



RDL[®]
Radio Design Labs

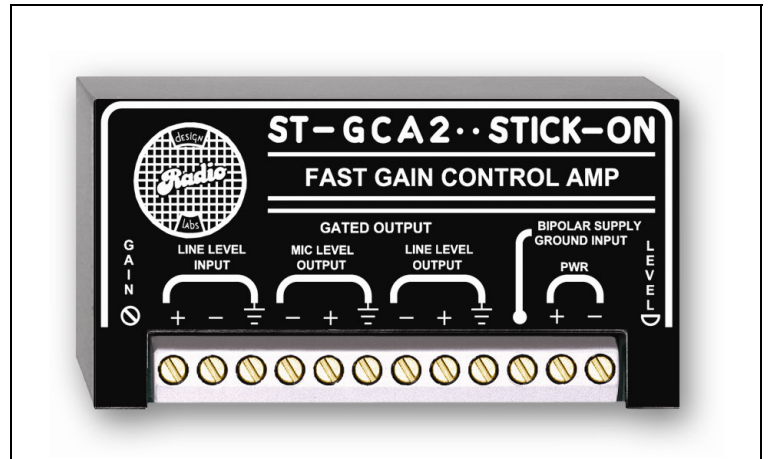
SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

STICK-ON[®] SERIES Model ST-GCA1 & ST-GCA2 Audio Gain Control Amplifier

ANYWHERE YOU NEED...

- Automatic Gain Control
- Wide Dynamic Range
- Slow or Fast Gain Adjustment
- Low Noise and Distortion AGC

You Need The *ST-GCA1* or *ST-GCA2!*



The ST-GCA1 & ST-GCA2 Gain Control Amplifiers are part of the group of STICK-ON products from Radio Design Labs. The durable adhesives provided with the ST-GCA1 and the ST-GCA2 permit permanent or removable mounting. Numerous available mounting accessories, brackets and rack-mount chassis are optionally available to facilitate any system design. The ST-GCA series products are unique, high-performance electronic modules offering constant, automatic level control of audio lines.

Both constantly adjust for changes in input levels; bringing up low levels, and reducing high levels. The ST-GCA1 is the ideal choice anywhere slowly varying audio levels such as music need to be maintained at a constant level. The slow gain-riding maintains the desired average operating levels without introducing any audible compression artifacts. Gating circuitry is used to mute the output when no input signal is present. The fast action of the ST-GCA2 makes it ideal for use in systems prone to loud bursts of audio, and inconsistent levels which must be constantly and quickly corrected, such as voice. The ST-GCA2 is ideal in paging, intercom, and mic mixing applications.

Functional Description: A wide range of line-level signals may be connected to the input. The gain of the ST-GCA product automatically adjusts to deliver a uniform output level at all times. The audio level is constantly adjusted to maintain the correct output. This normally slow AGC action is supplemented by a circuit which detects the amount of peak material present and speeds up the AGC correspondingly. The ST-GCA1 helps maintain good overall adjustment without impacting the overall dynamics of the program material. Fast, tight control of audio levels is provided by the ST-GCA2. When audio is not present on the input, AGC searching is limited to about 5 seconds. During a sustained period without audio input, the ST-GCA outputs fade to a muted condition. When audio is next applied, the output instantly ramps up to the correct level.

Applications: There is almost no limit to the possible places the ST-GCA1 & ST-GCA2 can improve audio systems! Anywhere you have levels varying for any reason, putting the ST-GCA series products in the line solves the problem. Some examples where levels are not consistent, but often need to be:

- Production Studio outputs feeding recording machines
- Mic mixer output where people speak at inconsistent levels
- Audio feeds from telephone systems
- Line-level feeds in an audio system where users can settle controls too high or too low
- Pre-conditioning levels into an audio limiter
- Paging, intercom, and interconnect systems

Making audio levels uniform and consistent improves the performance of nearly any type of audio system in broadcast, paging, or sound reinforcement. With its unique combination of features, exceptional audio performance, and convenient installation, the ST-GCA1 or ST-GCA2 provide the solution! Use the ST-GCA1 or ST-GCA2 with other RDL RACK-UP[®], STICK-ON, TX[™], or FLAT-PAK[™] series products as part of a complete audio/video system.

STICK-ON[®] SERIES

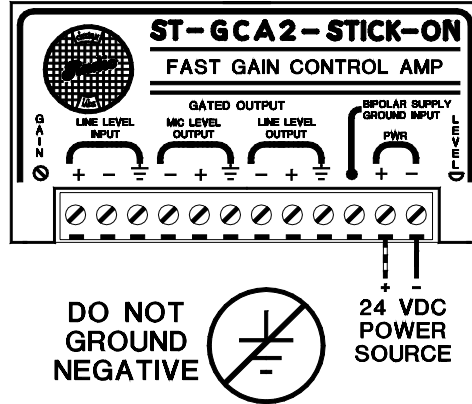
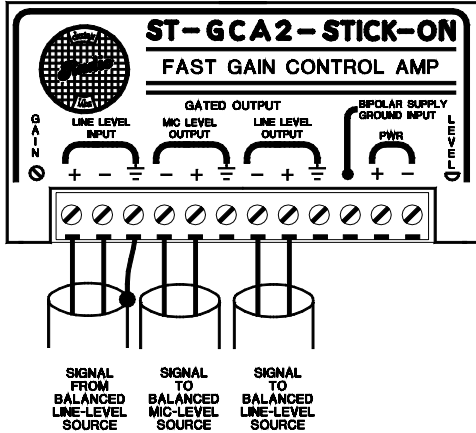
Model ST-GCA1 & ST-GCA2

Audio Gain Control Amplifier

Installation/Operation

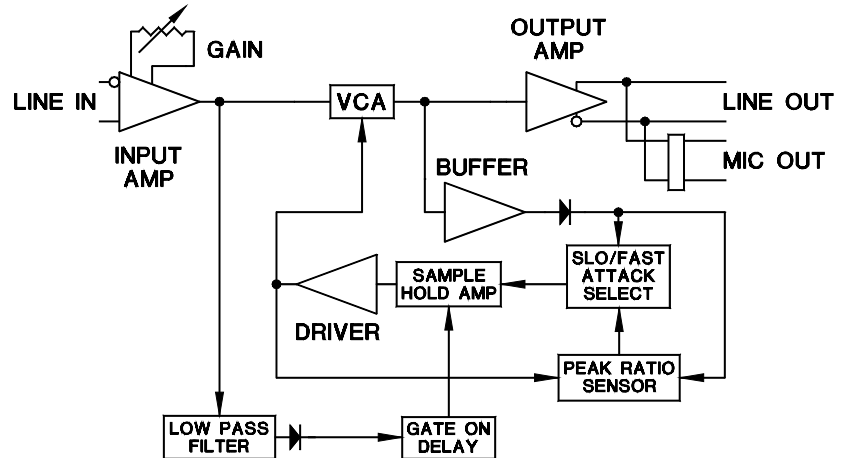
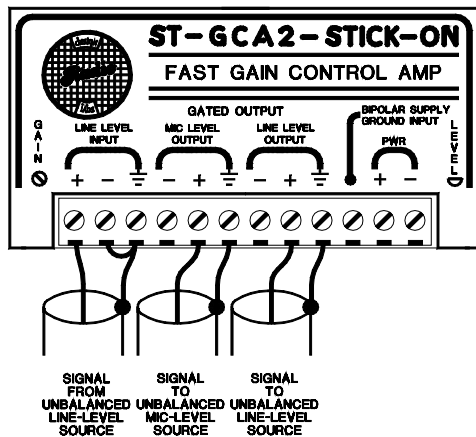


EN55103-1 E1-E5; EN55103-2 E1-E4
Typical Performance reflects product at publication time exclusive of EMC data, if any, supplied with product. Specifications are subject to change without notice.



POWER WIRING

RDL PS-24 TYPE SUPPLY SHOWN. A BIPOLAR 12 OR 15 VOLT DC SUPPLY MAY BE USED WITH BIPOLAR SUPPLY GROUND CONNECTED TO MODULE GND.



TYPICAL PERFORMANCE

Input Signal Range:

Range of levels which will gate on the output and produce rated output level:

Min. -40 dBu
Max. +16 dBu.

Output Level:

Balanced line level feeding balanced bridge: +4 dBu
Balanced line level feeding 600 Ω: 0 dBu
Unbalanced line level HI impedance: -4 dBu
Balanced mic level feeding 150 Ω: -55 dBu

Output Control:

Input signal range for which output level is maintained:

30 dB (+/- 1.5 dB)

Frequency Response:

Audio response without AGC:

10 Hz to 20 kHz

Noise:

No input signal, output unmuted: <-70 dB
No input signal, output muted: <-70 dB
Input signal present, output muted: <-50 dB

THD + N:

<0.3% (Typ. 0.1%)

Mute Threshold:

Mute gate level below max input: -45 dB
(Example: If input gain is set for operating level 10 dB below maximum gain reduction, mute threshold will be at -35 dB.)

Muting Response:

ST-GCA1 time required for audio fade: 10 sec. for -25 dB
once audio fades below gate level: 30 sec. for -50 dB.

Slow AGC response, ST-GCA1:

Time used to make average level adjust: 8 sec. for 20 dB

Fast AGC response, ST-GCA2:

Time used to make average level adjust: 3 sec. for 20 dB

On Delay:

Time required to ramp on from muted condition: 30 ms

Indicators:

Indication of audio presence and gain LED

Power Requirements:

24 to 33 Vdc @ 30 mA, Floating

Radio Design Labs Technical Support Centers

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