

# J•ISO | Pro-ISO Users Guide



**+4dB Balanced to -10dB Unbalanced**  
**Stereo Signal Conversion Tool**

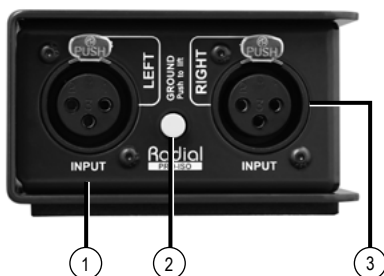
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## INPUT PANEL

1. **XLR INPUT** for balanced, low-impedance, +4dB line-level signals.

2. **Ground lift** disconnects the signal ground to eliminate buzz and hum caused by ground loops.

3. **Secondary Ground Lift** used for instances where two separate devices are connected to the outputs.



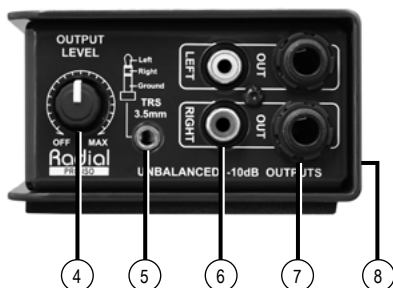
## OUTPUT PANEL

4. **Output Level** provides signal attenuation to prevent clipping.

5. **3.5mm TRS** output connection for stereo -10dB devices such as portable recording units.

6. **RCA Phono** left and right stereo outputs for -10dB consumer audio electronics.

7. **1/4" TS** left and right stereo outputs for high-impedance audio electronics.



## CONSTRUCTION

8. **Bookend design** 14 gauge steel outer shell creates protective zone around connectors and switches.

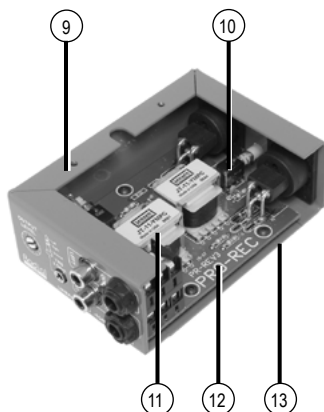
9. **I-beam enclosure** eliminates stress that could torque the PCB board and cause solder joint failure.

10. **PCB mounted** switches are high-cycle rated for long life.

11. **Jensen (J•ISO) and Radial (Pro-ISO) transformers** offer outstanding audio performance.

12. **Military-grade** double-sided PCB with plated through-holes is bolted to welded steel standoffs.

13. **Full-bottom no-slip pad** This provides electrical isolation and plenty of "stay-put" friction.



A major benefit of using transformers is the elimination of noise caused by ground loops. The transformer isolates the devices connected to it by decoupling the signal ground between the input and output. This isolation effectively breaks ground loops between devices and blocks hum and buzz.

### GROUND LIFT

To make grounding as flexible as possible, both units feature a ground LIFT switch. When in the lifted position, the input signal ground is decoupled through the audio transformer and isolated from the output signal ground. If you hear hum or buzz, try depressing the LIFT switch and use the position that produces the least noise.

### LEVEL CONTROL

The J•ISO and Pro-ISO feature a variable audio level control that can be called upon to attenuate hot signals and prevent the inputs of the destination audio device from clipping.

### RCA & 3.5mm JACKS

Consumer audio electronics such as mobile recorders connect directly using the 3.5mm and RCA inputs, thus eliminating the need for cumbersome adapters. Two ¼" phone jacks are also provided. All output jacks are wired in parallel and can be used to split the stereo signal and send it to a second audio device. You can connect a mixer to the RCA outputs and a mobile recording device to the 3.5mm phone jack and record the signal on both. Keep in mind that the source audio level may need to be increased to drive the additional load that a second device presents.



### SECONDARY GROUND LIFT

A secondary recessed ground lift switch is accessed through a small hole in the side of the enclosure. This switch disconnects the common ground connection between the left and right output jacks. For normal stereo operation with one audio device connected to the outputs, this switch can be set either open (pushed "out") or closed (pushed "in").

However, if you intend to connect a second device or use the J•ISO in dual mono mode (where the left and right output channels drive two separate audio devices) there may be a gain in noise performance by depressing this switch. If you hear hum or buzz while operating with two devices connected, try toggling the recessed switch and use the setting that produces the least noise.

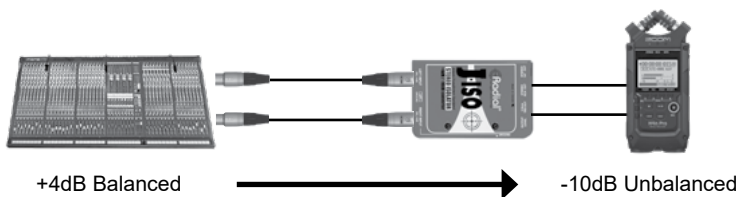
CONGRATULATIONS on your purchase of the Radial J•ISO or Pro-ISO passive signal conversion tools. As with all Radial products the J•ISO and Pro-ISO are easy to use and ensure the best audio quality. This short manual contains all the information you need to start using the tools right away. For more information on the J•ISO, Pro-ISO and other Radial products, visit our web site at [www.radialeng.com](http://www.radialeng.com). The Radial J•ISO and Pro-ISO are thoughtfully designed and useful devices that will provide you with years of reliable service. Enjoy!

## INTRODUCTION

The Radial J•ISO and Pro-ISO are two channel line-level signal conversion tools with transformer isolation to prevent noise from ground loops. Both units are identical except for the audio transformers. The J•ISO features two premium Jensen audio transformers. The Pro-ISO uses high quality Radial transformers. Both units convert +4dB balanced signals to -10dB unbalanced with optimum signal-to-noise and signal transfer quality.

These devices allow you to connect professional balanced audio gear to consumer unbalanced. In addition to standard RCA stereo outputs, both units are equipped with 1/4" instrument and 3.5mm jacks, allowing virtually any -10dB audio device to be connected without adapters cables.

For instance, the J•ISO and Pro-ISO are great tools to interface a pro mixing console or high-end microphone preamp a portable recorder or camera to capture the house mix.



The J•ISO and Pro-ISO do not require any power to operate. They are extremely portable and plug-and-play easy to use. The circuit is 100% passive and will not add any noise to the signal. The rugged construction is compact enough to take anywhere and dependable for service out on the road.

## XLR INPUTS

These inputs are intended for professional audio equipment with a balanced +4dB line output. The Pro-ISO uses the AES standard XLR pin-out where PIN-2 is hot (+) and PIN-3 cold (-).

## AUDIO TRANSFORMERS

A pair of audio transformers converts the low-impedance balanced +4dB source signal into a high-impedance, unbalanced output. Jensen and Radial transformers are exceptional for their linear frequency response and ability to handle high input levels without distortion.

## USING THE Pro-ISO

All Radial Engineering products are designed for simple, straight-forward use. However, attention taken during set-up will ensure success. Before connecting ensure the sound system is turned off and all levels are set to zero. This will avoid any pops in the sound system that could cause damage to speakers, headphones or your ears.

Confirm the recessed LEVEL control is set at its maximum clockwise position and the LIFT switch is pushed inward. The Pro-ISO is completely passive and does not require a power supply of any kind to operate.

1. Connect the balanced +4dB audio source to the XLR inputs using balanced cables.
2. Use unbalanced cables to connect the outputs to the destination audio device. Unbalanced cables should be kept under 20 feet in length to maintain the best fidelity.
3. To confirm audio quality, you should monitor the destination audio device with a set of headphones or a stereo loudspeaker system.



4. Turn the source audio level up slowly and listen for noise. In the event you encounter hum or buzz, simply depress the ground lift switch.
5. Bring the source audio up to unity-gain. If the sound is distorted (clipping) turn the LEVEL control down. You are now set to go!

## J-RAK AND J-CLAMP

The optional J-RAK is a high density rackshelf for Radial DI's and splitters. It's a 2RU rack chassis that allows up to 8 Radial devices in one neat high density 19" package. The DI's can be mounted with either the input side or output side facing the front. Ideal for studio or touring. Constructed of 14 gauge steel with a baked enamel finish.



The optional J-CLAMP can mount a single Radial device to virtually any surface. Perfect for hiding away inside racks, on podiums or under tables. Constructed of 14 gauge steel with a baked enamel finish.



SPECIFICATIONS		
	Pro-ISO	J-ISO
Freq. response	20Hz to 18kHz (+0dB, -3dB)	20Hz to 20kHz (+0dB, -1.5dB)
THD @ 1k	0.005% @ 1kHz	0.001% @ 1kHz
Stereo Inputs	Balanced, low-Z, +4dB line-level, female XLR, pin-2 hot	
Outputs	Unbalanced, high-Z, -10dB line-level, RCA, ¼", and 3.5mm TRS	
Power	None, completely passive	
Size	3.3" x 5" x 2"	
Weight	1.55 lbs	

### RADIAL ENGINEERING 3 YEAR LIMITED 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. To make a request or claim under this limited warranty, 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 warranty. This limited 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.

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