

## **NAT Signature Phono battery-powered phono preamplifier**

From Serbia comes the NAT Signature Phono, an ambitious, battery-powered, tube-based phono preamplifier (\$7400), part of the company's extensive line of tube electronics. The zero-feedback design uses passive RIAA equalization, runs in pure class-A, and doesn't invert phase. It uses six military-grade 66N23P-EV dual-triode tubes (compatible with E88CC, 6DJ8, and 6922 tubes) for 40 dB of gain (MM-compatible), with 20 dB more available via a pair of Jensen transformers, for total gain of 60 dB (MC-compatible).

On the rear panel, two banks each often DIP switches offer a multitude of choices for resistive and capacitive loading, though these mostly affect the high-level moving-magnet input, for which a loading of 47k ohms is usually (but not always) specified. The transformer-coupled moving-coil input offers four settings: 470, 80, 40 and 30 ohms. Two DIP switches are for adjusting MM capacitance.

Much of the Signature Phono's heft is due to its battery, which supplies anode voltage, to both channels, but the rigid chassis and overall high build quality also contribute to its total weight of 62 lbs. While the two toggle switches on the front felt less than luxurious, the rear panel has chassis-mounted, gold-plated, Teflon-insulated RCA inputs and outputs.

Battery charging begins with plug-in, and the Signature is ready for operation about 45seconds after turn-on. While the instruction don't explain how the Signature switches to AC when the battery-charge light never lit during use. Input selection is via one of the toggle switches on the front panel, in combination with one on the rear that toggles between the two sets of RCA inputs.

Most of the performance specs NAT claims for the Signature Phono are impressive: a frequency response of 5Hz-100kHz, greater than -90Db noise (A-weighted), a claimed RIAA accuracy of  $\pm 0.2\text{Db}$  (+0Db/-0.4Db), and THD less than 0.1%. NAT says the Signature takes 200 hours to break in, so I kept it around for many months; it sounded pretty good right out of the box, but I wanted to see if this product from a company totally new to me would prove reliable.

My biggest complaint about the NAT was the inconvenience of those tiny, recessed DIP switches on the back. The Signature is heavy, and getting back there was a pain-but once the DIPs were set correctly, I was done. If you have MM and MC cartridges, thought, and you use both inputs, you will never be done.

My next complaint had to do with grounding. With the NAT, I had more trouble eliminating ground hum than with any other phono preamp I've used. Ground loops and hums are system-dependent and often mysterious in origin, and I did manage to eliminate them, but it's something to keep in mind.

Anyone who spends \$7400 on phono preamp will use it with a good MC cartridge, and that's the only kind I used for the review: the Lyra Titan and the Air Tight PC-1. So let's go to the sound.

The Signature Phono's designer suggests loading MC cartridges with less than 40 ohms, while NAT's importer, Zed Husain of Musical Sounds, runs it "wide open" at 47k ohms, which is where I started. Out of the box, the NAT produced deeper, tighter, rhythmically nimbler bass than the Manley Steelhead's. It was dynamically superior as well, by a considerable margin. It also delivered greater transparency, and more air and extension, but at an unacceptable price: while not "peaky" bright, the NAT sounded spotlighted and icy, though not objectionably grainy. So while its sound was exciting, it was also fatiguing, a wide "ledge" of brightness forcing me to turn down the volume below where I would have preferred—and that was with both the Lyra Titan and the somewhat more polite Air Tight PC-1.

I remained patient as I waited out the 200-hour break-in period, hoping the NAT's top end would calm down. It did, but not enough for my taste and system—but that was running the preamp wide open at 47k ohms. Adjusting the DIP switches required disconnecting everything and pulling the Signature Phono off the shelf—not fun—but once I'd set the loading to 30 ohms, the listening was fun. Gone was that brightness in the upper octaves, replaced by everything most listeners would want from a phono preamp: top-quality rhythmic agility; taut, believable pacing; a rich midrange; and the kind of crystalline clarity and transient speed on top I expect from the best solid-state phono preamps, but free of etch and grain. The bass remained tight, deep, and nimble. The NAT was quiet, ultradynamic, exciting to listen to over the long run, and it let me see way into the musical picture. I found it harmonically well structured as well—as you'd hope to hear from tubes, but without sounding too lush or ripe.

The NAT presented images in bold relief, but with believable edge definition on a big, spacious soundstage that made me want to stick my head in it and get lost. It was equally effective with all genres of music, producing velvet where velvet was required, sandpaper when that was appropriate.

Even so, some may find the NAT still too juiced-up. Going back to the Manley Steelhead resulted in a relaxing kind of relief and a sound difficult to fault. Then again, everything now seemed trimmed back a few notches, presented in diminished relief compared with what's delivered by this big surprise from Serbia.

The NAT Signature Phono is definitely worth a listen. As I finished up this review, Musical Sounds announced a running change that includes replacing the Signature's Wima metalized-film coupling capacitors with audio-ophile-grade Mundorf film and foil caps. I'll let you know how the revised version sounds.