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# REVIEW

BY PAUL VNUK JR.

Last year (October 2011) we introduced to you Radial Engineering's foray into the world of the API 500-Series format, including Radial's own 8-space 500 series rack dubbed the Workhorse. More than just another 500-Series module rack, the Workhorse also contains an 8-channel summing mixer with Jensen-transformer outputs, and the ability to feed modules in series, one into the next, to create your own channel strips.

The Workhorse module system also features an extra rear-panel jack on each module known as an Omniport that allows for expanded module-specific features. Radial supplemented the Workhorse with a full line of Omniport-enabled modules, four of which we examined in our October 2011 issue and two more in December 2011.



## Radial Engineering

With this issue's focus on guitar recording we will be taking a look at five new Radial boxes that are guitar-centric. Three of them are part of Radial's 500-Series offerings, while the other two are traditional stand-alone Radial units. (For all units under review, you may correctly assume that each box is built to Radial's high standards inside and out, indestructible build, enamel baked finish and all.)

First up in our Radial roundup is a trio of boxes whose sole purpose is the reamping of guitar signals. If you're asking, "What is reamping?", check out my tutorial article on page 46, and watch our instructional video at [www.recordingmag.com/videos/videoDetail/17.html](http://www.recordingmag.com/videos/videoDetail/17.html).

### ProRMP

The ProRMP is Radial's most affordable, simplest, and easiest-to-use reampler. It is a small-form DI-sized box (the PRO Series standard size) measuring 3.3" x 5.0" x 2" and weighing in at 1.55 lbs. Its sky blue body has a balanced female XLR input with a ground-lift switch on one side and an unbalanced hi-Z 1/4" output on the other, as well as a simple, slightly recessed output-level attenuator that can be accessed with a small flathead screwdriver or, as Radial suggests, a guitar pick.

The ProRMP internally makes use of a custom-isolated, low-distortion transformer of Radial's own design. And, seriously,

## Solutions For Guitarists:

### REAMP JCR and ProRMP Passive Reampers and X-AMP, JDX, and Tank Driver 500-Series Modules

that's all there is to the ProRMP. It does just what it says, does it well, and does it without complicated extras or setup hassles. For more features and a boost in transformer quality, we'll move on to Radial's next offering...

### Reamp JCR

The Reamp JCR is a special box—in fact it is a rebirth of the box that started it all!

Back in 1994, John Cuniberti was one of the first people to develop a commercial reamplification box, and he went on to trademark the name. These were the small red rectangular boxes called "The REAMP" that you probably saw advertised in the back of music-technology magazines such as ours over the past decade or so. In 2007 Mr. Cuniberti perfected his design in a V2 model that made use of a new custom transformer, ferrite filtering and other enhancements.

In 2010 Radial acquired designs and intellectual property from Cuniberti, and the Radial Reamp JCR was born. JCR stands for John Cuniberti Reamp. The JCR keeps the original transformer and internal circuit design, adds new features, and houses

them inside one of Radial's standard 3.3" x 5.0" x 2" 1.32lb, 14-gauge steel chassis.

Just as with the ProRMP, the input side of the JCR starts with a balanced female XLR input and a ground switch, this time fully recessed. It also adds a recessed 180-degree phase switch.

Around back are the 1/4" Hi-Z output, as well as an output attenuation pot (no guitar pick necessary on this one). Also found here are some of the JCR's new and added features such as a second parallel input, this time in the form of a balanced 1/4" TRS jack that will accept either Hi-Z or Low-Z signals. This is handy, as many entry-level DAW interfaces make use of 1/4" line-level outputs rather than the more costly XLR versions.

Then there is an output-mute button, and a 3-position filter switch that gives you a choice of a 3 dB down @ 1 kHz Hi-Cut or a 3 dB down @ 180 Hz Low-Cut. More than just cutting brightness or low rumble, I found this similar to the sound of switching between bridge- or neck-position pickups. It's not exactly the same, but close enough for some post-recording tone shaping. With these added features and the good reliable



Reamp sound, the Reamp JCR offers a nice bang for the buck, both sonically and functionally.

For our last reamp device we move into the 500-Series format and the redesign of an established Radial classic...

### X-AMP 500

Darwin Grosse gave us our first look at the X-AMP in its original standalone version back in our August 2004 issue. He was impressed and felt that, just like the above units, it was simple to use and, better still, sounded like the "real thing".

The X-AMP is and was Radial's best known and most popular reamplification device. The biggest difference between it and the other boxes mentioned so far is that it is an active device and capable of driving a pair of amps at one time. The standalone version contains an output attenuator, phase switch, and external power supply (required since it is an active device where phantom power is not an option).

In its new 500-Series format, power is supplied by the rack enclosure, and internally the X-AMP uses 100% discrete active buffering along with transformer isolation to eliminate ground loops. Other than its new yellow color scheme the X-AMP 500 is functionally similar to its stand-alone sibling, but with some nice logical enhancements.

On its faceplate are two output channels (fed by a mono source), each with its own independent output control, on-switch complete with green LED indicator, and ground lift. Channel Two also contains a 180-degree phase (polarity) switch.

The 500-series X-AMP also includes an additional feature accessed through its Omniport when used in one of Radial's Workhorse boxes. In this instance the Omniport becomes a simple guitar-level  $\frac{1}{4}$ " input and allows the X-AMP 500 to function as a simple ABY guitar splitter/distribution box, allowing the guitarist to audition and play a pair of amps at once. Please note that this is not a DI/instrument input for recording at the same time.

I have my Workhorse connected to my studio's patchbay, so running a signal out of my DAW into the X-AMP was even easier than using breakout cables with the other boxes, and being able to mike up and run two amps at once and spread them wide in the room for natural stereo imaging was very cool indeed.

### Reamp conclusions

I evaluated all three reamplification boxes mentioned above, as well as a fourth model reviewed on page 50 of this issue, on a pair of tube-based amps—Marshall JCM 900 half stack and 10" Mesa Boogie Express—and a pair of solid-state amplifiers—Roland JC-120 and a Carvin 2x12 combo. In each instance I matched the output signals to guitar level and recorded them back into my DAW with a Shure SM57 through a Chandler Little Devil mic pre (also reviewed in this issue—see page 34).

Each pass was level-matched within 0.2 dB and while it would satisfy some gossip-hungry urge to tell you that the differences were huge, for the most part I really could not tell that much of a difference. That's a good thing for a reamplification box in most cases, because you should be hearing the guitar and the amp, not the device connecting them.

I can mention that the JCR had the most headroom and the ProRMP had the least, but other than that, they all worked fantastically well and sounded like the real thing being played live, so the choice will most likely come down to price point, format, features and your specific needs.

Our last two Radial pieces in this issue's guitar-tools roundup are both 500-Series modules. First we'll take a few steps away from reamping towards amp reproduction and guitar tracking...

### JDX 500

The JDX Reactor Speaker Simulator is another Radial device that has existed for a few years in standalone form and has been adapted to the 500-Series format. Reviewer Fernando Curiel took our first look at the original JDX back in our November 2009 issue.

The JDX is an interesting box as it is equal parts straight-up guitar DI as well as a speaker simulator, or both at the same time. The JDX in its simplest mode is a device that offers a quick, clean DI to capture your guitar's direct signal into your DAW, but in reality that's more of a bonus feature, considering what the JDX really does.

In a world where amplifier plug-ins and simulators are becoming all the rage, the JDX takes part of this idea—speaker emulation—but allows you to capture the tone and nuance of your guitar amp in the process. It does so by living between your amp head and your speaker cabinet.

With that come two caveats: For one, this is not a type of power soak device (for playing loud amps at reasonable volumes), and number two, you *must* have a speaker plugged in while running it, as the JDX uses the actual speaker's reactions in its calculations for increased realism.



The front of the 500-series version starts with the original's design and has the switchable  $\frac{1}{4}$ " input. (The rear-panel 500-Series enclosure input lets you feed other modules into the JDX to take advantage of its filtering and cabinet emulation.) Below the input is the  $\frac{1}{4}$ " output to the speaker.

The rear output goes into your DAW. Additionally you can record the speaker's output with a mic so you can mix, match and blend the two. To aid in dealing with phase-related issues in such cases, there is a 180-degree polarity inversion button; the unit also has a ground lift button. This is essentially where the original design ended.

The 500-Series JDX has additional features. The first is that the input is switchable between direct guitar or amp input. The second is a matching button marked 300w that lowers the gain to compensate for high-output amps. Both controls have LED indicators.

The remaining controls are all for the purpose of tone shaping and include a lowpass filter, variable from 800 Hz to 5 Hz, as well as my personal favorite—a low-frequency extension switch made to simulate the characteristics of a 15" bass cabinet. Even on a guitar signal it adds a tangible low rumble that feels like

the cabinet is right at your feet, especially if you are running a subwoofer with your monitor system.

The JDX Omniport feature takes the low-volume input of the direct signal and turns it into a balanced low-Z output that can be connected to an external mic pre or mixer, effectively turning the JDX into a true and traditional DI.

The big question is how does it sound? Is it believable? And my answer is yes and no. As Fernando mentioned in his review, the JDX only simulates one speaker cabinet—a virtual blending of a closed-back 4x12 and an open-back 2x12. So the characteristics are always the same. When miking an amp, you get the choice and tones of different mics, distances and more, whereas with the JDX you are getting a tighter in-your-face dry sound.

Where I find the JDX rules is when it is blended with a mic signal, especially with the low-frequency extension kicked in, as it fills out and fattens the tone of the miked amp in a very solid and thick way. It really is positively huge!

Saving my favorite for last we move on to our final Radial device for this issue...

## Tank Driver

The 500-series Tank Driver module is a brand new device in the Radial universe and is one of those "I never knew I wanted this" devices that this company excels in. The Tank Driver, as its name so wittily implies, is a spring reverb interface device—it literally drives the tank.

It is made so you can interface it with the spring reverb of your favorite amplifier, or you can simply purchase a dedicated third-party reverb tank and use that. In fact, for a while Radial was selling the Tank Driver in a package with a Ruby Tubes reverb tank, which is what I was sent for review.

The Tank Driver interfaces with your reverb tank of choice through a pair of front-mounted 1/4" jacks labeled Send and Return. The source you wish to verb-out comes through the 500-Series enclosure's rear-panel ins and outs, and the Omniport on this module serves as an additional TRS-style insert that is switchable in and out from the front panel.

The front-panel controls are labeled Blend, Boom, Shimmer and Drive, and that pretty much sums up their functions! The Blend knob controls the wet/dry balance of your mix. The Drive button adds another 10 dB of signal to the module's output for reverbs with lower sensitivity. Boom is, as you would guess, an eq of sorts that brings out more low frequencies in the reverb's sound, while Shimmer does the same to the highs.

How does it sound? Well, I pretty much gave it away when I mentioned that this was my favorite. More specifically, not only of all the products in this issue's

roundup, but of all nine Radial 500-Series modules I've reviewed so far. I may need a support group to curb my current addiction of liberally applying spring reverb to my mixes on vocals, snare drum, synths, guitar (of course), and more. Seriously, the band whose album I am currently mixing had to stage an intervention, as I was adding it to every song!

Now having said that, I do have one gripe. I realize that in the studio world 1/4" connections are much more common and of much higher quality and reliability than the older RCA phono plugs found on reverb tanks, and that is most likely why Radial chose them for the Tank Driver's input and output. But as I said, phono plugs are found on pretty much every reverb tank made, so in this case I think that it might have made more sense to use actual RCA jacks on the front panel rather than having to monkey with adaptors or custom cables. If Radial feels the quality and reliability of 1/4" trumps the convenience, I'll have to give them that, but it's still an annoyance to me.

While on that subject, do not use the cheap phono cables like the ones that come free with every TV and stereo. I did and found them very subject to static, noise and interference. I got my best and completely quiet results with shielded digital-rated cables with gold-plated connectors. Plan on investing not only in the Tank Driver module and in a reverb tank if you don't have one, but also in a dedicated pair of high-quality interface cables.

Other than that little nigggle, this thing is a blast, or would that be a thwank or a strumthumblewoosh? At this price it's a steal, with or without the reverb tank thrown in!

## Conclusions

Radial has yet to disappoint with its wide variety of offerings at all price points. If you're just getting started in serious guitar recording and want to get into the many great sounds reamplification makes possible, or if you have a serious investment in 500-Series signal processors and were wondering if there was a way to optimize your rack for cool guitar tricks, you'll find one or more products in this lineup that will make you smile. ☺

**Prices (street):** ProRMP, \$99; Reamp JCR, \$199; X-AMP, \$249; JDX 500, \$299; Tank Driver, \$249

**More from:** Radial Engineering,  
[www.radialeng.com](http://www.radialeng.com)

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