



Radial Engineering *Workhorse*

Appetizer: The Workhorse is a more sophisticated, more capable, and more costly re-thinking of what a 500-series rack frame should be. Rather than simply holding modules, the Workhorse puts increased emphasis on I/O and patching, additional module control, and internal mixing/monitoring.

Main Course: As expected, the Workhorse is compatible with 500-series modules that conform to the VPR Alliance guidelines, and holds up to eight single-space modules. Four of the single slots can also accommodate two dual-slot modules. Although you'll need Radial's modules to take advantage

of all of the Workhorse's extra capabilities, the spec is open and already, other manufacturers are designing modules that work in standard frames but also work in an "enhanced" mode with the Workhorse.

For example, although there's rear panel I/O (standard XLR, paralleled TRS 1/4", and D-Sub), Radial modules bus to the internal 8x2 mixer for adjusting level, muting, and panning, as well as driving two sets of headphones through a macho headphone amp (the outputs are isolated with Jensen transformers—cool). There's also switching to send one module's output directly to the next module's input, so you can create a series "channel strip" without patch cords; the standard API link function is also available for stereo modules. Furthermore, it's possible to cascade Workhorses for up to 32 channels.

There's a workaround with non-Radial modules for using the monitoring options: Use a TASCAM/Pro Tools D-Sub cable to connect the Workhorse's D-Sub direct outs (which parallel the module outs) to the D-Sub Summing Mixer inputs. This input also lets you access the mixer for "out of the box" analog summing. A third D-Sub connector provides paralleled access to the module inputs.

Rear panel I/O for each module includes a unique Radial feature, the "Omniport," which provides access to a particular module function such as a key input, split output, insert (e.g., delay feedback loop for adding filtering)—or whatever the designers decide to stick in there.

Dessert: The Workhorse is clearly designed as a premium way to hold 500-series modules, with performance, construction,

component quality, design, and price to match. It's built like a tank (all-steel construction), with a hefty 1.6 Amp global power supply (100-240V). This reserves 400mA for the mixer/monitor, with the remaining 1.2A available for the various modules—that's an average of 150mA per module, although modules can draw more than that as long as the total doesn't exceed 1.2A. Note there's no on-off switch.

There are less expensive, yet still effective, ways to get into 500-series modules; but if you want to take the 500-series experience beyond just putting modules in a frame and patching them into your system as needed, there's currently nothing like the Workhorse.

The Check: \$1,500; also available without the mixer (but it's retrofittable) for \$800

Reservations: www.radialeng.com



Radial X-Amp, EXTC, and JDX

Appetizer: Let's go to a lunch place that does a smorgasbord, and check out three items of particular interest to guitar players.

Main Course: The JDX DI box offers two functions. One is a more traditional DI, which also includes 4 x 12 cabinet emulation. The idea here is you can plug

into your pedalboard, plug the JDX into your recorder of choice, and get a realistic guitar + cab sound. The second option inserts the JDX between your amp and speaker, where it captures the sound they produce (and it really does; note the JDX is not a load box, but must be used with a "real" amp and speaker in this mode). Additional tone shaping, a ground lift, and phase invert button round out the feature set. However, the input impedance is 10k, so Radial assumes you'll

have something between the guitar and JDX (e.g., some kind of stompbox or buffer) to prevent loading passive pickups.

The EXTC is for using guitar-level boxes in a studio context. It takes a line-level balanced in, converts it to guitar-level unbalanced with transformer isolation, takes the output from the guitar effects, then re-converts that back to line-level balanced out. Regarding extras, there's a blend control so you can combine the dry and processed sound, and a phase reverse switch (guitar effects sometimes flip phase, which matters in a blend situation). When used with the Workhorse, the Omniport becomes a second, TRS send/receive loop for studio effects, and patches after the guitar effects loop.

Finally, the X-Amp is designed for re-amping. It takes a line-level in from a recorder, splits it into two

paths, buffers each one, then sends each split through an isolation transformer to two outs suitable for driving amps. It's simple enough, but the transformers and additional ground lift switches for the amps minimize a lot of potential hum and buzz problems. Furthermore, the Workhorse Omniport jack provides a true DI input for guitar with a 220k input impedance.

Dessert: These three modules show that the 500-series concept doesn't have to be general processors like EQs and compressors, but specialty devices designed for a wide range of tasks. Without expensive cases, connectors, and power supplies, a company can produce relatively small quantities of modules and still come out ahead—which means we come out ahead, too.

The Check: JDX \$350, EXTC \$300, X-Amp \$300

Reservations: www.radialeng.com



Radial PowerPre

Appetizer: Yes, it's a mic pre; but the PowerPre has some interesting extras in addition to offering value.

Main Course: The circuitry is all-discrete, with a Hammond transformer-coupled output—a plus for those who like some iron in the signal path. Two ergonomically-cool convenience features include a front-panel

XLR jack, and recessed +48V switch that's almost impossible to turn on accidentally. There's a -15dB pad, polarity flip switch, and 150Hz high-pass filter that's down -3dB at 100Hz.

One of the most useful features is the three-position "Vox" switch, although it's for more than just voice. The Linear switch position is flat, Breath gives a slight high-frequency lift starting around 2-3kHz, and the Punch setting gives a bit of a low-end boost around 90Hz. This imparts more depth to voice, but also try it with open-back guitar cabs to hype the otherwise attenuated low end. These are subtle differences (it sounds like essentially passive circuitry at work), but they're effective nonetheless.

The metering is above-average—a 10-segment meter instead of just a few LEDs. And if you use the PowerPre with their Workhorse frame, you get some extras: You can tack on another +15dB of gain for 70dB total, and

the Omniport provides a direct input for guitar, bass, etc. The input impedance for the DI is 150k, which will produce slight, audible dulling with some pickups (I'd rather see 220k or higher); but one welcome DI aspect is you can use the 15dB pad with it, so if you want to plug in a high output unbalanced signal (e.g., synthesizer) you're covered. However, the DI feature is more of an extra—Radial's JDV Pre is dedicated to comprehensive DI functionality.

Dessert: The PowerPre is a fine example of a well-designed, low-noise mic preamp that can give a bit of "meat" or "air" to a signal, thanks to the transformer output and voicing EQ. As a preamp that's capable of character as well as fidelity, it might well be your preamp of choice when you're looking to flatter a signal source rather than just reproduce it.

The Check: \$600

Reservations: www.radialeng.com