

8-Port IP Power Manager

IPM-8001 IPM-8002

User's Manual

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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 1. Reorient or relocate the receiving antenna.
- 2. 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.
- 4. Consult the dealer or an experienced radio technician for help.

FCC Caution:

To assure continued compliance.(example-use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the Following two conditions: (1) This device may not cause harmful interference, and (2) this Device must accept any interference received, including interference that may cause undesired operation.

Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm(8 inches) during normal operation.

R&TTE Compliance Statement

This equipment complies with all the requirements of DIRECTIVE 1999/5/CE OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF 9 March 1999 on radio equipment and telecommunication terminal Equipment and the mutual recognition of their conformity (R&TTE)

The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) As of April 8,2000.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

WEEE regulation



To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Revision

User's Manual for PLANET 8-Port IP Power Manager Model: IPM-8001, IPM-8002 Rev: 1.0 (February, 2006) Part No. EM-IPM8001

TABLE OF CONTENTS

CHA	PTER 1 INTRODUCTION	1
1.1	Package Contents	1
1.2	PRODUCT DESCRIPTION	1
1.3	Features	1
1.4	FRONT AND REAR PANEL	2
1.5	LED AND BUTTON ON FRONT PANEL	2
1.5	.1 Power Outlet LED and Button	2
1.5	.2 System Load and Status Indication	3
1.6	FRONT PANEL INTERFACE	4
CHA	PTER 2 HARDWARE INSTALLATION	6
2.1	CONNECTING INPUT POWER	6
2.2	CONNECTING OUTPUT DEVICE	6
2.3	CONNECTING DIGITAL OUTPUTS	7
2.4	CONNECTING EMD	7
2.5	CONNECTING THE CONSOLE	8
2.6	CONNECTING LAN OR WAN	8
CHA	PTER 3 USER CONTROL BUTTON	1
CHA	PTER 4 QUICK SETUP	2
CHA	APTER 5 CONFIGURE WITH CONSOLE	5
5.1	Run Hyper Terminal	5
5.2	IP Power Manager Configuration	8
5.2	.1 System Group	8
5.2	.2 Control Group	9
5.3	OUTLETS CONTROL	10

5.5	COLLELIS CONTROL	10
5.4	Access Control	11
5.5	TRAP RECEIVER TABLE	12
5.6	RESET CONFIGURATION TO DEFAULT	13
5.7	RESTART IP POWER MANAGER	13
5.8	Exit	14

СНАР	TER 6 WEB CONFIGURATION	15
6.1	Power Management	16
6.1.1	Control	
6.1.2	Schedule	20
6.2	Environment	21
6.2.1	Status	21
6.2.2	Configuration	21
6.2.3	Alarm	23
6.3	System	23
6.3.1	Configuration	23
6.3.2	Multi-User	24
6.3.3	Date & Time	
6.3.4	Trap Receivers	
6.3.6	WOL	
6.3.7	Email Notification	
6.3.8	External Links	
6.4	Network	
6.4.1	Configuration	31
6.4.2	Control	
6.4.3	Access Control	
6.5	Logs	
6.5.1	History	
6.5.2	Event	
6.5.3	Clear and Save Log Data	
CHAP	TER 7 UTILITY	
DDF	NDIX A ERROR CODE	40
		40
APPE	NDIX B SPECIFICATION	41
APPE	NDIX C GLOSSARY	42

Chapter 1 Introduction

Thank you for purchasing PLANET IP Power Manager. This manual guides you on how to install and properly use the IP Power Manager in order to take full advantage of its features.

1.1 Package Contents

Make sure that you have the following items:

- One IP Power Manager
- One Power Cord
- One User's Manual and Utility CD
- One Quick Installation Guide
- One Console Cable
- One Rackmount Ear kit
- Four Rubber Feet
- Four Feet Screw

Note: If any of the above items are missing, contact your supplier for support.

1.2 Product Description

The IP Power Manager includes two models, IPM-8001 and IPM-8002. Model IPM-8001 is for 100V to 120VAC power input, IPM-8002 for input power range from 220V to 240VAC, in the following section, unless specified, IPM-8000 will means the IP Power Manager of the two models.

1.3 Features

- Eight power outlets that can be turn on or off in multiple ways, with easy monitoring of current consumption
- Versatile sensors supported through EMD (Environmental Monitoring Device) inputs
- Active extended devices via digital outputs
- Monitor and manager connected devices and sensors remotely
- Control manually, or remotely through console or network
- Intelligent turn on/off devices based on event occurrence of planned schedule
- Comprehensive power management and flexible configuration through web browser, NMS, Telnet, SNMP, or Hyper Terminal (via console)
- Configurable user security control
- User friendly interface to display input and output status
- Detailed data-logging for statistical analysis and diagnostics

- Upgrade utility for easy firmware upgrade
- Event notification through SNMP trap or E-Mail alerts
- Daily history report through E-mail
- Supports SSL-3 and SSH V1 protocol
- Administrator and multiple users with password protection for double-layer security
- Address-specific IP security masks to prevent unauthorized access
- Available in 110V, 220V and 240V models

1.4 Front and Rear Panel

Front Panel



IPM-8001 Rear Panel



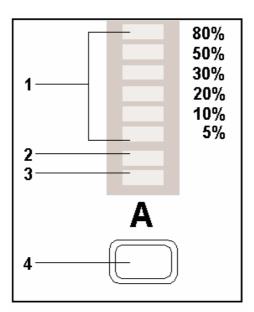
IPM-8002 Rear Panel



1.5 LED And Button on Front Panel

1.5.1 Power Outlet LED and Button

There are eight set of LED and button for each power outlet, the description is as below.

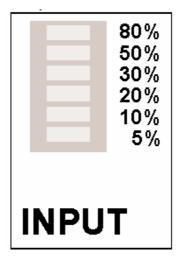


LED	Function	Description				
1	Current level indicator	Displays the amount of current being drawn by the				
		connected output device through the power outlet.				
	Outlet power indicator	Displays the out- let power status.				
2		Off: Power off				
		Green: Power on				
		Displays the remote control status of each outlet.				
3	Remote control indicator	Off: Remote control is enabled				
		Red: Remote control is disabled				

Button	Description				
	Allows manual control of each power outlet. Press repeatedly to switch between				
Α	remote control and power on/off mode.				

1.5.2 System Load and Status Indication

For IPM-8000, the INPUT LEDs and STATUS digital LED indicators shows the real time status of the system.



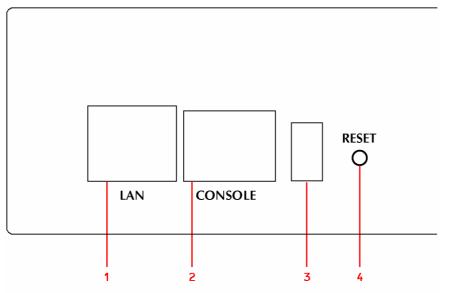
	LED	Function	Description
		Input power consumption	Displays the amount of current being drawn by the
INPUT		indicator	connected output device through the power outlet.



STATUS Volt./Amp./Hz./Code

LED	Function	Description
STATUS	Input power status indicator	Displays input voltage (Volts), input current (Ampere), and frequency (Hz), sequentially on the 7-segment switching display. This indicator also shows system errors in the form of an error code such E01, E02, E03, and so on. You may check to Appendix A Error Code to know the details of each error code.

1.6 Front Panel Interface



Name	Function	Description			
LAN	Ethernet (LAN)	Enables you to connect IP Power Manager to a LAN or			
LAN	port	WAN.			
		Enables you to configure the IP Power Manager using the			
Console	Console port	serial port. Or you can connect an optional EMD to this			
		port.			
	Operation mode	Sets the mode of operation for the IP Power Manager. S1			
		off and S2 off: Normal operation (default mode). Please			
Dip-Switch		don't change the position of the dip switches, it may			
	DIF SWICH	cause your IP Power Manager works incorrect when the			
		dip switches in wrong position.			
Reset	Reset button	Enables you to reset the IP Power Manager in case the			
NG2GI		system locks up.			

Chapter 2 Hardware Installation

Before you proceed with the installation, it is necessary that you have enough information about the IP Power Manager.

2.1 Connecting Input Power

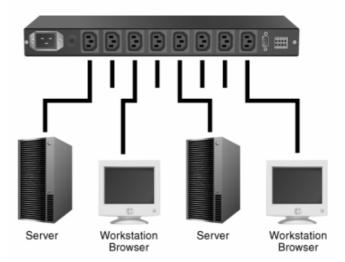
The IP Power Manager has an IEC C20 power inlet for supplying and managing power for the output devices. Connect the power cord to the power inlet and plug the other end into a power outlet as shown:



After power connected. You may see the 7-Segment LED display some error messages. If it shows "**E01**", please refer to section 2.6 to connect IP Power Manager 8000 to your LAN or WAN. If it shows "**E16**", that is mean the power phase of connected power outlet is reverse. Please try to make the power phase correct. Or you can refer to section 5.2.2 to disable Input Phase Detection on IP Power Manager temporally. For other error message, please refer to Appendix A Error Code for details.

2.2 Connecting Output Device

The IP Power Manager has eight power outlets for connecting devices such as workstations, servers, and printers. Their power on/off status can be controlled manually as well as remotely through the LAN and Console ports. Connect the power connectors of the devices to each of the power outlets A through H with the power cords supplied with the devices as shown:

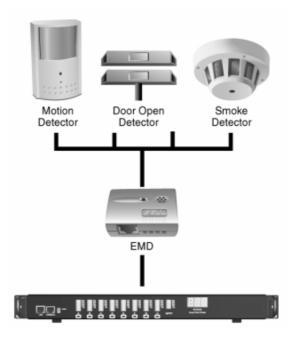


2.3 Connecting Digital Outputs

The IP Power Manager provides two digital outputs (NO by default) to which you can connect indicators or other output devices that are normally open (NO) or normally closed (NC). The digital output connectors are work as a switch to let you switch the connected device On or Off. The connectors will not provide power to the connected device. So the connected device should connect with its power adapter. You can control the digital outputs remotely through the console or over the LAN.

2.4 Connecting EMD

An environmental monitoring device that is sensors connected to for detecting temperature, humidity, water level, and so on can be connected to the IP Power Manager with the console port. The EMD can also be connected to alarms or indicators and controlled through the IP Power Manager. Connect the EMD to the console port as shown:



2.5 Connecting The Console

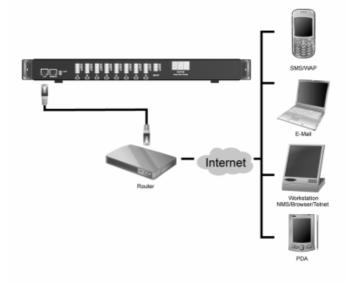
You can control the output devices and manage their power status through the console port with serial connection. Use the bundled serial cable to connect the COM port of your PC and the CONSOLE port of the IP Power Manager as shown. Then you can run Hyper Terminal to control and manage your IP Power Manager.



2.6 Connecting LAN or WAN

The IP Power Manager has an RJ-45 LAN connector that enables you to monitor and manage the power outlets and digital outputs over the network. The IP Power Manager has a graphic user interface that allows you to control the device through a web browser. Connect the IP Power Manager to a free port on your switch using an Ethernet cable. You can then

control the IP Power Manager from your PC or laptop. When the network has installed a router, you can also use your mobile phone or PDA that is web browser supported and connected to Internet to control IP Power Manager.



Chapter 3 User Control Button

You can turn on power manually for each of the eight output devices with the control buttons provided under each status indicator A through H. Each button allows you to set the remote control function as well as turn power on/off for each outlet manually.

The control button has two modes of operation. Press the button repeatedly to switch between **Remote Control** mode and **Power On/Off** mode. When you press the control button, the IP Power Manager switches modes as follows:

→ Original State → Remote Control Mode → Power On/Off Mode -

After switching modes, you need to press the control button again within 5 seconds to change the mode status.

Remote control mode

- 1. Press the control button once. The remote control indicator starts flashing red.
- 2. Now press control button again within 5 seconds and hold for more than 5 seconds. The remote control indicator starts flashing red at a faster speed and then inverts its original state.

For instance, if remote control indicator is enabled (gray) before you press the control button, it turns on (red) after step 2, indicating that remote control is disabled.

Power on/off mode

- 1. Press the control button twice. The outlet power indicator starts flashing green.
- 2. Now press control button again within 5 seconds and hold for more than 5 seconds. The outlet power indicator starts flashing green at a faster speed and then inverts its original state.

For instance, if outlet power indicator is off (gray) before you press the control button, it turns on (green) after step 2, indicating that outlet power is turned on.

Chapter 4 Quick Setup

When you are first time configure your IP Power Manager. You may refer to this chapter to know how to initial your IP Power Manager fastest.

- 1. Please insert User's Manual and Utility CD into the CD-ROM drive to initiate the autorun program. Once completed a menu screen will appear.
- 2. Click on "Initial Utility" hyper link to initiate the installation. If the autorun program is not process in your PC, you can click the "Start" button and choose "Run". (Suppose "E" is your CD-ROM drive). When the dialog box appears, enter "E:\Utility\Setup.exe" and press enter key. You will see the dialog box as below.

Device Info.						
IP Address	MAC Address	Version	Account	Password	Card	
	Set IP	Browse	Add	Modify	<u>R</u> emove	Discover
_ Image Informa	ation					
Version No.		te Code		File Size		Upgrade
File Name						Open
			Quit			

3. Please press "Discover" to find out your IP Power Manager.

Device Info.					
– Device List––––					
IP Address	MAC Address	Version	Account	Password	Card
(2) 192.168.0.10	00-30-4f-0c-e0-1c	1.01	admin		IP Power Manag
J					
	Set IP Brows	se <u>A</u> dd	Modify	Remove	e Discover
Income Information					
-Image Information Version No.	Date Code		 File Size		
version No.	Date Coue	ļ	File Sizi	=	Upgrade
File Name					 Open
File Name					
			- 1		
		Quit			

4. Please select your IP Power Manager in the Device List and click "Modify" button to enter the user account and password. In default, user account and password is "admin". Please press "OK".

M	lodify	×
	IP Address :	192.168.0.10
	<u>A</u> ccount :	admin
	<u>P</u> assword :	
	<u>O</u> K	<u>C</u> ancel

5. In default, IP Power Manager is DHCP client enables. If there is no DHCP server in your network. Please click "Set IP" button. Then enter an IP address that in the same segment of your configuration PC. Please press "OK".

Se	etting	×
	IP Address : 192.168.0.10 SubMask : 255.255.255	
	<u>Gateway</u> : 0.0.0.0	.0
	OK Canc	el

6. Please press "Browse" button, then you will see a dialog box asking you the user name and password. Please enter "admin" for first time configuration. If you have change the user name and password, please enter correct user name and password of this dialog box. Please press "OK".

Enter Nets	vork Passwor	d	<u>? ×</u>
? >	Please type yo	ur user name and password.	
S)	Site:	192.168.0.10	
	Realm	IP Power Manager	
	<u>U</u> ser Name		
	<u>P</u> assword		
	\Box Save this p	password in your password list	
		OK Cano	cel

7. Then the IP Power Manager configuration web page will appear. You can check the power outlet status in this web page. For more configurations, please check chapter 6 and refer the details.

PLANET								8-Peri	IP Powe	r Manage
				IP	Power Man	nger Syster	n v1.01.6et	406	16 - z	lann:
Power Management System Network	IP Power Manag	er Status								Ø
Loga		- į	.	1		- C	UNIVT.	BISS STATUS NATING IN 19		PLANET
		Inlet	M				Unt	N	4 0	
	Current	0.1.A	Δ 0.0	8 0.0 A	C 0.0 A	0 A 0.0	E 0.0 A	F 0.0 A	G D.D.A	H 0.0 A
	(Amp) Alarm	None	None	None	None	None	None	None	None	None

Chapter 5 Configure With Console

The IP Power Manager has provided a serial port that enables you to configure and control the system through your PC's RS-232 serial (COM) port. Use the serial cable provided to connect the console port to your PC's COM port as described in "Connecting the console". This section describes how to use a console application to control the IP Power Manager and configure its settings such as its IP address, outlet control parameters, access control table, and trap receivers table.

5.1 Run Hyper Terminal

Follow these steps to start HyperTerminal and communicate with the IP Power Manager:

- 1. To start HyperTerminal, click Star ==> Programs ==> Accessories ==> Communications ==> HyperTerminal from the Windows Start button.
- 2. A New Connection opens. Type a name for the connection in the Name field and select an icon for the connection. Click OK when done.



3. From the Connect To drop-down box, select the COM port that IP Power Manager connected. Click OK when done.

Connect To
🧞 IPM System
Enter details for the phone number that you want to dial:
Country/region: Taiwan (886)
Ar <u>e</u> a code: 02
Phone number:
Connect using: COM1
OK Cancel

4. The Properties window opens. Click" Restore Defaults" to use the default settings. Make sure that the Bits per second field is set to 9600. Click OK when done.

COM	1 Properties			? ×
Po	nt Settings			
	<u>B</u> its per second:	9600		•
	<u>D</u> ata bits:	8		•
	<u>P</u> arity:	None		•
	<u>S</u> top bits:	1		•
	Elow control:	None		•
	<u> </u>		<u>Restore</u>	Defaults
	0	ĸ	Cancel	Apply

5. Press any key. The IP Power Manager Configuration Utility Main menu opens and you are prompted for a password. Type the default password (**admin**) and press Enter to continue. The main menu options are displayed.

IPM System - Hy e Edit yew Cal	Transfer Help				
Enter Pass	word: *****_				
nected 0:00:11	Auto detect 9600 U-N-1	Design Date	NUM Castore	Balance provide	

6. After enter correct password, you will see the main menu of console interface.

🌯 IPM System - HyperTerminal
Eile Edit Yiew Call Iransfer Help
Enter Password: *****
Connected 0:00:53 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo

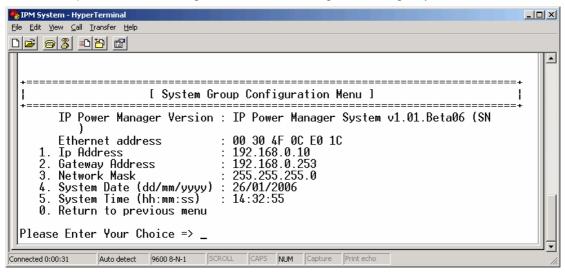
5.2 IP Power Manager Configuration

In this option. You can setup the general settings of this IP Power Manager.

🇞 IPM System - HyperTerminal	
Elle Edit View Call Iransfer Help	
De 93 DB 6	
Image: Interview of the second seco	
1. System Group 2. Control Group 3. Parameter Group 4. Email Group 0. Return to previous menu Please Enter Your Choice => _	
Connected 0:01:39 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo	1

5.2.1 System Group

In this option. You can change the IP Power Manager IP settings, system date and time.



Option	Description
IP Address	The IP address of IP Power Manager is dotted format. Default value is
	"192.168.0.10", and size is 15 characters.
Gateway Address	The IP address of the gateway is dotted format. Default value is "0.0.0.0",
	and size is 15 characters.
Network Mask	The subnet mask of IP Power Manager is dotted format. Default value is
	"255.255.255.0", and size is 15 characters.
System Date	Set date of IP Power Manager, format is dd/mm/yyyy.
System Time	Set time of IP Power Manager, format is hh:mm:ss.

5.2.2 Control Group

Eile Edit View Call Iransfer Help	
[Control Group Configuration Menu]	
<pre>1. Administrator Username : admin 2. Administrator Password : * 3. BOOTP/DHCP Control : Disabled 4. TFTP Upgrade Control : Enabled 5. PING Echo Control : Enabled 6. Input Phase Detection : Disabled 7. Telnet Control 8. HTTP Control 9. SNMP Control 0. Return to previous menu</pre>	
Please Enter Your Choice =>	
Connected 0:03:27 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo	

Option	Description
Administrator	In default, the user name is "admin". You can change the user name to a
User Name	simply memorize name.
Administrator	In default, the password is "admin". Please change the password to IP
Password	Power Manager in the first time configuration. That can prevent
	unauthorized user access to IP Power Manager.
BOOTP/DHCP	This is the parameter enabling or disabling the Boot Protocol (BOOTP) /
Control	Dynamic Host Configuration Protocol (DHCP) process. These protocols
	are used to obtain a dynamic IP address from a BOOTP / DHCP server.
TFTP Upgrade	You can upgrade IP Power Manager via TFTP protocol when this option
Control	enabled.
Ping Echo Control	Enable/Disable the IP Power Manager to respond to Ping requests. For
	protect IP Power Manager when they are connect to Internet. We will
	suggest you enable this option to let your IP Power Manager stop
	response the ping command.
Input Phase	IP Power Manager will detect the input power phase to make sure the
Detection	connected device can receive the correct power input. When input power
	phase is reverse, IP Power Manager will display error code "E16" on
	7-Segment LED. Please try to make the input power phase correct. Or
	you can disable this function temporally with this option.
Telnet Control	This is the parameter enabling or disabling the terminal to the server
	application (Telnet) control process. (e.g. telnet 192.168.1.1). The user
	may configure the Telnet protocol to use a port number other than the

	standard Telnet port (23).
HTTP Control	Enable/Disable the HTTP connection with the IP Power Manager. The
	user may configure HTTP protocol to use a port number other than
	standard HTTP port (80).
SNMP Control	Enable/Disable the SNMP connection with the IP Power Manager. The
	user may configure the SNMP protocol to use a port number other than
	the standard SNMP port (161).

5.3 Outlets Control

In this option, you can select the power outlet and change its settings.

🗞 IPM System - HyperTerminal	_ 🗆 X
<u>Eile Edit Vi</u> ew <u>C</u> all <u>I</u> ransfer <u>H</u> elp	
E Outlets Control Menu]	
<pre>+</pre>	
Connected 0:08:59 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo	

Please select the power outlet you want to configure in above screen. Then the below screen

will appear.

🇞 IPM System - HyperTerminal	
Elle Edit View Call Iransfer Help	
+========	
[Outlet A Control Menu]	
1. Outlet Name 2. Location 3. Power on Delay (Seconds) 4. Power off Delay (Seconds) 5. Output Current Threshold (Amp) 6. Output Current over Threshold Turn Power off : Disable 0. Return to previous menu Please Enter Your Choice =>	
Connected 0:09:47 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo	11.

Option	Description
Outlet Name	Set the name of this outlet.
Location	Set the location of this outlet.

Dever on Delev	Cat nowar on dalay time in accords. The system will turn an after the
Power on Delay	Set power on delay time in seconds. The outlet will turn on after the
(Seconds)	delay time.
Power off Delay	Set power off delay time in seconds. The outlet will turn on after the
(Seconds)	delay time.
Output Current	Set the upper limit of output current in Amp.
Threshold (Amp)	
Output Current Over	If selected, it will turn power off of outlet when this event occurred.
Threshold Turn Power	Default value is not selected.
Off	

5.4 Access Control

It prevents unauthorized network access to the IP Power Manager. There are 2 kinds of type for "Access Type", "Permitted", and "Denied". It is need to set the first item for its "IP Address" to "255.255.255.255" and "Access Type" to "Permitted" as default value in order to let user is able to connect to the IP Power Manager.

- II X 🧠 IPM System - HyperTerminal <u>Eile E</u>dit ⊻iew <u>C</u>all <u>T</u>ransfer <u>H</u>elp 02020 ==============+ IP Address Access _____ [1] 255.255.255.255 Permitted [2] 0.0.0.0 Denied [3] 0.0.0.0 Denied $\begin{bmatrix} 131 & 0.0.0.0 \\ [4] & 0.0.0.0 \\ [5] & 0.0.0.0 \\ [6] & 0.0.0.0 \\ [7] & 0.0.0.0 \end{bmatrix}$ Denied Denied Denied Denied [8] 0.0.0.0 Denied COMMANDS -1. Modify - Modify an entry of table 2. Reset - Reset an entry to default from table 0. Return to previous menu Please Enter Your Choice => Connected 0:10:25 SCROLL CAPS NUM Capture Print echo 9600 8-N-1 Auto detect

Option	Description									
IP Address	The management station's IP address. "0.0.0.0" means entry not									
	configured. (e.g. An entry "192.168.0.255" means the client with the IP									
	ddress within the range from "192.168.0.0" to "192.168.0.255" become									
	the management station with the access type set by Administrator.									
	"255.255.255.255" grant the access right to all IP.									
Access	Available options are: Permitted and Denied.									

5.5 Trap Receiver Table

This page lists the parameters for SNMP trap receivers (For SNMP Network Management).

IP Address	Community String	NMS-Type	NMS-Severity Desc
L] 0.0.0.0	public	None	Informational
2] 0.0.0.0	public	None	Informational
8] 0.0.0.0	public	None	Informational
1 0.0.0.0	public	None	Informational
5] 0.0.0.0	public	None	Informational
5] 0.0.0.0	public	None	Informational
7] 0.0.0.0	public	None	Informational
3] 0.0.0.0	public	None	Informational
2. Reset - F Ø. Return to	Modify an entry of t Reset an entry to def p previous menu pur Choice => _		I

Option	Description
IP Address	The IP Address in dotted format of the NMS station to which the trap
	should be sent.
Community String	The community string of the trap PDU to be sent. The maximum length of
	the string is 19 characters.
NMS-Type	Types of the traps to be received. Set the type of the trap.
NMS Severity	Set the level of the trap to be received.
Description	Information: All traps are received.
	Warning: Trap that need to be noticed and are in dangerous is received.
	Severe: The significant traps such as the outlet voltage over threshold are
	received.

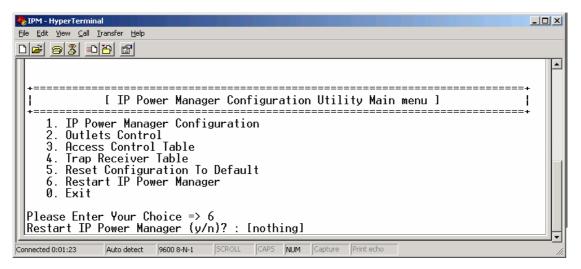
5.6 Reset Configuration To Default

When you would like to reset IP Power Manger to default configuration, please select this option and press "y".

🏀 IPM - HyperTerminal
<u>Eile Edit Vi</u> ew <u>C</u> all <u>I</u> ransfer <u>H</u> elp
<pre> I IP Power Manager Configuration Utility Main menu 1 I IP Power Manager Configuration Outlets Control Access Control Table A. Trap Receiver Table S. Reset Configuration To Default G. Restart IP Power Manager 0. Exit Please Enter Your Choice => 5 Reset configuration to default (y/n)?: [nothing] </pre>
Connected 0:00:46 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo

5.7 Restart IP Power Manager

After configuration, please select this option to make the new function works.



5.8 Exit

Select this option to exit Hyper Terminal.

🎨 IPM - HyperTerminal
Eile Edit Yiew Call Iransfer Help
De 68 08
Image: Interview Image: Interview<
 IP Power Manager Configuration Outlets Control Access Control Table Trap Receiver Table Reset Configuration To Default Restart IP Power Manager Exit
Please Enter Your Choice => 0 Ready
Connected 0:01:54 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo

Chapter 6 Web Configuration

The IP Power Manager provides a graphic user interface that can be viewed from a web browser such as Internet Explorer. This enables you to access and control the IP Power Manager outlets and subsequently, it's output devices remotely from your desktop, laptop, PDA, or even your mobile phone. This section provides instructions about how to use the web interface to configure and control the IP Power Manager remotely.

- 1. Open your web browser.
- 2. Enter the IP address of your IP Power Manager in the address field.
- 3. A User Name and Password dialog box will appear. Please enter your User Name and Password here. Default User Name and Password are both "**admin**". Click OK.

Enter Netv	vork Passwor	d	<u>? x</u>
? >	Please type yo	our user name and password.	
S)	Site:	192.168.0.10	
	Realm	IP Power Manager	
	<u>U</u> ser Name		
	<u>P</u> assword		
	□ <u>S</u> ave this p	password in your password list	
		OK Can	cel

4. Then you will see the HOME screen as below.

PLANET								8-Port	IP Powe	r Manage
Power Management Environment	IP Power Manage	er Status		IÞ	Power Ma	nager Systen	n v1.01.Beta	.06 .333	£ ,	/ Ø
System Network Logs		-			ļ		NA L	STATUS MATTANA THE TOP	2	PLANET
		Inlet				Ou	det			
	Current (Amp) Alarm	0.2 A None	A 0.0 A None	B 0.0 A None	C 0.0 A None	0.0 A None	E 0.0 A None	F 0.0 A None	G 0.0 A None	H 0.0 A None
	EMD Tempe	rature	_	23.8°C	EMD Dev	EMD H	umidity		49,9%	
		(°C)			(%) EMD Deor 2			Disabled		

The left panel provides five options, <u>**Power Management**</u>, <u>**Environment**</u> (when EMD connected), <u>**System**</u>, <u>**Network**</u> and <u>**Logs**</u>.

When you click the IP Power Manager front panel on the Home screen. You will see the device status as below.

PLANET							8-Port	IP Power	Manay
			IP Pe	wer Hanag	er System	v1.01.Beta0	- Anne	9): Z	(iiiii)
Power Management	IP Power Manager Status								
Environment	Indet Status Input Voltage (Volt)			219.3 V					10010
System Network Logs	Input Conage (Voly) Input Frequency (<i>Hz</i>) Input Voltage Threshold Input Voltage Threshold Alarm of Iniet	High (Vol) Low (Vol)		0.1 A 59.8 Hz 240 200 None					
	Outlets Status								
	Name	OUTLETA	OUTLETB	OUTLETC	OUTLETD	OUTLETE	OUTLETF		
	Location	ROOM-1	ROOM 2	ROOM-3	ROOM4	ROOM5	ROOM-6	ROOM-7	ROOM-8
	Remote Cantrol Power Status	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
	Output Carrent (Amp)	A 0.0	A 0.0	A 0.8	A 0.0	8.0 A	A 0.0	A 0.0	A 0.0
	Output Current Threshold (Arres)	10.0 A	10.0 A	10.0 A	10.0 A	10.0 A	10.0 A	10.0 A	10.0 A
	Over Threshold Alarm	None	None	None	None	None	None	None	None
	Digital Output Status Digital Output 1 Digital Output 2			OFF OFF					

6.1 Power Management

6.1.1 Control

This page shows the rear view of IP Power Manager. While mouse moving over the picture of input, each outlets, or digital output, it will link to its associated page. If the security level for each outlet is "Read" or the remote control status is "Disabled", the link of outlet will be disabled, the color of outlet picture will be gray. You can power on/off all the power outlets with the buttons.

3	PLANET									8-Port i	P Power	Manager
						IP P	ower Manag	jer System	v1.01.Beta0	6	: /	
	Power Management	IP Power	Manager C	ontrol								۲
	Control											
	Schedule											
555	Environment		>									
				E.	E.		e).lí	Э. Г).IC	l. Ór	
	System		100	e				26	기년	기년	/ 🖤	to to
	Network											
	Logs											
		Inlet	н	6	F	0s	rtlet D	с	8	A	Digital 2	Output 1
		Remote	Remote	Remote	Remote	Remote	Remote	Remote	Remote	Remote	Remote	Remote
		Control N/A	Control Enabled	Control N/A	Control N/A							
		Power ON	Power ON	Power ON	Power ON	Power ON	Power ON	Power ON	Power ON	Power ON	OFF	OFF
				Powe	r On All Owlet	5			Power Off All	Owlets		
								_				

6.1.1.1 Inlet

This page shows the associated status and even action of inlet.

PLANET		8-Port IP Power Manag
	ĮP.	Power Manager-System v1.01.Beta06
Power Management	Power Management of Inlet	® (
Schedule Environment	Input Voltage (Volt) Input Current (Amp) Input Frequency (Hz) Input Voltage Threshold High (Volt)	219.2 V 0.2 A 59.8 Hz 240 V
System Hetwork	Input Voltage Threshold Low (VoR) Current Event of Inlet Inlet Evens: Action	200 V None
Logs	Event	Turn Off Outlints Digital Output
	Input Voltage Over Threshold High	
	Input Voltage Under Threshold Low	
		Set Value

Option	Description		
Status			
Input Voltage (Volt)	The current input voltage in Volt.		
Input Current (Amp)	The current input currents in Amp.		
Input Frequency (Hz)	The current input frequency in Hz.		
Input Voltage	High threshold of input voltage. When input voltage is higher than this		
Threshold High (Volt)	value, IP Power Manager will take action specified in the "Inlet Events		
	Action" table.		

Input Voltage	Low threshold of input voltage. When input voltage is lower than this	
Threshold Low (Volt)	value, IP Power Manager will take action specified in the "Inlet Events	
	Action" table.	
Current Event of Inlet	Shows the associated event description when there is an event	
	occurred. If there is no event occurred, it shows "None".	
Inlet Events Action		
Input Voltage Over	Turn off selected outlets or digital outputs will occur when the input	
Threshold High	voltage over high set point.	
Input Voltage Under	Turn off selected outlets or digital outputs will occur when the input	
Threshold Low	voltage under low set point.	

6.1.1.2 Outlets

This page shows the outlet status and allows user to configure the settings.

PLANET		8-Port IP P	ower Manager
		IP Power Manager System v1.01,Beta06	Zame
Power Management Control Schedulo	Power Status of Outlet A Status Output Current (Amp) Power Status	U.J.A. ON	00
System Hetwork Logs	Configure Outlet Name Location Power On Delay (Seconds) Power Off Delay (Seconds) Output Current Threshold (Amp) Cutput Current Over Threshold	00TLETA ROOM-1 5 5 1000 Turn Power Off	
	Manual Control	Set Value Power C29*	

Option	Description	
Status		
Output Current (Amp)	The nominal input currents in Amp.	
Power Status	When the power status is "Off", the color is Red. If power status is	
	"On", the color is Green.	
Configure		
Outlet Name	Set the name of this outlet.	
Location	Set the name of the location of this outlet.	
Power On Delay	Set power on delay time in seconds. The outlet will turn on after the	
(Seconds)	delay time.	

button				
Turn On / Turn Off	Turn On/Off the outlet immediately by click the buttons.			
Manual Control				
Off				
Threshold Turn Power	er Default value is not selected.			
Output Current Over	If selected, it will turn power off of outlet when this event occurred.			
Threshold (Amp)				
Output Current	Set the upper limit of output current in Amp.			
(Seconds)	delay time.			
Power Off Delay	Set power off delay time in seconds. The outlet will turn off after the			

6.1.1.3 Digital Outputs

This page shows the digital output status and allows user to configure the settings.

Ç	PLANET			8-Port IP Po	ower Manager
			IP Power Manager Syste	em v1.01.Beta06	/
E	ower Management Control Schedule nvironment system letwork ogs	Digital Output Status Status Digital Output 1 Digital Output 2 Event Action Digital Output 1 Event Action Digital Output 2 Event Action	Tum Off 💌 Tum Off 💌 Set Value Set Value		\$ \$
		Digital Output 1 Manual Control Tum CN Digital Output 2 Manual Control Tum CN		Tem OPP	

Option	Description		
Status			
Digital Output 1	The status of digital output 1 while system start up.		
Digital Output 2	The status of digital output 2 while system start up.		
Event Action			
Digital Output 1 Event	If selected, the digital output 1 will invert its current status when event		
Action	occurred.		
Digital Output 2 Event	If selected, the digital output 2 will invert its current status when event		
Action	occurred.		
Digital Outputs Manual Control			

Turn On / Turn Off	Turn digital outputs on or off manually.
button	

6.1.2 Schedule

This page allows user to add or remove the IP Power Manager's schedule list dynamically. The maximum schedule is 32.

PLANET						8-1	ort IP Power Manag
Power Management Control Schedule	IP Power Manas			Power Mar	tager Sy	ndem v1.01.0eta06	ann: Zinn
Environment	Index	Туре	Day / Date Weekday / (yyyy/mm/dd)	Time (hframin)	Action	Outlets	Modify
System	1		2006/01/26	21:00	ON		
Network	2		Monday	00:00	ON		Birl Delve
Lugs				Add Nev			

When you would like to add a new schedule, please press "Add New". Then you will see the screen below. When "Edit" button click, you will also see this screen for edit the existing schedule. If you want to delete the schedule, please press "Delete" button.

🚰 Schedule Editor - Microsoft Internet E	kplorer
Schedule Type	Weekly Schedule 💌
Schedule Day	Sunday 🗨
Schedule Date (yyyy/mm/dd)	None
Schedule Time (hh:mm)	00:00
Outlets Action	Off 💌
Selected Outlets	A B C C D
	E F G H
Set	Value

Option	Description	
Schedule Type	Choose the schedule type to be "Weekly Schedule" or "Special	
	Schedule".	
Schedule Day	Set the week day of the schedule, if the "Schedule Type" is "Weekly	
	Schedule. Set the specific date of the schedule, if the "Schedule	

	Type" is "Special Schedule".	
Schedule Date	Set the date of this schedule.	
(yyyy/mm/dd)		
Schedule Time	The time in 24-hour format means when the outlet should turn off or	
(hh:mm)	turn on its output power.	
Outlets Action	Set the outlet action to be on or off. IP Power Manager will take action	
	at schedule time.	
Selected Outlets	Choose the outlets which you want to turn on or off at schedule time.	

6.2 Environment

When the console port connected with the EMD, the web interface will shows this option for environment monitoring and setting. If the IP Power Manager does not connect with the EMD, the web interface will not show this setup option.

6.2.1 Status

This page shows the temperature, humidity, and alarms information of the EMD (Environmental Monitoring Device). If there is alarm occurred, the alarm text color should change to Red. Otherwise, it is Black.

Power Management Environment Status Configuration Alarm System Network Logs	PLANET	8-Port IP Power Manager		
Environment Device 1 Temperature and Humidity Staties EMD Temperature (°C) 25.1°C Configuration 47.2% Alarm Alarm EMD Door.1 Disabled EMD Door 2 Disabled			IP Power Manager System v1.01.Beta06	Zanio
Status EMD Temperature (°C) 25.1% Configuration EMD Humidity (%) 47.2% Atarm EMD Door 1 Disabled System EMD Door 2 Disabled	Power Management	Status of Environment Sensor		0
Status EMD Temperature (°C) 25.1°C CoorDiguration EMD Humidity (%) 47.2% Atarin Atarin Atarin System EMD Door 1 Disabled System EMD Door 2 Disabled	Environment	Desire 1 Temperature and Humidity		
Alarm Alarm EMD Door 1 Disabled EMD Door 2 Disabled System Network	Status	EMD Temperature (°C)	25.1°C	10
EMD Door 1 Disabled EMD Door 2 Disabled System Network	Configuration	EMD Humidity (%)	47.2%	
EMD Door 2 Disabled System Ketwork	Atarm		- 11	
System Network				
	System	Line Cools.		
Logs	Network			
	Loos			

6.2.2 Configuration

This page allows user to configure all necessary parameters of EMD (Environmental Monitoring Device).

III Network Alarm 2 PMD Door-2 Deskind FMD Stature Ante
Configuration Sensor Sensor Name Set Point (Low) Set Point (High) Calibration Offset Alarm Temperature (*C) PMD Temperature 5 60 0.0 • Humidity (%) PMD Temperature 5 60 0.0 • Humidity (%) PMD Door-1 Disabind • • Image: System Alarm 2 PMD Door-2 Disabind • Image: Network FMD Stature Auto •
System Alarm 2 PMD Door-2 Disaland EMD Scature Anto
EMD temperature unit Obics

Option	Description		
Sensor Name	Configure the name of a sensor (or device) with up to 15 characters.		
Set Point	The threshold of a sensor (Temperature or Humidity) will trigg		
	alarm, whenever the measurement is over (high) or under (low) the		
	set point. If the checkbox is not filled, the threshold is disabled and		
	the alarm will not be triggered. The valid range for the Temperature		
	threshold setting is 5 to 65, and 5 to 95 for Humidity.		
Calibration Offset	If the measurement value of a sensor doesn't, for whatever reason,		
	comply with the actual environment, the 'Calibration Offset' setting		
	can be configured to adjust the final value of the sensor. For example,		
	if a sensor reports 43% humidity for a 45% humidity environment, the		
	user can configure the humidity offset as 2% so the sensor can then		
	adjust its final value to 45%.		
Alarm Type	If an alarm sensor (water leak, security, etc) is connected to the IP		
	Power Manager, the user can configure the alarm as 'Disabled',		
	'Normal Open', or 'Normal Close'. A 'Disabled' setting will mean the		
	alarm is inactive. 'Normal Open' and 'Normal Close' are used for a		
	two-wire detector that will emulate an open/close state. When the		
	wires are closed to 'loop-back' (the signal for the sensor), the sensor		
	will detect the state as closed. The sensor will NOT activate the alarm		
	for 'Normal Close' in this case, although the alarm will be activated if		
	configured as 'Normal Open'.		
EMD Status	The EMD can be configured as 'Disabled' or 'Auto'. The setup should		
	be configured as 'Disabled' if an EMD is not attached to the port. The		
	EMD type will be auto detected by the IP Power Manager if		
	configured as 'Auto' and if the EMD is plugged into the port.		

EMD Temperature Unit Choose the displayed temperature unit to "Celsius" or "Fahrenheit".

6.2.3 Alarm

This page allows user to modify the parameters associated with the environment events.

Environment Environment Device 1 Events Action States Event Twin Off Outlets BigItal Output Configuration Alams Temperature Over High Set Point A B C D E F G H 1 C System Hemidity Over High Set Point A B C D E F G H 1 C H 1 C Humidity Over High Set Point A B C D E F G H 1 C H 1 C Humidity Over High Set Point A B C D E F G H 1 C H 1 C Humidity Under Low Set Point A B C D E F G H 1 C H 1 C Humidity Under Low Set Point A B C D E F G H 1 C H 1 C	PLANET	8-Port IP Powe	r Manag
Events Events Turn Off Outlots Digital Output States Event Turn Off Outlots Digital Output Alarms Temperature Over High Set Point A □ B □ c □ C □ c □ c □ c □ c □ c □ c □ c □ c			
Configuration Event Twin Off Outliets Blight Output Adams Temperature Over High Set Point A B C D E F F G H 1 F Temperature Over High Set Point A B C D E F F G H 1 F Temperature Over High Set Point A B C D E F F G H 1 F Temperature Over High Set Point A B C D E F F G H 1 F System Humidity Over High Set Point A B C D E F F G H 1 F Humidity Under Low Set Point A B C D E F F G H 1 F F Humidity Under Low Set Point A B C D E F F G H 1 F F	Environment		¢
Mams Temperature Over High Set Point A □ B □ C □ D □ E □ F □ G □ H □ 1 □ 1 Temperature Under Low Set Point □ A □ B □ C □ D □ E □ F □ G □ H □ 1 □ 1 □ 1 System Humidity Over High Set Point □ A □ B □ C □ D □ E □ F □ G □ H □ 1 □ 1 Humidity Under Low Set Point □ A □ B □ C □ D □ E □ F □ G □ H □ 1 □ 1 Humidity Under Low Set Point □ A □ B □ C □ D □ E □ F □ G □ H □ 1 □ 1 Humidity Under Low Set Point □ A □ B □ C □ D □ E □ F □ G □ H □ 1 □ 1 Humidity Under Low Set Point □ A □ B □ C □ D □ E □ F □ G □ H □ 1 □ 1		Event Turn Off Outlets Dig	ital Output
Temperature Under Low Set Point A B C D F G N T T System Humidity Over High Set Point A B C D E F G N T T System Humidity Under Low Set Paint A B C D E F G N T T Herwark Alarm-1 Active A B C D E F G N T T			
System Humidity Under Low Set Paiss F A F B F C F D F E F F G F B F F F F		Temperature Under Low Set Point	1 🗆 2
			1 12
	System	Humidity Under Low Set Peint 🛛 🗛 🗖 B 🗍 C 🗂 D 🗍 E 🗍 F 🗍 G 🗖 B	1 [2
	Hetwork	Alarm-1 Active CA CB CCD CF CF CG CB	1 🗆 2
	Low		4 17 2
24 Value	Logi		1

6.3 System

6.3.1 Configuration

This page contains three groups, "Configure System", "Administrator Name and Password", and "Control" group. Configuration of this page is allowed when the security level is "Administrator".

PLANET		8-Port IP Power Manager
		IP Power Manager System v1.01.Beta05
Power Management Environment Configuration Multi-User Date & Time Trap Receivers WakeOnLAN Targets	Configuration of IP Power Manager Configure System System Name System Contact System Location SNMP Read Community SNMP Write Community History Log Interval (Sec)	P Power Manages Econote Power System Technical Support Tetem ****** 60 Set Value
Email Notification External Links	Administrator User Name and Password	shras.
Network	Administrator User Name Administrator Password Confirm Administrator Password	80000
	Control Reset to Default	Set Value Restart System

Option	Description
Configure System	
System Name	This field allows the user to set the value in System name that is
	defined in MIB-II or to view the current setting. Size is 31 characters.
System Contact	This field allows the user to set the value in System manager (System
	Contact) that is defined in MIB-II or to view the current setting. Size is
	31 characters.
System Location	This field allows the user to set the value in System installation place
	(System Location) that is defined in MIB-II or to view the current
	setting. Size is 31 characters.
SNMP Read	This field allows the user to set the read level community of SNMP or
Community	to view the current setting. Size is 31 characters.
SNMP Write	This field allows the user to set the write level community of SNMP or
Community	to view the current setting. Size is 31 characters.
History Log Interval	This field allows the user to set the polling time (in seconds) of the
	Input, Output and EMD (if connected) information. The readings will
	be stored in the history log.
Administrator User Na	me and Password
Administrator User	You may enter the administrator user name, and the default value is
Name	"admin". Size is 31 characters.
Administrator	You may set the administrator password, and the default value is
Password	"admin". Size is 31 characters.
Confirm Administrator	Confirm the password again, and the value should be the same as
Password	"Administrator Password". Size is 31 characters.
Control	
Reset to Default	All of the configurations will reset to the default value.
Restart System	You may restart the system by click the button.

6.3.2 Multi-User

This page allows user to add or remove the IP Power Manager's multi-user list dynamically. The maximum schedule is 10.

PLANET		8-Port IP Power Manager
		IP Power Manager System v1.01.Beta06
[]] Power Management	Multi-User Configuration	of IP Power Manager 🛛 😨
::: Environment	Multi-User List	
		Outlet Privilege Madita
Configuration	Index User N	ame Password A B C D E F G H Hoony
Multi-User	1 Piar	ier ikead kead kead kead kead kead kead kead
Date & Time Trap Receivers		Auld New
WakeOnLAN Targets		
Email Notification		
External Links		
EEE Logs		
🦉 N	4ulti-User Editor - Mic	rosoft Internet Explorer
Us	sername	
Pa	assword	
0	utlet A Privilege	Read
	-	Read
	utlet B Privilege	
0	utlet C Privilege	Read
0	utlet D Privilege	Read 💌
0	utlet E Privilege	Read
	utlet F Privilege	Read
	-	
0	utlet G Privilege	Read
0	utlet H Privilege	Read
		Set Value

Option	Description		
Index	This column provides a reference number for the existence user.		
User Name	The user name which is used to log in the IP Power Manager system.		
Password	The password which is used to log in the IP Power Manager system.		
Outlet Privilege	The security level for each outlet. There are two kinds of security		
	level, one is "Read/Write", and the other is "Read".		
Modify	Clicking on the "Add New" or "Edit" button will pop up "Multi-User		
	Editor" window which could configure the setting of schedule. Clicking		
	on the "Delete" button will remove an existence user.		

6.3.3 Date & Time

This page provides the appropriate options below to enable the IP Power Manager date/time to be changed in different methods. It will show the current date and time of the IP Power Manager. This can be changed to synchronize with a computer, and enquiry from a time server (NTP) or manually. For the system time, it should be counted automatically.

PLANET		8-Port IP F	'ower Manager
		IP Power Manager System v1.01.8eta06	/
Image: Power Management D Image: Environment Image: Environment	ate and Time of IP Power Manager Current Date and Time IP Power Manager System Date (dd/m	12501,0006	٥
System Configuration Multi-User Date & Time Trap Receivers WakeOnLAN Targets Email Notification External Links It Logs	IP Power Manager System Date (dd/m IP Power Manager System Time (hb:n Configure Date and Time C Set manually Date (dd/mm/yyyy) Time (hh:mm:ss) Synchronize with computer time Computer Date(mm/dd/yyyy) Computer Time(hh:mm:ss) Synchronize with NTP server IP Address Time Zone E Enable Daylight Saving Time		

Option	Description			
Current Date and Time				
IP Power Manager	Current date of the IP Power Manager, format is dd/mm/yyyy.			
System Date				
IP Power Manager	Current time of the IP Power Manager, format is hh:mm:ss.			
System Time				
Configure Date and Tir	ne			
Set Manually	User can set the date and time with the following format: dd/mm/yyyy			
	and hh:mm:ss.			
Synchronize with	Select this option and click 'Set Value' to synchronize with the time			
computer time	from the computer clock.			
Synchronize with NTP	You must configure the NTP server IP and select the correct timezone			
server	to activate this option. After being configured to synchronize with NTP,			
	the IP Power Manager will synchronize its time with the server			
	periodically. If Daylight Saving Time enabled, the time will be one hour			
	earlier than NTP server time.			

6.3.4 Trap Receivers

This page lists the parameters for SNMP trap receivers (For SNMP Network Management).

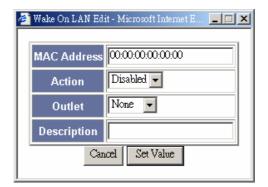
tion
tion

Option	Description
Index	The index number of the entry in the table.
NMS IP Address	The IP Address in dotted format of the NMS station to which the trap
	should be sent.
Community String	The community string of the trap PDU to be sent. The maximum
	length of the string is 19 characters.
Тгар Туре	Types of the traps to be received. Set the type of the trap.
	[None]: Traps are not be received.
	[IP Power Manager Trap]: Traps are received base on IP Power
	Manager MIB.
Severity	Set the level of the trap to be received.
	[Information]: All traps are received.
	[Warning]: Trap that need to be noticed and are in dangerous is
	received.
	[Severe]: The significant traps such as the outlet voltage over
	threshold are received.
Description	Customer description string.

6.3.6 WOL

IP Power Manager has support WOL function to wake your PCs up. This function can help your servers work again after the power interruption.

PLANET	8-Port IP Power Manager		
	IP Power Manager System v1.01.8eta06		
Image: Power Management Image: Environment Image: Environment Configuration Multi-User Date & Time Trap Receivers WakeOnLAN Targets Email Notification External Links Image: Network	Repeating Times Interval Timer(Sec) I/O Set Value Set Value Index MAC Address Action Outlet Define Description Modify 1 00:30:4F:11:22:33 Enable outlet A PC 1 Bin Delete Add New Waltz on LAN Test Value Value Value Value		
III Logs			



Option	Description	
Repeating Times	The times of WOL packet IP Power Manager will send.	
Interval Timer (Sec)	The interval between send next WOL packet.	
Index	The index number of the entry in the table.	
MAC Address	MAC address of the PC you would like to wake up.	
Action	You can select Enable or Disable this option.	
Outlet Define	Please select one of the outlet or keep the default setting.	
Description	Customer description string.	
Modify	You can press Edit to modify the MAC table or press Delete to delete	
	the MAC address table.	
Wake On LAN Test	You may press this button to make sure the data of MAC tables are	
	correct.	

6.3.7 Email Notification

This page is allowed when the security level is "Administrator". There are two groups in this page, one is "General Configuration" group and the other is "Email Receivers Tables".

PLANET				8-Port IP P	ower Manager
		19	Power Manager System v1.01.0	1005	-/ssin;
Power Management	Email Notification of I	P Power Manager			0
Environment	General Configu	ration			
	Mail Server				
System	User Account				
Configuration	User Passwor	rd	•		
Multi Liser	Sender's Ema	ail Address			
Date & Time	DNS Address		0.0.0		
Trap Receivers	Mail Daily St	atus Report At (hh:mm)	00.00		
WakeOnLAN Targets	Email Receivers	Table	1.1		
Email Notlincation	cinal receivers				
External Links	Index	Mail Account	Description	Mail Type	
Hetwork	1				 Informational •
Logs	2			None	 Informational
i inde	3			Nont	+ Informational +
	4			Nose	• Informational •
	5		1	Noné	· Informational ·
	6		-i	Nost	· Informational ·
	77			Nost	· Informational ·
	8		1	Nont	• Informational •
	<u>r 1</u>		1		
			Set Value Send Text		

Option	Description						
General Configuration							
Mail Server	As Administrator, you may enter the IP Address or Hostname of a						
	SMTP mail server that will be used to send email messages from the						
	IP Power Manager. If entering a Hostname, you are also required to						
	enter the DNS Address. If entering an IP Address, the DNS Address						
	field will automatically be populated with the IP Address you entered.						
User Account	As Administrator, you may enter the User Account of the mail server						
	that will be used by the IP Power Manager to login mail server to						
	forward mails.						
User Password	As Administrator, you may enter the User Password of User Account.						
Sender's Email	This field specify the content of the 'From' field of the Email. If this						
Address	field left blank, the sender's address will be:						
	account@ip_address.						
DNS Address	As Administrator, you are required to enter the IP address of your						
	network DNS server if you entered a Hostname for the Mail Server.						
	Otherwise, this field will contain 0.0.0.0.						
Mail Daily Status	If you intend to have the IP Power Manager send a Daily Status report						
Report At (hh:mm)	to select email address (Mail Accounts), you need to enter the time of						

	day in 24-hour format at which time you want the email sent.
Email Receivers T	ables
Mail Account	As Administrator, you may enter the email address of the individual
	you wish to have the IP Power Manager send mail to.
Description	As Administrator, you may enter a description for reference purposes
	for each of the Mail Account you configure.
Mail Type	As Administrator, you are allowed to select what type of email is sent
	to a specific Mail Account. The choices are None, Events, Daily
	Status, or Event/Status.
	The default of None allows you to disable the sending of email to a
	specific recipient.
	Selecting Events specifies that the recipient should only receive short
	event-related messages.
	Selecting Daily Status specifies that the recipient should only receive
	the Daily Status message that contains two file attachments
	containing information logged by the IP Power Manager (in .csv
	format suitable for viewing in Microsoft Excel). One attachment
	contains the History Log contents (Logged IP Power Manager data)
	and the other contains the Event Log contents (Logged Event text).
	Selecting Events/Status specifies that the recipient should receive
	an email message containing the event-related notification and the
	two file attachments (as described above), each time an event
	notification is sent.
Event Level	As Administrator, you are allowed to select the severity level of
	notification you wish to send to each Mail Account configured to be
	sent Mail Type: Events or Events/Status. This filter is based on the
	SNMP-based traps (events) and allows selection of Informational,
	Warning or Severe. Refer to the MIB documentation included with the
	adapter for more information.

6.3.8 External Links

This page describes the setting of External Links. Up to four links can be setup by this page, each link can config to an external web page that user can easily connect to related web pages. Such as another IP Power Manager or Technical Support homepage.

Links Table Index Screen Text Link Address Status I Dealed 2 Dealed 4 Forgets	Environment Links Table System Configuration Multi User Date & Time Trap Receivers					1.11111
Index Screen Text Link Address Status 1 Disabled Disabled Disabled 2 Disabled Disabled Disabled 3 Disabled Disabled Disabled 4 Disabled Disabled Disabled	System Index Screen Text Link Address Screen Text Configuration 1 Dec Multi liser 2 Dec Date & Time 3 Dec Trap Receivers 4 Dec	Power Management	External Links of IP Power Mana	iger		
1 Dashid • 2 Dashid • 3 Dashid • 4 Dashid •	Configuration 1 December 2 Multi liner 2 December 3 Date & Time 3 December 3 Trap Receivers 4 December 3	Environment	Links Table			
2 Dushini - 3 Dushini - 4 Dushini -	Configuration 1 Description Multilleer 2 Description Date & Time 3 Description Trap Receivers 4 Description	Swstem	Index	Screen Text	Link Address	
2 Deabled • 3 Deabled • 4 Deabled • Corgets	Multillier 2 Des Date & Time 3 Des Trap Receivers 4 Des		1			and a second sec
A Deshini	Date & Time 3 Decorrers Decorrers Decorrers		2	1 N		Dushini +
Targets	Trap Receivers 4		3			Disabled •
Targets			4	- F		Dushini •
				Set Value	E	
	Logs					
		WakeOnLAH Targets Email Notification External Links		Set Value	I	

Option	Description
Screen Text	This is the description of link name which will display on the menu
	tree for user's reference.
Link Address	This field defines the real name of web page to be connected, in URL
	format.
Status	There are two kinds of status, "Enabled", and "Disabled". If the setting
	is "Enabled", the screen text will be shown on the main menu frame.

6.4 Network

6.4.1 Configuration

Configuration of this page is allowed when the security level is "Administrator". If user reset configurations to default, the configuration of "IP Address", "Gateway Address" and "Subnet Mask" will also be kept.

PLANET		8-Port IP Power Manager
		IP Power Manager System v1.01.8eta06
EEE Power Management	Network Configuration of IP Power Manager	Ø
Environment	General TCP/IP Configuration	
	IP Address	192.168.0.10
System	Gateway Address	192.168.0.253
Network	Subnet Mask	255.255.255.0
Configuration	DNS Address	0.0.0.0
Control		
Access Control		
:::: Logs		Set Value

Option	Description				
IP Address	The IP address of IP Power Manager is dotted format. Default value				
	is "192.168.1.1", and size is 15 characters.				
Gateway Address	The IP address of the gateway is dotted format. Default value is				
	"0.0.0.0", and size is 15 characters.				
Subnet Mask	The subnet mask of IP Power Manager is dotted format. Default value				
	is "255.255.255.0", and size is 15 characters.				
DNS Address	As Administrator, you are required to enter the IP address of your				
	network DNS server if you entered a Hostname for the Mail Server.				
	Otherwise, this field will contain 0.0.0.0.				

6.4.2 Control

Configuration of this page is allowed when the security level is "Administrator". It allows user to change some network ports, and enabled or disabled the function of protocols.

PLANET	8-Port IP Power Manage
Power Management Environment	IP Power Manager System v1.01.8eta06
System Image: Network Configuration Control Access Control Image: Network	Protocol Port Status BootP/DHCP Dusbled Dusbled PING Echo Enbled Image: Comparison of the state of the

Option	Description
BootP / DHCP Status	This is the parameter enabling or disabling the Boot Protocol (BootP)
	/ Dynamic Host Configuration Protocol (DHCP) process. These
	protocols are used to obtain a dynamic IP address from a BootP /
	DHCP server.
PING Echo	Enable/Disable the IP Power Manager to respond to Ping requests.
Network Upgrade	This is the parameter enabling or disabling the Trivial File Transfer
	Protocol (TFTP) upgrade control. You can use the provided upgrade
	utility on Windows via TFTP to upgrade the IP Power Manager

	firmware.							
Telnet Connection	This is the parameter enabling or disabling the terminal to the server							
	application (Telnet) control process. (e.g. telnet 192.168.1.1). The							
	user may configure the Telnet protocol to use a port number other							
	than the standard Telnet port (23).							
HTTP Support	Enable/Disable the HTTP connection with the IP Power Manager.							
	The user may configure HTTP protocol to use a port number other							
	than standard HTTP port (80).							
SNMP Support	Enable/Disable the SNMP connection with the IP Power Manager.							
	The user may configure the SNMP protocol to use a port number other							
	than the standard SNMP port (161).							

6.4.3 Access Control

Configuration of this page is allowed when the security level is "Administrator". It prevents unauthorized network access to the IP Power Manager. There are 2 kinds of type for "Access Type", "Permitted", and "Denied". It is need to set the first item for its "IP Address" to "255.255.255.255" and "Access Type" to "Permitted" as default value in order to let user is able to connect to the IP Power Manager.

PLANET					8-Port IP Power Manager
Power Management	SNMP/HTTP Access Com Access Control Table			ver Manager System vt	.01.Beta06
System System Configuration Control Access Control Logs		Index 1 2 3 4 5 6 7 8	255.255.255.255 0.0.00 0.0.00 0.0.00 0.0.00 0.0.00 0.0.00 0.0.00 0.0.00	IP Address	Access Type Permitted Perm

Option	Description
Index	The index number of the entry in the table.
IP Address	The management station's IP address. "0.0.0.0" means entry not
	configured. (e.g. An entry "192.168.7.255" means the client with the
	IP address within the range from "192.168.7.0" to "192.168.7.255"

	become	the	management	station	with	the	access	type	set	by
	Administ	rator.	"255.255.255.	255" gra	int the	acc	ess right	to all	IP.	
Access Type	Available	e opti	ons are: Permi	tted and	Denie	ed.				

6.5 Logs

This page gives a snap-shot of all the fundamental IP Power Manager parameters. The Administrator can change consolidation interval by modifying the variable "History Log Interval" in "Configuration of IP Power Manager" page. The existing values are overwritten when the maximum number of entries (rows) has been reached. You can clear the log data in "Clear & Save" menu.

6.5.1 History

You will see the history log list in this screen. You may select one of them to check the log content. If an EMD is connected, it will also log the following information.

PLANET	8-Port IP Power Manager
	IP Power Manager System v1.01.Beta06
III Power Management	History Log of IP Power Manager 🕖
Environment	Logs
System	From 26/01/2006 19:00:00 From 26/01/2006 18:32:00 To 26/01/2006 18:59:00
III Network	From 26/01/2006 18:30:00 To 26/01/2006 18:31:00
E Logs	 From 26/01/2006 18:00:00 To 26/01/2006 18:29:00 From 26/01/2006 17:30:00 To 26/01/2006 17:59:00
History Event	 From 26/01/2006 17:00:00 To 26/01/2006 17:29:00 From 26/01/2006 16:30:00 To 26/01/2006 16:59:00
Clear & Save	 From 26/01/2006 16:00:00 To 26/01/2006 16:29:00
	 From 26/01/2006 15:30:00 To 26/01/2006 15:59:00 From 26/01/2006 15:00:00 To 26/01/2006 15:29:00
	 From 26/01/2006 14:30:00 To 26/01/2006 14:59:00 From 26/01/2006 14:00:00 To 26/01/2006 14:29:00
	 From 26/01/2006 13:30:00 To 26/01/2006 13:59:00 From 26/01/2006 13:00:00 To 26/01/2006 13:29:00
	 From 26/01/2006 12:30:00 To 26/01/2006 12:59:00
	 From 26/01/2006 12:00:00 To 26/01/2006 12:29:00 From 26/01/2006 11:30:00 To 26/01/2006 11:59:00
	 From 26/01/2006 11:00:00 To 26/01/2006 11:29:00

							8-Port I	P Power Manager
						P Power Manager Sy	stem v1.01.Beta06	/
Power Management	History Log	if IP Power	Manage	đ.				• • •
333 Environment							Outlet Current	
	Log Date (dd/mm/yyyy)	Log Time	Valiana	Input		Total Output Current (Amp)		EMD Device 1 Tempera (*C)
EEE System	(www.inite.yyyy)	(imimimiaa)	(Volt)	(Amp)	(Hz)	((nmba	A B C D E F G H	1.0
👯 Network	06/02/2006		221.6	0.1	60.0	0.2	0.00.10.10.10.10.10.10.1	24.1
E Logs	06/02/2006			0.1	60.0	0.2	0.10.10.10.10.10.10.10.0	24.1
History	06/02/2006		221.6	0.1	60.0	0.2	0.10.10.10.10.10.10.10.1	24.0
Event	06/02/2006		221.3	0.1	59.8	0.2	0.10.10.10.10.10.10.10.1	24.0
	06/02/2006		221.5	0.1	59.8	0.2	0.10.10.10.10.10.10.10.10.1	24.0
Clear & Save	06/02/2006		221.4	0.1	59.8	0.2	0.10.10.10.10.10.10.10.10.1	24.0
	06/02/2006		221.1	0.1	59.8		0.10.10.10.10.10.10.10.10.1	24.0
	06/02/2006		223.5	0.1	59.8 59.9	0.2	0.10.10.10.10.00.10.10.1 0.10.10.10.10.10.10.10.10.10.10.10.10.10	24.0
						0.2		
	06/02/2006		221.2	0.1	60.0 60.0	0.2	0.10.10.10.10.10.10.10.10.1	24.0
	06/02/2006		223.9				0.10.10.10.00.00.10.10.1	23.9
	06/02/2006		221.5	0.1	60.0	0.2	0.10.10.10.10.10.10.10.10.1	
	06/02/2006		221.0	0.1	60.0 59.8	0.2	0.10.10.10.10.10.10.10.10.1	
	06/02/2006	19545500	221.2	0.1	59.8	0.2	0.10.10.10.10.10.10.10.10.1	02.0
	06/02/2006	19:44:00	221.2	0.1	50.8	0.2	0.10.10.10.10.10.10.10.10.1	23.2
	_							
Option	De	Description						
1		script	IOII					
Date (dd/mm/yyyy)		-		now t	he dat	e on which t	he recording was	s made.
_	Thi	s colun	nn sh				he recording was format when the	
Date (dd/mm/yyyy)	Thi: Thi	s colun	nn sh				0	
Date (dd/mm/yyyy)	Thi: Thi: rec	s colun s give: orded.	nn sh s the	e tim	ie in	a 24-hour f	0	e values were
Date (dd/mm/yyyy) Time (hh:mm:ss)	This This rec This	s colun s gives orded. s show	nn sh s the	e tim e inpu	ie in it volta	a 24-hour f age in Volts a	format when the	e values were ording.
Date (dd/mm/yyyy) Time (hh:mm:ss) Input Voltage	This This rec This This	s colun s give: orded. s show s show	nn sh s the s the s the	e tim inpu inpu	ie in it volta it curre	a 24-hour f age in Volts a ent in Amps	format when the	e values were ording. cording.
Date (dd/mm/yyyy) Time (hh:mm:ss) Input Voltage Input Current Input Frequency	This This rec This This This	s colun s gives orded. s show s show s show	nn sh s the s the s the s the	e tim inpu inpu inpu	ie in it volta it curre it volta	a 24-hour f age in Volts a ent in Amps age in Hz at f	format when the at the time of reco at the time of reco	e values were ording. ording. ding.
Date (dd/mm/yyyy) Time (hh:mm:ss) Input Voltage Input Current Input Frequency Total Output Curren	This This rec This This This nt This	s colun s gives orded. s show s show s show s show	nn sh s the s the s the s the s the	e tim inpu inpu inpu tota	ie in it volta it curre it volta I outpi	a 24-hour f age in Volts a ent in Amps age in Hz at f ut current in A	format when the at the time of reco at the time of record the time of record Amps at the time	e values were ording. ording. ding. of recording.
Date (dd/mm/yyyy) Time (hh:mm:ss) Input Voltage Input Current Input Frequency	This reco This This This nt This This	s colun s gives orded. s show s show s show s show s show	nn sh s the s the s the s the s the	e tim inpu inpu inpu tota	ie in it volta it curre it volta I outpi	a 24-hour f age in Volts a ent in Amps age in Hz at f ut current in A	format when the at the time of reco at the time of record	e values were ording. ording. ding. of recording.
Date (dd/mm/yyyy) Time (hh:mm:ss) Input Voltage Input Current Input Frequency Total Output Current Output Current	This rec This This This This nt This rec	s colun s gives orded. s show s show s show s show s show ording.	nn sh s the s the s the s the s the rs the	e tim inpu inpu inpu tota e tota	ie in it volta it curre it volta i volta l outpu out cu	a 24-hour f age in Volts a ent in Amps age in Hz at f ut current in A rrent of the a	format when the at the time of reco at the time of record the time of record Amps at the time 8 outlets in Amps	e values were ording. cording. ding. e of recording. s at the time of
Date (dd/mm/yyyy) Time (hh:mm:ss) Input Voltage Input Current Input Frequency Total Output Curren	This rec This This This This nt This rec This	s colun s gives orded. s show s show s show s show ording. s show	nn sh s the s the s the s the s the s the	e tim inpu inpu inpu tota e tota e out	ie in it volta it curre it volta l outpu put cu	a 24-hour f age in Volts a ent in Amps age in Hz at f ut current in A rrent of the a ure in °C at th	format when the at the time of reco at the time of record the time of record Amps at the time	e values were ording. cording. ding. e of recording. s at the time of

6.5.2 Event

You will see the event log list in this screen. You may select one of them to check the log content.

		ower Manager
	IP Power Manager System v1.01.Beta06	/
### Power Management ### Environment ### System ### System	From 26:01/2006 18:31:28 From 26:01/2006 18:31:28 From 26:01/2006 18:25:08 To 26:01/2006 18:25:23 From 26:01/2006 15:42:54 To 26:01/2006 18:25:23 From 24:01/2006 15:42:54 To 26:01/2006 18:25:93 From 24:01/2006 15:42:54 To 26:01/2006 18:25:93 From 24:01/2006 13:42:54 To 26:01/2006 18:25:93 From 24:01/2006 13:42:94 To 24:01/2006 13:42:54 From 24:01/2006 13:42:34 To 24:01/2006 13:42:54 From 24:01/2006 13:42:44 To 24:01/2006 13:42:54 From 05:01:2006 09:42:25 To 05:01:06 From 06:01:2006 09:42:25 To 06:01/2006 09:42:30 From 06:01:2006 09:32:25 To 06:01/2006 09:42:08 From 05:01:2006 09:32:25 To 05:01/2006 09:42:08 From 05:01:2006 09:32:25 To 05:01/2006 09:42:08 From 01:01:12006 09:32:25 To 05:01:00 From 01:01:12006 09:32:25 To 05:01:00 From 01:01:12006 09:32:25 To 05:01:00 From 01:01:12006 09:32:25 To 05:01:00	

PLANET			8-Port IP Power Manager
Power Management	Event Log of IP Power Manag		ver Manager System v1.01.Beta06
Environment	Date (dd/mm/yyyy)	Time (hh:mm:ss)	Event Description
	26/01/2006	18:25:08	OUTLETE power has been turned on
III System	26/01/2006	18:25:13	OUTLETF power has been turned on
11 Network	26/01/2006	18:25:18	OUTLETG power has been turned on
	26/01/2006	18:25:23	OUTLETH power has been turned on
🔢 Logs	26/01/2006	18:25:23	All outlets have been turned on
History			
Event			
Clear & Save			

Option	Description		
Date (dd/mm/yyyy)	This column show the date on which the recording was made.		
Time (hh:mm:ss)	This gives the time in a 24-hour format when the values were recorded.		
Event Description			

6.5.3 Clear and Save Log Data

This screen allows you to clear or save the log file.

PLANET	8-Port IP Power Manager
	IP Power Manager System v1.01.Beta06
Power Management Environment	Clear and Save Log Data 💮
System	IP Power Manager History Log IP Power Manager Events Log CRox Save Log Data
History Event Clear & Save	History Log of IP Power Manager Event Log of IP Power Manager

Option	Description
Clear Log Data	Please select which log you would like to delete and click "Clear"
	button.
Save Log Data	You can click the diskette icon to save History or Event log into a file.

Chapter 7 Utility

IP Power Manager has provided a utility for customer to set the IP address and upgrade. You can find this utility in "Utility" folder of bundled CD.

Device Info.							
Device List							
IP Address	MAC Address	Version	Account	Password	Card		
192.168.0.10	00-30-4f-0c-e0-1c	1.01	admin		IP Power Manag		
Set IP Browse Add Modify Remove Discover							
-Image Information					-		
Version No.	Date Code		File Size	₽	<u>U</u> pgrade		
File Name Open							
Out t							
		Quit					

Buttons	Description
Device List	This will show you all the IP Power manager in your network.
Set IP	Assign an IP address to IP Power Manager.
Browse	Open the configuration web page of selected IP Power Manager.
Add	If the knowing IP Power Manager is not appear in the list, you can add this
	device to the list manually.
Modify	You may press this button to enter the default login user name and password
	of your IP Power Manager. Before some operating of this utility, you will need
	to enter the default login user name and password firstly.
Remove	Remove IP Power Manager from the list.
Discover	When your IP Power Manger is not in the list, you can press this button to
	search.
Upgrade	In default, this button will be gray. After press "Open" to locate the upgrade
	firmware. Then you can press this button to upgrade your IP Power Manager

	with the located firmware.
Open	Press this button to locate the firmware.
Quit	Close utility.

Appendix A Error Code

Error Code	Description
E01	Network link down
E02	Parameters checksum error
E03	Input voltage over threshold high (Volt)
E04	Input voltage over threshold low (Volt)
E05	Outlet A current over threshold (Amp)
E06	Outlet B current over threshold (Amp)
E07	Outlet C current over threshold (Amp)
E08	Outlet D current over threshold (Amp)
E09	Outlet E current over threshold (Amp)
E10	Outlet F current over threshold (Amp)
E11	Outlet G current over threshold (Amp)
E12	Outlet H current over threshold (Amp)
E13	Input source abnormal (for 110V model)
E14	Input source abnormal (for 220/240V model)
E15	Input current sensor value abnormal
E16	Input source phase incorrect (see note below)

Appendix B Specification

Model	IPM-8001-US	IPM-8002-EU	IPM-8002-UK			
LAN Port	10/100Mbps, RJ-45					
Console port	RJ-45 connector x 1					
COM port	1; For UPS connection					
Digital Output	2 pair					
AC Input	110~125V, 15A, 50~60Hz	220V, 15A, 50~60Hz	240V, 13A, 50~60Hz			
AC Output	110~125V, 15A, 50~60Hz	220V, 15A, 50~60Hz	240V, 13A, 50~60Hz			
Load	15A for each outlet	10A for each outlet or total 15A	10A for each outlet or total 13A			
Inlet Connector	1 x IEC 320 C20		•			
Outlet Connector	8 x NEMA 5-15R 8 x IEC 320 C13					
Management	Web Browser, SNMP software, Windows base utility, Telnet, Hyper					
ΤοοΙ	Terminal (via console)					
Dimension	436 x 270 x 44 mm (L x W x H)					
Weight	3.8Kg					

Model	IPM-EMD
Input Relay	Two digital inputs
Connection	RJ-45 connector
Monitoring Temperate	0 ~ 80 degree C ±1 degree C
Monitoring Humidity	10 ~ 90% ± 3%

Appendix C Glossary

Authentication

Authentication refers to the verification of a transmitted message's integrity.

DHCP

DHCP (Dynamic Host Configuration Protocol) software automatically assigns IP addresses to client stations logging onto a TCP/IP network, which eliminates the need to manually assign permanent IP addresses.

DNS

DNS stands for Domain Name System. DNS converts machine names to the IP addresses that all machines on the net have. It translates from name to address and from address to name.

Domain Name

The domain name typically refers to an Internet site address.

Firmware

Firmware refers to memory chips that retain their content without electrical power (for example, BIOS ROM). The router firmware stores settings made in the interface.

Gateway

Gateways are computers that convert protocols enabling different networks, applications, and operating systems to exchange information.

Host Name

The name given to a computer or client station that acts as a source for information on the network.

HTTP

HTTP (HyperText Transport Protocol) is the communications protocol used to connect to servers on the World Wide Web. HTTP establishes a connection with a Web server and transmits HTML pages to client browser (for example Windows IE). HTTP addresses all begin with the prefix 'http://' prefix (for example, *http://www.yahoo.com*).

ICMP

ICMP (Internet Control Message Protocol) is a TCP/IP protocol used to send error and control messages over the LAN (for example, it is used by the router to notify a message sender that the destination node is not available).

IP

IP (Internet Protocol) is the protocol in the TCP/IP communications protocol suite that contains a network address and allows messages to be routed to a different network or subnet. However, IP does not ensure delivery of a complete message—TCP provides the function of ensuring delivery.

IP Address

The IP (Internet Protocol) address refers to the address of a computer attached to a TCP/IP

network. Every client and server station must have a unique IP address. Clients are assigned either a permanent address or have one dynamically assigned to them via DHCP. IP addresses are written as four sets of numbers separated by periods (for example, 211.23.181.189).

LAN

LANs (Local Area Networks) are networks that serve users within specific geographical areas, such as in a company building. LANs are comprised of servers, workstations, a network operating system, and communications links such as the router.

MAC Address

A MAC address is a unique serial number burned into hardware adapters, giving the adapter a unique identification.

(Network) Administrator

The network administrator is the person who manages the LAN within an organization. The administrator's job includes ensuring network security, keeping software, hardware, and firmware up-to-date, and keeping track of network activity.

NTP

NTP (Network Time Protocol) is used to synchronize the real-time clock in a computer. Internet primary and secondary servers synchronize to Coordinated Universal Time (UTC).

Packet

A packet is a portion of data that is transmitted in network communications. Packets are also sometimes called frames and datagrams. Packets contain not only data, but also the destination IP address.

Ping

Ping (Packet Internet Groper) is a utility used to find out if a particular IP address is present online, and is usually used by networks for debugging.

Port

Ports are the communications pathways in and out of computers and network devices (routers and switches). Most PCs have serial and parallel ports, which are external sockets for connecting devices such as printers, modems, and mice. All network adapters use ports to connect to the LAN. Ports are typically numbered.

Protocol

A protocol is a rule that governs the communication of data.

Server

Servers are typically powerful and fast machines that store programs and data. The programs and data are shared by client machines (workstations) on the network.

SMTP

SMTP (Simple Mail Transfer Protocol) is the standard Internet e-mail protocol. SMTP is a TCP/IP protocol defining message format and includes a message transfer agent that stores

and forwards mail.

SNMP

SNMP (Simple Network Management Protocol) is a widely used network monitoring and control protocol. SNMP hardware or software components transmit network device activity data to the workstation used to oversee the network.

Subnet Mask

Subnet Masks are used by IP protocol to direct messages into a specified network segment (i.e., subnet). A subnet mask is stored in the client machine, server or router and is compared with an incoming IP address to determine whether to accept or reject the packet.

ТСР

(Transmission Control Protocol) is the transport protocol in TCP/IP that ensures messages over the network are transmitted accurately and completely.

TCP/IP

TCP/IP (Transmission Control Protocol/Internet Protocol) is the main Internet communications protocol. The TCP part ensures that data is completely sent and received at the other end. Another part of the TCP/IP protocol set is UDP, which is used to send data when accuracy and guaranteed packet delivery are not as important (for example, in realtime video and audio transmission).

The IP component of TCP/IP provides data routability, meaning that data packets contain the destination station and network addresses, enabling TCP/IP messages to be sent to multiple networks within the LAN or in the WAN.

Telnet

Telnet is a terminal emulation protocol commonly used on the Internet and TCP- or IP-based networks.

Telnet is used for connecting to remote devices and running programs. Telnet is an integral component of the TCP/IP communications protocol.

UDP

(User Datagram Protocol) is a protocol within TCP/IP that is used to transport information when accurate delivery isn't necessary (for example, real-time video and audio where packets can be dumped as there is no time for retransmitting the data).

WAN

WAN (Wide Area Network) is a communications network that covers a wide geographic area such as a country (contrasted with a LAN, which covers a small area such as a company building).