

IPS-4

Internet Power Switch

User's Guide



Warnings and Cautions:



INSTALLATION INSTRUCTIONS

SECURE RACKING

If Secure Racked units are installed in a closed or multi-unit rack assembly, they may require further evaluation by Certification Agencies. The following items must be considered.

1. The ambient within the rack may be greater than room ambient. Installation should be such that the amount of air flow required for safe operation is not compromised. The maximum temperature for the equipment in this environment is 45°C. Consideration should be given to the maximum rated ambient.
2. Installation should be such that a hazardous stability condition is not achieved due to uneven loading.

INPUT SUPPLY

1. Check nameplate ratings to assure there is no overloading of supply circuits that could have an effect on overcurrent protection and supply wiring.
2. When installing 48 VDC rated equipment, it must be installed only per the following conditions:
 - A. Connect the equipment to a 48 VDC supply source that is electrically isolated from the alternating current source. The 48 VDC source is to be connected to a 48 VDC SELV source.
 - B. Input wiring to terminal block must be routed and secured in such a manner that it is protected from damage and stress. Do not route wiring past sharp edges or moving parts.
 - C. A readily accessible disconnect device, with a 3 mm minimum contact gap, shall be incorporated in the fixed wiring.

GROUNDING

Reliable earthing of this equipment must be maintained. Particular attention should be given to supply connections when connecting to power strips, rather than direct connections to the branch circuit.

**No Serviceable Parts Inside;
Authorized Service Personnel Only**

Do not attempt to repair or service this device yourself. Internal components must be serviced by authorized personnel only.

- **Shock Hazard - Do Not Enter**

Disconnect Power

If any of the following events are noted, immediately disconnect the unit from the outlet and contact qualified service personnel:

1. If the power cord becomes frayed or damaged.
2. If liquid has been spilled into the device or if the device has been exposed to rain or water.

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1. Introduction

Electronic equipment sometimes “locks-up,” requiring a service call just to flip the power switch to perform a simple reboot. The IPS-4 Internet Power Switch gives you the ability to perform this function from anywhere, just point your browser to the IPS’s IP address, enter the secure password, and you’re just a click away from remote power On, Off or Reboot!

Intelligent Power Control

In addition to web browser access, the IPS-4 can also communicate over any TCP/IP network using standard Telnet, or out-of-band using an external modem and basic VT100 type terminal emulation.

Security Features and Co-Location Features

To ensure security, web browser access requires the user to enter an assigned user name and password. This password uses basic 64 bit encryption techniques to assure secure access to your equipment.

The IPS provides two levels of operational passwords; the System Administrator Level, which allows access to all configuration and switching functions, and the User Level, which only allows access to assigned plugs and cannot be used to change unit configuration.

In addition to password security features, the IPS also includes an address specific IP security mask, which can be employed to prevent unauthorized network access to the IPS command mode.

Easy to Configure, Easy to Use

The IPS can be configured over the network, via modem, or locally via the IPS console port. Easy to use commands let you assign a location name, set system parameters and view plug status. Outlets can be switched On, Off, or booted using plug numbers or names.

Reliability and Support

The IPS is built in the USA and backed by a two year warranty. NetReach products are installed in thousands of network sites world wide. Our customers know they can depend on WTI for superior quality and reliability for their most mission-critical operations.

Typographic Conventions

Throughout this manual, typefaces and characters have been used to denote the following:

COURIER FONT Indicates characters typed on the keyboard.
For example, **/ON 3** or **/OFF 4**.

[Bold Font] Text set in bold face and enclosed in square brackets indicates a specific key.
For example, **[Enter]** or **[Esc]**.

2. Unit Description

As shown in Figure 2.1, the IPS-4 back panel includes connectors, LEDs and manual controls as described below:

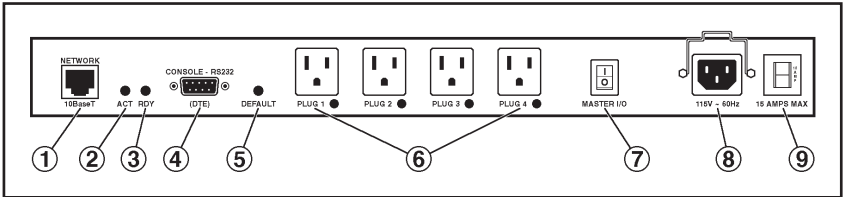


Figure 2.1: IPS-4 Back Panel

- ① **Network Port:** An RJ45 Ethernet Port for connection to your TCP/IP network. The default IP Address is 192.168.168.168, for more information, please refer to Section 5.3.4.
- ② **Activity Indicator:** Flashes to indicate activity at the Network Port.
- ③ **Ready Indicator:** Flashes when the IPS is ready to receive commands.
- ④ **Console / RS232 Port:** A DB9, RS232 serial port (DTE), for connection to a local terminal or external modem, as described in Section 4.3.
- ⑤ **Default Button:** This button is used to either reset the unit to default parameters or manually toggle all plugs On or Off:
 - **Default Parameters:** With the Master I/O Switch (Power Switch) set in the Off position, press and hold the Default Button, then set the Master I/O Switch in the On position and release the Default Button. All menu defined parameters will be cleared.
 - **Manual Plug Toggle:** Press the Default Button and hold it down for three seconds. All four IPS power outlets will be toggled On or Off.

Note: If desired, the Default Button's manual plug control capabilities can also be disabled as described in Section 5.3.1.

- ⑥ **Switched Plugs and Plug Indicators:** Four 115 VAC outlets, that can switch a total of up to 15 Amps. Each plug includes an LED indicator, which lights when power is applied to the plug.
- ⑦ **Master I/O Switch:** Applies power to the IPS-4 Unit. This switch must be “On” in order for the IPS to function. Note that this switch is not used to set the On/Off status of the switched outlets.
- ⑧ **Power Inlet:** An IEC-320 AC inlet (with attached cable keeper,) which supplies 115 VAC power for the IPS's command functions and the switched plugs.
- ⑨ **Circuit Breaker:** 115 VAC, 15 Amps.

3. Quick Start

This Quick Start procedure provides a quick demonstration of IPS capabilities. In order to take full advantage of the complete range of features offered by the unit, it is recommended to complete Sections 4 and 5 after performing this Quick Start procedure.

3.1. Hardware Installation

1. **Connect Power Cable:** Connect the power cable (supplied with the unit) to the IPS's Power Inlet. Connect the other end of the cable to an appropriate power supply. Place the Master Power Switch in the "On" position. After a brief pause, the plug indicators should switch on in sequence, indicating that power has been applied.

CAUTION: Make certain to review the safety precautions listed in Section 4.1.

2. **Ready LED:** Check to make certain that the Ready indicator is blinking. This indicates that the IPS is operating properly, and is ready to receive commands.
3. **Connect to Control Device:** In order to initiate switching operations or select configuration parameters, commands must be issued to the IPS via either the Network Port or RS232 Console Port. Note that it is not necessary to connect to *both* the Network Port and Console Port.
 - a) **Network Port:** To communicate with the IPS via network, connect your 10Base-T or 100Base-T network interface to the IPS Network port. For more information on network port connections, please refer to Section 4.4.
 - b) **Console / RS232 Port:** To communicate with the IPS via a Local PC, use the supplied null modem cable to connect your PC COM port to the IPS Console Port. For more information, please refer to Section 4.3.
4. **Test Manual Control Function:** Press the Default Button and hold it down for approximately three seconds; the IPS's four Switched AC Outlets should be switched Off or On. Note that the Manual Plug Control function can also be completely disabled as described in Section 5.3.1.

3.2. Communicating with the IPS

The IPS-4 offers two different user interfaces: a Web Browser Interface and a Text Interface. The Web Browser interface allows you to contact the IPS via a TCP/IP network using a standard, JavaScript enabled web browser (such as Internet Explorer.) The Text Interface consists of a series of ASCII text menus, which may be accessed via TCP/IP network, Local PC or external modem.

Notes:

- The IPS-4 features a default IP Address (192.168.168.168) and Subnet Mask (255.255.255.0). Providing you are contacting the IPS from a node on the same subnet, this allows initial network access to the command mode without first setting up the unit's network parameters. When attempting to access the IPS from a node that is not on the same subnet, please refer to Section 5.3.4 for further instructions.
- Modem access is not discussed in this quick start guide. For instructions on connecting a modem to the IPS, please refer to Section 4.3.2.

1. **Access the Command Mode:** This procedure differs slightly, depending on whether you're contacting the IPS via the Web Browser Interface or Text Interface.
 - a) **Web Browser Interface:** Start your JavaScript enabled Web Browser. Enter the IPS's default IP address (<http://192.168.168.168>) in your browser's address bar and then press **[Enter]**. A password prompt will be displayed. Since at this point, the user name and password have not yet been defined, you can simply click OK without keying in a user name or password. The IPS Plug Status Screen will be displayed as shown in Figure 3.1.
 - b) **Text Interface:**
 - i. **Via Telnet:** Start your Telnet program, then Telnet to the IPS's default IP address (192.168.168.168). The IPS Plug Status Screen (Figure 3.2) should then be displayed.
 - ii. **Via Local PC:** Start your communications program (e.g., Hyperterminal) and then press **[Enter]**. The IPS Plug Status Screen will be displayed as shown in Figure 3.2. Note that the default communications parameters for the Console Port are 9600 bps, No Parity, 8 data bits, One stop bit.

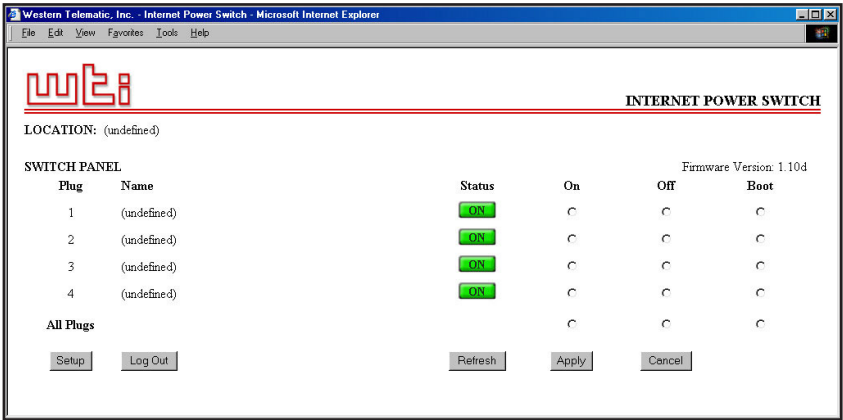


Figure 3.1: Plug Status Screen - Web Browser Interface

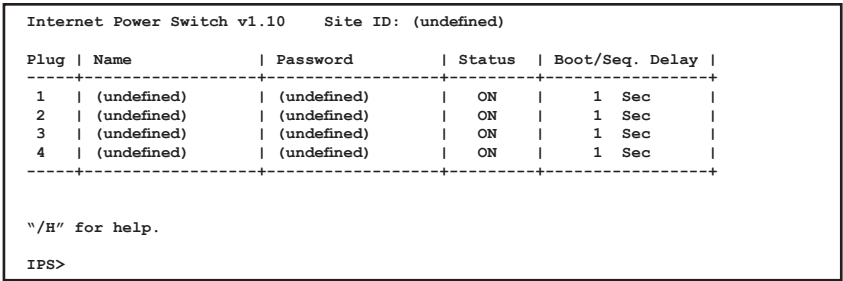


Figure 3.2: Plug Status Screen - Text Interface

2. **Test Switching Functions:** You may wish to perform the following tests in order to make certain that the IPS is responding to commands.
 - a) **Reboot Outlet:** If you are communicating with the unit via the Web Browser Interface, select the button in the "Boot" column for Plug 1, and then click "Apply." If you are operating the unit via the Text interface, type **/BOOT 1** and press **[Enter]**. The status indicator for Plug 1 should go off, pause for a moment, and then go back on, indicating that the boot cycle has been successfully completed.

- b) **Switch Outlet Off:** From the Web Browser Interface, select the button in the "Off" column for Plug 1, and then click "Apply." From the Text Interface, type **/OFF 1** and press **[Enter]**. The status indicator for Plug 1 should go Off, indicating that the command has been successfully completed. Leave Plug 1 in the "Off" state, and then proceed to the next step.
 - c) **Switch Outlet On:** From the Web Browser Interface, select the button in the "On" column for Plug 1, and then click "Apply." From the Text Interface, type **/ON 1** and press **[Enter]**. The status indicator for Plug 1 should then go back On, indicating that the command has been successfully completed.
3. **Log Out:** When you have finished communicating with the IPS unit it is important to always log off by issuing the appropriate command, rather than simply closing your Telnet or communications program. When you log off using the proper IPS command, this ensures that the unit has completely exited from command mode, and is not waiting for the inactivity timeout to elapse before allowing additional connections.
- a) **Web Browser Interface:** Click on the "Log Out" button.
 - b) **Text Interface:** Type **/X** and press **[Enter]**.

This completes the introductory overview of the IPS-4 Internet Power Switch. Please proceed to Section 4 and Section 5 for complete installation and configuration procedures.

4. Installation

This Section provides further details regarding the connections that are made in the process of installing the IPS-4.

4.1. Power Supply Connection

Use the supplied power cord to connect the IPS-4 unit to an appropriate power supply. Connect the Power Supply cord to the IPS Power Inlet, and then snap the cable keeper into place. The IPS's Master Power Switch must be "On" in order for the unit to operate.



CAUTIONS:



- Before attempting to install this unit, please review the warnings and cautions listed at the front of the user's guide.
- This device should only be operated with the type of power source indicated on the instrument nameplate. If you are not sure of the type of power service available, please contact your local power company.
- Reliable earthing (grounding) of this unit must be maintained. Particular attention should be given to supply connections when connecting to power strips, rather than directly to the branch circuit.
- Check nameplate ratings to ensure that there is no overloading of supply circuits that could have an effect on overcurrent protection and supply wiring.

4.2. Connection to Switched Outlets

Connect the power cord from the Switched Device to a Switched AC Outlet on the IPS unit. Note that when power is applied to the IPS, the Switched AC Outlets will be switched "ON". The IPS-4 can switch up to a total of 15 Amps.

4.3. Console / RS232 Port Connection

The Console Port is a male, RS232C DB9 connector, wired in a DTE configuration. In the default state, the Console port is configured for 9600 bps, no parity, 8 data bits, 1 stop bit. The Console Port can be connected to either an external modem or a local PC, but not both items at the same time. Appendix A describes the Console Port interface.

4.3.1. Connecting a Local PC

When connecting the Console Port to a Local PC, note that the port uses a DTE configuration. After the Local PC has been connected, make certain to set the Serial Port Mode to "Console" as described in Section 5.3.1.

4.3.2. Connecting an External Modem

When connecting directly to an external modem, use a standard AT to Modem cable. Make certain that the modem is initialized at the same default communications parameters as the IPS Console Port. Next, refer to Section 5.3.1 and set the Serial Port Mode to "Modem". If necessary, you may also wish to redefine the Modem initialization command at this point as described in Section 5.3.1. Please refer to the modem user's guide for more information.

4.4. Connecting the Network Cable

The Network Port is an RJ45 Ethernet jack, for connection to a TCP/IP network. Connect your 10Base-T cable to the Network Port. Note that the IPS includes a default IP address (192.168.168.168) and a default subnet mask (255.255.255.0.) When installing the IPS in a working network environment, it is recommended to define network parameters as described in Section 5.3.4.

Note: The IPS features a 10Base-T Interface. When connecting to a 100Base-T interface, most router switches will autosense to determine if the device is 100Base-T or 10Base-T, and then configure the network interface accordingly. If your router switch does not autosense, the network interface port must be manually set to 10Base-T.

This completes the IPS installation instructions. Please proceed to the next Section for instructions regarding unit configuration.

5. Configuration

5.1. System Mode and User Mode

In order to restrict access to sensitive command functions, the IPS features two operating modes; System Mode and User Mode.

- **System Mode:** Allows access to all configuration menus, switching functions and status screens. The System Mode Status Screens show On/Off conditions for all switched outlets, and list all currently defined system parameters.
- **User Mode:** Allows access to On/Off/Boot commands, but does not allow access to configuration functions. Users may only issue commands to, or view status of the plugs that are specifically allowed by their password.

The IPS will display a password prompt when the unit is contacted via the Console Port or Network Port. The password entered at this prompt determines whether the unit will start-up in System Mode or User Mode. If the System Password is entered, the System Mode will be active. If a Plug Password is entered, the User Mode will be active. The System Password is defined via the General Parameters menu (Section 5.3.1), and the Plug Passwords are defined via the Plug Parameters Menus (Section 5.3.3.)

Notes:

- If you wish to restrict access to configuration menus, you must define the System Password.
- If the System Password is not defined, the IPS will always start-up in System Mode.
- If the System Password is not defined, the Password Prompt will not be displayed when you access the IPS via the Text Interface. The prompt will always be displayed when the IPS is contacted via the Web Browser Interface.
- When the IPS is contacted via Network, the password prompt will also include a field for the user name. If you have not defined a user name, then you may leave this field blank, and only the password is required to gain access to the unit. The user name prompt is not displayed when the unit is contacted via the Text Interface.

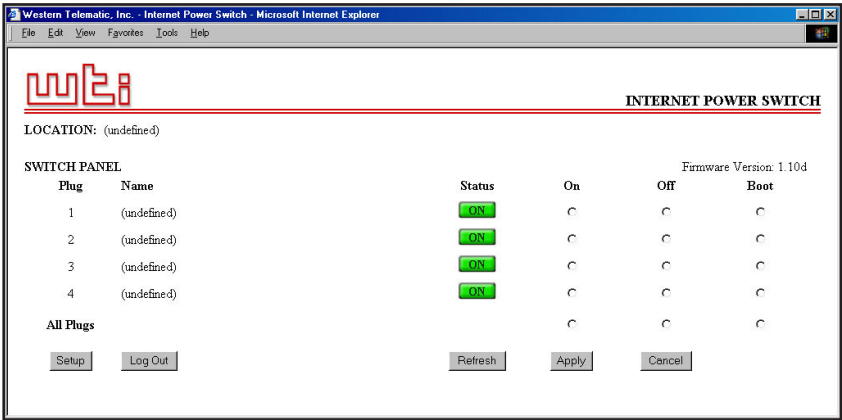


Figure 5.1: Plug Status Screen - Web Browser Interface

5.2. Communicating with the IPS

In order to configure the unit or invoke command functions, you must first connect to the IPS and access command mode. As discussed in Section 3, the IPS offers two separate command interfaces: the Web Browser Interface, and the Text Interface.

The IPS also offers three different methods for accessing command mode; via network, via external modem, or via local console. The Web Browser Interface is only available when the IPS is contacted via network, and the Text Interface is available via network, modem or local PC. The sections that follow describe the procedure for accessing the Web Browser Interface or the Text Interface.

Note: Configuration functions are only available when you have logged into the IPS command mode using the System Password.

5.2.1. Accessing the Web Browser Interface

In order to issue commands via the Web Browser Interface, the IPS must be connected to a TCP/IP network, and your PC must be equipped with a JavaScript enabled web browser (such as Internet Explorer or Netscape® Navigator.)

1. Start your JavaScript enabled Web Browser.
2. Key the IPS's IP address (default = http://192.168.168.168) into the web browser's address bar, and then press **[Enter]**.

3. **Password Prompt:** The IPS will display a prompt, which asks for your name and password.
 - a) **User Name:** If you have not previously defined a user name, then this field should be left blank. A user name is only required when one has been defined via the General Parameters menu.
 - b) **Password:** Key in your System Password or Plug Password and then click "OK" (Note that Plug Passwords do not permit access to configuration functions.)
 - c) If the System Password has *not* been defined, simply click the "OK" button without keying in a name or password.

If a valid password is entered, the Plug Status Screen will appear.

5.2.2. Accessing the Text Interface

The Text Interface can be accessed via Network, modem or local PC. In order to access the Text Interface, your installation must include the following:

- **Access Via Network:** The IPS must be connected to your TCP/IP Network, and your PC must include a communications program (such as Hyperterminal.)
- **Access Via Modem:** An external modem must be connected to the IPS's RS232 Console Port, and a phone line must be connected to the external modem. Your PC Must include a communications program.
- **Access Via Local PC:** Your local PC Must be connected to the IPS's RS232 Console Port. The local PC must include a communications program.

To access command mode via the Text Interface, proceed as follows:

1. The IPS is transparent to parity and will accept 7 or 8 bit characters, but will always answer back at 8 bits, no parity. Make certain your communication program is set for the appropriate baud rate, bits, parity and Communications Port.
 - a) **Via Modem:** Start your communications program. Dial the external modem connected to the IPS. Wait for the Connect message, then proceed to Step 2.
 - b) **Via Local PC:** Start your communications program and press **[Enter]**. Wait for the connect message, then proceed to Step 2.

Internet Power Switch v1.10 Site ID: (undefined)

Plug	Name	Password	Status	Boot/Seq.	Delay
1	(undefined)	(undefined)	ON	1	Sec
2	(undefined)	(undefined)	ON	1	Sec
3	(undefined)	(undefined)	ON	1	Sec
4	(undefined)	(undefined)	ON	1	Sec

"/H" for help.

IPS>

Figure 5.2: Plug Status Screen - Text Interface

c) **Via Network:** The IPS includes a default IP address (192.168.168.168), which allows you to contact the unit from any network node on the same subnet. When the IPS is installed in a working network environment, it is recommended to redefine the IP Address, Subnet Mask, and Gateway Address as described in Section 5.3.3.

i. Telnet to the IPS's IP address. For example, if the IP address is "192.168.168.168", then on a UNIX system, the Telnet command would be:

```
$ telnet 192.168.168.168 [Enter]
```

ii. If the Telnet connection is refused, this may mean that either the IP Security feature has denied the connection (See Section 5.3.4.1), or that the unit is operating on a 100Base-T network that does not autosense for 10Base-T devices (see Section 4.4.)

2. **Password:** If the System Password has been defined, the unit will display the Password Prompt. Key in either the System Password or Plug Password, and press **[Enter]**. If the System Password has *not* been defined, the prompt will not be displayed when the unit is accessed via the Text Interface. Note that the Password feature is case sensitive.
3. If a valid System Password or Plug Password is entered, the IPS will display the Plug Status Screen shown in Figure 5.2, followed by the "IPS>" Command Prompt.

Note: The Plug Status Screen will not display actual passwords. The password column will read either "defined" or "undefined", depending upon whether or not the Plug Passwords have been defined.

5.3. Configuration Menus

As described in the sections that follow, configuration parameters for the IPS can be selected via the Web Browser Interface or Text Interface. Although the Web Browser and Text Interface provide two separate means for selecting parameters, both interfaces allow access to essentially the same set of parameters, and parameters selected via one interface will also be applied to the other.

Web Browser Interface: Click the "Setup" button to gain access to the configuration menus; a row of buttons will be displayed along the left hand edge of the screen. Click the appropriate button to access the desired menu. Note the following:

- Newly selected parameters will not be activated until you click the "Apply" button.
- Click "Switch Panel" to return to the main status screen.

Text Interface: Refer to the Help Screen (/H), then enter the appropriate command to access the desired menu. When the configuration menu appears, key in the number or letter for the parameter that you wish to define and follow the instructions in the resulting submenu. Note the following:

- To exit from a parameters menu, press the [Esc] key.

The following sections describe options and parameters that can be accessed via each of the configuration menus. Please note that essentially the same selection of parameters and options are available via both the Web Browser Interface and Text Interface.

Note: Configuration menus are only available when the System Mode is active. Configuration menus are not available if you have logged in using a Plug Password.

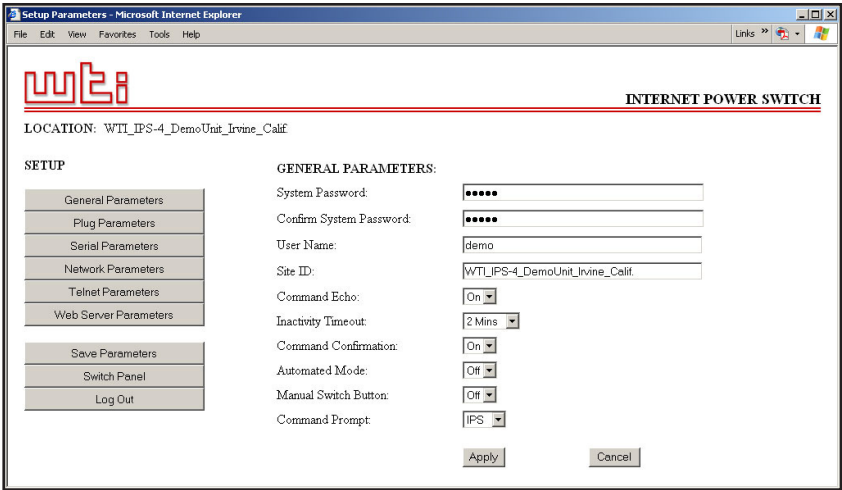


Figure 5.3: General Parameters Menu - Web Browser Interface

5.3.1. The General Parameters Menus

The General Parameters Menus allow you to select parameters such as the System Password, User Name, Site I.D. and other options.

- **Web Browser Interface:** Click the "Setup" button to access the Setup Menus, and then click the "General Parameters" button. The General Parameters Menu will be displayed as shown in Figure 5.3.
- **Text Interface:** Type **/G** and press **[Enter]**. The General Parameters Menu will be displayed as shown in Figure 5.4.

The General Parameters Menus offer the following options:

- **System Password:** The IPS will display a password prompt when you attempt to access command mode. When the System Password is entered at log on, the System Mode will be active, allowing access to both switching functions and configuration menus. (16 Characters, Default = undefined.)

Note: If the System Password is not defined, then the IPS will always start up in System Mode, and configuration functions will then be available to anyone who accesses command mode.

```
GENERAL PARAMETERS:

1. System Password:      (defined)
2. User Name:            demo
3. Site ID:              WTI_IPS-4_DemoUnit_Irvine_Calif.
4. Command Echo:        On
5. Inactivity Timeout:   2 Mins
6. Command Confirmation: On
7. Automated Mode:       Off
8. Manual Switch Button: Off
9. Command Prompt:       IPS

A. Default Parameters

Enter Selection,
Press <ESC> to Exit ...
```

Figure 5.4: General Parameters Menu - Text Interface

- **User Name:** (Optional) The User Name allows you to set up an additional layer of security for web access to command mode by requiring that users correctly enter a name in addition to a password. Note that the User Name is only required when the unit is accessed via the Web Interface. (16 Characters, Default = undefined.)

Note: If a User Name is defined, then users who login with a Plug Password (User Mode) will also need to enter this same User Name at the login prompt when attempting to access command mode via the Web Browser Interface.

- **Site ID:** Defines a brief text message, which can describe the location of the IPS unit. (Up to 32 characters, Default = undefined.)
- **Command Echo:** When enabled, ASCII commands sent via the Text Interface will be echoed back, allowing keystrokes to be displayed. This feature applies only to the Text Interface, and has no visible effect on the Web Browser Interface. (Default = On.)
- **Inactivity Timeout:** Determines how long the IPS will wait for additional commands during periods of inactivity. When the Timeout Period elapses, the user will be disconnected from the IPS command mode. (Default = 2 Minutes.)
- **Command Confirmation:** When enabled, the IPS will display a confirmation prompt before executing certain commands. When disabled, the prompt will be suppressed and commands will be executed immediately. (Default = On/Enabled.)

- **Automated Mode:** When enabled, the IPS will execute On, Off, Boot, and exit commands without displaying a confirmation prompt, status screen or confirmation messages. For more information, please refer to Section 6.4. (Default = Off.)

Note: When this option is enabled, security functions are suppressed, and users are able to access System Level menus and control plugs without entering a password. If security is a concern and the Automated Mode is required, it is recommended to use the IP Security feature (Section 5.3.4.1) to restrict access.

- **Manual Switch Button:** Enables and configures the Default Button's manual plug control function, but does not effect the Default Button's ability to reset parameters to default values. (Default = "On".)
 - **Off:** Disables the manual plug control function.
 - **On:** Enables manual plug control. When Default is pressed and held for three seconds, all outlets will be toggled On or Off.
- **Command Prompt:** Allows the Text Interface command prompt to be set to either "IPS", "NPS", or "NBB." (Default = IPS.)

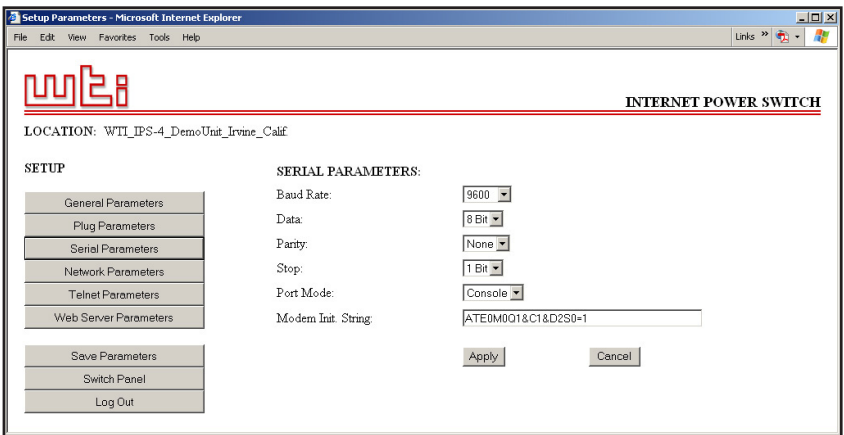


Figure 5.5: Serial Parameters Menu - Web Browser Interface

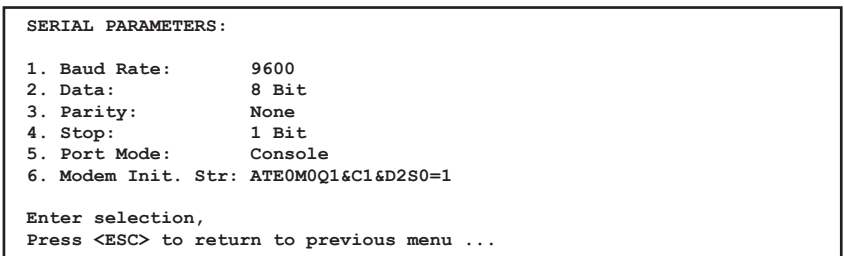


Figure 5.6: Serial Parameters Menu - Text Interface

5.3.2. The Serial Parameters Menu

The Serial Parameters Menus are used to configure the IPS-4's serial Console Port, and is used to select parameters such as the Baud Rate, Parity and Modem Initialization String. To access the Serial Parameters Menu, proceed as follows:

- **Web Browser Interface:** Click the "Setup" button to access the Setup Menus, and then click the "Serial Parameters" button. The Serial Parameters Menu will be displayed as shown in Figure 5.5.
- **Text Interface:** Type `/C` and press `[Enter]`. The Serial Parameters Menu will be displayed as shown in Figure 5.6.

As shown in Figure 5.5 and Figure 5.6, the Serial Parameters Menus offer the following options:

- **Baud Rate:** Baud Rate for the Console Port. (Default = 9600 bps.)
Note: When this setting is changed, the new baud rate will not be applied until the user exits and then re-enters command mode.
- **Data:** The Data Bits setting for the Console Port. (Default = 8 Bits.)
- **Parity:** The parity setting for the Console Port. (Default = None.)
- **Stop:** The Stop Bits setting for the Console Port. (Default = 1 Bit.)
- **Port Mode:** Sets up the serial Console / RS232 Port for use with either a local PC or an external modem. Note that when the Port Mode is set to "Modem" the modem initialization string will be sent every 15 minutes. (Default = Console.)
- **Modem Initialization String:** Defines a command string (up to 32 characters long) which can be sent out the serial Console Port to initialize an external modem. If the Port Mode is set to "Console", the modem initialization string will not be sent. For more information on initialization commands, refer to the user's guide for your modem. (Default = **ATE0M0Q1&C1&D2S0=1**)

Figure 5.7: Plug Parameters Menu - Web Browser Interface

```

PLUG #1 PARAMETERS:

1. Plug Name:          (undefined)
2. Password:          (undefined)
3. Boot/Seq. Delay:    1 Sec

Enter Selection,
Press <ESC> to Exit ...
  
```

Figure 5.8: Plug Parameters Menu - Text Interface

5.3.3. Plug Parameters Menus

The Plug Parameters Menus are used to define Plug Names, Plug Passwords and boot / sequence delay times for each of the IPS's four Switched AC Outlets.

- **Web Browser Interface:** Click the "Setup" button to access the configuration menus, then click the "Plug Parameters" button. The Plug Parameters Menu will be displayed as shown in Figure 5.7.
- **Text Interface:** Type `/P n` and then press `[Enter]` (Where `n` is the number or name of the plug you wish to configure.) The Plug Parameters Menu will be displayed as shown in Figure 5.8.

Note that in this case, the major difference between the Web Browser Interface and Text Interface is that the Web Interface allows you to select parameters for all four plugs from a single menu, whereas the Text Interface includes a separate menu for each plug. The Plug Parameters Menu allows the following to be defined:

- **Plug Name:** Assigns a name to the plug. (Up to 32 Characters, Default = undefined.)

Note: The Plug name cannot begin with a number, the underscore character (`_`), the slash character (`/`) or an asterisk (`*`).

- **Plug Password:** Assigns a password to the plug. When this password is entered at login, the user will be able to issue commands to this plug, and any other plug that shares the same password as described in Section 5.3.3.1. Note that this password does not allow access to configuration menus. (16 Characters, Default = undefined.)

Note: Passwords cannot contain nonprintable characters, spaces, colons (`:`), plus signs (`+`) or quotation marks.

- **Boot/Seq. Delay:** When more than one plug is switched On/Off or a reboot cycle is initiated, the Boot/Sequence delay determines how much time will elapse between switching operations, as described in Section 5.3.3.2. (Default = 5 Seconds.)

5.3.3.1. Plug Passwords and Co-Location Features

The Plug Passwords allow you to determine which plugs an individual user will be permitted to control. When a plug password is entered at the login prompt, the user will be able to issue On/Off/Reboot commands for the corresponding plug, and every other plug that shares this same password.

For example, if the password "switch" is defined for plugs 1, 2, and 3, then a user who logs into command mode using the password "switch" will be allowed to issue commands to plugs 1, 2, and 3, but not plug 4. Note that Plug Passwords do not allow access to configuration menus, and users are only allowed to view the status of plugs permitted by their password.

5.3.2.2. The Boot / Sequence Delay Period.

The Boot / Sequence Delay value will be applied differently for Reboot operations as opposed to simple On/Off operations as described below:

1. **Reboot Cycles:**

- a) **Single Plug:** The Boot/Seq. Delay determines how long the plug will remain Off before it is switched back On again.
- b) **Several Plugs:** The Boot/Seq. Delay determines how long the plug will remain "Off", and also how long the IPS will pause before proceeding to the next plug.

2. **On/Off Switching:** The Boot/Seq. Delay determines how long the IPS will pause before proceeding to the next plug.

Examples: Assume that the Boot / Sequence Delays for each plug have been set as follows: Plug 1 = 1 Second, Plug 2 = 2 Seconds, Plug 3 = 5 Seconds, Plug 4 = 1 Minute.

If an "On" command is applied to all four plugs, the IPS will respond as follows:

1. Turn On Plug 1, Wait 1 Second.
2. Turn On Plug 2, Wait 2 Seconds.
3. Turn On Plug 3, Wait 5 Seconds.
4. Turn On Plug 4.

If a "Reboot" Command is applied to Plug 3, the IPS will respond as follows:

1. Turn Off Plug 3, Wait 5 Seconds, Turn On Plug 3.

If a Reboot Command is applied to all four plugs, the IPS will respond as follows:

1. Turn Off all four plugs (short delay between plugs.)
2. Wait 1 Second, Turn On Plug 1, Wait 1 Second.
3. Wait 2 Seconds, Turn On Plug 2, Wait 2 Seconds.
4. Wait 5 Seconds, Turn On Plug 3, Wait 5 Seconds.
5. Wait 1 Minute, Turn on Plug 4.

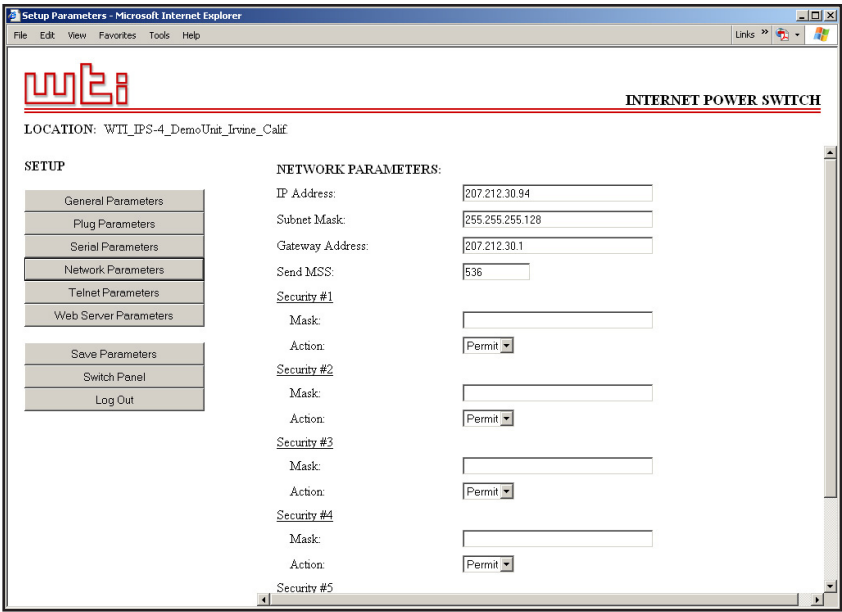


Figure 5.9: Network Parameters Menu - Web Browser Interface

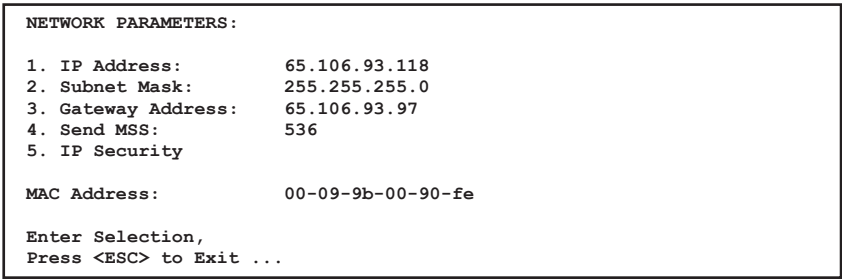


Figure 5.10: Network Parameters Menu - Text Interface

5.3.4. Network Parameters Menus

The Network Parameters Menus are used to select the IP Address and other network parameters.

- **Web Browser Interface:** Click the "Setup" button to access the Setup Menus, and then click the "Network Parameters" button. The Web Parameters Menu will be displayed as shown in Figure 5.9.
- **Text Interface:** Type **/N** and press **[Enter]**. The Network Parameters Menu will be displayed as shown in Figure 5.10.

Notes:

- Although the Web Browser Interface and Text Interface both allow configuration of the same network parameters, note that for the Text Interface, the IP Security feature is configured via a separate submenu. For more information on IP Security, please refer to Section 5.3.4.1.
- Settings for network parameters depend on the configuration of your individual network. Contact your network administrator for appropriate settings.

The Network Parameters Menu allows the following parameters to be defined. Except where noted, all parameters listed here are available via both the Web Browser Interface and Text Interface.

- **IP Address:** Defines the IP address for the IPS unit.
(Default = 192.168.168.168.)
- **Subnet Mask:** Defines the Subnet Mask for the IPS unit.
(Default = 255.255.255.0.)
- **Gateway Address:** Defines the Gateway Address for the IPS unit.
(Default = undefined.)
- **Send MSS:** Defines the Maximum Segment Size that will be sent by the IPS. (Default = 536.)
- **IP Security:** Please refer to Section 5.3.4.1 for a detailed description of the IP Security feature.
- **MAC Address:** Displays the unit's MAC Address. Please note that this item only displays the assigned MAC Address, and cannot be used to redefine the address. Note also that the MAC Address is not displayed via the Web Browser Interface.

```
IP SECURITY:

1. Security Mask #1:      (undefined)
2. Mask #1 Action:       Permit
3. Security Mask #2:      (undefined)
4. Mask #2 Action:       Permit
5. Security Mask #3:      (undefined)
6. Mask #3 Action:       Permit
7. Security Mask #4:      (undefined)
8. Mask #4 Action:       Permit
9. Security Mask #5:      (undefined)
10. Mask #5 Action:      Permit

Enter selection,
Press <ESC> to return to previous menu ...
```

Figure 5.11: IP Security Menu - Text Interface

5.3.4.1. IP Security Feature

The IP Security feature can be used to restrict unauthorized IP addresses from establishing a connection with the IPS. In the default state, the IPS accepts incoming IP connections from all hosts. To configure the IP Security feature, proceed as follows:

1. Access the IP Security Menu:
 - a) **Web Browser Interface:** The IP Security feature is configured using the fields at the bottom of the Network Parameters Menu as shown in Figure 5.9.
 - b) **Text Interface:** Go to the Network Parameters menu (**/N**), type **5** and press **[Enter]**. The IP Security menu will be displayed as shown in Figure 5.11.
2. The IP Security menu lists five IP Security "masks" along with the selected permit/deny action for each mask.
 - a) Each Security Mask prompt defines a specific IP address or range of addresses. Each Mask Action prompt defines the permit/deny action for the corresponding mask.
 - b) Masks are listed in order of ascending priority; Mask 1 has the lowest priority, Mask 5 has the highest priority.
 - c) Masks have a cumulative effect; high priority masks supersede the effect of lower priority masks.
 - d) Each IP Address consists of a series of four eight bit numbers. The number 255 is used as a wild card.

Example 1: Deny access to all hosts except 192.1.1.5:

Security Mask #1: 255.255.255.255	Mask #1 Action: Deny
Security Mask #2: 192.1.1.5	Mask #2 Action: Permit

Since 255 is a wild card, Mask #1 blocks all IP Addresses. Mask #2 then specifically grants access to 192.1.1.5 only.

Example 2: Allow access only by addresses that begin with 192.

Security Mask #1: 255.255.255.255	Mask #1 Action: Deny
Security Mask #2: 192.255.255.255	Mask #2 Action: Permit

Since 255 is a wild card, Mask 1 blocks all IP addresses. Mask 2 then grants access to all addresses that begin with 192.

Example 3: Allow access only by addresses that begin with 192, deny access to 192.1.1.5.

Security Mask #1: 255.255.255.255	Mask #1 Action: Deny
Security Mask #2: 192.255.255.255	Mask #2 Action: Permit
Security Mask #3: 192.1.1.5	Mask #3 Action: Deny

Since 255 is a wild card, Mask 1 blocks all IP addresses. Mask 2 then grants access to all addresses that begin with 192. Finally, Mask 3 specifically blocks access by 192.1.1.5.

Note:

- Mask #5 has priority over the other four masks. If Mask #5 is set to deny access by "255.255.255.255" (all wild cards), you will not be able to access IPS Command Mode via network. Access will only be allowed via a Local PC or external modem connected to the IPS Console Port.
- When using the wild card address "255.255.255.255", make certain that at least one higher priority mask permits access by your IP address.

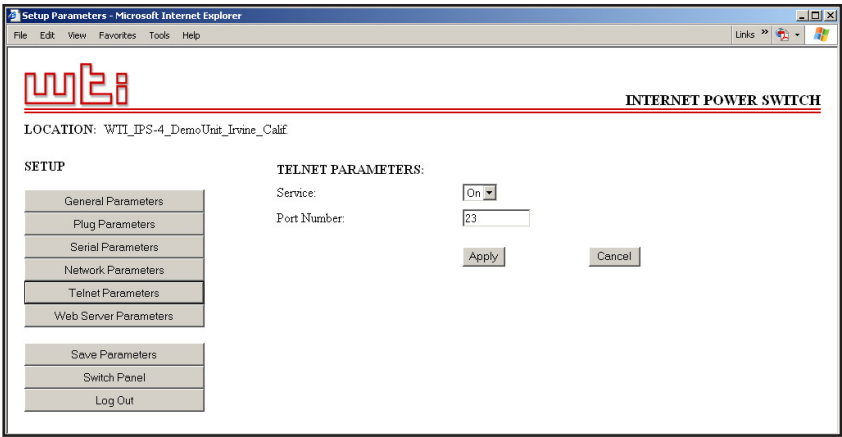


Figure 5.12: Telnet Parameters Menu - Web Browser Interface



Figure 5.13: Telnet Parameters Menu - Text Interface

5.3.5. The Telnet Parameters Menus

The Telnet Parameters Menus are used to enable/disable Telnet access to the IPS command mode and select the TCP port for Telnet connections.

- **Web Browser Interface:** Click the "Setup" button to access the configuration menus, and then click the "Telnet Parameters" button to display the menu shown in Figure 5.12.
- **Text Interface:** Type **/T** and press **[Enter]**. The Telnet Parameters Menu will be displayed as shown in Figure 5.13.

The Telnet Parameters Menus allow the following parameters to be defined. Please note that all parameters listed here are available via both the Web Browser Interface and Text Interface.

- **Service:** Enables/Disables Telnet communication with the IPS unit. When this item is "Off," user's will not be able to contact the unit via Telnet. (Default = On.)
- **Port Number:** Selects the TCP/IP port number that will be used for Telnet connections. (Default = 23.)

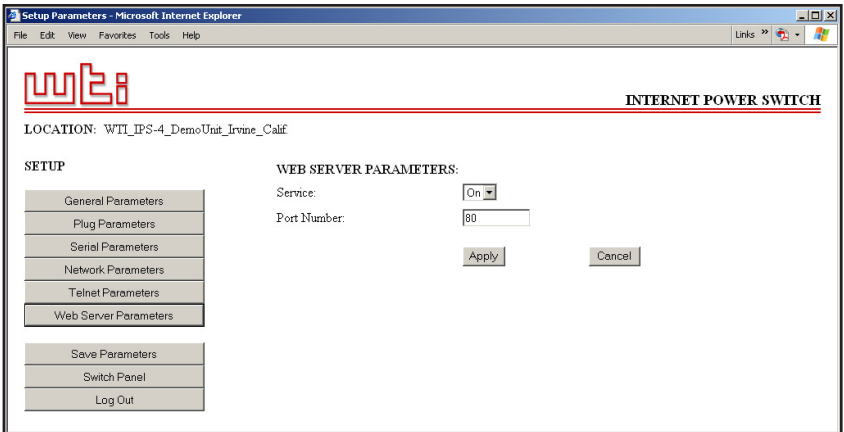


Figure 5.14: Web Server Parameters Menu - Web Browser Interface



Figure 5.15: Web Server Parameters Menu - Text Interface

5.3.6. Web Server Parameters Menus

The Web Server Parameters Menus are used to configure the internal web server, which allows the unit to be operated via the Web Browser Interface.

- **Web Browser Interface:** Click the "Setup" button to access the configuration menus, and then click the Web Server Parameters button. The Web Server Parameters Menu will be displayed as shown in Figure 5.14.
- **Text Interface:** Type **/w** and press **[Enter]**. The Web Server Parameters Menu will be displayed as shown in Figure 5.15.

The Web Server Parameters Menu offers the following options:

- **Service:** Enables/Disables the IPS's Web Server. Note that when the Web Server is disabled, you will not be able to communicate via the Web Browser Interface. (Default = On.)
- **Port Number:** Sets the TCP/IP Port Number. The Port Number can be set to any valid number except 23; this is because 23 is the default port number that is used for communication with the unit via Telnet. (Default = 80.)

5.4. Save Configuration Parameters

The IPS offers two methods for saving parameters; Saving to Memory, and Saving to an ASCII File.

Saving parameters to memory ensures that your user-defined configuration will remain intact if power to the IPS is temporarily interrupted. After the configuration menus have been used to change parameters, the IPS will prompt you to save parameters before exiting from command mode. At this point, the IPS offers the options to Save parameters, continue without saving, or revert to the previously saved parameters.

Saving Parameters to an ASCII file allows you to create a "backup" of your currently defined configuration. As described in Section 7, this provides quick recovery in the event that the unit is accidentally reset to default parameters, and also allows you to copy parameters to other IPS units when several units need to be configured with the same parameters.

Notes:

- After new Parameters have been applied, the IPS will display a "Save" prompt. In the Web Browser Interface, this prompt appears when you leave the configurations menus. In the Text Interface, the "Save" prompt appears when you disconnect from the unit. At this point, you have the option of saving new parameters to memory, continuing without saving, or reverting to previously saved parameters.
- If parameters have not been saved, and if power to the IPS is interrupted, newly defined parameters will be lost. When power is restored, the unit will then be configured with the previously saved parameters.

6. Operation

As discussed in Section 5, the IPS offers two separate command interfaces; the Web Browser Interface and the Text Interface. Note that Both interfaces offer essentially the same command options and features, and that parameters defined via the Web Interface will also apply when communicating via the Text Interface (and vice versa.)

6.1. Operation via the Web Browser Interface

When using the Web Browser Interface, all switching commands are invoked via the Plug Status Screen, which also displays the status of the IPS's four switched outlets.

6.1.1. The Plug Status Screen - Web Browser Interface

When you login to the IPS command mode, using the Web Browser Interface, the first screen that is displayed after login is the Plug Status Screen (or "Switch Panel".) The Plug Status Screen (Figure 6.1) lists the current On/Off status of the IPS's Switched Outlets and provides a series of "radio buttons" which are used to control On/Off/Boot switching of the outlets.

To invoke On/Off/Boot commands or view plug status via the Web Browser Interface, proceed as follows:

1. Access the IPS Command Mode as described in Section 5.2.1.
2. When the Plug Status Screen (Figure 6.1) appears, note that the screen includes a status field and On/Off/Boot controls for each of the IPS's four Switched AC Outlets.

Notes:

- When Boot/On/Off operations are initiated, Boot/Sequence Delay times will be applied as described in Section 5.3.3.2.
- Users who login to command mode using a Plug password, will only be allowed to issue commands to the plugs allowed by that password.

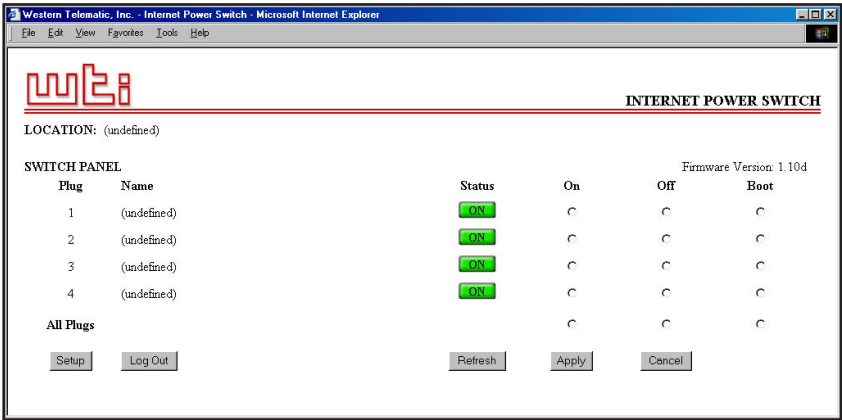


Figure 6.1: Plug Status Menu - Web Browser Interface

3. **Switching Plugs On:** To switch one or more plugs On, click the "On" radio button next to the desired plug(s), then click "Apply".
 - a) To switch all Plugs On, click the "On" radio button in the "All Plugs" row, then Click "Apply."
 - b) The IPS will display a screen indicating that the operation is in progress, and then return to the Plug Status Screen (which should now show that selected plugs are On.)
4. **Switching Plugs Off:** To switch one or more plugs Off, click the "Off" radio button next to the desired plug(s), and then click "Apply".
 - a) To switch all Plugs Off, click the "Off" radio button in the "All Plugs" row, and then Click "Apply."
 - b) The IPS will display a screen indicating that the operation is in progress, and then return to the Plug Status Screen (which should now show that selected plugs are Off.)
5. **Reboot Cycles:** To initiate a Reboot Cycle, click the "Boot" radio button next to the desired plug(s), and then click the "Apply" Button.
 - a) To reboot all Plugs, click the "Boot" button in the "All Plugs" row, and then Click "Apply."
 - b) The IPS will display a screen which indicates the Reboot Cycle is in progress, then return to the Plug Status Screen (which should now show that selected plugs are On.)

Internet Power Switch v1.10			Site ID: (undefined)		
Plug	Name	Password	Status	Boot/Seq. Delay	
1	(undefined)	(undefined)	ON	1	Sec
2	(undefined)	(undefined)	ON	1	Sec
3	(undefined)	(undefined)	ON	1	Sec
4	(undefined)	(undefined)	ON	1	Sec
"/H" for help.					
IPS>					

Figure 6.2: Plug Status Screen - Text Interface

6.2. Operation via the Text Interface

When using the Text Interface, all switching functions are performed by invoking simple, ASCII commands. ASCII commands are also used to display status screens and to log out of command mode. The Text Interface includes a Help Menu, which summarizes all available IPS commands. To display the Text Interface Help Menu (Figure 6.3), type **/H** and press **[Enter]**.

6.2.1. The Plug Status Screen - Text Interface

When you login to the IPS command mode using the Text Interface, the first screen that is displayed after login is the Plug Status Screen. The Plug Status Screen (Figure 6.2) lists the current status of the IPS's Switched AC Outlets and displays the firmware version and currently defined Site I.D. Message.

Normally, the Plug Status Screen will also be redisplayed each time a command is successfully executed. Note however, that if desired, the Automated Mode (See Section 6.4) can be enabled to suppress the display of the Plug Status Screen after each command.

```
Internet Power Switch v1.10d      Site ID: WTI_IPS-4_DemoUnit_Irvine_Calif.

Display                               Configuration
/H      Display Help Screen           /G      View/Set General Parameters
/S      Display Plug Status           /P [n]   View/Set Plug Parameters
/SN     Display Network Status        /C      View/Set Serial Parameters
Control                               /N      View/Set Network Parameters
/Boot <n>  Boot Plug n                /T      View/set Telnet Parameters
/On <n>   Turn On Plug n              /W      View/Set Web Server
/Off <n>  Turn Off Plug n             /E      Save Parameters
/X      Exit/Disconnect              /R      Recall Parameters
                                   /DL     Download Parameters to File

+-----+ Utilities
| [n] = optional plug name or number | /I      Reset Network Interface
| <n> = required plug name or number | /U      Upgrade Firmware
| n+n or n n = plug n and plug n   |
| n:n = plug n through plug n      |
| * = all plugs                    |
| ,y = bypass "Sure? (y/n)"        |
+-----+

IPS>
```

Figure 6.3: The IPS Help Screen - Text Interface

6.2.2. Boot/On/Off Commands - Text Interface

These commands can Boot or toggle the On/Off status of the IPS's switched plugs. Plugs may be specified by name or number.

Notes:

- Wait for the "IPS>" prompt to appear before entering commands. The prompt will not reappear until the previous command is complete.
- Commands are not case sensitive. All commands are invoked by pressing [Enter].
- Users who log in to command mode using a Plug password, will only be allowed to issue commands to the plugs allowed by that password.
- If command confirmation is enabled, the IPS will display the Status Screen after the Boot/On/Off commands are successfully completed.
- When Boot/On/Off operations are initiated, Boot/Sequence Delay times will be applied as described in Section 5.3.3.2.

To Switch Plugs, or initiate a Boot Cycle, proceed as follows:

1. **Switch Plug(s) On:** To power-on a plug, type **/ON n** and press [Enter]. Where "n" is the number or name of the desired plug. For example:

```
/ON 1 or /ON ROUTER
```


2. **Switch Plug(s) Off:** To power-off a plug, type **/OFF n** and press **[Enter]**. Where "n" is the number or name of the desired plug. Note that the **/OFF** command can also be entered as **/OF**. For example:

/OFF 2 or /OF ROUTER

3. **Boot Plug(s):** To initiate a Boot cycle, type **/BOOT n** and press **[Enter]**. Where "n" is a the number or name of the desired plug. Note that the **/BOOT** command can also be entered as **/BO**. For example:

/BOOT 1 or /BO ATMSWCH

4. **Suppress Command Confirmation Prompt:** To execute a Boot/On/Off command without displaying the "Sure?" prompt, include the **", Y"** option at the end of the command line. For example:

/ON ROUTER, Y or /BOOT 2, Y

6.2.3. Applying Commands to Several Plugs - Text Interface

As described below, Boot/On/Off commands can be applied to only one Switched AC Outlet, or to an assortment of outlets.

Note: When Boot/On/Off operations are initiated, Boot/Sequence Delay times will be applied as described in Section 5.3.3.2.

1. **Several Plugs:** To apply an On / Off / Boot command to several plugs, enter the numbers or names for the plugs, separated by a "plus sign" (+). For example to switch plugs 1, 3, and 4 Off, enter the following:

/OFF 1+3+4 [Enter]

2. **Series of Plugs:** To apply a command to a series of IPS Plugs, enter the number for the plugs that mark the beginning and end of the series, separated by a colon. For example, to switch plugs 1 through 3 On, enter the following:

/ON 1:3 [Enter]

4. **All Plugs:** To apply a command to all plugs, enter an asterisk in place of the name or number. For example, to Boot all plugs, enter the following:

/BO * [Enter]

6.3. Logging Out of Command Mode

When you have finished communicating with the IPS, it is important to always disconnect using either the "Log Out" button (Web Browser Interface) or /X command (Text Interface), rather than simply closing your browser window or communications program.

When you disconnect using the Log Out button or /X command, this ensures that the IPS has completely exited from command mode, and is not waiting for the inactivity timeout period to elapse before allowing additional connections. This ensures that IPS unit will be available to other users, and they will not have to wait for the timeout period to elapse before accessing command mode.

6.4. The Automated Mode

The Automated Mode allows the IPS to execute switching and reboot commands, without displaying menus or generating response messages. Automated Mode is designed to allow the IPS to be controlled by a device which can generate commands to control power switching functions without human intervention.

When Automated Mode is enabled, the /ON, /OFF, /BOOT, and /X commands are executed without a "Sure?" confirmation prompt and without command response messages; the only reply to these commands is the "IPS>" prompt, which is displayed when the command is complete.

Note that although Automated Mode can be enabled using either the Web Browser Interface or Text Interface, Automated Mode is designed primarily for users who wish to send ASCII commands to the IPS without operator intervention, and therefore does not specifically apply to the Web Browser Interface. When Automated Mode is enabled, the Web Browser Interface can still be used to invoke On / Off / Boot commands.

Notes:

- When Automated Mode is enabled, all IPS password security functions are disabled, and users are able to access System Level command functions (including the configuration menus) and control plugs without entering a password.
- If you need to enable the Automated Mode, but want to restrict network access to IPS configuration menus, it is recommended to enable and configure the IP Security Function as described in Section 5.3.4.1.

To enable/disable the Automated Mode, access the General Parameters menu (see Section 5.3.1.) then set the "Automated Mode" option to "On". When Automated Mode is enabled, IPS functions will change as follows:

1. **All Password Security Suppressed:** When a user attempts to access command mode, the password prompt will not be displayed at either the Console / RS232 Port or the Network Port. Unless specifically restricted by the IP Security Function, all users will be allowed to access both switching and configuration functions, and all commands will be immediately accepted without the requirement to enter a password.
2. **Status Screen Suppressed:** The status screens will not be automatically displayed after commands are successfully executed. Note however, that the /S command can still be invoked to display the status screen as needed.
3. **"Sure?" Prompt Suppressed:** All commands are executed without prompting for user confirmation.
4. **Error Messages Suppressed:** If the [Enter] key is pressed without entering a command, the IPS will not respond with the "Invalid Command" message. Note however, that an error message will still be generated if commands are invoked using invalid formats or arguments.

All other status display and configuration commands will still function as normal.

6.5. Manual Operation

In addition to the command driven functions available via the Web Browser Interface and Text Interface, the IPS's switched plugs can also be toggled On and Off manually. To manually toggle plugs On or Off, press the Default Button, and hold it down for approximately three seconds.

If desired, the Default Button's manual plug control ability can also be disabled via the General Parameters menu as described in Section 5.3.1.

7. Saving and Restoring Configuration Parameters

After the IPS has been properly configured, parameters can be downloaded and saved as an ASCII text file on your local or remote PC. Later, if the configuration is accidentally altered, the file with the saved parameters can be uploaded to automatically reconfigure the unit without the need to manually assign each parameter.

Saved parameters can also be uploaded to other IPS units. This allows rapid set-up when several units will be configured with the same parameters.

The "Save Parameters" procedure can be performed from any terminal emulation program (e.g. ProComm, Crosstalk, Hyperterminal, etc.), which allows downloading of ASCII files.

Note: Although this function is only available via the Text Interface, parameters that are defined via the Web Browser Interface will also be sent to the ASCII file.

7.1. Sending Parameters to a File

1. Start your communications program and access the IPS command mode using the System Level Password.
2. When the IPS command prompt appears, type **/DL** and press **[Enter]**. The IPS will prompt you to prepare your communications program. Set up your communications program to receive an ASCII download, and specify a name for the file that will receive the saved parameters (e.g. IPS.PAR).
3. When the communications program is ready to receive the file, return to the IPS command mode, and press **[Enter]** to proceed.
4. The IPS will send a series of ASCII command lines which specify the currently selected IPS parameters.

7.2. Restoring Saved Parameters

This Section describes the procedure for using ProComm to send saved parameters to the IPS.

Note: Parameters saved to an ASCII file can only be restored via the Text Interface. This procedure cannot be performed via the Web Browser Interface.

1. Start your communications program and access the IPS command mode via the Text Interface as described in Section 5.2.2.
2. If the Password Prompt is displayed, key in your System Level Password and press **[Enter]**.
3. Configure your communications program to upload an ASCII text file.
4. Upload the file with the saved parameters. If necessary, key in the file name and directory path.
5. When the upload is complete, make certain to terminate the communications program's upload mode.

Note:

- The current On/Off status of each IPS plug will not be saved or restored. However, the selected default On/Off setting for each plug will be saved and restored.
- When the configuration file is sent to the IPS via telnet, the unit's IP Address, Subnet Mask, and Gateway Address will not be changed until after you exit from command mode.

At this point, saved parameters should have been restored to the IPS unit. Check the Plug Status Screen, General Parameters Menu, Plug Parameters Menu and Network Parameters Menu to make certain that saved parameters have been accurately restored.

A. Interface Description

A.1. Console / RS232 Port Interface

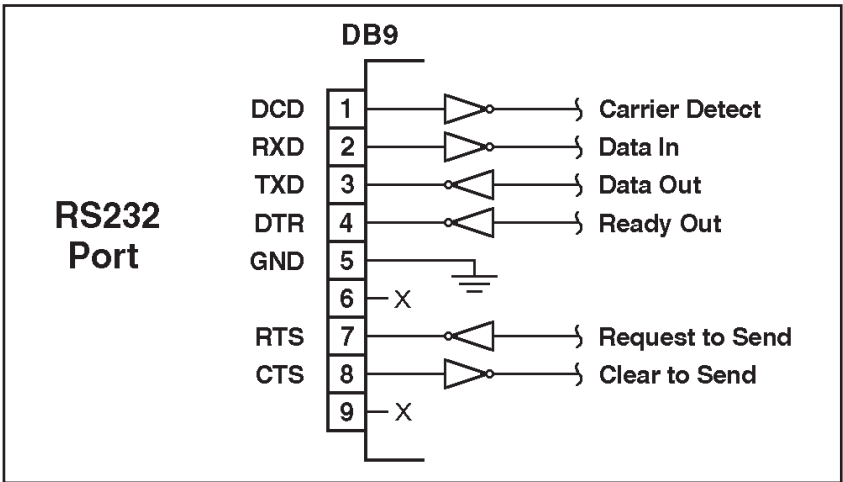


Figure A.1: Console Port Interface

B. Specifications

Power Input / Output ; Model IPS-4 (115 VAC)

- **AC Input:** 15 Amps Max
 - **Voltage:** 105 - 120 VAC 60 Hz
 - **Connector:** IEC-320 Inlet, Line Cord Supplied
- **AC Outputs:** Four (4) 15 Amps Max.
 - **Connector:** NEMA 5-15 Outlets
 - **Load:** 15 Amps Total

Console / Modem Port Interface:

- **Connector:** DB9M, RS232C, DTE
- **Coding:** Serial ASCII, 8 Bits, No Parity

Physical / Environmental:

- **Size:**
 - **Width:** 19.00" (48.3 cm) Standard Rack
 - **Depth:** 4.50" (11.3 cm)
 - **Height:** 1.75" (4.5 cm) 1U
- **Weight:** 6 lbs. Shipping Weight
- **Temperature:** (Operating) 32°F to 122°F (0°C to 50°C)
- **Humidity:** 10 - 90% RH

C. Customer Service

Customer Service hours are from 8:00 AM to 5:00 PM, PST/PDT, Monday through Friday. When calling, please be prepared to give the name and model of the unit, its serial number and a description of its symptoms. If the unit should need to be returned for factory repair it must be accompanied by a Return Authorization number from Customer Service.

WTI Customer Service
5 Sterling
Irvine, California 92618

Toll Free Service Line: 1-888-280-7227

Local Phone: (949) 586-9950

Service Fax: (949) 457-8138

Email: service@wti.com

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January 2005

WTI Part Number: 13369 Rev. B

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Notes:

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