

Review of Grandinote' SHINAI, by Srajan Ebaen, may 2019 on :



AUDIO REVIEWS

# SHINAI



Tube sound. Is it due to the valves themselves? A particular harmonic distortion profile? High output impedance? Simple circuitry? No negative feedback? Output transformers? All of it?

Designers of solid-state amplifiers who want to approximate tube sound or at least recreate some of it in solid state have attempted any of the above. In Stereophile's famous amplifier challenge, Bob Carver cloned the sound of an unidentified valve amplifier with his affordable transistor amp by duplicating the former's transfer function. Whilst known exclusively for sand amps during his Carver Corp. and Sunfire days, in his later years Mr. Carver designed and sold tube amps under the Carver LLC name.



*At HighEnd Munich 2016 with Entreq grounding stations and 6moons regular sound|kaos and their Libération speakers. By 2019, Grandinote showed with their own Mach 9 speakers in carbon-fibre enclosures.*

Meanwhile one Massimiliano 'Max' Magri, from Bressana Bottarone in Italy's Pavia province just south of Milan, started with valve amps for his personal pleasure. Then he went all solid-state for his formal Grandinote brand. But because he had already worked at length with vacuum tubes to also wind up his own output transformers, he determined that the superior sound of valves had little to do with the output devices themselves. To him it had everything to do with their particular circuitry. Whilst in pursuit of typical transistor strengths like low output impedance for high damping, far wider bandwidth and lower noise, he executes tube-type circuitry including output transformers which he builds up around costly exotic cores. This hybridized approach he calls magnetosolid [McIntosh use autoformers for many of their transistor amps].

For his 'small' Shinai stereo integrated with two each RCA/XLR inputs under consideration today, it means 37wpc into 8 $\Omega$ . It means true dual-mono circuitry including two power cords. It means class A operation and just one complementary pair of push/pull output transistors per side. It means zero feedback, DC coupling between all stages, output transformers, bandwidth of 2Hz  $\approx$  240kHz and power draw of 270 watts. All of that packs into a 318 x 196 x 473mm WxHxD black chassis which weighs 40kg. "Big iron aboard" is the subtext.

It also means a remote wand which besides the expected can program the max volume for each input, defeat the display, offset channel balance, turn input 1 into a line output or convert one/both XLR input/s to RCA (also requires XLR/RCA adapter/s). Shinai's pure amplifier version is called Silva and duplicates the performance specs but reduces input socketry to a single XLR pair whilst doing away with the volume control.

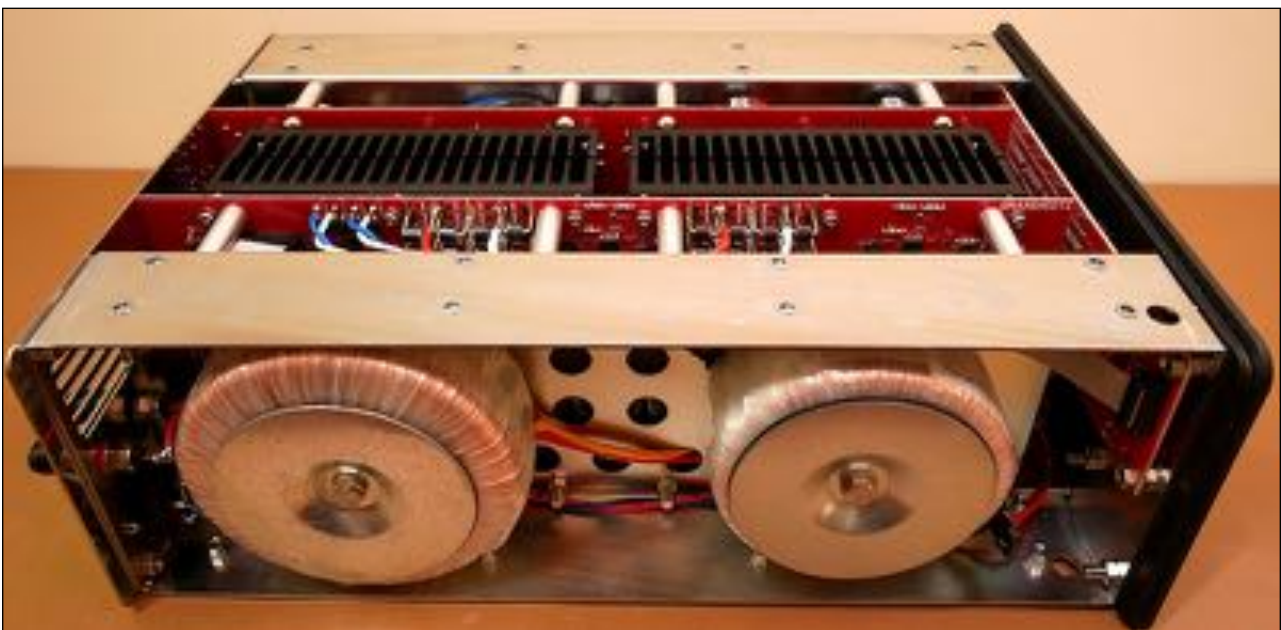


To reiterate, Massimiliano Magri asks whether his sound is tubes or semiconductors—a reasonable response now expects a bit of either—and promises that his Magnetosolid technology shall amplify our emotions. That being the holy grail of hifi, I just had to hear this for myself.

OPT. In valve amps, output transformers act as impedance converters. They match the high internal source resistance of their output devices to the low load impedance of modern speakers. The higher that discrepancy, the more windings are needed. That impacts bandwidth, phase shift and signal loss. With Massimiliano's 2Hz-240kHz spec, we saw that his iron doesn't impose typical limitations. In the first place, he's not using it to down-convert impedance so a simple 1:1 ratio would work. What could Max tell us about his magnetics and how, precisely, they steer his sonics? Also, what constitutes a tube-type circuit transcribed to pure transistors versus a standard solid-state circuit?

"The name Magnetosolid goes back to 2002 when I built my first amplifier with a true tube amplifier schematic but inside transistors. The output transformers are the most obvious consequence of this schematic. The first Magnetosolid amps like my A Solo model still had some tube defects like colourations, inability to drive challenging speakers and roll-off in the ultra-high range. With 2008's Prestigio and later the Shinai, I fixed all of these defects. It's how I demonstrated that tubes are not better than solid-state devices, only that the circuits where tubes are used are more musical than ordinary solid-state circuits.

"Tubes are technically superior in just one aspect: parasitic capacitance. With transistors, parasitic capacitance can become a big issue for HF. To overcome it, I started to use special RF transistors. Now my signal transistors have parasitic capacitances lower than an E88CC. And there's no issue with the power transistors. Their driver stages have ultra-low impedance outputs so our RC factors are far lower than in tube amps. Of course our output impedance is much lower too to give Shinai a 150+ damping factor where standard valve amps manage 10 or just 2. Other very important refinements in our schematic are no coupling capacitors between all stages except directly before the output transistors; a minimalist push/pull topology with a single complementary pair of output transistors; zero negative feedback; and a dedicated power supply for each gain device."



As to what his output transformers do, sonically, "the alternative would be capacitors or complementary NPN and PNP transistors. For me the very best solution to couple speaker to amplifier is through a transformer. What does that do to the sound? Impossible to tell with my schematic since if we were to remove the transformers, we'd destroy both the output transistors and speakers. The only thing I can say for sure is that any other way to couple speakers and amplifiers is far less musical. The problem with the output transformer in a tube amp which I don't have is having to work in high voltage and low current. And of course popular perception believes push-pull to be inferior to single-ended but that's primarily because the phase splitter execution in a push/pull tube amp tends to be problematic. We corrected that defect and now I can affirm that push-pull is better than single-ended."

Upscale output transformers in tube amps can feature exotic cores like Hitachi's nano-crystalline FineMet. Max too experimented with special core materials. When he found the right one, it increased his primary's inductance by over 10 times to lower output impedance and give even more extended bandwidth, However, the cost too increased. So Shinai in this VHP version becomes the  $\square$ 19'800 Essenza with otherwise identical specs.

Removing the ventilated top and bottom covers then curved side panels revealed two separate amplifiers with massive power and output toroidal transformer on the outside, heat sinks on the inside. Given the tight packaging, little else of note was visible. No wonder Shinai needed two power cords and a good back to move about. I took my time to put the covers back on and delay strapping on the inevitable heaving to follow. Roger Murtaugh to lethal weapon Martin Riggs: "I'm getting too old for this Shinai."

Delivery by heavily padded stout flight case inside a cardboard box was a welcome security bonus. Even DropBox & Co. won't be able to make a dent.

For connectivity, two each RCA and XLR inputs in a diagonal layout will avoid tangles and the fully removable nuts of the speaker terminals will have even the fattest of spades enter without protest.



The small metal remote offer source up/down, volume and mute. The programming options are explained in the online owner's manual.

Widebender mojo. After the display's countdown from 99 to 0, Shinai's muting relay opened. Now a dead-quiet circuit handled our 93dB Cube Audio Nenuphar. Just 33 steps from mute to max meant that '8' on these loads equaled normal room volumes. Here finer calibrations would have been welcome. Still, sonic happiness probably shadowed prior show success with Martin Gateley's open-baffle sound|kaos Lib屍ation and their paralleled Envi試 widebanders which want a bit more damping than the Poles. Having just prior wrapped a review on Bakoon's 25wpc AMP-13R with true variable gain, I had opportunity for a tête tête. The primary distinction between that amp and Shinai was the Strahlkraft (German for brilliantine force or shininess power) of tone textures. Those of the Japanese/Korean DC-coupled class AB amp with 0.5MHz bandwidth were overtly more glossy and wet. They gave off more contrast pop for that film noir effect. It recalled what on that score one might get from a 45 SET on good luck copasetic speakers. Here Shinai played it more solid-state like our FirstWatt SIT-3 stereo or SIT-1 mono amps. But like those very special Nelson Pass static induction transistors with true triode curves, Massimiliano's were likewise temporally elastic and redolent, not rigid and 歟er-damped like marching soldiers on a show-of-force parade.



On a filter-less speaker whose voice coil couples directly to an amplifier's outputs, here via big transformer, any reduction in gush factor registers without fail. The Bakoon precedent showed how still more of that freely spraying fluidic gestalt was possible. This might have also been a function of the AMP-13R's higher output impedance. On such speakers that's actually a benefit. Still, the Grandinote Shinai cut an impressive figure on Nenuphar. It placed itself on a quite short list of solid-state amps which are well matched for such uncommon loads.

For a classical concert you might actually just get away with hosting in your living room if you lived large enough is the young Intercontinental Ensemble. They transcribe symphonies from Beethoven, Schubert and Brahms for string quartet plus woodwind quintet, i.e. the classical mixed nonet. With first-rate recording values from the Dutch trptk label, the Traveling Light album is a welcome addition to the very limited original repertoire for this particular instrumental formation even though particularly the "Poco allegretto" from the 3rd Brahms Symphony here would have warranted a far more poetic rubato reading with greater dynamic shadings. But then these players are still young. Give them time. Still, the slightly stilted not ultimately fluid feel of this reading paralleled an undertone of Nenuphar's behaviour on Shinai to make for a useful musical example.

Trading up to our 4-way Audio Physic Codex with hidden 10" woofer in a tiny internal box, happy-hour time on the volume changed to 15. Tea and crumpets. What's more, color intensity increased as though real tubes had come in somewhere on the sly. Over our usual LinnenberG Liszt monos, there was no mistaking this enhanced calefacci whose synonyms ardor and pasi confirm that no matter the language, such states always exhibit higher temperatures as though their carrier had a fever. Into these less sensitive more complex loads plainly appreciative of higher damping, the sound had heated up. I'd just met Max's slogan "amplify your emotions". Clearly this was the intended Magnetostatic effect. So Codex would stay put for the duration.



It took no saucy tunes to get this fever. Already the dreamy musette-tinged waltz "Pouro Rom" on the Russian Guitars album did the trick. If you enjoy this music, check out the Russian gypsy group Arbat of which Loutchek is a member; and the Bloutek/Loutchek guitar duos of Valse).

This was about red-blooded tone immediately asserting itself, without on faster tracks loading down with wading-through-water reluctance on timing. This was authentic 6SN7-type aroma without any actual glass. It reminded me of the 14'000/pr 40-watt Thaurless EHT monos. With Shinai, no separate preamp was needed though still two power cords. Unlike the cool-running Germans with the mostly empty internals, Shinai's heavily stuffed double-ventilated centre section gave off plenty of hot air. Otherwise and as far as sonic memory was trustworthy, I clocked a very similar aural aesthetic from a single heavy box. Think tube hybrid with big-tone triodes driving transparent current-gain transistors.

**Big is beautiful.** Men's and women's clothing shoppes cater to the motto. In our interconnected society with its new words and actions—take *sexting* and *viral body shaming*—it's vital that between the two dangerous extremes of anorexia and obesity, there be an open call to embrace all the body types, races and fitness levels. The narrow standard of quasi anorexic androgynous white fashion models causes distorted body ideals amongst the impressionable, young and fashion conscious. But from race jockey to sumo wrestler, from swimmer to rugby player, there are many forms of fitness. From lanky to stout, there are many expressions of genetics and lifestyle. Variety is the spice of life. To stay on a guitar binge, a fusion of Spanish Flamenco and Algerian chaabi shows how next. "I have tried dozens of different tubes now. The L2 advantage is that one can *micro* fine-tune the sound character of the loudspeaker/amplifier interaction. A/ If one needs a bit more resolution, more clarity, less 'velvet and honey', there are the PX4, SV811, 183/483 (5-volt 45) or TAK 300B (the last being borderline between A and C). B/ If one needs a bit more soul and sexiness, the 300B is the soul-ution (TAK, Elrog, Sophia Electric). C/ If one is already balanced but longs for a bit more meat-on-the-bones presence, for me the 2A3 and 6A3 are clear winners, with the JJ 40 coming out on top. In my room, the L2 ⇒

Berning VT52 ⇒ Nenuphar combo is really magical. The best sound you and I heard together back in the old room was less than 75% of what I'm hearing now. I purposely didn't mention speed as an individual character point because the OTL amp supersedes any such influence from the L2, being OTL-ightspeed itself."

That was my Swiss friend Dan after further experiments with his latest acquisition, a Vinnie Rossi L2 linestage. That breakout component accepts all 2.5/4/5V direct-heated triodes with the flick of a switch. Contrary to the immutable ideal of one fixed absolute sound, Dan's attitude reflects openness and curiosity to experiment with different moods and fancies. According to his selection parameters, Shinai's sonic contributions played it capital C for *massive* meat-on-the-bones presence. As I learned, this compounded and intensified at higher volumes. Things didn't just get louder. They grew more and more thick. For my tastes, this quickly exceeded the attractively luscious and veered into the opulent extreme of gone to seed. As such, it also more and more opposed separation and discretely spaced layering at which our LinnenberG Liszt and Bakoon AMP-13R so excel. Take the "Chisera" track of Juan Carmona's genre-crossing *Sinfonia Flamenca* as an example where those qualities matter a lot.

As the big-is-beautiful opener set up though, it's imperative to separate personal preference and taste from generalizations. Each system wants more or less of certain qualities. Each listener entertains his or her very specific ideas where the ideal balance lies. This can even change with time or exposure. I'll thus just say that in our context and particularly so at higher SPL and on more complex fare, I found Shinai to get dense to excess. I could delay the onset of that action by deliberately leaning out both the speakers and the front end like with our silvery/platinum COS Engineering D1 DAC and the Accuton-fitted Albedo Audio Aptica speakers for example. But on balance, Massimiliano's aesthetic and my own begged to differ. We plainly diverge on how big is beautiful. I'd only enjoy his dose on simple fare played back at lower volumes. Far more important of course is that my results utterly and completely validated his project brief of cloning deep rich tube sound from transistors pure whilst transitioning solid-state's superior current drive and damping factor intact. If you prioritize really big tone and maximized sonic materialism—again the 6SN7 triode family suggests itself as a useful pointer—this Magnetosolid® integrated amplifier from Italy should be on your short list particularly if you prefer *not* to use any actual tubes. As Juan Carmona and Larry Coryell demonstrate, playfulness is key. Let's go back to the beginning. Tube sound. Is it due to the valves themselves? A particular harmonic distortion profile? High output impedance? Simple circuitry? No negative feedback? Output transformers? All of it? If you're Massimiliano Magri, you'll answer that with tube-*type* circuitry to include top-shelf output transformers and no negative feedback but atypical low output impedance for high damping. His is a *surprisingly* effective solution to this age-old dilemma or conundrum. It's also a real wakeup call for what's possible from solid state if you know where to push and pull, nip and tuck. In an industry where circuit innovation often gets demoted to instead elevate shiny chassis and thick face plates for the old-wine-in-new-bottles deceit, such novelty is a breath of fresh air. *Saluti!*

Srajan Ebaen