Partner: L-Acoustics
Model: LA7.16i / LA7.16
Device Type: Amplified Controller 16ch (Basics)

GENERAL INFORMATION

SIMPLWINDOWS NAME:	L-Acoustics Amplified Controller 16ch Basics
CATEGORY:	MULTI-CHANNEL AUDIO AMPLIFIER
VERSION:	V3.5.2
SUMMARY:	The module provides the essential control and preset functions via TCP/IP.
GENERAL NOTES:	This module is for the control of LA7.16i Amplified Controllers. Each Amplifier to be connected and controlled will require one complete module assigned to it. Each module should therefore use unique digital, analog and serial joins. The simplest way of achieving this is to use a unique prefix which identifies the amplifier such as AMP1_MUTE and AMP2_MUTE.
CRESTRON HARDWARE REQUIRED:	C3ENET, 3-Series Processor, 4-Series Processor
SETUP OF CRESTRON HARDWARE:	The Crestron Control Processor's IP address usually is in the same subnet as the Amplified Controllers (typically 192.168.1.x/255.255.255.0, but other classes are possible, see amplified controller user manual). It is possible to use IP routing between the Crestron Control Processor and the Amplified Controllers, provided that the IP gateway parameter is correctly set on the Amplified Controllers.
VENDOR FIRMWARE:	LA7.16i / LA7.16 minimum firmware version: 2.12.0 Maximum firmware version: 2.16.x
VENDOR SETUP:	Amplified Controller connected to the Ethernet Network

SUPPORT CONTACT

COMPANY NAME:	L-Acoustics
SUPPORT CONTACT:	Application, Electronics / AV Control System
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RELEASE NOTES

- **Version 3.5.2** (May 2025)

New features/Improvements

CRES-49	Support firmware 2.16.x

Fixed issues

n/a

Versions History

- **Version 3.5.1** (February 2025)
  - Support firmware 2.15.x
- **Version 3.5.0** (October 2024)
  - Support firmware 2.14.x
- **Version 3.4.2** (February 2024)
  - Support firmware 2.13.x
- **Version 3.4.1** (Hotfix – January 2023)
- **Version 3.4.0** (January 2023)
  - Improved performance and stability
- **Version 3.3.0** (July 2022)

Initial release

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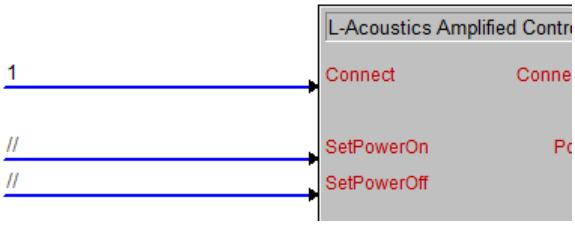
GENERAL INFORMATION

- **Standard signals "1" and "0"**



It is possible to use the standard "**1**" signal on all digital inputs of the module, especially on the **Connect** input. This will have the effect to instantly connect the module at program startup (for **Connect** input), or send the associated command as soon as the module connection is established (for other digital inputs).

This is also true for analog initialized signals.

However, the stand signal "**0**" cannot be used to automatically trigger the falling edge of a command. Using **"0"** on an input has the same effect as commenting **"//"** the input.

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CONTROL

Connect	**D**	The **Connect** signal is used to activate the functions of the module. As soon as this signal is HIGH, the module tries to connect to the amplified controller over TCP/IP. When the connection is successful, all other input signals are effective. When the signal is LOW, the TCP/IP connection gets closed, and input signals become ineffective.
SetPowerOn **SetPowerOff**	**D**	**SetPowerOn** and Set**PowerOff** react to rising edges. Setting these signals HIGH respectively turns the amplified controller into either Online state or Standby state. Of course, it cannot be in both states at the same time, so the latest rising edge will prevail. The current power state is exposed through the **Power** digital output signal.
MuteAll **UnmuteAll**	**D**	**MuteAll** and **UnmuteAll** react to rising edges. Setting **MuteAll** HIGH mutes all output channels. Setting **UnmuteAll** HIGH unmutes all output channels.
SetMute_Output01 **SetMute_Output02** **...** **SetMute_Output16**	**D**	**SetMute_Output[XX]** react to rising and falling edges. Setting **SetMute_Output[XX]** HIGH mutes the output channel n°XX. Setting **SetMute_Output[XX]** LOW unmutes the output channel n°XX.
SetGain_Output01# **SetGain_Output02#** **...** **SetGain_Output16#**	**A**	SetGain_Output[XX]# control the gain value of the associated output channels. The full analog signal range (0d ~ 65535d) is used to represent the full gain range (−60.0 ~ +15.0dB) of the output channels, which means that: - SetGain_Output[XX]# = 0d ⇒ gain = −60.0dB (minimum) - SetGain_Output[XX]# = 65535d ⇒ gain = +15.0dB (maximum) - SetGain_Output[XX]# = 52428d ⇒ gain = 0.0dB (unity) The analog signal value is immediately applied to the associated output channel. If multiple output channels pertain to the same enclosure set, then only the gain value of the first channel of the enclosure set is considered and copied to other channels. The values SetGain_Output[XX] for other channels of the enclosure set are ignored.

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FEEDBACK

Connected	**D**	This signal is HIGH when the TCP/IP connection to the amplified controller is established, and the remote device is compatible with the module.
Error	**D**	This signal is HIGH when at least one error is currently detected or happening with the device. The detail of the errors is printed to the **ErrorMessage$** serial output signal.
ErrorMessage$	**S**	**ErrorMessage$** gives textual information on the current errors occurring with the device or the module.
Power	**D**	HIGH = the amplified controller is Online (operating). LOW = the amplified controller is in Standby mode (sleeping).
CurrentLayoutName$	**S**	Represents the type, number and name of the layout or configuration currently loaded and in action inside the amplified controller. String format: [TYPE : number] Name Examples: [USER : 1] Layout 01 [FACTORY : 1] K2 70 [CONFIG : 3] Config 03
Output01_CurrentMute **Output02_CurrentMute** **...** **Output16_CurrentMute**	**D**	**Output[XX]_CurrentMute** represents the current mute state of output channel XX. HIGH = output channel XX is muted. LOW = output channel XX is unmuted.
Output01_CurrentGain# **Output02_CurrentGain#** **...** **Output16_CurrentGain#**	**A**	These analog signals represent the current gain value of the output channels. The full analog signal range (0d ~ 65535d) is used to represent the full gain range (−60.0 ~ +15.0dB) of the output channels, which means that: - Output[XX]_CurrentGain# = 0d ⇒ gain = −60.0dB (minimum) - Output[XX]_CurrentGain# = 65535d ⇒ gain = +15.0dB (maximum) - Output[XX]_CurrentGain# = 52428d ⇒ gain = 0.0dB (unity)
Output01_CurrentName$** **Output02_CurrentName$ **...** **Output16_CurrentName$**	**S**	These signals represent the enclosure family and type of speaker section connected to each output channel, according to the currently loaded layout or configuration. Examples: KIVA II – PA K2 – MF X15 – HF KS21 – SB

OutputLimiting_AtoD#	**A**	**OutputAudioSignals_AtoD#** tells the current state of the L-Drive limiter on each output channel. It is a 16bit field represented by an analog value (0 ~ 65535). Use the **Analog To Digital** symbol to convert this signal to 16 digital signals, bit1 (lsb) for output channel 1 and bit16 (msb) for output channel 16. HIGH = L-Drive is currently limiting with more than 3dB of gain reduction on the output channel. LOW = L-Drive is not engaged on the output channel (or with less than 3dB of gain reduction).
OutputClipping_AtoD#	**A**	**OutputClipping_AtoD#** tells which output channels are currently clipping. It is a 16bit field represented by an analog value (0 ~ 65535). Use the **Analog To Digital** symbol to convert this signal to 16 digital signals, bit1 (lsb) for output channel 1 and bit16 (msb) for output channel 16. HIGH = the output digital level is reaching 0dBFS. Audio is clipping on the channel. LOW = the output digital level is below 0dBFS.

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PARAMETERS

IpAddress	S	IP address of the Amplified Controller, for example "192.168.1.100". The IP address must be in the following ranges: - 10.0.0.1 – 10.255.255.254 (Class A) - 172.16.0.1 – 172.31.255.254 (Class B) - 192.168.0.1 – 192.168.255.254 (Class C) - 100.64.0.1 – 100.127.255.254 (SAS) - 169.254.0.1 – 169.254.255.254 (APIPA)

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TESTING

OPS USED FOR TESTING:	RMC3 v1.8001.4788.22932
SIMPL WINDOWS USED FOR TESTING:	4.1900.00
CRESTRON DB USED FOR TESTING:	211.0000.002.00
DEVICE DB USED FOR TESTING:	200.16000.001.00
SAMPLE PROGRAM:	Demo Program (16ch Amp basics)

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