



REVIEW

BY FERNANDO CURIEL

This company's products solve problems you didn't even know existed! Radial Engineering realized that mic placement is so critical to a guitar players' sound, that miniscule variations can radically alter the tone. Since surrounding the perimeter with crime-scene tape would not work with audio engineers, roadies, or recording musicians, Radial put on their thinking caps and came up with the JDX.

Unlike a regular DI where the sound is captured straight out of the guitar, the JDX allows you to intercept the signal from the amp's speaker output to provide a line-level signal, with a "reactive" hardware speaker cabinet emulation. You can then send the signal back to the speakers using a speaker cable from the "To Speaker" jack on the JDX, which, to avoid confusion, has a drawing of a speaker to steer clear of the wrong connections as this could result in damaged gear.

Radial Engineering JDX and Phazer

Two unique tools to capture amazing guitar tone

The magic happens when you take a separate signal through the JDX's internal hardware cabinet emulation using the Mic Level/XLR out to your console or audio interface. It is able to get a reading of the speakers' electro-magnetic back impulse in conjunction with the amp's output to influence the response of the cabinet emulation. This is an advantage that software cabinet emulation has yet to experiment with. The "reactive" feature is unique and effective.

Don't let the term "Reactive Amp Emulation" confuse you; it doesn't emulate an amp, just a speaker cabinet. And, like I mentioned, it's "reactive" because it does it based on the way that the speakers respond to the wide-bandwidth signal that speakers receive from amps to cause the speakers to push air. But what cabinet did Radial base this design on? What speakers, impedance and type of enclosure can I expect to have at my disposal with the JDX? Since they would only include one cabinet out of all the existing varieties, they decided to model the best of a closed-back 4x12 and an open 2x12 cabinet.

It's important to understand that this is not a load box, not a power-soak device—think of it as a bridge between the amp's Speaker Outs and the cabinet's input, but with an additional mic output with a signal unaffected by mic positioning and room ambiance. This is a dream for a live-sound situation as the bleed from a real mic can cause a mix to sound uncontrolled and muddy.



Taking into account that the user might still like to use a mic in front of the cab, and considering that blending the two could introduce new phase alignment issues, Radial encourages users to try their Phazer Class-A Phase Adjustment Tool. Why are there phase issues? Well, the mic's signal would arrive slightly after the one from the JDX, due to the distance from the source, and—to a smaller degree—due to the length of the cable. The time delay will cause the two signals to be out of phase, which can spoil your tone.

The JDX incorporates a 180° polarity inversion button, but it's more than likely that the signals will not be perfectly aligned just from that inversion. Therefore, the gradual adjustment from 0° all the way to 180° that the Phazer offers is very helpful and, in some cases, a lifesaver. All you do is place the Phazer box between the mic and its mic pre, and by simply turning the knob you can precisely adjust the phase alignment, which is pretty much obvious to the ear as you adjust it. It'll sound 'just right' when you dial it in. (Note that this works for any multiple-signal scenario, not just for guitar amps! The Phazer's a very handy tool to have if you want the clearest signal between mics picking up the same source.)

I was able to try these boxes out with a few different rigs, including the various amps mentioned in my article on page 24, using the ever-popular Shure SM57. I was impressed with the

results, but more so in live situations and with certain mic/amp/cabinet combinations. The JDX is only able to offer one miked cabinet emulation, and an undefined hybrid at that, vs. the dozens of emulations available in software... but it's far more reliable and portable than dragging your DAW to a show. So you have to listen and become familiar with its signature sound, which I feel tends a bit more towards a 4x12 than a 2x12. It's very natural sounding, and it blended very well with a nice bright vintage Sound City 50 Plus amp with an SM57.

In the well-established tradition of Radial, both the JDX and Phazer are very solid and carefully designed products, and proved to be a useful solution to a problem that I didn't quite realize I had. The JDX is not really a replacement for miking, it's more of a complement to help keep a consistently clean and workable signal. I highly recommend it if you find that you'd like some consistency and added control of your sound, as it eliminates the tonal variables of mic placement and room acoustics picked up by the mic. And if you do want to mike your amp as well, the Phazer is a transparent and easy-to-use way to make your phase issues simply disappear.

Prices: JDX, \$220; Phazer, \$350

More from: Radial Engineering, www.radialeng.com.