

Guitar Player, December 1990 issue: Showdown At The 4x10 Corral, by Dan Forte.

THD

The first thing one notices about the THD Tweed Series 4-10 is that it's built painstakingly durable. But anything built differently will affect the sound, right? "Yes, but only if you don't know what you're doing," says THD president Andy Marshall (yes, it's his real name, and no, he's not related to Jim Marshall". Did he then compensate for that? "Of course. One part that we had to be careful with was the thickness and flexibility of the baffle. We use 7-ply 1/4"-thick birch, which exactly mimics the flexibility and resonance of the 1/4" pine that was used in the original Bassman, but is much more resistant to tearing and breaking. We made a prototype using 3/4" plywood for the baffle, but it ended up sounding like a Super Reverb. It was a great sound, but it didn't sound like a tweed Bassman."

Besides featuring the footswitchable effects loop, the THD, which lists at \$1899.00, employs a lot of precision parts. Silver solder is used throughout; there is built-in spike protection; tubes are shock-mounted and have heat-sinking shields; and screen resistors are matched to within one-tenth of 1% for lower noise. Also, a mode switch chooses between two taps on the amp's output transformer. As the owner's manual states, "Many tube amplifiers are equipped with an impedance switch which gets treated as if there was a right and wrong position and is not to be experimented with. At THD, we are not giving you a right or wrong position for the mode switch. As a matter of fact, we are not even telling you what the two positions' impedances are. We want you to select whichever position generates the sound you prefer." (For the test, the mode switch was pointed towards the front of the amp, which achieved a fuller sound-and was suggested in the manual's two recommended tone settings.)

The THD comes with either Vintage or Longhorn speakers-or a combination-designed to the company's specifications. The test model contained four Vintage 10s. The main complaint regarding the THD was that it didn't have much bottom end and was very dry, almost "hi-fi" sounding. "I assume that none of the others were provided with Groove Tubes," Marshall says. "Part of what you are describing is matched output tubes. Unmatched output tubes have a tendency to sound sloppy by comparison."

The louder the THD was cranked, the shriller and thinner it got-even using the owner's manual's recommended "blues-rock" setting with the volume on 12, treble on 1, bass on 8 or 9, and middle and presence on 12. "When I play live or in the studio," Andy explains, "I use a 4-10 loaded with half Vintage and half Longhorn speakers. It's all a matter of personal taste, of course. The Longhorn speakers have a 1 1/2" voice coil, as opposed to the Vintage's 1", more like what a Super Reverb had. They're a little warmer-sounding and have more bottom end. By mixing the speakers, you get the best of both worlds, but it's not exactly an original Bassman sound. What we did with the Vintage speaker was to duplicate the sound of the original Alnico Jensen, complete with its clear high end and presence. Also, the amp takes EL34's very nicely. With EL34's and all Longhorn speakers, it sounds very much like the old Marshall JTM45 2-12 combo,

especially with the spare 7025 [included inside the cabinet] in the first preamp position.”

Why, then, didn't the “Vintage” speakers sound as warm as the speakers in the actual vintage Fender amp used in the comparison? “Age,” according to Marshall. “The magnet structure. We use a ceramic magnet, not an Alnico, which, under most circumstances, would make our speaker warmer. But we play some tricks to make it sound a little harder, like an Alnico tends to be. But you're talking about magnets that have been flopping around the world for 30 years, as opposed to magnets that have been flopping around the world for about 13 weeks. It doesn't sound like an *old* Bassman; it sounds more like an old Bassman did when it was new. I wouldn't say that the mix [of Vintage and Longhorn] sounds identical to an old beat-up set of speakers, but it is closer in that direction because you will have a bit more warmth. A brand-new Alnico10” Jensen is rather hard-sounding.”

At the same volume settings, even with all amps on 12, the THD was softer than the rest, because, in Marshall's words, “Kendrick and Fender use a somewhat higher B+ [positive anode] voltage than I do. When I sent out my first round of prototypes, the comment I got most often was, ‘Can you make it less loud?’ That's partly why we went to the Chinese-made, old-style 6L6. The Fender is shipped with the Sylvania-style 6L6's, and if you put those in the THD you get about 15 more watts.

“And the Fender is tighter,” he continues, “partly because of its solid-state rectifier. While we do offer this as an option, any technician can bypass the Reactive Rectifier and install a solid-state rectifier, should the customer desire. The other half of the punchiness is the tubes. With 6L6GC or EL34 output tubes—we always recommend Groove Tubes—the amplifier is much louder, tighter, and punchier, though not as vintage-sounding. Put the spare 7025 in the first stage, which Fender uses, and it's much louder. It gives roughly 12dB more gain.”

The Reactive Rectifier in the THD was modeled in-house. “We tested a lot of 5U4's in circuit,” Andy details, “and graphed exactly what they were doing to the amplifier's power. A rectifier tube is inefficient, and it gets hot. The harder you play, the more current you draw through the tube, and the hotter it gets. The energy that's turned into heat would otherwise have been used as output power. We precisely duplicated the tube's resistance, inductance, and capacitance. Our Reactive Rectifier creates the exact same ‘voltage sag’ that the 5U4 tube rectifier does, but it will never burn out.”