



**RDL**<sup>®</sup>  
Radio Design Labs

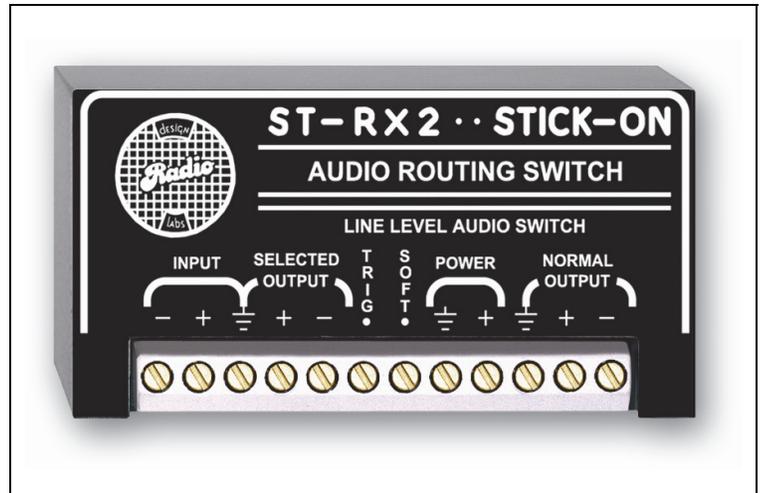
SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

## STICK-ON<sup>®</sup> SERIES

### Model ST-RX2

### Solid-State Audio Router

- Routing of a Line-Level Source
- Audio Switched to One of Two Destinations
- Silent Audio Switching (Soft Mode)
- Balanced or Unbalanced Routing
- Switching by Open Collector Logic



The ST-RX2 is part of a group of products in the STICK-ON series from Radio Design Labs. The durable bottom adhesive permits quick, permanent or removable mounting nearly anywhere or it may be used with RDL racking accessories. STICK-ONS are designed, built and rated for continuous duty in professional A/V systems.

**APPLICATION:** The ST-RX2 has a single line-level audio input and two line-level audio outputs. In the absence of a control input, the **NORMAL OUTPUT** is fed from the audio **INPUT**. When the **TRIG** control terminal is connected to ground, the **INPUT** audio is fed to the **SELECTED OUTPUT** and the **NORMAL** output is switched off. Releasing the **TRIG** terminal turns the **SELECTED OUTPUT** off and switches the **NORMAL** output on. The module contains no relays or other mechanical devices. The control circuits utilize solid-state switching to route the input signal to one of the balanced output line drivers with off attenuation better than 90 dB at 1 kHz.

The ST-RX2 has three user-selectable switching rates. The module can be used in muting applications where audio must be switched off extremely fast. The fastest switching mode is selected by connecting a jumper between the **SOFT** terminal and **POWER +** (24 Vdc). This could be required to prevent feedback in automatic microphone mixing installations. For muting, the audio output is connected to the **NORMAL OUTPUT**, and the ST-RX2 is used to turn this line off. In this mode, the audio off-time switching may be accomplished in less than 200 microseconds. Although necessary in some circumstances, this fast switching transition can sound harsh to the ear and would be undesirable where the module is being used to select inputs to a high power amplifier or in high quality studio applications. The **SOFT** terminal is left disconnected for fast switching times that are less abrupt. In this mode, the **NORMAL OUTPUT** would mute in approximately 1.5 milliseconds. Installation of a jumper between the **SOFT** terminal and **GROUND** slows the switching transition by implementing soft knee ramping of the audio to the on or off condition. This still sounds instant to the ear, but is slowed sufficiently to remove any unpleasant edge from the switch transition. For most applications, the module is used in the **SOFT** mode.

The control current required at the **TRIG** terminal is so minimal (0.5 mA) that the ST-RX2 can be controlled from nearly any source from switches to logic circuits. The **TRIG** input feeds a comparator, which switches at a threshold of 2 volts, permitting open-collector switching, or switching directly from circuits operating from a 3.3 or 5 volt supply.

Wherever a solid-state audio router is needed, the ST-RX2 is the ideal choice. The exceptional low noise and low distortion performance of the ST-RX2 makes it the ideal choice for noiseless line-level audio switching (soft mode) in both sound systems and recording installations. Use the ST-RX2 individually, or combine it with other RDL products as part of a complete audio/video system.



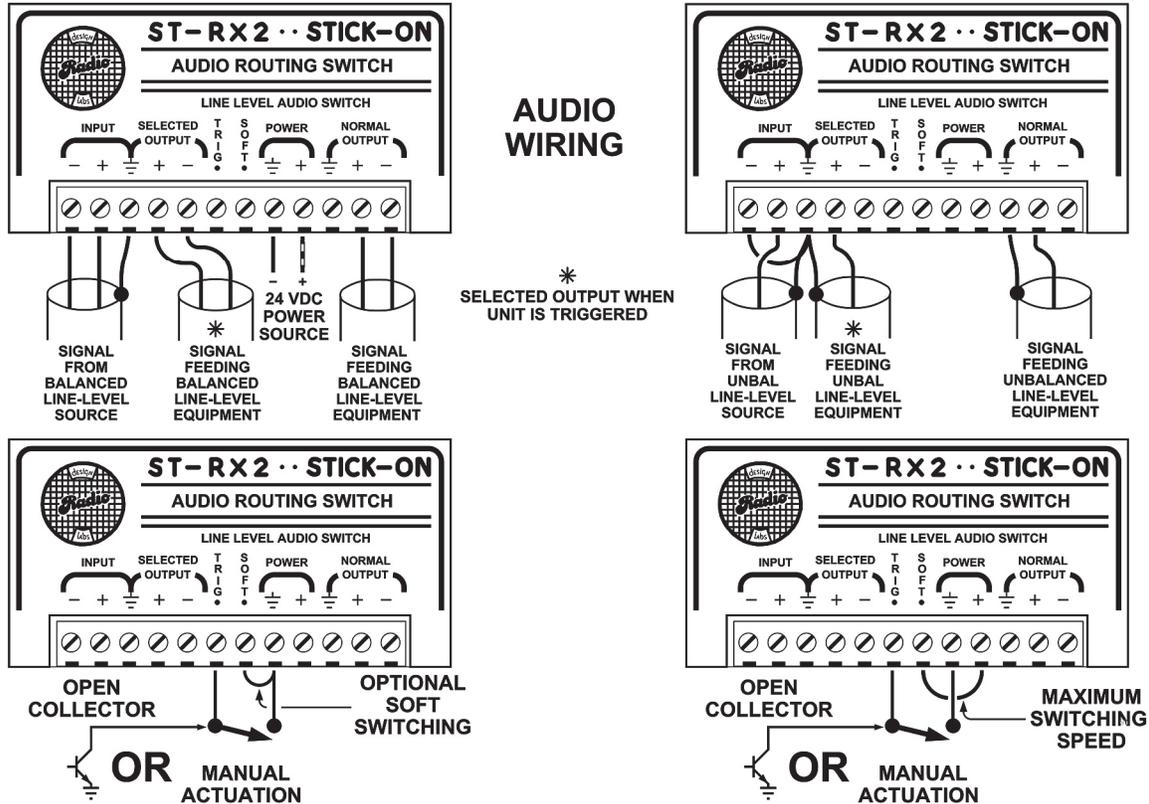
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## Installation/Operation

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



### TYPICAL PERFORMANCE

Input:	20 kΩ balanced, +4 dBu nominal
Audio Outputs (2):	+4 dBu nominal, 150 Ω balanced, terminal block
Switching Time:	Fast   Soft
Time required for <b>NORMAL</b> output to turn off:	10 us   5 ms
Time required for <b>NORMAL</b> output to turn on:	15 us   70 ms
Time required for <b>SELECT</b> output to turn off:	15 us   10 ms
Time required for <b>SELECT</b> output to turn on:	20 us   35 ms
Control Signal:	TRIG terminal must be externally connected to ground.
Control Current:	0.5 mA
Headroom:	> 18 dB (above +4 dBu)
THD+N:	< 0.030% (1 kHz)
CMRR:	> 45 dB (100 Hz)
Frequency Response:	15 Hz to 20 kHz (± 0.5 dB into 10 kΩ bridging input)
	30 Hz to 20 kHz (± 0.5 dB into 600 Ω)
Noise:	< -85 dB (below +4 dBu); -90 dB (typical)
ON Gain:	Unity (Balanced input and output)
OFF Attenuation:	> 80 dB (Either output); > 95 dB at 1 kHz
Indicators (2):	LED showing active output (left LED=NORMAL; right LED=SELECT)
Ambient Operating Environment:	0° C to 55° C
Power Requirement:	GROUND-REFERENCED, 24 Vdc @ 40 mA