

Volume Control from the Web Interface

How to Control Audio Volume using the Web Server Interface

Overview

FireBall's built-in web server and external control features provide a method for controlling third party audio systems using the existing external control protocol or direct IP based messaging through the built-in web server interface. This can be accomplished from a standard web browser on your PC/Mac or from the Escient EWP-2000 Wireless Web Pad.

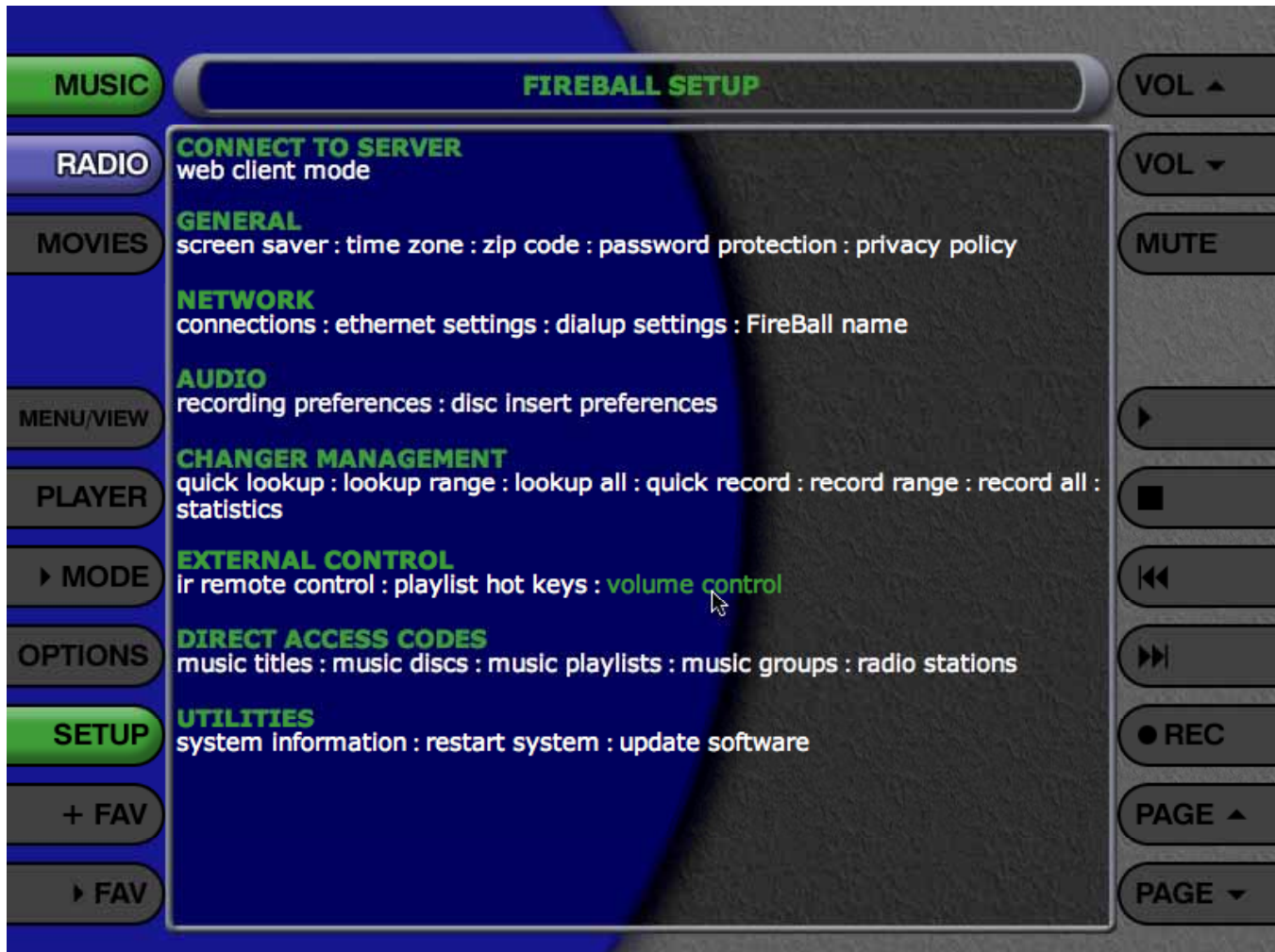
Since FireBall is a source component and not an audio receiver or preamp, FireBall can "tell" your audio system to increase, decrease, or mute the volume. This is accomplished by enabling the volume up, down, and mute buttons on the web interface and sending command strings to the audio system whenever the buttons are pressed by the user.

Additionally, support is provided for controlling multiple audio systems so that one web interface can control the volume in multiple rooms or zones. This is accomplished by maintaining multiple sets of volume control strings for each room.

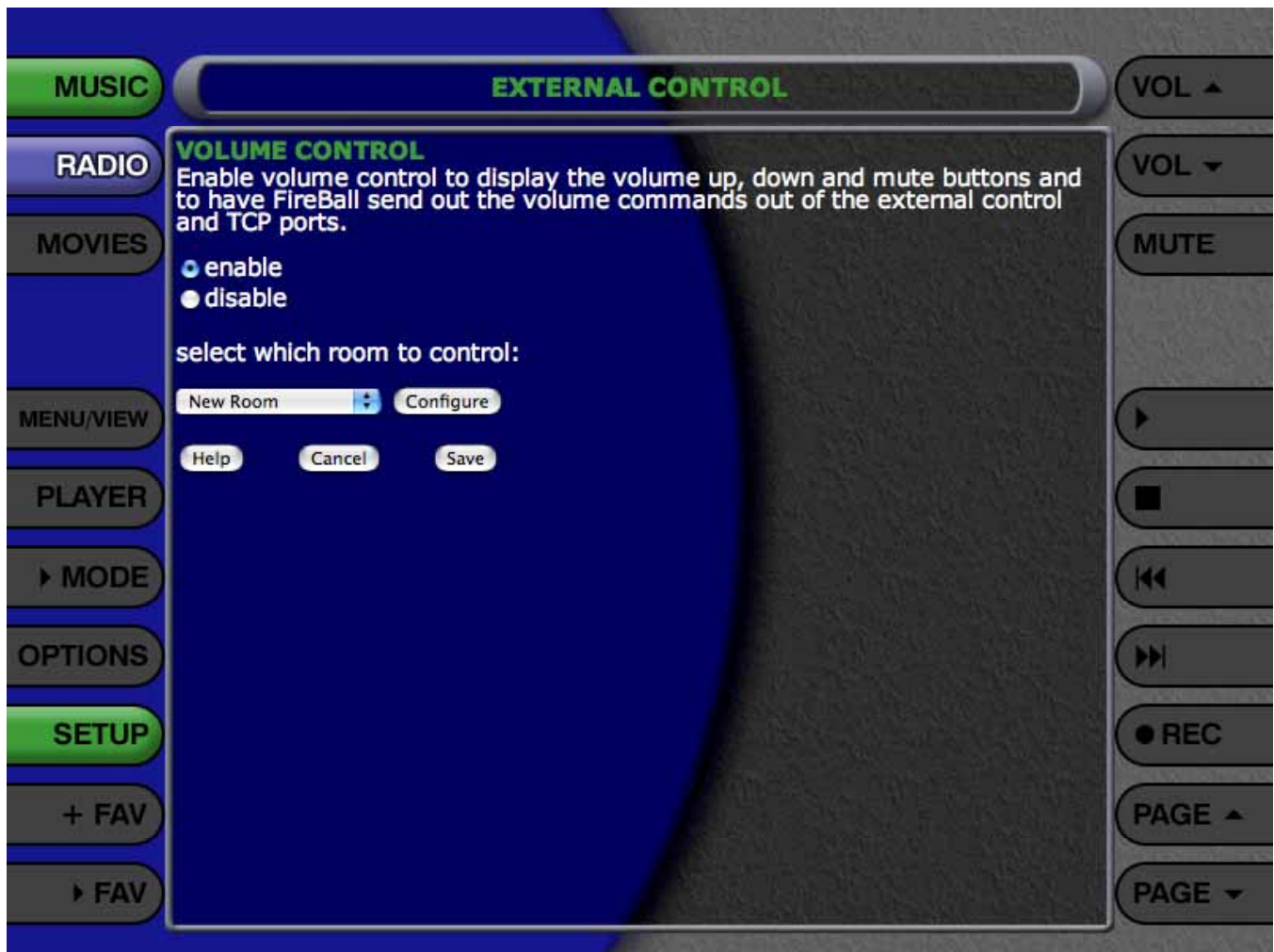


Setup

To configure and setup volume control, connect to your FireBall from a web browser using it's IP address and go to Setup->External Control->Volume Control.



The Volume Control page lets you enable the volume control buttons and configure the settings for each room. Select **ENABLE** and then click the **CONFIGURE** button.



Controlling Volume Using Serial and TCP/IP Commands

The Volume Control Configure screen lets you setup the command strings for controlling volume up, down, and mute. The strings provided are the default strings for sending volume up, down, and mute commands using the FireBall External Control Protocol over the RS-232 control port and port 251 over a TCP/IP network. These strings are useful if you have an external control system (such as a Crestron or AMX system) that can listen for command strings over a serial or TCP/IP connect and respond with some action, like telling the audio system to adjust the volume.



1. Enter a name for the room where you have your speakers located. For example, enter **HOME THEATER** to control the volume in your main theater room.
2. Select the **DONE** button and then the **SETUP** button to exit Setup.
3. The Volume and Mute buttons are now active. Selecting these buttons should send the command string to your control system. The control system will then need to be programmed to translate the strings into the appropriate IR codes for your audio system.

The default string for volume up, down, and mute follow the Escient external control format with the following syntax:

ESCX – preamble
0212 – command code
0002 – number of data packets
0003 – number of characters in first data string
001 – room number (increment this number for each additional room)
0002 – number of characters in second data string
01 – volume up (02 - volume down, 03 - mute)
\r – carriage return

By default, FireBall sends it's external control commands over TCP/IP port 251 **and** out of the selected external control serial port. You may change the TCP/IP address and port number if you like by entering a different port number into the **port** field in the Volume Control Configure screen.

Use FireBall's on-screen user interface to select the external control serial port.

You may also change the actual volume up, down, and mute command strings to suit your own needs. Use '\r' to enter a carriage return (0x13), which may be required to complete the string, depending on your control system. Use '\n' for line feed (0x10). Here are a few other escape characters:

\t - Horizontal TAB

\b - Backspace

\f - Form feed

\\ - Backslash

\(- Left parenthesis

\) - Right parenthesis

\ddd - any ASCII character code where ddd is in octal.

Controlling Volume Using a Global Cache GC-100

An alternative method of controlling volume is to use a third party device such as a **Global Cache GC-100 Network Adapter**. This device will send out IR signals to your audio system based on special command strings sent to it over an Ethernet network. Please visit the Global Cache web site for information about purchasing the GC-100. <http://www.globalcache.com/>



The Global Cache connects to your Ethernet network and converts an IR text string into an actual IR signal which in turn controls your audio system using standard IR signals.



You must use specially formatted strings in order for the GC-100 to properly convert the string to the corresponding IR signal, fortunately Global Cache provides a free utility program called **CCFCONVERT** to convert Philips Pronto IR code strings into Global Cache IR code strings. Visit the Global Cache web site to download this utility.

<http://www.globalcache.com/files/ccfconvert.zip>

Note: the CCFConvert program only works on a Windows PC and only accepts raw CCF command strings which start with "0000". The resulting string will start with "sendir". Please consult the Global Cache GC-100 manual for more details on the specifications.

http://www.globalcache.com/files/Documentation/API_GC-100.pdf

Example: Follow these steps to configure your FireBall to control the volume of a Sony TV using IR codes from www.remotecentral.com:

1. Connect your Global Cache to your Ethernet network.
2. Connect IR emitters from the Global Cache to your components.
3. Using your PC and a web browser, connect to your FireBall and go to the Volume Control Configure screen as described above.
4. Enter the IP address of your Global Cache into the IP Address Field. The Global Cache defaults to **192.1.1.70**.
5. Enter the Global Cache port number into the Port Field. The Global Cache defaults to port **4998**.
6. Using the **CCFCONVERT** utility, convert the following Raw CCF codes into GC-100 IR code strings. (Note: These raw CCF codes were obtained from a SonyTV CCF file on www.remotecentral.com)

Command	Raw CCF Code	GC-100 IR Code String
Volume Up	0000 0067 0000 000d 0060 0018 0018 0018 0030 0018 0018 0018 0018 0018 0030 0018 0018 0018 0018 0018 0030 0018 0018 0018 0018 0018 0018 0018 0018 0422	sendir,<conn addr>:<module addr>,<ID>,40000,<count>,1,96,2 4,24,24,48,24,24,24,24 ,24,48,24,24,24,24,48,24,24,24 ,24,24,24,24,24,1058
Volume Down	0000 0067 0000 000d 0060 0018 0030 0018 0030 0018 0018 0018 0018 0018 0030 0018 0018 0018 0018 0018 0030 0018 0018 0018 0018 0018 0018 0018 0018 040a	sendir,<conn addr>:<module addr>,<ID>,40000,<count>,1,96,2 4,48,24,48,24,24,24,24 ,24,48,24,24,24,24,48,24,24,24 ,24,24,24,24,24,1034
Mute	0000 0067 0000 000d 0060 0018 0018 0018 0018 0018 0030 0018 0018 0018 0030 0018 0018 0018 0018 0018 0030 0018 0018 0018 0018 0018 0018 0018 0018 0422	sendir,<conn addr>:<module addr>,<ID>,40000,<count>,1,96,2 4,24,24,24,24,48,24,24 ,24,48,24,24,24,24,48,24,24,24 ,24,24,24,24,24,1058

7. Substitute the proper **conn addr, module adr, ID, and count** for your Global Cache. Refer to the Global Cache API Specification for details. Example, to use IR port #1 on a GC-100 use "sendir,2:1,1234,40000,3" where 40000 is the I carrier frequency.



8. Enter the resulting GC-100 Code Strings into the corresponding text fields on the Volume Control Configure screen and select the **DONE** button to save your settings and return to the Volume Control screen.
9. Select the **SAVE** button and then the **SETUP** to exit Setup.
10. The Volume and Mute buttons are now active. Selecting these buttons should send the command string to your GC-100 and it should then convert the strings into the appropriate IR codes for a Sony TV.

Controlling Volume In Multiple Rooms

FireBall's Web Interface supports controlling volume in multiple rooms. Simply follow the instructions above and create additional sets of volume control strings for each room. Enter a unique name for each room you create in the Volume Control Configure screen.



Select the room you want to control from the Setup->Volume Control screen.