



RDL[®]
Radio Design Labs

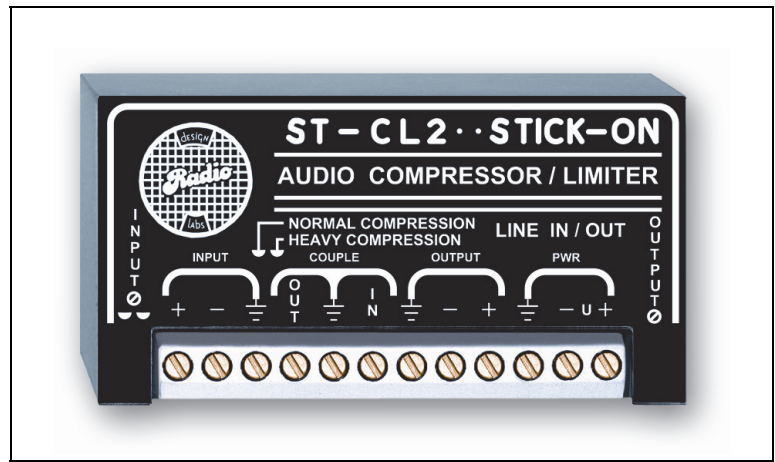
SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

STICK-ON[®] SERIES

Model ST-CL2

Compressor/Limiter

- Positive Audio Level Protection
- Smooth Inaudible Gain Reduction
- Tight Audio Peak Control
- Very Low Noise Compressor
- Multi Stage Incremental Gain Reduction
- Fully Automatic Operation
- Superb Performance with Minimal Setup
- RDL SupplyFlex™ Power Input Configuration



The ST-CL2 Compressor/Limiter is part of the group of STICK-ON products from Radio Design Labs. The durable adhesives provided with the ST-CL2 permit permanent or removable mounting. Numerous available mounting accessories, brackets and rack-mount chassis are optionally available to facilitate any system design. The ST-CL2 is a unique, high-performance electronic module offering a sophisticated level of compression and limiting for line-level audio sources. STICK-ONs are designed, built and rated for continuous duty in professional AV systems.

APPLICATION: The ST-CL2 is a high performance compressor/limiter designed to maintain a constant average output level and effective peak control over a wide range of input levels. The input and output are line level and each may be wired balanced or unbalanced. Trimmers provide adjustment for all usual professional and consumer audio input and output levels. Internal detectors feed three timing circuits. The threshold level and slope of each timing circuit are incremented to respond sequentially to signals of varying amplitude and energy levels.

The ST-CL2 features incremental gain reduction. This unique RDL circuitry continuously samples the audio at different rates and levels. Each stage of gain reduction preconditions the audio for the next gain reduction detector. Tailoring the audio for each subsequent increment of gain reduction, together with interactive release-time circuitry, produces nearly inaudible operation. Although the peak control is very fast, a separate clamping circuit will attack and thoroughly limit signals of an extreme amplitude with rise-times faster than the attack time of the peak limiting detector. This circuit is not activated by any normal program material, but is included as a positive protection against potential extreme overload signals.

The ST-CL2 is very simple to install and set up for operation. Only two adjustments are needed: Input and Output. The lack of complicated adjustments does not take away from the versatility of the module. The ST-CL2 features a soft-knee compression threshold and compression ratio which automatically adjust to the program material, thereby eliminating the need for numerous installer settings. Two LED indicators cover the incremental ranges of compression, making setting of the input level quick and easy. The input gain determines the threshold and compression levels, with all internal levels optimized for the lowest noise performance. ST-CL2s may be strapped together for stereo operation by connecting the coupling terminals between the two modules.

The ST-CL2 features RDL SupplyFlex. The power supply input may be fed from a floating (not ground-referenced) 24 Vdc power source, from a bipolar power supply (± 12 Vdc or ± 15 Vdc), or from a ground-referenced 24 Vdc power supply. A jumper on the terminal block is used to select the ground-referenced power configuration.

Applications: There is almost no limit to the possible places the ST-CL2 can be effectively used! Anywhere line-level inputs need to be protected against level increases or overloads, placing the ST-CL2 in-line solves the problem. If automatic gain control and compression/limiting are both needed, the ST-CL2 can be used with the ST-GCA3 to form an effective processing package. Some examples of possible applications are:

- Audio feeds into paging systems
- Recording machine audio inputs
- Feeds into radio transmission devices which could overmodulate
- Line level feeds into a telephone line which must not be overloaded
- Crucial points in any system which could be inadvertently overloaded with input audio
- Power amplifier inputs fed by any audio source that may have loud bursts resulting in overload or distortion

With its unique combination of sophisticated incremental compression, exceptional audio performance, convenient installation and low cost, the ST-CL2 is the optimum product wherever a compressor/limiter is needed! Use the ST-CL2 individually, or combine it with other RDL products as part of a complete audio/video system.



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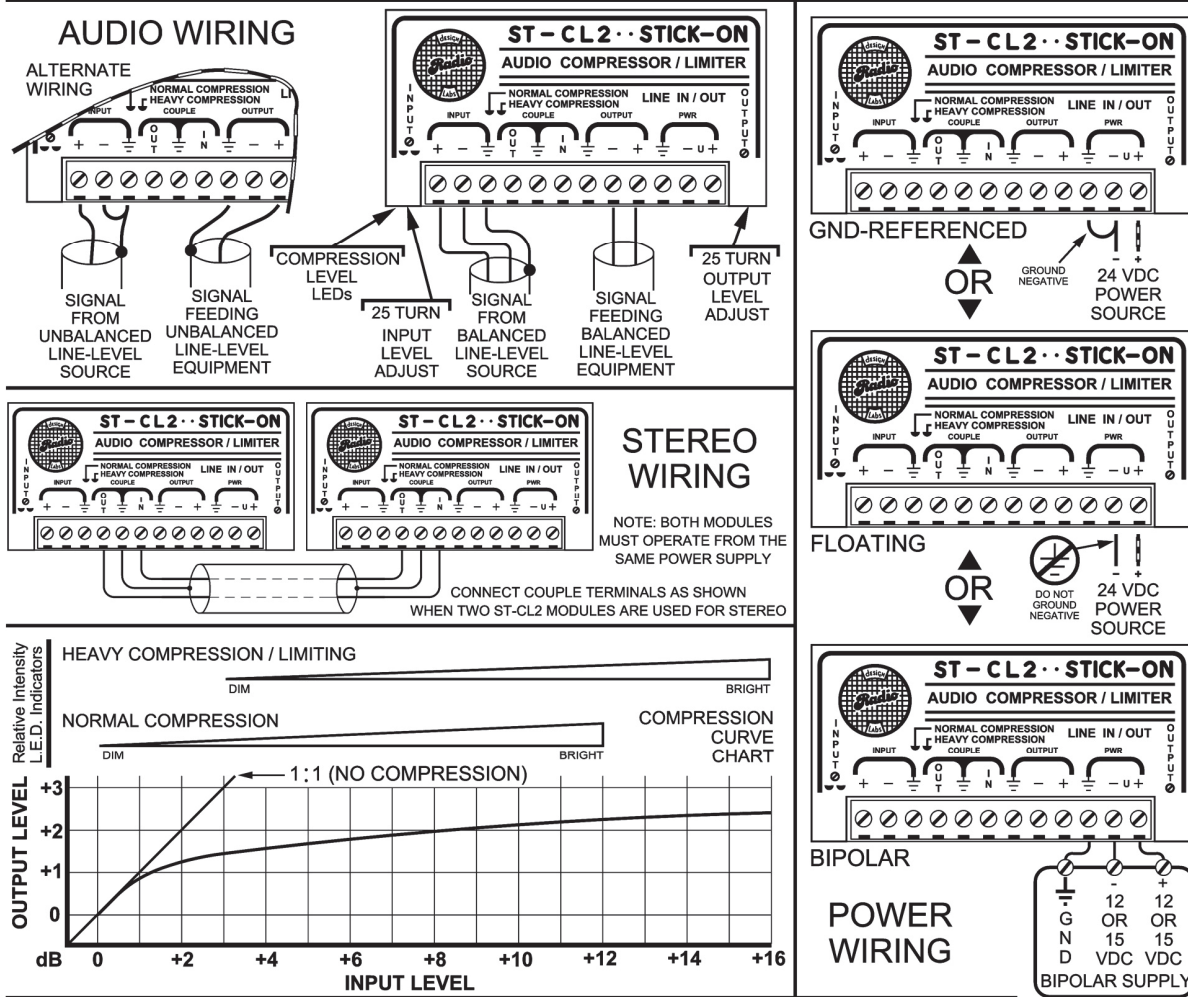
Model ST-CL2

Compressor/Limiter

Installation/Operation



Declaration of Conformity available from rdlnet.com.
Sole EMC specifications provided on product package.
Specifications are subject to change without notice.



TYPICAL PERFORMANCE

Input: 10 k Ω Balanced (may be connected unbalanced)
 Input Signal Range: -10 to +4 dBu, adjustable (for 6 dB gain reduction); +22 dBu maximum
 Output: 150 Ω Balanced (may be connected unbalanced)
 Output Signal Range: OFF to +8 dBu, adjustable
 Frequency Response: 10 Hz to 20 kHz (± 0.2 dB) over full compression range
 Noise below +4 dBu output: < -78 dB (unweighted; +4 dBu input; +4 dBu output)
 Total Harmonic Distortion: < 0.05% 1 kHz below compression threshold;
 < 0.1% 1 kHz at 3 dB gain reduction;
 < 0.15% 1 kHz at 6 dB gain reduction
 > 60 dB (50 to 120 Hz)

CMRR: Averaging Compressor: 500 ms (+4 dBu input)
 Attack Time: Fast Compression: <10 ms (+20 dBu input)
 Peak Limiting: Instantaneous

Release Time: Automatically adjusting up to 500 ms
 Compression Ratio: Automatically adjusting 1.5:1 to 10:1
 Peak Limiter: INF: 1

Interconnection: Stereo COUPLE interconnection provided
 Indicators (2): Yellow LED for NORMAL Compression
 Red LED for HEAVY Compression

Ambient Operating Environment: 0° C to 55° C
 Power Requirement: 24 Vdc @ 50 mA, SupplyFlex

Radio Design Labs Technical Support Centers

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