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Radial engineering

LX·2

LINE SPLITTER

JENSEN TRANSFORMER EQUIPPED

USER GUIDE



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RADIAL LX-2 PASSIVE LINE SPLITTER USER GUIDE

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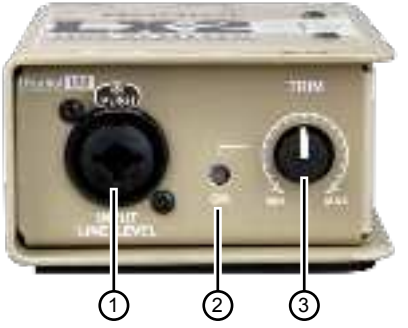
Thank you for your purchase of the Radial LX-2™ line-level audio splitter and attenuator, a simple but powerful tool built for the studio, stage, or broadcast applications.

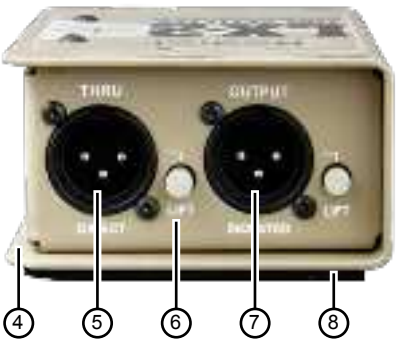
Before you begin using the LX-2, please take a few minutes to read this short manual to become familiar with the various features and possible uses. If afterwards you find yourself in need of more information, please visit our website. This is where we post updates and frequently asked questions from users like yourself. If you are still in need of answers, feel free to drop us a line at info@radialeng.com and we will do our best to respond in a timely manner.

With the LX-2 you can crank up your mic preamps without fear of overloading, and split your line-level signal to multiple destinations with ease.

FEATURES

1. **XLR/TRS INPUT:** Combination XLR or ¼" input.
2. **TRIM ON:** Set & forget switch activates the trim level control. Signal passes through at unity gain when this switch is not engaged.
3. **TRIM LEVEL:** Attenuates the signal at the input of the LX-2.
4. **BOOKEND DESIGN:** Creates a protective zone around the jacks and switches.
5. **ISO OUTPUT:** Transformer isolated output eliminates hum & buzz caused by ground loops.
6. **GROUND LIFTS:** Disconnects pin-1 ground at the XLR output and thru.
7. **DIRECT THRU OUTPUT:** Direct output to connect to recording or monitor systems.
8. **NO SLIP PAD:** Provides electrical & mechanical isolation and keeps the unit from sliding around.

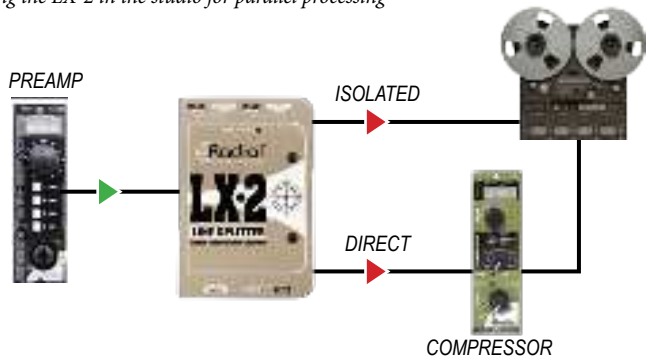




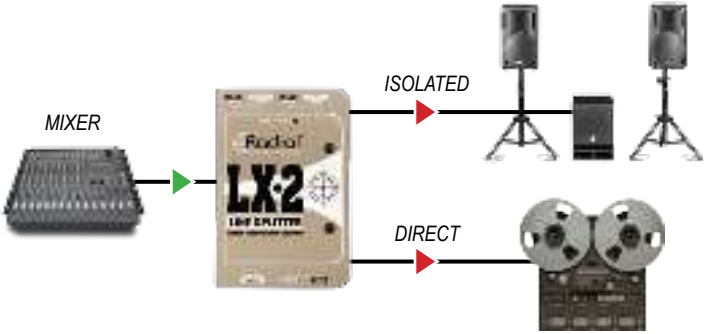
OVERVIEW

The LX-2 has a single XLR/TRS INPUT connector, an ISO OUTPUT with a ground lift switch, and a DIRECT THRU output with a ground lift switch. You can connect any line-level signal to the INPUT, and use the ISO OUTPUT to feed a recording device, broadcast truck, or mixing console. The ISO OUTPUT is equipped with a premium Jensen™ transformer, which provides exceptional signal handling and low noise, while also blocking DC voltage to help eliminate buzz and hum from ground loops. This output also features a ground lift switch that disconnects the ground path between the input and output to further reduce ground loop noise. The DIRECT THRU output can be used to feed an additional mixer or another destination, with a separate ground lift switch for noise abatement. Should you find the need to attenuate a high-output signal, a variable TRIM control can be engaged to provide an accessible level adjustment, allowing you to tame hot console outputs or preamps and prevent distortion at your input devices.

Using the LX-2 in the studio for parallel processing



Using the LX-2 live to split a line level signal from a mixer



MAKING CONNECTIONS

Before making connections, ensure that your sound system is turned off and all volume controls are turned down. This prevents any plug-in transients from damaging speakers or other sensitive components. The LX-2 is completely passive, so it doesn't require any power to operate.

The LX-2 has a combination XLR/TRS input connector, which is wired with the AES standard pin-1 ground, pin-2 hot (+), pin-3 cold (-).You can connect balanced or unbalanced inputs to the LX-2; the isolated output will always be a balanced signal, while the direct output will be balanced or unbalanced depending on the input source.

USING THE TRIM FUNCTION

For situations where a level adjustment is required, the trim control on the LX-2 allows you to attenuate overly hot signals. This lets you drive your mic preamps hard to achieve coloration, while attenuating the level at the LX-2 to avoid clipping the inputs of your recording interface. This trim control is activated by a recessed 'set & forget' TRIM ON switch. For use on stage or in situations where attenuation is not needed, simply disengage this switch to prevent accidental or unwanted level adjustments.

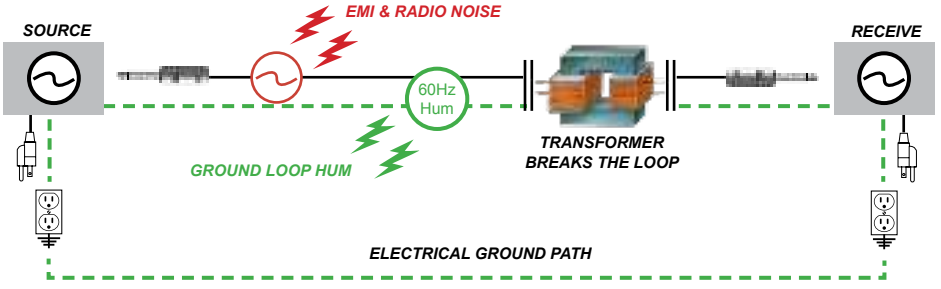




Engage the trim function to drive a mic preamp to saturation without distorting the inputs of your recording interface

USING THE GROUND LIFT

When connecting two or more powered devices, you may encounter hum and buzz caused by ground loops. The isolated output on the LX-2 has a Jensen transformer in the signal path, which blocks DC voltage and breaks the ground loop. However, the direct output is connected straight through to the input of the LX-2, and you may need to engage the ground lift on this output to disconnect pin-1 on the connector and help remove buzz and hum on this output. A ground lift switch is also present on the isolated output to provide further abatement of ground loop noise.



The image above shows an audio source and a destination with a common electrical ground. As the audio also has a ground, these combine to create a ground loop. The transformer and ground lift work together to eliminate the ground loop and potential noise.

OPTIONAL RACK MOUNTING KITS

The optional J-RAK™ rackmount adapters allow four or eight LX-2s to be securely housed in a standard 19" equipment rack. The J-RAK fits any standard-sized Radial DI or splitter, allowing you to mix and match as needed. Both J-RAK models are built of 14-gauge steel with a baked enamel finish.

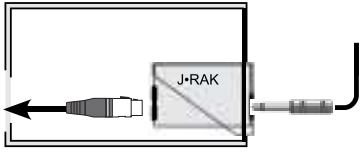


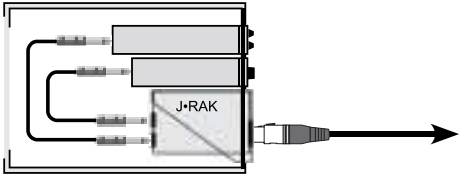
J-Rak 8



J-Rak 4

Each direct box can be front or rear mounted allowing the system designer to have the XLR's on the front of the rack or rear, depending on the application.





J-CLAMP

The optional J-CLAMP™ can mount a single LX-2 inside a road case, under a table, or on virtually any surface. Constructed from 14-gauge steel with a baked enamel finish.



FAQ

Can I use the LX-2 with a microphone signal?
No, the LX-2 is designed for line-level signals, and will not provide optimal performance with a mic-level input. If you need to split the output of a microphone, the Radial JS2™ and JS3™ mic splitters are designed for this purpose.

Will the 48V from phantom power hurt the LX-2?
No, phantom power will not harm the LX-2. The transformer will block 48V at the isolated output, but the direct output will pass phantom power back through the input of the LX-2.

Can I use the LX-2 with unbalanced signals?
Absolutely. The LX-2 will automatically convert the signal to balanced audio at the isolated output. The direct output will mirror the input, and it will be unbalanced if the input is unbalanced.

Will the LX-2 fit in a J-Rak?
Yes, the LX-2 can be mounted in the J-Rak 4 and the J-Rak 8, or secured to a desktop or road case using the J-Clamp.

What is the maximum input level of the LX-2?
The LX-2 can handle +21dBu with the trim control fully bypassed.

Can I use the LX-2 backwards to sum two signals together?
We do not recommend this. The Mix 2:1™ is a better option as it is intended for this purpose.

Can I use the LX-2 to split one signal to feed multiple powered speakers?
Yes, you can. This allows you to send a mono output from a mixing board to two powered speakers.

Can I use the LX-2 to split the output of my guitar or keyboard?
Yes, although the StageBug SB-6™ might be a better option as it has ¼" connectors.

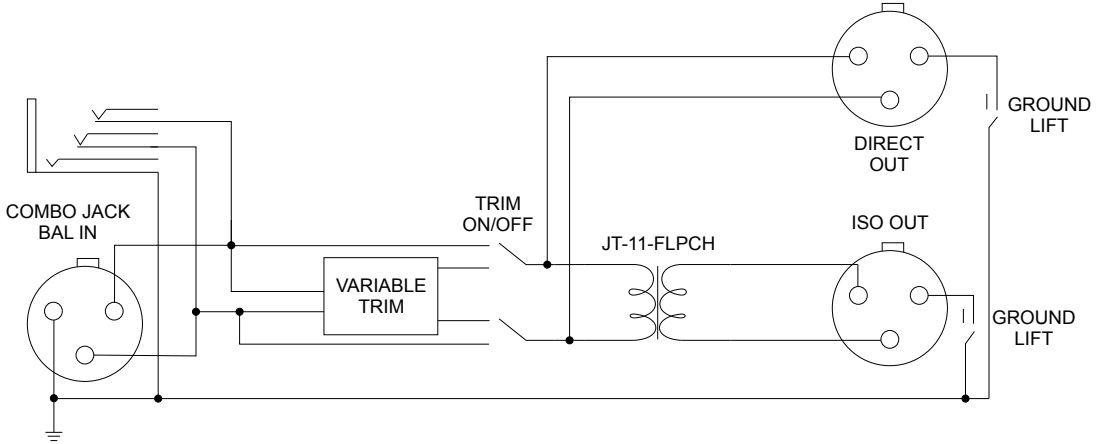
Can I bypass the trim control entirely?
Yes, when the TRIM ON recessed switch is not engaged, the trim control is completely bypassed from the circuit, so you don't have to worry about the knob getting touched or bumped accidentally.

SPECIFICATIONS

Audio Circuit Type:	Passive, transformer based
Frequency Response:	20Hz - 20kHz +/-0.5dB
Max Attenuation - Trim Control:	-10dB into a 10kΩ load
Gain:	-1.5dBu
Noise Floor:	-119dBu
Maximum Input:	+21dBu
Dynamic Range:	140dBu
Total Harmonic Distortion:	<0.001% @ 1kHz
Phase Deviation:	+0.3° @ 20Hz
Common Mode Rejection:	94dB @ 60Hz, 83dB @ 3kHz
Input Impedance:	716Ω
Output Impedance:	116Ω
Transformer:	Jensen JT-11-FLPCH
XLR Configuration:	AES standard (pin-2 hot)
Connectors:	Combo XLR/1/4” input, XLR-M iso and direct out
Construction:	14-gauge steel
Finish:	Durable powder coat
Size:	84 x 127 x 48mm (3.3” x 5.0” x 2”)
Weight:	0.70 kg (1.55 lbs)
Warranty:	Radial 3-year, transferable

Specifications are subject to change without notice

BLOCK DIAGRAM



Specifications are subject to change without notice

RADIAL ENGINEERING
3 YEAR TRANSFERABLE WARRANTY

RADIAL ENGINEERING LTD. (“Radial”) warrants this product to be free from defects in material and workmanship and will remedy any such defects free of charge according to the terms of this warranty. Radial will repair or replace (at its option) any defective component(s) of this product (excluding finish and wear and tear on components under normal use) for a period of three (3) years from the original date of purchase. In the event that a particular product is no longer available, Radial reserves the right to replace the product with a similar product of equal or greater value. In the unlikely event that a defect is uncovered, please call 604-942-1001 or email service@radialeng.com to obtain an RA number (Return Authorization number) before the 3 year warranty period expires. The product must be returned prepaid in the original shipping container (or equivalent) to Radial or to an authorized Radial repair center and you must assume the risk of loss or damage. A copy of the original invoice showing date of purchase and the dealer name must accompany any request for work to be performed under this limited and transferable warranty. This warranty shall not apply if the product has been damaged due to abuse, misuse, misapplication, accident or as a result of service or modification by any other than an authorized Radial repair center.

THERE ARE NO EXPRESSED WARRANTIES OTHER THAN THOSE ON THE FACE HEREOF AND DESCRIBED ABOVE. NO WARRANTIES WHETHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL EXTEND BEYOND THE RESPECTIVE WARRANTY PERIOD DESCRIBED ABOVE OF THREE YEARS. RADIAL SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSS ARISING FROM THE USE OF THIS PRODUCT. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH MAY VARY DEPENDING ON WHERE YOU LIVE AND WHERE THE PRODUCT WAS PURCHASED.

To meet the requirements of California Proposition 65, it is our responsibility to inform you of the following:
WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
Please take proper care when handling and consult local government regulations before discarding.

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