

PWR-RMT-RBT2-515R-LC

2 Port Internet Controllable Power Strip with Power Cycle



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Chapter 1: Introduction

1.1. Introduction

The PWR-RMT-RBT2-515R-LC is a remote internet controllable power strip designed to automatically reset a router when internet connectivity is lost. The unit can power cycle either one or both outlets, allowing ultimate configurability. It also features 2 outlets to allow you to remotely turn on/off up to 2 devices either through a web browser or via the instant messaging tool Google Talk.

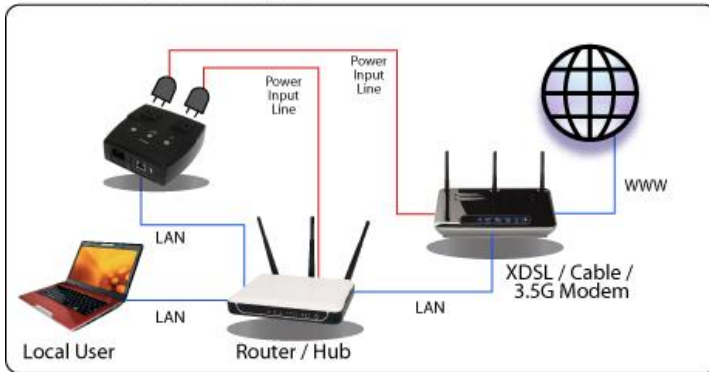
This device is useful when a router needs to be reset due to a connection being dropped. The internet controllable power strip features a powerful internet monitoring feature called UIS that detects when the internet stops working. If it detects the internet is offline, it will automatically reset the router and then afterwards test the network to see if everything is back online. This feature saves the trouble of:

1. Users having to manually power cycle a router when their internet connection is lost.
2. Resetting NAS drives or IP cameras when the device becomes unresponsive.
3. Traveling to a remote site just to reset a device that has lost its connection.
4. Manually turning on/off or resetting a device during a specific time.

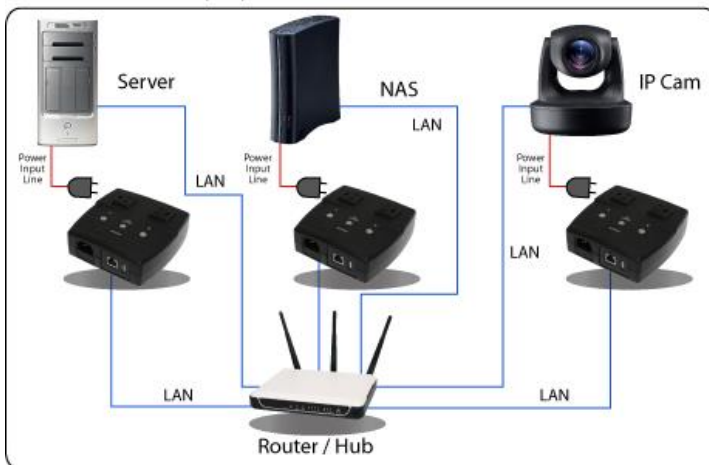
The PWR-RMT-RBT2-515R-LC also allows you to remotely turn on/off up to 2 devices using either a web browser or via the instant messaging tool Google Talk (now updated to Google Hangouts). This device is a perfect complement to routers and devices that need the ability to turn on/off remotely over the internet or need the ability to power cycle automatically when a connection is lost.

1.2 Application Diagrams and Working Examples

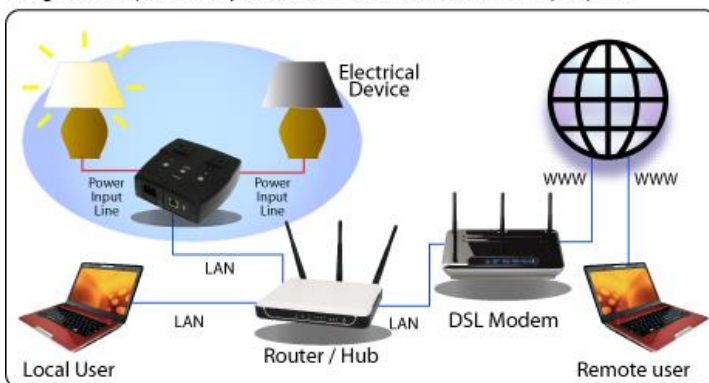
Usage #1: Setup to perform automatic reset of router and modem.
No software setup required.



Usage #2: Setup as watch-dog to keep internet devices alive.
Software setup required.



Usage #3: Setup to remotely control electrical devices. Software setup required.





1.3 Technical Specifications

| | |
|--------------------------------------|--|
| Plug Type | 2 x US sockets |
| Electrical Rating | 10 amp, 100-250V AC (50 / 60Hz) |
| Available Outlets | 2 x fixed |
| Internet Controllable Sockets | 2 x fixed |
| Power On/Off Switch | Individual outlet power On/Off LED button |
| Power Indicator | Orange LED |
| Reset to Factory Default | Long press all 3 LED buttons |
| Internet Indicator | Green LED |
| Web Server CPU | 32-bit RISC CPU |
| Supported Browsers | IE / Java |
| | HTTP |
| | TCP/IP |
| | UDP |
| | PPPoE |
| Supported Network Protocols | Dynamic DNS |
| | DNS Client |
| | SNTP |
| | BootP |
| | DHCP |
| | FTP |
| Network Access | 10/100 Base-T RJ45 |
| Operating Environment | 0°C to 60°C at 10%-90% relative humidity (for indoor use only) |
| Reset Button | Press to restart the device without cycling power |

1.4 LED Information

| LED Indicators on Front | | |
|-------------------------|---------------|---|
| LED | LED Status | Description |
| Button 1 | Orange | Outlet 1 is ON (hold button 2 seconds to turn OFF) |
| Button 2 | Orange | Outlet 1 is ON (hold button 2 seconds to turn OFF) |
| UIS Button | Blinking Blue | Automatic power cycle is off (hold button for 2 seconds to turn on) |
| UIS Button | Static Blue | Automatic power cycle on (hold button for 2 seconds to turn off) |
| Internet | Static Green | Indicates device is connected to the internet |

Chapter 2: Setting up your Device

2.1 Connecting the PWR-RMT-RBT2-515R-LC to your network

Step 1: Connect the power cord to the PWR-RMT-RBT2-515R-LC and then to a wall outlet or power strip.



Step 2: Connect the LAN cable to the PWR-RMT-RBT2-515R-LC and then to a port on your router. The internet LED indicator will blink to show the internet is online. Note: In order to enable the power cycle function, The UIS button needs to be enabled. In order to enable the feature, press and hold the button for 2 seconds. Once enabled, the UIS LED indicator will turn a static blue.



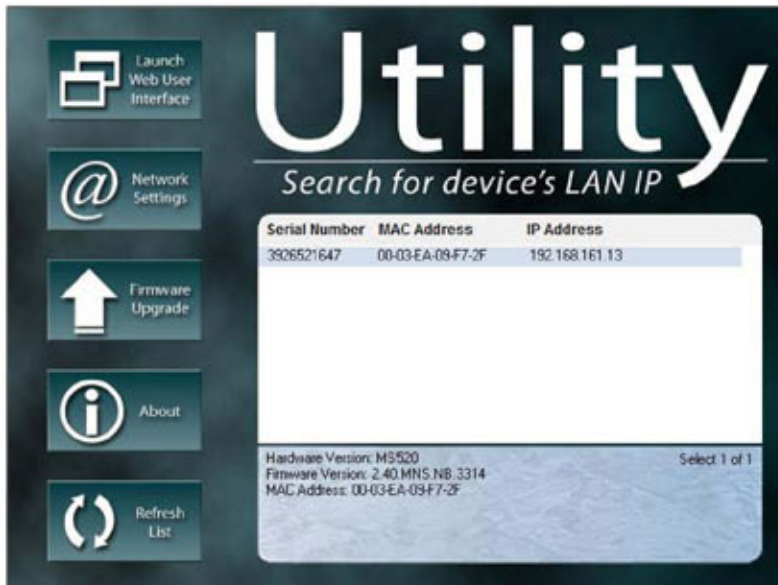
Step 3: Plug in up to 2 devices to the 2 outlets. For power cycling to work for your router, the router will need to be plugged into one of the available ports.



Chapter 3: Software and Remote Setup

3.1 Accessing the UI

To launch the UI, insert the supplied CD into your computer and locate the Utility application. Install the Utility application and launch the program. From within the program, you can get the current IP for the device if DHCP is enabled. Click on the 'Launch Web User Interface' button to access the UI. To configure a static IP for the device (recommended), click on the 'Network Settings' button and then set a static IP.



3.2 Web User Interface

Launch the web user interface by clicking the button. The UI will ask for a login name and password. The default username and password is 'admin'. Once logged in, a menu will show up on the left hand side, allowing you to configure various settings for the device.

3.3 Accessing the Device Remotely

There are two methods to remotely control the outlets:

1. Use Google Hangouts (Formerly Google Talk) or any other IM platform that supports the Google chat protocol.
2. Web user interface (DDNS & Port Forwarding required).

3.3.1 Google Hangouts

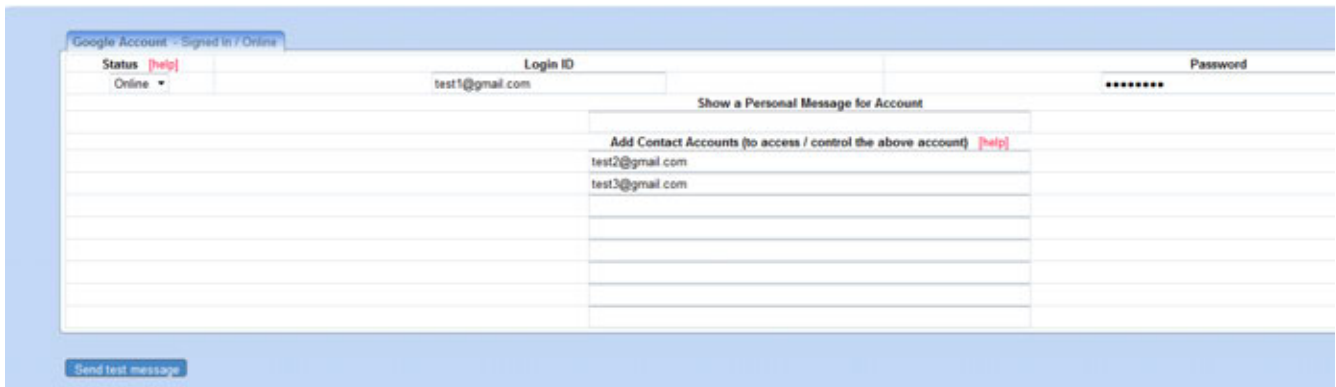
The first thing you need to do is obtain a gmail account. You will need at least 2 accounts to talk to and control the PWR-RMT-RBT2-515R-LC. Once the accounts are setup, login in to your gmail account, and make sure the registered names are on the contact list on the left hand menu. If they are not on contact list, invite the gmail account that you want to talk to. **If both gmail accounts are not on each other's contact list, you will not be able to control the device.**

Note: Google has recently changed their security settings for 3rd party apps. In order for Google Hangouts to work, you will need to allow less secure apps

<https://www.google.com/settings/security/lesssecureapps>

3.3.2 Google Hangouts Setup on UI

Log into the UI interface and click on the Google Talk button. Set the status to Online. Input the Login ID as the gmail account you want the device to use as the primary account to talk to and then enter the password to that account. Below, input the contact accounts that you will use to talk to the device (e.g. test2@gmail.com will talk to the primary account test1@gmail.com). Click the apply button to save the settings. Once the settings are saved, on the top right hand tab, next to the words Google Account, the device will attempt to sign in to the Google accounts. If successful, a text will display "Signed in / Online."



The screenshot shows a web interface for Google Hangouts. At the top, it says "Google Account - Signed in / Online". Below this, there are several input fields: "Status" (set to "Online"), "Login ID" (set to "test1@gmail.com"), and "Password" (masked with "*****"). There are also links for "Show a Personal Message for Account" and "Add Contact Accounts (to access / control the above account)". Under "Add Contact Accounts", there are three input fields containing "test2@gmail.com", "test3@gmail.com", and an empty field. At the bottom left, there is a "Send test message" button.

Download Google Hangouts (available on your PC/Mac, Smartphone, Tablet, etc.) and login with your secondary gmail account (e.g. test2@gmail.com or test3@gmail.com). Open your contact list (make sure you already added the primary account and it's showing up in the contact list) and double click on the primary gmail account (test1@gmail.com).

3.3.3 IM Commands in Google Hangouts

At this point, you're able to talk to the PWR-RMT-RBT2-515R-LC and start controlling the plugged in devices. Type "HELLO" (without quotes) for a list of available commands. The Google Talk account will respond with, "Please type 'HELP' to list available commands."

Outlet Commands:

SET [ON/OFF/RESET] [0/1/2] (where 0=Both outlets, 1/2=Outlets)
UIS [ON/OFF]
GET [IP/STATUS]

Example 1: SET ON 1 (will turn on outlet 1)

Example 2: UIS OFF (will turn off power cycle)

3.3.4 Accessing UI Remotely via DDNS

Login to your router and port forward port 80 or any other port to the IP assigned to the PWR-RMT-RBT2-515R-LC. Next, register for a free DDNS provider for your dynamic WAN IP. This will ensure that when your IP changes, the DDNS provider will keep track of the change and allow you to access your device remotely via an easy to remember name. Input the registered DDNS name in the "Network" menu in the UI. The following DDNS providers are supported:

Dyn.com
myddns.com
zive.org
dhs.org

Once DDNS is setup, you can login anywhere via the name you registered for the DDNS provider (e.g. test1.dyndns.org). Once logged in, you can control the outlets in the "Current Status" menu. Click on the Green buttons in On/Off Control to turn devices on or off.

Note: When you are connected to a local LAN network without connection to the internet, the status (IP Address, Response Time and Timeout values) for the "Target Site" webpages (listed below) will be blank. These will only have values displayed when connected to the internet.

The screenshot displays two sections of the web interface. The top section, titled "Connection Status", contains a table with columns for Target Site, IP Address, Response Time, and Timeout. The bottom section, titled "Status and Control", contains a table with columns for Item, Status, On/Off Control, and buttons for Reset and Reset All.

| Target Site | IP Address | Response Time | Timeout |
|----------------|----------------|---------------|---------|
| www.google.com | 74.125.239.144 | 20 ms | 0% |
| www.yahoo.com | 206.196.36.45 | 40 ms | 0% |
| www.bing.com | 205.188.236.16 | 1 ms | 0% |
| www.ank.com | 205.188.236.8 | 1 ms | 0% |
| 192.168.161.1 | | | 0% |

| Item | Status | On/Off Control | Reset | Reset All |
|--------------|--------|--------------------------|-------|-----------|
| UIS Function | Enable | <input type="checkbox"/> | | |
| Outlet1 | On | <input type="checkbox"/> | Reset | |
| Outlet2 | On | <input type="checkbox"/> | Reset | Reset All |

Chapter 4: Frequently Asked Questions

1. How do I reset the device to factory default settings?

Answer: In the UI, click on the "About" text located on the left hand side. On the right hand side, an option to reset to factory default is available.

2. What do I do if I forget my password?

Answer: If at any time you lose your password, you will need to reflash the firmware again. This will reset the password back to factory default settings.

3. Should I use a static local IP vs a DHCP assigned IP for the device?

Answer: We recommend using a static IP. The reason why is DHCP will recycle itself after a couple of hours or days (depending on your router), which may cause the device to lose network activity for a brief period of time. For mission critical systems, we recommend setting the device to a static local IP.

4. I can't talk to the device when using the IM feature.

Answer: Make sure your gmail accounts are in the contact list. One way to make sure is to log into your gmail account and check to see if the gmail account is listed on the left hand side.

5. I cannot ping the device.

Answer: When pinging the IP address of the device, if the results indicate "Timeout 100%", it might be necessary to disable the firewall.

Use HTTP Script to Control Outlet and Get Status

Use a program of your choice like Java, PHP or Curl to make a packet request via HTTP protocol. This request can also be done via modern web browser by typing in the target URL and entering credentials in the pop up dialog. **Example URL:** 192.168.3.1/control.cgi?outlet=1&command=3

Control Outlet:

Packet Request:

```
"GET" <target> "HTTP/1.1" CRLF
"Host:" <host ip> CRLF
"Keep-Alive: 300" CRLF
"Connection: keep-alive" CRLF
"Authorization: Basic" <auth> CRLF CRLF
      ;auth:encoded account(admin:1234) with base-64
```

Request Description:

Target: "control.cgi?<action>"

Action: outlet=<0/1/2>

0 means outlet all,

1 means outlet 1,

2 means outlet 2

command=<0/1/2/3/4/5>

0 means power off,

1 means power on,

2 means power switch(i.e. from On → Off, or from Off → On)

3 means power reset,

4 means UIS on,

5 means UIS off (/4/5 MNS only)

Example: control.cgi?outlet=1&command=3(Outcome: outlet 1 reset)

Packet Response:

XML format:

```
<?xml version='1.0'?> "<request>"
"<outlet1_status>"{OUTLET1_STATUS}"</outlet1_status>"
"<outlet2_status>"{OUTLET2_STATUS}"</outlet2_status>"
"<uis_status>"{UIS_STATUS}"</uis_status>" "</request>"
```

XML Description:

OUTLET1_STATUS / OUTLET2_STATUS / UIS_STATUS: 0 means off, 1 means on

Get Status:

Request:

Target: "outlet_status.xml"

XML format: "<?xml version='1.0'?>" "<request>"
"“<site_ip>”{SITE1}”,”{SITE2}”,”{SITE3}”,”{SITE4}”,”{SITE5}”</site_ip>”
“<connect_status>”{C1_S}”,”{C2_S}”,”{C3_S}”,”{C4_T}”,”{C5_S}”</connect_status>”
“<outlet_status>”{O1_S}”,”{O2_S}”</outlet_status>”
“<site_lost>”{S1_L}”,”{S2_L}”,”{S3_L}”,”{S4_L}”,”{S5_L}”</site_lost>”
“<UIS_fun>”{U_S}”</UIS_fun>” “<g_target1>”{G_T1}”</g_target1>”
“<g_target2>”{G_T2}”</g_target2>” “</request>”

XML Description:

SITE<n>: (n:number) string: Site
<n> IP Address.

C<n>_S: (n:number) digit(unit: millisecond): Site <n>
response timing.

O<n>_S: (n:number) digit: 0 means off,
1 means on.

S<n>_L: (n:number) digit: Percent
of ping lost.

UIS_fun: digit: 0 means off, 1 means
on.

G_T<n>: (n:number) digit: 0 means None, 3 means All, 1 means Outlet1, 2
means Outlet2