

## Home Audio Equipment Review



September 2005

### Manley Laboratories Mahi Mono Amplifiers

by Vade Forrester

Any company that names its products after seafood gets my approval, especially if those products are as tasty as those from Manley Laboratories. Manley's Steelhead phono stage, Shrimp line stage, Snapper monoblock amps, and Stingray integrated amp are well-known, highly regarded products. The Mahi mono amplifiers are Manley's newest aquatic serving, and naturally they support the Manley mantra, "Tubes Rule!"

The Mahi monoblocks (\$2500 USD per pair) are six-sided units with narrow silver-gray faceplates bearing large, backlit Manley logos. When you place the amps side by side, the logos read "Mahi Mahi" -- yummy! The Mahis measure 10"W x 5"H x 11"D without the tubes installed and weigh 18 pounds each. To my demonstrably challenged sense of aesthetics, they are, well, *cute*. The input jacks (RCA only) and speaker binding posts (a single set of sturdy WBT five-way jobs) are all on the top of the amplifier, toward the back and behind the transformers. This arrangement makes it easy to attach interconnects and speaker cables.

Finished in an unobtrusive (or drab, depending on your viewpoint) black crackle-finish, the top of the Mahis



### Review Summary

**Sound** "Robust and dynamic"; "orchestral sonorities were rich and full, with realistic instrumental timbres." "Bass was taut and deep"; "highs were similarly excellent; not etched or peaky, just extended and detailed." "They just make listening to music *fun*."

**Features** "The Mahis use four EL84 pentode tubes to produce power outputs ranging from 14 to 41Wpc.... The different power outputs are determined by the settings of two switches toward the front of the amplifier": operating mode (triode and ultralinear) and feedback (3, 6 and 10dB).

**Use** The Mahis' "extremely high input sensitivities can make a preamp's volume control almost useless, with only a few degrees (or clicks) between a setting that is silent and a setting that is deafening." "The manual warns you not

is copiously and legibly labeled to show the function of each feature. Although Manley Labs offers a wide range of hi-fi gear, the company probably does even more business with its superb pro equipment. Manley's hi-fi gear reflects the company's pro-audio heritage; for example, tube biasing is made extremely easy by adding top-deck test points and silk-screening of the correct bias currents. It's not exactly pretty, but, boy, is it practical.

that is deafening. The manual warns you not to switch between ultralinear and triode without first switching off the power."

**Value** "The Mahis produce superb sound at a moderate price."

The Mahis use four EL84 pentode tubes to produce power outputs ranging from 14 to 41Wpc. However, unlike most tube amps, the Mahis are optimized for a single output impedance, 5 ohms. With speakers rated at 4 or 8 ohms, there will be some loss of power, but not much. The different power outputs are determined by the settings of two switches toward the front of the amplifier. The switch on the right lets you change between ultralinear and triode modes (the EL84 pentode is strapped to emulate a triode, said to be sweeter-sounding). Triode mode produces lower power outputs than ultralinear. The manual warns you not to switch between ultralinear and triode without first switching off the power. Of course, I managed to confuse the two switches once, and was rewarded with a loud "pop." The switch on the left lets you choose different global-feedback settings: 3dB (labeled MIN), 6dB (labeled STD), or 10dB (labeled MAX). It's OK to switch among the feedback settings while the amps are on. Between both switches, there are six possible settings, with different power outputs.

In order to compensate for the differences in power output among the six switch-setting combinations, Manley increases the Mahi's input sensitivity at the lower power settings. So when you switch from a setting with a low power output to a setting with a higher power output, the input sensitivity is reduced so a volume increase won't blow you away if you forget to throttle back the preamp's volume control.

The lowest power output (14 watts) is produced when the switches are set to triode mode and 3dB feedback; the input sensitivity is then an unusually high 175 millivolts. An even higher sensitivity is available in the ultralinear mode with minimum feedback: 155 millivolts. These extremely high input sensitivities can make a preamp's volume control almost useless, with only a few degrees (or clicks) between a setting that is silent and another that is deafening. It also demands a really low-noise source, because a preamp usually produces its worst signal-to-noise ratio near minimum volume-control settings. Even the lowest sensitivity, 566 millivolts in the ultralinear 10dB feedback setting, is quite high. I'm no engineer, but it seems to me these amps would really benefit from volume controls to assure compatibility



with most equipment.

Manley uses EL84s branded with their own label, but EL84s are currently manufactured by EI, JJ Tesla, Electro Harmonix, and Sovtek, so there should be no shortage of power tubes. The 12AT7 input tube is also in current production, and your local guitar store should be able to supply both this and the EL84 tubes. However, the 6414 driver tube is another story. As far as I can tell, it's not currently in production. But Manley Labs has a stockpile of NOS 6414s, so there's no need to worry about running short.

## Setup

When I picked up the Mahis' shipping boxes, I wondered if they were empty, as the amps are uncommonly light. When you open up the extremely well-designed shipping cartons, you'll see the best solution I've encountered for shipping tubes with an amplifier: a block of foam that fills the space in the shipping box, with holes cut out to keep the tubes firmly located in their sockets.

While I used my primary speakers, the 102dB-sensitive Second ReTHMs, for most of the review, I also wanted to hear how the Mahis would drive speakers of normal sensitivity. Local Usher dealer Blue Marble Audio graciously loaned me a pair of Usher X-708 speakers to use with the Mahis. These stand-mounted two-way speakers are rated at 88dB sensitivity, a pretty average value.

Although Manley includes nondescript power cords with the amps, the highly entertaining and informative manual comments that the company really expects that users will toss the stock cords and use expensive audiophile power cords. The Mahis Wattgate IEC inlets partially blocked the power switches, making it slightly tricky to turn off the amps. A little more spacing between the switch and IEC would be useful.

Even with the individual channel-gain controls of the deHavilland Mercury 2 preamp in their minimum gain positions (about 12dB), I experienced a slight but audible hum when I first connected the amps. Two other preamps yielded similar or worse results. Switching to another set of specially selected 12AT7 input tubes from Manley Labs improved but did not totally eliminate the noise problem.

When I tried driving the Mahis directly from the digital volume control in a Wadia 302 CD player, the Mahis' high input sensitivity prevented the 302 from operating above its recommended minimum volume setting. So I inserted Rothwell inline attenuators between the interconnect cables and the amplifier inputs, which reduced the gain by 10dB. These reduced the input sensitivity of the Mahis to a level that would work with the Wadia 302, and, to my delight, also reduced the noise level to acceptable levels with my preamp. The Rothwell attenuators are essentially one-setting volume controls; if they degrade the sound at all, it's exceedingly slight.

Four gunmetal-gray pillar-like legs, terminated on the bottom with spikes, support each Mahi amplifier. The spikes couple the amplifier firmly to the floor or shelf, and would probably work on very low-pile carpet as well, because the legs raise the amplifier above the underlying surface. The legs aren't long enough to work on thick carpet, which would

block air circulation through the perforated bottom of the amp. They were too short to work on my carpeted floors, so I placed a slab of particle board on the carpet and then placed the Mahis on top of it. If the Mahis were permanent residents in my system, I'd try them on spiked stands.

## A tale of two speakers

Through my ReTHM speakers, the Mahis sounded best in triode mode with 3dB feedback. The 14 watts output produced at that setting was more than sufficient to drive the sensitive ReTHMs. The Mahis' sound was so robust and dynamic that my wife and I embarked on a Mahler-symphony binge. Orchestral sonorities were rich and full, with realistic instrumental timbres.

Bass was taut and deep, possibly the best I've heard with ReTHM speakers. While I've heard deeper bass from a more powerful solid-state amp, it was not as tuneful and agile as that of the Mahi monoblocks. On "Way Down Deep" from Jennifer Warnes' *The Hunter* [Private Music 01005-82089-2], the drums indeed went way down deep, with excellent pitch definition. The bass drum on Jordi Savall and friends' "Folia: Rodrigo Martinez," from their CD *La Folia* [AliaVoxAV9805] extended *low*, with more detail than I've heard through most amplifiers. The pitch of the bass drum was quite accurate, and when the drummer performed a roll, each stroke was distinct.

### Associated Equipment

**Loudspeakers** – Second ReTHM. Usher X-708.

**Power amplifier** – Art Audio PX 25.

**Preamplifiers** – deHavilland Mercury 2, Rothwell inline attenuators.

**Digital** – Meridian 508.24 and Wadia 302 CD players.

**Analog** – Linn LP-12 turntable, Graham 2.2 tonearm, Dynavector DRT XV-1 cartridge, Dynavector P-75 phono stage.

**Tuner** – Denon TU-1500RD.

**Interconnects** – Crystal Cable CrystalConnect Piccolo, Purist Audio Design Venustas.

**Speaker cables** – Crystal Cable CrystalSpeak Micro, Purist Audio Design Venustas, Blue Marble Audio Blue Signal.

**Power cords** – Purist Audio Design Venustas, Silver Circle Audio.

Highs were similarly excellent; not etched or peaky, just extended and detailed. My favorite high-frequency test cut, "The Panther" from Jennifer Warnes' *The Well* [Cisco SCD 2034], sparkled with completely fleshed out overtones from the chimes and other percussion instruments.

Soundstaging was excellent for a push-pull amp, with each instrument clearly playing in its own space. It did not have the full measure of the palpable, "reach out and touch it" quality I find so captivating in single-ended triode amps, but it didn't lack much. On the title cut from the Tallis Scholars' *Allegrì Miserere* [Gimell 454 939-2], voices were precisely arrayed in front of me, and the depth of the large church in which the recording was made was clearly depicted. It was easy to distinguish the solo group located at a distance behind the main chorus.

Loud, soft, delicate, thunderous -- the Mahis tracked musical dynamics with precision and agility, not compressing, not accentuating, just following the natural flow of the music.

The continuously changing levels on "Folia: Rodrigo Martinez" were easy to follow, which has not been the case with some other amplifiers. This cut also showed the Mahis to be very transparent. Lots of detail emerged from the music, but not in a "look at me" way. It just seemed that I was hearing deeply into the music.

With the Usher X-708 speakers, the Mahis' triode-mode settings rolled off the frequency extremes, so I used the ultralinear instead. The 3dB feedback setting (24 watts) sounded slightly more open and timbrally accurate to me, but the extra power of the 6dB setting (40 watts) sometimes produced fuller sound. The Ushers' lower sensitivity reduced the perceived noise level considerably, so I could dispense with the Rothwell attenuators. This indicates that the Mahis are better matched to speakers of average to slightly high sensitivity than to extremely high-sensitivity models like my ReTHMs. In my listening room, the Mahis had no trouble driving the Usher speakers as loudly as I cared to hear them, although I didn't play them at volumes that would liquefy my internal organs.

The X-708's 7" midrange/bass driver sustained Usher's reputation for excellent bass. On "Way Down Deep," the Mahis produced plenty of bass energy, which sounded somewhat smeared at the 3dB feedback setting, but better controlled with 6dB feedback. I've heard the Ushers deliver even better bass -- surprisingly deep and detailed -- with a much higher-powered solid-state amp. However, that amp's performance in the midrange and highs was less musical than the Mahis'. The highs were similarly excellent; smooth, extended, and detailed. The X-708's soft-dome tweeter revealed the suave character of the Mahis' highs.

## Comparisons

It was interesting to hear how well the Mahis stood up to comparison with a pair of much pricier stereo amps. My Art Audio PX 25 (\$6500) costs considerably more than the Mahis. So what did I get for my money? Greater information retrieval, for one thing. A quick spin of "Folia: Rodrigo Martinez" through the PX 25 produced a spacious, three-dimensional soundfield that virtually exploded with detail, as the percussion instruments clattered merrily away behind the strings. It also provided even better dynamic tracking than the accomplished Mahis, making it easier to follow how the players lean into their phrasing. That elevated the musical level from *very interesting* with the Mahis to *exciting* with the PX 25. The Mahis' extra power and grip slightly surpassed the PX 25 in bass extension and detail, however. Of course, the PX 25's 6Wpc output severely limits the choice of speakers.

Like the Mahis, the Audiopax Stereo 88 amplifier (\$7990) I reviewed recently uses pentodes (KT88s) in its output stage, producing 15Wpc. While the Audiopax amp had an achingly beautiful tonal palette and its soundstaging was unsurpassed, on some music I actually preferred the Mahis' more dynamic performance.

## Bottom line

The Mahis produce superb sound at a moderate price. However, their extremely high input sensitivity means you should audition them in your system to be sure there are no matching issues. Absent these, the Mahis sound dynamic, extended, and transparent. And despite their somewhat industrial look, I think they're really cute -- almost jewel-like. Their sound is not

jewel-like, however; it's full and robust. They can comfortably drive speakers of normal sensitivity as well as higher-sensitivity models. Replacement tubes should be plentiful and relatively inexpensive.

The Manley Labs Mahis are easily the best push-pull amps I've heard in my system, and I could blissfully listen to them for long periods. They just make listening to music *fun*, and that's no fish story.

...*Vade Forrester*

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**Manley Laboratories Mahi Mono Amplifiers**

**Price:** \$2500 USD per pair.

**Warranty:** Five years part and labor; six months for tubes.

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