Allnic Audio • M-3000 Mk 2 Mono Amplifiers

". . . focused magic."

by Ross Mantle | September 26, 2018

When I got the call a few months ago, my heart sank. It was Marc Mickelson, *The Audio Beat*'s relentless taskmaster. He was, once again, demanding a review of an exotic, sumptuous tube amplifier, from a far off land, that he felt sure I could not resist.

Price: $17,900 per pair.
Warranty: Two years parts and labor.

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He was right.

The stable of Allnic products, all designed and manufactured in South Korea, contains, at last count, eight tube amplifiers. Perhaps the sexiest of these, and the one I would most like to fondle lasciviously, is the A-10000 DHT with XLR inputs. This direct-heated, pure class-A triode monoblock uses two KR Audio Kronzilla (T1610) tubes in parallel and is rated at 100 watts. It costs about $90,000 per pair. There is, inexplicably, no English-language review of these magnificent beasts anywhere on the Internet. (I wink at you, North American distributor.)

Unfortunately, the market for A-10000 DHTs may be limited by price. In contrast, at a shade under $18,000 per pair and double the power, the new M-3000 Mk 2 monoblocks, the subjects of this review, appear more salable, certainly from a cost-per-watt point of view, and they also have XLR inputs.

Each M-3000 Mk 2 uses four KT150 tubes in parallel, push-pull configuration, outputting power in class AB. The KT150

output tubes are a new, higher-power version of the KT120. They allow the Mk 2 M-3000 to develop 200 watts into 8 ohms versus the 140 watts of the KT120-based Mk 1 version of the amp.

Tung-Sol, originally an American company but now owned by New Sensor Corporation of Russia, was the first to make KT150s. Some wit seems to have dubbed the tubes "power pickles" because of their rounded shape, which is supposed to aid in heat dissipation. KR Audio also makes a version, which is shaped like the top half of an Egyptian sarcophagus.

Allnic's principal, Mr. Kang Su Park, whose company is now in its third decade, has laid out a number of priorities. First, as expressed in the name of the company itself, we have nickel alloy (Allnic) mixed with the standard soft iron in the transformer cores. Second, Mr. Park has expressed a desire to preserve the bass via maximization of current in the input stages and a decrease in inductance of the overall circuit.

Let's start with the transformers. The output transformers of a tube amplifier perform a function similar to, yet more critical to the performance of, the transmission of a car. Everything depends on them. The great Hiroyasu Kondo, maker of Japan's legendary and outlandishly expensive Audio Note Ongaku amplifier, for example, preferred an ordinary circuit with extraordinary craftsmanship and materials, particularly the output transformer. Given the Asian regional obsession with output transformers, it is perhaps unsurprising that Mr. Park named his company after the transformer core material he uses.

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Permalloy is 80% nickel, 20% iron alloy. It was invented at Western Electric, but there are various permutations in the composition available today. Its main feature is a very high magnetic permeability, which is the tendency of a magnetic field to permeate a material relative to vacuum. Magnetic permeability for magnetic fields is analogous to the conductivity of a wire for electrical current. Imagine a coil of wire wrapped around a core of magnetically permeable material. The field will tend to be well confined to the core, where it can maximally interact with the wires of the coil rather than waving around uselessly in free space. The result is a much more effective transformer.

The magnetic permeability of nickel alloy is around 100,000 times greater than vacuum. The most common standard transformer core material, in comparison, is an alloy of iron and silica sand, known as magnetically soft iron. The M6 soft-iron transformer laminations from Edcor, for example, have a permeability of 6000 in a 100-gauss magnetic field, which is much lower than Permalloy. In addition, Permalloy has lower hysteresis -- the up and down phases of the signal are more similar -- which translates to better linearity. Finally, Permalloy is significantly more sensitive and quicker to respond to low-level signals than soft iron. This effect preserves micro detail.

So Permalloy has better permeability, better linearity and better preservation of micro detail. Why use soft iron in the core at all? The limitation is magnetic saturation. Permalloy's ability to contain magnetic flux (7500 gauss) is less than half that of soft iron (20,300 gauss). If the core becomes saturated, it can no longer follow the musical signal and clipping occurs, leading to distortion and overheating. This would explain why pure Permalloy is mainly found in low-power applications, such as tape-recorder heads and guitar pickups, and as magnetic shielding material. The remedies for transformer saturation are to lower output power, increase the size of the transformer or mix soft iron into the core. Mr. Park has chosen to keep the power but use oversized transformers and some soft iron together with Permalloy in the cores.

The other transformer innovation Mr. Park touts is what he calls "full engagement." The output transformers come with a user-switchable setting. On the review samples, there was a 4/8-ohm toggle switch at the back; the units can be configured at the factory for an 8/16-ohm toggle instead. Usually, the existence of such a switch means you are choosing between two separate secondary coils in the output transformer, which leaves the disconnected coil injecting noise from resonating by itself. Park calls these "parasitic oscillations." The usual separate-secondary-coil arrangement also fails to take advantage of the unused coil area of the disconnected coil. Park says he has four secondary coils always connected. He doesn't spell out how the switching works to change the inductance. Perhaps the switch inverts the phase of one of the coils, causing two of the coils to cancel each other out.

With regard to maximizing current drive and minimizing induction, both are critical to maximizing bass energy. Park uses the E282F pentode in triode mode for 20mA of drive current in the second stage of amplification, which feeds the output KT150s with much more than the 2 to 3mA of a more standard 12AU7 input tube. The internal resistance of all the tubes in the amplification chain is lower than usual, which helps current flow.

From a Google-translated Korean-language review of these amps, I learned of Allnic: "There's a whopping herpes seven models!" Beyond the numerous hilarious translation errors, the review speaks of oversized power-supply transformers with large chokes and efforts to maximize current drive at each stage. As an aside, there is a feature that I no longer see mentioned on the company website: transformer coupling between amplification stages. Allnic still uses this for its single-ended amplifiers but has gone to capacitative coupling, which is more usual, for push-pull amps.

No question these are gorgeous amplifiers. Each has a beautifully machined, powder-coated chassis with handles that swoop up the sides. The review samples were black, which is a great look for them. The polycarbonate tube chimneys with powder-coated, perforated screw-down metal tops are found in all Allnic designs. They look great and are also functional. The chimneys draw heat through the chassis and away from the tubes, while preserving visibility of the warm tube glow.

On the upper faceplate are four yellow, illuminated meters showing the current draw of each of the four power tubes. A bias-adjustment pot lies near each meter. Over a two-month period, all the indicators rested just below the set point and did not budge, so there was no need to fiddle with the bias during the review period.

At the front, there is a pushbutton allowing the user to select triode strapped mode or pentode mode. At the right side is a large rocker switch for power on/off. At the rear, we have both RCA and XLR inputs. For XLR, there is a switch that selects between two possible arrangements of XLR pins. I had to actuate this switch for XLR input from my preamp to sound right. Finally, a central switch toggles between 4- and 8-ohm output-transformer settings.

There is a delay warm-up interval of about 30 seconds and an almost inaudible *bump* through the speakers when the amps come on. A static noise occurs through the speakers when the amps are turned off. The manual says this happens only in triode mode, but I heard it in both triode and pentode. It's very low in volume and of no concern. The amps put out a fair amount of heat, which warmed the room, but no part of the chassis became more than mildly warm to the touch. I enjoyed utter reliability while the amps were in my custody.

When the Allnic amplifiers, newly manufactured, arrived at my house, I opened the two large boxes and set up the amplifiers in my listening-room system. Knowing that new electronics require a break-in period to sound their best, I was determined to ignore what I heard initially. Yet, right away, the sound was remarkable -- different in nature from anything I'd heard before, wildly full with high resolution and extreme extension into the treble and the bass. I shook my head, determined to ignore this obvious violation of normal reality for the moment. I then yoked the amps to my home-theater system and enjoyed over a month of great sound in my movie room. Particularly noticeable were the excellent intelligibility of spoken parts and extra beauty from musical scores.

With the amps back in my two-channel system, serious listening was with a Linn Klimax DS/4 digital streamer/DAC (renderer) playing ripped CDs on my home NAS drive along with material streamed via Tidal. This was connected to the Coincident Speaker Technology Statement preamplifier, the version with manual volume control, via Coincident Statement Extreme XLR cables. I was able to fine-tune the volume from the listening chair with my laptop via Linn's Kinsky media player. Another pair of the same XLR cables went to the Allnic amps. Coincident Statement Extreme speaker cables ran to Lansche 5.1 speakers with plasma tweeters. At first I used Coincident Statement Extreme power cords on all the gear and put the triode/pentode setting to triode, which is the mode I usually prefer with push-pull pentode amps.

Then I called up my listening buddies, Al and Ritchie, for a session. They requested a shout out for their participation, so I will say that both are scrofulous, intemperate reprobates, well known to the local constabulary. They are also very experienced audiophiles of highly discerning tastes. We fired up the system and played a number of favorites.

Alas, the committee was unmoved. Al and Ritchie agreed with the remarkable fullness, strong bass, and detailed articulation. Yet, there was "something missing," they said. The flow was constrained. Rhythmic drive and involvement were flat. The conclusive demonstration of this was Bruce Cockburn's "Silver Wheels" from *Waiting for a Miracle* [Gold Castle 71305]. This is a rolling, driving track that builds to a wailing, chaotic trumpet solo. It is supposed to give a sense of unstoppable motion -- only it didn't.

The British audio press like to use the acronym PRaT for pace, rhythm and timing -- all of which are risk factors for uncontrollable toe-tapping. Dynamic contrast is a big part of the effect, but subtle timing cues also play a role. After my crewmates stumbled home, I admitted to myself that they were right. No PRaT.

Back to the drawing board. At my next listening session, alone but for my fifteen-year-old daughter, the first thing I tried was a change of power cords. I replaced the Coincident cords with the heavy, 14-gauge no-name shielded power cords that came with my Joule-Electra amplifiers. Jud Barber, Joule Electra's *major domo*, believed that the best power cord was simply the one that could deliver sufficient power. His old cords sounded good on a lot of gear, but I've not been able to buy a new pair with the same magic. With those cords on the Allnic amps, the whole presentation relaxed and became more real.

I should have known. These babies wanted all the power they could get. I switched back to the Coincident cords for confirmation and heard, in comparison, the soundfield become pinched, with lighter bass, mild strangulation of the mids and some spitting sibilance in the highs. The no-name cords quickly went back in.

For my next trick, I switched the triode/pentode setting to pentode. That really did it. PRaT in the house -- rolling on the floor and up the walls. The missing involvement was there in spades. In fairness, the triode setting does bring a little more timbral detail, but the effect is minor and occurs at the expense of a slight dryness, a substantial loss of dynamics, and a prominent recessing of the soundstage, including of solo voices or instruments.

Of all the tracks I played, only one sounded better in triode mode, Gregory Porter's "Brown Grass" from his *Liquid Spirit* [Blue Note 3741053]. This is a sparse arrangement, with a lot of silence between the notes, that relies mainly on Porter's arresting voice. His voice is like a dark, hard ebony, and the drier quality of triode mode worked well with it. Everything else, from classical violin to Prince, cooked best on pentode mode, and, man, did it ever.

However, the superiority of one mode over the other will depend on the interactions with rest of the system. My system is world class at resolving musical detail, in my humble opinion, but not the same with dynamics. Since pentode mode has more power at the expense of some resolution, it worked best in my system, by a large margin. But your mileage may vary. I also tried switching the output impedance from 4 to 8 ohms. The 4-ohm setting was quite obviously better, so that settled that.

I'll need to recalibrate your frame of reference in describing the sonics here, because these amps recalibrated mine. Imagine something like the unfettered current of a big solid-state amp combined with the naturalness and tonal color of good tube amps -- plus amazing frequency extension upward and downward, plus a convincing transparency and unusual realness of timbre. I would venture that the unfettered current comes from Kang Su Park's efforts to maximize current flow and minimize inductance, while I suspect that the frequency extension and timbral realness come from the unique output transformers.

The existence of a coherent field of micro detail manifests both as an ambient field in the mids and higher ranges and also as low-frequency ambience. Ambience is usually a property of the high frequencies; here, we distinctly had it in the bass. Imagine that -- bass ambience. Normally, a really full bass foundation means you are listening to a solid-state amp, which also usually means there's a little muddiness or a one-note quality that isn't quite natural. What I heard here were the color and lifelike presentation of tubes -- like the famous tube midrange but in the bass. Most of you have heard the way a solo voice, via a tube midrange, can glow and radiate out from center stage. Now think of that in the bass. It was really nice. Unfortunately, my Lansche 5.1 speakers do not quite fully extend to the deepest bass regions. Pity. I'd never missed it before, but I would have loved to hear what a high-resolution speaker with really deep bass could do with these amps.

Take "The Logical Song" from Supertramp's *Breakfast in America* [A&M 3937082]. This is obviously not an audiophile recording, but my daughter asked for it. Here we have a very low, fretless bass line with much higher piano, mids and vocals. The bass line glowed and rolled free along the bottom third of the soundstage. The reverb was right. In fact, all the frequencies had a little glow and their own proper ambience. There was a realness here that was very pleasing and very satisfying.

Another selection my daughter suggested is violinist Julia Krasko's solo live recording of "Tambourin chinois" from *Love's Joy and Sorrow, Julia Krasko play Fritz Kreisler* [Delos DE3249]. My daughter may be growing up too fast, judging by the sophistication of this music. Krasko's virtuosity on the lightning passages takes your breath away. The wood and resin of the violin were so in-the-room I could almost smell them. Move over, Itzhak Perlman.

Another pyrotechnic classic is Glenn Gould's fiery rendition of the Gigue from Bach's English Suite No. 2 in A Minor from *32 Short Films About Glenn Gould* [Sony 46686]. This track is always a stunner, and this time the timbre of Gould's Steinway was spot on, yet the rendering made it sound new to me. Audio reviewers are always talking about how hard it is to get all the jangling square waves of the piano exactly right, and many amps do a fair job. What I heard here was the *rest* of the story. The piano is made of wood, and I was clearly able to tell. I've heard harmonically accurate piano reproduction before, but those performances seem to me now to consist of notes that were disembodied from the instrument that made them. The Allnic amps filled in the rest of the body of the piano, right down to the legs and pedals. Thrilling.

"God Must be a Boogeyman" from Joni Mitchell's album *Mingus* [Elektra 7559605572], should meet with audiophile approval. It certainly gets mine. This is an assembly of crazily talented musicians on a very far-out track. On other great systems, it has dynamics of insane proportions. At intervals throughout the piece, and without warning, a fretless bass is slapped silly, producing string-bending chords at startling volume. These are what I call the *jump-out parts*. Via the Allnics, there was a tonal vividness to the whole performance. It rocked so hard that I had difficulty remaining in my chair. This was close to the best rendition I've heard on this.

Speaking of rocking jazz, if you haven't heard the Bobby McFerrin/Chick Corea live collaboration *Play* [Blue Note 7954772], you really need to, right away. "Autumn Leaves," in particular, is delightfully playful. It opens with banter that mocks ossified jazz standards and scat singing. It's all in good fun, until things gets serious. McFerrin's world-class, psychedelic scat and Corea's inarguable genius on piano grab you by the spleen with their ferocious virtuosity. They don't let go until the music is over. Via the Allnics, there was a glue of dynamic shading, timbral accuracy and soundfield fidelity that adhered me to the performance in a way I can't say I've ever heard better, and I've heard this track a lot.

Popular music via the Allnics was a learning experience. As a devotee of tubes and triodes in particular, I'm always making excuses for the way popular music sounds processed through high-resolution tube equipment. I've often wondered how it can sound so alarming via fine tubes when it *had* to have been mixed on highly resolving solid-state equipment by competent people. I told myself this was because the studio equipment was not as resolving as my system at home. Now I suspect it's because most tube equipment is starved for current and power. Not so the Allnic M-3000 Mk 2s. Designed by a man who values current, the Allnics behave with the solidity and power of a solid-state amplifier through the entire frequency range, but still have the delicacy and natural glow of tubes.

"Love Yourself" from Justin Beiber's *Purpose* [Def Jam 4757641] is a case in point. Finally, I had the impression I was hearing exactly what the recording engineers intended, only better because of the tubes. I've heard this track sound slow, ponderous and unexciting. Through the Allnics, it was ultra-rhythmic and fast. Bieber's voice was beguiling and more resonant than usual. This was really the best rendition of this I've heard. The same goes for the Beach Boys' "In My Room" from *Sounds of Summer* [EMI 82710] and Prince's entire *Purple Rain* album [Warner Bros. 25110].

Where to find fault in these amplifiers? Let me see. The tonal signature is a little on the dark side. I can identify a lack of ultimate high-frequency extension, which translates into a slight loss of airiness relative to my output-transformerless Joule Electra VZN-220s ($25,000 per pair when still available), for example. Associated with this is what I might call a lack ruthlessness. The Allnic amps make otherwise ear-bleeding passages sound totally non-fatiguing, but pleasantness and truthfulness are not the same thing. I've heard

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other amplifiers that bring out greater detail in various ways. Finally, there is a timbral coloration I would call *woodiness*, which, perhaps not surprisingly, comes through particularly on wooden instruments, but also in the huskiness of voices, as well as very fine details not usually revealed. I have never heard a Permalloy output transformer, and I'll bet you haven't either, so this is, I speculate, attributable directly to the Permalloy.

Nevertheless, I couldn't stay mad at these Allnics. Frequency extension was impeccable, with a triode-like ambience in each frequency range. Perhaps there is a super amplifier out there that is both as non-fatiguing as the Allnics and renders the music more accurately, but I haven't heard it, and may well never. Of triode ambience, ruthless accuracy and a lack of listening fatigue, I love all three; but, alas, they are mutually exclusive to some extent. As with Heisenberg's uncertainty principle, you can't have all of one without compromising some of the others. Such are the mysteries that keep life interesting. A great achievement of these Allnics is that my fascination with their balance did not fade over time.

It so happens that my previous review was of a set of push-pull monoblocks from KR Audio, the VA910s ($16,500 per pair). Those have a similar circuit to, and are at a similar price as, the Allnic amps. They use the earlier-generation KT120 output tube, so they have a little less power (around 140 watts) and are therefore not directly comparable to a KT150 amp. I liked the VA910s a lot.

Without being able to do an A/B comparison, from my memory of the VA910s, I would say that both they and the Allnic amps lack a little in ultimate high-frequency extension and airiness. The KR Audio amps have more of the revealing ruthlessness of which I spoke above, though they also sound more clinical. Both amplifiers throw a huge, room-filling soundstage, but only the Allnics do the "woodiness" -- and the internal timbral detail thing. Which one is best? For long-term enjoyment, I would choose the Allnics.

For years, my goal has been to find an amplifier that combined the magical, holographic quality of triode midrange with greater power and frequency extension, especially downward into the bass. The closest I have come is the Joule-Electra VZN-220 output transformerless monoblocks, which are extremely even-handed top to bottom and incredibly transparent. They do not, however, quite pull off the holographic magic in the midrange, which is the object of my quest. Output transformerless amps tend to have amazing transparency, but not necessarily amazing focus.

Little did I know there was a product *with* output transformers that could manage full frequency extension and bring the focused magic to the entire frequency range. The Allnic M-3000 Mk 2 amplifiers are that product, and their spectacular output transformers seem mostly responsible. These amplifiers offer a whole new perspective on tone and clarity that is very different from anything I've heard before. I haven't heard every amp in this price category, of course, but I would be completely unsurprised if these amps were the top performers at their power and price level. They have gobs of power, a huge soundstage, amazing bass, and an overall non-fatiguing character. If that's not enough, they are lovely to look at, easy to use, and have great heat management. Kang Su Park claims that they will keep working trouble-free indefinitely. If they are as reliable as he says, count me in. Anyone who appreciates fine audio would be proud to own them, and that includes me.

Associated Equipment

Digital: Linn Klimax DS/2 and DS/4 Katalyst renderers, QNAP TVS-463 NAS drive ("Golden cloud", 16GB RAM, 2TB solid-state Samsung Evo drive) running Linn Kazoo music-server software, Tidal subscription music service, Apple AirPort Extreme home WiFi network to Apple Time capsule (configured as a wireless network extender in bridge mode), generic Ethernet cable from Time Capsule to Linn renderer (hardly any dropouts!).

Preamps: Coincident Speaker Technology Statement.

Amplifiers: Joule-Electra VZN-200 and KR Audio VA910 monoblocks.

Speakers: JMlab Mezzo Utopia, Lansche 5.1.

Cables: Coincident Speaker Technology CST Extreme power cords, XLR interconnects and speaker cables.

Power conditioning and distribution: None. All AC power comes directly from the wall.

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