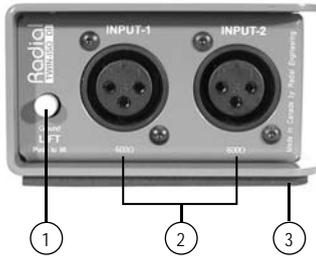


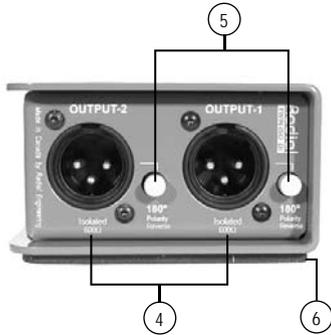
INPUT PANEL

- Ground lift (inputs)** Lifts the ground pin-1 on both XLR input connectors.
- Input-1 & 2** For low impedance 600 ohms, balanced line-level signals.
- Bookend design** 14 gauge steel outer shell creates protective zone around connectors and switches.



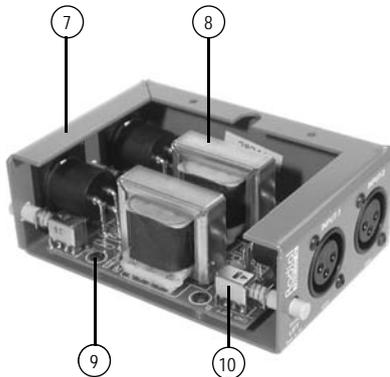
OUTPUT PANEL

- Output-1 & 2** 600 ohm line-level transformer-isolated.
- Polarity reverse 180°** Polarity reverse phase reverse switch for outputs-1 & 2.
- Full-bottom no-slip pad** This provides electrical isolation and plenty of "stay-put" friction to keep the Twin-Iso in one place.



CONSTRUCTION

- Ultra rigid steel I-beam** enclosure eliminates stress that could torque the PC board and cause solder joint failure.
- Radial Eclipse transformers** offer outstanding audio performance.
- Military-grade double-sided PCB** with plated through-holes is bolted to welded steel standoffs.
- Sturdy high-cycle PCB** mounted switches are rated for long life.



TWIN-ISO SPECIFICATIONS

Audio circuit type	Passive line-level isolation, transformer based
Number of channels	Stereo (dual mono)
Frequency response.....	10Hz ~ 50KHz (± 1dB)
Dynamic range	135dB
Maximum input	+21dBu @ 1kHz, 1% THD+N
Total harmonic distortion.....	0.001% @ 1kHz, +4dBu output
Phase deviation	0.5° @ 100Hz; 3° @ 20Hz
Input/Output impedance	600 Ohms, balanced
High pass filter.....	-3dB @ 100Hz (12dB.Oct.)
Ground lift.....	Disconnects XLR pin-1 at isolated output
XLR configuration	AES standard (pin-2 hot)
Connectors	XLR-M inputs; XLR-F outputs
Construction	14 gauge steel chassis & outer shell
Finish	Baked enamel
Size (W x H x D).....	84 x 127 x 48mm (3.3" x 5.0" x 2")
Weight	0.70 kg (1.55 lbs)
Shipping Size: W x H x D	102 x 76 x 165mm (4" x 3" x 6.5")
Shipping Weight87 kg (1.92 lbs)
Power	Passive, no power required
Warranty	Radial 3-year, transferable

RADIAL LIMITED THREE 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. 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 and transferable 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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Twin-Iso™



User Guide

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WELCOME

Congratulations on your purchase of the Radial Twin-Iso stereo (dual mono) line-level isolator. The Twin-Iso is a handy device that will allow you to isolate audio equipment and eliminate troublesome noise caused by ground loops.

The Twin-Iso employs two high-performance Radial Eclipse isolation transformers to ensure the best signal transfer is enjoyed without artifacts or distortion. This makes the Twin-Iso a perfect choice where multiple consoles need to be sub-mixed, when isolating amplifier distribution racks and for connecting remote speaker towers. The Twin-Iso can also eliminate ground loop problems where equipment must be connected to alternate power sources such as generators.

As with all Radial products, the Twin-Iso is made with 14 gauge steel and features an internal welded I-beam frame for maximum rigidity. Switches and jacks are protected by our unique bookend construction, making the Twin-Iso virtually impossible to damage even in the most abusive touring environments.

We have purposely written this manual to be short, as most users will likely be familiar with the Twin-Iso's applications. We do suggest that you take a moment to read through this document to familiarize yourself with the features that have been built in. For more detailed information, please visit the Radial website. This is also where we post questions and answers that come from users after the product is released. If you do not find an answer, we invite you to send us an email at info@radialeng.com and we will do our best to answer your query in a prompt and professional manner.

INTRODUCTION

The Radial Twin-Iso has been designed to provide electrical isolation between two line-level devices such as between two mixing consoles, remote speakers, crossovers and amplifier racks. Use the Twin-Iso anywhere source and destination devices may cause system noise because of different ground potentials (often referred to as ground loops).

So-called ground loops are caused by differing voltage references from various pieces of equipment that, when connected together, can introduce a 60 cycle hum in the sound system. Although there are various solutions that can be engineered to eliminate noise, the simplest and most effective is to isolate the source and destination with an audio transformer.

The Twin-Iso employs two high-quality Radial Eclipse transformers to do the task. We engineered the Eclipse line of transformers to handle high input levels without saturation while transferring the full signal without introducing phase distortion or group delay. Although the cost is higher, a good quality transformer will assure the signal remains true to the source, resulting in better sound.

When you first pick up the Radial Twin-Iso, you will immediately notice the weight. This 'hefty' device employs a welded steel I-beam internal construction to assure the internal PC will not torque, which of course could develop into cold solder joints, the single biggest cause of circuit failure.

The Radial Twin-Iso is equipped with two XLR inputs and two XLR outputs. Each channel is 100% isolated from the other to eliminate cross-talk or interaction, thus allowing two completely different audio sources to use the Twin-Iso at the same time. Although the Twin-Iso is designed for +4dB professional line-level signals, the transformers will actually handle over 20dB without choking.

Each of the Twin-Iso's outputs feature a 180° polarity reverse switch to ensure both consoles are 'in phase' and pushing the speakers in the same direction. This allows the Twin-Iso to feed a sub-group or auxiliary input of a console where polarity reversals are generally not provided. Finally, the Twin-Iso is equipped with a ground lift switch to further reduce system noise should it be present.

USING THE TWIN-ISO

As with all Radial products, using the Twin-Iso is simple and straight forward. Make sure the sound system is turned off and all levels are set to zero before making audio connections. This will avoid any pops in the sound system that could cause damage to speakers.

The Twin-Iso is completely passive and does not require a power supply of any kind. Connect the source device to the Twin-Iso inputs. Connect the Twin-Iso outputs to the destination device. Turn the system up slowly and listen for noise. If you encounter noise, simply depress the ground lift switch. That's all there is to it.



Using the Twin-Iso to isolate two mixers

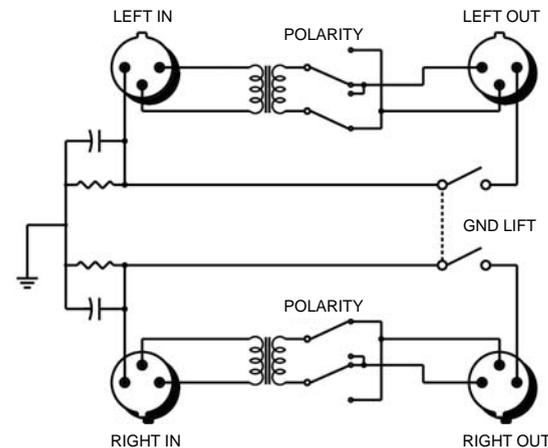


Using the Twin-Iso between mixer and amp racks



Using the Twin-Iso to eliminate noise

TWIN-ISO BLOCK DIAGRAM



J-RAK4 and J-RAK8

The optional J-RAK4 and 8 are high density rackshelves for Radial DI's and splitters. The J-RAK4 is a 19" rack chassis that mounts four Radial devices in one rack space (1RU). The J-RAK8 mounts eight Radial DI's in two rack spaces (2RU). Devices can be mounted with either the input side or output side facing the front. Ideal way of organizing your DI's for studio or touring.



J-RAK4



J-RAK8

J-CLAMP

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.

