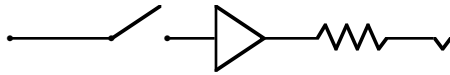# CUSTOM AUDIO ELECTRONICS INC.

RL-8

SYSTEM CONTROLLER

OPERATING
GUIDE

Description of RL-8 Audio/Control Functions

The RL-8 System Controller consists of 8 individual MIDI controlled audio/control functions in a compact half rack format. Each of the 8 functions respond to MIDI controller data in omni mode. There are 3 ways in which to use the audio/control functions:

1. **As an audio mute**. The RL-8 has 8 stereo 1/4" phone jacks. When used with a cable that has a stereo 1/4" plug at one end and 2 mono 1/4" plugs (wired to the tip and ring) at the other end, each function can be used as an audio mute switch.
   Tip = input   ring = output   sleeve = ground (see diagram)

2. **Normally open latching footswitch function**. Inserting a mono 1/4" patch cable allows each function to be used as an isolated latching contact closure. Useful for channel switching amps or preamps or whatever a tip to ground function is required.

3. **Normally closed latching footswitch function.** Inserting a stereo 1/4" phone plug with connections to the ring and sleeve allows for a normally closed latching footswitch function.

   Each type of function can be used independently or in any combination.

The RL-8's audio mutes are especially useful for effects muting when using line mixers, or for multiple amplifier selection. It's passive relays ensure sonic transparency anywhere in the signal path.

Description of RL-8 & RS-10 MIDI Control Assignments

The CAE RL-8 System Controller's audio and control functions respond to MIDI control change commands in omni mode. These numbers are fixed at the factory and cannot be changed except by software revision. In a system consisting of several RL-8's, care must be taken so that audio and/or control functions do not share the same MIDI control number, unless multiple audio and/or control functions need to be activated at the same time (by one MIDI control number). The CAE RS-10 Midi Foot Controller has the ability to assign any MIDI control number (0-127) to each of its 10 direct access controller switches (SW-0 through SW-9), as well as its continuous control ports (P1 and P2). This way you can arrange and group your system controls according to their functions. For example, preamp or amp select switches can be arranged in a row or group with other effects of functions in other rows or groups. Please consult the RS-10 operating manual on how to program (assign) MIDI controller numbers to the10 direct access controller switches (as well as continuous control ports P1 and P2).

Controlling the RL-8 System Controller with the RS-10 Midi Foot Controller

Connect the MIDI out of the RS-10 to the MIDI in of the RL-8 with a 7 pin DIN (MIDI) cable.

You can connect other MIDI devices via the MIDI out/thru jack of the RL-8.

Connect the 9VAC Power Supply to the RL-8 AC power jack. The RL-8 will supply power to the RS-10. There is no need for two power supplies when using an RL-8 with an RS-10.

The RL-8 System Controller responds to MIDI controller data in Omni mode.

The RL-8 Mute/Control functions and their respective MIDI controller numbers are as follows:

MIDI Controller #21 = C1	MIDI Controller #1 = C1 Momentary
MIDI Controller #22 = C2	MIDI Controller #2 = C2 Momentary
MIDI Controller #23 = C3	MIDI Controller #3 = C3 Momentary
MIDI Controller #24 = C4	MIDI Controller #4 = C4 Momentary
MIDI Controller #25 = C5	MIDI Controller #5 = C5 Momentary
MIDI Controller #26 = C6	MIDI Controller #6 = C6 Momentary
MIDI Controller #27 = C7	MIDI Controller #7 = C7 Momentary
MIDI Controller #28 = C8	MIDI Controller #8 = C8 Momentary
MIDI Controller #29 = C1 + C2	
MIDI Controller #30 = C3 + C4	(Momentary = 60 ms. Pulse)

These controller numbers are fixed and cannot be changed except by software revision. Consult the factory if you require different numbers.

The RL-8 may be set to respond to an alternate group of control numbers by jumping 2 pads on the circuit board. This would require a solder connection and should be done by qualified service personnel. The RL-8 functions would then respond to the following MIDI control numbers:

MIDI Controller #31 = C1	MIDI Controller #51 = C1 Momentary
MIDI Controller #32 = C2	MIDI Controller #52 = C2 Momentary
MIDI Controller #33 = C3	MIDI Controller #53 = C3 Momentary
MIDI Controller #34 = C4	MIDI Controller #54 = C4 Momentary
MIDI Controller #35 = C5	MIDI Controller #55 = C5 Momentary
MIDI Controller #36 = C6	MIDI Controller #56 = C6 Momentary
MIDI Controller #37 = C7	MIDI Controller #57 = C7 Momentary
MIDI Controller #38 = C8	MIDI Controller #58 = C8 Momentary
MIDI Controller #39 = C1 + C2	
MIDI Controller #40 = C3 + C4	(Momentary = 60 ms. Pulse)

Please contact the factory for details if you would like to use the alternate group of control numbers.

For each of the 8 functions:

MIDI value = 0
Function LED indicator off
1. Audio muted (when used as an audio mute switch)
2. Control function: Tip to sleeve open; ring to sleeve shorted.

MIDI value = 127
Function LED indicator on
1. Audio passed (when used as an audio mute switch)
2. Control function: Tip to sleeve closed; ring to sleeve open.