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BROADCAST[®] t o o l s I N C

Installation and Operation Manual



WebSwitch *Web Based Two Outlet Remote AC Power Switch*

Version 1.6a
Manual Update: 04/03/2009

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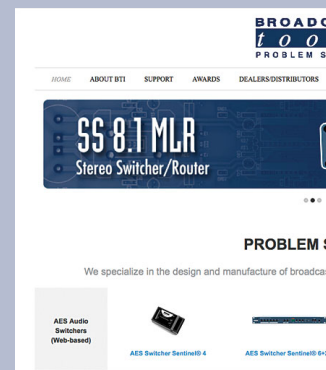
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INTRODUCTION

Thank you for your purchase of a Broadcast Tools® WebSwitch™ Two Outlet Remote AC Power Switch. (Referred to as the WebSwitch™, throughout this manual). We're confident that this product will give you many years of dependable service. This manual is intended to give you all the information needed to install and operate the Broadcast Tools® WebSwitch™.

SAFETY INFORMATION

CAUTION! Only qualified technical personnel should install the WebSwitch™. Any attempt to install this device by a person who is not technically qualified could result in a hazardous condition to the installer or other personnel or damage to the WebSwitch™ or other equipment. Please ensure that proper safety precautions have been taken before installing this device. If you are unfamiliar with this type of equipment, please contact a properly qualified engineer to handle the installation and setup of the WebSwitch™.

Broadcast Tools® Products, as with any electronic device, can fail without warning. Do not use this product in applications where a life threatening condition could result due to failure.

WHO TO CONTACT FOR HELP

If you have any questions regarding your product or you need assistance, please contact your distributor from whom you purchased this equipment.

If you would like more information about Broadcast Tools® products, you may reach us at:

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Internet Home Page: www.broadcasttools.com
E-mail: support@broadcasttools.com

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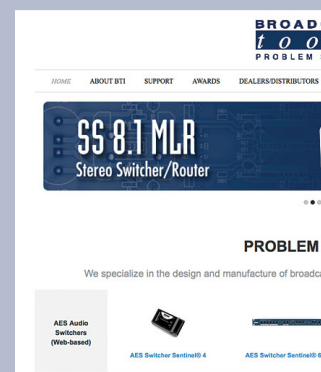
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Installation Guidelines (Read Before Installing)

- Do not open the **WebSwitch™** enclosure. This will void the warranty.
- This unit must not be installed directly outdoors.
- This unit must not be used for medical, life saving purposes, or for any purpose where its failure could cause the loss of life.
- Proper security precautions should be made before installing **WebSwitch™** on the Internet.

Notes about security: By design, **WebSwitch™** is very secure. It does not support terminal connections or file transfer programs such as telnet, ftp, ssh, etc. This means that it is not possible for someone to 'break in' to **WebSwitch™** and access other devices on your local network. **WebSwitch™** does not support remote firmware updates, which means that it is not possible for someone to remotely install malicious software. The simplicity of **WebSwitch™** makes it a very secure device. As with any device to be installed on a network, there are some security precautions that should be observed. If **WebSwitch™** is installed on the Internet, it may be possible for someone to gain access to the **WebSwitch™** control web page and turn the output on and off. For Internet installations, it is recommended that passwords be enabled for the control page. Make sure secure passwords are used. Passwords should be at least 8 characters in length and should be a combination of upper case letters, lower case letters, and numbers. Don't use passwords that would be easy to guess. For additional security, a firewall may be used to limit access only to selected IP addresses. Another option may be to set up a Virtual Private Network (VPN) between the network where **WebSwitch™** resides and the client machine (web browser, second **WebSwitch™**, etc.).

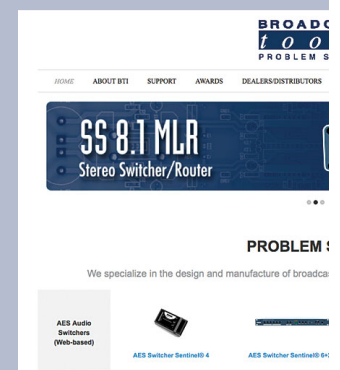
Section 1: Introduction

WebSwitch™ is a self contained, two-port electrical outlet with a built-in web server. Each port is internally wired to heavy-duty relays and can be separately controlled over any IP network including private networks or the Internet. Users can operate **WebSwitch™** using a web browser or web-enable mobile device.

WebSwitch™ can be used to control devices remotely or it can be used as an automatic reboot controller. When configured as an automatic reboot controller, **WebSwitch™** will automatically reboot devices when they fail to respond to pings that **WebSwitch™** sends out at periodic intervals.

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INSTALLATION

1.1 Unit Description

All connections and indicators are located on the front panel. Connections to **WebSwitch™** include Network, AC power in, and AC power out (Out 1 and Out 2). Each is described below.

Network: This RJ-45 connector is used to connect **WebSwitch™** to a 10-base-T or 100-base-T network.

Power In: AC power is connected here and is used to power the internal web server, and the devices connected to Out 1 and Out 2.

Power Out 1: Devices which are to be controlled by **WebSwitch™** are connected to the two outlets labeled Out 1 and Out 2. **WebSwitch™** controls devices by switching power to the outlets, which in turn switches the devices. **DO NOT CONNECT DEVICES TO WEBSWITCH THAT DRAW MORE THAN 10AMPS (APPROX 1200 WATTS).**

You may use a single outlet to switch the full 10 Amp load if there is nothing connected to the other outlet.

Power Out 2: See description for Power Out 1.

WebSwitch™ has four LED indicators, which include Link, Act, Out 1, and Out 2. Each are described below.

Link: This green LED located on the Ethernet connector indicates that **WebSwitch™** is properly connected to the network and is ready to communicate. Network communications will not occur if this LED is not illuminated.

Act: This amber LED located on the Ethernet connector indicates network activity on the Ethernet network.

Out 1: This green LED indicates that the outlet labeled Out 1 is powered. When this LED is off Out 1 is not powered.

Out 2: This green LED indicates that the outlet labeled Out 2 is powered. When this LED is off Out 2 is not powered. Out1 and Out2 can be controlled separately.

Section 2: Installation and Setup

Installation consists of connecting **WebSwitch™** to an IP network, power, configuring via a web browser, and finally connecting to the device(s) to be controlled.

2.1 Connection

2.1.1 Network Connection

Connect the Ethernet port to a 10base-T or 10/100base-T Ethernet connection. Note that by default, **WebSwitch™** is configured for a 10 Base T network but can be changed to 100 Base T during setup. This typically connects to an Ethernet hub, switch, or router. For configuration, **WebSwitch™** may be connected directly to the Ethernet port on a computer using a “crossover” cable. Otherwise for connection through a hub or router, a standard “straight-thru” cable should be used. Once connected to the network and power is applied, the green Link LED on the Ethernet connector illuminates which indicated proper connection. If the Link LED does not illuminate, communications with **WebSwitch™** cannot occur. Verify that the proper cable is being used (straight-thru or crossover), try a different cable or connect to different hub/switch devices.

2.1.2 Power Connection

Connect the power input of **WebSwitch™** to a 120VAC power source.

2.1.3 Output Connection

Connect one or both of the outlets on **WebSwitch™** (Out1 and/or Out2) to device(s) to be controlled.

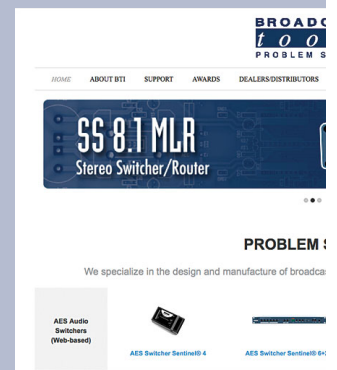
2.2 Establishing Communications for Setup

WebSwitch™ is set up using a web browser. The first step is to establish communications between a computer and **WebSwitch™** so that the browser-based configuration can begin. To do this, the computer and **WebSwitch™** must be physically connected to the same network and both must have IP addresses on the same network. The preferred way to set up the computer and **WebSwitch™** so that they are on the same network is to change the IP address of the computer to an address that is on the same network that **WebSwitch™** is set to by default.

Instructions for changing the IP address of the computer that will be used for **WebSwitch™** configuration are given here. Note that these instructions are specifically for computers with the Windows XP operating system. For setup using other operating systems, refer to the appropriate OS users manual.

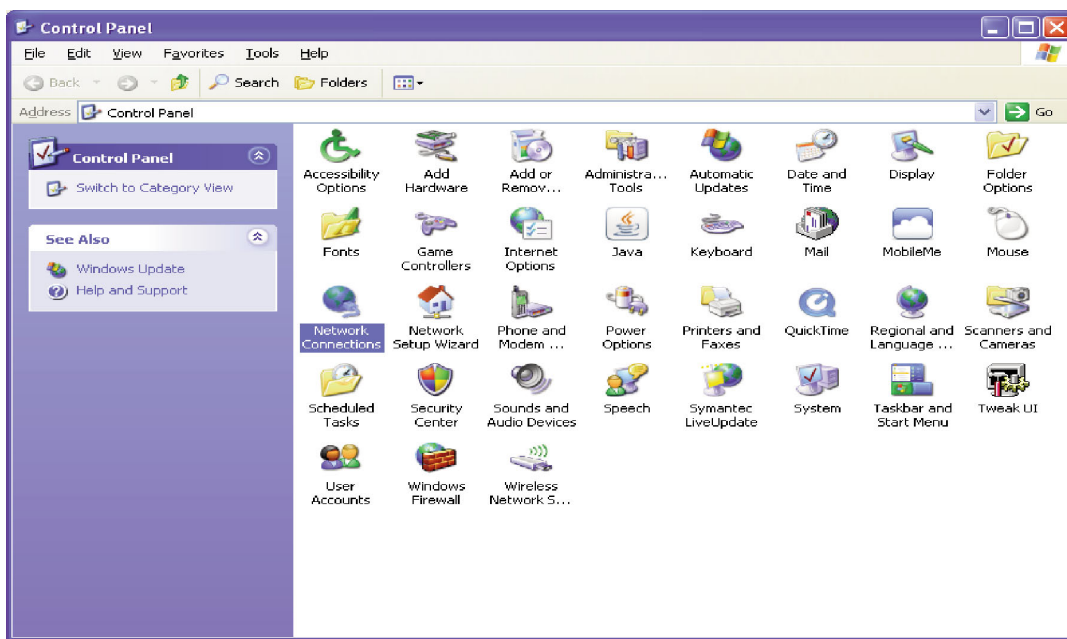
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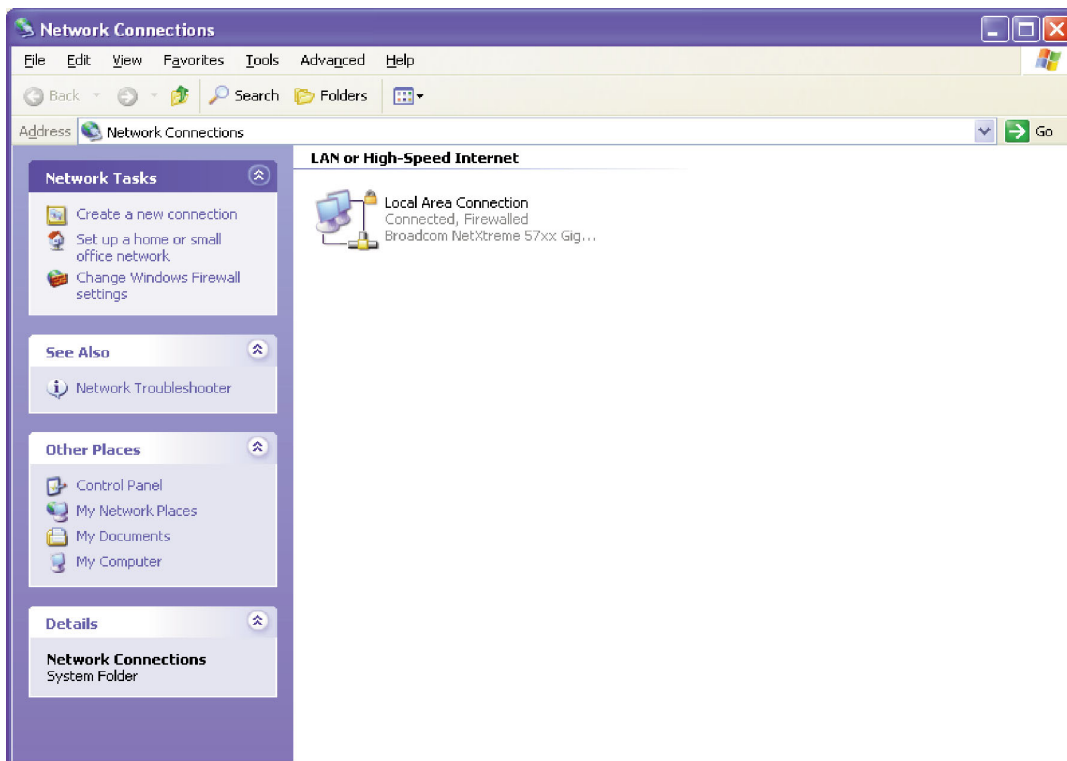


SETUP

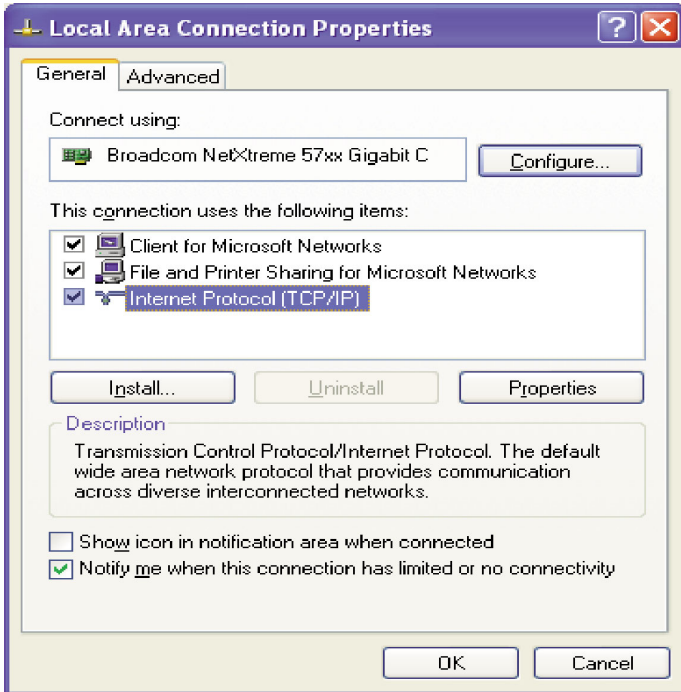
Step 1: Open the control panel by clicking on the start menu, click on settings, then click on Control Panel. (Note that the control panel shown is in “Classic View”. If control panel is in “Category View” select the “Classic View” option before proceeding.)



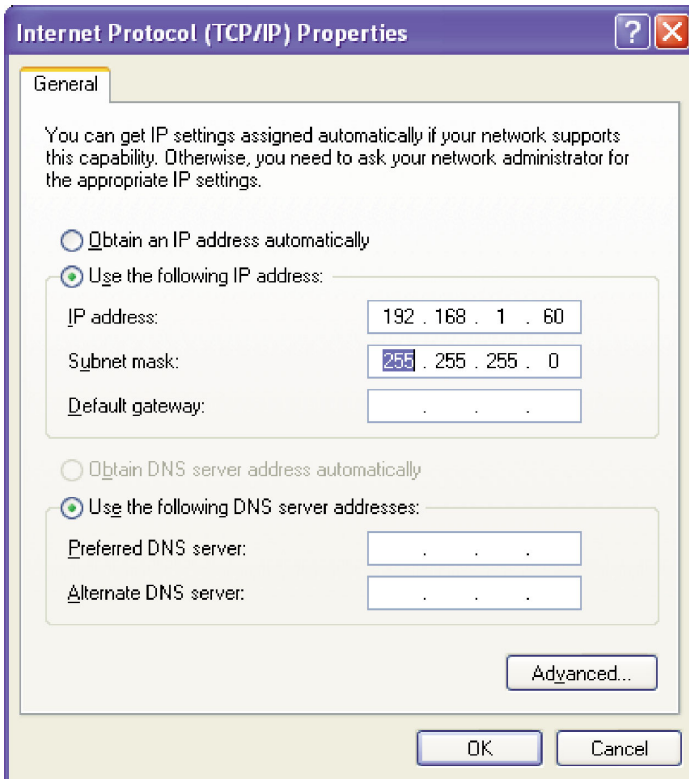
Step 2: Double click on the icon labeled Network Connections. The following menu will pop up.



Step 3: Right click on the icon labeled Local Area Connection. Another menu will appear. Select the option at the bottom of the menu labeled Properties. The Local Area Connection Properties window will appear.

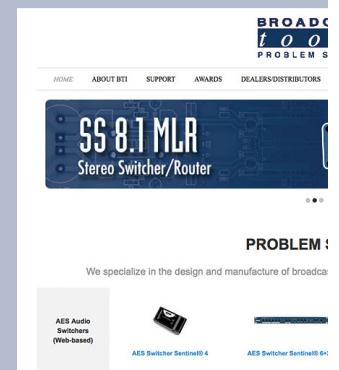


Step 4: On the Local Area Connection Properties page, double click on Internet Protocol (TCP/IP) to display properties.



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SETUP

Step 5: Before making any changes to the network settings, write down the current settings (or screen capture the page and print) so that they can be restored once the unit is configured. Next, select the radio button labeled “Use the following IP address” and type in the IP address 192.168.1.60. Type in the subnet mask of 255.255.255.0. Leave the default gateway field blank. Click OK to apply the new settings.

2.2.3 Open Configuration Web Page

Once the network is set up, open the configuration setup page by typing the following URL into the browser: `http://192.168.1.55/setup.html` (replace the IP address given here with the newly assigned IP address). A password is required to change any parameters.

The default password is: 1234 (do not include quotes, password is case sensitive).

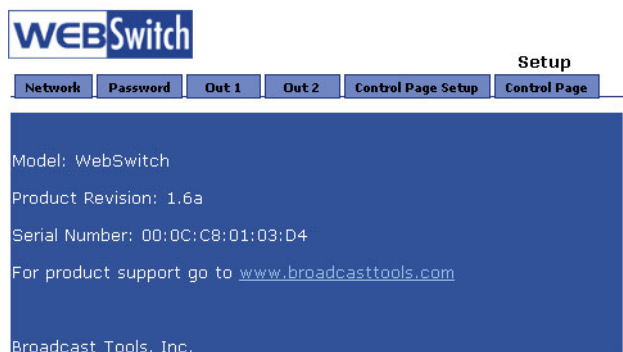
2.3 Web-Based Setup

WebSwitch™ is fully configurable through HTML 4.0 compliant web browsers such as Internet Explorer and Mozilla Firefox. Its easy to use tab based menu system has been designed to allow the unit to be configured easily. Note that in this chapter, the default IP address of 192.168.1.55 is used in all examples. If the IP address has been changed, substitute the new IP address for the address shown in the examples.

Before proceeding, make sure a network connection has been established between the computer and WebSwitch™. This is done by typing the following URL into the web browser: `http://192.168.1.55/setup.html`. Another way to check communications is to ping WebSwitch™ (from the command prompt type `ping 192.168.1.55`). Each setup page is described below.

2.3.1 Main Setup Page

This is the initial page that appears when the URL `http://192.168.1.55/setup.html` is entered into the web browser. It provides basic information about the WebSwitch™ unit.



Navigating between setup pages is done by clicking on the tabs at the top of the page. All setup pages require a password. The default password is: 1234 (no quotes, all lower case), the default user name is: admin (lower case) Once the password is entered, it will not be required again unless the password is changed or the browser is closed.

Each setup page has a “Submit” button and a “Reset” button at the bottom of the page. After entering the desired parameters into each page, the “Submit” button must be pressed before any parameters will be saved. If a mistake is made in entering the parameters, the “Reset” button may be used to restore all parameters on the page to their current settings. The “Reset” button is only effective before the “Submit” button is pressed.

2.3.2 Network Setup Page

The network parameters are changed on this page. Note that if multiple WebSwitch™ units are used on the same network, install one unit at a time and set the IP address of each unit before connecting the next unit to the network. This avoids having multiple WebSwitch™ units installed on the network with the same factory default IP address at the same time. Also note that the unit must be power-cycled (power disconnected, then reconnected) before network settings take effect. No other setup page requires power-cycling for the settings take effect.

1. IP Address:

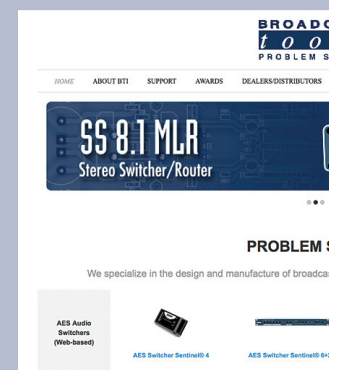
WebSwitch™ requires a static IP address. This is a unique address that identifies WebSwitch™ on the network. Dynamic IP address assignment is not supported. The lack of dynamic IP addressing support is intentional because a dynamically changing the IP address would make it difficult for a client to access the web server built into WebSwitch™. The IP address is specific to the network where WebSwitch™ will be installed, and must be obtained from the network administrator. **NOTE: This guide is not meant to be a tutorial on IP addressing, however a few comments about IP addressing are given here.**

If WebSwitch™ will be used over the Internet, the IP address must be a routable address assigned by the upstream Internet Service Provider (ISP).

In cases where the ISP only provides a single routable IP address for the entire network (this is typical with ISPs such as cable providers), a proxy server (or gateway router) may be used. A proxy server allows multiple devices to connect to the Internet using a single routable IP address. Many small routers from LinkSys, Dlink, and Netgear perform proxy server functions. If a proxy server is used, WebSwitch™ will not be accessible from the Internet until the proxy server is properly configured (forward proper port to WebSwitch™). This information is mentioned for convenience but details of setting up a configuration such as this is beyond the scope of this manual.

WEBSITE:

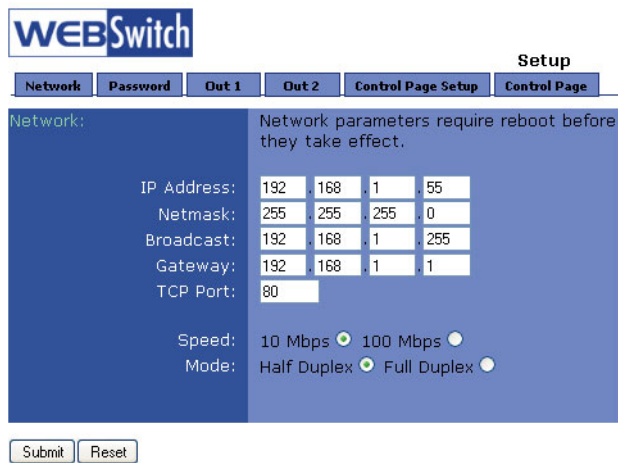
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SETUP

If WebSwitch™ is used on a private network only and is NOT used over the Internet, a routable IP address is not necessary. This may be the case when WebSwitch™ is used to control (or monitor) a device in another room or a nearby building.

If WebSwitch™ will be installed on a simple, private network that does not connect to the Internet, the default IP address may be used as long as no other device on the network uses the same address. If multiple WebSwitch™ units are installed on the same network, each unit must have its own unique IP address. For example, WebSwitch™ comes from the factory with a default IP address of 192.168.1.55. If multiple units are used, change the IP address for each unit (192.168.1.56, 192.168.1.57, 192.168.1.58 etc.).



The screenshot shows the 'Setup' page for WebSwitch. The 'Network' tab is selected. The page displays the following configuration fields:

Field	Value
IP Address:	192 . 168 . 1 . 55
Netmask:	255 . 255 . 255 . 0
Broadcast:	192 . 168 . 1 . 255
Gateway:	192 . 168 . 1 . 1
TCP Port:	80

Additional settings include Speed (10 Mbps selected) and Mode (Full Duplex selected). A message states: 'Network parameters require reboot before they take effect.' Buttons for 'Submit' and 'Reset' are at the bottom.

2. Netmask:

This specifies the size of the local network. This must be obtained from the network administrator. By default, the netmask is set to 255.255.255.0.

3. Broadcast:

This specifies the broadcast address. This must be obtained from the network administrator. By default, this is set to 192.168.1.255.

4. Gateway:

This specifies the IP address of the gateway router. This must be obtained from the network administrator. By default, this is set to 192.168.1.1. If no gateway is used, this can be set to 0.0.0.0 which will prevent WebSwitch™ from looking for a gateway.

5. TCP Port:

This specifies the TCP port used for communications with WebSwitch™. By default, the port is set to 80, which is the standard http port. It is recommended that the port not be changed without an understanding of TCP/IP and ports.

Changing the port can be useful for accessing multiple WebSwitch™ devices which are installed behind a gateway router on a private network that uses non-routable IP addresses (192.168.x.x, 10.x.x.x, and 172.16.x.x through 172.31.x.x are non-routable or private IP addresses). In this case, each WebSwitch™ unit would be assigned a different port (for example 8000, 8001, 8002, etc). The gateway router would be set up to forward all traffic for each of the assigned ports to the IP address of the WebSwitch™ unit, which uses that port. The WebSwitch™ units could then be accessed from outside the private network by entering the IP address of the gateway and the port for the desired WebSwitch™ unit. Note that whenever any port is assigned other than port 80, all communications with that WebSwitch™ device must include the port. For example, if WebSwitch™ is assigned port 8004, access to the setup page would require the following URL to be entered; `http://192.168.1.55:8004/setup.html`.

An example screenshot of a gateway router configuration is given below. Note that this screenshot is simply an example of a typical router setup page. Routers will vary.

The screenshot shows the Linksys configuration interface for a Broadband Router With 2 Phone Ports (RT41P2-AT). The 'Applications & Gaming' section is selected, and the 'Port Range Forward' tab is active. A table lists various applications and their corresponding port forwarding settings.

Application	Start	End	Protocol	IP Address	Enable
MYRC-S	8000	8000	Both	192.168.1.51	<input checked="" type="checkbox"/>
MYRC-S	3001	3002	Both	192.168.1.51	<input checked="" type="checkbox"/>
Audio S	8001	8001	Both	192.168.1.52	<input checked="" type="checkbox"/>
Relay S	8002	8002	Both	192.168.1.53	<input checked="" type="checkbox"/>
Site Se	8003	8003	Both	192.168.1.54	<input checked="" type="checkbox"/>
WebSrit	8004	8004	Both	192.168.1.55	<input checked="" type="checkbox"/>
Schedal	8005	8005	Both	192.168.1.56	<input checked="" type="checkbox"/>
Status	8006	8006	Both	192.168.1.57	<input checked="" type="checkbox"/>
Temp Se	8007	8007	Both	192.168.1.58	<input type="checkbox"/>
	0	0	Both	192.168.1.0	<input type="checkbox"/>

Buttons at the bottom: Save Settings, Cancel Changes.

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The screenshot shows the AES website with a navigation menu (HOME, ABOUT US, SUPPORT, AWARDS, DEALERS/DISTRIBUTORS) and a featured product: SS 8.1 MLR Stereo Switcher/Router. Below the product image, there is a 'PROBLEM?' section and a footer with contact information for AES Audio Switchers (Web-based), AES Switcher Sentinel 4, and AES Switcher Sentinel 8c.

SETUP

In the example, the eight different Broadcast Tools® devices are assigned IP addresses of 192.168.1.51 to 192.168.1.58. The WebSwitch™ device with IP address 192.168.1.55 is assigned port 8004. To access the WebSwitch™ from the Internet, enter the IP address of the gateway plus the port number of the desired WebSwitch™ unit. Example: 10.10.10.2:8004

6. Speed:

This specifies the communication speed of the network. Select 10Mbps for 10base-T networks and 100Mbps for 100base-T networks. By default, this is set to 10Mbps.

7. Mode:

This specifies the duplex mode for the network. By default, this is set to Half Duplex.

2.3.3 Password Setup Page

The password setup page is used to change and enable passwords. A password is required for the setup pages but is optional for the control page. The password is enabled or disabled for the control page by using the Yes or No radio buttons. Enabling the control page password also enables the requirement for a password when reading/writing XML pages. Note that when the password is changed, the password may be displayed in the browser's history in clear text. It is advisable to clear the browser history after setting the password.

WEBSwitch

Setup

Network Password Out 1 Out 2 Control Page Setup Control Page

Password:

Setup Password:

Re-enter Setup Password:

Enable Control Password: Yes No

Control Password:

Re-enter Control Password:

Submit Reset

2.3.4 Out1 and Out2 Setup Pages

These pages are used to set up the function of the two outputs. The Out1 page is used to configure the output labeled Out1, and the Out2 page is used to configure the output labeled Out2. Both pages look and operate the same.

WEBSwitch

Setup

Network Password Out 1 Out 2 Control Page Setup Control Page

Out 1 Setup:

Auto Reboot: ON OFF

State at Powerup: ON OFF

Reboot Pulse Time: 10 secs

Submit Reset

1. Auto Reboot:

When this option is set to 'ON', WebSwitch™ will operate in Automatic Reboot mode. In Automatic Reboot mode, WebSwitch™ is configured to periodically confirm that another device (such as a server, computer, router, etc.) is working by sending ping requests to the device. WebSwitch™ expects a response after each ping. If a pre-set number of ping requests fail, it is assumed that the device is not functioning properly. WebSwitch™ will attempt to restore the device to normal operation by rebooting the device. In Automatic Reboot mode, users still have the ability to manually reboot the device from a remote location over the network.

When this option is set to 'OFF', WebSwitch™ will operate in Normal mode. In Normal mode, WebSwitch™ will only change the state of the outputs when commanded by a user.

The following parameters (2-3) are available only when Auto Reboot is set to OFF.

2. State at Powerup:

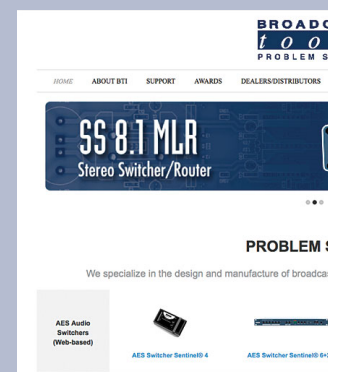
When this option is set to ON, Out 1 will immediately be powered when power is applied to WebSwitch™. When this option is set to OFF, Out 1 will not be powered when power is applied to WebSwitch™. By default, this option is set to OFF.

3. Reboot Pulse Time:

This is the time (in seconds) that WebSwitch™ pulses the output 'off' and then back 'on' to reboot the device connected to the outlet. WebSwitch™ executes the reboot sequence when the user presses the reboot button. This time can be set from 1 second to 60000 seconds (1000 minutes). The factory default setting for this is 10 seconds.

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SETUP



Setup

Network | Password | Out 1 | Out 2 | Control Page Setup | Control Page

Dut 1 Setup:

Auto Reboot: ON OFF

Ping IP Address: 192 168 1 15

Successful Ping Period: 60 secs

Unsuccessful Ping Period: 10 secs

Delay Before First Ping After Reboot: 120 secs

Reboot Pulse Time: 10 secs

Failed Pings Before Reboot: 5

Max Reboot Attempts: 10

The following parameters (4-10) are available only when Auto Reboot is set to ON.

4. Ping IP Address:

This is the IP address that WebSwitch™ will ping. This is typically the IP address of the device that will be re-booted upon failure (such as a server, router, computer, etc.). It could however, be the address of a device on the opposite side of a communications link when WebSwitch™ is used to reboot a communication device that does not have an IP address such as a CSU/DSU, satellite modem, router, etc.

5. Successful Ping Period:

This is the time interval (in seconds) between successful ping requests. This time can be set from 1 to 60000 seconds (1000 minutes or 16.666 hours). The factory default for this setting is 60 seconds.

6. Unsuccessful Ping Period:

When ping requests fail (no response from device), it may be desirable to begin pinging at a shorter time interval. This allows WebSwitch™ to determine in less time that the device is not functioning. After each unsuccessful ping, WebSwitch™ will wait this time interval (in seconds) before the next ping attempt. This time can be set from 1 to 60000 seconds (1000 minutes or 16.666 hours). The factory default for this setting is 10 seconds.

7. Delay Before First Ping After Reboot:

When WebSwitch™ is first powered, it will wait this time interval (in seconds) before beginning to ping the device. This time delay allows the device to boot before being pinged. This time can be set from 0 to 60000 seconds (1000 minutes or 16.666 hours). The factory default for this setting is 120 seconds.

8. Reboot Pulse Time:

This is the time (in seconds) that WebSwitch™ pulses the output ‘off’ and then back ‘on’ to reboot the device connected to the outlet. WebSwitch™ executes the reboot sequence when commanded by the user or when the automatic reboot controller determines that it is time to reboot. This time can be set from 1 seconds to 60000 seconds (1000 minutes). The factory default for this setting is 10 seconds.

9. Failed Pings Before Reboot:

The device will be re-booted after this number of ping failures. This number can be set between 1 and 255. The factory default for this setting is 5.

10. Max Reboot Attempts:

After the device has been re-booted this number of times without any successful pings, it is assumed that there are problems with the device and WebSwitch™ will no longer attempt to re-boot the device. At this point, WebSwitch™ will leave the device on but will disable the auto re-boot feature. The auto re-boot feature will remain disabled until a user enables it through the control page or WebSwitch™ is powered down and powered up once again. This number can be set between 1 and 255. The factory default for this setting is 10.

2.3.5 Control Page Setup

Once WebSwitch™ is set up, it can be controlled and monitored using a web browser by accessing its control page. Titles and basic contents of the control page can be customized by setting the appropriate options on the ‘Control Page Setup’ page. Note that this setup page only affects the control web page and does not affect the function of WebSwitch™ in any way.

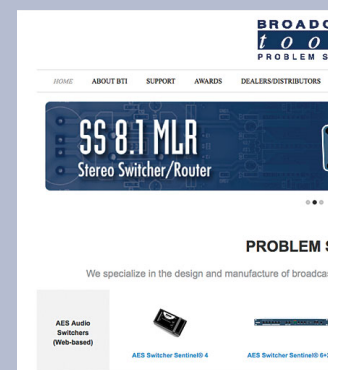
Note that the option labeled Auto Reboot ON/OFF is available only when outputs are configured for Auto Reboot mode as described in section 2.3.4. In the screenshot shown below, Out 1 has Auto Reboot set to No and Out 2 has Auto Reboot set to Yes. This makes the Auto Reboot ON/OFF option available for Out 2 only.

1. Main Header Text:

This text will be displayed in the main header area of the control page. This field can be up to 25 characters in length.

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SETUP

2. Auto Refresh Page:

Web pages traditionally display static information. The WebSwitch™ control page, however, displays information that is dynamic. Each time the control page is loaded to the browser, it displays a snapshot of the current status of the unit. If the state of the unit changes, the information on the control page will be outdated unless the page is re-loaded. Whenever a user changes the state of the output via the web browser, the web page will automatically reload the control page to display current information. If, however, the output state changes due to the automatic reboot controller or due to a command sent from another machine, the output state will not be updated and the control page information will be obsolete. The 'Auto Refresh Page' option will cause the control page to continually update its contents by setting a timer in the web page that causes it to be reloaded at a specified time interval.

3. Duration:

If the 'Auto Refresh Page' option is set to Yes, this field specifies the time in seconds that the page will be refreshed. It can be set from 1 to 32 seconds.

The screenshot shows the 'Setup' page for WebSwitch. The page has a navigation bar with tabs: Network, Password, Out 1, Out 2, Control Page Setup (selected), and Control Page. The 'Control Page Setup' section contains the following fields:

- Main Header Text:
- Auto Refresh Page: Yes No
- Duration: sec
- Out 1:
 - Description:
 - ON/OFF Buttons: Yes No
 - Reboot Button: Yes No
 - Auto Reboot ON/OFF Button: Yes No
- Out 2:
 - Description:
 - ON/OFF Buttons: Yes No
 - Reboot Button: Yes No

At the bottom of the form are 'Submit' and 'Reset' buttons.

4. Description:

This text is used to describe the function of Out 1 (or Out 2) on the control page. This field can be up to 20 characters in length.

5. ON/OFF Buttons:

When this option is set to Yes, the control page will display buttons to turn the device on and off. If this option is set to No, the control page will not display buttons to turn the device on and off.

Note that disabling the on/off buttons is recommended when if turning the device off causes communications with WebSwitch™ to be lost (for example WebSwitch™ controls a router or modem which must be operating properly to remotely communicate with WebSwitch™). In this case the user may press the ‘OFF’ button and lose communications with WebSwitch™ so he/she cannot turn the device back on.

6. Reboot Button:

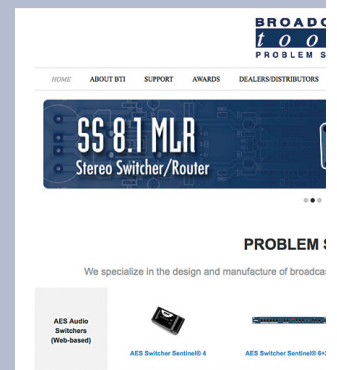
When this option is set to Yes, the control page will display a button to reboot the device. When the user presses this button, WebSwitch™ will turn the output off for the time duration specified in the Reboot Timer field of the Out 1 or Out 2 configuration page and turn the output on.

7. Auto Reboot ON/OFF Button (Only available for Outputs that have Auto Reboot enabled):

When this option is set to Yes, the control page will display a button which allows the user to turn the Auto Reboot feature on or off. When this option is set to No, the button to turn the Auto Reboot feature on or off will not be displayed on the control page.

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Section 3: Operation

WebSwitch™ can be operated by using a web browser, or web-enabled mobile devices.

3.1 Browser Operation

Once the unit is set up, the control page may be accessed by typing the following URL into the web browser: `http://192.168.1.55` (Note that if the IP address was changed, replace the default IP address shown with the new address that was assigned. Note also that if any port is used other than port 80, the port must also be included in the request: `http://192.168.1.55:8004`) The new control page will appear. A control page is shown below. Note that in the example control page shown, Out 1 is configured for “manual” reboot mode and Out 2 is configured for “Automatic” reboot mode.

WebSwitch		
Out 1 Description	ON	<input type="button" value="ON"/> <input type="button" value="OFF"/> <input type="button" value="Reboot"/>
Reboot State	Pinging Failures:4 Reboot Attempts:0	<input type="button" value="Auto ON/OFF"/>
Out 2 Description	OFF	<input type="button" value="ON"/> <input type="button" value="OFF"/> <input type="button" value="Reboot"/>

Out 1 & Out 2 Description:

A brief user description of the output (or device being controlled) and the output state may be displayed on the control page. It is recommended that in **WebSwitch™** setup, appropriate labels be used that best represent the device being controlled.

ON/OFF Buttons:

These buttons are available only when the ‘On/Off Buttons’ field in the ‘Control Page Setup’ is set to Yes. These buttons will turn the power to the device connected to the corresponding output on and off.

Reboot Button:

This button may be included on the control page (as specified in the setup). When the user presses this button, **WebSwitch™** will power the device off which is connected to corresponding output for the time specified in Reboot Pulse Time and then turn the power to the device back on.

Reboot State - This field provides important information about the current status of the automatic reboot controller. Each state is described below.

Reboot State

Description

Wait for boot

After power-up, **WebSwitch™** will wait for the device to boot before sending any ping requests. The “Waiting for boot” message is displayed during this wait time. The wait time is specified in the ‘Delay Before First Ping After Reboot’ parameter under the ‘Out 1’ or ‘Out 2’ setup tabs.

Pinging

WebSwitch™ is periodically pinging device. This indicates normal operation.

Waiting Reply

This indicates that a ping request has been sent out and **WebSwitch™** is waiting for a reply from the device. Usually under normal circumstances the device will reply very quickly and there will be no time to display this message.

Pinging Failures:1 Reboot Attempts:4

The status field looks like this when one or more ping requests have failed. The top line indicates the current state. It may be ‘Pinging’, ‘Waiting Reply’, ‘Waiting for boot’, or in it’s ‘Reboot Sequence’. The next line (Failures) indicates the number of consecutive ping request have failed to respond. This counter is reset each time **WebSwitch™** receives a successful ping response. The counter is also reset each time **WebSwitch™** re-boots the device. The bottom line (Reboot Attempts) indicates the number of consecutive times that **WebSwitch™** has re-booted the device. This counter is reset upon a successful ping response or when the user manually re-boots the device.

Reboot Sequence

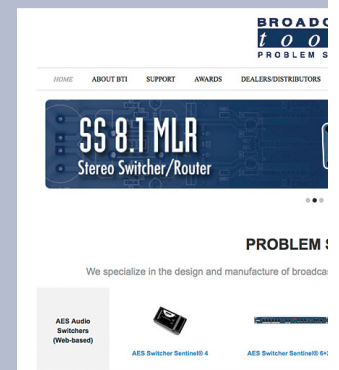
This indicates that **WebSwitch™** is currently performing a reboot.

Auto Reboot OFF Reboot attempts:10

This indicates that **WebSwitch™** has re-booted the device the maximum number of times specified in the ‘Max Reboot Attempts’ field under the ‘Out 1’ or ‘Out 2’ setup tabs. The device failed to respond to any ping requests, even after being re-booted (possibly numerous times). Once the maximum number of attempts have been reached, **WebSwitch™** will leave the device powered on and quit trying to perform reboot attempts.

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Auto Reboot OFF

This indicates that the user has turned the auto reboot feature off. Note that the auto reboot feature will automatically be re-enabled if power is lost and restored to **WebSwitch™**

Auto ON/OFF Button:

This allows the user to temporarily disable the automatic reboot feature. When automatic reboot is disabled, **WebSwitch™** will stop pinging the device. Automatic reboot will be disabled until a user re-enables it or **WebSwitch™** is powered cycled. The user can re-enable this feature by pressing the 'Auto ON/OFF' button, or by changing any of the reboot parameters in the setup pages.

Appendix A: Restoring Factory Default Settings

In the event that the IP address or passwords are forgotten, WebSwitch™ may be restored to its original factory default settings. To do this, first remove the power from the unit. Next, insert a thin object (such as a toothpick) through the small hole in the side of the unit to press the small button that is located inside the unit. When the object is inserted, a tactile feel can be detected as the button is depressed. While holding the button down, apply power and wait for about 10 seconds. After about 10 seconds, release the button. Now all settings will be back to the original factory defaults.

CAUTION! DO NOT USE METAL OBJECTS FOR THIS FUNCTION.

Appendix B: Specifications

Power Requirements:

Input Voltage: 85-125VAC

Input Frequency: 47-63Hz

Input Connector: IEC 320 Appliance Connector (C14 Male)

Max Input Current: 10A

(DO NOT USE WEBSWITCH TO CONTROL MORE THAN 10 AMPS)

Outputs:

Number of Outputs: 2

Output Connectors: NEMA 5-15R Outlets (United States)

Output Control Options: On/Off or Pulsed

Network:

10base-T or 100base-T Ethernet

Setup: static IP address assignment, TCP port selectable

Network Connector: 8-pin RJ-45 socket

LED Indicators:

-Out 1 ON

-Out 2 ON

-Network linked

-Network activity

Physical:

Operating Temperature: 32°-158°F (0°-70°C)

Size: 5.717in (145.20mm) wide (including mounting ears) X 4.724in (120.00mm) high X 2.525in (64.1mm) deep

Weight: 12.7oz (360 grams)

Enclosure Material: ABS, Flame Retardant UL94-V0

Pulse Timer:

Duration: 1 Second to 60000 Seconds (1000 minutes)

Accuracy: ±50ms

Password Settings:

Password protection on setup page: Yes

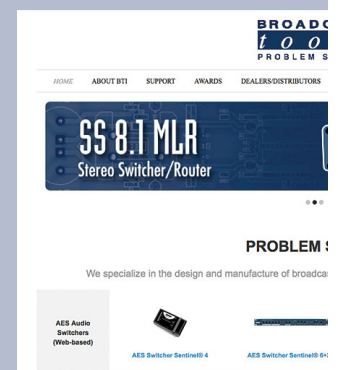
Password protection on control page: Optional

Password Encoding: Base 64

Max password length: 10 characters

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OpenTCP is the unified open source TCP/IP stack available on a series of 8/16-bit microcontrollers, please see <<http://www.opentcp.org>>.

For more information on how to network-enable your devices, or how to obtain commercial technical support for OpenTCP, please see <<http://www.violasystems.com/>>.

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