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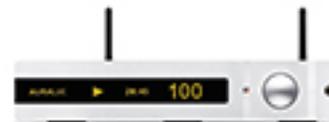
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TUBE PREAMP REVIEWS

Audio Research Reference 6 line preamplifier

Michael Fremer | Nov 23, 2016



The last time I reviewed an Audio Research component—it was the VTM200 monoblock amplifier in [January 2001](#)—my hair was mostly dark brown. The wait since has been not of my choosing, but that's now flux under the circuit board. Since then, much has happened to both me and to the Audio Research Corporation, a long-lived company for which the descriptor "legendary" is well deserved.

William Z. Johnson founded ARC in 1970, in Minneapolis (the company later moved to Plymouth, Minnesota). He passed away 41 years later, on

December 10, 2011. In an interview published in the August 1994 issue of *Stereophile*, Johnson, who was also ARC's chief engineer and was rightly credited with single-handedly reintroducing vacuum tubes to high-end audio, said this of his designs of the 1970s:

"I tried transistors, but I thought the sound that I was able to generate with various design approaches was horrendous—it was terrible. Then when FETs came along, I tried again. And while we were able to design circuits with some relatively good numbers, the sound quality still wasn't there. As the years went by, of course, that tended to change. Since then, we've made some inroads with both bipolars and FETs. Today I would have to say that our various solid-state products are probably superior to the early tube units.

"In saying that, however, it's still true that, with an all-out design effort, vacuum tubes will win. . . . [*Younger readers should know that in the early days of ARC, the idea of designing by listening as opposed to solely by measuring was a radical concept. —MF*]

"[T]he measurement techniques we use today really don't necessarily tell you about the sound quality. Obviously, if it measures badly, it isn't going to sound good. But the simple fact that it measures well doesn't assure that it will sound good."

In 2008, three years before his death, Johnson sold ARC to Fine Sounds, a subsidiary of the Italian private equity fund Quadrivio, which also owned McIntosh Laboratories, Sonus Faber, Sumiko, and Wadia Digital. Quadrivio subsequently sold Fine Sounds to its current owners, Mauro Grange and Charlie Randall, who renamed the company The McIntosh Group. The acquisition seems to have been good for ARC and for its loyal, worldwide fan base.

Livio Cucuzza, chief industrial designer for the entire McIntosh Group—his father was an Audio Research dealer in Italy—redesigned ARC's entire line, modernizing the look while retaining some classic Audio Research elements. The results are, in my opinion, eye-catching, though some

complained about the "plastic" knobs. But the knobs aren't plastic: they're made of a black-anodized aluminum that's difficult to produce and is sourced overseas. (Almost all other parts used in ARC products, other than the tubes, are made in the US, much of it in or near Minnesota.) Whether you prefer the bold new look or the older, hospital-instrument aesthetic is a matter of taste. I like the new look. More important, based on the Reference 6 (\$14,000)—introduced last year, and a major upgrade of the Reference 5 SE—ARC seems able to invest in serious upgrades of casework, circuits, and parts without significantly raising the price.



Audio Research products are designed by a team led by director of engineering Ward Fiebiger, a 37-year ARC veteran, and Dennis Petrich, who's been with the company since 2008. Warren Gehl is in charge of "sonic development." Gehl takes seriously William Johnson's adage: "the

simple fact that it measures well doesn't assure that it will sound good." Working with the engineers, Warren helps "tune" the sound of each new model. He not only passes judgment on every new ARC design, he listens to every ARC product before it leaves the factory (footnote 1).

Operating System

Installing a new component in an audio system is like bringing home a new puppy. Sometimes, the addition fits in as if it's always been there; other times, accommodating it requires a lot of time and effort. Some gear I've installed has immediately improved the system's sound—or, at least, provided a perspective on the music just as valid if different from that of the component it replaced. Other gear has required changes up and down the chain to bring the system back into pleasing balance (footnote 2).

ARC's Reference 6, run in balanced mode, slipped into my system like a fully house-trained puppy. Its sound was different from that of my reference preamp, a darTZeel NHB-18NS—either the original (most recently priced at CHF31,700, approximately \$32,665 by today's exchange rates) or the all-new (\$39,500) version, soon to be reviewed—but within a few tracks its contributions seemed to slip under my radar, reappearing only when I began to take serious note of its qualities both positive (most of them) and negative.

Replacing the Reference 5 SE (\$12,995), introduced in 2011, the Reference 6 has circuits so heavily revised from its predecessor's that there's little point in comparing them, other than to say that *everything* has been upgraded and enhanced, including a more massive power transformer, an improved volume control circuit, and newly developed custom capacitors. The audio circuit includes three 6H30 dual-triode tubes per channel; the power supply has one 6H30 and one 6550WE tube.

A great deal of attention has been paid to the design of the new, massive, custom-machined aluminum enclosure, which has unusually massive side panels—all of which is intended to act as an energy sink to drain away internally created vibrations.

On the front panel are two large, encoder-controlled rotary knobs, for Input (left) and Volume (right). Input selects among the eight inputs, the names of which can be customized; Volume adjusts the loudness in 103 steps. Between the knobs is a large fluorescent display, and below that are six smaller pushbuttons, from left to right: Power, Menu, Enter, Mono, Invert, and Mute.



On the large rear panel are four pairs each of balanced (XLR) and single-ended (RCA) inputs, two pairs each of balanced (XLR) and single-ended (RCA) outputs, and balanced and single-ended Record Outs. There are also IR input and 12V trigger outs, an RS-232 connector, a fuse bay, and a 20-amp IEC mains jack. All is laid out cleanly; the jacks are generously spaced, to accept even the widest-diameter RCA plugs. The rear panel is spacious and easy to use.

The menu system includes some really useful options. You can set up the Reference 6 to remember a different volume setting for each input, or have it reset all inputs to zero when powered off. You can name the inputs or leave them with their default numbers. And because the software remembers the level settings and you can switch inputs from the remote control, running A/B comparisons is really easy.

The display is easy to read, even from across the room. When you push the Mute button, "Mute" appears in large letters directly above that button. Ditto

with Invert (inverts absolute phase) and Mono. This seems a no-brainer, but not all displays present their components' functions so clearly. In terms of setup and use, the Reference 6 proved a total pleasure.

Some old-school Audio Research fans preferred the maze of knobs and toggle switches found on such vintage models as the legendary SP-11, from the mid-1980s, which then cost \$5000 (including two-input phono section). But today, with software, so much more can be done more simply, and with less smudging of the signal path.

The aluminum remote-control handset is nicely machined and well laid out. It provides complete control over every front-panel function, plus Balance, Display Brightness Up/Down/Off, and Hours, which displays how many hours the tubes have been run. In the old days, you either kept a log of this information, or changed tubes with neurotic frequency because you'd lost your log, or never kept one.

Sound

Some say that the ideal preamplifier is a "straight wire with attenuation/gain" that efficiently routes the audio signal from the various inputs. Others—I'm one of them—have concluded that because ideals do not exist in the real world, the *best* preamp is the one that minimally alters the sound, and whose minimal alterations are themselves subtly pleasing in ways that may even enhance the sound qualities of the system's other components.

Footnote 1: To meet the Audio Research staff, take a virtual tour of the factory, and see how ARC components are manufactured and evaluated, visit my YouTube channel to watch part 1 and part 2 of my recent, informative, and mirth-filled visit.—**Michael Fremer**

Footnote 2: This is not necessarily a bad thing. See my review of the SAE 2HP-D power amplifier in the October 2016 issue.—**Michael Fremer**

COMPANY INFO

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COMMENTS



Accuracy

Submitted by A. Hourst on November 24, 2016 - 2:18pm

“That may offend the sensibilities of those purists who demand absolute accuracy, but in audio, there's really no such thing”

I don't know what's most funny: Michael Fremer who thinks he can “offend the sensibilities” of some objectivists, or the fact that he thinks this will happen from such an empty, predictable commonplace as the “immeasurability” of good sound.

There's really no such thing, you say, as absolute accuracy in audio.

Never mind the fact that the usual tenants of a “good enough” accuracy only ask it to be better than the human ear sensitivity, which is rather easily achieved with modern electronics, Mr Fremer don't even recognize “absolute accuracy” as an existing horizon in audio.

Absolute accuracy conceptually exists in audio as much as it exists in photography or in watchmaking. However, if someone is trying to push a 14 000\$ piece of electronic whose performance can be bought for less than 1/10th the price, rising up the confusion by saying things like “in audio, there's really no such thing as absolute accuracy” can be good practice.

One thing will never happen: a blind ABX comparison of this ARC preamp with a 1000\$ similarly measuring one, to put to the test this idea that dollars can get you what measurements and science can't.



"...Will never happen..."

Submitted by ChrisS on November 25, 2016 - 8:57am

And has never happened, because a blind test in this situation is not practical nor very useful.

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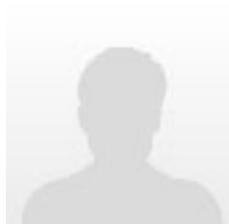
"What's Most Funny..."

Submitted by ChrisS on November 26, 2016 - 11:12pm

...is that you acknowledge that you are the only one who keeps asking for something that will never be done!

Are you the only one who needs to have your idea tested?

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He's not alone...

Submitted by Johnnyjajohnny on March 24, 2017 - 1:10pm

I believe a lot of people would actually like to see a blind test like A. Hourst suggests, so he's not the only one. I, and probably many others would find it very interesting, and I'm not convinced it would necessarily turn out one way or the other. So, it would be nice to find out if there really are audible differences between two amps that measure the same :-).

Maybe you have already noticed that the blind test advocates usually ONLY ask Framer (or anybody else) to do blind tests with certain things.

As far as I know, nobody has ever asked him to do a blind test comparing ANY of the speakers he has ever owned to a pair of 200 dollar computer speakers or even to 1000 dollar KEF speakers. Nor do I see any requests for a blind test between a Lyra cartridge and a 50 dollar Audio Technica cartridge.

And why?

Because the objectivists already know that there are readily audible differences between most speakers and also many

cartridges. As for cartridges, I've compared my own cart to 35 others, and the blind tests I have done, only with the ones that were the most similar, I passed. I even passed blind tests on some adjustments (overhang, stylus pressure, etc.) that I didn't expect to pass.

Even some of the very first ABX tests done in the late 70s and early 80s showed that speakers and volume levels were by far the easiest categories to hear a difference. On that note, recently I successfully ABX'ed 0.2 dB volume difference on actual music with 15 out of 16 correct (the test I'm the most proud of).

So, the objectivists are usually (not always, as some objectivists really are obnoxious and OCD) asking for blind tests of more controversial topics.

Personally, I think that blind tests will/should reveal differences between certain amps, but some objectivists disagree, and amps seem to be the category that splits the crowd a lot. But even hardcore objectivist Arny Krueger said in "The great debate" in 2005 that he has successfully heard differences between power amps in blind tests.

Then there are categories where it's simply highly unlikely that people can hear a difference, because nobody else has done that so far in a properly conducted blind test. This category includes hi-res vs. the same material down-sampled to CD quality, analog tape vs. a properly digitized copy, and cables. However, some cables are not transparent in the sense that they can be faulty or have certain properties (impedance, etc.) that will alter the sound. Someone at Hydrogen Audio did successfully ABX speaker cables, and a measurement showed quite a different frequency response for the two pairs. Also, Audio Critic showed in the early 90s that certain cables rolled off prematurely or had a spike in the treble, and some of this is audible, and some people buy these cables for exactly those audible properties.

And lastly there's the category of products that simply cannot produce any audible difference based on the currently known laws of physics. This includes expensive power cords and tiny acoustic products by Synergistic Research. Although some people report differences, so far no properly conducted blind tests have shown any difference – quite the opposite.

It's also worth noting that Synergistic Research, Nordost and Audioquest have been shown to do fraudulent demos, where they changed the volume level and used other tricks to "show" an obvious difference that everybody could hear. Obviously, they do this as their products simply don't produce a difference.

This is why we need blind tests. Blind tests are the kryptonite for the golden eared, but also their bragging rights if they pass (I've passed many and failed many) :-).

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No!

Submitted by ChrisS on March 24, 2017 - 7:17pm

See John Atkinson's many, many words that he (and others) has written about blind testing and you'll understand why blind testing will not be done by Stereophile any time soon.

Bottom line, Double Blind Testing is neither practical, nor particularly meaningful when evaluating audio equipment.

Bottom line #2, no one in the entire audio industry does DBT.

On the other hand, "Single Blind" testing, even when done informally, can be fun and informative, but the results can no way be considered "scientific".

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Yes!

Submitted by Johnnyjajohnny on March 25, 2017 - 5:44am

Everybody at Stereophile opposes double blind testing because the tests don't give them the results they want. As simple as that.

I will be blunt here and say that saying ABX tests are invalid is downright stupid.

The writings of Atkinson, Fremer et al exemplifies exactly what the problem is with the audio press:

The most scientific tool (double blind testing), which is used in every other form of scientific testing of any kind, from testing medicine to people with paranormal abilities, is by the audio press deemed "useless" and "unscientific" simply because it doesn't corroborate the findings that the critics found when they could see the name tag and knew the price.

Richard Dawkins made an excellent two-part programme called "Enemies of reason" (it's on Youtube), and in the first part he speaks to an astrologer, who gives exactly the same reasons as the audiophiles, "I just don't believe in the experiment", when Dawkins suggest they give out horoscopes to random people. He also says "If your intentions are mischief, what you get back is mischief.". Fremer said: "If the test is stupid, what you get back is stupid". Same thing.

As Dawkins remarks: "I thought you would be keen to try it out if you're so sure that your horoscopes are accurate, so that makes me think that in your heart of hearts you don't believe it. I don't think you're prepared to put your reputation on the line."

When Dawkins visits a double blind test of dowzers done by someone else, they have the same excuses when they can't find water.

I've had four phono preamps in my possession or on loan in the last couple of years. I made level matched recordings of all them, and I successfully ABX'ed all of them. I can easily post my logs, 'cause unlike the astrologer or the staff at Stereophile I have no problem putting my reputation on the line. I haven't measured the preamps, but I think they simply have slightly different frequency responses. What the explanation is doesn't matter to me - all that matters is that I could tell them apart, usually with 15 out of 16 correct. This just goes to show that ABX tests work. If you have one minute to spend, you can verify it for yourself: Download FooBar and its separate ABX plugin. Load an Iron Maiden song as A, and an AC/DC song as B (or

whatever you prefer) and then ABX them. You will have 20 out of 20 correct in less than one minute.

Bottom line, Double Blind Testing is practical, easy and very meaningful when evaluating audio equipment. All you need is a switch (all mine were done in Foobar) and some time to spend, which you would have when evaluating anyway.

Bottom line #2, no one in the entire audio industry does DBT, because then many companies would go out of business. Sure, many would remain in business and rightfully so, while others would go out of business. Some companies really do deserve to close their doors, like the scam companies like Synergistic Research and Nordost (an elaborate blind test was done with power cords from Nordost: An enormous fail) that charge ridiculous amounts of money for placebo effects and then threaten to sue when the thruth is exposed.

As for Audio Research, I know that some people love them, others despise them. I've only listened to it once, which was really just casual listening of speakers, and I have no quarrel with them.

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Do some reading....

Submitted by ChrisS on March 25, 2017 - 5:37pm

Please actually read the articles by John et al. And take a course on scientific research and how to set up and implement a scientific experiment.

What you express is opinion and what you describe is not science.

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Great review- MF.

Submitted by Allen Fant on November 25, 2016 - 4:47am

Great review- MF.

until I can demo the new Ref6, I feel the Ref5SE, is still the best tubed pre-amp in the ARC arsenal.

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Reference 6.

Submitted by sunnyhtms@gmail.com on December 1, 2016 - 7:50am

Absolutely well written. Yes the Reference 6 is all that and more. Even the new Foundation Series LS28 betters the Reference 5 SE now.

Yes Casework and other improvements have trickled down to the Foundation series.

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Excellent Review

Submitted by Vade Forrester on November 28, 2016 - 4:28pm

This was one of the best reviews I've ever read. Well done, Michael.

Vade Forrester

Reviewer, SoundStage! Network and The Absolute Sound

My words=my thoughts.

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I concur, an 'excellent review'

Submitted by WJ ARMSTRONG on November 30, 2016 - 9:59pm

I agree with my fellow reviewer Vade Forrester - this was unusually entertaining and successfully conveyed some quite subtle notions with a lovely light-touch clarity. Almost as enjoyable as listening indeed!

Thanks Michael.

Bill Armstrong - 6moons

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Owner

Submitted by jsch123 on February 15, 2017 - 8:43pm



I own it and it's lovely. The best preamp I've ever owned and it's really brought me to a point of finality . I mean, not really because I'll be tinkering for the rest of my life, but it could easily be finality. If that's even a word.

I agree with just about everything MF said. Especially the "a lot of meat on its bones". But you know it remains exceptionally open and transparent and dynamic at the same time. It's just lovely. Gone is ALL the grain. Smokes both my VAC preamps.

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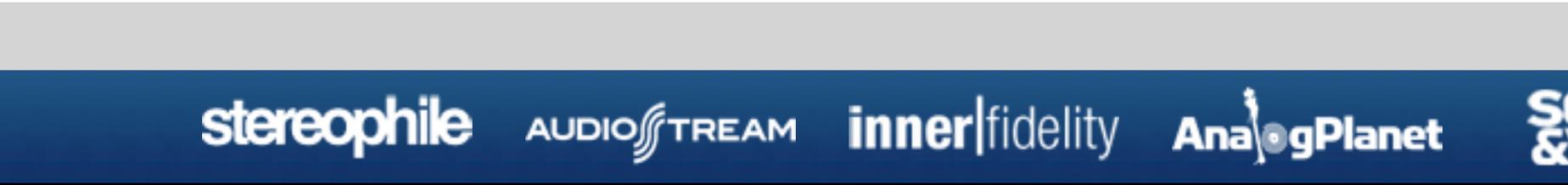


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