



RDL[®]
Radio Design Labs

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

STICK-ON[®] SERIES

Model ST-LEQ1

Loudness Equalizer

ANYWHERE YOU NEED...

- Loudness Contour to Follow Volume
- Improved Aural Flatness at Low Levels
- Installer-Adjusted Loudness Equalization
- Automatic Loudness Equalization when Used with any RDL VCA/Remote

You Need The ST-LEQ1!



Whenever audio levels are changed, there is an apparent frequency response change to the ear. This is particularly noticeable in background music systems where economical speakers and low listening levels are typical. The ST-LEQ1 is an inexpensive tool to make a significant improvement in the sound quality of such systems.

APPLICATION: The ST-LEQ1 has 2 line-level audio inputs and a single line-level audio output. The audio signal to be equalized connects to the **EQ INPUT**. If it is desired to mix an unprocessed source with the output signal, this second source is connected to the **DIRECT INPUT**. Loudness equalization is applied to the **EQ INPUT** signal as the **CONTROL** voltage is varied.

The ST-LEQ1 may be operated together with any equipment which provides a 0 to 10 Vdc control. It is specifically designed to operate with other RDL equipment using 0 to 10 Vdc for level control. This includes the ST-VCA2 Voltage Controlled Amplifier which operates from a 0 to 10 Vdc control, or the RU-VCA2 series attenuators which provide a 0 to 10 Vdc output. Because the ST-LEQ1 works with any RDL VCA module, all RDL remote level controls are suited for use with ST-LEQ1 Loudness Equalization.

The line-level audio source is first fed through the RDL VCA product, then through the ST-LEQ1. The audio output from the ST-LEQ1 feeds the system amplifier or other equipment. The **CONTROL** terminals to the ST-LEQ1 are wired in parallel with the 0 to 10 Vdc terminals on the RDL VCA. The remote volume control associated with the VCA/ST-LEQ1 combination is adjusted to the normal low listening level, then the installer sets the desired loudness equalization on the multi-turn trimming potentiometer on the ST-LEQ1. As the listening level is increased by the remote control, the loudness equalization is progressively decreased until the audio is *flat* at higher listening levels.

With the audio first routed through the VCA, then through the LEQ1, the **DIRECT INPUT** of the ST-LEQ1 is both unequalized and unattenuated. The **DIRECT INPUT** is typically intended for a paging signal input which will always be the same level regardless of the setting on the remote volume control. If it is desired to mix in a paging signal while allowing its level to be adjusted by the remote volume control, the audio may be routed first through the ST-LEQ1, then through the VCA.

Wherever a loudness equalizer is needed, the ST-LEQ1 is the ideal choice. Use the ST-LEQ1 individually or combine it with other RDL RACK-UP[®], STICK-ON[®], TX[™], or FLAT-PAK[™] series products as part of a complete audio/video system.

STICK-ON[®] SERIES

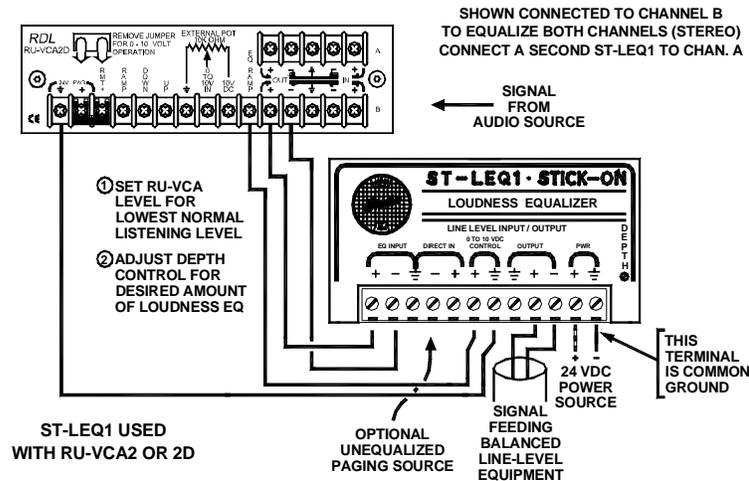
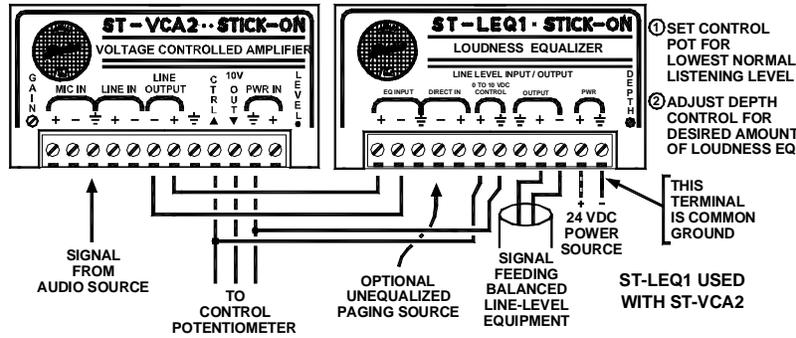
Model ST-LEQ1

Loudness Equalizer

Installation/Operation



EN55103-1 E1-E5; EN55103-2 E1-E4
Typical Performance reflects product at publication time exclusive of EMC data, if any, supplied with product. Specifications are subject to change without notice.



TYPICAL PERFORMANCE

Inputs(2):	Line level (+4 dBu nominal)
Input Impedance:	> 30 k Ω balanced (or unbalanced)
Gain:	Unity nominal into 600 Ω
Output Impedance:	150 Ω balanced (or unbalanced)
Headroom:	> 16 dB above +4 dBu
THD+N:	< 0.005% (flat response)
CMRR:	> 50 dB (Either input, 50 Hz to 120 Hz)
Noise:	< -90 dB below +4 dBu (flat response)
Frequency Response:	10 Hz to 40 kHz (+/- 1 dB)
Control Input:	0 to 10 Vdc
Equalization:	Flat to -15 dB max @ 1 kHz (effective boost of low and high frequencies)
Power:	24 to 33 Vdc @ 35 mA, Ground referenced

