



RDL[®]
Radio Design Labs

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

STICK-ON[®] SERIES

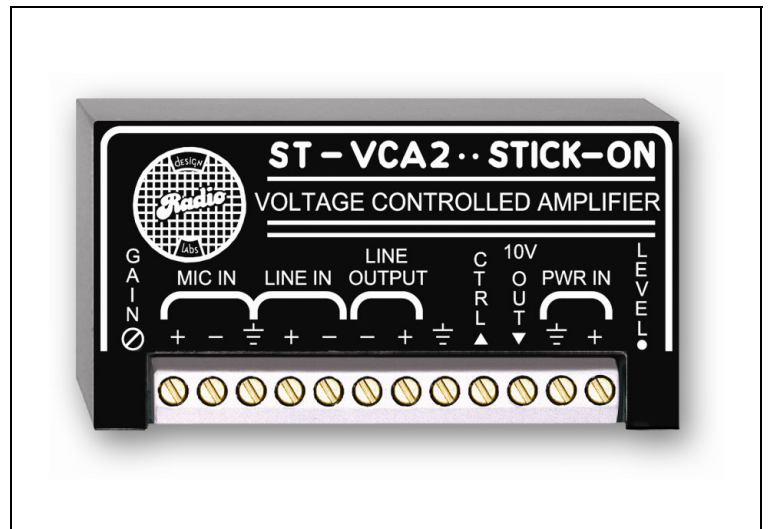
Model ST-VCA2

Voltage Controlled Amplifier

ANYWHERE YOU NEED...

- Audio Level Control from a DC Voltage
- Audio Level Remote Control
- Two or Three Wire DC Control
- VCA with Microphone or Line Level Input
- VCA with Line Level Output
- VCA with LED Metering of Operating Level

You Need The ST-VCA2!



The ST-VCA2 is part of the group of versatile STICK-ON products from Radio Design Labs. STICK-ONs feature the advanced circuitry for which RDL products are known, combined with unequalled versatility in mounting possibilities. The durable adhesives provided with the ST-VCA2 permit permanent or removable mounting. Numerous available mounting accessories, brackets, rack-mount and tabletop chassis are optionally available to facilitate any system design.

FUNCTIONAL DESCRIPTION: This VCA is designed to give you the maximum flexibility in application. Audio inputs are provided for both microphone and line level signals. The output is line level and may be connected either balanced or unbalanced. The ST-VCA2 can be used as a remote-gain-controlled mic preamp with line level output.

The ST-VCA2 is a high performance voltage controlled amplifier with two inputs and one output. The line input is designed to accept an input signal with operating levels between -17 dBV and +4 dBu. The microphone input accepts low or high impedance microphones with levels from -60 to -40 dBu. Only one of the inputs may be used at a time. A multi-turn gain potentiometer is provided for setting the correct operating level of the module. A dual led VU ballistic meter located directly in front of the gain trimmer provides for accurate level adjustment. The nominal correct operating level is +4 dBu at the module output with a 10 Vdc control. The green LED intensity indicates levels up to +4 dBu. The red LED flashes for average signal levels greater than +4 dBu. The gain trimmer, with the assistance of the LED meter, can produce the normal +4 dBu output for line level signals as low as -17 dBV, and mic signals as low as -60 dBu.

Terminals are provided for connection of an external linear taper 10 kΩ potentiometer, typically an RDL RLC10K or RLC3 Remote Control. Three terminals are used for the external control; a single-pair shielded audio cable is recommended. If only a single pair (unshielded) is available, the ST-VCA2 may operate from two conductors by installing a 1.5 kΩ resistor (included) between the **CTRL** and **10 V OUT** terminals on the module. The control terminal does not load down the control voltage derived from the external control, therefore a single 10 kΩ control may control multiple ST-VCA2s simultaneously. This feature is intended only for control of multiple zones, not for stereo control (RDL stereo VCA products are recommended for stereo installations). Module operation is from a 24 Vdc ground-referenced power supply.

TYPICAL APPLICATION: The ST-VCA2 is used in applications requiring smooth audio level control from a remote control panel, potentiometer or dc voltage (0 to 10 V). Installation in series with the audio input of a power amplifier allows remote control of that amplifier's level. For installations where it is preferred to keep the audio localized in the rack, audio controls are extended outside the rack from the ST-VCA2. Many installations benefit from avoiding long-term potentiometer wear from audio running through the potentiometer. An ST-VCA2 with external dc control provides virtual immunity from "scratchy" audio. Audio/video system control units often provide 0 to 10 Vdc control outputs that can directly control audio levels using an ST-VCA2. The ST-VCA2 is primarily intended for line level attenuation; a high quality utility microphone preamplifier is included in the module. If remote control of a microphone preamplifier is desired, such as a wall mounted level control for a microphone jack, the ST-VCA2 may serve as a remote controlled microphone preamplifier. For phantom powered microphones, an RDL microphone preamp or RDL phantom adapter is recommended.

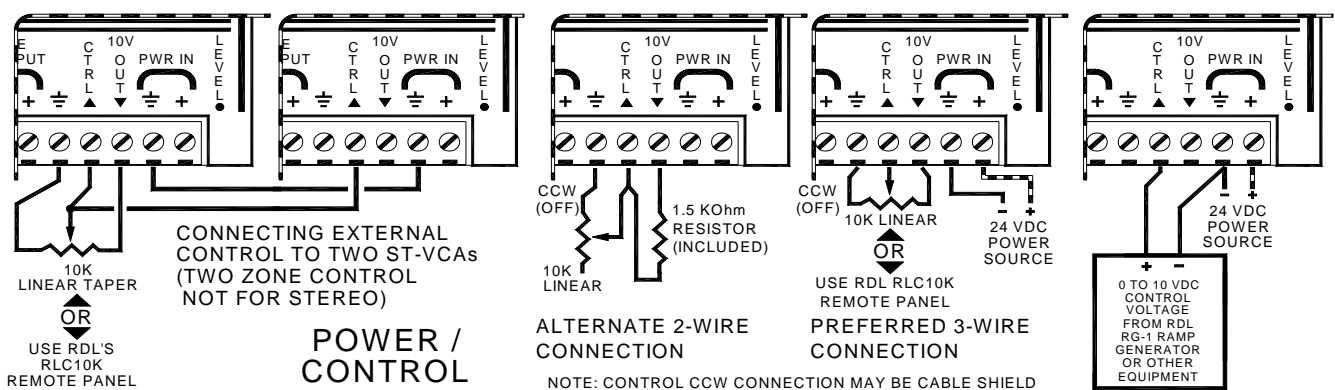
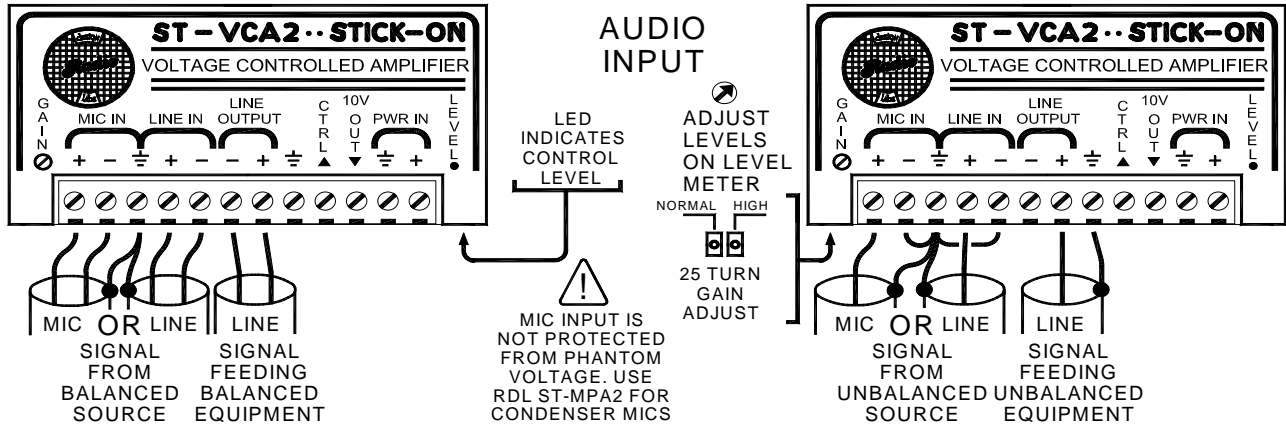
The low noise, low distortion, audio clarity and exceptional versatility makes this module ideally suited to a wide variety of demanding audio applications. Use this module in conjunction with other RDL RACK-UP[®], STICK-ON, TX[™], or FLAT-PAK[™] series products as part of a complete audio/video system.

STICK-ON[®] SERIES

Model ST-VCA2 Voltage Controlled Amplifier

Installation/Operation

CE 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): Mic: 200 Ω balanced; 5 k Ω unbalanced
Line: 10 k Ω balanced bridging or unbalanced
Input Levels: Mic: -40 to -60 dBu (for +4 dBu output; 150 Ω source)
Line: -15 dBu (-17 dBV) to +4 dBu (for normal output level: +4 dBu)
Output Impedance: 150 Ω
Output Signal (normal rated): +4 dBu
Headroom: 18 dB
THD+N: Mic: < 0.025%
Line: < 0.01% (unity gain); 0.035% typical at 15 dB attenuation
Frequency Response: Mic: 50 Hz to 30 kHz (+/- 1 dB)
Line: 10 Hz to 20 kHz (+/- 0.25 dB)
Noise: Mic: < -72 dB below +4 dBu output (150 Ω source; 50 dB gain)
Line: < -90 dB below +4 dBu output
CMRR: Mic: > 60 dB (50 Hz to 120 Hz)
Line: > 40 dB (50 Hz to 120 Hz)
Maximum Attenuation: > 100 dB (0 Vdc control voltage)
Supply Input: 24 to 33 Vdc @ 70 mA, Ground-referenced

Nominal Attenuation vs. DC control voltage

