Partner: ClearOne
Model: Converge
Device Type: Conferencing

GENERAL INFORMATION

SIMPLWINDOWS NAME:	ClearOne Converge (Multiple Units) Single Channel Input Control with Setup v1.7
CATEGORY:	Conferencing
VERSION:	1.7
SUMMARY:	Allows control of a single channel of mic/input volume and setup parameters to be adjusted
GENERAL NOTES:	To allow for this flexibility of use, you must specify which ClearOne model is being controlled using the TYPE-ID-ASCII and TYPE-ID-HEX parameter fields. Currently valid entries are a single value (1, 2, 3, A, D, G, H, I and E and 31, 32, 33, 41, 44, 47, 48, 49 and 45) with no suffix as shown below: For Converge 880, use 1 and 31 For Converge TH20, use 2 and 32 For Converge 840T, use 3 and 33 For Converge 8i, use A and 41 For Converge 880T, use D and 44 For Converge SR1212, use G and 47 For Converge 880TA, use H and 48 For Converge SR1212A, use I and 49 For Converge VH20, use E and 45 Multiple devices can be connected to the ClearOne bus and controlled from a single RS232 port. Therefore, it is also necessary to enter the Unit ID of the device being controlled. This should be entered in the UNIT-ID-ASCII parameter field as a single digit number from 0-F(for the TH20) or 0-7 (for the remaining models) with no suffix. This module will allow you to control any gain function on the mixer. Gain functions are categorized into Groups designated by a single letter entered as a 2 digit hex number with no suffix into the PARAMETER-FIELD-HEX parameter field. The groups are as follows: Inputs - I, use 49 Mic Input - M, use 4D Processing - P, use 50 Line Inputs - L, use 4C Telco Receive - R, use 52 VoIP Receive – Z, use 5A Within each group, there are a range of channels that can be adjusted. You must specify which channel you want the module to control using the CHANNEL-ID-ASCII and CHANNEL-ID-HEX parameters. Valid channel ranges are:

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	For Inputs - 1-12 For Mic inputs - 1-8 For Processing - A-H For Line Inputs – 1-2, 9-12 For the CHANNEL-ID-ASCII parameter, enter the ASCII representation of the channel. So for channel 1, enter 1. For channel 12, enter 12. For channel B, enter B. For the CHANNEL-ID-HEX input, you must enter a 2-digit hex representation of the channel with no suffix. So for channel 1, enter 01. For channel 12, enter 0C. for channel B, enter 42. For the CHANNEL-ID-HEX input, you must enter a 2-digit hex representation of the channel with no suffix. So for channel 1, enter 01. For channel 12, enter 0C. for channel B, enter 42. This module was designed to operate on a single input channel. The channel can be ramped up/down with buttons, or with a slider object. Mute and Automatic Gain Control (AGC) can also be controlled. In addition, the following mic settings can also be adjusted for Mic type inputs: Phantom Power (PPWR) Coarse Gain Adaptive Ambient Mode (AAMB) Ambient Level (AMBLVL) Decay Chairman Override In addition, for the 840T, 880T and TH20 you can also adjust the following: Acoustic Echo Canceller (AEC) Noise Cancellation on/off/amount (NCSEL) This module can also be used in conjunction with the ClearOne Converge Feedback Processor Module to monitor the state of the gain channel. A properly constructed program would consist of a single ClearOne Converge Feedback Processor Module receiving information from the com port. The output of this module would be connected to the FROM-CLEARONE-PROCESSOR$ inputs of as many other ClearOne Converge modules are in the program. The Processor module will reformat the data into the format that the remaining ClearOne Converge modules are programmed for. Upon startup of the Crestron system, it may be desired to pulse the POLL-* inputs. This will request the current settings for the selected channel, so the feedback can be properly displayed. After this point, the POLL-* inputs should not need to be used. Note that if it is desired to control multiple channels of volume simultaneously, it is recommended to set up Macros on the ClearOne system. A macro can be set up to adjust multiple channels simultaneously. By repeatadly triggering the Macro from the Crestron system, we can control multiple channels. See the demo program for an example of how this is programmed. Note that this has only been tested with the ClearOne Converge 840T as of this release.
CRESTRON HARDWARE REQUIRED:	CNX-COM2, ST-COM, 2-Series Processor, C2COM3

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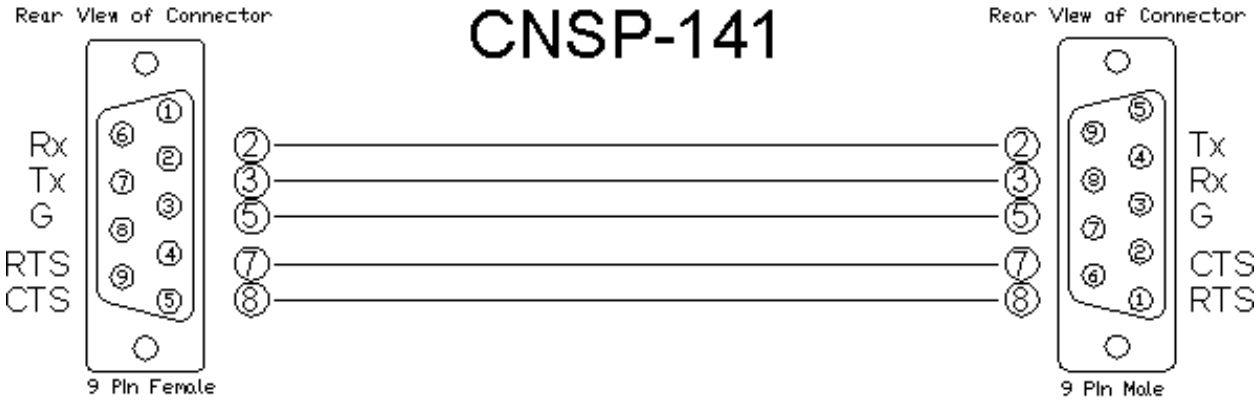
SETUP OF CRESTRON HARDWARE:	RS232 Baud: 57600 Parity: N Data Bits: 8 Stop Bits: 1 RTS/CTS Handshaking should be enabled to insure no data is lost.
VENDOR FIRMWARE:	4.0.0.2.4
VENDOR SETUP:	Flow control should be set to "on". The baud rate should be set to 57600.
CABLE DIAGRAM:	CNSP-141



CONTROL:

VOLUME-UP/DOWN	D	Press and hold to ramp the level up/down.
VOLUME-MUTE-ON/OFF/TOG	D	Pulse to discretely mute or unmute, or to toggle the state of mute.
VOLUME-SLIDER	A	Can be routed from the analog portion of a touch panel definition, to allow a slider to control the level.
POLL-VOLUME	D	Pulse on startup of the Crestron system to request the current settings.
AGC-ON/OFF/TOG	D	Pulse to turn AGC on or off or to toggle the state of AGC.
POLL-AGC	D	Pulse on startup to request the current state of the AGC parameter
PPWR-ON/OFF-TOG	D	Pulse to turn PPWR on or off or to toggle the state of PPWR.
PPWR-POLL	D	Pulse on startup to request the current state of PPWR.

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COARSE-GAIN-*	D	Pulse to select one of the coarse gain settings.
COARSE-GAIN-POLL	D	Pulse on startup to request the current coarse gain setting.
AAMB-ON/OFF-TOG	D	Pulse to turn AAMB on or off or to toggle the state of AAMB.
AAMB-POLL	D	Pulse on startup to request the current level of AMBLVL.
AMBLVL-UP/DOWN	D	Press and hold to ramp the ABMLVL up or down.
AMBLVL-SLIDER	A	Could be connected to an analog input from a touch panel to allow a slider object to control AMBLVL.
AMBLVL-POLL	D	Pulse on startup to request the current level of AMBLVL.
DECAY-*	D	Pulse to select one of the decay rates.
DECAY-POLL	D	Pulse on startup to request the current decay setting.
CHAIRMAN-OVERRIDE-*	D	Pulse to turn Chairman Override on/off or to toggle it's state.
CHAIRMAN-OVERRIDE-POLL	D	Pulse on startup to request the current setting of Chairman Override.
FROM-CLEARONE-PROCESSOR$	S	Must be routed from the output of the ClearOne Converge Feedback Processor module.

FEEDBACK:

VOLUME-BAR	A	Indicates the relative volume level. Routed to a bargraph on a touch panel.
VOLUME-TEXT$	S	Text indicating the level in dB format. Should be routed to an indirect text field on a touch panel.
VOLUME-MUTE-ON/OFF-FB	D	True feedback indicating the state of mute.
AGC-ON/OFF-FB	D	True feedback indicating the state of AGC.
PPWR-ON/OFF-FB	D	True feedback indicating the state of Phantom Power.
COARSE-GAIN-*-FB	D	True feedback indicating the coarse gain setting.
AAMB-ON/OFF-FB	D	True feedback indicating the state of Adaptive Ambient Mode.
AMBLVL-BAR	A	Indicates the relative level of Ambient Level. Should be routed to a bargraph.
AMBLVL-TEXT$	S	Indicates the Ambient Level in dB format. Should be routed to an indirect text field.

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DECAY-*-FB	D	True feedback indicating the current decay setting.
CHAIRMAN-OVERRIDE-*-FB	D	True feedback indicating the state of Chairman Override.
To_Device$	S	Serial signal to be routed to a 2-way RS232 port.

PARAMETERS:

TYPE-ID-ASCII	S	Enter 1 for 880, 2 for TH20, 3 for 840T, A for 8i, D for 880T, G for SR1212, H for 880TA, I for SR1212A or E for VH20.
TYPE-ID-HEX	S	Enter 31 for 880, 32 for TH20, 33 for 840T, 41 for 8i, 44 for 880T, 47 for SR1212, 48 for 880TA, 49 for SR1212A or 45 for VH20.
UNIT-ID-ASCII	S	Enter the unit number of the ClearOne Converge unit being controlled. Should be a number from 0-F.
CHANNEL-ID-ASCII	S	Enter the channel to be controlled. For channel 1, enter 1. For channel 12, enter 12. For channel B, enter B.
CHANNEL-ID-HEX	S	Enter the 2-digit hex version of the channel to be controlled. For channel 1, enter 01. For channel 12, enter 0C. For channel B, enter 42.
PARAMETER-ID-HEX	S	Enter the 2 digit hex version of the parameter (group) to be controlled. For Mic Inputs, enter 4D.

TESTING:

OPS USED FOR TESTING:	PRO2 v4.007.0004 CP3 v1.008.0040
SIMPL WINDOWS USED FOR TESTING:	v4.02.38.00
DEVICE DB USED FOR TESTING:	v55.00.002.00
CRES DB USED FOR TESTING:	v44.05.005.00
SYMBOL LIBRARY USED FOR TESTING:	v508
SAMPLE PROGRAM:	ClearOne Converge Series Demo v1.7 PRO2.smw ClearOne Converge Series Demo v1.7 CP3.smw
REVISION HISTORY:	v1.0 – Initial release. v1.1 – Added Type-ID parameter values for TH20, 8i, 880T and SR1212. v1.2 – Resolved issue with adding Type-ID values A, D and G. v1.3 – Added Type-ID-HEX parameter.

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	v1.4 – Added ID parameter for 880TA and SR1212A. v1.5 – Added Type-ID and Parameter-ID parameter values for VH20. v1.7 – Added support for later model 3-Series processors and matched all revisions to v1.7

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