RPB+

Remote Power Boot Switch

User's Guide

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1.   Introduction

Network equipment sometimes "locks-up", making it impossible to communicate. The RPB+ Remote Power Boot Switch can switch AC power on 5 individually controlled plugs, allowing attached equipment to reset (re-boot).

ASCII commands are sent to the RS-232 Control Port to select plugs, and specify On, Off, or Boot operations. A convenient Status Screen shows On/Off conditions at each plug. RPB+ features include a security password, Location I.D. field, and plug labels to identify the device connected to each plug.

Features:

- Remotely Toggles AC Power to Five Separate Outlets.
- Serial RS232 Control Port Interfaces Directly with a PC or External Modem, Allowing Local or Remote Control.
- Status Display Shows Plug Labels and On/Off Conditions.
- Simple ASCII Commands for On, Off, or Boot (Off/On).
- User-Selectable Re-Boot Cycle Duration (Off Time).
- User-Programmable Password Feature.
- User-Programmable Location I.D.
- User-Selectable Echo Mode.
- User-Programmable Plug Labels.
- User-Programmable Power-Up Defaults.
- Requires Only One Rack Space.
- Available in 115 VAC or 230 VAC Configurations

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, **/S** or **/3 ON**.

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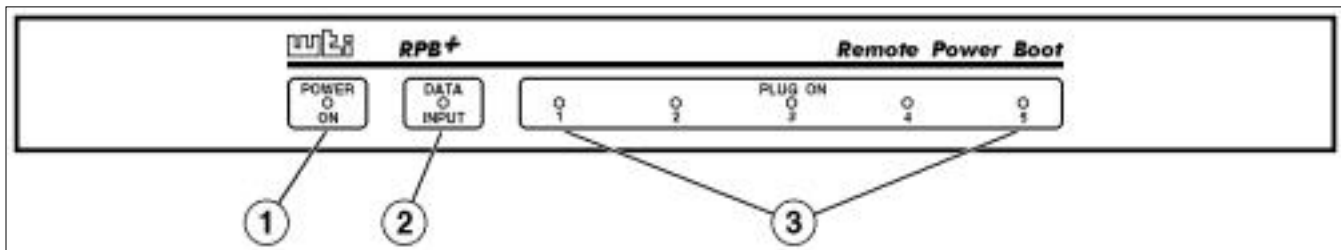
2. Unit Description

2.1. Front Panel

Figure 1: Front Panel

As shown in Figure 1, the RPB+ front panel includes a series of LED indicators which function as follows:

1. **POWER ON:** Lights when AC Power is applied to the RPB+.

2. **DATA INPUT:** Flashes when ASCII commands are received at the Control Port.

3. **PLUG ON (Plugs 1 - 5):** Lights when the corresponding plug is switched On.
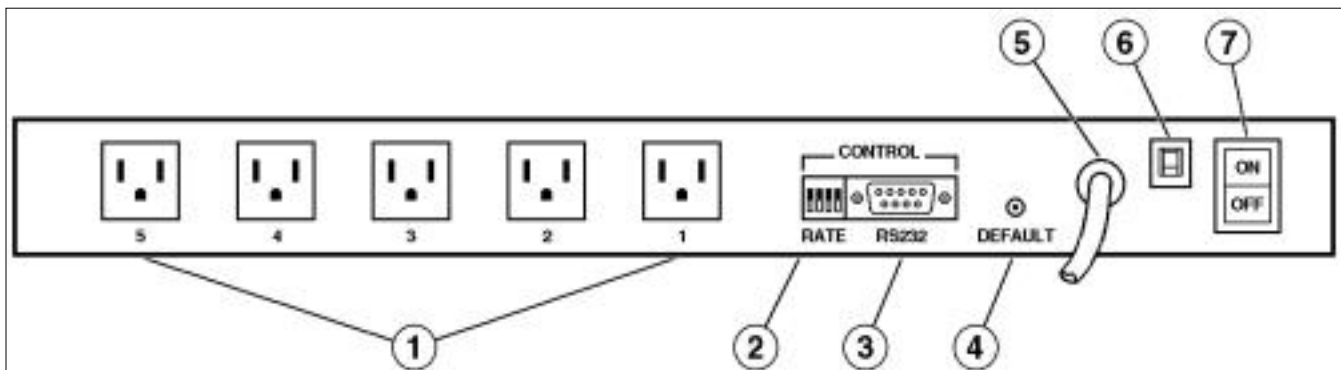
2.2. Back Panel

Figure 2: Back Panel

As shown in Figure 2, the RPB+ back panel includes the following items:

1. **Switched AC Outlets (Plugs 1 - 5):** For connection to up to five AC devices. Each outlet is capable of switching up to 15 Amps. The total for all five outlets must not exceed 15 Amps.

2. **SetUp Switches (RATE):** A bank of four DIP Switches which set the Control Port baud rate, select the Off Time duration, enable/disable the Password Option, and enable/disable the Read Only Mode.

3. **RS232 (Control) Port:** For connection to an external modem or local PC. The RPB+ accepts ASCII commands via the Control Port.

4. **DEFAULT Button:** Reads Rate Switch settings and sets parameters accordingly. This allows the user to change Rate Switch settings without re-booting the RPB+ and connected devices. The Default Button can also be used to bypass the Password Prompt.

5. **Power Cable (115 VAC Units)**
   Power Cable Receptacle (230 VAC Units)

6. **Circuit Breaker:** 15 Amps

7. **Power Switch**

---

3.   Installation

3.1.   SetUp Switches

The SetUp Switches select the baud rate and Off Time, and enable/disable the Password feature and Read Only Mode. If switch settings are changed while the unit is powered On, press the Default Button to re-read switches. The Default Button allows the user to change switch settings while power is on, without re-booting the RPB+ and connected devices.

> **Note:** If Rate Switch settings are changed while the unit is powered on, new parameters will not take effect until the Default Button is pressed, or the RPB+ is powered Off and On.

Off Time: When a boot cycle is initiated, the "Off Time" determines the length of time the device will remain off until power is restored.

Password: When enabled, a password is required in order to access the RPB+ Command Mode (Default = **[Enter]**). To re-define the Password, refer to Section 4.

Read Only Mode: When enabled, the /P command (Define Parameters) is suppressed. This

allows the user to invoke On/Off/Boot commands, but prevents redefinition of parameters such as the Password and Power-Up Default.

Switch	Function	Up	Down
1	Control Port Baud Rate	2400 bps	9600 bps*
2	Off Time	10 sec.	5 sec.*
3	Password Function	Disable	Enable*
4	Read Only Mode	Enable	Disable*

* = Factory Setting

3.2. Control Port Connection

The male, DB9 connector (labeled "RS232") is used for connection to an external modem or local PC. The RS232 Port uses a DTE configuration, similar to an AT computer. describes the Control Port interface.
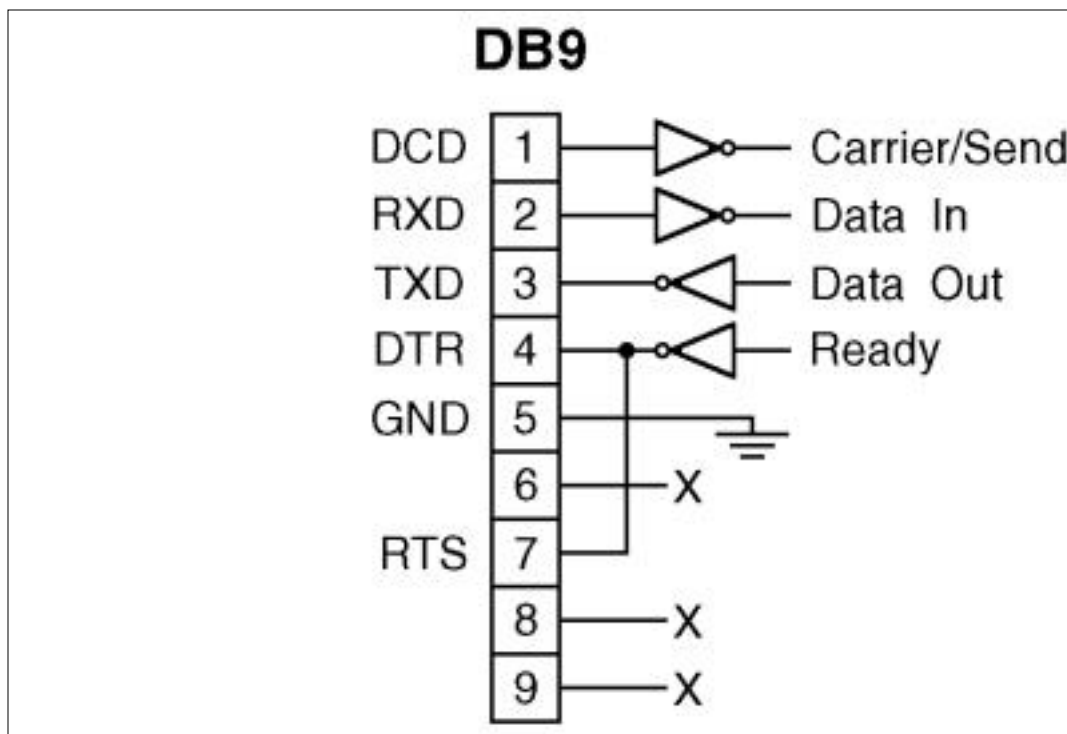
Figure 3:   RS-232 (Control Port) Interface Schematic

3.2.1. Connecting to a Modem

When connecting directly to an external modem, use a standard AT to Modem cable. Make certain the modem is initialized at the same baud rate as the RPB+ (SetUp Switch 1). The modem must be placed in Auto-Answer mode, and set to answer in one ring. Please refer to the user's guide for your external modem in order to determine the appropriate AT command

string.

3.3.   Power Connection

The Power Switch located on the back panel must be "On" in order for the RPB+ to operate. Each time the unit is powered On, the five AC outlets will be switched On or Off, as dictated by the Power-Up Default String (see Section 4.1). Each outlet is capable of switching up to 15 Amps of AC power. The total for all 5 outlets cannot exceed 15 Amps.
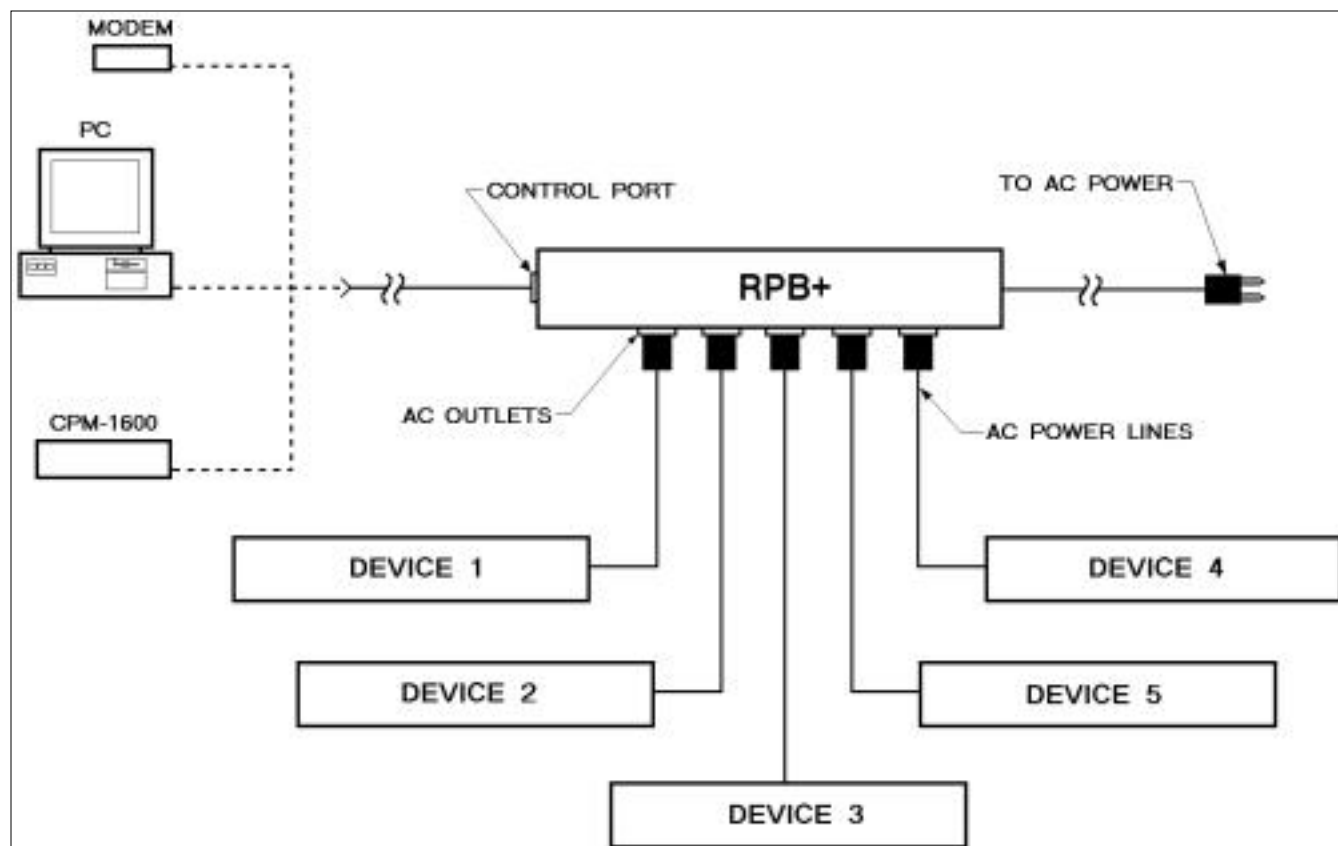
Figure 4:   RPB+ Cable Connections

4.   Start-Up / Configuration

1. **Access the RPB+ Command Mode:** The RPB+ 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 communications program (e.g. ProComm) is set for the appropriate baud rate, bits, and parity. It is also recommended to set the communications program for TTY mode.

   . **Via Modem:** Start your communications program. Dial the external modem connected to the RPB+. Wait for the Connect message and proceed to Step 2.

   b. **Via Local PC:** Start your communications program.

2. **Password:** If the Password function is enabled, the unit will display a prompt. Key in the Password and press **[Enter]**. If the password has not yet been defined, just press **[Enter]**.

Note:

- The Password feature is case sensitive.
- If you forget your password, press the Default Button when the Password Prompt appears, then invoke the /P command to display the Password.

3. The RPB+ will display the Status Screen (Figure 5).

```
Location:  WESTERN TELEMATIC, INC.
Default:  01110

Plug   Label               Condition
 1     PRINTER             OFF
 2     SERVER ONE          ON
 3     SERVER TWO          ON
 4     MODEM BANK          ON
 5     FAX                 OFF

Command Summary:
 /S   Status
 /P   Enter Parameters
 /D   Set Plugs to Default
 /X   Exit

To Switch /n s  Where n = Plug #, * = All, and s = ON/OFF/BOOT

RPB+>
```

Figure 5:   The Status Screen

4. When the "RPB+>" prompt appears, type **/P [Enter]** to define system parameters. The unit will display a series of prompts.

Note:

- RPB+ commands are *not* case sensitive.
- To skip a prompt without changing its current definition, press **[Enter]**.
- To exit from the Define Parameters function, press **[Esc]** at any time. Parameters defined up to that point will be saved.

  . **Location:** Key in a text string that describes the RPB+ location (up to 23 characters).

  b. **Password:** The currently defined password is displayed next to the prompt. To re-define the password (Default = **[Enter]**), key in the new password (up to 8 characters) and press **[Enter]**. The password can include blank spaces and higher order ASCII characters. Note that the Backspace key will not function

during password definition.

c. **Default (Power-Up Default):** Allows the user to define default On/Off conditions for each switched plug as described in <u>Section 4.1</u>. Key in the desired Power-Up Defaults and press **[Enter]**.

d. **Echo Mode:** When Echo Mode is enabled, commands sent to the RPB+ will be echoed back to your PC or terminal, allowing keyboard entries to be displayed by your communications program. To enable or disable the Echo Mode, type **Y** or **N**, press **[Enter]**, then continue with the parameter definition routine. When the "RPB+>" prompt returns, type **/D [Enter]**.

Note:
● The Echo Mode will not be enabled / disabled until the /D command is invoked.

● If the Default String includes invalid or missing characters, the /D command will not function.

e. **Plug Labels:** Allows the user to identify the device connected to each plug (e.g. "**SERVER**"). Key in the desired name (up to 16 characters) and press **[Enter]**.

4.1. The Power-Up Default String

The Power-Up Default String allows the user to select default On/Off conditions for each switched AC outlet. When the RPB+ is powered up, or when the /D command (Set Defaults) is invoked, each outlet will be set according to the Default String.

Note:
● The Power-Up Default String includes five characters; each character determines the default On/Off condition for the corresponding plug. The first character applies to Plug 1, the second character applies to Plug 2, and etc.

● To set a plug to default "ON" enter a one (1); to set a plug to default "OFF", enter a zero (0).

● If the Default String includes invalid or missing characters, plugs will be switched "Off" when the unit is powered up, regardless of the conditions shown by the Status Screen. In addition, the /D command will not function.

Example 1: To set default On/Off conditions as follows:

  ON: Plugs 1 and 5

  OFF: Plugs 2, 3, and 4

The Power-Up Default String would be defined as "**10001**".

Example 2: To set default plug conditions as follows:

  ON: Plugs 3, 4, and 5

  OFF: Plugs 1 and 2

The Power-Up Default String would be defined as "**00111**".

---

5. Operation

The device connected to the Control Port must send ASCII characters at the same data rate as the RPB+. The unit accepts 8 bits no parity, or 7 bits even or odd parity, but will always answer back at 8 bits, no parity.

Access the RPB+ Command Mode as described in <u>Section 4</u>, Step 1. When the "RPB+>" prompt appears, the user may invoke the following commands.

Note:

- Commands are *not* case sensitive.
- Wait for the "RPB+>" prompt to appear before entering commands. The prompt will not re-appear until the previous command is complete.
- If an invalid command or parameter is entered, the RPB+ will respond with the "**?**" message.

1. **Switch Plug(s) On:** To power-on one or all of the five switched plugs, type **/n ON [Enter]**. Where "**n**" is a plug number from 1 to 5 and an asterisk (*****) indicates the command should be applied to all plugs.

2. **Switch Plug(s) Off:** To power-off one or all of the five switched plugs, type **/n OFF [Enter]**. Where "**n**" is a plug number from 1 to 5 and an asterisk (*****) indicates the command should be applied to all plugs. Note that "**OFF**" can also be entered as "**OF**".

3. **Boot Plug(s):** To initiate a Boot cycle at one or all of the switched plugs, type **/n BOOT [Enter]**. Where "**n**" is a plug number from 1 to 5 and an asterisk (*****) indicates the command should be applied to all plugs. Note that "**BOOT**" can also be entered as "**B**". The RPB+ will display a series of periods (dots) while the Boot cycle is in progress.

4. **Status:** To display the Status Screen, type **/S [Enter]**.

5. **Enter Parameters:** To define parameters, such as the Location I.D., Power-Up Default, and Plug Labels, type **/P [Enter]** and refer to <u>Section 4</u>, Step 4.

6. **Set Plugs to Default:** To set all plugs to the Power-Up Defaults, type **/D [Enter]**. Note that if the Default String includes missing or invalid characters, the /D command will not function.

7. **Exit:** To exit from command mode, type **/X [Enter]**.

Note: When the **/n ON/OFF/BOOT** command is invoked, the port (**n**) must be specified by number. The Port Label *cannot* be used to specify the desired port.

ON / OFF / BOOT Examples:

- To Switch Plug 3 ON, type **/3 ON [Enter]**.

- To switch all plugs ON, type **/* ON [Enter]**.

- To switch plug 5 OFF, type **/5 OFF [Enter]**.

- To switch all plugs OFF, type **/* OFF [Enter]**.

- To initiate a boot cycle at Plug 2, type **/2 BOOT [Enter]**.

- To initiate a boot cycle at all plugs, type **/* BOOT [Enter]**.

Appendix A. Specifications

- **Switched Power Plugs:** 5 code-selectable AC plugs rated 15 amps max. Each. Total switched power for all plugs not to exceed 15 amps. Unit initially powers up to ON condition.

- **RS232 Port:**
  - **DB9 Connector:** A 9 Pin Male connector wired in a DTE configuration.

Pin	Signal	I/O
1	DCD	Carrier Detect

2	RXD	Data Input
3	TXD	Data Output
4	DTR	Ready Output
5	GND	Signal Ground
6	(NC)	Not Connected
7	RTS	RTS Output
8	(NC)	Not Connected
9	(NC)	Not Connected

❍ **Coding:** Asynchronous. 7-8 bits, any parity
❍ **Data Rate:** 2400, 9600 bps (Switch Selectable)

● **LEDs:** Power ON, Control Input, Plug On (5)

● **Temperature:** 0° C to 30° C (operating)

● **Power:**
   ❍ **115 VAC Model:** Internal 115 VAC 60 Hz
   (15 Amps Maximum Load).
   ❍ **230 VAC Model:** Internal 230 VAC 60 Hz
   (15 Amps Maximum Load).

● **Size:** 1.75" x 17.00" x 6.5" (H x W x D).
   Requires one rack space.

● **Mounting:** 19" Rack Mount Bracket Included.
   24" Rack Mount Bracket Optional.

● **Weight:** 5 pounds shipping weight

Appendix B.   Customer Service

Customer Service hours are from 8:00 AM to 5:00 PM, PST, Monday through Friday. When calling, please be prepared to give the name and make 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 (U.S. & Canada):   1-800-854-7226
Phone: 949-586-9950
Fax: 949-583-9514

EMail: service@wti.com

FCC Statement

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.

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October 1998; March 2000 (HTML Version)
WTI Part Number: 12651   Rev. B

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