

Manley Laboratories 250 Neo-Classic monoblock power amplifier

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22 September 2002

Paul Bolin | Sep 22, 2002

There's something special about big tube amplifiers. No other audio component has such a primal appeal or can so quickly reduce grown (?) audiophiles to Homer Simpsons sighing, "Mmmmm...toooobs." EveAnna Manley, president of Manley Laboratories, understands the effect of high-powered tubes on the audiophile brain and shares the obsession. A Harley rider, mountain climber, and devoted music lover, she is one of the industry's most individualistic characters. You just have to appreciate a gal who ends each CES by blaring Rage Against the Machine at top volume.



Manley also knows sound, and spends much of her professional life catering to an even pickier crowd than us hi-fi hounds: Manley Labs is a major presence in the pro audio and recording markets. The Manley Labs VoxBox microphone preamp and vocal processor, Slam limiter and mike preamp, and Massive Passive stereo EQ are but a few of the highly regarded Manley professional products found in top studios around the world. Not surprisingly, tubes are a central part of each of them.

While Manley Labs could happily perk along solely as a premier pro-audio company, EveAnna Manley wants equally great sound at home, and since she's the boss, there is also a complete line of Manley Labs audio gear. From the highly practical Shrimp preamp and Stingray integrated all the way up to the mighty Steelhead phono stage and the 250 Neo-Classic, there's a Manley component for almost every system and budget. And every one is tubed.

Nuts and Bolts, Tubes and Transformers

The 250 Neo-Classic is a stem-to-stern update and revision of the Reference 250 amplifier, reviewed in *Stereophile* in May 1996 (Vol.19 No.5). Its circuitry is as straightforward and rugged as a V-twin motorcycle engine, devoid of anything extraneous: the input stage is a paralleled dual-triode 12AT7WA from EI in Yugoslavia. The 12AT7WA is coupled to the driver/phase-splitter stage by a polypropylene rolled film-and-foil capacitor. There, two dual-triode 6414s (or 12BH7As, if available) are set up in a long-tailed splitter configuration—but the 250 parallels the tube stages, which, according to Manley, "yields more gain by doubling the transconductance of the tube, [resulting] in higher headroom with lower noise."

The signal's positive and negative phases then head for the output stage, where 10 Sovtek EL34G/Electro-Harmonix EL34EH tubes provide the electromotive force (footnote 1). The output tubes are biased to 27mA at idle, and bias adjustments for each tube are accessed behind the amp's nameplate, which has a diagram and adjustment instructions etched on its back side. Global negative feedback is limited to a modest 12dB.

While Manley will happily talk about the circuitry of the 250, she uncharacteristically clams up when it comes to the specially designed output transformer. Unlike most amp builders, Manley Labs manufactures all of its transformers in-house, at its Manley Magnetics division. The 250's output transformer embodies, on a much larger scale, advances in transformer design made while developing the Stingray integrated amp. Manley asserts that it is this transformer that is largely responsible for the amp's sound, and is the primary contributor to the 250's bass performance.

A particularly cool feature of the Neo-Classic is its ability to operate in both triode and tetrode modes. In tetrode mode, the 250 delivers 250W into a 5 ohm load and, with the flick of a front-panel switch, 100W of triode power are available (footnote 2). In tetrode mode, the screen grids of the output tubes are attached to the center tap of the output transformer's primary windings. Switching to triode mode hooks up the screen grids to the anodes, electrically rendering the EL34 a three-element tube.

The power supply is proportionately beefy, uses high-speed solid-state rectifiers, and provides 320 joules of power storage for the amp's B+ voltage rail. The 250's thirst for electricity mandates a two-stage soft startup: the mains switch puts the amp into Standby/Ever Warm. At this point, the primaries see only half of the full-power-on voltages; throwing the Operate switch brings the amp up to its full operating voltages. Flick off the Input Mute switch and you're ready to go. The handily slanted back panel provides a stout set of WBT speaker posts, access to fuses, and a switch to select between the single-ended and transformer-coupled balanced inputs.

System Specifics

I listened to the Manley 250 Neo-Classics on and off for several months to acclimate myself to their character within the context of my system, then settled down to the serious business of review listening. The 250s sat atop shot-loaded Grand Prix Audio Monaco amplifier stands and were hooked up with Wireworld Gold Eclipse 3+ interconnects and biwire speaker cables. For triode-mode listening I also used my efficient, sweet-tempered Silverline Sonatas as an alternate reference to my usual Apogee Duetta Signatures. As the 250s particularly liked the CPCC Top Gun and Wireworld Silver Electra 3+ power cords, I used them for all evaluative listening.

Footnote 1: Manley Labs uses only tubes that are readily available in large quantities to ensure that their amps will remain in service for years, with no need to search for esoteric tube types.—**Paul Bolin**

Footnote 2: Switching between tetrode and triode must be done while the amplifiers are *completely* powered down.—**Paul Bolin**

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Like most tube amplifiers, the Neo-Classics didn't need a lengthy break-in period—a couple of weekends' listening and they'd settled down nicely. If there were any significant sonic changes after that point, they were too subtle for me to notice. I make a point of firing up tube amps at least an hour before doing any serious listening, the better to let everything thermally stabilize, and apart from one check of the output tubes' bias (footnote 3), that was all the attention the Manleys required. There was nothing intimidating about living with the 250s; if you can read the manual and use a screwdriver and a multi-meter, you're all set.

Tetrodes, Torque, and Traction

I began with the Manleys in tetrode mode. Unsurprisingly, they made a strong initial impression of relaxed but enormous strength. These amps took hold of a signal and controlled it effortlessly. My Apogee Duettas are quite power-hungry, but the 250s never seemed to be doing anything but loafing along, even at very high volumes. Take "Fracture," from King Crimson's *Starless and Bible Black* (LP, Editions EG EGKC7). Here, Crimson explores the gamut of dynamics, from quiet bits of skeletal solo guitar and electric violin to the terrifying roar of the tune's recapitulation. When the band slams in out of nowhere at apocalyptic volume for the last statement of the theme, a listener should be startled. I've heard this piece hundreds of times, but the Manley-Apogee combination made me almost jump through the ceiling. To do this requires immense reserves of power, and that the Neo-Classics had. Oh brother, did they ever.

Power and control are fine, but even more important are fidelity to timbre and to the sound of the original recording acoustic. The 250 was slightly laid-back in its overall presentation. While revealing, it didn't throw the sonic failings of bad recordings directly into my face. The amp passed flawed recordings with a kind of good-natured resignation, as if to say it would appreciate something that could let it show off to the fullest.

The 250's bass immediately grabbed my attention. Manley's claims for the their output transformers were backed by the amp's performance. Just what proprietary magic is wrapped up in those transformers EveAnna Manley isn't telling, but the bass performance of the Neo-Classic was right at the state of the art for tube amplifiers, and mightily impressive for any amp (footnote 4). Kruder and Dorfmeister's "Jazz Master," from *The K&D Sessions* (CD, G-Stone K-7073CD), and "The Robots," from Kraftwerk's *The Mix* (CD, Elektra 60869-2), have *monstrous* deep bass; the 250s shook the walls of my listening room with ease.

The 250 wasn't just about bass power; it could boogie, too. The Manley hit me with its rhythm stick in a big way on Talking Heads' *Remain in Light* (LP, Sire SRK 6095), throwing down the bass-heavy funk of "The Great Curve" and "Crosseyed and Painless." The machine-gun exchanges between Victor Wooten's bass and Future Man's electronic "drumitar" on Béla Fleck and the Flecktones' *Live Art* (CD, Warner Bros. 46247-2) never smeared or congealed, remaining calmly separated in space so I could groove on the amazing musicianship of both players.

The 250's performance with acoustic bass instruments was, if anything, even more impressive. The amp dug into upright bass, providing a tremendous sense of grip and control while letting the resonance of the instrument's big body bloom naturally into the room. The growling basses on "Journey to the Line," from *The Thin Red Line* soundtrack (CD, RCA 63382-2), had the necessary sense of oppressive weight and deep mournfulness the music demands.

A sexy, smoochy, harmonically rich midrange is to be expected from a great tube amp, and it was assuredly on display with the Neo-Classic. Carly Simon's "Last Night (When We Were Young)," from *Film Noir* (CD, Arista 18984-2), was so seductive and enticing through the Manleys that it would have taken a first-class heel to complain about anything. All I wanted to do was pour the lovely lady a drink and listen to her sing to me, oblivious to the rest of the world.

The 250s were just as fine with orchestral material. When I played excerpts from *Aida* and *Samson et Dalila* (LP, *Ballet from the Opera*, RCA Victor/Classic LSC-2400), the Manleys presented a big, open, well-defined acoustic, and clearly defined the various sections of the orchestra. The sounds of Zino Francescatti's solo violin and the orchestra's massed strings in Beethoven's Violin Concerto (LP, Columbia Masterworks MS 6263) were marvelous, and the 250 did a particularly fine job of handling the tonal subtleties of the woodwind parts. And all that power on tap allowed the concerto's noble themes to be stated with majestic weight and dynamics.

I occasionally found myself wishing for just a bit more spritziness in the top treble, but the 250's smooth, balanced upper octaves were so perfectly in tune with the rest of the amp's burnished but detailed sound that it would probably have been a bit distracting and out of character. Could there have been just a bit more sheen on massed violins? Yes, but the overall presentation of orchestral material was so continuous and convincing that, the longer I listened, the more pointlessly nit-picky such criticism seemed. Concert-hall sound is detailed and lively, not hi-fi bright. So was the Manley.

The Neo-Classic's transient response was as good as that of any transformer-coupled tube amplifier I've heard. The attacks of aggressively bowed violins and percussion instruments of all kinds were convincing and true in character. The leading edges of cymbal, triangle, and piano transients and the picked strings of acoustic guitars were well-defined, with just the right blend of immediacy and freedom from etch or exaggeration.

Footnote 3: Only two tubes in each amp needed minor tweaks to get their biases back squarely on spec, where they remained without further twiddling.—**Paul Bolin**

Footnote 4: The Lamm ML1 is the only other tube amp I know with similar bass quantity and quality. It can't be a coincidence that Vladimir Lamm is also notoriously closemouthed about his output transformers.—**Paul Bolin**

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Soundstaging was another of the Neo-Classics' strengths. The vast spaces created by Future Sound of London's Brian Dougans and Garry Cobain on the stunning *Papua New Guinea Translations* (UK CD, Jumpin' and Pumpin' CD TOT52) were deep, rich, and densely filled with sonic exotica. FSoL creates an alternate sonic universe, and the Manleys threw me straight onto the holodeck. *Papua New Guinea's* highly complex mixes have layer upon layer arranged in multiplicities of interlocking patterns. The Neo-Classics managed to effortlessly sort it all out, and brought out the organic, holistic nature of this ultrahip, postmodern trip through the cosmic tropics (or is it the tropical cosmos?).

The 250s were flat-out great at giving me not only the sound but the feel of all the music I played through them. King Crimson's *The ConstruKction of Light* (CD, Virgin 49261-2) is an assault—a jarringly industrial, dark, dense, and claustrophobic sonic world that is, if you can take it, compelling and exciting music. The Manleys made it as physically punishing as three rounds with Lennox Lewis, just as Crimson intended it to be, but never lost track of the musical content.

Nothing could be more different from *ConstruKction* than The Band's eponymous second album (CD, Capitol 25389-2-8). *The Band* is steeped in the feel of the post-Civil War era—homespun, rural, and earthy—and the plaintive harmonies, resonant guitars, and gloriously woody thud of Levon Helm's kick drum were simply sublime through the 250s. Through the 250s, Helm's keening vocal on "The Night They Drove Old Dixie Down" took me to a time and place far from my listening room in suburban Minneapolis in a display of pure musical alchemy.

Triodes, Tasty and Touchable

The ability to switch between tetrode and triode modes makes the 250 an audio neurotic's dream. While power output is reduced in triode mode, it has its own rewards. Not that 100Wpc of triode power is anything to sneeze at—that was enough to drive my Apogeos without clipping on anything but the largest-scaled music. In triode mode, the Manleys handled the 93dB/W Silverline Sonatas as effortlessly as tetrode mode dealt with the Apogeos. Which is to say that they could bounce the speakers around the room like racquetballs if I cared to listen at such crazy levels.

The 250's character was not all that different in triode and tetrode modes, but some of the differences were worth exploring. Triode mode gave a wonderfully intimate sound, more rich and luscious than tetrode mode, but exacted a slight tradeoff, with slightly reduced back-of-the-stage resolution. With big orchestral music, tetrode gave a slightly clearer look to the farthest reaches of the stage with the Apogeos and the Silverlines, but triode really shone with smaller ensembles.

Listening to Jesse Cook's *Free Fall* (CD, Narada 49290-0-8), bass definition and extension remained topnotch, and while a wee bit of tetrode's sense of space and air was sacrificed, there was no loss of focus to Cook's lightning-fast guitar work. Even the *rasgueado* flamenco technique, in which the fingers are flicked downward in rapid succession over the strings, was snappily defined. Cook's guitar was lively and present, imbued with a nicely resonant and woody quality. The Manley's way with acoustic guitars

was also to the fore on a superb LP by Anthony Phillips and Enrique Berro Garcia, *Antiques* (PVC 8968). In triode mode, the Manley showed that, far from being a mere muscle amp, it was capable of great delicacy and refinement.

Triode mode did not impair the amp's dynamic wallop. Dannie Richmond's drum solo on Charles Mingus' "Boogie Stop Shuffle" (LP, *Mingus Ah Um*, Columbia/Classic CS 8171) burst into the room through the Apogees, and Chris Maitland's forceful but subtle drumming on Porcupine Tree's live *Coma Divine* (UK CD, Delerium DELEC CD 067) lost none of its expressiveness. Big brass choruses, like that on the Barbirolli-Hallé performance of Sibelius' *Finlandia* (LP, EMI ASD 2272), were rich and round: trombones and horns had great body and weight. The music of Berlioz is about nothing if not orchestral sumptuousness, and the Manley-Silverline combination delivered in fine style. Hearing the *Roman Carnival Overture* (LP, EMI ASD 3080), I noted the capacious soundstage, the amps' accuracy in rendering the wide variety of orchestral colors, and the way the tambourine and cymbals made themselves clearly heard above the ensemble.

The reflective melancholy of Mingus' "Goodbye Pork Pie Hat" and the urban night song of the sax solo in "Open Letter to Duke" were simply beautiful things—music that penetrated to the core of meaning and feeling. The Manleys captured the highly personal expression and plain old *soul* that were the core of Mingus' music in either mode, but triode added an extra frisson of emotional connection. With big rock and orchestral recordings, there was a bit more transient snap and immediacy in tetrode, but with jazz, folk, and small ensembles recorded in less imposing spaces, the triode glow was the way to go.

Like a big ol' Harley-Davidson, only better...

The 250 Neo-Classic had that hard-to-define quality that is instantly apparent when heard: a fundamental fidelity to the music. Its character was a bit forgiving, particularly in triode mode, but it did justice to the timbral and spatial microdetails found on the best recordings. In tetrode mode, it should handily drive any speaker I've ever heard to Stupid-Approved loudness levels in anything short of an airplane hangar.

Like its ebullient author, the 250 Neo-Classic utterly lacked anything resembling pretentiousness. In a sense, the big Manley was anti-"hi-fi." Its sonic personality was honest to the core and completely unfussy, treating music as a thing to be loved and cherished, not as a collection of sounds to be picked apart and analyzed to death.

The Manley Laboratories 250 Neo-Classic is the Harley-Davidson of amps: big, whompingly powerful, with cool retro style to burn, and a burly, broad-shouldered presence that inspires great confidence. And no Manley owner will ever need to worry about oil drips.

Take a pair of 250s out for a spin. You'll definitely enjoy the ride.