Our House Sound – Part 2:
The Audio Research high-definition design philosophy.

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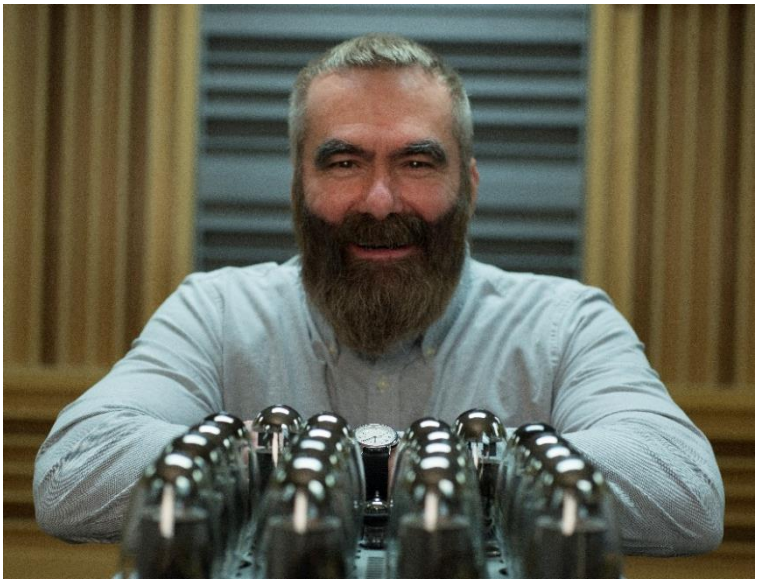

The Research in Audio Research, nearly 50 years in the making, is what allows the simultaneous amalgamation of relaxation and engagement to happen. Without giving away any secrets, here are a few of the weapons in our quiver that in combination, take aim at making music sound that much more life-like. When you plug what appears to be a collection of mere boxes into the wall socket and connect to your speakers, electricity begins to flow on many levels.

Enter the heroic power supply. Audio Research components have always employed vigorous bulk-supply energy storage, with conservative regulation, often employing vacuum tubes. The result is a component that plays louder and more effortlessly under complex, dynamic musical signal demands than its actual power rating would suggest. What some would deem overkill is for us, standard operating procedure.

Power and output transformers of exceptional bandwidth and resolution capability are custom designed in-house, calling upon over four decades of engineering refinement expertise. The best transformer type for each application, whether e-core, r-core or torroidal, is selected to elicit maximum performance.

Constant current sources are used at critical circuit stages to improve clarity and dynamics while reducing distortion. Internal wiring has been chosen using the highest purity copper, with specific geometry and insulation characteristics to preserve signal integrity and critical timing accuracy.

Cryogenic treatment is applied to key components and wiring as well. Custom formulated elastomeric vacuum tube damping rings are fitted to all small signal tubes to improve focus, lower distortion and prevent microphonics.

Specific resistor and capacitor types, including key coupling caps we partner to custom design and fabricate for maximum phase integrity, speed and bandwidth, are each hand soldered to custom conformal-coated circuit boards with extra thick and wide pure HFC copper traces designed to be dynamically unfettered.

We responsibly source the finest widely available and replaceable vacuum tubes to burn in on our custom test fixtures, then test, grade and tightly match them in key parameters to maximize performance for each individual product.

The solder formulas, the gold jacks, fuses, tube sockets and internal damping materials/techniques, the cover materials and tuned elastomeric feet are each vetted by ear for best sonics. The circuit layout and shielding techniques ensure the highest possible signal-to-noise ratio, rivaling or exceeding some of the finest solid-state designs with regard to achieving desired maximum black background quietness. Even the circuit board cleaning techniques after soldering were developed to eliminate any residual contamination and achieve maximum signal purity and transparency.

Every component part and each circuit topology is chosen by ear for maximum performance. Every finished product is warmed up after burn-in and QA bench testing and plays music in a high-resolution stereo system to verify each product meets stringent sonic standards to satisfy in all areas of actual performance. Components then undergo yet a final bench measurement and inspection test before paneling and boxing for shipment in carefully engineered cartoning. The owners manuals are written and organized for clarity to anticipate and address all key operational questions.

The result of this admittedly obsessive scrutiny are products that walk a fine line following William Johnson's original vision. They are not subtly old-school tubey and euphonic – which may flatter some music and please the ear in the short term, but ultimately become boring in their artful deviations from the musical truth. Nor are they overly analytical, edgy and hyper-detailed, with a slight insidious dryness, perspective flatness and lack of tonal color that solid state invariably exhibits to some degree – and in a way that many highly discerning ears ultimately find irritating and distracting from the music over extended periods.

As you delve ever deeper into the passion for emotional connection with the music you collect, the big takeaway in pursuing ever more realistic music reproduction is a growing realization: The cumulative effect of every decision, every part, every detail will impact the essence of everything still awaiting to be unlocked, experienced and savored. And no one in high-end audio has a longer continuous history and track record of researching, unlocking and elevating the performance of vacuum tube technology in pursuit of faithful music reproduction than Audio Research.

While our products have always measured well on paper in terms of traditional test parameters, we have also deliberately chosen to travel even farther along a unique design path. To pursue and elevate the spec that matters most to your ears: ever wider emotional bandwidth.

And that, my friend, is the House Sound of Audio Research.