








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.

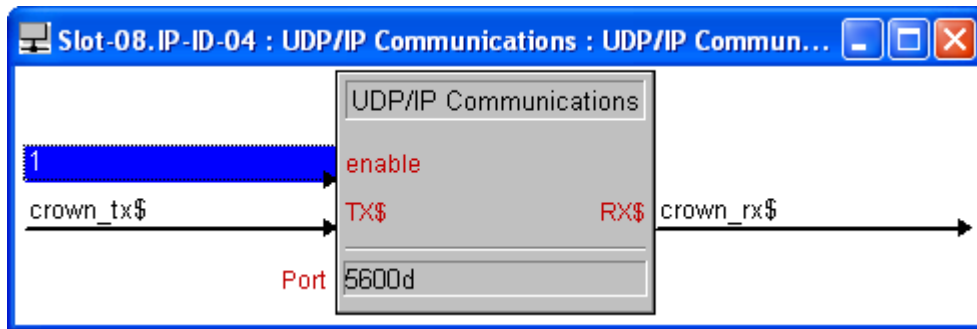
Compatibility			Processor Requirements	
 2-Series Compatible	 NOT CNMSX Compatible	 NOT System Builder Compatible	 Ethernet REQUIRED	 Compact Flash NOT NEEDED

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.

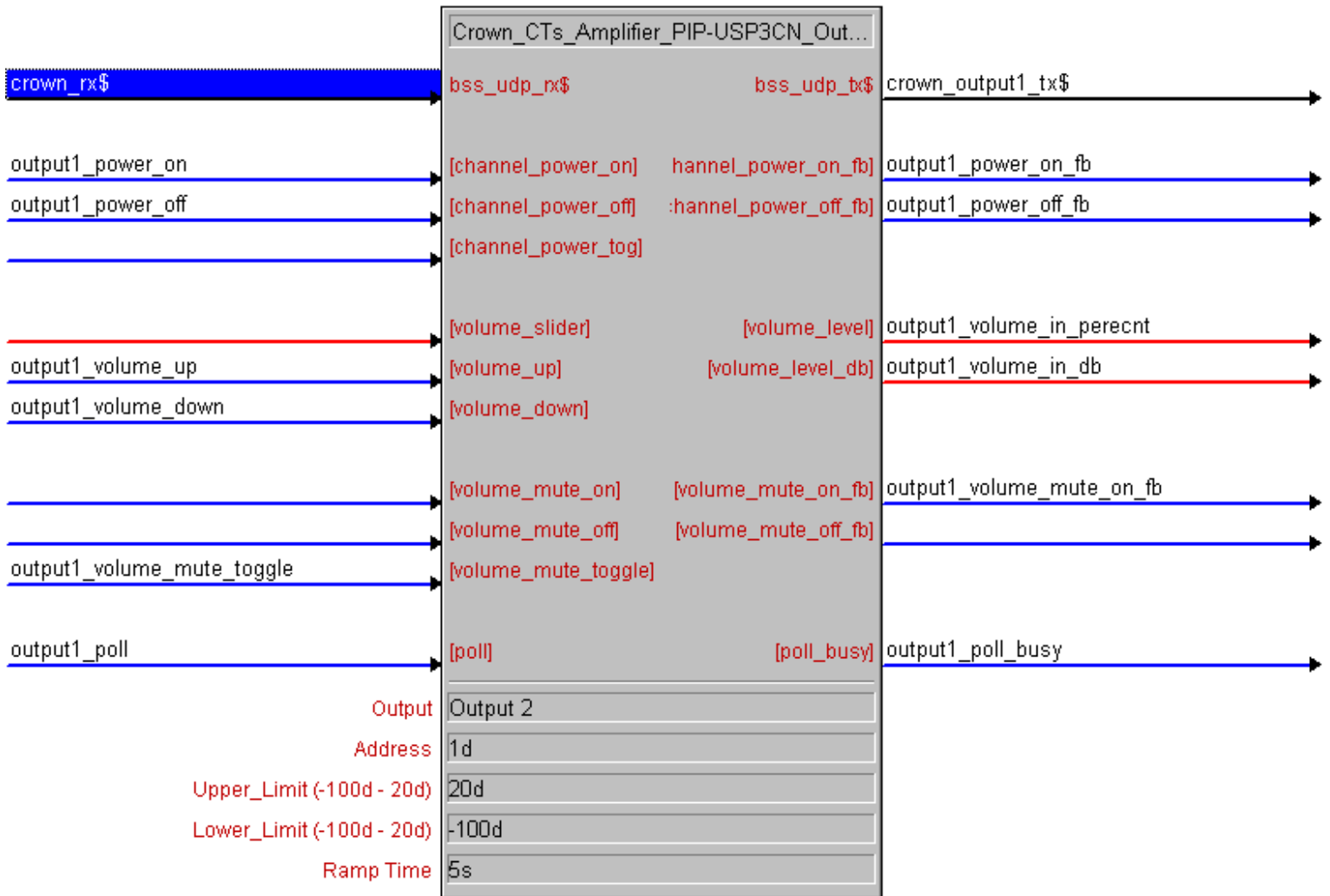
Return to the **Program View** and open the **Client** you just inserted. To keep implementation simple, please use the same signal names used in our demonstration program. Your Client with signal names should look like this:



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.



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.
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SERIAL INPUTS

udp_rx\$	tie to rx\$ of UDP/IP client
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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)
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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

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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