Crown Amplifiers PIP-USP3/CN 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 Crown Amplifier equipped with a PIP-USP3/CN card via UDP/IP communications.

There is no unsolicited feedback provided by the amplifier. 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.

Note: CobraNet traffic generates 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. The frequency of this error message increases when the IQwic software is running.

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 Crown CTs Series Amplifier with PIP-USP3/CN card.

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:
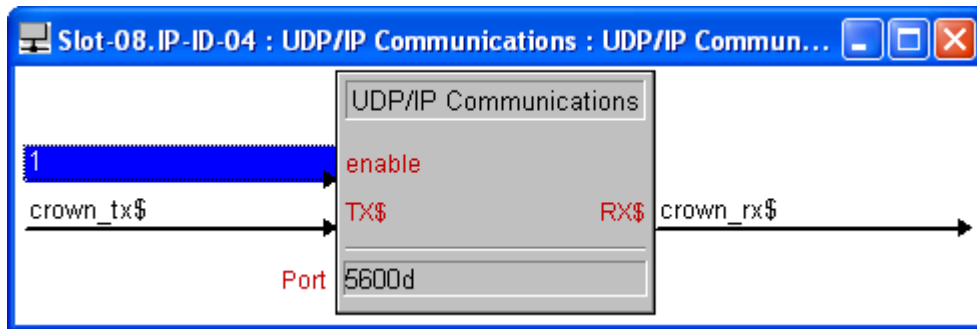
Module Application

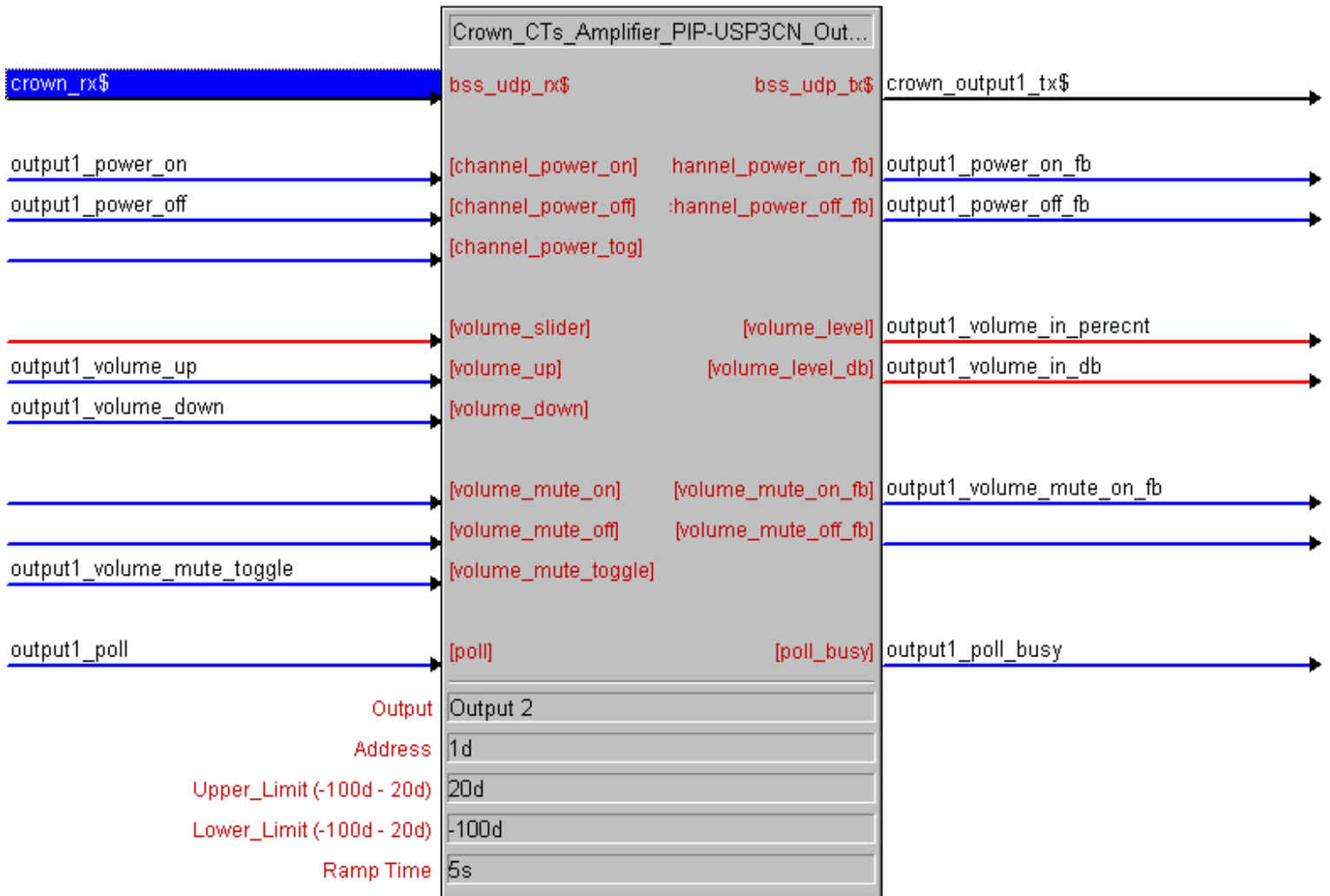Now launch a second instance of SIMPL Windows and open the program Crown_CTs_Amplifier_PIP-USP3CN_Pro2_Demo_v3.smw. If the program you are writing is in the same directory as the demo program, you can simply copy and paste the module(s) you want with all of its signal names from the demo program into 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 amplifier 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 amplifier. You may also specify the ramp time for the fader, as well as an upper and lower limit for the fader travel.

	Crown_CTs_Amplifier_PIP-USP3CN_Out...	
crown_rx$	bss_udp_rx$	bss_udp_tx$ crown_output1_tx$
output1_power_on	[channel_power_on]	hannel_power_on_fb] output1_power_on_fb
output1_power_off	[channel_power_off]	:hannel_power_off_fb] output1_power_off_fb
	[channel_power_tog]	
	[volume_slider]	[volume_level] output1_volume_in_perecnt
output1_volume_up	[volume_up]	[volume_level_db] output1_volume_in_db
output1_volume_down	[volume_down]	
	[volume_mute_on]	[volume_mute_on_fb] output1_volume_mute_on_fb
	[volume_mute_off]	[volume_mute_off_fb] output1_volume_mute_off_fb
output1_volume_mute_toggle	[volume_mute_toggle]	
output1_poll	[poll]	[poll_busy] output1_poll_busy
Output	Output 2	
Address	1d	
Upper_Limit (-100d - 20d)	20d	
Lower_Limit (-100d - 20d)	-100d	
Ramp Time	5s	

Signal and Parameter Descriptions

Bracketed signals such as "[signal_name]" are optional signals

DIGITAL INPUTS

channel_power_on... pulse to turn the selected amplifier channel on.

channel_power_off.. pulse to turn the selected amplifier channel off.

channel_power_tog... pulse to toggle the selected amplifier channel's power status (on to off or off to on)

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

udp_rx$ .... tie to rx$ of UDP/IP client

DIGITAL OUTPUTS

channel_power_on_fb .... latched high while the channel is powered on

channel_power_off_fb .... latched high while the channel is powered off

volume_mute_on_fb .... latched high while the channel is muted

volume_mute_off_fb .... latched high while the channel is not muted

poll_busy.. high while the module is busy polling for status

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

udp_tx$ .... tie to tx$ of UDP/IP client (if you have multiple modules controlling the amplifier, 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 amplifier 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 amplifier 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 amplifier 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.

This module is supported by ControlWorks Consulting, LLC. Should you need support for this module please email 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

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
Crown_CTs_Amplifier_PSP-USP3CN_Presets_v3.umc ..... Crestron user module for preset control
Crown_CTs_Amplifier_PSP-USP3CN_Outputs_v3.umc .... Crestron user module for output volume control
Crown_CTs_Amplifier_PIP-USP3CN_Error_Monitoring_v3.umc
.... Crestron user module for error monitoring
Crown_CTs_Amplifier_PIP-USP3CN_Demo_TPS-4500_v3.vtp
.... Demo touchpanel for TPS-4500 touchpanel
Crown_CTs_Amplifier_PIP-USP3CN_Demo_TPS-4500_v3.vtp
.... Compiled demo touchpanel
Crown_CTs_Amplifier_PIP-USP3CN_PRO2_Demo_v3.smw
.... Demo program for PRO2 processor
Crown_CTs_Amplifier_PIP-USP3CN_PRO2_Demo_v3.spz
.... Compiled demo program
Crown_CTs_Amplifier_PIP-USP3CN_Presets_Help_v3.pdf Help file for presets module
Crown_CTs_Amplifier_PIP-USP3CN_Outputs_Help_v3.pdf   Help file for output volume module
Crown_CTs_Amplifier_PIP-USP3CN_Errors_Help_v3.pdf . Help file for error reporting module

Revision History

v3 lincoln@controlworks.com 2006.04.14
      Initial release of Crown CTs Amplifiers PIP-USP3CN version. Derived from BSS PS-8810C modules

Development Environment

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

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

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
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