 7 +
Windows XP		5.5 or above	1.x or above	7.x +	Opera 7 +
Windows 2003 Server		5.5 or above	1.x or above	7.x +	Opera 7 +
Windows NT 4.0		5.5 or above	1.x or above	7.x +	Opera 7 +
RedHat 6.2			1.0	7.x +	Opera 6 Konqueror 3+
RedHat 7.2			1.0	7.x +	Opera 6 Konqueror 3+
Fedora Core 2.0			1.0	7.x +	Opera 6 Kongueror 3+
Fedora Core 3.0			1.0	7.x +	Opera 6 Konqueror 3+
Fedora Core 4.0			1.0	7.x +	Opera 6 Konqueror 3+
Mandriva 10			1.0	7.x +	Opera 6 Konqueror 3+
Unix			1.0	7.x +	Opera 6 Konqueror 3+
Mac OS X		5.2	1.x	7.x +	Opera 7 Safari 1.x +
Mac OS X 1.3x		5.2	1.x	7.x +	Opera 7 Safari 1.x +
Mac OS X 10.4.x		5.2	1.x	7.x +	Opera 7 Safari 1.x +

Table 3-2: Supported operating systems and browsers



- 2. Under the Tools menu, select Options.
- 3. Choose the *Content* icon.
- 4. Uncheck the box next to Block Popup Windows.
- 5. Click OK

### Installation

This chapter describes how to install your CPE device and how to interpret the LEDs to ensure proper operation. Read the topics, and perform the procedures in the following order:

- Preparing for Installation
- Warnings
- Safety Instructions
- Installing the CPE
- Connecting to a 10/100 Port
- Wall mounting the CPE

### Preparing for Installation



If you mount the CPE to a power outlet, use the screws supplied with the CPE.



There are no serviceable parts inside the unit. Removing the screws, cover, or otherwise dismantling the unit voids the warranty.

#### Warnings

- Only trained and qualified personnel should be allowed to install or replace this equipment.
- Read the installation instructions before you connect the system to its power source.
- Before working on the equipment that is connected to power lines, remove all jewelry (including rings, necklaces, and watches). Metal objects will heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals.
- The plug-socket combination must be accessible at all times because it serves as the main disconnecting device.
- To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 104°F (40°C).
- This product relies on the building's installation for short-circuit (over current) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 10A International) is used on the phase conductors (all current-carrying conductors).

- A voltage mismatch can cause equipment damage and may pose a fire hazard. If the voltage indicated on the label is different from the power outlet voltage, *do not connect the device to that receptacle*.
- Do not work on the system or connect or disconnect cables during periods of lightning activity.
- Ultimate disposal of this product should be handled according to all national laws and regulations.

### Safety Instructions

Read these safety instructions carefully.

- Read all cautions and warnings on the equipment.
- Plug this equipment directly into a power outlet. No power strips and no extension cords.
- Make sure the equipment is connected to the right voltage.
- For pluggable equipment, the socket-outlet must be installed near the equipment and must be accessible.
- Place the Ethernet cord where people cannot step on it. Do not place anything over the Ethernet cord.
- Disconnect this equipment from the power outlet before cleaning it. Do not use liquid or sprayed detergent for cleaning. Use moisture sheet or cloth for cleaning.
- Keep this equipment from excessive humidity.
- The openings on the enclosure are for air convection and protect the equipment from overheating. Do not cover the openings.
- If the equipment will not be used for a long period of time, disconnect the equipment from the power outlet to avoid any damage from transient over-voltage.
- Do not pour any liquid into opening. This could cause fire or electrical shock.
- Do not open the equipment casing. For safety reasons, the equipment should only be opened by qualified service personnel.
- Have the equipment checked by a service professional if one of the following situations arises:
  - The plug is damaged.
  - Liquid has entered the equipment.
  - The equipment has been exposed to moisture.
  - The equipment does not work properly, or you cannot get it to work according to user's manual.
  - The equipment has been dropped or damaged.
  - The equipment has obvious signs of breakage.
  - Do not leave this equipment in an unconditioned environment. Temperatures above 45°C (113°F) can damage the equipment.
  - Keep this guide for later reference.

Installing the CPE

You can install the CPE simply by plugging directly into a power outlet or by physically mounting onto a power outlet. Before you begin the installation, decide how you want to install the CPE by reviewing the illustrations in these sections:

Installing the CPE directly to a power outlet (without mounting screws and brackets)

### Installing the CPE directly to a power outlet (without mounting screws and brackets)

The CPE can be simply plugged in directly to a power outlet. If you do not wish to physically mount the CPE onto the power outlet, follow these steps:

• Take out what you need by removing the items shown in Figure 1-1 from the shipping container:



- Connect the CPE into a nearby wall outlet
- Connect the enclosed Ethernet cable to the Ethernet port of the unit
- Connect the opposite end of the cable to an Ethernet port on the PC or laptop

### Getting Started with the PL7667-MST

This chapter provides a quick step-by-step installation and setup procedure guide for a standalone PL 7667-MST.

For detailed installation procedures for mounting your CPE, see Chapter 4, "Installation." For product overview information, see Chapter 3, "Overview."

### Connecting to a PC

To perform the initial configuration, follow these steps:

- 1. Connect a Category-5 straight-through cable to the 10/100 ports on the PL7667.
- 2. Connect the other end of the cable to an Ethernet (RJ-45) port on the workstation, PC, or server.
- 3. Plug the PL7667 directly into an outlet.

1	PlugLink PL 7667-MST
2	Ethernet cable
3	Power outlet



Figure 5-1: Connecting to a LAN port.

#### Assigning your PC to the same network as the CPE

The -PL 7667 has an IP address: 192.168.1.253. For network access, you must manually assign your PC an IP address of 192.168.1.x, where "x" is a number between 1 and 254(excluding 253.)

#### Accessing the CPE from your Browser

- 1. Open an Internet browser (i.e. Internet Explorer or Mozilla Firefox).
- 2. In the address field, type 192.168.1.253 and press Enter.

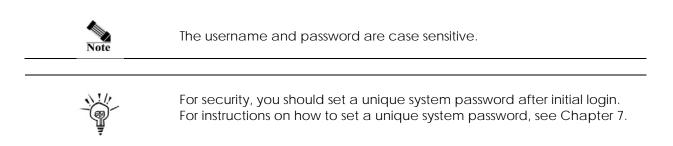


Figure 5-2: Address field.

- 3. In the User ID field, type admin.
- 4. In the *Password* field, type **welcome**.
- 5. Click Login.

文件(2) 编辑(2) 查看(2) 收藏(4) 工具(12) 帮助(4)			
ເເ⊂ jā 🖉 🖉 🖉 🌈 搜索 🐈 收藏夹 🚱 🍰 • 🦕 🔟 • 🛄			
地址 @) 🙋 http://192.168.1.253/login.asp	🔹 🄁 转到	链接 »	<b>†</b> ⊒ -
User ID: Password: Jugin Cace Please enter User ID and Password and click Login.	Interr	net	

Figure 5-3: Login screen



### Understanding the PL7667-MST Web Interface

When you access the web-based user interface (UI), the System Details page is the first page you will see. The System Details page shows you a quick view of the adapter's status and settings. All setup pages can be reached from this page.



The *System Details* page is also the Home Page of the adapter's web interface.

后退 - 📀 - 💌 😰 🏠 🛛	🔎 搜索 🥎 收藏夹 🧭 😒 - 🛛		
(D) 👰 http://192.168.1.253/syste	em_details.asp		💌 🔁 转到   链接 » 🟺
		1]	Home   Glossary   Help   Logou [3]
PlugLink <sup>©</sup> 7667	SYSTEM   IP ADDRESS	POWERLINE   ENERGY	
More Information	System Details —	<b>—</b> [5]	
Details	Device Information		
Password	Model Number	PL7667 -	1
	Serial Number	SA1234654378	
• Logs	Hardware Version	1.01	
<u>Reboot System</u>	Firmware Version	1.13	
Factory Reset     [2]	Sim Firmware Version		<b>—</b> [4]
<ul> <li>Backup Settings</li> </ul>	Device MAC Address	00:13:c1:1b:79:89	
<u>Restore Backup</u>	PLC MAC Address	00:13:c1:1b:79:90	
	IP Address	192.168.1.253	
<ul> <li><u>Update Firmware</u></li> </ul>	Subnet Mask	255.255.255.0	
<u>Time Setting</u>			
	Convicible @ 2009 Acok	a USA Corporation. All rights reserved.	

*Figure 5-4: System Details Page (Home page)* 

### 1. Quick Main Navigation Links

The UI is divided into five main logical sections and you can be directed to any of the five sections by clicking on their corresponding links.

#### 2. Quick Sub Navigation Links In each of the five main logical sections, sub navigation links on the right will appear, providing you with logical links for each specific category.

### 3. Quick Buttons

- 1) The *Home* button is available in every page of the UI. Pressing this button will take you back to the home page, which is the *System Details* page.
- 2) The *Glossary* button is available in every page of the UI. Pressing this button will take you to a glossary page that defines many of the technical terms used in this UI.
- 3) The *Help* button is available in every page of the UI. Pressing this button will take you to a help page that provides detailed explanations and steps on configuring your gateway.
- 4) The *Logout* button is available in every page of the UI. Pressing this button will enable you to log out of the gateway.

### 4. Detail Information

Displays detailed information about the gateway that includes: model number, firmware version number, hardware version, serial number, Local Area Network (LAN) settings.

### 5. Page Name

The page you are on is identified by its *Page Name*.

### Basic PL7667–MST Configuration

This chapter presents procedures for configuring the basic parameters of your PL7667 interface, including IP, Subnet Mask and DNS settings.

This chapter contains the following sections:

- LAN Settings
- Powerline Network Management

### Configuring your LAN Settings

To configure the CPE's LAN settings, click *IP ADDRESS* on the Main menu. The *IP Address Configuration Page* is the first page under the *IP ADDRESS* section.

🚰 === PL7667-MST === - Microsoft Int	ernet Explorer	
文件(E) 编辑(E) 查看(Y) 收藏(A)	工具 (I) 帮助 (H)	2
🌀 后退 🔹 💮 🖌 🗾 🛃 🏠	🔎 搜索 🧙 收藏夹 🥝 😥 🌭 🔟 🔹 🔜 ്	
地址 @) 🙋 http://192.168.1.253/ip_s		▼ → 转到 链接 » 📆 •
		Home   Glossary   Help   Logout
PlugLink <sup>©</sup> 7667	SYSTEM   IP ADDRESS   POWERLINE   ENERGY	
More Information	IP Address This page allows you to set or change the IP address which is used to manage	the device.
• IP Address	O Obtain an IP address automatically	
	O Use the following IP address:	
	IP Address: 192 , 168 , 1 , 253	
	Subnet Mask: 255 , 255 , 255 , 0	
	Gateway: 192 , 168 , 1 , 1	
	DNS Server 1: 192 . 168 . 1 . 1	
	DNS Server 2: 0 . 0 . 0 . 0	
	Apply	
	Copyright © 2008. Asoka USA Corporation. All rights reserved.	
<b>▲</b>		🗾 🚺 Internet
	, ,	

Figure 6-1: IP ADDRESS Configuration Screen

### 1. IP Address

The IP Address is the internal IP address of the PL7667. The default IP address is **192.168.1.253**. To access the PL7667 Setup Interface, type this IP address into the address or navigation bar of your web browser. This address can be changed if needed. To change the IP address, type in the new IP address and click *Apply*.

The IP address you choose should be a non-routable IP. Examples of a non-routable IP are:

192.168.x.x (where x is anything between 0 and 255) 10.x.x.x (where x is anything between 0 and 255)



### 2. Subnet Mask

A Subnet Mask allows you to break down what appears (logically) to be a single large network into smaller ones, which reduces network overhead.

### Power Line Device Scan

To scan and view a list of Powerline devices on your network, simply go to *POWERLINE* in the main menu and select *Device Scan* in the sub menu.

🥙 === PL7667-ETH === - Microsoft Inter	met Explorer	
文件(E) 编辑(E) 查看(Y) 收藏(A)	工具(工) 帮助(出)	an 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 19
🔾 🗟 🔹 🕥 - 🗾 💈 🏠 🍃	🗩 搜索 🤺 收藏夹 🚱 📄 - 嬦 🖅 - 📙	
地址① http://192.168.1.253/eth_p	owerline_dev_scan.asp	🔽 🔁 转到   链接 💙 🔁 🗸
		A
		Logout
PlugLink ® 7667	SYSTEM   IP ADDRESS   POWERLINE   ENER	GY
More Information	Power Line Device Scan This page shows all devices within the Powerline network sharing	the same Network Management Key (NMK).
	Scan Devices in Powerline	can Now
	Scanned Devices	MAC Address
	NO.1	00:b0:52:00:03
	Copyright © 2008. Asoka USA Corporation. All rights reserved.	
I		De la constante de la constant
Figure 6 2: Doutice Scop	Cara an	, , , , , , , , , , , , , <i>u</i>

Figure 6-2: Device Scan Screen



The *Device Scan* screen will only list Powerline devices on your network that have the same Powerline Network Encryption KEY (NEK).

### PL7667–MST Administration

This chapter describes how to perform operations to administer your PL7667-MST. This chapter consists of the following sections:

- Managing System password
- Managing System Logs
- Reboot
- Restoring Factory Defaults
- Saving a Current Configuration
- Restoring a Previous Configuration
- Update Firmware
- Energy configuration
- Time Setting

### Managing System Password

You can change the login information to your adapter for security. For security purposes, it is highly recommended that you change the password (*welcome*) when you first configure the CPE.

To change the password:

- 1. Click on *Systems* in the Main menu.
- 2. In the Sub menu, select Password.
- 3. In the *System Password* section, type in the old password and then the new password in the appropriate areas, and click *Apply*.

<sup>23</sup> === PL7667-MST === - Microsoft 文件(E) 編辑(E) 查看(V) 收歳		
🔇 后退 🔹 🚫 🖌 💌 💋 🌱 地址 @) 🖉 http://192.168.1.253/s		▼ → 转到 链接 > 10 +
	Home	Glossary   Help   Logout
PlugLink <sup>©</sup> 7667	SYSTEM   IP ADDRESS   POWERLINE   ENERGY	
More Information  Details  Password  Logs  Reboot System  Factory Reset  Backup Settings  Restore Backup  Update Firmware	System Password         This page allows you to change your login password. Your password is used to restrict and should be kept secure.         Enter Current Password:       (0-16 Characters)         Enter New Password:       (0-16 Characters)         Confirm New Password:       (0-16 Characters)         Apply       Auto-Logout Time :	access by others to the device
<u>Time Setting</u>	Apply	
	Copyright © 2008. Asoka USA Corporation. All rights reserved.	
<u>دا</u>		Dinternet

Figure 7-1: System Password Screen

### Managing System Logs

The CPE (PL7667) maintains a System Log which displays potential security threats and system information. This log can be viewed with a browser using the PL7667's web management interface. You can copy the log entries from the web management interface and paste into a report.

To view system log:

- 1. Click on *Systems* in the Main menu.
- 2. In the Sub menu, select Logs.

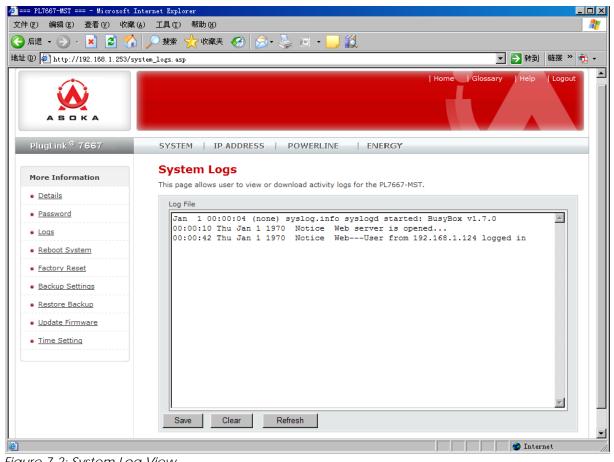


Figure 7-2: System Log View



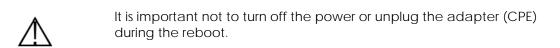
Some network conditions can produce network traffic that appears to be an attack, even when no one is deliberately attacking the LAN. To follow up on a possible attack, contact your ISP to determine the source of the attack. Regardless of the nature of the attack, your LAN is protected and no further steps need be taken.

### Reboot

Sometimes it may be necessary to reboot the adapter if it is working improperly. Rebooting will not delete any of your configuration settings. To reboot the adapter:

- 1. Click on *Systems* in the Main menu.
- 2. In the Sub menu, select Reboot System.
- 3. Click Reboot.
- 4. A popup window will appear to confirm your request to reboot the adapter. Click *OK* to continue.

5. After a minute, the home page of the adapter will reappear automatically. If not, type the adapter's IP address (default = **192.168.1.253**) into the address or navigation bar of your web browser.



More Information System Reb • Details This page allows you	▼ ● Go 報报   Home   Glossary   Help   Logout DDRESS   POWERLINE
PlugLink     7667     SYSTEM     IP All       More Information     System Reb       • Details     This page allows you       • Password     This operation may to       • Logs     Reboot       • Factory Reset     Reboot	DDRESS   POWERLINE oot to reboot the PL7667-ETH. Rebooting the device will <b>not</b> delete any of your configuration settings.
More Information       System Reb         • Details       This page allows you         • Password       This operation may to         • Loas       Reboot         • Reboot System       Factory Reset	<b>oot</b> to reboot the PL7667-ETH. Rebooting the device will <b>not</b> delete any of your configuration settings.
Details     This page allows you     This operation may t      Password      Logs     Reboot System     Factory Reset	to reboot the PL7667-ETH. Rebooting the device will <b>not</b> delete any of your configuration settings.
Restore Backup     Update Firmware     NTP Setting	
Соруг	ight ⊚ 2008. Asoka USA Corporation. All rights reserved.

Figure 7-3: Reboot screen

### **Restoring Factory Defaults**

At times, you may need to restore factory default settings on the adapter. It is recommended that you back up your settings prior to restoring to factory default settings. To restore factory default settings:

- 1. Click on *Systems* in the Main menu.
- 2. On the Sub menu, select Factory Reset.
- 6. Click Restore Default.
- 7. A popup window will appear to confirm your request to reboot the adapter. Click *OK* to continue.

8. After a minute, the home page of the adapter will reappear automatically. If not, type the adapter's IP address (default = **192.168.1.253**) into the address or navigation bar of your web browser.

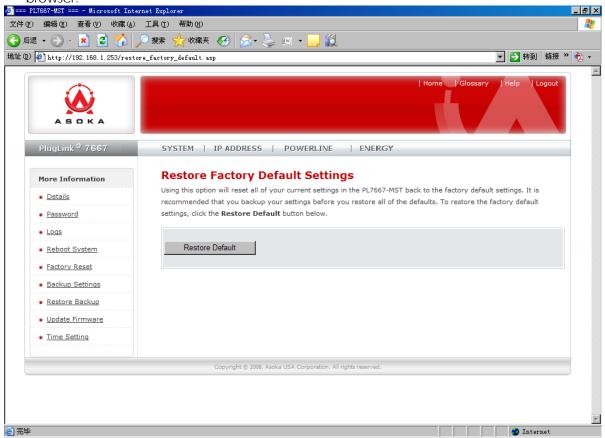


Figure 7-4: Restoring Factory Default screen

### Saving a Current Configuration

You can save your current configuration by using the System Backup feature. Saving your configuration will allow you to restore it later if your settings are lost or changed. It is recommended that you back up your current configuration before performing a firmware update. To save your current configuration:

- 1. Click on *Systems* in the Main menu.
- 2. In the Sub menu, select Backup Settings.
- 3. Click Save.
- 4. A popup window will appear that allows you to select the location where you want to save the configuration file. Select the location to save your configuration file to.
- 5. Click Save to continue.

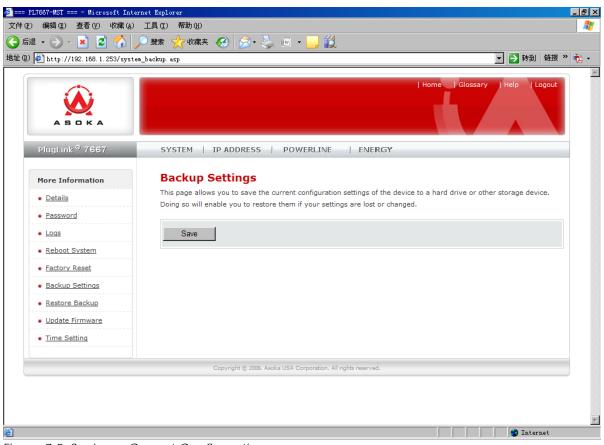


Figure 7-5: Saving a Current Configuration screen

### Restoring a Previous Configuration

You can restore a previous configuration by using the *System Restore Settings* feature. To restore a previous configuration:

- 1. Click on *Systems* in the Main menu.
- 2. In the Sub menu, select Restore Backup.
- 3. Click Restore.
- 4. A popup window will appear that allows you to select the location where your old configuration file is located. Select the location of your old configuration file.
- 5. Click Open to continue.
- 6. You will be asked if you want to continue. Click OK.
- 7. After a minute, the home page of the CPE will reappear automatically. If not, type the CPE's IP address (default = **192.168.1.253**) into the address or navigation bar of your web browser.

🏄 === PL7667-ETH === - Microsoft In	
Eile Edit View Favorites Tools He	lp 🖉 Search 🤺 Favorites 🤗 🔗 • 🌺 🗷 • 💽
Address Address Address Address	
	Home   Glossary   Help   Logout
PlugLink ® 7667	SYSTEM   IP ADDRESS   POWERLINE
More Information  Details  Password  Loas  Reboot System  Eactory Reset  Backup Settings  Restore Backup  Update Firmware  NTP Setting	Backup Settings This page allows you to save the current configuration settings of the device to a hard drive or other storage device. Doing so will enable you to restore them if your settings are lost or changed. Save
	Copyright © 2008. Asoka USA Corporation. All rights reserved.

Figure 7-6: Restoring a Previous Configuration screen

### Update Firmware

Firmware updates will be made available periodically from Asoka. Firmware updates contain feature improvements and fixes to problems that may have existed. When Asoka releases new firmware, you can download the firmware from Asoka's web site at <u>http://www.asokausa.com</u> and update your adapter's firmware to the latest version.

To upload a new firmware upgrade onto the CPE, follow these steps.

- 1. Click on *Systems* in the Main menu.
- 2. In the Sub menu, select Update Firmware.
- 3. Click *Browse* to locate the new firmware update file downloaded from Asoka's web site.
- 4. The box next to the *Browse* button will now display the location and name of the firmware file you just selected. Click *Update*.
- 5. You will be asked if you are sure you want to continue. Click OK.
- 6. You will see one more message. This message tells you that the CPE may not respond for up to one minute as the firmware is loaded into the adapter and it is rebooted. Click *OK*.
- 7. When the firmware upgrade is complete, the adapter home page should appear automatically. If not, type in the CPE's address (default **192.168.1.253**) into the address or navigation bar of your web browser.

)=== PL7667-MST === - Microsoft Inte 文件 (E) 编辑 (E) 查看 (Y) 收藏 (A)	rnet Explorer _ 」 团 工具 ① 帮助 ②
3 扃• 🕗 - 💌 💈 🏠	▶ 搜索 ☆ 收藏夹 🤣 😥 - 🍡 🔟
地址 @) 👰 http://192.168.1.253/firm	
	Home   Glossary   Help   Logout
PlugLink <sup>®</sup> 7667	SYSTEM   IP ADDRESS   POWERLINE   ENERGY
More Information  Details Password	Update Firmware From time to time, Asoka may release new versions of the PL7667-MST's firmware. Firmware updates contain feature improvements and fixes to problems that may have existed. You may <b>download</b> the firmware from the <u>Asoka web</u> <u>site</u> . You can update your PL7667-MST's firmware to the latest version from this page.
Logs     Reboot System     Factory Reset     Backup Settings     Restore Backup	Current Firmware Version: 1.13 Firmware Date: 2011-01-14 Please select path of firmware to be updated: Update
<u>Update Firmware</u> <u>Time Setting</u>	
	Copyright © 2008. Asoka USA Corporation. All rights reserved.
Ē	👘 Internet

Figure 7-7: Firmware upgrade screen.

### Energy configuration

Using the ENERGY Setting page, users can configuration SRS Server parameters through Energy configuration sub menu. This sub menu allows for configuration of SRS Server URL, SRS Server password.

To display this page, click ENERGY in the Web Management utility menu bar and then click *Energy Config* in the navigation panel.

- 1. In the SRS ServerURL Fields, select Server address and Server port.
- 2. In the SRS ServerPassword Fields, select Server password.
- 3. Click the Apply button.

参 === PL7667-MST === - Microsoft Internet 文件 健) 编辑 健) 查看 (Y) 收藏 (A) 工具		X
	±素 🏑 收藏夹 🚱 🙈 • 🌭 🔟 • 🛄 🏭	
地址 @) 🎻 http://192.168.1.253/energy_com	fig.asp	▼ → 转到 链接 ※ 🤁 -
	Home   Gloss	any  Help  Logout
PlugLink <sup>©</sup> 7667	SYSTEM   IP ADDRESS   POWERLINE   ENERGY	
More Information	Energy Device Test	
Energy Config     Energy Test	SRS ServerURL 217.20.169.145:7000	
	SRS ServerPassword	]
	мриу	
	Copyright © 2008. Asoka USA Corporation. All rights reserved.	
   		💌 Internet

Figure 7-8: Energy Config screen.

### Time Setting

Using the Time page, you can change the system date, time. The current system date and time appear under the SYSTEM main menu. To change the system date, time, use the following procedure.

- 1. Click on *SYSTEM* in the Main menu.
- 2. In the Sub menu, select Time Settings.
- 3. In the Mon-Day-Year fields, specify the month, day, and year to be used.
- 4. In the Hour: Minute fields, select the hour and minute to be used.
- 5. Click the **Apply** button.



**NOTE:** The system uses a 24-hour clock. Therefore, to select a system time of 1:00 PM, select **13** as the hour.

🚈=== PL7667-MST === - Microsoft I			
文件(E) 编辑(E) 查看(V) 收藏			
🔇 后退 🔹 🕥 🖌 🗾 🛃 🏠			
地址 @) 🙋 http://192.168.1.254/da	te_time. asp	▼ 🔁 转到	链接 » 🔁 🕶
		Home   Glossary   Help	Logout
PlugLink <sup>©</sup> 7687	SYSTEM   IP ADDRESS   POWERLINE   ENERGY		
More Information         • Details         • Password         • Logs         • Reboot System         • Factory Reset         • Backup Settings         • Restore Backup         • Update Firmware         • Time Setting	Time Current Time: 01:41:47 Thu Jan 1 1970 Mon-Day-Year: 1 1 1 2000 Hour-Minute: 1 1 41 1 Apply		
	Copyright © 2008. Asoka USA Corporation. All rights reserved.		
<ul> <li></li></ul>		🔿 Inter	net

Figure 7-9: Time Setting.

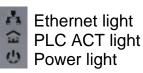
### Reset and network of PLC

The PL7667-MST device has two hardware push buttons:

FW RST (Firmware Default Reset ) button – Resets the PL7667-MST back to factory default settings. Press and hold the button with a pin or sharp object for about 2 seconds until you see the lights on the device flash briefly.

**SECURITY (Network ID) button** – All PL7667-MST devices have a default password Network Encryption Key (NEK) set to "HomePlugAV" allowing them to communicate to each other. The SECURITY button allows you to set a devices' password to a randomized Network Encryption Key (NEK) for maximum security. You can then set other devices to the same NEK by using their SECURITY button. Only units with the same NEK can communicate to each other.

### SETTING A RANDOMIZED NETWORK PASSWORD







- 1. Select a PL7667-MST (Device A) and plug into an AC outlet. The POWER light indicator should be lit solid green.
  - a. Press the SECURITY button BRIEFLY (1 second) and release. The POWER light should now be blinking green.
  - b. *IMPORTANT:* If the POWER light is not blinking green, repeat Step "a" until the power light blinks green.
  - c. This unit is now ready to create a new randomized NEK (Net Encryption Key) network. This unit will remain in this "adder" mode for about 2 minutes.
- 2. Select PL7667-ETH(Device B) or PL7667-SW (Device B) and plug into a second outlet.
  - a. Press the SECURITY button BRIEFLY (1 second) and release. The POWER light should now be blinking green.
  - b. *IMPORTANT:* If the power light is not blinking green, repeat Step "a" until the power light is blinking green.
- **3.** In about 15 seconds the POWER light will change from flashing green to solid green and the PLC ACT (Power line Communication Activity) light will turn solid green (flashing green when there is data traffic) indicating they are synchronized with the same NEK.
- 4. Congratulations, you are done!

🚰 === PL7667-MST === - Microsoft Int. 文件 E) 编辑 E) 查看 E) 收藏 &		×
<ul> <li>() 后退 • () · </li> <li>() 后退 • () · </li> </ul>	- # 使 () () () () () () () () () () () () ()	
地址 (D) http://192.168.1.253/powe		💌 🌛 转到   链接 » 🧙 🗸
		Home   Glossary   Help   Logout
PlugLink <sup>©</sup> 7667	SYSTEM   IP ADDRESS   POWERLINE   E	NERGY
More Information	Power Line Device Scan This page shows all devices within the Powerline network sha Scan Devices in Powerline	aring the same Network Management Key (NMK). Scan Now
	Scanned Devices	MAC Address
	NO.1	00:b0:52:00:03
	NO.2	00:13:c1:00:11:23
	Copyright © 2008, Asoka USA Corporation. All rights re	served.
Ê		🔰 👘 Internet

Figure 8-1 Two devices of PLC.

### ADDING A THIRD OR MORE PLUGLINK HD AV DEVICES

Ethernet light			
Over light	Game	<b>6</b>	Q
	Device A	Device B	Device C

- 1. Plug your new PL7667-MST (Device C) into an AC outlet. The POWER light indicator should be lit solid green.
  - a. Press the SECURITY button BRIEFLY (1 second) and release. The POWER light should now be blinking green.
  - b. *IMPORTANT:* If the POWER light is not blinking green, repeat Step "a" until the power light is blinking green.
  - c. This unit is now ready to join the existing HD AV network. This unit will remain in this "adder" mode for about 2 minutes.
- 2. From your existing devices (either device A or device B) press the SECURITY button BRIEFLY (1 second) then release. The POWER light should now be blinking green.
  - d. *IMPORTANT:* If the power light is not blinking green, repeat Step "2" until the power light is blinking green.
- 3. In about 15 seconds the POWER light will change from flashing green to solid green and

the PLC ACT (Power line Communication Activity) light will turn solid green (flashing green when there is data traffic) indicating they are synchronized with the same NEK.4. To add more PlugLink devices; simple repeat this process per device.

5. Congratulations, you are done!

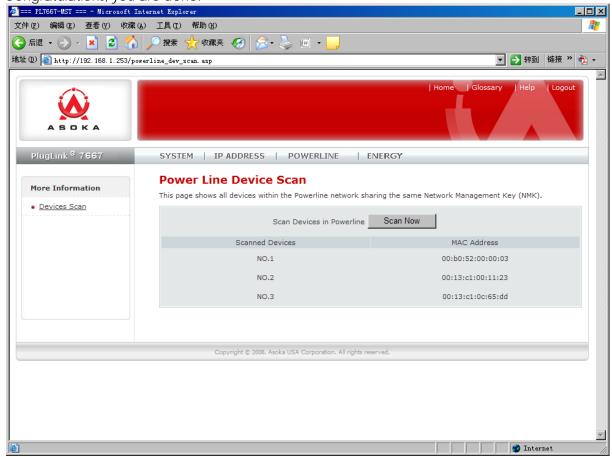


Figure 8-2 Three devices of PLC

Notes:

1. The other devices already in the Power line network with the proper NEK are not affected and do not need to be reconfigured.

2. If you disconnect power from any device, its NEK value will remain and will not default back to "HomePlugAV" NEK.

3. An adapter can only generate a private key once. To replace a private key, first reset the unit back to its factory defaults by pressing the Firmware Default Reset (FW RST) button for 1 second, then follow the procedure above.

Appendix A

# **Default Settings**

### Login and Password:

User Name: admin Password: welcome

### **IP Setting:**

IP Address: 192.168.1.253 Subnet Mask 255.255.255.0



# **FCC Notice**

**FCC Statement** 

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates 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 or more 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

This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions:

This device may not cause harmful interference, and This device must accept any interference received, including interference that may cause undesired operation.

### FCC RF Radiation Exposure Statement

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. such modifications could void the user's authority to operate this equipment.

Asoka USA Corporation 2620 Augustine Drive Suite 230 Santa Clara, CA 95054 USA Phone: (408) 550–8167 Fax: (408) 884–2390 www.asokausa.com

URL: www.asokausa.com