The new G-Series from Audio Research features award-winning sound in a new, classically inspired aesthetic. Learn more about the G-Series and the inspirations which influenced its design.

The KT150 output vacuum tube makes its debut at Audio Research in the new G-Series. Find out why this new tube was chosen, learn a little more about what makes it different from other tubes, and also how it will affect other products in the ARC line.

Meet Warren Gehl, the 'ears' at Audio Research. Warren is involved in the sonic development of all ARC products, and he's also the one that listens to every single component we build before it ships.

Vintage! Take a step back into the past and have a look at the legendary Audio Research SP-3, the preamplifier that changed the audio world, and the company as well. As a tribute to those early buyers, we still offer upgrades to this day.
INTRODUCTION

Greetings, and welcome to the Audio Research newsletter! This is our very first attempt at a newsletter, so we hope you enjoy it, and encourage you to leave feedback on our Facebook page if you have any comments or input. We plan to produce about three newsletters a year to keep you in touch with new products and ideas coming from Audio Research. In between, we recommend checking the Facebook page for regular updates or to share any Audio Research stories you may have.

Right now, here in Minnesota, we are starting to enjoy the onset of spring and warmer weather. Winter was unusually cold, but thankfully there were plenty of tube amplifiers to keep us warm! The engineers at our facility in Plymouth continue to explore new possibilities for sonic excellence, while the production team hand builds and assembles each and every component. But before it can bear the Audio Research label, it has to pass a listening test by Warren (see interview in this issue) to prove its worthiness!

The new G Series has also been a challenging and fun experience for everyone as we take a look at the past and reimagine it into a contemporary design. This will be the first product release to utilize the new KT150 output tubes which have impressed us with their sonic qualities and durability.

We hope you enjoy reading, but even more important -
Happy Listening!

The Audio Research Team
The new G Series from Audio Research is at once both an answer to frequent requests for a less industrial product aesthetic, and also an experiment for a company that has been quite conservative over time with regards to changing appearances. Over the years, many customers have asked for a more refined look and feel for Audio Research - one that is more living room and less laboratory. As part of the Fine Sounds Group, we are fortunate to have an industrial designer who is not only very talented, but also a longtime fan of Audio Research, and he considers it a great honor to be working with one of his favorite hi-fi brands. The effort has managed to capture the past design elements from iconic ARC products and combine them with softer, more contemporary lines. Not intended as a substitute, the G Series will coexist with the rest of the Audio Research product range to provide an alternate aesthetic as well as a platform for new ideas. And, just like everything from Audio Research, the sonics are the first priority - needless to say, the G Series is true to the quality and reputation for which Audio Research is renowned.

The inspiration for the design of the G Series clearly comes from products of the past; but it also pays respect to Bill Johnson and his forward vision of high performance audio through vacuum tube technology (though in 1970, few thought him ‘forward’ in his aspirations). The G Series is also an homage to the great astronomer Galileo, who refined the optical technology of his day to create a telescope to peer deeper into space and reveal unseen moons and planets. Rejected in his time for his theories, many of Galileo’s discoveries are now the foundation of modern astronomy.

The final touches and tweaks are being performed now on the G Series, and production should start this summer.
An amplifier is the workhorse of any system – it is responsible for receiving small signals from a preamplifier or source component, and developing them into larger currents to drive a loudspeaker. To that end, the GS150 has been designed to seamlessly integrate into any system and steadfastly perform its task. Challenging source material and difficult speaker loads are met with control and finesse to present a musical landscape of breathtaking proportions.

Three meters across the front panel provide a window into the operation of the amplifier and give the amplifier a striking façade. The selection of premium parts internally is reflected in the beautiful metalwork of the chassis and exquisite finishes. The circuit design features the new KT150 power output tubes for 150 watts of effortless power delivery. A reflection of the past yet clearly a guiding light into the future of music reproduction, the GS150 is poised to deliver years of musical enjoyment.

The GSPre is the nerve center of a system – not only directing signals and providing attenuation, but also interpreting and deciphering complex signals to create a musical story with the drama and intrigue befitting your favorite songs. The job of a preamplifier is to do its work discreetly, leaving the musical signal with as little signature as possible yet still unraveling the chapters that comprise the lyrical narratives of the source material. With decades of expertise creating some of the finest preamplifiers ever produced, the GSPre is certain to continue the legacy on which Audio Research has built its reputation.

The GSPre is both a line stage and phono stage, with programmable functionality and flexibility, making it the perfect solution to adapt and grow in your system. The phono stage is no mere afterthought, but a separate, vacuum tube-powered circuit providing enough gain for a variety of phono cartridges. When listening conditions require a more personal experience, the GSPre also has a headphone amplifier capable of driving a range of headphone impedances. The front panel layout is designed to simply and clearly display all functions and information, and integrates beautifully with the rest of the chassis and the G-Series amplifier.

A preamplifier, amplifier, phono stage, and digital to analog converter all in one chassis, the GSi75 combines with your favorite speaker to deliver a singular and simple solution to control your listening system. Unlike other integrated designs that make performance-sacrificing compromises to fulfill a price point or form factor, the GSi75 harnesses the power and technologies developed by Audio Research into an authoritative platform to reveal the best performances from your media.

Powered with the new KT150 output tube, the GSi75 supplies finesse and control that belies the 75-watt per channel power rating. The digital-to-analog converter will handle almost any sampling frequency including DSD. The phono stage and headphone amplifier round out the GSi75, providing total system control and integration. The elegant, understated design will complement the rest of your system both visually and sonically.
The KT150 power output vacuum tube is a new Tung-Sol branded design from New Sensor. Tung-Sol was the inventor of the 6550 tube back in 1955, and was designed specifically for the audio market (this was back when the transistor had literally just been invented). The KT150 is manufactured in Russia, in the New Sensor facility, as are the 6550 and KT120.

For most of the company’s history, the 6550 was the premium output tube in its amplifiers. Even in the early days before Bill had started Audio Research, his modifications would often include replacing other vacuum tubes with the 6550. In 2010, the KT120 was chosen as a replacement to the 6550. The KT120 was a new design, and offered better current delivery and sonics. It is the vacuum tube around which all current Audio Research amplifiers are designed.

The KT150 is a very new tube, having just been released in the second half of 2013. The KT150 offers higher plate dissipation, higher current capabilities, more power output and a longer lifespan than previously available power output tubes. Audio Research acquired sets to begin sonic and reliability testing at the end of 2013, and we have been very impressed with its performance and longevity. With specific regards to sonics, here is what Warren has to say: “Versus the KT 120 tube, which it most closely resembles sonically, the KT 150 imparts a greater sense of foundation, solidity and authority from the midrange on down much like having a more powerful amplifier on tap. There is a sense of ease and headroom handling the music that brings out very low level dynamic nuances as well as newfound intensity on high level climaxes which build more dramatically. The sound is full and rich, yet transient response is superbly fast and extremely pure, with the most grain-free and lifelike resolution and transparency. The octave to octave tonal balance is spot on, with improved focus, image stability and soundstaging dimensionality compared directly against the same amp with KT 120s. Holographic and supremely musical in ways reminiscent of the harmonic aspects of the best triode tubes. Both exciting and relaxed, it is analagous to driving a car with high torque available at any engine speed, allowing the car to respond quickly and smoothly to any driving situation.”

The KT150 will make its Audio Research premier with the new G-Series, but testing is ongoing to check viability with all current model offerings. The only drawback to this tube is its cost - at double the price of a KT120, the KT150 may be offered as an upgrade to existing models for an additional charge, but it is not intended to replace the KT120 as our stock output tube.
What did you do before working at Audio Research?
I worked in engineering, then research and development for a major filtration and noise silencing company out of school and then an aerospace engineering company, which led me to experiment with vibration control and damping materials. That led to designing the Analog Survival Kit that I sold through Sumiko, a tonearm vibration dampening elastomeric strip and a thin, fibrous mat to counteract the effects of hard, acrylic platters that were so common in the 80's. I had also developed a CD damper for Sumiko that Audio Research was using at the time. I designed the turntable platter mat for the original SOTA Cosmos turntable and a composite, high-mass equipment platform while in California as well.

So this was your connection to Audio Research…?
Yes, they were looking for an assistant and eventual replacement for Jack Hjelm, who was their listener at the time. I was living in California, so I flew to Minneapolis to interview for the position, and they hired me. I apprenticed with Jack for a several years and learned a lot from Rich Larson (past chief engineer) and Ward [Fiebiger] (still designing equipment today), and did a lot of listening to help develop prototypes as well as to familiarize myself with all of the production models.

So you were obviously into audio equipment before becoming the new listener.
Did you have any past experience with Audio Research?
When I was in high school, a friend and I used to go to the hi-fi store in Minneapolis started by Bill Johnson and were exposed to early ARC electronics there, along with early Magneplanars and other equipment from the time. It was awesome visiting that environment, given the cheap chain-store electronics and bad solid-state components so prevalent in the market. That was probably in 1971. My next exposure to Audio Research was in ‘75 at another store, where I bought a D75A amplifier – that was my first Audio Research piece – and Quad 57’s, and then I bought an SP-3 preamplifier. The Audio Research gear just struck me as being much more engaging – it made the music come to life in a way that other electronics just never did and still don’t.
We understand you listen to every single product that Audio Research builds – but can you go into more detail about what your process is, and what it is you're listening for?

Well, I think I have a pretty good aural memory, so when we develop and finalize a product, I know in my mind how that sounds. Plus I make a point of taking in live music at least once a week to maintain my reference. When I hear production units, there's a very narrow window for sonic variation. The quality control is so tight, as well as the tolerances on the parts, that there should be virtually no difference between the ideal production prototype and the successive products that we produce. So I'm basically trying to weed out things that might have been under the radar, or something that crops up intermittently that wasn't seen by the quality assurance department. And there are certain things that you can't measure but you can hear. So every product the company makes is put into the same system that was used to test the prototype, so that it's in the same context and system. I warm it up and listen, and keep this narrow sonic window in mind. And I also do the same for service products.

So, if a product doesn't pass the listening test, you send it back to quality assurance...?

Right. There might be some very intermittent tube noise or crackling that they wouldn't initially catch on the bench because they would have to sit there and listen for it with speakers, or stare into some measurement instrument for twenty minutes. I listen for it to get more relaxed and transparent, and a bigger soundstage as it warms up, and usually within fifteen or twenty minutes I can tell that it's within the critical window and that it's not going to veer off in some negative direction. Basically it has to be something I would want to take home and live with, or it's not going to leave the factory.

Those same requirements probably also transcend into the development process...

Yes. We're always trying new parts from different vendors who will contact me, or I'll hear about something new from our buyers and want to listen. I'll sample all sorts of new tubes, wire, dampening materials, capacitors, circuit boards, different solders – anything that's part of the circuit, whether it's active or part of the mechanical design. Layout affects the sound as well – location of the tube dampers, how the wires are dressed inside the component, and chassis vibration damping. In the final tweaking stage, I'll experiment with different damping materials on component parts and on the chassis. That's something you can't do completely with measurement devices or analyzers – it's a lot of trial and error. Each step requires careful music listening evaluation. And I'm thankful for my 8000 plus LP and 2000 plus CD collection I can call upon.

It's a sum of all the parts, right?

Exactly. The challenge and magic is getting the whole to be as far greater than the sum of the parts as possible. It's why I look forward to coming to work each day. It's a wonderful job and place to grow and learn the art. The responsibility of helping to maintain the high standards set here since 1970 is awesome. It's an enjoyable process but intensely serious. I'm very grateful for it.
MUSIC RECOMMENDATIONS

Here's a list of music recommendations from Warren, which includes some new releases as well as old favorites.

Bach, J.S. *Alio Modo* - Fretwork / Harmonia Mundi CD 2005

Beck *Morning Phase* Capitol 180 gram vinyl 2014

Roy Hargrove, Christian McBride, Stephen Scott Trio *Parker's Mood* Verve CD 2010

Miles *Español: New Sketches of Spain* Entertainment One double CD 2011

Wes Montgomery & The Montgomery-Johnson Quintet Epic HLT8014 140 gram reissue (mono) 2014

Thievery Corporation *Saudade* ESL Music 180 gram vinyl 2014

Steve Tibbetts *Natural Causes* ECM CD 2005
The SP-3 preamplifier is one of those products that come along at a specific place in time to become legendary - in this case, in the history of high-end audio. Though not the first product from Audio Research, it is often credited as the product that really put the company on the map. Thousands of the SP-3 in its various iterations were sold in the mid 1970's. Harry Pearson called it hideously expensive - but said it simply was the best preamplifier available. What were the conditions to make this product as successful and influential as it was - and in ways, still is?

The SP-3 was first introduced in 1972, and stayed into production until 1977. During this time, four different versions were created, and ultimately a fifth version, as an update, appeared in 1999. The SP-3 was updated in 1974 to the SP-3A due to parts availability for the power supply, and again to the SP-3A1 in 1975. Sonically there was little difference between the first two models; the SP-3A1 did offer improved sonics along with the power supply changes. With the introduction of the SP-6 in 1978, it was decided to once again update the SP-3 power supply, creating the SP-3B. However, the bulk capacitance in SP-6 design was considerably larger than that of the SP-3 generation, which then had the tendency to produce noise and send DC to the speaker during its initial warm-up and stabilization phase. With no mute button, this noise went directly to the speakers when the power amplifier was powered on prior to or at the same time as the preamp (as most audiophiles will tell you, the power amp goes on last and off first. When the power amp was also a vacuum tube design, this issue was less a problem as the amplifier had its own warm-up cycle. But, as was popular at the time, many people were combining solid state amps with their Audio Research preamps). Fortunately, this problem surfaced rather quickly, and there are probably only 14 or so examples of the SP-3B in existence. Fast forward a while to 1999. The company was nearly 30 years old by then, and Bill Johnson started to think again about the SP-3 and how many people were still using them. He felt he could provide an update to further improve the performance. The update included a new power supply, replacement of critical capacitors, high-quality, gold plated terminals, new wiring and other critical changes that made it a much better preamp. Just as it was an homage to those early customers, the update to the SP-3C is still available as a factory-direct service to owners of any previous version of the SP-3.
In 1972, Audio Research was still a fledgling company, and as such, the dealer network was still being developed and grown. Bill Johnson was also a (newly) licensed airplane pilot, and the need to share his products was the perfect excuse to load his plane with products and fly to a dealer to let them experience the Audio Research sound. This ability to share the sound experience, along with a couple of excellent reviews, really helped launch the SP-3.

Two reviews were published shortly after the release of the SP-3. The most influential magazines in that day were The Absolute Sound and Stereophile, headed by Harry Pearson and J. Gordon Holt respectively. Pearson and Holt both proclaimed the SP-3 as the best preamplifier money could buy even at its relatively high price (in 1973, the SP-3 sold for $595; by 1975 at the release of the SP3A1, it was $795. For comparison, the average annual salary at the same time was $7600). Considering the influence of the audio press at the time, these reviews had a significant impact on the awareness and sales of the SP-3.

More than four decades after its initial release, the SP-3 remains a model and icon in the audio industry. With it’s beautiful midrange and impressive spatial renderings, it set the stage for a sound that remains to this day in Audio Research products. Despite the design being more than 40 years old, it maintains a sonic presentation still unrivaled by all but a handful of products.

For this story, we talked with Leonard Gustafson to share a historic perspective. Leonard was friends with Bill Johnson back in the 1960’s even before the days of Audio Research, and worked as the customer service manager from 1980 until his retirement in 2010. Leonard has a first-hand perspective on early Audio Research products as he assisted customers with service repairs and questions. He has also been a long-time music listener and audiophile, and still enjoys his stereo system today...when he’s not out golfing.