








# BSS PS-8810 Output Volume v3 Module Application Guide

## Description

This module allows an Ethernet-equipped Crestron 2-series processor to control the output volume stage of a BSS PS-8810 via UDP/IP communications.

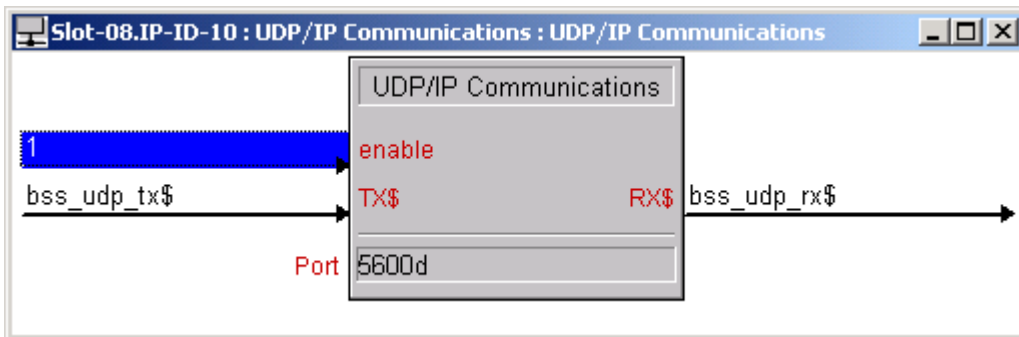
Compatibility			Processor Requirements	
 2-Series Compatible	 NOT CNMSX Compatible	 NOT System Builder Compatible	 Ethernet REQUIRED	 Compact Flash NOT NEEDED

## Ethernet Configuration Information

It is strongly suggested that you load the supplied demonstration program and touchpanel to gain an understanding of the application of the module before you attempt to implement the module in your own program.

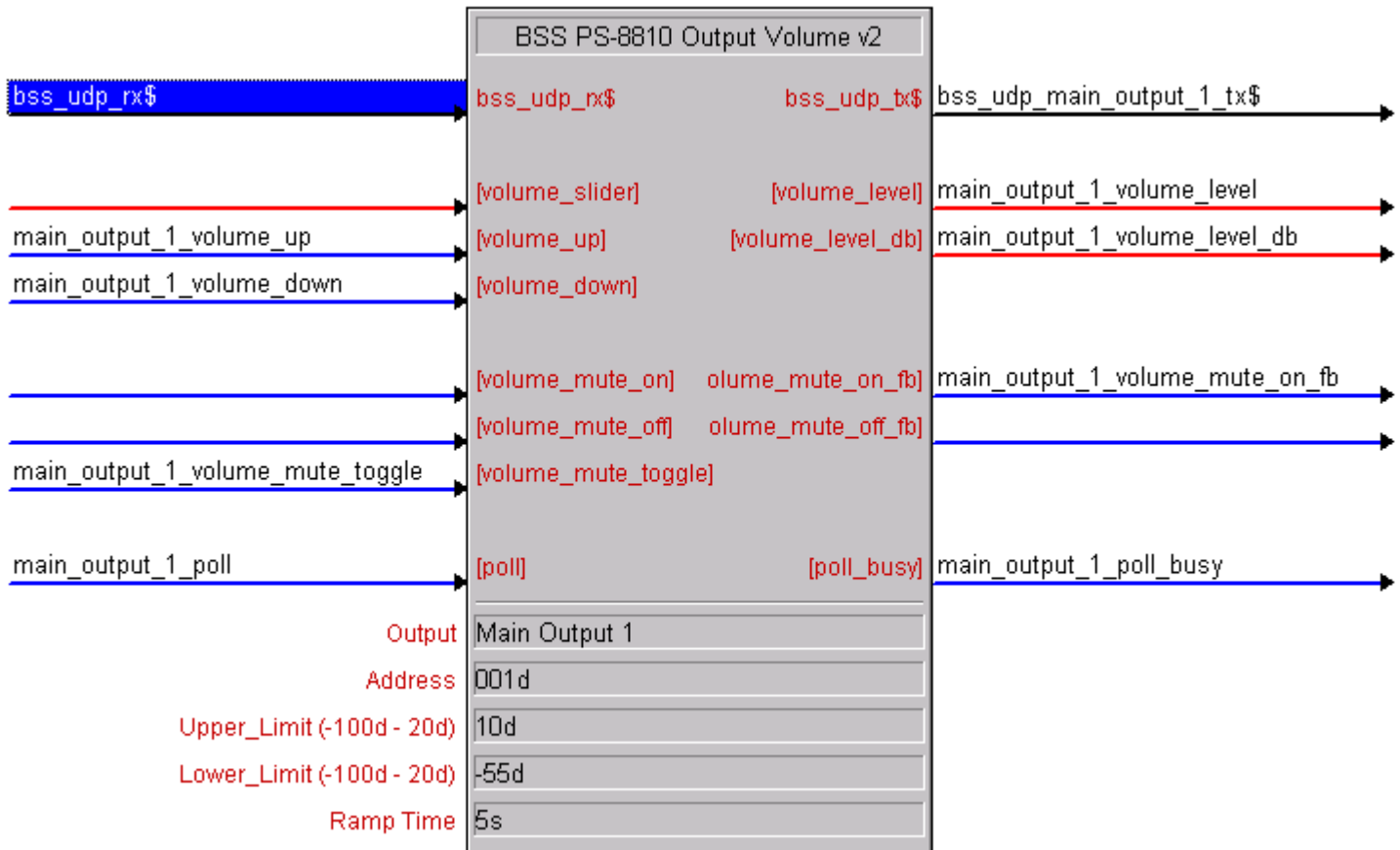
You will have to enter information in three different places in your program in order for the module to function. Under **System Views** drop a **UDP/IP Client** onto your Ethernet Slot. Now double click on the Client and select the **IP Net Address** tab. Enter the **Host Name** or **IP Address** of your BSS PS-8810 mixer.

Return to the **Program View** and open the **Client** you just inserted. To keep implementation simple, please use the same signal names used in our demonstration program. Your Client with signal names should look like this:



Now launch a second instance of SIMPL Windows and open the program BSS PS-8810 Demo v1.smw. If the program you are writing is in the same directory as the demo program, you can simply copy and paste the module(s) you want with all of its signal names from the demo program into your program. Otherwise, you will need to copy the module and all of its SIMPL+ modules into your project directory first.

You will now need to set up the details of the mixer and channel you want to control using the parameters. Drop down menus allow you to choose the channel. Type in the address (in decimal form) of the desired mixer. You may also specify the ramp time for the fader, as well as an upper and lower limit for the fader travel.



## Module Application

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Note: We were not able to find a control point for a "mute" function for the crosspoint. Therefore, the mute function on this module sets the volume to OFF.

There is no unsolicited feedback provided by the mixer. If you are allowing control from another interface besides the Crestron processor, such as the logic connections or IQwic software, and you need the feedback of the module to be accurate, you will have to set up a polling cycle. If the Crestron is the only point of control, you can poll once at startup only.

When the IQwic software is open additional broadcast packets are sent on the CobraNet network. The processor will generate an "Error: ReadData: Unable to find driver node to match address" message in Viewport and in the error log. This message does not impact the functionality of the module or processor.

# Signal and Parameter Descriptions

Bracketed signals such as "[signal\_name]" are optional signals

## DIGITAL INPUTS

volume\_up ..... hold to ramp volume up over the period of time specified in the parameter Ramp Time.  
volume\_down..... hold to ramp volume down over the period of time specified in the parameter Ramp Time.  
volume\_mute\_on..... pulse to mute the channel  
volume\_mute\_off ..... pulse to un-mute the channel  
volume\_mute\_toggle ..... pulse to toggle the channel's mute state  
poll..... pulse to poll the channel (see demo program for an example of properly polling multiple channels at once)

## ANALOG INPUTS

volume\_slider ..... Use this input to discretely specify a volume (full range) from outside the program. You can also tie this to a slider on a touchpanel if you wish.

## SERIAL INPUTS

bss\_udp\_rx\$ ..... tie to rx\$ of UDP/IP client

## DIGITAL OUTPUTS

volume\_mute\_on\_fb ..... latched high while the channel is muted  
volume\_mute\_off\_fb ..... latched high while the channel is not muted

## ANALOG OUTPUTS

volume\_level ..... displays the current volume. This volume is scaled to the range specified in the Upper Limit and Lower Limit parameters. For more information, read the help under those parameters.  
volume\_level\_db ..... current volume in tenths of dBs. Route to a digital gauge formatted for signed values, four digits, xxx.x

## SERIAL OUTPUTS

bss\_udp\_tx\$ ..... tie to tx\$ of UDP/IP client (if you have multiple modules controlling the mixer, it is recommended to run all of the signals through a cat\$ and then to the tx\$ port)

**PARAMETERS**

Output ..... choose the desired channel from the drop down list  
Address..... enter the desired mixers IQ Address in decimal format  
Upper Limit..... enter the dB value (positive or negative) for the  
desired maximum volume level. This will limit the  
volume when ramping or using the slider input to this  
value. For example, if you specify the upper limit to  
10dB, the Crestron module will never send a value  
higher than 10dB, even though the mixer can go to  
20dB. The volume level analog output will be scaled to  
present this as 100%.  
Lower Limit..... enter the dB value (positive or negative) for the  
desired minimum volume level. This will limit the  
volume when ramping or using the slider input to this  
value. For example, if you were to specify the lower  
limit to -55dB, the Crestron module will never send a  
value lower than -55dB, even though the mixer can go  
to -100dB. The volume level analog output will be  
scaled to present this as 0%. NOTE – The module  
does support zero pass-through, so when the input is  
0%, it will pass -100dB at all times. When you go to  
1%, it will begin ramping at just above the lower limit.

## Support

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This module is supported by ControlWorks Consulting, LLC. Should you need support for this module please email [support@controlworks.com](mailto:support@controlworks.com) or call us at 440-449-1100. ControlWorks normal office hours are 9 AM to 5 PM Eastern, Monday through Friday, excluding holidays.

Before calling for support, please ensure that you have loaded and tested operation using the included demonstration program and touchpanel(s) to ensure that you understand the correct operation of the module. It may be difficult for ControlWorks to provide support until the demonstration program is loaded.

Updates, when available, are automatically distributed via Email notification to the address entered when the module was purchased. In addition, updates may be obtained using your username and password at <http://www.thecontrolworks.com/customerlogin.aspx>.

### Distribution Package Contents

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The distribution package for this module should include:

BSS PS-8810 Limits v1.usp .....	SIMPL+ file used within the volume control modules
BSS PS-8810 Limits v1.ush .....	SIMPL+ header file
BSS PS-8810 Scenes v3.umc.....	Crestron user module for scene control
BSS PS-8810 Presets v3.umc .....	Crestron user module for preset control
BSS PS-8810 Logic Input v3.umc.....	Crestron user module for monitoring logic inputs
BSS PS-8810 Logic Output v3.umc.....	Crestron user module to monitor/control logic outputs
BSS PS-8810 Output Volume v3.umc.....	Crestron user module for output volume control
BSS PS-8810 Input Volume v3.umc.....	Crestron user module for input volume control
BSS PS-8810 Crosspoint Volume v3.umc.....	Crestron user module for crosspoint volume control
BSS PS-8810 Demo TPS-4500 v3.vtp .....	Demo touchpanel for TPS-4500 touchpanel
BSS PS-8810 Demo TPS-4500 v3.vtz.....	Compiled demo touchpanel
BSS PS-8810 Demo v3.smw.....	Demo program for PRO2 processor
BSS PS-8810 Demo v3.spz .....	Compiled demo program
BSS PS-8810 Scenes Help v3.pdf .....	Help file for scene module
BSS PS-8810 Presets Help v3.pdf.....	Help file for presets module
BSS PS-8810 Logic Input Help v3.pdf .....	Help file for logic inputs module
BSS PS-8810 Logic Output Help v3.pdf .....	Help file for logic outputs module
BSS PS-8810 Input Volume Help v3.pdf.....	Help file for input volume module
BSS PS-8810 Crosspoint Volume Help v3.pdf.....	Help file for crosspoint volume module
BSS PS-8810 Output Volume Help v3.pdf.....	Help file for output volume module

## Revision History

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v3 tom@controlworks.com 2006.01.17

Added CobraNet audio inputs as selectable inputs for crosspoint volume module

v2 tom@controlworks.com 2006.01.13

Added analog output with dB value for all volume control modules

v1 tom@controlworks.com 2005.12.17

First release

## Development Environment

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This module version was developed on the following hardware and software. Different versions of hardware or software may or may not operate properly. If you have questions, please contact us.

### Hardware

Crestron PRO2 Processor ..... v3.137  
Crestron TPS-4500 Touchpanel ..... v2.002  
BSS PS-8810C Mixer ..... v3.10

### Software

Crestron SIMPL Windows ..... Version 2.06.20  
Crestron Vision Tools Pro-e ..... Version 3.4.2.9  
Crestron Database ..... Version 17.5.1  
Crestron Symbol Library ..... Version 360  
Crestron Device Library ..... Version 360

# ControlWorks Consulting, LLC Module License Agreement

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## Definitions:

*ControlWorks*, *We*, and *Us* refer to ControlWorks Consulting, LLC, with headquarters located at 701 Beta Drive, Suite 22 Mayfield Village, Ohio 44143-2330. *You* and *Dealer* refer to the entity purchasing the module. *Client* and *End User* refer to the person or entity for whom the Crestron hardware is being installed and/or will utilize the installed system. *System* refers to all components described herein as well as other components, services, or utilities required to achieve the functionality described herein. *Module* refers to files required to implement the functionality provided by the module and may include source files with extensions such as UMC, USP, SMW and VTP. *Demo Program* refers to a group of files used to demonstrate the capabilities of the Module, for example a SIMPL Windows program and VisionTools Touchpanel file(s) illustrating the use of the Module but not including the Module. *Software* refers to the Module and the Demo Program.

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## Provision of Support

We provide limited levels of technical support only for the most recent version of the Module as determined by Us. We do not provide support for previous version of the module, modifications to the module not made by Us, to persons who have not purchased the module from Us. In addition, we may decline to provide support if the Demo Program has not been utilized. We may withdraw a module from sale and discontinue providing support at any time and for any reason, including, for example, if the equipment for which the Module is written is discontinued or substantially modified. The remainder of your rights and obligations pursuant to this license will not be affected should ControlWorks discontinue support for a module.

## Modification of Software

You may not decrypt (if encrypted), reverse engineer, modify, translate, disassemble, or de-compile the Module in whole or part. You may modify the Demo Program. In no event will ControlWorks Consulting, LLC be liable for direct, indirect, incidental or consequential damages resulting from You modifying the Software in any manner.

## Indemnification/Hold Harmless

ControlWorks, in its sole and absolute discretion may refuse to provide support for the application of the Module in such a manner that We feel has the potential for property damage, or physical injury to any person. Dealer shall indemnify and hold harmless ControlWorks Consulting LLC, its employees, agents, and owners from any and all liability, including direct, indirect, and consequential damages, including but not limited to personal injury, property damage, or lost profits which may result from the operation of a program containing a ControlWorks Consulting, LLC Module or any component thereof.

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