



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

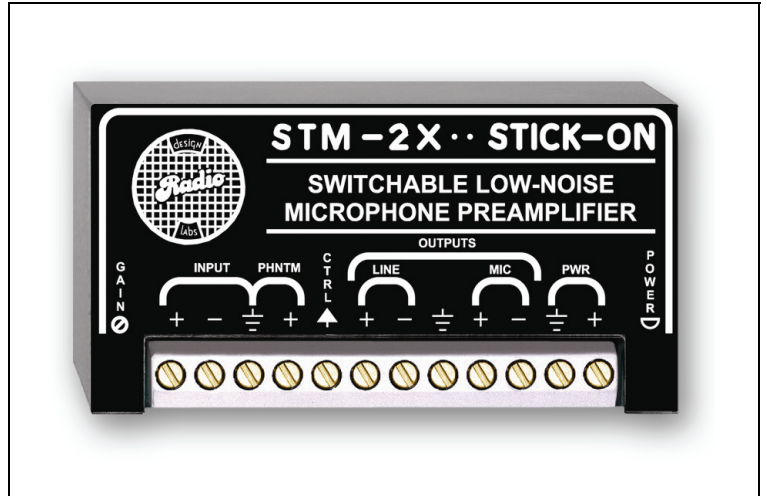
SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

## STICK-ON<sup>®</sup> SERIES

### Model STM-2X

### Switchable Low-Noise Microphone Preamplifier

- Quiet Switching of Condenser Mic
- Remote Microphone Soft-Switching
- Switch a Mic-Level Source to Mic or Line-Level Output
- Remote Toggle or Push-to-Talk Button
- Adjustable Preset Gain on Mic Source



The STM-2X is part of the group of versatile STICK-ON products from Radio Design Labs, featuring the advanced circuitry for which RDL products are known. The durable adhesives provided with the STM-2X permit permanent or detachable mounting. Numerous mounting accessories, brackets and rack-mount chassis are optionally available to facilitate any system design. STICK-ONs are designed, built and rated for continuous duty in professional A/V systems.

**APPLICATION:** The STM-2X is the ideal choice in many installations where a microphone preamplifier is required, and is the ideal choice where either a toggle-type switch or push-to-talk switch is to be provided for microphone control, particularly if condenser microphones are used.

The STM-2X features a balanced mic-level input, and both a line-level and mic-level output. The input and each output may be wired balanced or unbalanced. A 25-turn trimming potentiometer is provided for precise level adjustment whether the module is being used as a mic-level switch, or as a switched mic-to-line preamplifier. A phantom voltage input is provided for use with condenser mics. The 24 Vdc power source is typically used as the phantom supply, requiring no other external phantom supply. These features permit the STM-2X to be used as a manually switched mic preamp, or as a mic-level remote switch for dynamic or condenser microphones. The mic-level output from the STM-2X may be safely connected to other equipment mic inputs which produce phantom voltage. The two outputs are sufficiently isolated that a short-circuit on one output does not affect the amplitude of the other output.

It is frequently necessary to provide user accessible switching for condenser microphones. This may include a simple mic on/off switch, push-to-talk or a *cough* button switch. Conventional methods of either shorting or opening the microphone line result in loud audible *pops* due to the phantom voltage on the mic line. For these applications, the STM-2X provides quiet, solid-state soft switching with no disruption to the phantom voltage. The output of the STM-2X is turned on by grounding the control terminal, either by a switch or by any of the SLAVE terminals from other RDL products. The control terminal is internally pulled high to 2.5 Vdc.

Wherever mic signals need to be switched, or switched and preamplified, the STM-2X is the ideal choice. Use the STM-2X individually, or combine it with other RDL products as part of a complete audio/video system.



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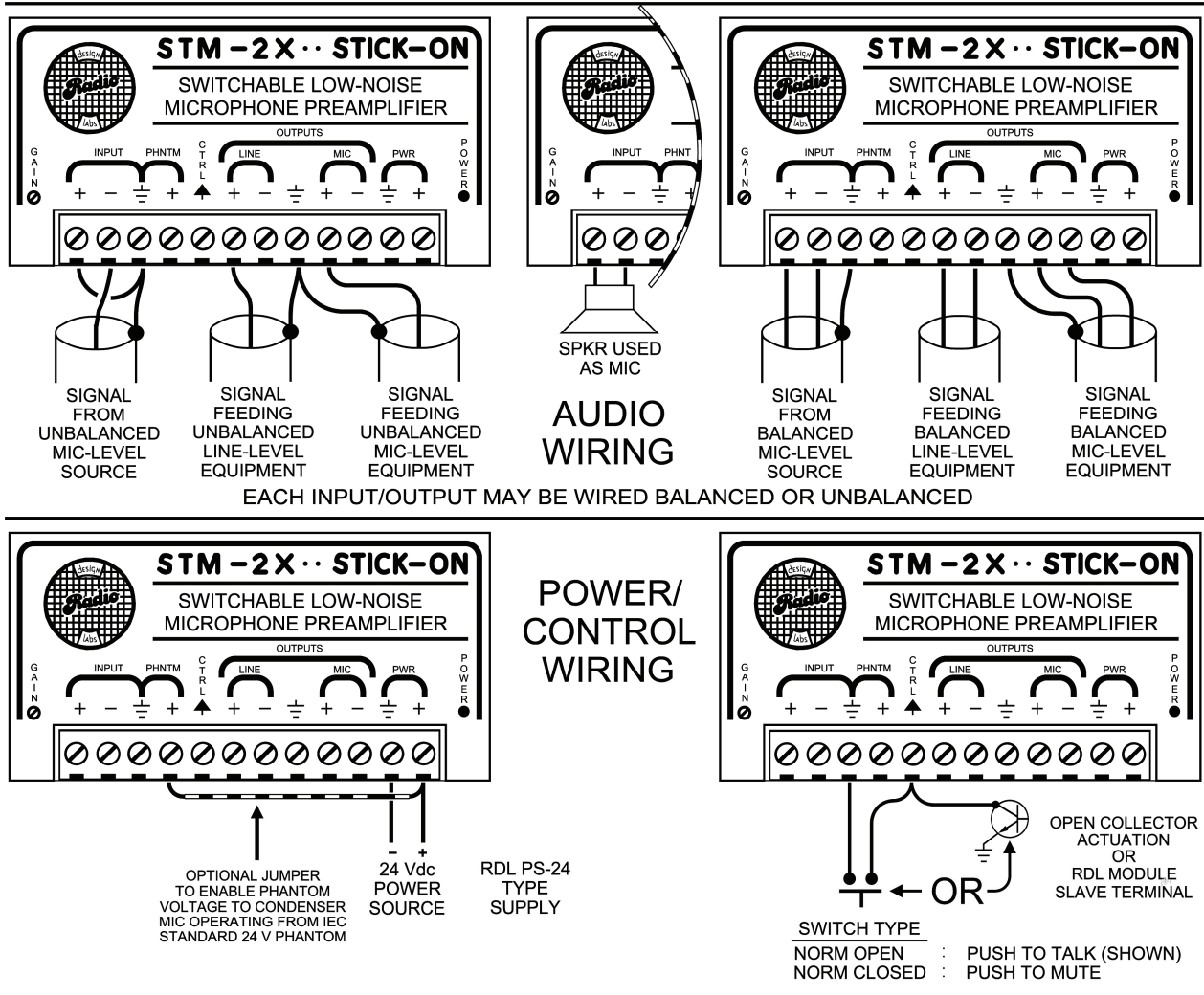
### Model STM-2X

### Switchable Low-Noise Mic Preamp

## 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

Input: 500 Ω balanced; 5 kΩ unbalanced  
 Phantom Voltage and Buildout: 24 Vdc; IEC 61938: 2013, Filtered  
 Outputs (2): Line Level: +4 dBu 150Ω balanced  
 Mic Level: -45 dBu 150Ω balanced  
 Headroom: > 20 dB  
 Gain Range: Line: Adjustable 35 to 65 dB;  
 Mic Level Output: Adjustable -15 to 15 dB  
 Frequency Response: 50 Hz to 30 kHz (± 1.5 dB)  
 THD+N: < 0.05% (50 dB gain)  
 Residual Noise (ON): < -70 dB (referred to +4 dBu)  
 (150 Ω source @ 50 dB gain)

OFF Attenuation: > 100 dB (1 kHz)  
 > 80 dB (50 Hz to 20 kHz)  
 Switching Control Input: Connect to ground to activate signal;  
 < 0.5 mA maximum current required  
 < 5 ms (soft-switching transition on or off)  
 > 50 dB (50 Hz to 20 kHz)  
 Switching Time: 0° C to 55° C  
 CMRR: GROUND-REFERENCED, 24 Vdc @ 25 mA  
 Ambient Operating Environment: (12 to 23 Vdc with reduced headroom and reduced phantom voltage)  
 Power Requirement: