

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

Specialists in Practical Precision Engineering<sup>TM</sup>



## RACK-UP<sup>TM</sup> SERIES

### Model RU-MX5

### Audio Mic/Line Mixer

#### ANYWHERE YOU NEED...

- A Mic or Line Level Audio Mixer
- 5 Channels of Audio Mixing
- A Mixer with Output Level Indicators
- Mic Mixing with Phantom Capability
- Expandable Mixing Capabilities
- 1/3-Rack, High-Density Rack Mounting

**You Need The RU-MX5!**



The RU-MX5 is part of the group of RACK-UP products from Radio Design Labs. RACK-UPs feature the advanced circuitry for which RDL products are known, combined with accessible user-friendly controls and displays. The ultra compact design permits high-density installations, with THREE products mounted in a single rack unit! Single RACK-UPs can be mounted right where they are needed using the adhesive method popularized by RDL's STICK-ON<sup>TM</sup> series of products. Optional brackets permit mounting a RACK-UP module above, below, or in front of any flat surface!

**APPLICATION:** The RU-MX5 is the ideal choice in many applications where a combination of mic and/or line level signals need to be mixed. All connections are made using full-size barrier block terminals on the rear panel.

Four of the RU-MX5 inputs can accept either mic or line level inputs. The fifth input is for line level only. Mic inputs are designed for low-impedance balanced microphones, though high-impedance unbalanced mics can be connected as well. A rear-panel jumper can selectively connect an internally provided 24 Vdc phantom voltage to any, or all, of the mic inputs. All line-level inputs permit the connection of either balanced or unbalanced, high or low impedance audio lines.

A separate unbalanced **MIX** input allows an external audio source to be summed directly into the mix amplifier, bypassing the front-panel level controls. This feature can be used to cascade multiple mixers to expand system capabilities.

The RU-MX5 provides two balanced outputs, one at mic level and the other at line level. Either of these outputs may be unbalanced if required. Both outputs may be used at the same time.

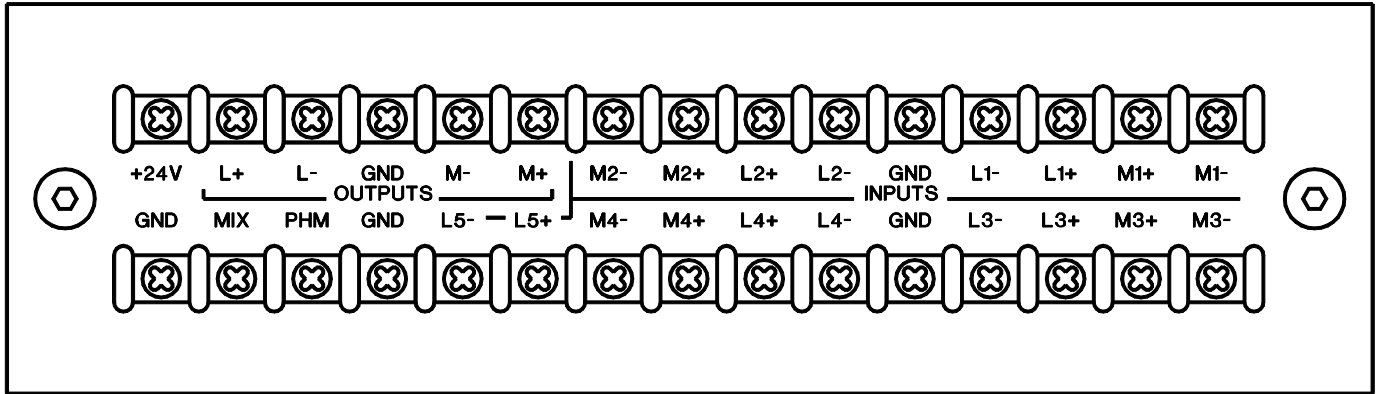
Audio levels are adjustable on the front panel. A convenient write-on label area is provided above each fader knob.

Three L.E.D. indicators provide output level metering. Audio *presence* is indicated by the **-20** indicator. **0 dB** shows usual audio levels, and a **+5 dB** L.E.D. displays audio peaks. The metering section is peak-reading and refers 0 dB to a balanced audio output of +4 dBu.

Wherever a mixer is needed to provide superior audio clarity, user adjustments, reliability, compactness and unsurpassed versatility, the RU-MX5 is the choice. Use the RU-RA3 rack-mount adapter to mount multiple mixers, or to combine related products (such as audio or video distribution, or audio metering) into a single rack unit!

# RU-MX5

## Rear Panel View



**AUDIO INPUTS:** Inputs are labeled **1** through **5**, **L** is for line level inputs, **M** is for mic level inputs. You may use either the mic or line terminals for inputs 1-4, Input 5 is line only. Both may not be used simultaneously. Connect balanced audio to **+**, **-**, and ground. Connect unbalanced audio to **+** terminal; connect **-** to ground terminal together with the unbalanced shield.

**PHANTOM MIC OPERATION:** The line input terminals are used to jumper phantom voltage to a given microphone. If Mic 1 is to be phantom powered, connect the balanced mic to **M1+**, **M1-**, and shield to **GND**. Then connect **L1-**, **L1+** and **PHM** (phantom) terminals together. Any or all the mic inputs may be phantom powered in this manner. External phantom voltage source can not exceed 24 Vdc.

**MIX INPUT:** This input is a direct input to the summing amplifier. An unbalanced source, such as another mixer, may be connected to this input. This input will always feed the output of this mixer at unity gain. Connect the positive-wire to the **MIX** terminal, connect the shield to one of the **GND** terminals.

**AUDIO OUTPUTS:** Both a line level and a mic level output are provided. They are labeled **L** for line, and **M** for mic. For balanced wiring, connect the conductors to **+** and **-** terminals. The ground is typically connected at the OTHER end for line output, and at both ends for mic level signals. If it is desired to connect the ground, use the nearest **GND** terminal. For unbalanced wiring, connect the signal to output **+**, connect the shield to the nearest **GND** terminal. Do not connect the output **-** to the shield or ground terminals. Both outputs may be used at the same time to feed two unbalanced loads.

**POWER CONNECTION:** Connect a single-ended 24 Vdc power source to the **+24V** terminal. Connect the ground return from that supply to the **GND** terminal directly below the **+24 V** Terminal. Power supply ground and circuit ground are common.

### TYPICAL PERFORMANCE

Inputs:	4 Selectable Mic or Line Level; 1 dedicated Line Level
Input Impedance:	Mic: 150 to 600 $\Omega$ Balanced; 5 k $\Omega$ Unbalanced Line: 10 k $\Omega$ Balanced or Unbalanced
Line Level Output:	200 $\Omega$ to drive Low or High Impedance Balanced or Unbalanced Lines; +4 dBu
Mic Level Output:	150 $\Omega$ Balanced; -45 dBu
Gain:	Mic: Off to 65 dB Line: Off to 15 dB
Frequency Response:	Mic: 70 Hz - 30 KHz (+/- 1.5 dB) Line: 20 Hz - 20 KHz (+/- 0.5 dB)
Total Harmonic Distortion:	< 0.030% (0.0125% typical)
Headroom:	> 18 dB above +4 dBu output
Metering:	3 L.E.D. Indicators; -20 dB, 0 dB, +5 dB, Peak Reading (0 dB Referred to Balanced Line Output of +4 dBu)
Noise:	< -70 dB Below +4 dBu Output (All Channels Active; Mic Gain = 50 dB; Line Gain = Unity)
Power Requirements:	24 to 33 Vdc @ 65 mA, Ground-referenced

EMC:



Immunity and emission specifications published in the EMC Technical Bulletin for this product are incorporated herein.