8-Port IP Power Manager

IPM-8001

IPM-8002

User's Manual

Copyright

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.
3. 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

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.

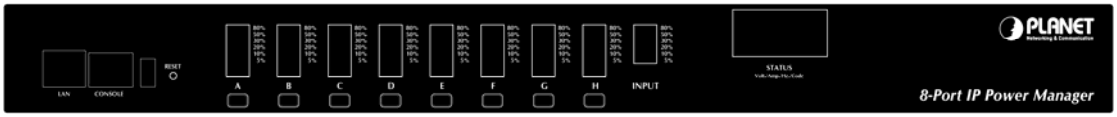
1.3 Features

- 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



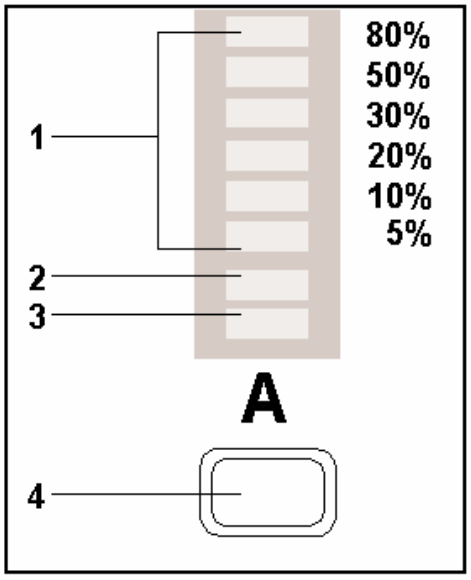
IPM-8001 Rear Panel

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.

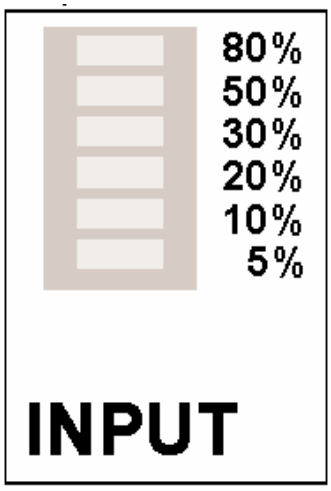


LED	Function	Description
1	Current level indicator	Displays the amount of current being drawn by the connected output device through the power outlet.
2	Outlet power indicator	Displays the out- let power status. Off: Power off Green: Power on
3	Remote control indicator	Displays the remote control status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

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

1.5.2 System Load and Status Indication

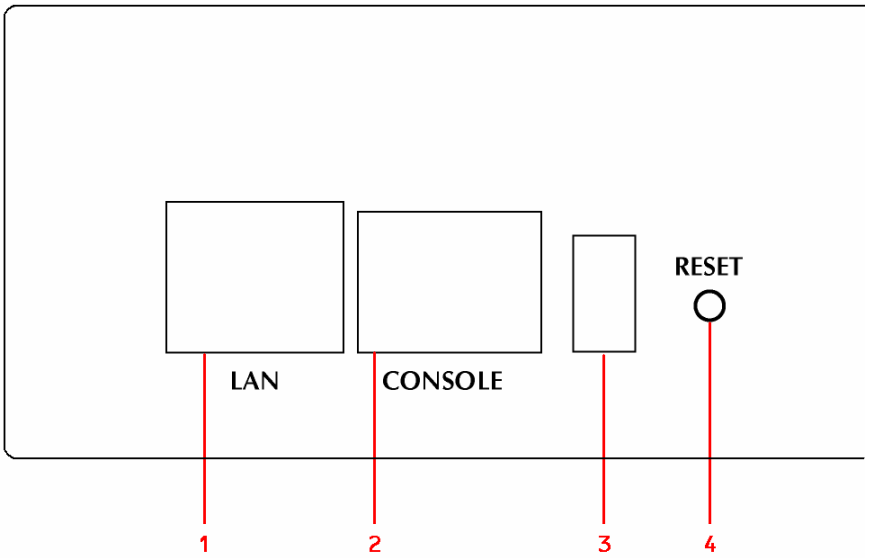
For IPM-8000, the INPUT LEDs and STATUS digital LED indicators shows the real time status of the system.



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

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) port	Enables you to connect IP Power Manager to a LAN or WAN.
Console	Console port	Enables you to configure the IP Power Manager using the serial port. Or you can connect an optional EMD to this port.
Dip-Switch	Operation mode DIP switch	Sets the mode of operation for the IP Power Manager. S1 off and S2 off: Normal operation (default mode). Please don't change the position of the dip switches, it may 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 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.

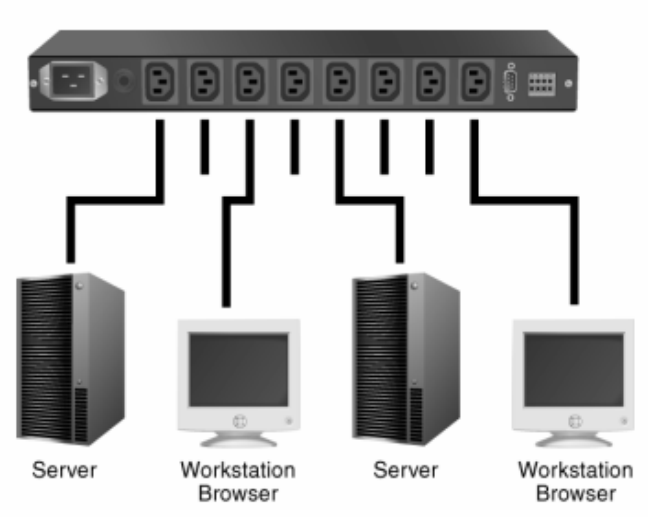
2.1 Connecting Input Power

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:

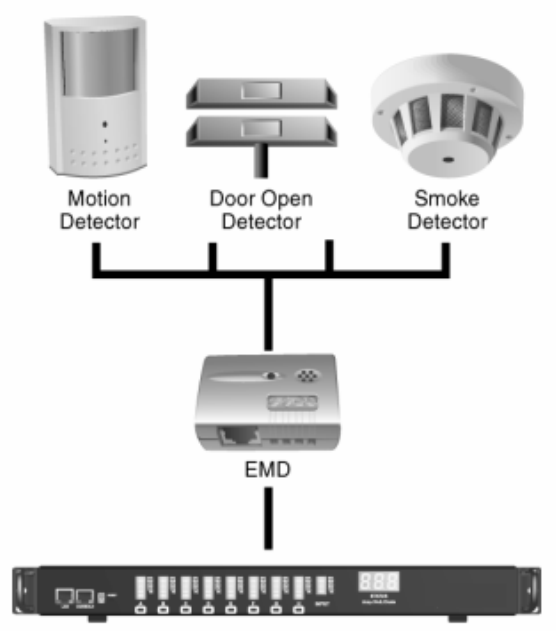


2.3 Connecting Digital Outputs

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:



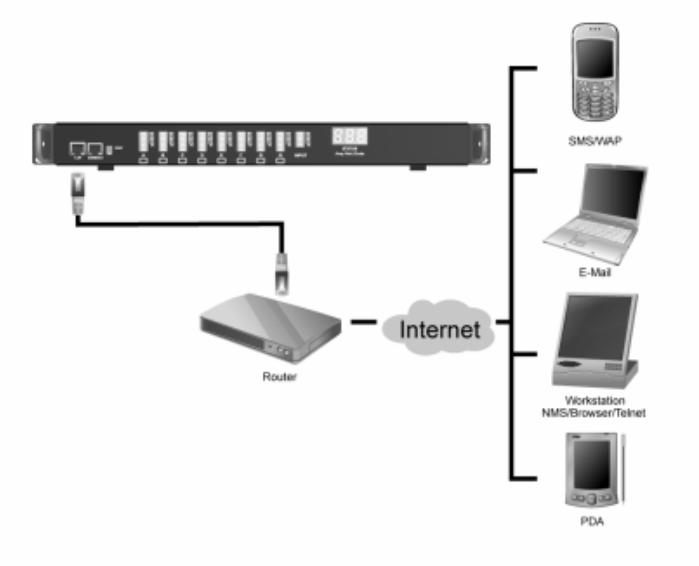
2.5 Connecting The Console

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:

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

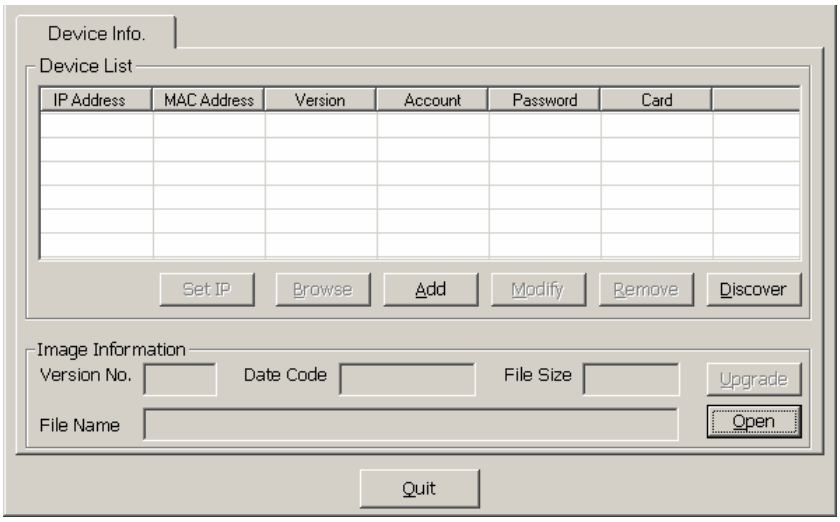
1. Press the control button twice. The outlet power indicator starts flashing green.
2. Now press control button again within 5 seconds and hold for more than 5 seconds. The outlet power indicator starts flashing green at a faster speed and then inverts its original state.

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.

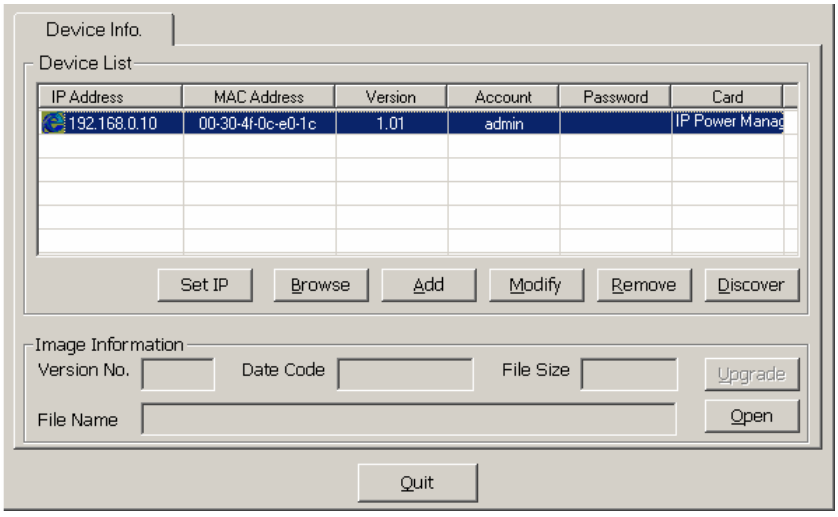
Chapter 4 Quick Setup

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.

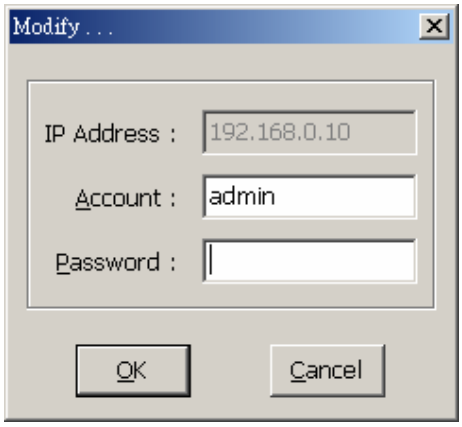
1. Please insert User's Manual and Utility CD into the CD-ROM drive to initiate the autorun program. Once completed a menu screen will appear.
2. Click on "Initial Utility" hyper link to initiate the installation. If the autorun program is not process in your PC, you can click the "Start" button and 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.



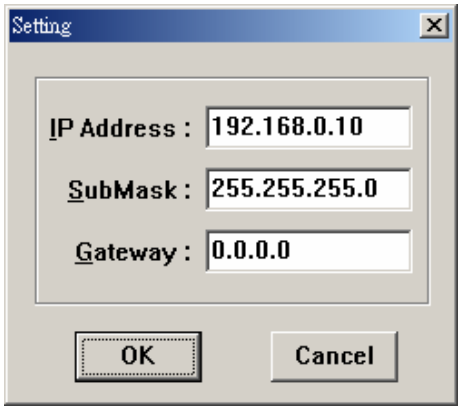
3. Please press "Discover" to find out your IP Power Manager.



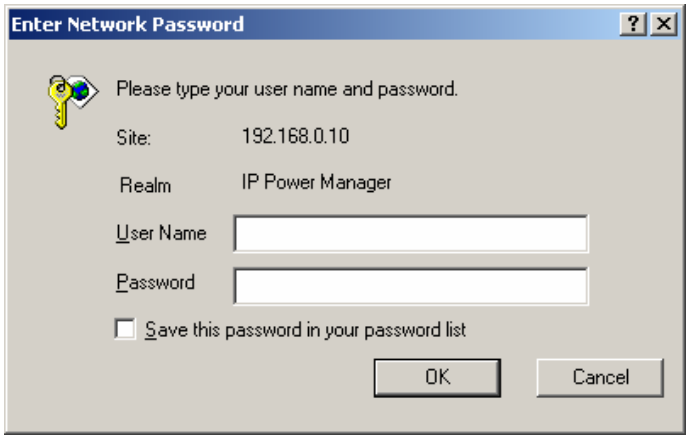
4. Please select your IP Power Manager in the Device List and click "Modify" button to enter the user account and password. In default, user account and password is "**admin**". Please press "OK".



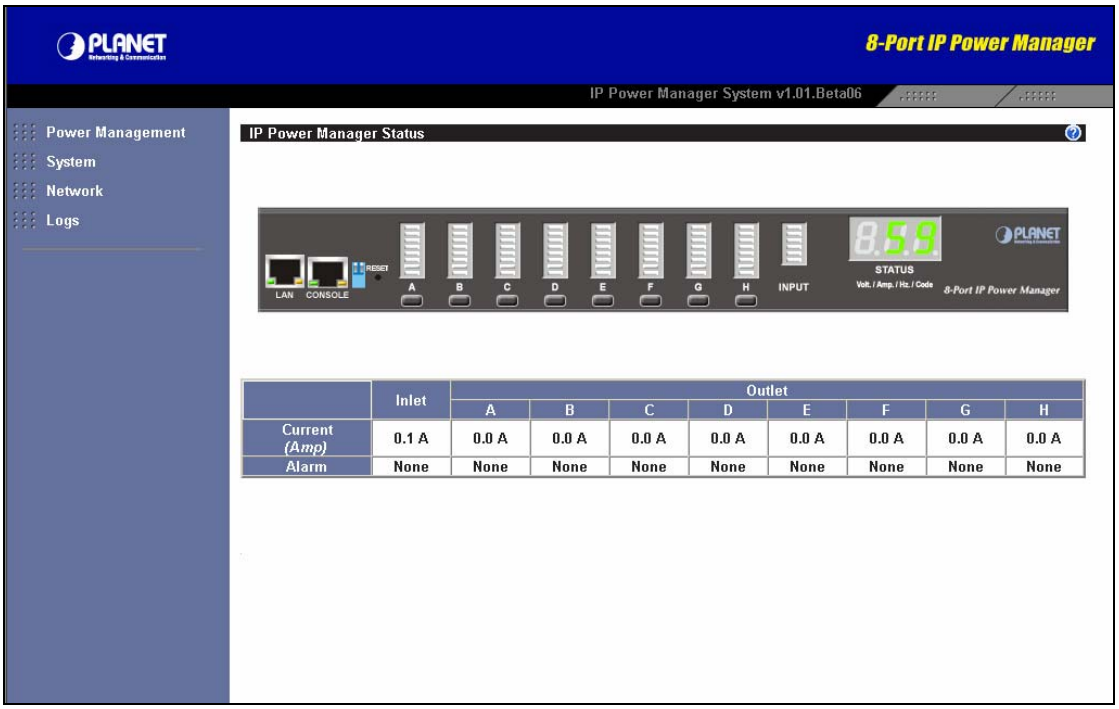
5. In default, IP Power Manager is DHCP client enables. If there is no DHCP server in your network. Please click “Set IP” button. Then enter an IP address that in the same segment of your configuration PC. Please press “OK”.



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”.



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.



	Inlet	Outlet							
		A	B	C	D	E	F	G	H
Current (Amp)	0.1 A	0.0 A	0.0 A	0.0 A	0.0 A	0.0 A	0.0 A	0.0 A	0.0 A
Alarm	None	None	None	None	None	None	None	None	None

Chapter 5 Configure With Console

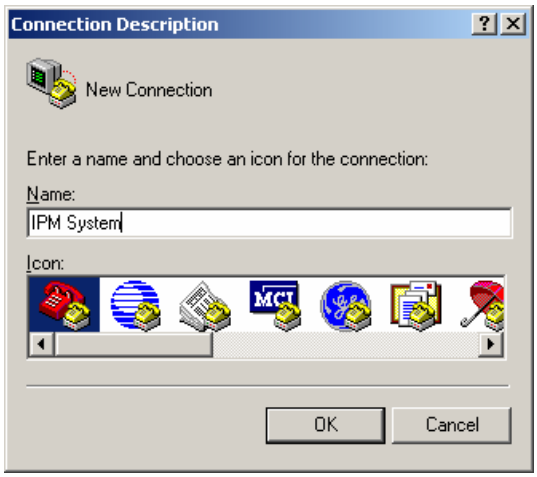
The IP Power Manager has provided a serial port that enables you to configure and control the system through your PC's RS-232 serial (COM) port. Use the serial cable provided to connect the console port to your PC's COM port as described in "Connecting the console". This section describes how to use 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:

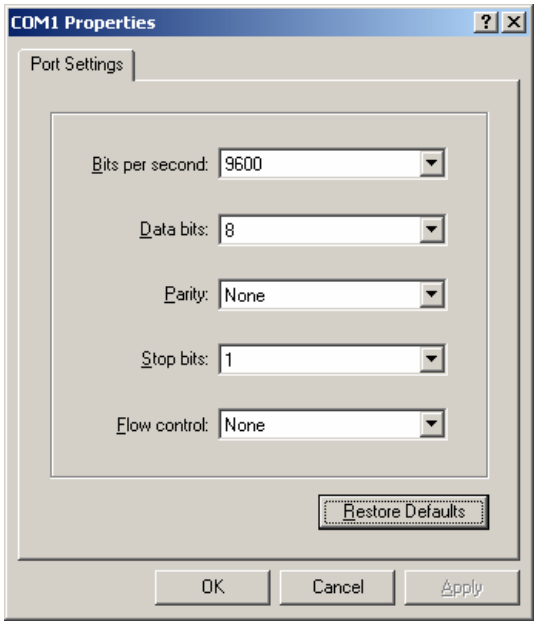
1. To start HyperTerminal, click Star ==> Programs ==> Accessories ==> Communications ==> HyperTerminal from the Windows Start button.

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.

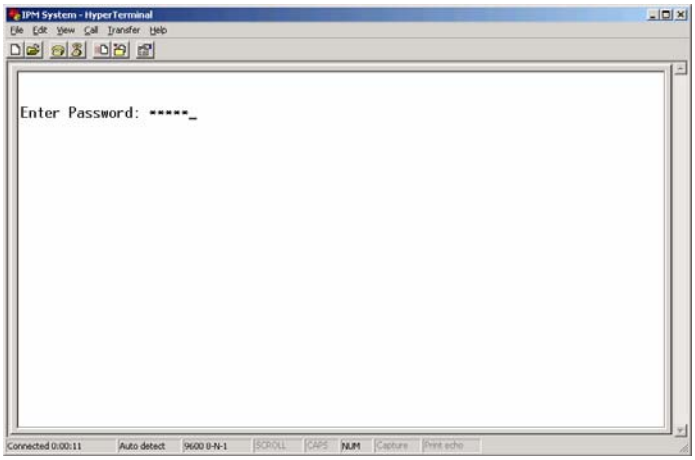


3. From the Connect To drop-down box, select the COM port that IP Power Manager connected. Click OK when done.

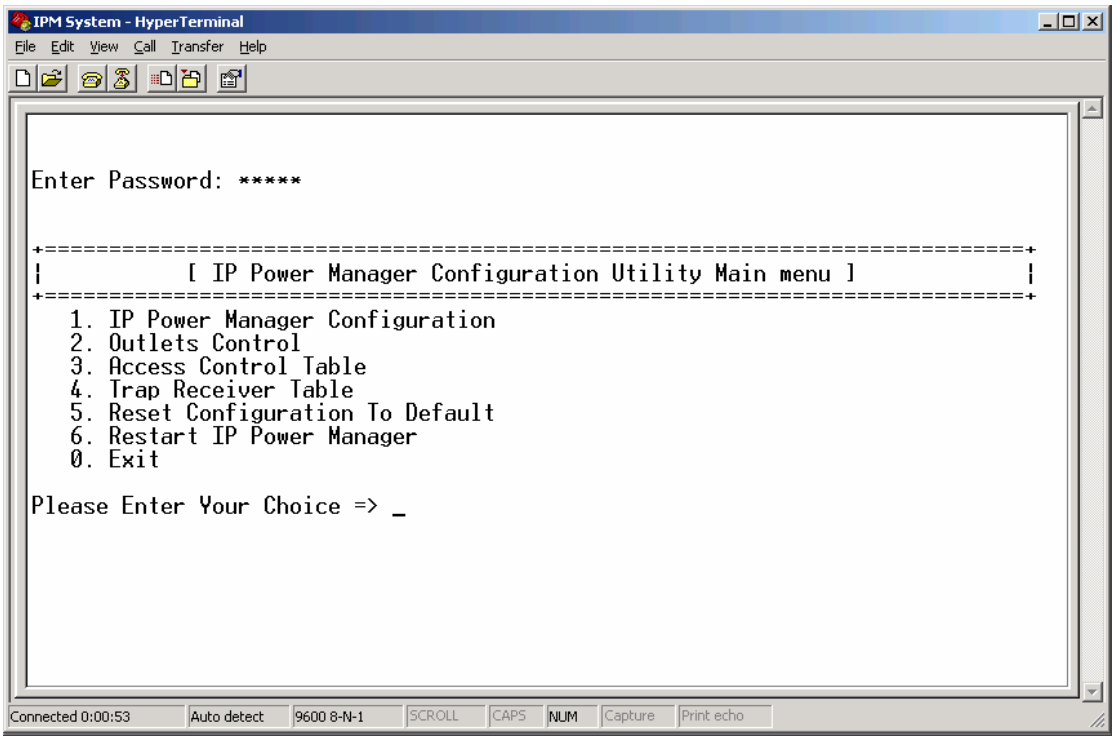
4. The Properties window opens. Click" Restore Defaults" to use the default settings. Make sure that the Bits per second field is set to 9600. Click OK when done.



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.

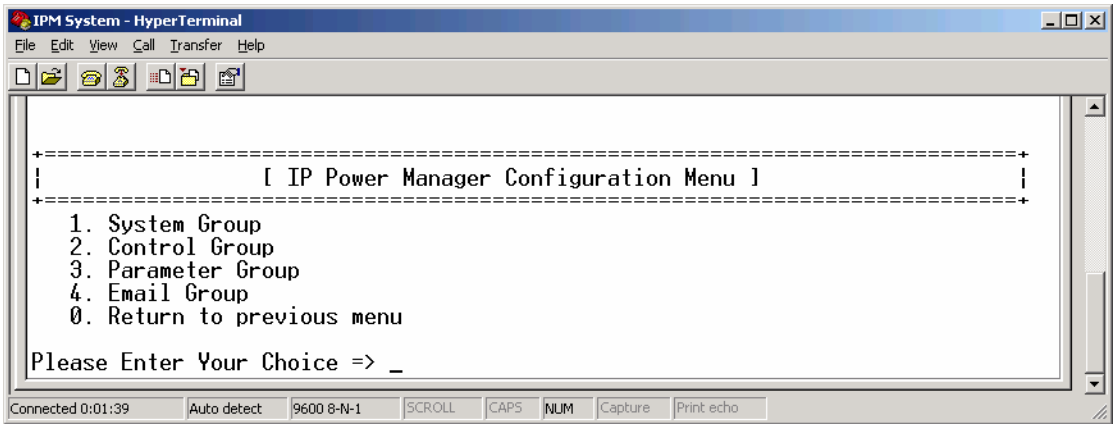


6. After enter correct password, you will see the main menu of console interface.



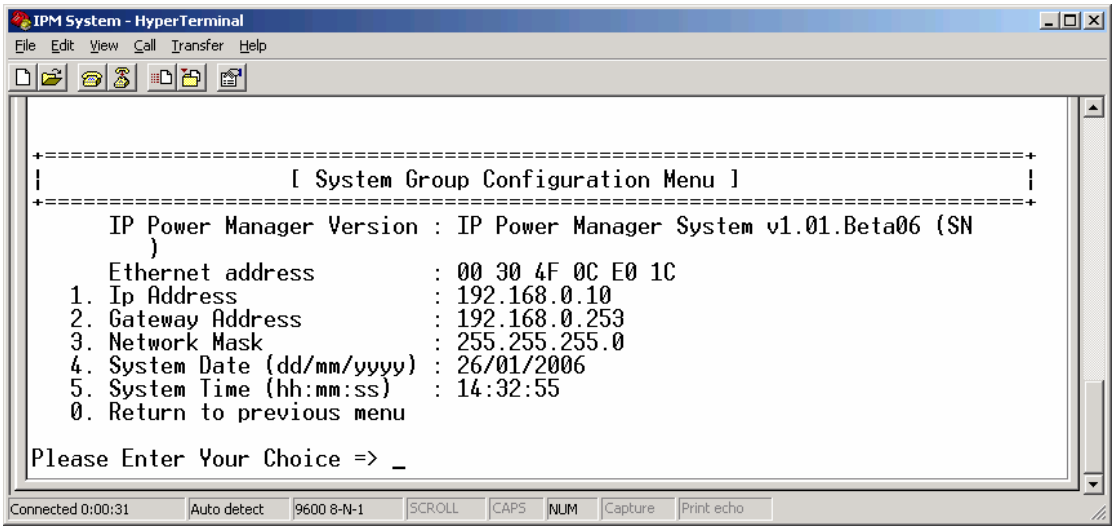
5.2 IP Power Manager Configuration

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



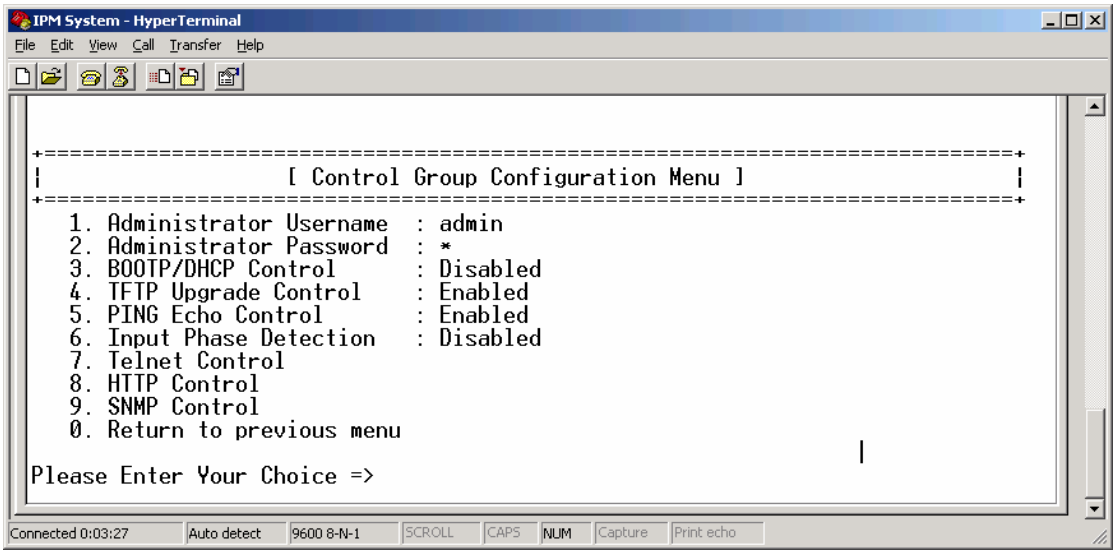
5.2.1 System Group

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

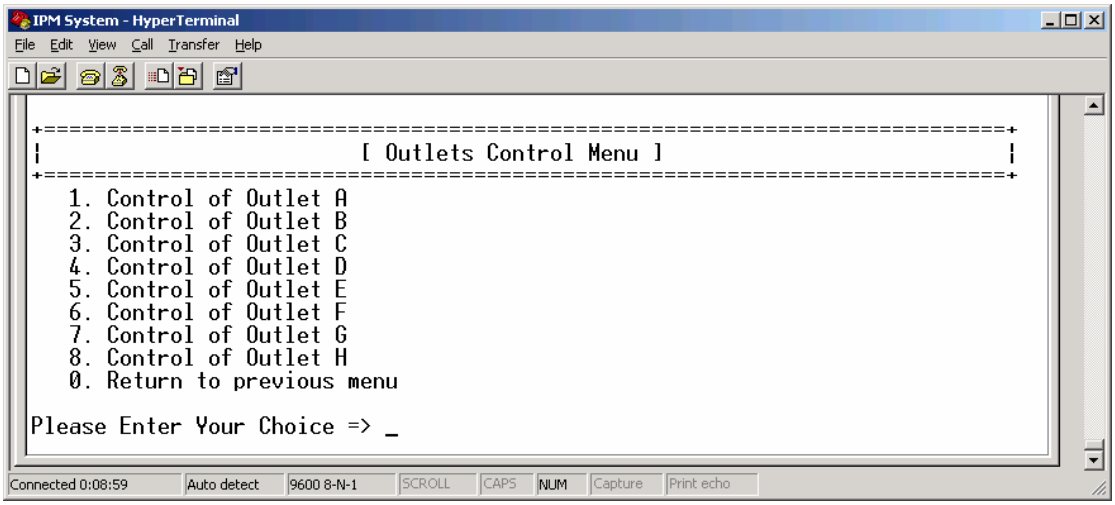


Option	Description
Administrator User Name	In default, the user name is “admin”. You can change the user name to a simply memorize name.
Administrator Password	In default, the password is “admin”. Please change the password to IP Power Manager in the first time configuration. That can prevent unauthorized user access to IP Power Manager.
BOOTP/DHCP Control	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.
TFTP Upgrade Control	You can upgrade IP Power Manager via TFTP protocol when this option 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 Detection	IP Power Manager will detect the input power phase to make sure the 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

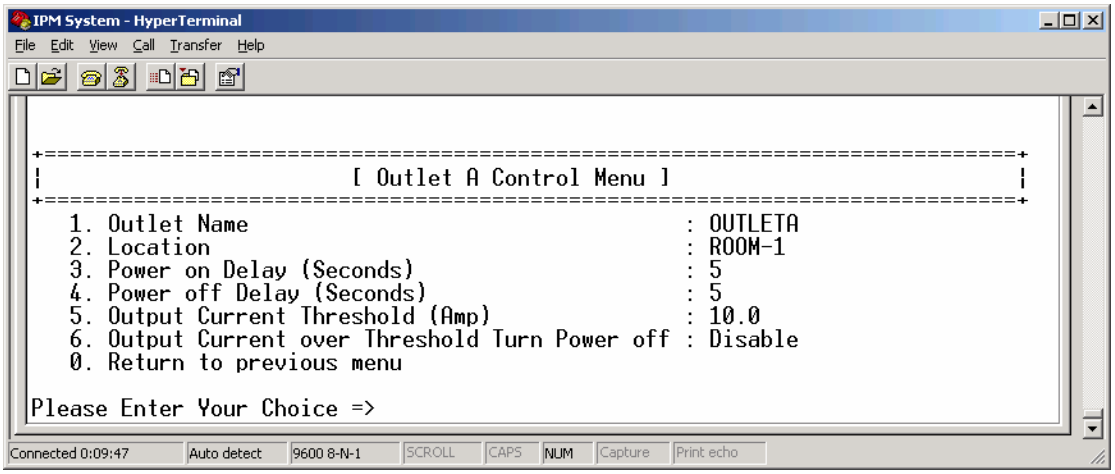
	standard Telnet port (23).
HTTP Control	Enable/Disable the HTTP connection with the IP Power Manager. The user may configure HTTP protocol to use a port number other than standard HTTP port (80).
SNMP Control	Enable/Disable the SNMP connection with the IP Power Manager. The user may configure the SNMP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



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

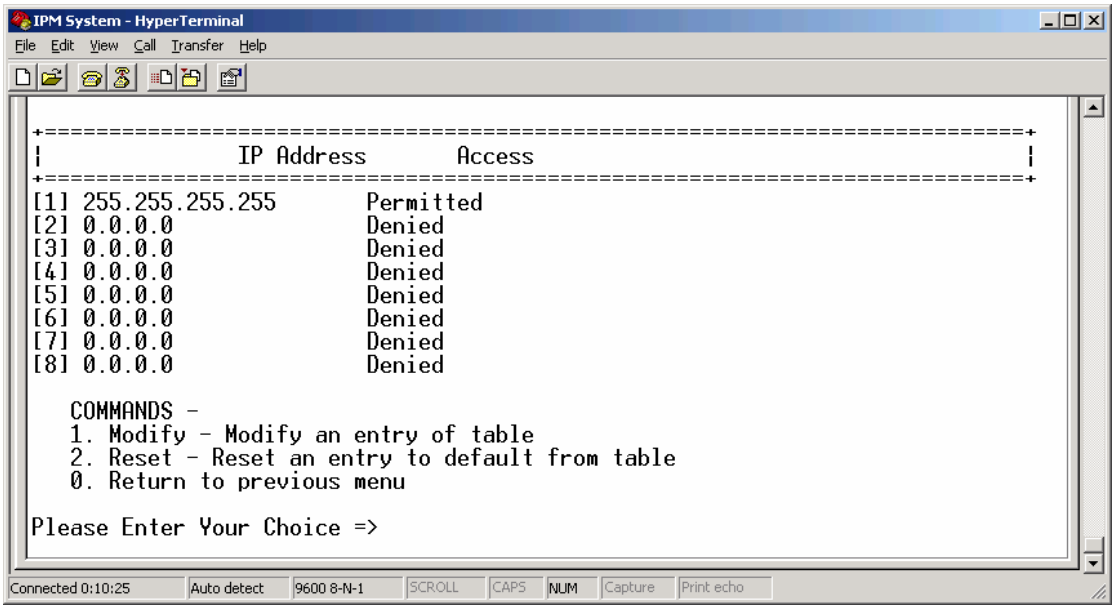


Option	Description
Outlet Name	Set the name of this outlet.
Location	Set the location of this outlet.

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

5.4 Access Control

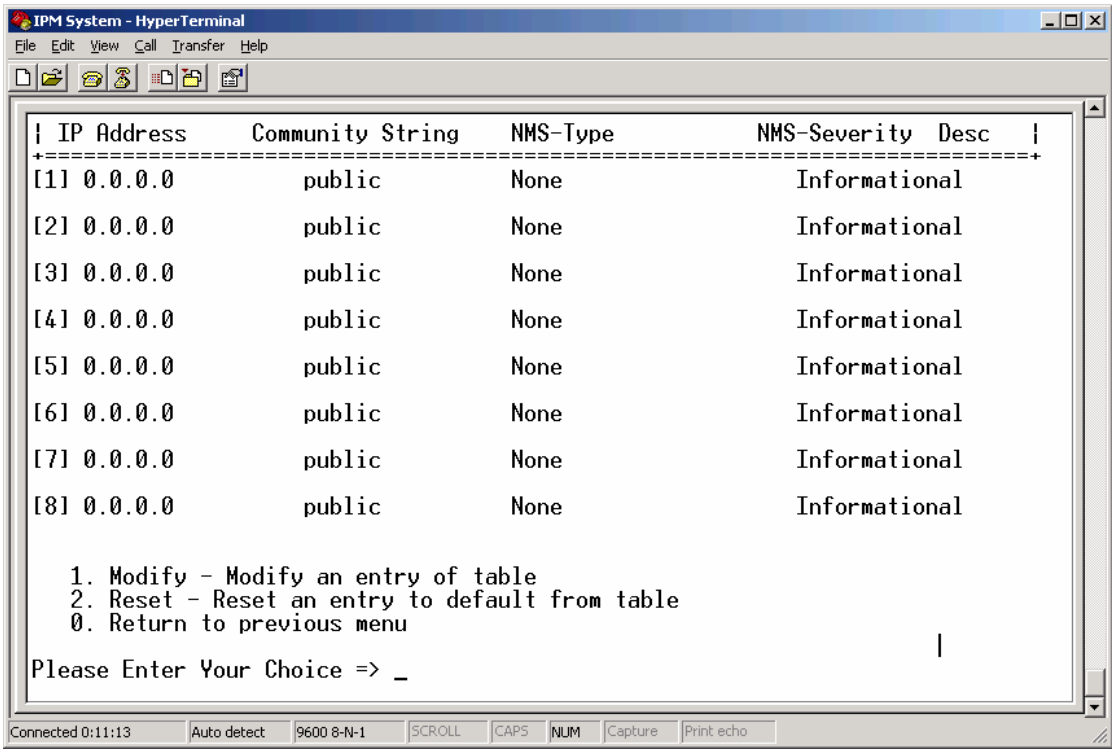
It prevents unauthorized network access to the IP Power Manager. There are 2 kinds of type for "Access Type", "Permitted", and "Denied". It is need to set the first item for its "IP Address" to "255.255.255.255" and "Access Type" to "Permitted" as default value in order to let user is able to connect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



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 address 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

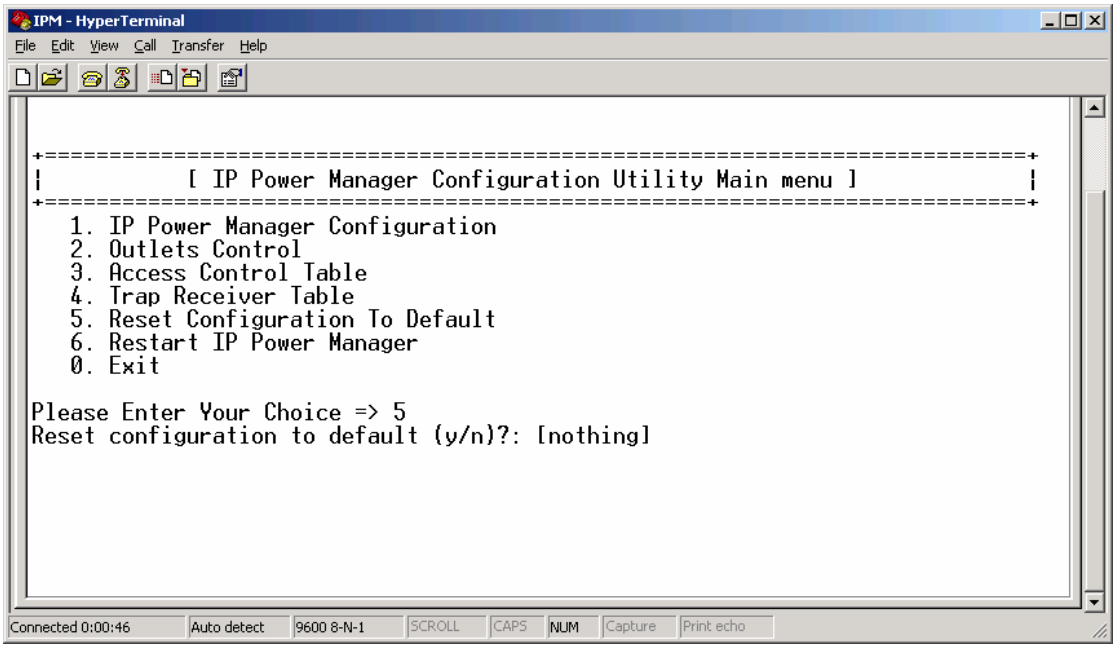
This page lists the parameters for SNMP trap receivers (For SNMP Network Management).



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 Description	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.

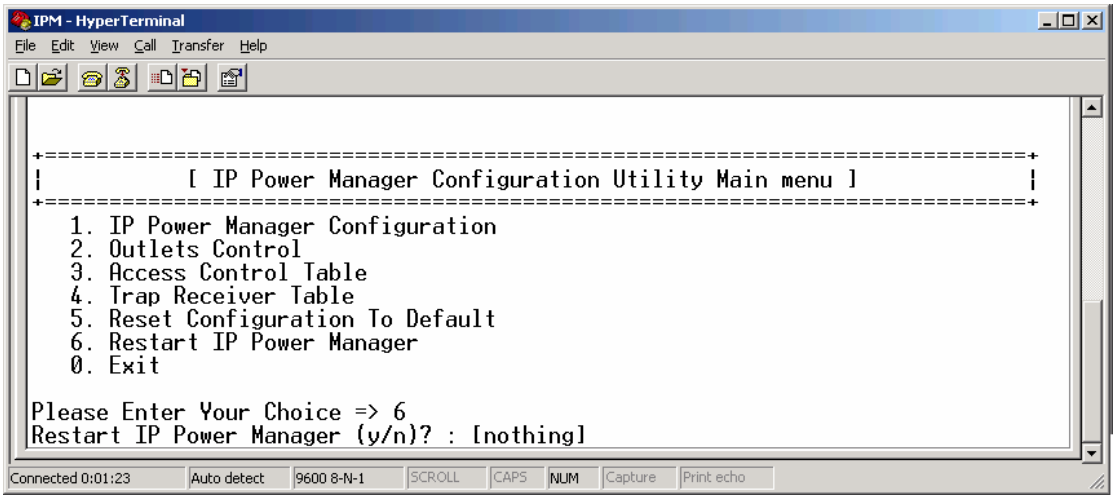
5.6 Reset Configuration To Default

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



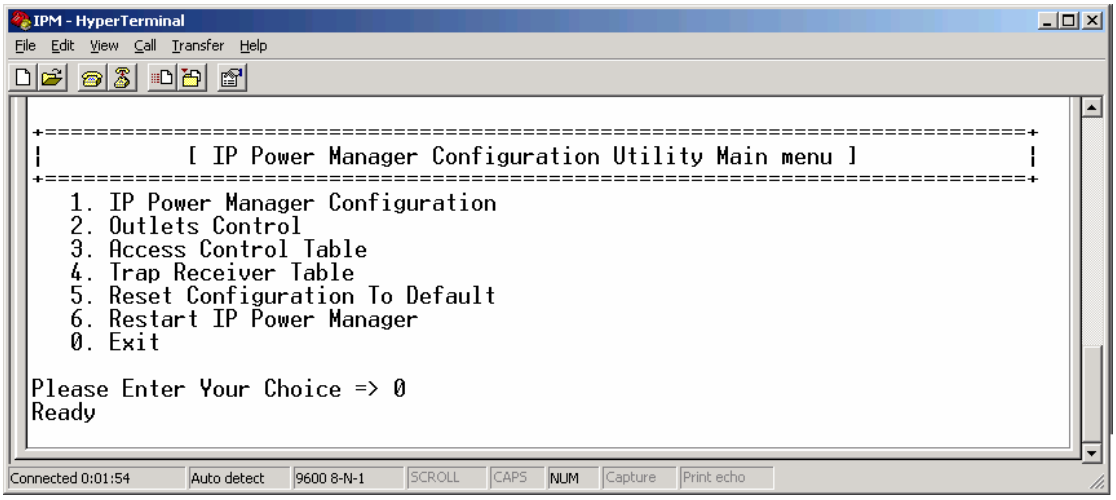
5.7 Restart IP Power Manager

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



5.8 Exit

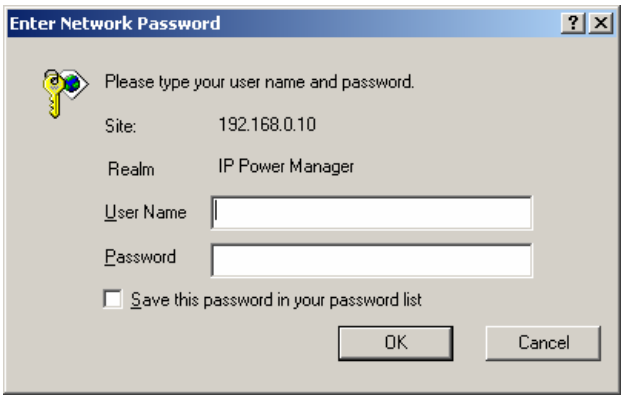
Select this option to exit Hyper Terminal.



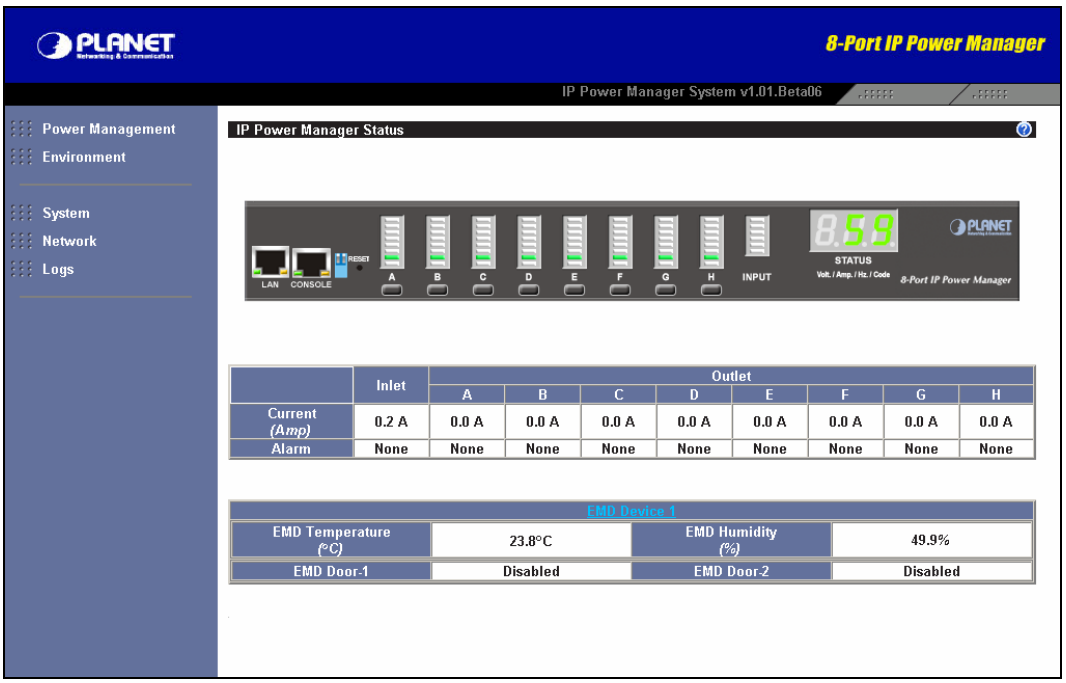
Chapter 6 Web Configuration

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.



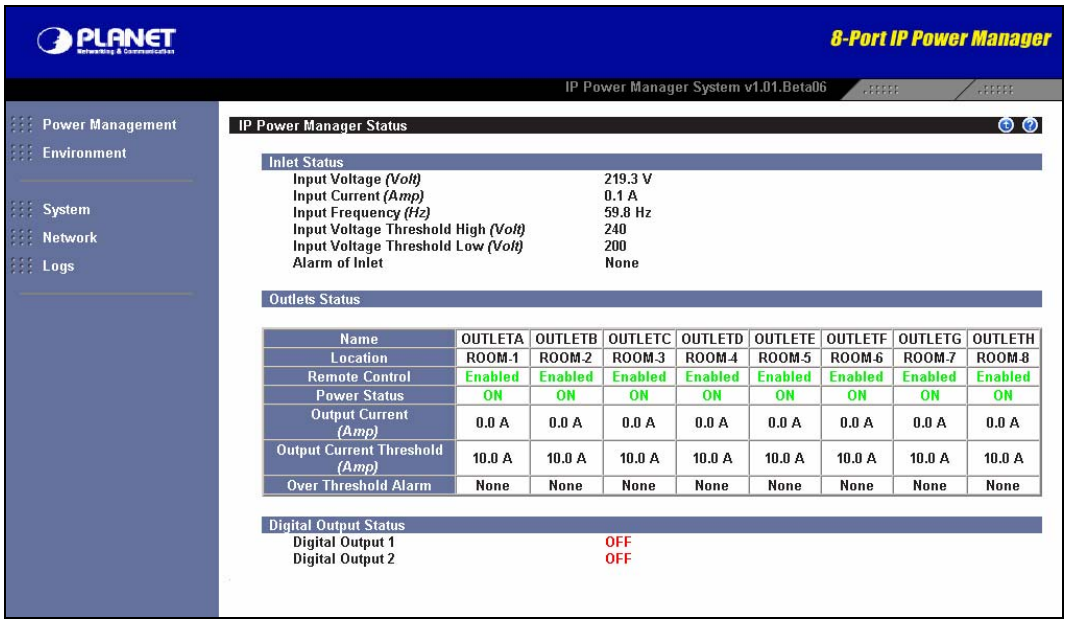
4. Then you will see the HOME screen as below.



The left panel provides five options, **Power Management**, **Environment** (when EMD

connected), **System**, **Network** and **Logs**.

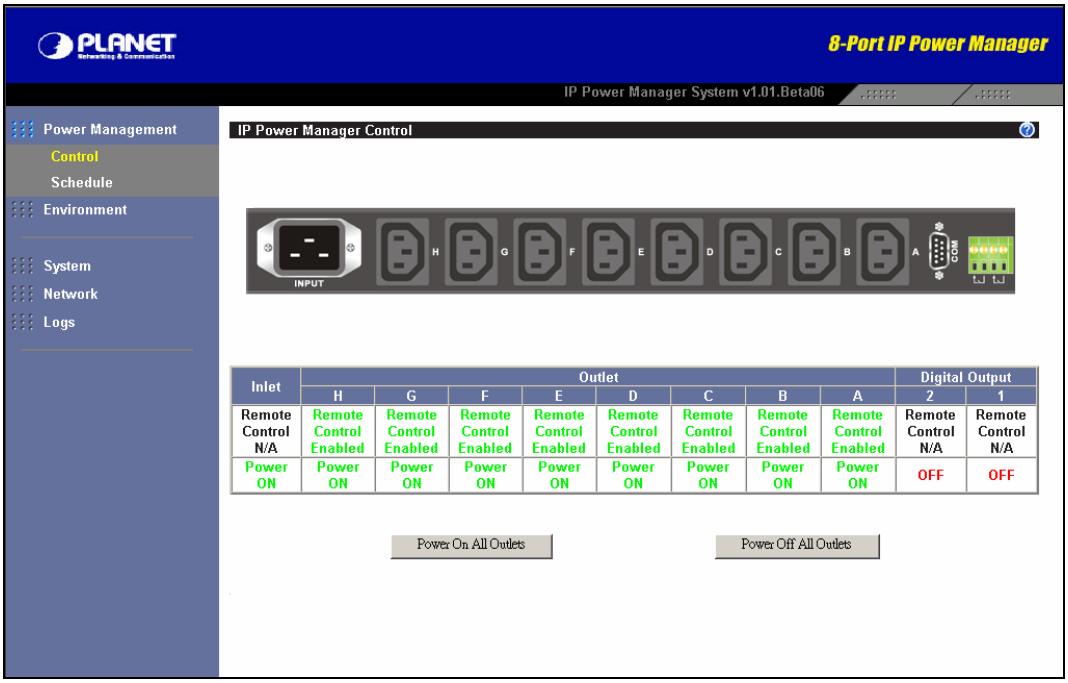
When you click the IP Power Manager front panel on the Home screen. You will see the device status as below.



6.1 Power Management

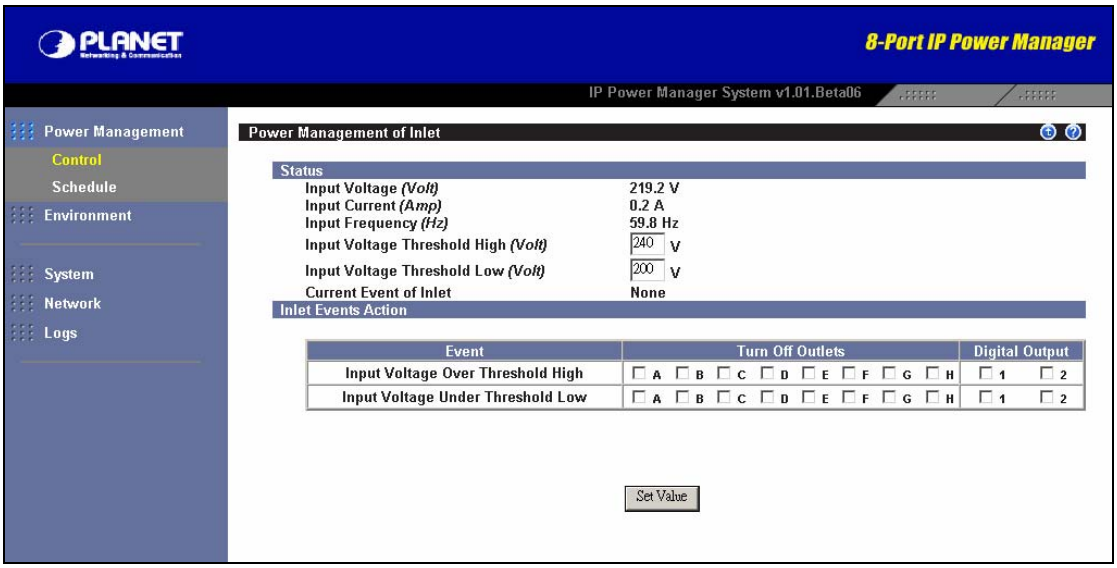
6.1.1 Control

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.



6.1.1.1 Inlet

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

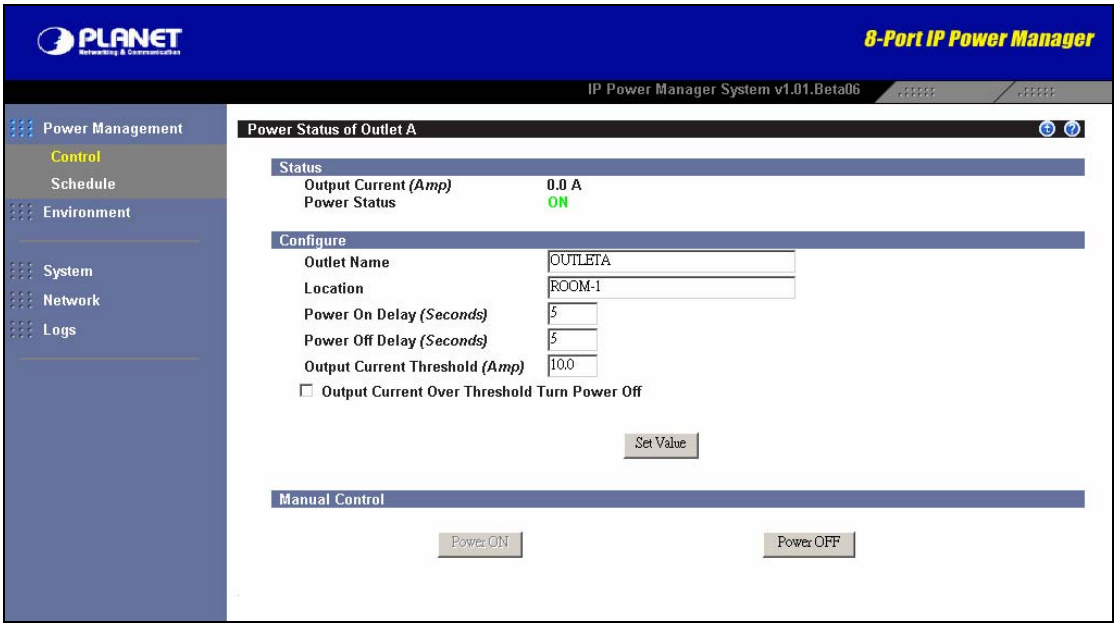


Option	Description
Status	
Input Voltage (Volt)	The current input voltage in Volt.
Input Current (Amp)	The current input currents in Amp.
Input Frequency (Hz)	The current input frequency in Hz.
Input Voltage Threshold High (Volt)	High threshold of input voltage. When input voltage is higher than this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

Input Voltage Threshold Low (Volt)	Low threshold of input voltage. When input voltage is lower than this 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 Threshold High	Turn off selected outlets or digital outputs will occur when the input voltage over high set point.
Input Voltage Under Threshold Low	Turn off selected outlets or digital outputs will occur when the input voltage under low set point.

6.1.1.2 Outlets

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

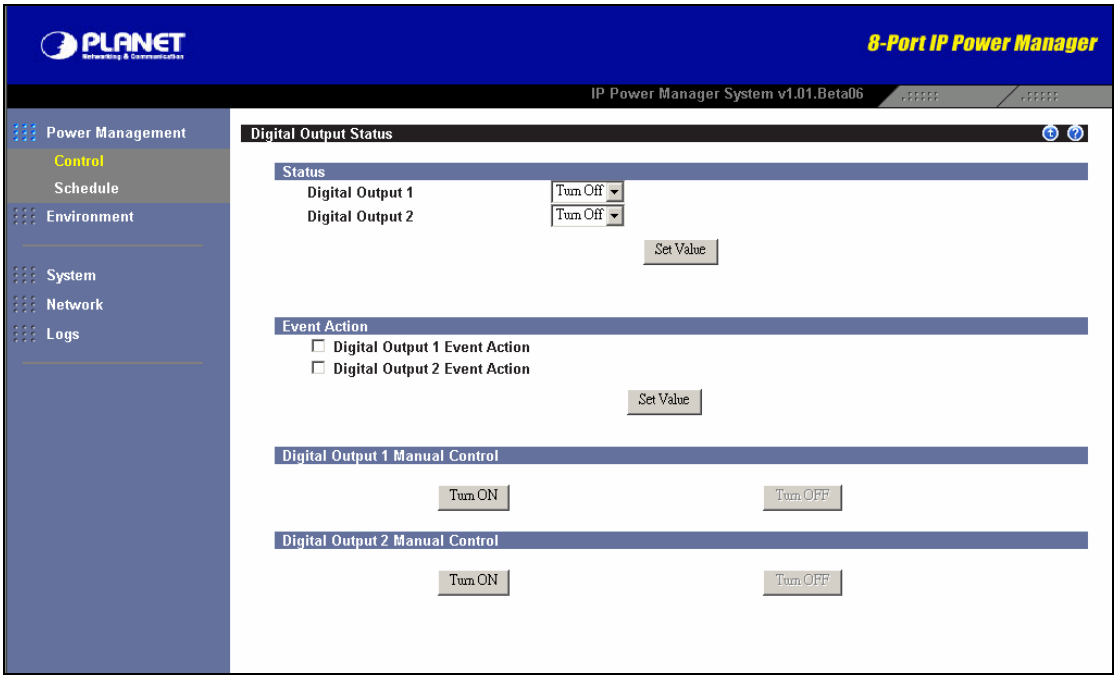


Option	Description
Status	
Output Current (Amp)	The nominal input currents in Amp.
Power Status	When the power status is "Off", the color is Red. If power status is "On", the color is Green.
Configure	
Outlet Name	Set the name of this outlet.
Location	Set the name of the location of this outlet.
Power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

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

6.1.1.3 Digital Outputs

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

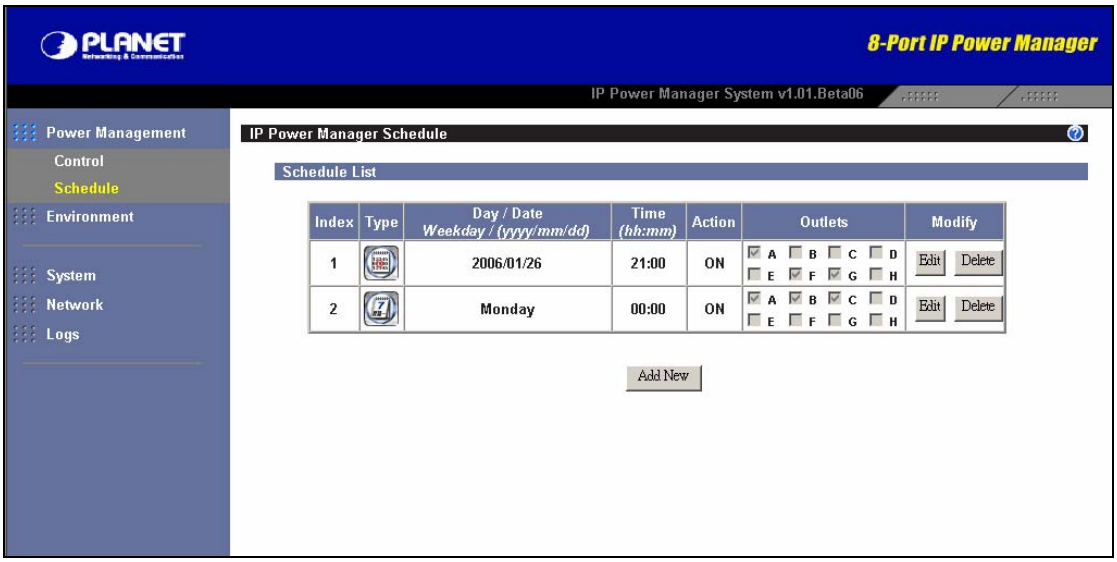


Option	Description
Status	
Digital Output 1	The status of digital output 1 while system start up.
Digital Output 2	The status of digital output 2 while system start up.
Event Action	
Digital Output 1 Event Action	If selected, the digital output 1 will invert its current status when event occurred.
Digital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

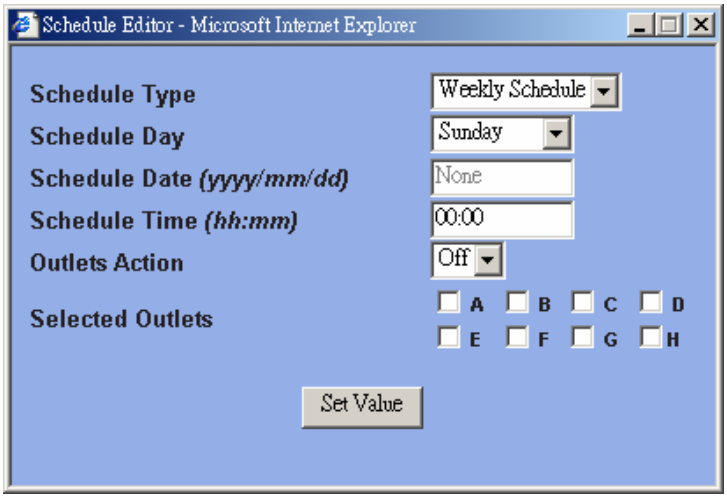
Turn On / Turn Off button	Turn digital outputs on or off manually.

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.



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.



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

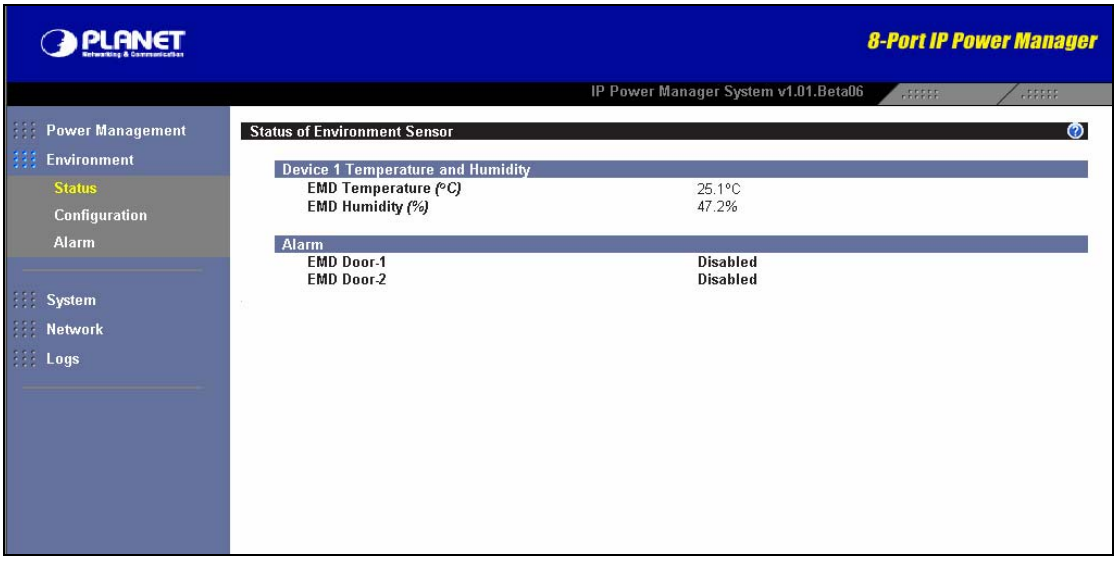
	Type" is "Special Schedule".
Schedule Date (yyyy/mm/dd)	Set the date of this schedule.
Schedule Time (hh:mm)	The time in 24-hour format means when the outlet should turn off or turn on its output power.
Outlets Action	Set the outlet action to be on or off. IP Power Manager will take action at schedule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

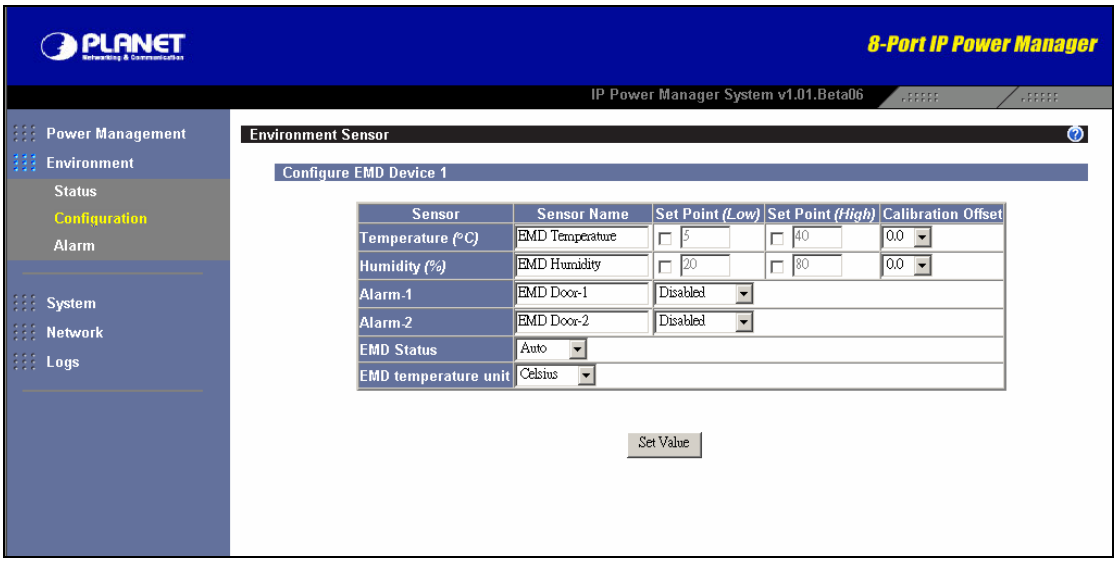
6.2.1 Status

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.



6.2.2 Configuration

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

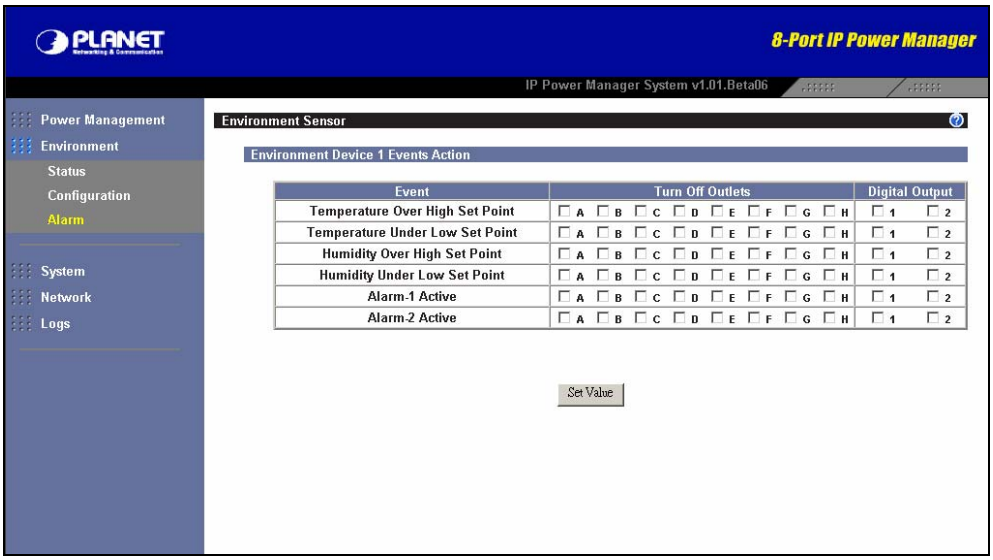


Option	Description
Sensor Name	Configure the name of a sensor (or device) with up to 15 characters.
Set Point	The threshold of a sensor (Temperature or Humidity) will trigger an alarm, whenever the measurement is over (high) or under (low) the set point. If the checkbox is not filled, the threshold is 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.



6.3 System

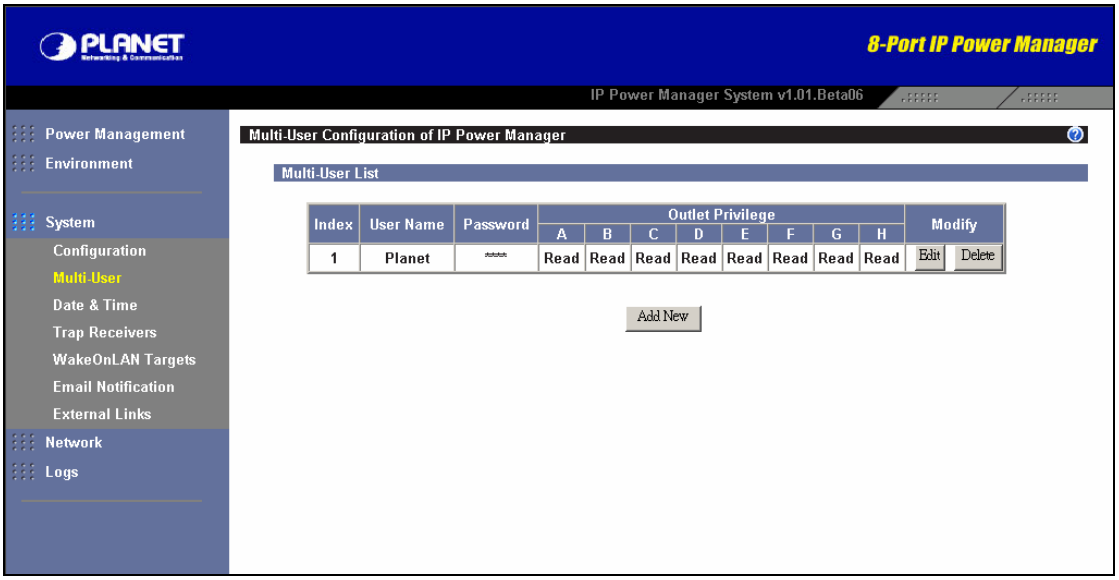
6.3.1 Configuration

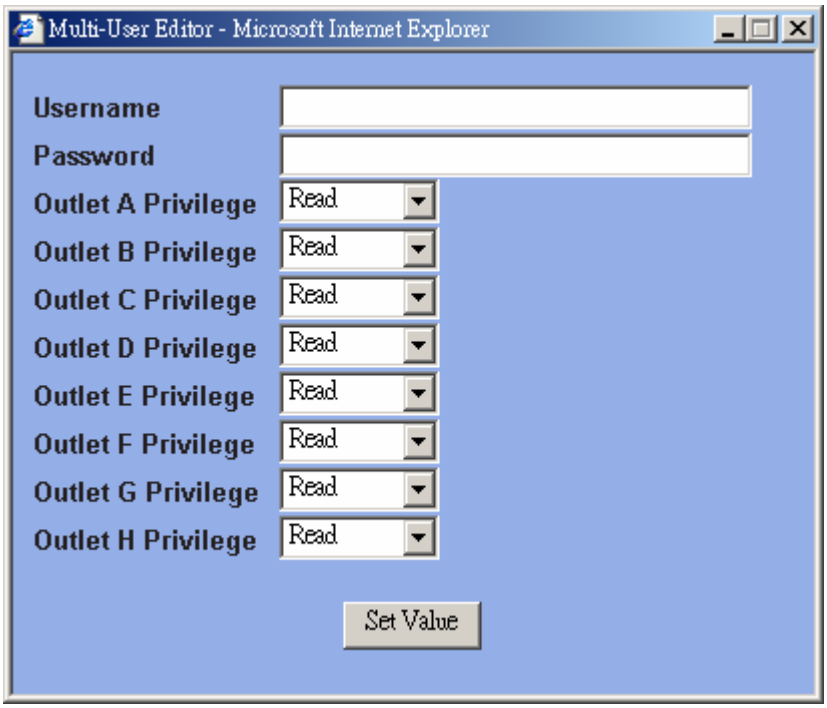
This page contains three groups, “Configure System”, “Administrator Name and Password”, and “Control” group. Configuration of this page is allowed when the security level is “Administrator”.

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 Community	This field allows the user to set the read level community of SNMP or to view the current setting. Size is 31 characters.
SNMP Write Community	This field allows the user to set the write level community of SNMP or 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 Name and Password	
Administrator User Name	You may enter the administrator user name, and the default value is “admin”. Size is 31 characters.
Administrator Password	You may set the administrator password, and the default value is “admin”. Size is 31 characters.
Confirm Administrator Password	Confirm the password again, and the value should be the same as “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.

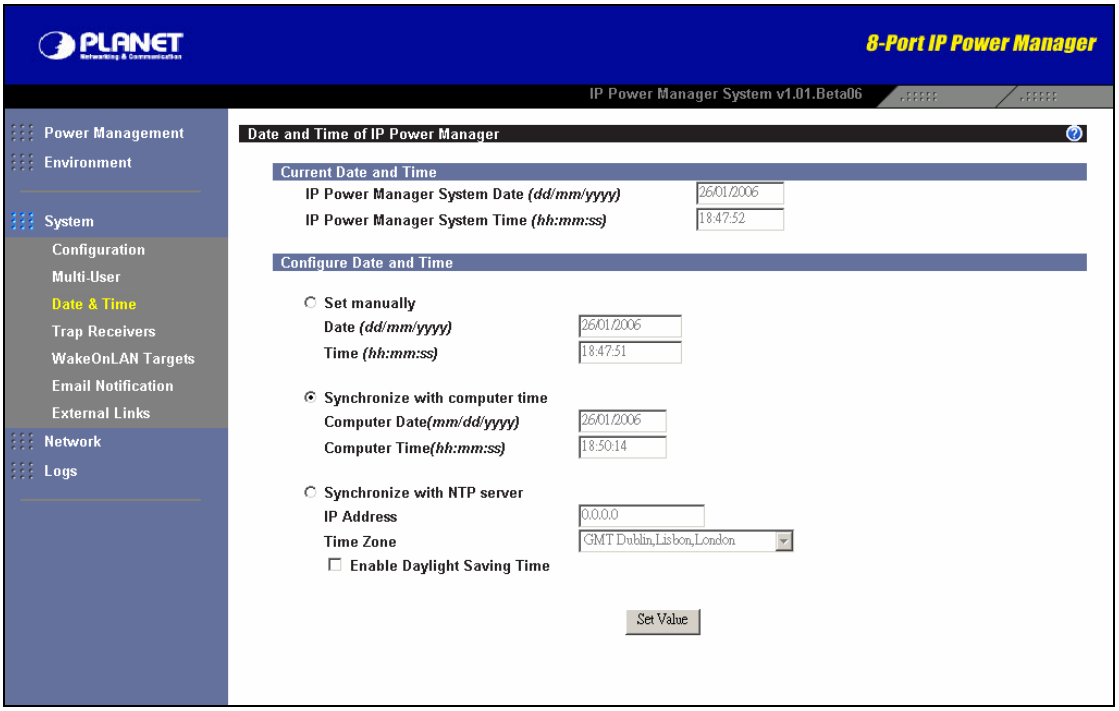




Option	Description
Index	This column provides a reference number for the existence user.
User Name	The user name which is used to log in the IP Power Manager system.
Password	The password which is used to log in the IP Power Manager system.
Outlet Privilege	The security level for each outlet. There are 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

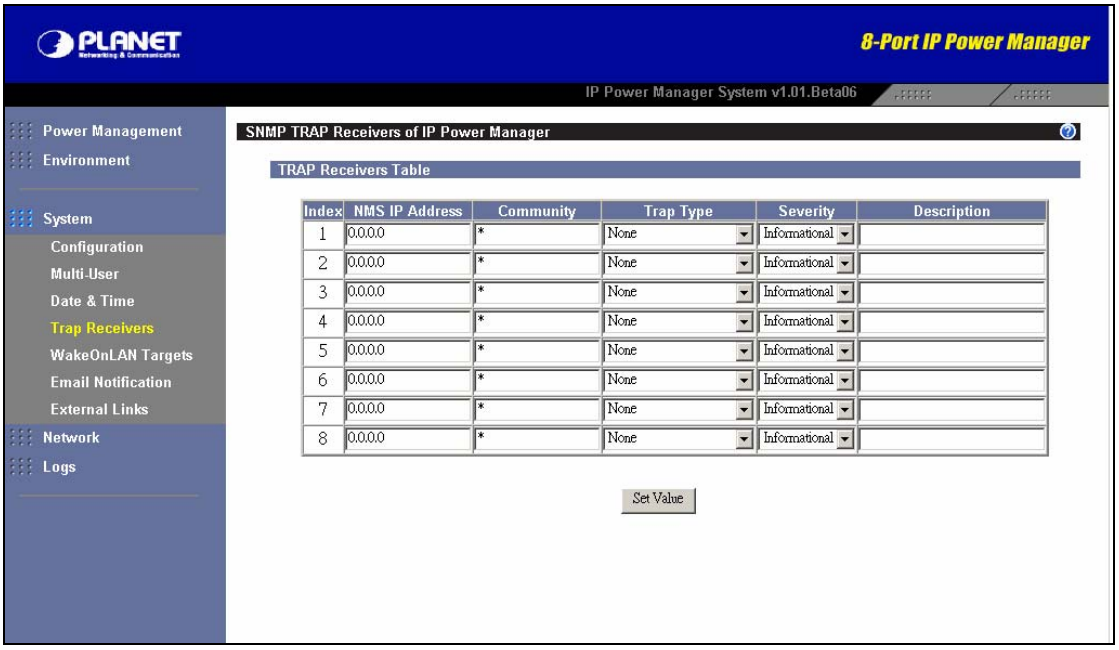
This page provides the appropriate options below to enable the IP Power Manager date/time to be changed in different methods. It will show the current date and time of the IP Power Manager. This can be changed to synchronize with a computer, and enquiry from a time server (NTP) or manually. For the system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



Option	Description
Current Date and Time	
IP Power Manager System Date	Current date of the IP Power Manager, format is dd/mm/yyyy.
IP Power Manager System Time	Current time of the IP Power Manager, format is hh:mm:ss.
Configure Date and Time	
Set Manually	User can set the date and time with the following format: dd/mm/yyyy and hh:mm:ss.
Synchronize with computer time	Select this option and click 'Set Value' to synchronize with the time from the computer clock.
Synchronize with NTP server	You must configure the NTP server IP and select the correct timezone 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

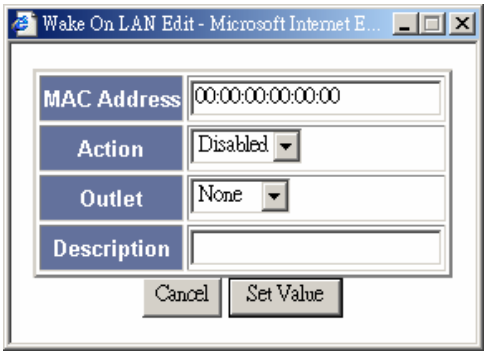
This page lists the parameters for SNMP trap receivers (For SNMP Network Management).



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.
Trap Type	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

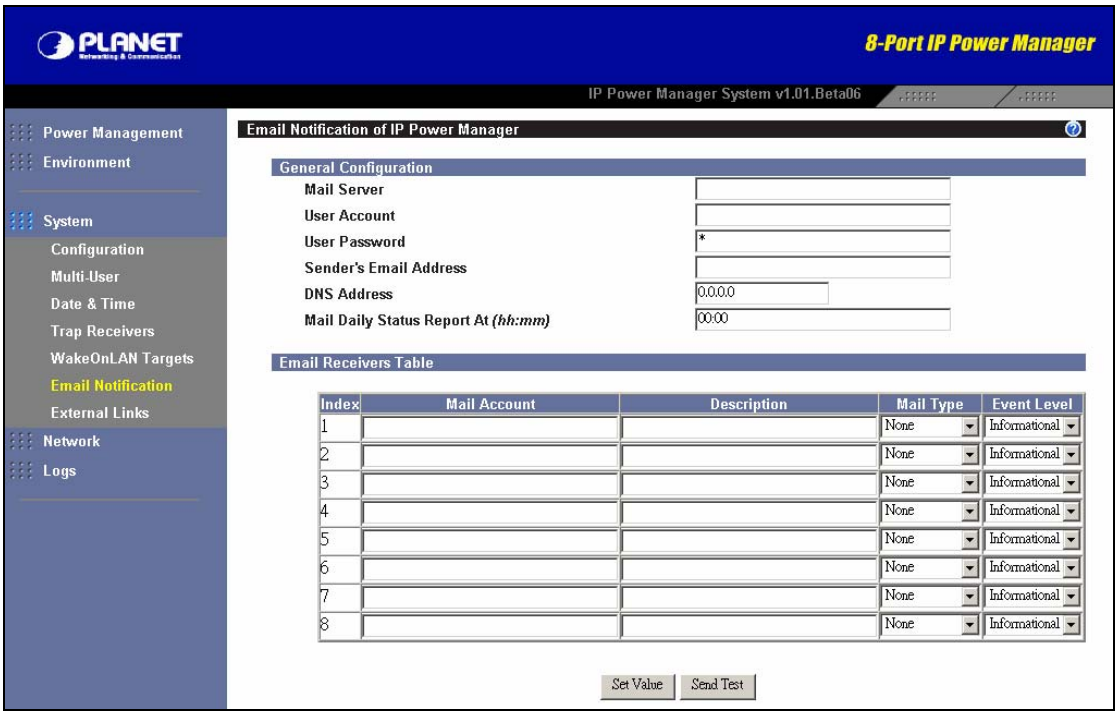
IP Power Manager has support WOL function to wake your PCs up. This function can help your servers work again after the power interruption.



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”.

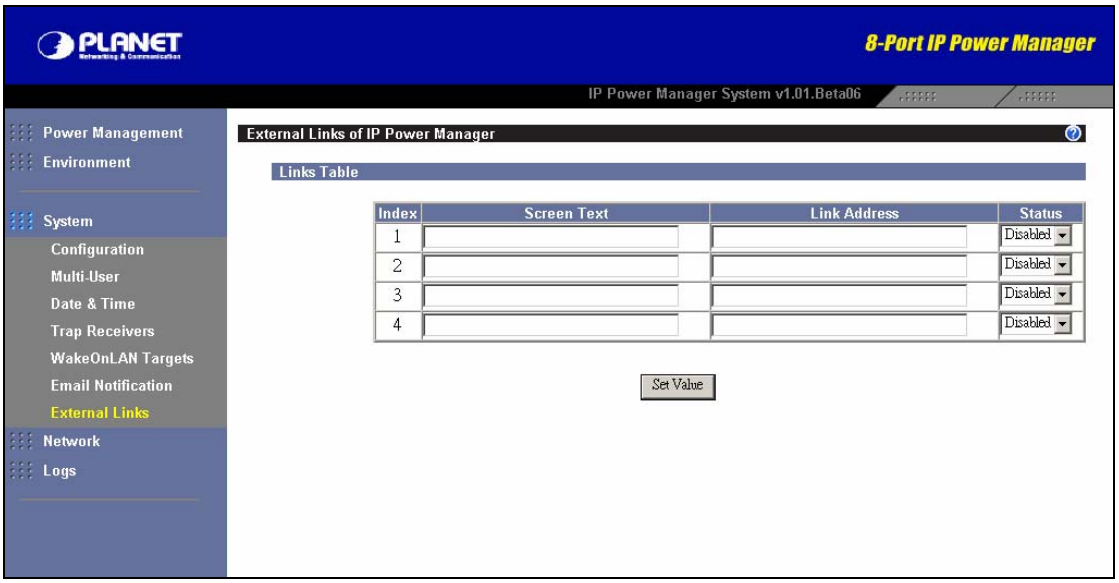


Option	Description
General Configuration	
Mail Server	As Administrator, you may enter the IP Address or Hostname of a SMTP mail server that will be used to send email messages from the IP Power Manager. If entering a Hostname, you are also required to enter the DNS Address. If entering an IP Address, 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 Address	This field specify the content of the 'From' field of the Email. If this 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 Report At (hh:mm)	If you intend to have the IP Power Manager send a Daily Status report 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 Tables	
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.

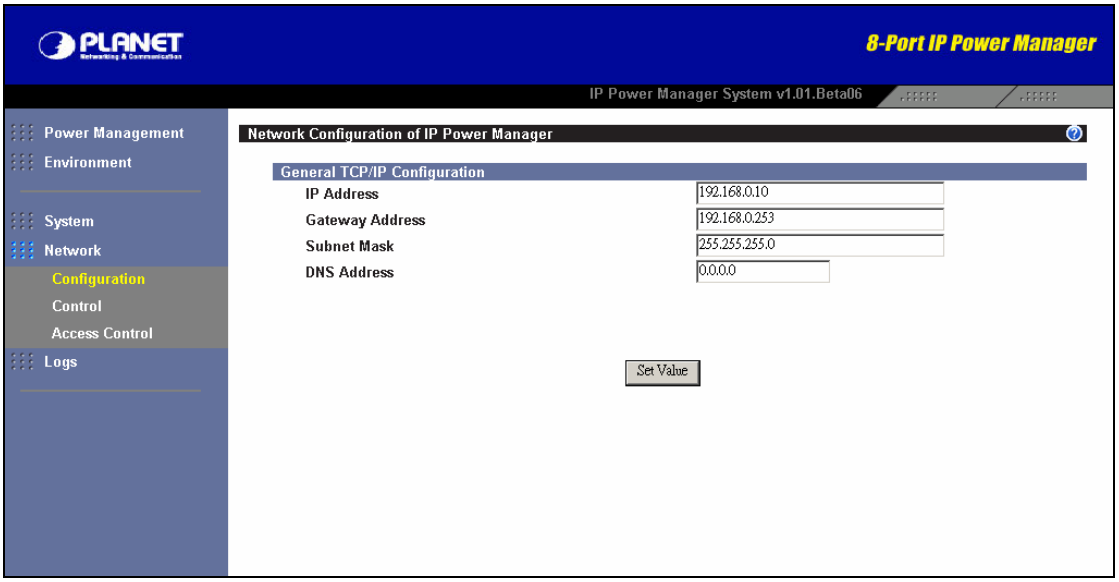


Option	Description
Screen Text	This is the description of link name which will display on the menu tree for user's reference.
Link Address	This field defines the real name of web page to be connected, in URL format.
Status	There are two kinds of status, "Enabled", and "Disabled". If the setting is "Enabled",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

6.4 Network

6.4.1 Configuration

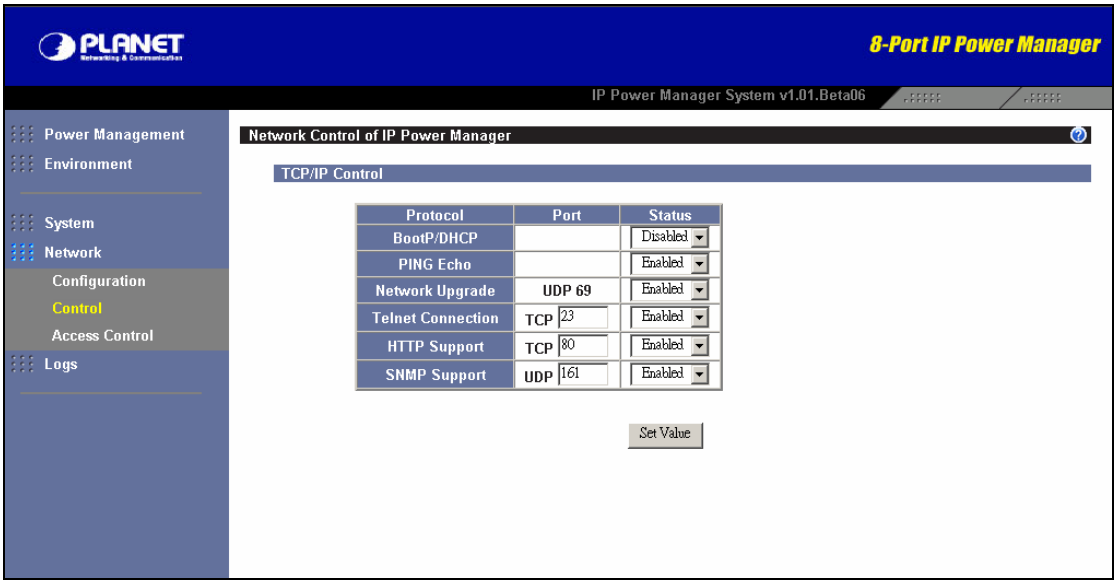
Configuration of this page is allowed when the security level is “Administrator”. If user reset configurations to default, the configuration of "IP Address", "Gateway Address" and "Subnet Mask" will also be kept.



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.

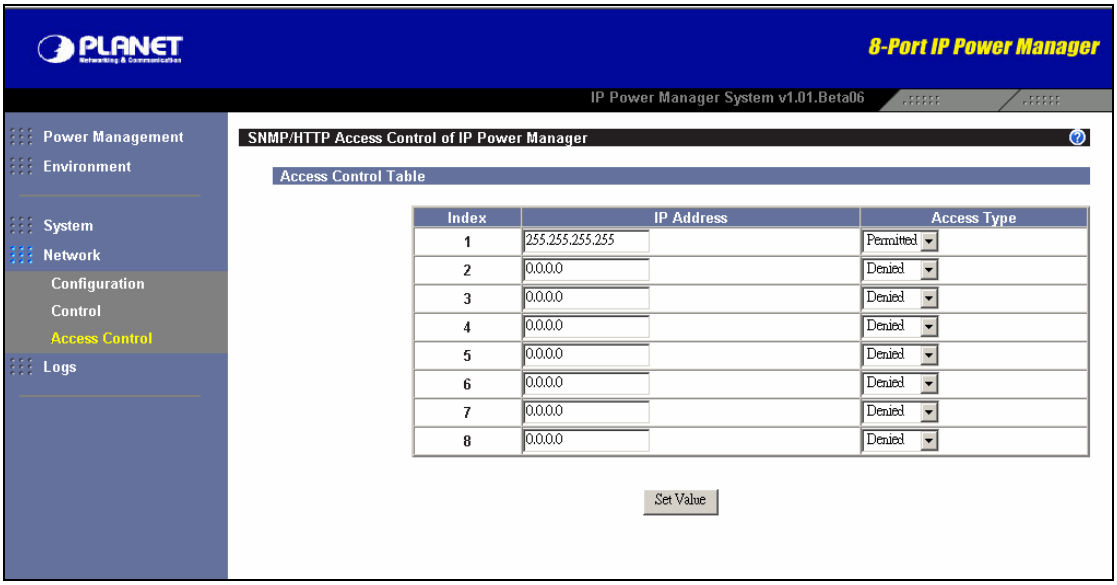


Option	Description
BootP / DHCP Status	This is the parameter enabling or disabling the Boot Protocol (BootP) / Dynamic Host Configuration Protocol (DHCP) process. These protocols are used to obtain a dynamic IP address from a BootP / DHCP server.
PING Echo	Enable/Disable the IP Power Manager to respond 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.



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 Administrator. "255.255.255.255" grant the access right to all IP.

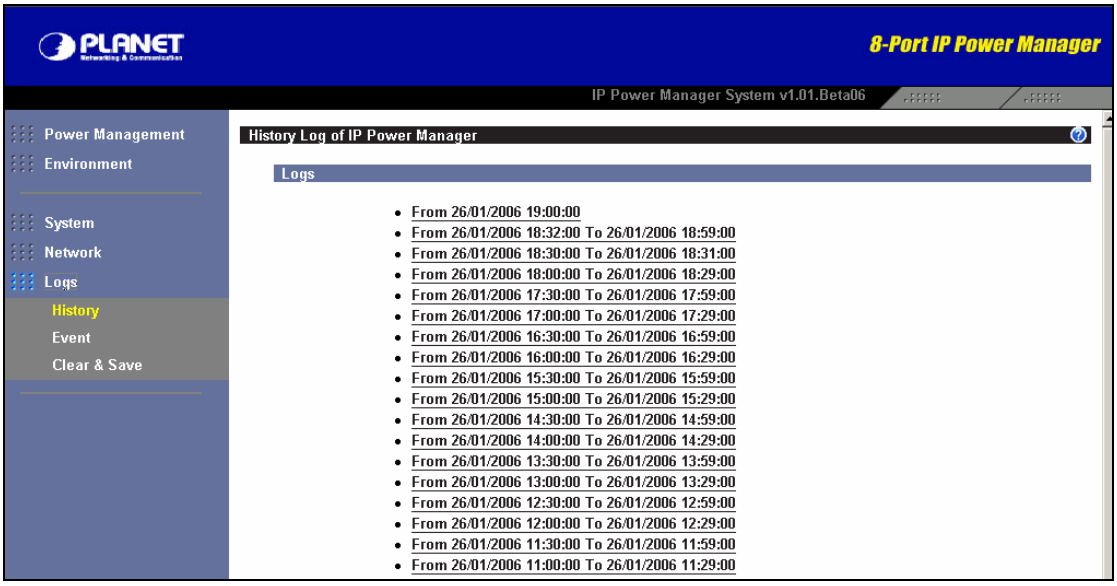
Access Type	Available options are: Permitted and Denied.

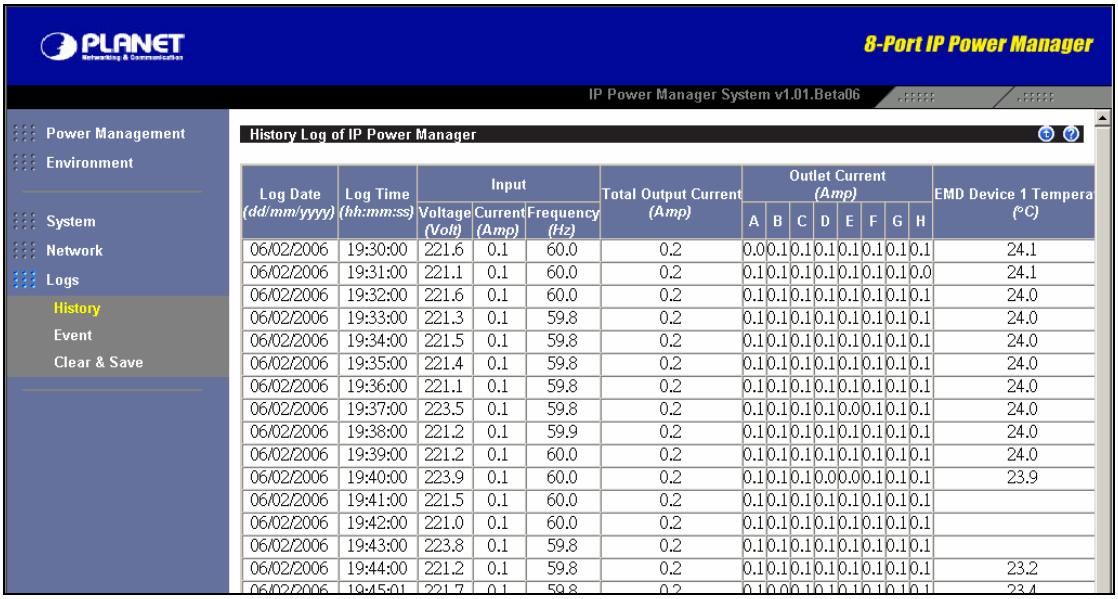
6.5 Logs

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.

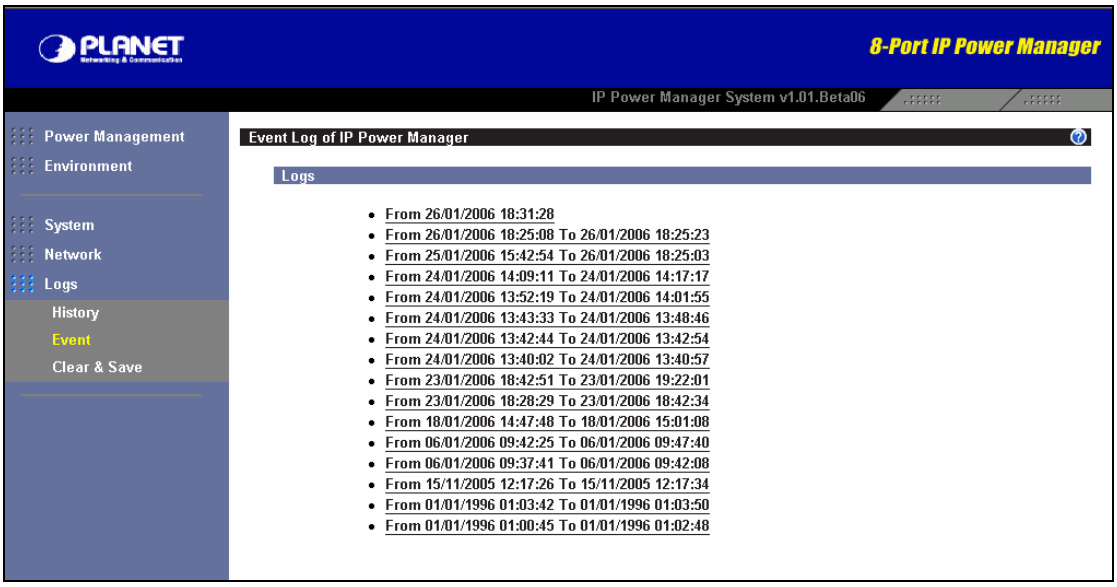


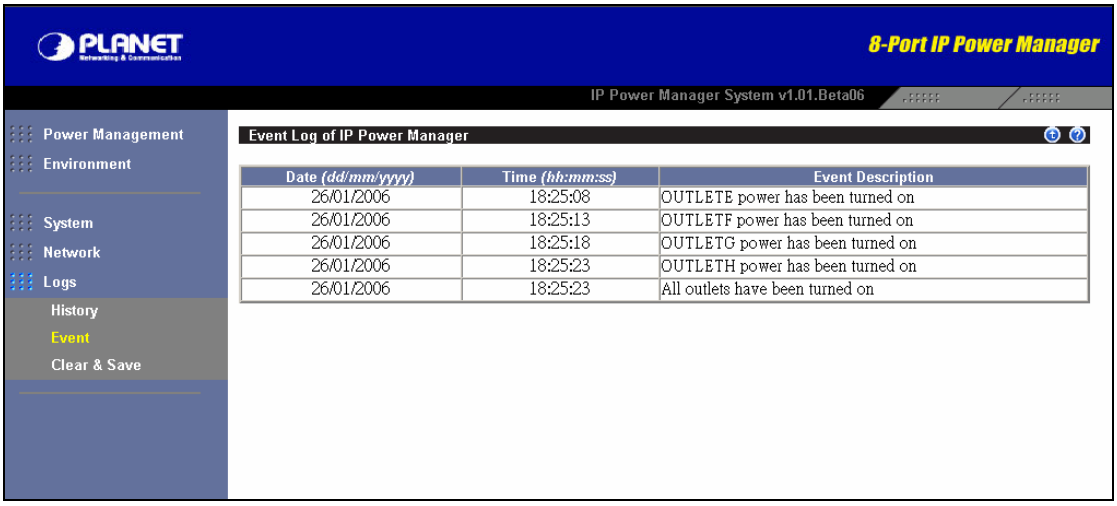


Option	Description
Date (dd/mm/yyyy)	This column show the date on which the recording was made.
Time (hh:mm:ss)	This gives the time in a 24-hour format when the values were recorded.
Input Voltage	This shows the input voltage in Volts at the time of recording.
Input Current	This shows the input current in Amps at the time of recording.
Input Frequency	This shows the input voltage in Hz at the time of recording.
Total Output Current	This shows the total output current in Amps at the time of recording.
Output Current	This shows the output current of the 8 outlets in Amps at the time of recording.
EMD Temperature	This shows the temperature in ^{o}C at the time of recording.
EMD Humidity	This shows the humidity in % at the time of recording.

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.

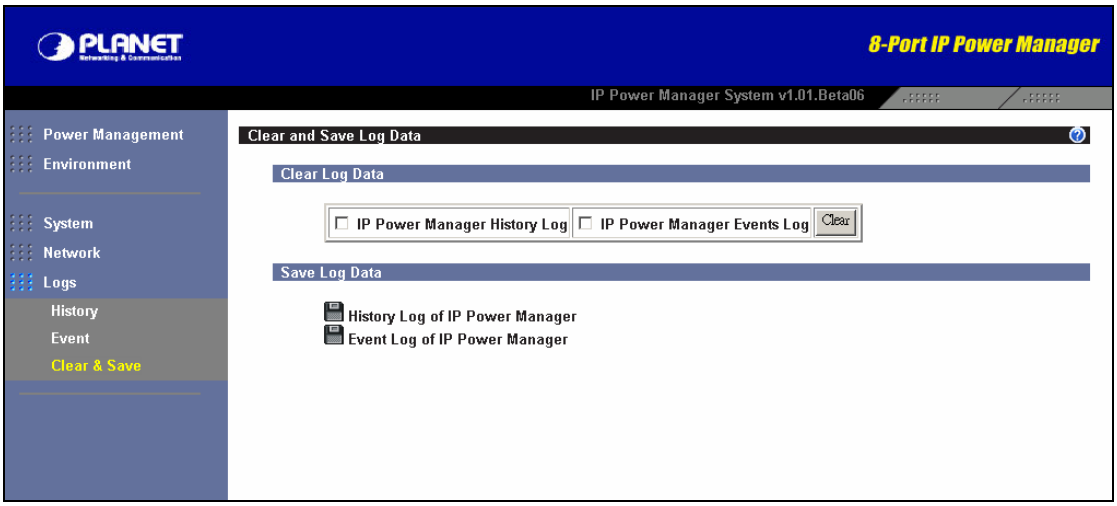




Option	Description
Date (dd/mm/yyyy)	This column show the date on which the recording was made.
Time (hh:mm:ss)	This gives the time in a 24-hour format when the values were recorded.
Event Description	

6.5.3 Clear and Save Log Data

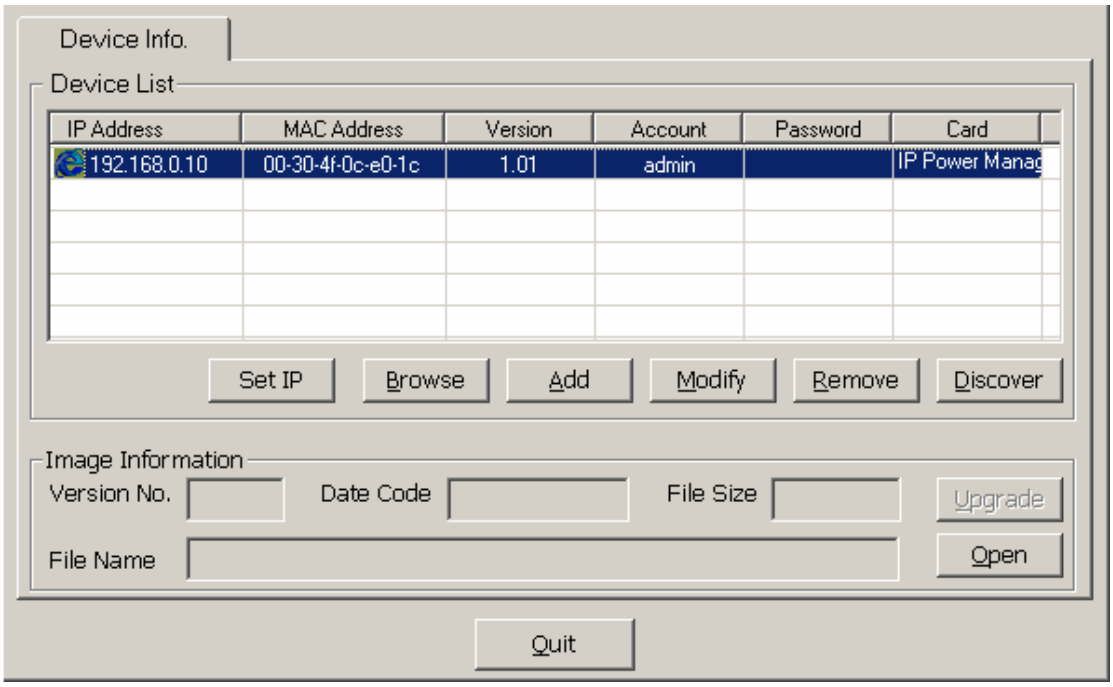
This screen allows you to clear or save the log file.



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.



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 Tool	Web Browser, SNMP software, Windows base utility, Telnet, Hyper 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.

TCP

(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).