

# Mama Mia! DUNCAN | TURNER MAMA BEAR ACOUSTIC GUITAR PREAMP BY DANNY MILES

**T**HE DUNCAN | Turner Acoustic Research Mama Bear may have a down-home name, but this digital acoustic guitar preamp is one high-tech piece of hardware. With 24-bit analog to digital conversion, 32-bit internal processing and technology called AGE (Acoustic Guitar Emulation), Mama Bear's mission is to transform an acoustic guitar pickup's tone into something more closely resembling the natural ambient sound of an unamplified instrument. Mama can also morph your axe's amplified tone to make it sound like an entirely different type of guitar.

How does it do all this? With complex algorithms, which imbue the sound with many of the spatial and resonant characteristics that acoustic guitar pickups are unable to reproduce on their own. Reverb and EQ aren't part of this deal; Mama Bear's processing emulates the sonic properties and behavior of real instruments.

## Setting Up

Mama Bear has a front-panel 1/4-inch instrument input for your guitar and two rear-panel outputs (1/4-inch unbalanced and XLR balanced) for making connections to acoustic guitar amps, PA systems and mixing consoles.

If our tests are any indication, the input (-10dB nominal level) is designed for relatively high-output guitars; we had to push the output gain on our guitar and crank Mama Bear's input gain knob to get a reasonable signal. An LED indicates overload, though a more comprehensive input meter wouldn't have been a bad idea. An analog low-cut switch at the input lets you quell excessive low-end resonance, which can be a problem in certain situations.

Other controls include an output level knob, bypass, mute and a switch that reverses the phase to eliminate feedback and restore some fat to a thin pickup sound. But the most important controls are the knobs that affect Mama Bear's AGE processing: Input Source, Target Instrument and Blend.



The Input Source control appraises Mama Bear of the kind of pickup your guitar uses, thereby creating a baseline from which the preamp can process your sound. There are settings for a number of ceramic piezo, coax film, flat film and magnetic pickups (these are characterized by type, not by any particular brand or model), plus Neutral, which offers no compensation. Interestingly, there are a couple of settings designed to work with piezo-equipped electric guitars. This is a trial-and-error control, and we found that different positions—even those where the “pickup” didn't match the type on our guitar—worked equally well.

The Target Instrument control allows you to choose which instrument's acoustical qualities you want Mama Bear to generate from your guitar's signal. The 16 options include guitars of various sizes and shapes, including mahogany and rosewood orchestra and dreadnought models, small-bodied parlor guitars, jumbos, a grand auditorium, archtop and “Gypsy” jazz guitars and even a couple of resonators.

The Blend control mixes these digitally rendered sounds with the unaffected output of your guitar's pickup. Turn blend all the way to “wet” and you'll hear only the sound of the guitar created by Mama Bear's algorithm; turn it to dry and all you get is the output of your guitar's pickup. In our tests, the best sounds came with Blend at 50-85% wet.

## In Use

I tested Mama Bear twice: once fed into a pair of powered speakers, and then routed to a digital recorder. In the speaker (live) situation, the amplified sound blended nicely with the guitar's own natural ambience. Here, the best sound was obtained with the target set to something similar to my actual guitar (in this case, a dreadnought). What I heard from the speakers closely approximated what the guitar itself put out: lots of resonance,

a thumping bass and sharp, cutting highs. When I bypassed the effect, the pickup sounded nasal, unnatural.

In the recording situation, I was able to get a clearer picture of how Mama Bear might sound from a distance (i.e., where the guitar's natural acoustic tone doesn't come into play). In this case, wider transformations worked really well. Mama Bear's literal imitation of specific guitars is less relevant than its ability to provide a range of pickup-generated tones that sound natural and acoustic.

## The Bottom Line

Mama Bear is intriguing. While simple to use, it can vastly improve the tone of a basic acoustic guitar pickup and open up tonal possibilities that are unattainable with a conventional guitar/preamp combination. It's worth a serious audition. ■

**D-TAR MAMA BEAR ACOUSTIC PREAMP (\$499)**  
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