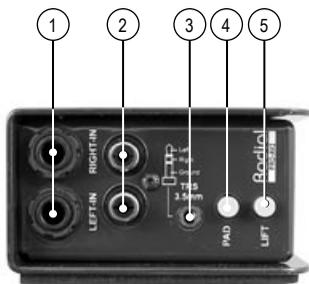


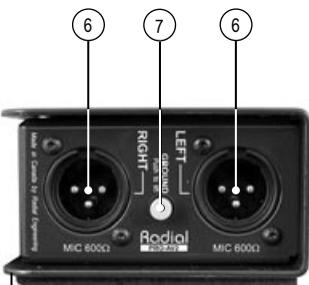
**INPUT PANEL**

- ① **1/4" INPUTS** - left and right stereo input for instruments.
- ② **RCA INPUTS** - left and right stereo input for -10dB consumer audio electronics.
- ③ **3.5mm TRS** - input connection for stereo -10dB consumer audio electronics.
- ④ **-15dB PAD** - reduces the input level by 15dB to prevent overload from high output devices.
- ⑤ **LIFT** - interrupts the ground path for the right channel only. Helps to troubleshoot ground loops when using the ProAV2 with an AC power device like a keyboard.



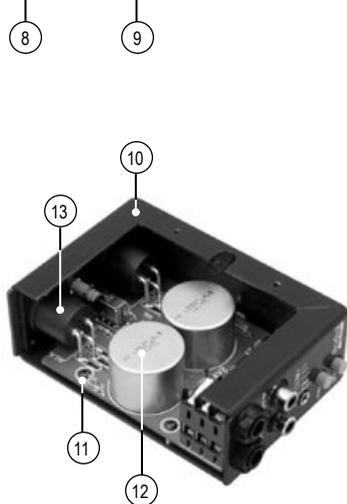
**OUTPUT PANEL**

- ⑥ **LEFT & RIGHT XLR OUTPUT** - balanced, 600 ohm, mic-level output is 100% transformer-isolated and compatible with mic snakes and console preamps.
- ⑦ **GROUND** - disconnects pin-1 on the XLR output connector to reduce noise caused by ground loops.



**CONSTRUCTION**

- ⑧ **BOOK-END DESIGN** - 14 gauge steel outer shell provides a protective zone for the switches and connectors.
- ⑨ **FULL BOTTOM FOOT** - neoprene foam foot provides electrical isolation and plenty of friction to stay put.
- ⑩ **I-BEAM DESIGN** - inner steel enclosure is reinforced with I-beam profile. Eliminates stress that could torque the PC board and cause solder joint failure.
- ⑪ **MILITARY-GRADE** - double-sided PCB is bolted to steel standoffs for toughness.
- ⑫ **RADIAL TRANSFORMER** - is protected from electromagnetic interference by a mu-metal can.
- ⑬ **ISOLATED CONNECTORS** - are made from extremely tough glass-filled nylon for true electrical isolation from chassis ground.



ProAV2 SPECIFICATIONS	
Frequency response	20Hz to 20kHz +/- 2.5dB
Total harmonic distortion	0.01% THD 20Hz to 20kHz
Input	Unbal. high-Z
Outputs	Balanced 600-Ohm, mic-level, pin-2 hot
Input pad	-15dB
Power requirement	None, completely passive
Size	3.25" x 5" x 1.875"
Weight	1.8 lbs.

**RADIAL LIMITED THREE YEAR TRANSFERABLE WARRANTY**

Radial Engineering - a division of JP Cabletek Electronics Ltd. 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 Engineering will repair or replace at its option any defective component(s) of this product, excluding the finish, the bottom foam pad and wear and tear from 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 Engineering 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 Engineering or to an authorized repair centre 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 repair centre.

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 ENGINEERING 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.

**ProAV2 Stereo Direct Box Users Guide**



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Radial ProAV2 users guide V1.0 - Part #: R870 1145 00  
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www.radialeng.com

## CONGRATULATIONS

on your purchase of the Radial ProAV2. Radial products are easy to use and this short manual contains all the information you need to start using your ProAV2 right away. For more information on the ProAV2, and other Radial products, visit our website, [www.radialeng.com](http://www.radialeng.com).

## OVERVIEW

The Radial ProAV2 is a two channel (stereo) passive direct box. This innovative DI features a 'Swiss army knife' compliment of connectivity options making it the perfect DI for professional AV integrators and rental companies that regularly deal with a variety of system interface problems.

The Radial ProAV2 is equipped with standard 1/4" instrument inputs for each channel making it easy to connect a stereo instrument or two mono ones. Stereo RCA and 3.5mm jacks make it easy to connect -10dB audio devices like MP3 and CD players to a microphone snake and console preamp.

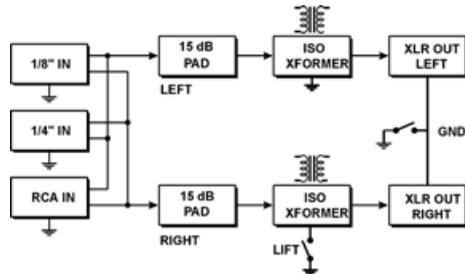
At the heart of the ProAV2 are two Radial transformers that perform level and impedance conversion while isolating noise caused by ground loops. Radial transformers are manufactured for optimum signal transfer and minimal insertion loss, and are exceptional for their low distortion, flat frequency response and ability to handle high input levels. The transformer is shielded in a mu-metal can for protection against noise caused by electromagnetic fields. It's heavy-duty, two piece steel enclosure is well suited for years of touring and rental use. The ProAV2 is completely passive and does not require any power whatsoever to make it work. Enjoy!

## CONNECTING THE ProAV2

Before connecting the ProAV2 make sure the sound system is turned off and all levels are set to zero. This will avoid any pops in the sound system that could damage loudspeakers. Also confirm that the GROUND, PAD and LIFT buttons are in their "out" positions. Phantom power will not damage the ProAV2 if applied.

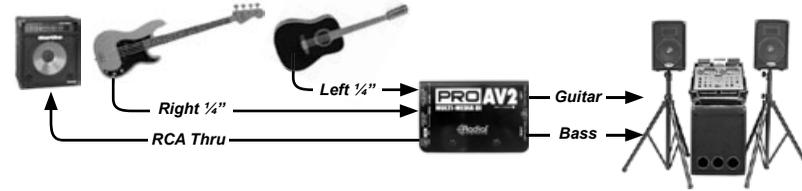
## ProAV2 BLOCK DIAGRAM

Follow the block diagram from the inputs on the left to the output on the right. A really cool feature shown in the diagram is all the hi-Z input jacks are paralleled together in stereo. This makes any hi-Z jack a handy patch point. For example, a CD player can be connected to the RCA jacks and the signal thru-put by the 1/4" jacks to a sub-mixers line input. The 3.5mm jack could also be used to send the CD signal to a computer sound card.



## 1/4" JACKS - INSTRUMENTS

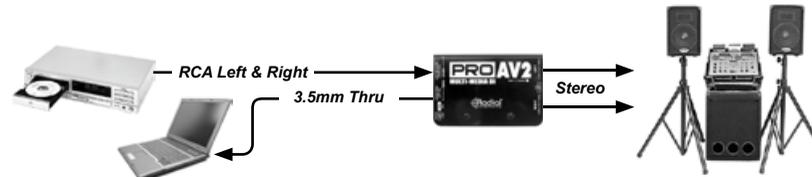
Guitar, bass and the output of effect pedals may be connected directly to the 1/4" input jacks. The signal may be thru-put to the players on-stage amplifier by using the same channel RCA jack and adaptor.



When connecting stereo instruments, like synthesizers and drum machines, the two 1/4" jacks are used for the left and right channels. The stereo signal may be accessed at the RCA or 3.5mm jacks and passed to sub-mixers, computer sound cards or on-stage amplifiers.

## RCA & 3.5mm JACKS

Consumer electronics with an unbalanced -10dB output, like CD and MP3 players, may connect directly to the ProAV2 without cumbersome adaptors through the 3.5mm and RCA inputs. The unbalanced inputs are paralleled together so any unused jacks may be used to thru-put the signal to another device like a sub-mixer or recorder.



## -15dB PAD

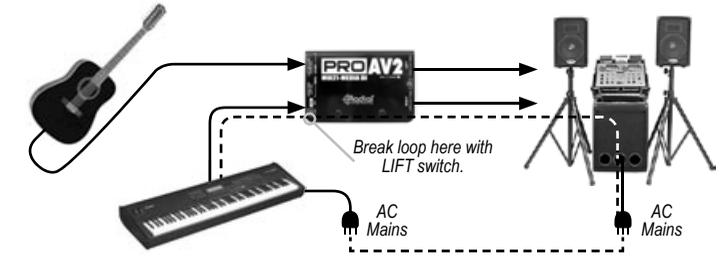
The ProAV2 is equipped with a -15dB input PAD to prevent overload distortion when interfacing high output devices like CD players. The PAD reduces the input to the left and right transformers and will not effect the level at the paralleled jacks.

## TRANSFORMER ISOLATION

The Radial transformers convert the hi-Z input signals to a low-Z, mic-level signal. A major benefit of using transformers for signal conversion is the isolation the transformer provides by preventing the flow of ground currents between the ProAV2s input and it's output. This transformer isolation effectively blocks hum and buzz caused by ground loops.

## LIFT (RIGHT CHANNEL ONLY)

If the ProAV2 is used as two mono DIs a situation can arise where one source device needs a ground path through the ProAV2 but the other source does not. This can occur when one source is AC powered and the other is not. To accommodate this the right channel is equipped with a separate ground lift switch labeled LIFT. Devices powered through the AC mains should be plugged into the right channel. When the LIFT switch is depressed the right channel ground is interrupted between the input and output while the left channel maintains a ground path through the ProAV2.



The right channel LIFT feature can be used on devices that plug into AC mains power to reduce hum and buzz caused by ground loops. The dashed line shows the ground loop formed between the AC mains and the signal cable ground.

## GROUND

To make grounding as flexible as possible, the ProAV2 features a GROUND switch and all connectors are isolated from the chassis to help eliminate noise caused by ground loops. When the GROUND switch is in its "in" position, pin-1 on the XLR is disconnected, interrupting the ground on both channels between the input and output. Interrupting the ground can help in some situations to reduce noise caused by ground loops.

## XLR OUTPUT

Each ProAV2 channel outputs a balanced, 600 Ohm, mic-level signal that is compatible with microphone snakes and mixing console preamps. The output can drive long cables without appreciably noise or signal loss.

## OPTIONAL J-RAK

The optional J-RAK is a high density 2RU rack shelf for Radial DI's and splitters that allows up to 8 Radial devices to mount in one neat 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.



## OPTIONAL 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

