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Audio Research Reference 75 SE power amplifier



by Alan Sircom

Sircom's First Law of Amplification states that the thermal output of any amplifier under test is directly proportional to the ambient temperature of the environment. In other words, when it's freezing cold outside, all you get to review is Class D iceboxes, and the all-valve Audio Research 75 SE's time in the sun was around Wimbledon fortnight. It's a hot-running amplifier at the best of times, but with the sunshine outside the house pushing body temperature, and no air-con inside the house, those hours spent running in the Reference 75 SE were hours spent in a sauna.

There is little to distinguish the original Reference 75 from its new SE model from the outside, apart from a tiny badge on the top. It's still the same classic Audio Research finish in silver (or black) with now-matching grab handles on the front and two big blue glowing meters on the front panel. It still uses the same hybrid solid-state/valve circuit with each channel featuring a JFET input stage feeding a 6H30 double triode line driver and it is still an all balanced amplifier, with not even the implication of a single-ended RCA input. It still needs a 20A IEC socket. The similarities sort of end there.

Something happened at Audio Research a couple of years ago, between the launch of the Ref 75 and Ref 75 SE. What happened was the GS range, and in particular the GS150 stereo power amplifier. Audio Research shares with Naim Audio a very conservative customer base, and any change to the exterior design is met with gasps of disapproval – even the move from black handles on a silver front to matching handles on ARC amps a few years ago was met with the sort of opprobrium normally reserved for impeached presidents and ▶





▶ profligate hedge-fund managers. But after the inevitable feeding frenzy over the GS new look, when people began actually listening to these amplifiers, they seriously liked what they heard. A touch of 'trickle down' was required.

The Reference 75 stereo, the Reference 150 mono (the original design platform for the Ref 75), and the Reference 250 mono amps underwent some significant improvements, with changes to several active and passive components in the circuitry, and a move from two matched pairs of the 6550-derived KT120 to the two pairs of all new KT150 power tube. Despite the tube swap, power output remains unchanged at 75W per channel.

This change in output valves is significant: the KT150 is one of the biggest beam tetrodes (or 'kinkless tetrode', hence the 'KT' prefix) in production, and the biggest designed in recent years. Great big juicy 815 tetrodes the size of a football are all well and good, but aren't really practical in most settings, and finding replacements is extremely expensive. The advantages of a beam tetrode over a pentode design (like an EL34) are its efficiency, its increased output power, and its relatively low harmonic distortion, however, they also require a larger input signal at the control grid, need to sit in a very well-designed circuit and have a tendency toward intermodulation distortion unless used in ultra-linear, push-pull circuits. All of which makes ARC's background – and its use of a hybrid input stage – ideal for delivering amplifiers with beam tetrodes. And one of the reasons why the Reference 75 proved so popular was that it leveraged the advantages of those power tubes and eliminated the disadvantages. The Reference 75 SE does more of the same. A lot more.

In a run-up to the Ref 75 SE review, I looked over my review of the original Reference 75. The clean, clear, dynamic presentation, starting at the

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midrange on out is still there, and in most cases radically upgraded and improved. But the big change here is the bass performance. ARC has notably good bass, but on some of the smaller amps at least, it trades depth and power for speed. This was possibly the only functional shortcoming of the Reference 75, and it's removed in the Reference 75 SE. It still holds the 'big ARC amp power, little ARC amp pace' sweet spot, but it's made that sweet spot all the more wide and deep.

Musically, I started out simply, with Cat Stevens 'Father & Son' from *Tea for the Tillerman* [Island]. I've found this can either be entrancing or mawkish, depending on the ▶

"The Ref 75 SE does all the things the Ref 75 did, but then does them with a fine sense of keeping a beat, too."

► purity of the signal path. Here it was entrancing, inviting 'old head on young shoulders' musing. Those simple, whisper quiet backing vocals from Alun Davies are not increased in volume, but they are more noticeable, more readily understood, and underpin the pathos of the track. It becomes profoundly moving, even for the childless among us. This is not a track to test broad-stroke dynamic range or instrument solidity, but even here it was clear the Ref 75 SE was rooting the singer in place.

Moving over to 'Moanin' from the 1958 album of the same name from Art Blakey and the Jazz Messengers [Blue Note], the sense of grain-free insight into everything that was on the album was profound. You were there in the studio, listening enrapt; you take in the subtle sounds of fingers hitting keys and mallets hitting strings, the sound of the valves in Lee Morgan's trumpet, and the most subtle of stick-work from Blakey. But you also take in the bigger picture, of a gloriously coherent group of musicians playing together in a set that 57 years later still sounds fresh. You always get to hear that freshness in the recording (you could play it through a broken clock radio and still hear that freshness), but the Reference 75 SE helps explain why this sounds so fresh.

Out went jazz, in came the more rockist end of the spectrum: AC/DC to be precise. Well, if you are bathed in heat, why not listen to a 60 year old guitarist who plays gigs in shorts and a schoolboy uniform (but let's not focus on that)? This was something that worked both good and ill on the original Ref 75 – good because it had the bass power and energy, but it didn't have quite the pace to keep up with the steady pounding beat of 'Back in Black' from the album of the same name [Atlantic]. And it was here where the Reference 75 SE stepped things up a gear. It retained the bass depth, but added enough pace and control to make you play it loud and long. Blasts of Led Zep, ZZ Top, Van Halen, and even the Sex Pistols followed, meaning the Ref 75 SE has mojo, and will put a smile on your face. Cliché – absolutely, but it doesn't matter. The Ref 75 SE does all the things the Ref 75 did, but then does them with a fine sense of keeping a beat, too.

By now, listening to classical and the obligatory well-worn test recordings was almost a formality. The Reference 75 SE harnessed that grace and fluidity of mid-range of great Audio Research amps, included the surprisingly powerful bass of its predecessor, and pulled everything together to make you want to bask in its presence for hours on end. There was nothing that fazed the Reference 75 SE and in partnership with the Wilson Duettes and especially with a Nagra HD DAC and ARC Ref 5 SE front end, this was the kind of sound you could listen to with no need to change for decades. Bigger, more upscale ARC buys you more power for bigger systems and rooms, and gives you slightly more finesse to the top end, but as the best bang for your ARC-shaped bucks, you can't get better than this right now!

TECHNICAL SPECIFICATIONS

Type: Balanced hybrid stereo power amplifier

Tube complement: 2x KT150 power tetrodes, 1x 6H30 double triode per channel

Power Output: 75 watts per channel continuous from 20Hz to 20kHz
1kHz total harmonic distortion typically 0.6% at 75 watts, below 0.05% at 1 watt.

Power Bandwidth: (-3dB points) 7Hz to 60kHz

Frequency Response: (-3dB points at 1 watt) 0.7Hz to 75 kHz

Dimensions (WxHxD): 48.3x22.2x49.5cm

Weight: 21.3kg

Price: £8,600

Manufactured by: Audio Research

URL: www.audioresearch.com

Distributed by: Absolute Sounds

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Current owners of Reference 75 and Reference 150 amps can upgrade to SE status. And I can't see any reason why those original owners would choose not to make the upgrade. OK, so KT150s are more expensive tubes when the time comes for replacements, but the sound the Ref 75 SE makes means you won't care about tube rolling and will love those KT150s for every moment they are powered up.

The Ref 75 was (and is) a truly magical amplifier. It was one of those amps that is so good, if a friend said "oh, I don't like it" you'd question their sanity, their hearing, and maybe even your friendship. It's that good and inspires that kind of passion from its users. And the Ref 75 SE does all that, raised to a higher power. Highly recommended? You bet! +