

Manley Jumbo Shrimp/Mahi

'Tubes Rule' is the Manley Labs mantra as we catch up with an aquatically-inspired pre/monoblock combo that have been at the core of its range for the best part of 20 years
 Review: **Ken Kessler Lab: Paul Miller**

Timely or what? When editor PM pointed out that the Manley Jumbo Shrimp Line Preamplifier (£5849) and Mahi Monoblock Amplifier (a stereo pair at £7599 making up Mahi-Mahi – geddit?) had been in the catalogue for ages, I learned from company president EveAnna Manley that it was exactly 20 years to the day of their debut that I was auditioning the latter.

In addition to a longevity that recalls the days when companies like Quad and Klipsch kept models in production for decades, Manley Laboratories Inc has over 40 models in constant production. 'We do not have the resources to just invent all-new products every six months', says EveAnna. 'Sometimes we will make quiet changes or pragmatic updates from within, but unless we make a giant design adjustment, we sometimes keep the same model in production for decades.'

LIVE LONG AND PROSPER

The Jumbo Shrimp and Mahi aren't alone in this. Manley's other products, which become the brand's 'evergreen' classic models, include the Pultec EQs (1989), Reference Gold Microphones (1990), Variable Mu Stereo Limiter Compressor (1994), the Voxbox (1997), and the Steelhead phono stage (2001). The first pair of Mahis shipped on Feb 12th, 2003, while the original four-valve Shrimp Line Preamplifier was introduced in Jan '02.

Around late October 2008, Manley added the additional 'White Cathode Follower' buffer requiring two more tubes [see inside pic, right] to drive the 100kohm motorised volume control, plus the RF 'Remora' remote control. At this time, too, an extra transformer was installed to run all six valves' heaters – two each of 12AT7EH input triodes, 5687 output tubes, and 5670 driver triodes, justifying

RIGHT: Jumbo Shrimp's Philips-branded, USA-made tubes include two 12AT7EH input triodes and two 5687 output tubes [edge-on PCB, centre left] plus two 5670 driver triodes [bottom left]. Volume is motorised [bottom]

the revised model name of *Jumbo Shrimp*. Since that upgrade, however, the preamp has remained unchanged. It offers five line inputs – Manley's Steelhead and Chinook [HFN Dec '21] phono stages can be added for vinyl users – accessible via RCAs [see p55]. Alongside these are sockets for Record Out and the main output(s).

As you can already tell, installation is intuitive for anyone who has ever set up a hi-fi system, as is operation.

Across the front are fat domed rotary controls to select one of the five inputs; a massive, motorised rotary for volume; a push-button for Mute; and two further controls for power on/off and balanced. When fired up, the Manley Jumbo Shrimp logo illuminates.

As for the Mahi monoblock, its arrival in early 2003 served as the replacement for founder David Manley's previous 50W and 35W mono amps. Its unusual six-sided chassis was developed from the original 1997 Stingray Integrated Amplifier, and the Mahi circuit is also taken from the Stingray, where the input stage and output transformer differed from (David) Manley's

older amplifier designs. These elements were developed by EveAnna and her team specifically for the Stingray after David moved to France, and there have been no critical engineering changes for the Mahi during its lifetime.

VACUUM PACKED

It's not just the unusual, compact footprint that characterises the rather lightweight

Mahi, which is the opposite of the Jumbo Shrimp when it comes to minimalism.

Had it been designed with the same approach, all it would carry is a power on/off switch. That, by the way, is a rocker found on the back, next to the AC fuse

holder and IEC mains socket [see p57]. But the top panel is loaded, beyond the valve complement of four EL84s, one 12AT7EH and one 12BH7. These are manually biased, by the way, with the aid of a supplied multimeter and the most comprehensive owner's manual I have ever seen.

Behind the transformers are the primary fuse, an RCA socket for input and a pair of multi-way speaker cable binding posts.

'The sense of atmosphere was all-pervading'



The fun, via two toggle switches, is at the front where the Mahi amplifier allows you to voice it for mood, taste, or primarily by choice of speakers. Most useful, and admittedly found in a number of tube amps, is a selector for ultralinear (UL) or triode operation modes. This has been written about copiously, but in essence, the former offers greater power at 40W, the latter warmer/sweeter sound but only 20W. It's not as clear-cut as that might seem, but most listeners will form a preference.

Then there's the variable negative feedback, which is offered in three levels of Max (10dB), Standard (6dB) and Min (3dB). Again, as with UL vs. triode, one cannot generalise nor assume that one setting will be satisfactory for all listening sessions, though UL vs. triode is easier in that it is about audible gains in power. With feedback, levels change slightly too, but so does character [see PM's Lab Report, p57].

FLIPPING SWITCHES

To give you some idea of how its selectable feedback and UL vs. triode modes work in practice – and I'm not suggesting I'd change either or both for every CD, LP or tape – I preferred triode and minimum feedback with the sensitive/high impedance DeVore 0/93 loudspeakers [HFN Mar '23], UL and standard feedback with the Wilson Sasha DAWs [HFN Mar '19], and Triode and maximum feedback with LS3/5As. And even that wasn't cut-and-dried: open-reel tape and LP begged different settings, while CD sounded best in triode/minimum feedback modes regardless of the speakers used.

To discover any sonic variations between the Jumbo Shrimp and Mahi, I also drove an Audio Research REF75SE with the Jumbo

RIGHT: The partnering Mahi monoblocks feature two pairs of EL84 pentodes with a 12AT7EH input tube and 12BH7 driver/phase-splitter. Ultralinear and triode modes are selected via a toggle alongside three levels of overall feedback (Min, Std and Max)

Shrimp, and the Mahi-Mahi pair with an Audio Research REF6SE line-stage preamp [HFN Jan '21]. While clearly voiced by, and coming from, the same team, the Jumbo Shrimp is quieter and slightly leaner in nature than the Mahi, but both are unmistakably all-valve designs. Alone or together, they lean toward the warm, both with massive, open soundstage recreation.

This was rendered immediately apparent with Herbie Mann's *Live At The Whiskey A Go Go* [Atlantic 1536 3-3/4ips tape]. Consisting of two numbers, each filling a side of the tape, the sense of atmosphere was so all-pervading that it was almost – and I mean this in a good way – a distraction from the performance. How so? Because the Manley pairing was succeeding in achieving that most important of accomplishments in home music reproduction: transporting the listener to the original musical event.

With the emphasis on this session being funk and soul, the bass was almost

ABOVE: Softly radiused controls, with classic script legends, emerge from a blue/grey anodised alloy fascia. The legend is illuminated

as prominent as Mann's flute, but it was the latter which proved the measure of the system for me, as I hear real flute every day, courtesy of Mrs K. Every detail, each breathy intake or output – I was so taken with the way this Manley trio managed this that I dug out other flute-led recordings including Love's 'She Comes In Colors' from *Heroes And Villains – The Sound Of Los Angeles 1965-68* [Grapefruit CRSEBOX109 CD], and *Ian Anderson Plays The Orchestral Jethro Tull* [Parlophone 0190296 688270 LP].

BATTLE OF THE BANDS

Here was the challenge – a three-way test of live venue/jazz flute vs. studio/delicate folk-rock flute vs. power flute with a full orchestra. Same instrument, different sound, as when my guitarist friends can tell



LAB REPORT

MANLEY JUMBO SHRIMP

Anyone who tells you that tube amplifiers are inherently noisy clearly has not sampled Manley's Jumbo Shrimp! Here a trio of 12AT7EH input triodes, 5670 drivers and 5687 output tubes are configured to yield an 'industry standard' gain of 11.9dB with a wide A-wtd S/N of 90.8dB and an unwt'd residual noise of just -100.3dBV (9.7µV). Moreover, the Jumbo Shrimp incorporates sufficient headroom to allow a massive 26V output, which is more than enough to drive any hi-fi power amp into clipping (and beyond...). Incidentally, the partnering Mahi power amps require less than 0.5V to reach full output (standard feedback/ultralinear modes) so care must be taken not to feed the Jumbo Shrimp *too* high a line signal if full use of the volume control is to be realised. Fully analogue volume pots are rare these days but the channel balance is within 0.5dB over the top 60dB of its range – a good result – while crosstalk climbs slowly with frequency, from -92dB/20Hz, -72dB/1kHz to -47dB/20kHz.

The Jumbo Shrimp's response [black trace, Graph 1] is largely unaffected by the position of the (correctly buffered) volume control, reaching down low and up high with ±1dB limits of 3Hz-45kHz and showing just the mildest +0.14dB lift from 10-20kHz. The output impedance is low enough at ~89ohm, increasing to 104ohm at 25Hz [red trace, Graph 1], so the Jumbo Shrimp should prove 'interconnect friendly', aided by the Mahi's high 110kohm input loading. Distortion increases with output and frequency extremes, achieving a minimum of ~0.002% at 200-300mV output in the midrange before rising to 0.004%/1V, 0.01%/2V, 0.03%/5V and 0.065%/10V. Versus frequency, the tubes were better matched in the left channel here [see Graph 2] achieving a very 'flat' ~0.004% from 20Hz-20kHz. PM



ABOVE: Under the Mahi, revealing a mix of PCB tracks and point-to-point wiring. Two transformers are used, one [top left] for the PSU [top centre] and the other a Manley-custom design optimised for the amplifier's ~50ohm speaker output [top right]

a Fender Strat from a Fender Jaguar over a decent system. In each case, the characteristics were preserved and carefully differentiated in the form of sweetness (Love), mellowness (Herbie Mann) and ferocity (Ian Anderson).

Moving to one of my all-time fave tracks also enabled me to test the variable voicing afforded by feedback and operational mode. Comparing B.B. King's 'Don't Get Around Much Anymore' with the Duke Ellington Orchestra conducted by Maxwell Davis on CD and open-reel tape meant putting into practice the sonic applications, as opposed to the level gains which are functional as much as they are subjective. The CD version was on the *Hi-Fi News/Ace Records* 'All-Time

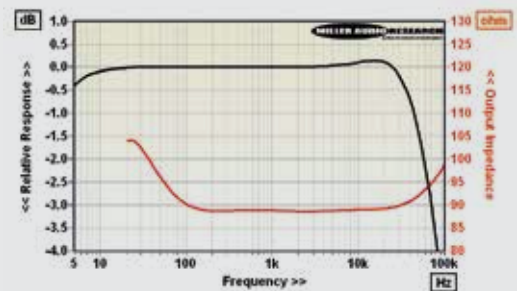
Greats' disc [ACE1] while the tape was *Compositions Of Duke Ellington And Others* [Crown ST110].

MAXIMUM GAIN

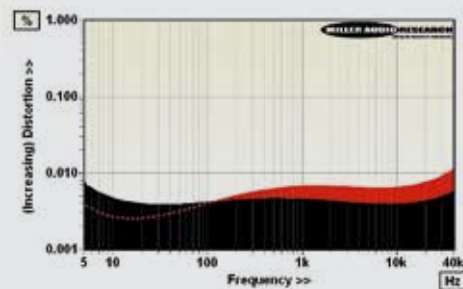
Ordinarily, I don't spend much time complicating matters when reviewing a hi-fi component by adding to the testing such format-vs-format face-offs. That's obviously necessary when reviewing, say, a One-Step LP and an original standard pressing, and it also seemed crucial to understanding the potential of the Mahi amps – especially as the Jumbo Shrimp proved itself to be ghostly quiet and, as PM points out [see Lab Report, right], a form of universality because it delivers great wallop. This will catch you out if you have a source of particularly high output, as was I taken aback when I switched from tape to vinyl with the phono stage on maximum gain...

But back to the analytical properties of the Mahi(s) and the

BELOW: Simplicity itself – the Jumbo Shrimp offers five single-ended line ins, a fixed tape output and a parallel pair of preamp outputs (all on gold-plated RCAs)



ABOVE: Frequency response (black) and output impedance (red) at 0dBV output (max volume)



ABOVE: Distortion versus extended frequency at 0dBV (left channel, black; right channel, red)

HI-FI NEWS SPECIFICATIONS

Maximum output (<1% THD, 47kohm)	26.0Vrms
Maximum input level (<1% THD)	>7Vrms
Output impedance (20Hz-20kHz)	89-104ohm
Freq. response (20Hz-20kHz/100kHz)	-0.0dB to +0.1dB / -5.4dB
Input sensitivity (re. 0dBV)	255mV
A-wtd S/N ratio (re. 0dBV)	90.8dB
Distortion (20Hz-20kHz re. 0dBV)	0.0040-0.0045%
Power consumption	53W
Dimensions (WHD) / Weight (total)	483x89x279mm / 6.8kg

PREAMP & MONOBLOCKS



ABOVE: The single-ended RCA input and 4mm WBT speaker cable posts rise up from the top rear of the Mahi's compact chassis. Although tube biasing is still a manual process with this amplifier, speaker 'matching' is designed to be as simple as possible

usefulness of both the feedback and mode selections. As seasoned readers will know, the nature of CD is typically tighter, cleaner if rather hygienic when A/B'd alongside LP or tape – so in this instance, I chose to compare them to see what one could do with the variables.

While UL and triode modes differ measurably, one providing double the power over the other, it was clear from the outset that I preferred CD playback with the Mahi amplifiers set to triode because of the sweetening effect, a 'humanising' of the sound. It was just that much warmer, more lifelike, with no real sacrifice in punch, e.g. the saxophone still leapt from the speakers, while King's voice still enjoyed the rich resonances which make him so instantly recognisable. Where the fine-tuning occurred, in which hands-on listeners will revel, was with feedback, in this case using the minimum setting.

I cannot explain why this was the result, but moving to the super-

sweet, lush-sounding tape, I actually preferred the tighter, beefier UL mode with standard feedback. Perhaps the most striking lesson from this was not so much about the tube configuration, as we have had, as cited before, countless amplifiers over the years that let you choose between UL and triode, but how much of a difference adding or subtracting 3dB of negative feedback can make.

SONIC TONIC

Actually, there's another lesson to be learned. This pairing isn't just for hi-fi obsessives who can't resist fiddling with stuff, like Japanese enthusiasts with different cartridges for each record label. No, it's a tonic for the indecisive. In other words, thanks to all the settings, you needn't worry about having to choose. ☺

HI-FI NEWS VERDICT

I've never used Manley gear that didn't impress me, and these veterans continue that tradition. Leaving aside the appeal of the Jumbo Shrimp's no-nonsense approach and Mahi's exceptional 'tuneability' and flexibility, the sound so cosseted the music, and so graced my resident DeVore speakers, that I didn't want to let go of them. Please refrain from hate-mail, but even at £13k+ I have to call these bargains.

Sound Quality: 88%

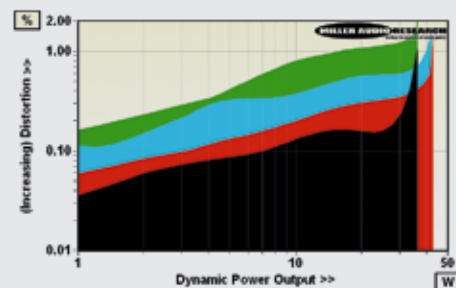


LEFT: The 'Remora' Model 22R Bluetooth remote transmitter offers long-distance control over the Jumbo Shrimp's volume

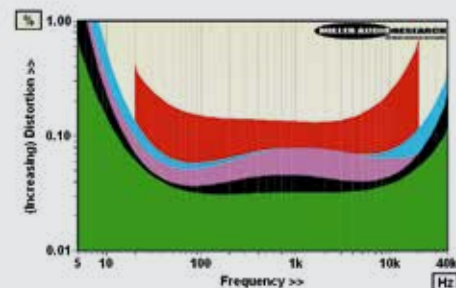
MANLEY MAHI

Despite its compact chassis, and the single secondary output windings/single speaker outputs, the Mahi packs a lot of 'user involvement' onto its polished black top plate. Both ultralinear (UL) and triode modes are offered, the latter connecting the plates and screen grids within each of the EL84 pentodes to achieve an alternate pattern of distortion (that some prefer), a higher output impedance/modified response shape and a reduction in maximum power output. In practice the Mahi achieves 35W/8ohm and 39W/4ohm in UL mode and 20W/24W, respectively, in triode mode, with sufficient headroom to accommodate 36W, 44W, 43W and 35W into 8, 4, 2 and 1ohm, respectively, in UL mode [see Graph 1, below]. Manley's specification of 40W at ~1.5% THD is not wide of the mark but while power output and frequency response are optimised for ~5ohm the Mahi's output impedance is lower and more load-agnostic at <0.75ohm (20Hz-20kHz) than Manley's 2.16ohm rating might suggest. Both UL and triode modes have a -0.55dB/20kHz response into 8ohm and -0.48dB/20kHz into 4ohm, with bass good to a low -3dB/3Hz.

Distortion, on the other hand, is influenced by both UL or triode modes and the 'Min' (3dB), 'Standard' (6dB) and 'Max' (10dB) feedback settings. In UL/standard modes, THD increases from 0.04%/1W to 0.14W/10W and 0.17%/30W, and pitches up through the low bass to 0.07%/20Hz and 0.2%/10Hz at 1W/8ohm [black trace, Graph 2]. 'Max' feedback squeezes THD down to 0.03-0.06%, 'Min' relaxes it to 0.07-0.13% while 'Standard'/triode mode sits in-between at 0.06-0.1% [all 20Hz-20kHz re. 1W/8ohm; green, blue and pink traces, respectively, Graph 2]. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 5.9A



ABOVE: THD vs. freq. (re. 1W/8ohm, Min feedback blue; standard, black; max, green; Triode, pink; 10W, UL, red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	35W (20W) / 39W (24W)
Dynamic power (<1% THD, 8/4/2/1ohm)	36W / 44W / 43W / 35W
Output imp. (20Hz-20kHz/100kHz)	0.73-0.53ohm / 0.93ohm
Freq. resp. (20Hz-20kHz/100kHz)	+0.0dB to -0.55dB/-1.25dB
Input sensitivity (for 0dBW/40W)	75mV / 466mV
A-wtd S/N ratio (re. 0dBW/40W)	75.6dB / 91.6dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.14-0.72% (UL; Std. feedback)
Power consumption (Idle/Rated o/p)	90W / 98W
Dimensions (WHD) / Weight (total)	254x127x279mm / 8.2kg