

Atlas Pro Audio

Juggernaut 500-series mic preamp

In my personal studio, I rely heavily on outboard preamps: Brent Averill-racked vintage Neve 1272; BA-racked vintage API 312 (in 500-series form), two with original AP2622 input transformers and six with Reichenbachs; three contemporary BAE 312A (*Tape Op* #45) with Jensen transformers and Avedis 1122 op-amps; two Purple Audio Biz (#55); Great River MP-2NV (#28); and Hamptone Silverbox 4 (#55). I also reviewed (and had a hard time giving back) a Little Labs Lmnopre (#62); A-Designs Audio P-1, EM-Silver, EM-Red, and EM-Blue (#55); and Seventh Circle Audio A12, C84, J99, and N72 (#54). You may recall that I called the rack of SCA modules my desert-island preamps, but admittedly, that's a cheating statement given that the rack held different preamps, not just a single preamp design.

As I've mentioned in previous reviews, I believe that choosing the right preamp is as important as selecting the appropriate mic. When it comes time to mix, modifying or removing the sonic character imparted by the preamp on the recorded signal is much harder to do than tweaking the tone of the mic. In my mind, it's akin to trying to change the effect of mic position after the recording has been made. But given the nature of multitrack recording, your mics (or even a single mic if that's all you've got) are typically positioned differently for different sources, so come mix time, if you were smart about your mic choices and placement, you won't find yourself fighting the hazy or muddy outcome of adding together a mass of similarly mic'ed material. Based on these arguments, you might conclude a neutral preamp would be the best choice for multitrack recording, allowing you to effect the tone of each track with other gear (or software) without having to remove any of the preamp's artifacts. That's one approach. But some of us prefer mic preamps that give us character, whether it's a "bigger than life" picture or some otherwise favorable distortion. The danger to this second approach is again what happens when you add up a bunch of tracks that exhibit the same personality—you'll need to be diligent about carving out enough room to prevent an overabundance of that personality. That's why an assortment of preamps for tracking can be key. But what if there were a preamp that could offer you a range of character by itself, giving you control over the type and amount of personality? Wouldn't that be a panacea? Well, if that's what you desire, the *Juggernaut* might be your remedy.

The *Juggernaut* is the result of a collaboration between Atlas Pro Audio's Nathan Eldred and Buzz Audio's Tim Farrant. It's an all-discrete, fully Class A preamp with multiple personality disorder—in a good way. The front panel of this 500-series module is heavily populated with controls, more so than other preamps of this form-factor, but the layout is intuitive and easy to use. The gain pot adjusts the overall gain in conjunction with a *boost* switch, offering a total range of 6 dB to 70 dB of gain, without the typical use of a pad. (An input pad would be detrimental to the sound as the signal level could fall outside of the input transformer's optimal range.) A button labeled *+THD* attenuates the output by 10 dB, thereby allowing you to turn up the gain and overdrive the output transformer into saturation. Two buttons let you choose between iron or nickel-core input transformers. And there are of course the expected polarity-reverse and phantom-power switches, as well as a useful LED clip light. Switching is handled with digital logic, and all the buttons have LEDs to indicate state; pressing any button that would otherwise send a "pop" down the line (or powering up the unit) enables the mute button for an appropriate length of

time. Very slick. Just below the button-field is a *mic load* knob that, via the secondary of the input transformer, varies the input impedance by an atypically prodigious range of 300–10k Ohms—enough so that the tone of all of the mics I tried (including condensers) was greatly affected. Both it and the gain control are detented for repeatability. And finally, there's an instrument-level DI input with the Atlas Pro Audio graphic tastefully incorporated around the 1/4" jack. The *Juggernaut* ships with an iron-core output transformer installed, which you can replace with an optional nickel-core transformer, included at no cost as of this writing. (A transformer swap is easy—only two screws and a plug-in cable assembly—but be careful as all the fasteners are Pozidriv, not Phillips. Wikipedia it if you don't know what that means. Me being a geek, I prefer Pozidriv. The build-quality of the *Juggernaut*, by the way, is second-to-none.)

Let's start by describing the DI function. In the signal path, the DI comes after the input transformer (and therefore after the iron/nickel input selectors) and mic-load pot. You can, however, utilize the *+THD* control as well as swap out the output transformer if desired. For bass guitar, I preferred the iron output, and holy cow, I was able to get some incredibly clear but wonderfully growly sounds with the *Juggernaut*. Both clear *and* growly—at the same time? Yup, not only could I tweak the gain and *+THD* controls to vary how much growl jumped out, but even as the gutsiness and girth increased, the image remained incredibly clear—not at all fuzzy or hazy. Amazing. For a couple of acoustic guitar tracks, the nickel output was softer, but it too had amazing clarity; with a piezoelectric pickup system feeding the DI input, I was able to bring out the lower-mids without adding mud. By the way, if you utilize a separate transformer-based DI box and run that into the mic input of the *Juggernaut*, the palette of available sounds is multiplied as the mic load and input transformer controls come online.

For most mic'ed sources, I preferred the iron output, but when leaning toward a more neutral tone, the nickel output had less color. It's not necessarily "cleaner"—because the *Juggernaut* is unique in that even when driven to the dirty side, it still has plenty of clarity and focus, even in the airiest of highs with the input impedance turned up to a class-leading 10k Ohms—but the nickel output imparted a character that's less "in your face" and more "in your ear". It also seemed to add less of a "bite" when driven into saturation. Yeah, I know, a lot of non-technical jibberish, but it really is hard to describe in words! Too bad there isn't enough room in the 500-series form to allow both output transformers (they're big) to live inside for instant switching capability (but the forthcoming two-channel 19" rackmount version will).

What about the other controls for mic'ing? On a recent tracking session with the band 27 (www.27.vg), I had plenty of time to get all geeky with the *Juggernaut*. On kick drum, utilizing many different mics ranging from an Earthworks TC30K to a Neumann TLM 49 to the dual elements of an Audio-Technica ATM250DE, the *Juggernaut*, with its iron-core input transformer enabled, exhibited less upper-low-end oomph than the BAE 312A (my go-to preamp for kick and snare), but it had similar clarity (much more than an API 312); and when switched to the nickel-core input transformer, some very deep sub-lows that had previously gone unnoticed became readily apparent. Hitting the preamp harder after engaging the *+THD* switch, I heard less of the drum body resonance and the overall tone wasn't as deep, but there was much more immediacy in the attack of the drum as the transient of each hit saturated the iron-core output transformer. On snare drum, using an Earthworks SR69 just over the edge of the top head and a

TC30K against the shell, the *Juggernaut* was more dynamic than the BAE—more headroom to work with and less compressed sounding. Zooming in on the waveform display in my DAW, I could see less compression in the *Juggernaut's* track as well as more offset (less symmetry) in the attacks, a testament to the near-DC low-end capabilities of both the TC30K and the *Juggernaut*. Unsurprisingly, when I did a quick comparison against my Neve 1272 and MP-2NV preamps, the transient response of the *Juggernaut* was much faster. But with the *Juggernaut*, I was able to dirty up the transients—without losing any impact—and even make things sound darker too. Overdriving with *+THD* added spit/crunch to the side mic and bite to the top mic (but again, at the expense of body resonance). On floor tom with Oktava MC 012 and Sennheiser E 604 mics, the *Juggernaut* wasn't as deep as the BAE, but that alleviated the MC 012's tendency to get too boomy when close-mic'ing. With *+THD* enabled, I was able to turn up the strike of the drum as needed, and decreasing the input impedance allowed me to tune either mic for less high-frequency thwack on the attack.

On electric and acoustic guitar, I tried the *Juggernaut* with various dynamics, condensers, and ribbons while recording 27, Leona Naess (www.leonanaess.com), and Teenbeat artist Tracy Shedd (www.tracyshedd.com). Highlights? With Royer R-121 and SE Electronics R-1 ribbons, I loved being able to bring the low-mids forward by engaging the nickel-core input transformer and add creaminess at will with *+THD* enabled—handy while mic'ing an Ampeg GT-10 that would have otherwise sounded a bit too tubby in the mix. On one track, I chose a Beyerdynamic M 160 ribbon to soften the sound of my Carr Viceroy amp (*Tape Op* #65), and turning down the *Juggernaut's* input impedance really brought out a lushness that helped the guitar part sit back in the mix without it being too quiet. On acoustic guitar, using an R-121 and a Mercenary Audio KM-69, a bit of mic load was all I needed to remove some iciness in the picking. Also, compared to the Purple Audio Biz preamp, which is one of my favorites for mic'ing midrange-heavy instruments like electric guitars, the *Juggernaut* had more focus, especially in the lower-mids.

Juggernaut on vocals? Speaking of focus—wow! Nickel input, nickel output, and a medium-diaphragm Shure KSM32—and everything was in focus. For Leona's vocal, I wanted to accentuate the whispery quality of her soft voice, so I chose a Gefell UM 92.1S tube condenser, selected the *Juggernaut's* nickel input, switched back to the iron-core output transformer, and dialed in just enough mic load to control sibilance while still retaining the intimacy in her live, semi-acoustic performance. Interestingly, when it came time to mix, I kept having to turn down Leona's vocal track because her *Juggernaut*-recorded vocal cut through the mix a little too well.

Mixing in general is when I appreciate the *Juggernaut* most. So far, everything I've tracked through it has been easy to place in the mix, and because of both its all-around clarity and its many personalities, I'm neither fighting to make anything bigger sounding nor sweating what would be a muddy mess if everything had been tracked through preamps with too much of the same character. Not to mention, the *Juggernaut* is now my favorite make-up preamp for my Zertronics CoolSprings reverbs (*Tape Op* #55, #62) due to how much I can adjust the reverb tone. Desert-island preamp? Well, as I mentioned earlier, choosing a rack full of SCA preamps was a cheat. If I had to choose just one preamp, it'd be no contest—*Juggernaut*. Or if I can cheat just a little, Atlas Pro Audio's *Revolver* two-slot rack (which I'll cover in a future issue) loaded with a pair of *Juggernauts*. (\$895 street; www.atlasproaudio.com) —AH