

JDX[™] DIRECT-DRIVE[™]

User Guide



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ATTENTION



The JDX Direct-Drive™ must be powered with an isolated power supply (either a separate power supply or a multi-out power supply with each output being isolated.)

If an un-isolated power supply is used to power the Direct-Drive in conjunction with another device that is also using the same un-isolated power supply the Direct-Drive will shut down as a safety feature to prevent damage to the unit. Switching to an isolated supply will correct the problem.

Should the unit shut down, simply un-plug it from the un-isolated power supply and plug it into an isolated one as described above and the unit will power up.

JDX Direct-Drive™ Amp Simulator and Direct Box

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Thank you for choosing the Radial™ JDX Direct-Drive™. We believe this to be one of the most effective and convincing tools for guitarists that play on the stage or in the studio, and want to do so without the use of a guitar amp.

The Direct-Drive was designed to be intuitive and easy to use. But as with all products, taking a few minutes to read the manual will ensure a better understanding and increase your enjoyment.

If after you have done your homework, you find yourself asking about something that may not be covered, please visit the FAQ page on the web site. This is where we post questions from users and important updates. If after that you still do not find the answer you are looking for, feel free to send us a note at info@radialeng.com and we will do our very best to respond in short order.

Now get ready to blast away as if standing in front of a wall of amps... without any amp at all!

OVERVIEW

The JDX Direct-Drive™ is a unique device that emulates the sound of a guitar amplifier while doubling up as a direct box. In other words, with the Direct-Drive on a pedalboard, you can do a gig without carrying an amp to the club or record silently using all your favorite pedals. The design begins with a ¼" guitar input and passive thru-put to feed a stage amp plus a dedicated tuner output. The signal then passes through a series of filters to create Radial's signature JDX™ tone. This is modelled after the sound of a Shure SM57™ in front of a Marshall™ 4x12 cabinet. This is augmented with two amp settings that add the character of a Marshall JCM™ head or Fender Twin™ combo to the mix. These can be further tailored using a presence switch to add extra sparkle. The amp tone signal exits the Direct-Drive via either a ¼" guitar level output or via a balanced XLR to feed the PA. The Direct-Drive may be powered using a dedicated standard 9V power brick or an isolated power supply.



COMBO
'Fender Twin'



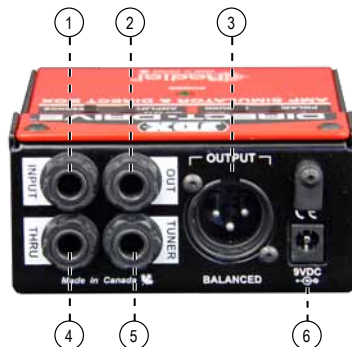
STACK
'Marshall JCM'



JDX 4x12
'Cabinet with SM57'

FEATURES

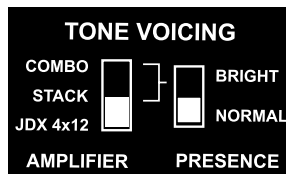
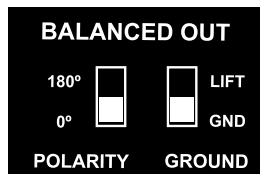
1. **INPUT:** ¼" input for the guitar or bass.
2. **OUT:** ¼" 'amp tone' output used to feed a processor or second amp.
3. **XLR OUTPUT:** Balanced mic level output used to feed the PA system or recorder.
4. **THRU:** Used to feed the on-stage amplifier.
5. **TUNER:** Hi-Z always-on output used to connect an electronic tuner.
6. **9VDC:** Standard Boss-style power supply connection.
7. **POLARITY:** Toggles pin-2 and pin-3 on the XLR out to phase-align your amp with the stage monitors.
8. **GROUND:** Lifts pin-1 on the balanced XLR output to help reduce hum and buzz caused by ground loops.
9. **AMPLIFIER:** Selects between COMBO, STACK and JDX for distinctive amp tones.
10. **PRESENCE:** 2-position switch with bypass and on for extra sparkle on the STACK & COMBO settings.
11. **POWER:** LED lets you know the Direct-Drive is ready and on.



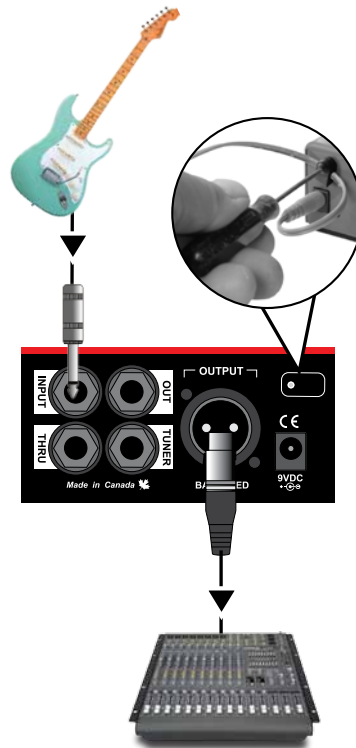
MAKING CONNECTIONS

Before making connections, it is good practice to turn your PA or recording system down as this will prevent connection and power-up transients from damaging more sensitive components such as tweeters. Plug a 9V power supply into the Direct-Drive. You can use any standard Boss-style PSU directly into the Direct-Drive or an isolated power supply to power; the power supply is not included. Once plugged in, the LED will illuminate to let you know power is being received. A cable clamp is available should you wish to lock in the power connection. Simply loosen the screw, pass the power adaptor cable through the hole and re-tighten.

Set the four top-mounted switches to the off or bottom 'start' position. To test, connect your guitar directly to the Direct-Drive input and the XLR output to your PA or recording system. Begin playing as you slowly increase the level on your audio system. Try the VOICING switch by changing the amplifier tones.



WARNING: If using a multi-pedal power supply, you must ensure the DC outputs are isolated. If not properly isolated, the power supply can damage the JDX Direct-Drive. Please consult the power supply manufacturer to ensure the outputs are isolated before connecting.



STONE VOICING

1. Bottom: JDX

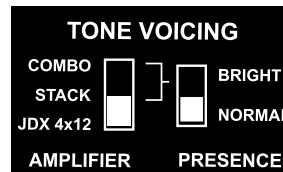
This emulates the sound of a 4x12 cabinet with a mic. It tends to have a fair bit of mid-range and works very well to cut through the mix.

2. Middle: STACK

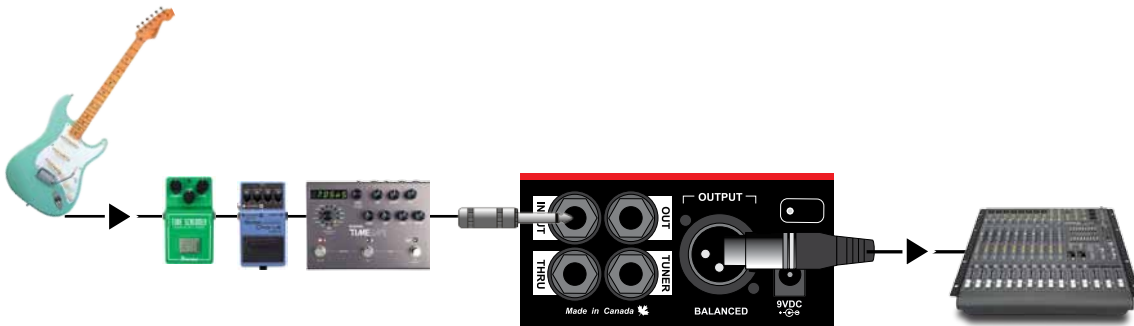
This will bring out a ton of bottom end to produce a big fat tone. Try adding a bit of top-end using the bright switch. This works like a presence switch on an amp.

3. Top: COMBO

This creates a brighter more open tone. It sounds great on cleaner signals using a delay and chorus. If you want more upper shimmer, try using the bright switch.



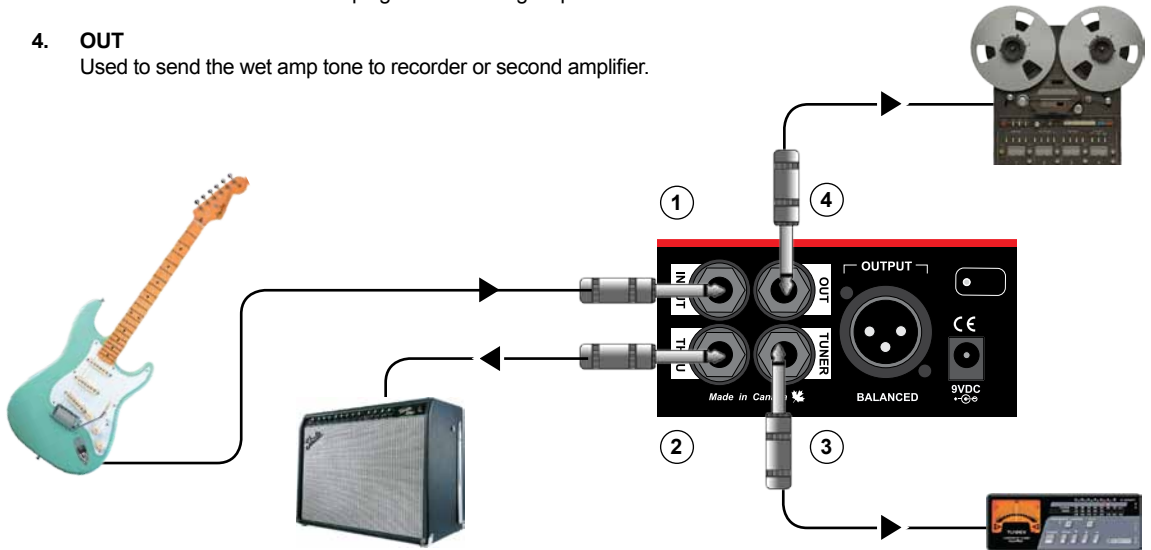
You are now ready to add your guitar pedals. For fun, plug your guitar into your overdrive, chorus and delay. Now go back and retest the amp settings using distortion and effects. This is where the Direct-Drive truly comes to life!



REAR PANEL ¼" CONNECTIONS

There are four ¼" connectors on the rear panel along with the balanced XLR out:

1. **INPUT**
Used to connect your guitar or signal chain from effect pedals.
2. **THRU**
Bypasses all amp simulation and sends an untouched signal to your stage amp.
3. **TUNER**
Used to connect a tuner – keeping it out of the signal path.
4. **OUT**
Used to send the wet amp tone to recorder or second amplifier.



REAR PANEL BALANCED OUTPUT

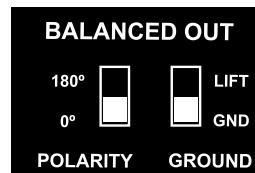
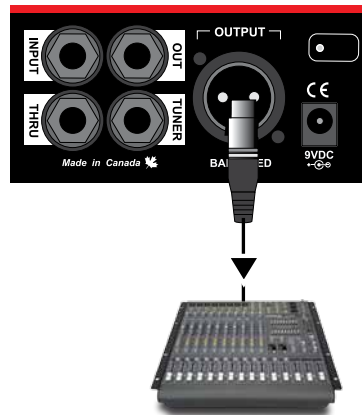
This active output is used to feed a PA or recording system. This follows the AES standard with pin-1 ground, pin-2 (+) and pin-3 (-). It is a mic level output and thus should be connected to a standard mic input on a mixer or studio preamp. The XLR out has two top panel functions:

Polarity Reverse

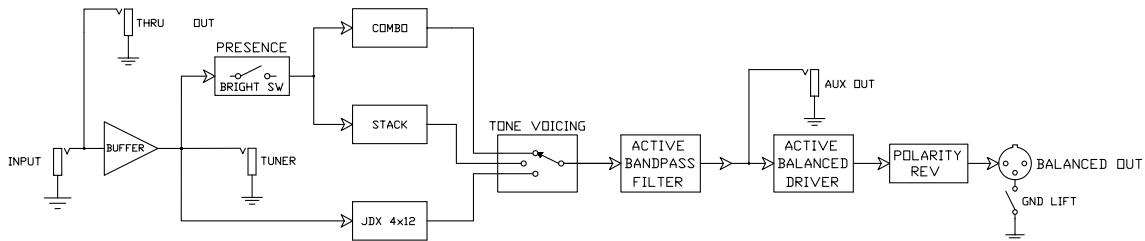
This toggles pins-2 and 3 at the XLR output and is primarily used as a creative tool to phase correct the direct output so that it better aligns with a microphone in front of an amp. This of course assumes you are using the 'thru' out to feed a stage amp and will be combining the two channels. It can also be used if interfacing your Direct-Drive with an older vintage preamp that may not follow the AES standard.

Ground lift

This disconnects pin-1 on the XLR to help reduce hum and buzz caused by ground loops. Hum often finds its way into audio systems due to voltage discrepancies within the power system. Lifting the ground disconnects the audio ground in between the Direct-Drive and the PA or recording system which can often alleviate noise. If you hear buzz, try pushing the switch upwards.



BLOCK DIAGRAM*



* Subject to change without notice.

SPECIFICATIONS*

Audio circuit type:	Class-A BiFET input buffer with electronic frequency shaping circuitry
Frequency response:	Shaped to specific curves (amp emulation with bright switch)
Total Harmonic Distortion: (THD+N).....	0.01%
Dynamic range:	83dB to 100dB
Input impedance:	220K
Maximum input:	> +5dBu
Maximum gain - input to XLR output:	0dB
Minimum gain - input to 1/4" output:	-5.8dB
Clip level - XLR output:	> +5dBu
Output impedance - XLR output:	600 Ohms
Output impedance - 1/4" output:	100 Ohms
Noise floor:	-78dBu
Power:	9V / 40mA (center pin negative)
Construction:	Steel Enclosure
Size: (LxWxD).....	4.75" x 3.625" x 2"
Weight:	1.40 lbs (0.64kg)
Warranty:	Radial 3-year, transferable

* 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 a 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.

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