

# the absolute sound

ELECTRONICALLY REPRINTED FROM SEPTEMBER 2010

## EQUIPMENT REPORT



## Audio Research Corporation Reference 5 Linestage Preamp

New Boss

Jonathan Valin

**M**eet the new boss in tube preamplifiers *chez* Valin. No, it's *not* the same as the old boss of the Valin household, the Audio Research Reference 3, my reference tube linestage for the past five years. In fact, when I first plugged the Ref 5 in, it sounded so different than the Ref 3 I didn't know what to make of it. Oh, it sounded good. It just didn't sound like the Ref 3 or, really, like any previous ARC preamp (and I believe I've heard or owned most of them). It was altogether darker in balance, more tightly focused in imaging, denser in tone color, deeper-reaching in the bass and higher-reaching in the treble with much better resolution and transient response at both extremes than the Ref 3, but also relatively airless and bloomless for an ARC unit—closer to a solid-state sound than an ARC tube or tube-hybrid one.

I'd been forewarned that this sonic signature would change with time and break-in, and of course it did. But it took awhile—longer than I remember other ARC units taking—for the Reference 5 to come into its own. Several *hundred* hours of play, I'd reckon. It was worth the wait—kind of like staying up all night to watch the sunrise. In time, the darkness went away and in its place...light, air, bloom. Here was the ARC sound that I knew so well from the Reference 3 (and its long distinguished line of predecessors). It's a sound you simply can't mistake for that of any other brand of electronics, tube or solid-state—as clear, clean, and refreshing as a martini, and balanced, like a great martini, precisely on the edge between delicious and acerbic, without a trace of the saccharine Jack-and-Coke sweetness, darkness, and syrupiness that some folks seem to demand from their tube gear.

This classic ARC balance is, of course, a deliberate design choice and stems, as I've noted many times in the past, from the way William Zane Johnson has—from go—designed his tube circuits. It was his singularly great idea that tubes shouldn't sound overtly “tubey,” that there was no reason they couldn't compete with solid-state in the areas in which solid-state was superior (such as bass dynamics, distortion, transient response, frequency extension) while retaining those things that tubes were better at reproducing (timbre, texture, bloom, air, dimensionality).

Just lately ARC has succeeded in this aim more fully than ever before. The Reference 5 is the best ARC linestage yet, higher in resolution, lower in tube-like coloration, better defined in imaging (though still life-sized) than the Reference 3 it replaces, with *much* better extension and grip in the bass and the treble. Although the technical changes between the Reference 3 and the Reference 5 (there is no Reference 4 because four is a bad luck number in the Far East, one of ARC's major markets [*which is why the Vandersteen speaker between the Model 3 and Model 5 is called the Quattro*. —RH]) may seem relatively minor on the surface, they are actually more significant than they look. While the tube complement of four 6H30s in the gain stage and a 6550 and 6H30 in the power supply remains the same as it was in the Ref 3, and the preamp is still (as always) a fully balanced, Class A triode circuit with zero feedback, capacitors have been improved and there are more of them with more power storage than in any previous Reference preamp. In addition, the main circuit board has been laid out horizontally rather than vertically in order to shorten signal paths (a first in ARC Reference preamps). The net effect, according to ARC, is a 3dB improvement in signal-

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to-noise ratio, which should translate into an improvement in low-level resolution.

This is, indeed, the case. The Ref 5's retrieval of low-level detail is consistently and notably higher than that of the Ref 3 (or any previous ARC linestage). For those of you keeping score, I would now rate it an 8.5 on a resolution scale of 10 (with something like the solid-state Technical Brain TBC Zero being a 10). For those of you not keeping score, it is not just the number of new things that you will hear through the Ref 5 that makes it special. (It never was with ARC gear.) It is the way these new things are combined with old ones—the way timbres and textures are presented and instruments imaged and staged—that'll make you gravitate toward ARC tubes (or not).

If I were to single out the two sonic attributes that this ARC preamp supplies that great transistor circuits usually do not (at least to the same degree), it would be precisely the same ones that analog front ends supply and digital front ends typically don't: 1) three-dimensional body and bloom; and 2) very fine resolution of low-level harmonic/dynamic information, particularly on solo instruments or small ensembles. You might not be able to count the number of peaches in the crate with the same exactitude that you can with a great transistor amp—solid-state generally has higher resolution with large groups of things, tubes with smaller groups or individual ones—but when the recording engineer zooms in for a close-up of a particular peach you'll perceive its roundedness, its dappled colors, its "fuzzy" texture with a realism that solid-state tends to scant.

Take Sarah Vaughn (which I would gladly have done, BTW) singing the title song from her first Pablo LP *How Long Has This Been Going On?* If you know Sarah's soaring contralto, you know that she regularly added coloratura-like touches, including a throaty vibrato and a delicious head tone, to select lyrics. To hear her voice at its splendid best, you need to capture its power, its color, its range, and, for lack of better words, its volume—for all of her various coloratura touches come from slightly different places in the acoustic space that is "Sarah Vaughn on record" (and that was "Sarah Vaughn in life"). She variously uses her head, her nose, her mouth (actually various parts of her mouth, including a certain "chewiness" on select lyrics, as if she is actually tasting and savoring the words), her throat, and her chest to achieve that famous "operatic" range, timbre, and texture. In life, these things—head, nose, mouth, throat, chest—aren't a thin flat plane in acoustic space; they aren't even a series of planes (which is the way they are generally presented on solid-state). They are one continuous "volume," a single three-dimensional acoustic object.

With solid-state you generally (not always) get a pronounced flattening of this volume, just as you do to a greater extent with digital sources. HP once compared the effect to looking at the world through one eye, and I can't improve on that. With the Reference 5, what seems like "one-eyed" vision becomes binocular. It is quite an amazing experience to hear Sarah go from a relatively flat image to a fully round three-dimensional one, standing in three-dimensional space and surrounded by three-dimensional space. It is also amazingly realistic. I've used the analogy before but it really is like the difference between looking at a large-format photograph and at a life-sized statue. The photograph, through two-dimensional, is very very finely detailed in a way that the statue isn't and it is also very realistic. But the statue is dimensional, solid, lifelike, and "present" in a way that the photo isn't.

Used to be that ARC preamps were primarily capable of this magical dimensionality and bloom in the midrange. Oh,

they still had bloom in the low bass and the top treble, but they simultaneously lost a good deal of the image focus, definition, dynamic scale, and low-level resolution that made midband instruments so distinctively realistic. I would say that the Reference 3 began to change this, and the Reference 5 has changed it even more. Here is where the Ref 5's lower noise floor and greater energy pay clear sonic dividends. Resolution right down into the bottom octaves has greatly improved, as has bottom- and top-end "grip" (a component's ability to maintain image focus and definition and fine tonal and textural resolution throughout large dynamic swings). At the same time, transient attack and large-scale impact have been given a boost. While I wouldn't say that the Ref 5 is the full equal in bandwidth or transient speed, top and bottom, of the handful of very best solid-state preamps, it comes closer to this paradigm than any previous ARC preamp, which is one reason why the Ref 5 doesn't just make a great match with an ARC amp like the 610T or the VS115. It is also super with solid-state powerhouses like the Soulation 700 or the BALabo BC-1 Mk-II. Indeed, with its newfound transient speed, energy, and grip in the bass and treble, the strong taste of dimensionality and bloom from top to bottom it adds to these solid-state paragons more than compensates for any slight (and, believe me, they are *very* slight) losses in speed of attack or large-scale resolution.

All you have to do is listen to a busy exciting orchestral piece like RCA's great 1954 recording of *Gaîté Parisienne* with Fiedler and the Boston Pops to hear what I mean. Through the Reference 5 and any high-quality amp, tube or solid-state, the ARC preamp will throw a stage that is so wide and deep it will fill the back third of your room from wall-to-wall (this stage width is helped by the fact that *Gaîté* was a two-track recording, which tended to "pull" instrumental images toward either side of the stage). Though the Ref 3 could do this vast staging nearly as well as the Ref 5, what it could not do as well is maintain solid-state-like "grip" at the top and the bottom. The doublebasses, for instance, would tend to congeal more than they do with the Ref 5, losing

### SPECS & PRICING

<b>Type:</b> Tube linestage preamp	balanced, 1V RMS single-ended
<b>Frequency response:</b> 0.2Hz-200kHz +0, -3dB	<b>Tube complement:</b> Four 6H30P dual triodes, plus one (each) 6550C and 6H30P in the power supply
<b>Distortion:</b> Less than 0.01% at 2V RMS balanced output	<b>Dimensions:</b> 19" x 7" x 15.5"
<b>Gain:</b> 12dB balanced output, 6dB single-ended output	<b>Weight:</b> 30.4 lbs.
<b>Input impedance:</b> 120k ohms balanced, 300k ohms single-ended	<b>Price:</b> \$12,000
<b>Output impedance:</b> 600 ohms balanced, 300 ohms single-ended	<b>AUDIO RESEARCH CORPORATION</b>
<b>Maximum input:</b> 20V RMS balanced, 10V RMS s-e	3900 Annapolis Lane North
<b>Rated output:</b> 2V RMS	Plymouth, MN 55447
	(763) 577-9700
	audioresearch.com

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some of the sense of individual players combining in a group and losing some of the group's timing and dynamic impact; in the top treble the woodblocks wouldn't have the lightning attack and sharp "pock"-like impact that they do with the Ref 5.

More importantly, the Ref 3 and earlier ARC Reference preamps wouldn't be able to preserve the dynamic scale of the various choirs of the orchestra—some of which are playing all-out, some of which are merely idling, some of which are playing softly—with the realism of the Reference 5. In the past these different dynamic gradients would tend to be compressed by ARC preamps into a kind of mezzofortish blur. Not with the Reference 5. When sections of the orchestra are playing at different intensities, there is much less compression and blur, much better dynamic scale and clarity. This also can be attributed, I think, to the Ref 5's lower noise and higher energy storage. Although I've heard a small few solid-state preamps (particularly the Soudation 700 and Technical Brain TBC Zero) do dynamic scaling a bit better than the ARC unit, I've never heard a tube preamp do it this well—or close to this well. Once again, it makes for a very realistic presentation.

Demerits? Well, like all ARC equipment that I've heard, the Reference 5 is a bit more forward (i.e., it tends to start imaging slightly closer to the plane of the speakers) than certain other tube and solid-state gear. To me this just increases lifelike presence—a thing that ARC gear has almost got a patent on—but you may hear it differently. And, no, as I've already said, the Reference 5 doesn't quite equal a great solid-state preamp in transient speed

or bottom-end grip in spite of the substantial inroads it has made in both areas of solid-state preeminence. On the other hand, I could argue that the Ref 5's greater bloom and fullness of tone color in the bass is truer to the real thing than solid-state's tighter, leaner, less relaxed, more mechanical grip. Also instruments and voices will sound a bit larger through the Ref 5 than they do through some solid-state gear, although, once again, I'm not sure whether this counts as a demerit. I find the Reference 5's image size to be very lifelike and, as I said earlier, the focus of these life-sized images is improved over that of the Ref 3 (and of previous ARC linstages), making for instruments that aren't just clear and detailed but also well defined in space (in all three dimensions).

To sum up, the Reference 5 is a lower-noise, higher-resolution, higher-energy, altogether more discerning preamp than the Reference 3. A great soundstager like all ARC Reference preamps, it now brings sterling neutrality, resolution, definition, dimensionality, and bloom not just to the midrange but also to the bottom octaves and the top ones, better preserves large-scale dynamic scale at all intensities from top to bottom, and is audibly and significantly more detailed than its predecessor. Whether you will like the Reference 5 as much as I do will depend—more than ever, I think—on whether you like that characteristic dry-martini-like Audio Research balance as much as I do. I can't answer for you, but from my vantage what's not to like? The Reference 5 is my new tube linstage reference, and, of course, receives my highest recommendation. **tas**

## Setting Up the Reference 5

Like all recent ARC products, the Reference 5 is a remote-controllable unit available in ARC's traditional "champagne" silver or black finishes, with a large fluorescent display in the center of its front plate that reads out things like volume level, input, balance, etc. There are knobs for source-switching and volume control on either side of the display, and pushbuttons for selecting other functions (such as Power and Mute) below the display. (All of the functions are duplicated on the remote.)

The first thing you should do is turn the fluorescent display off with the remote, because, as is always the case, the small current-drain of the display affects tonal balance, darkening it somewhat. (Don't worry about tracking things like volume or balance; even when the display is dimmed, it lights up briefly whenever you change a parameter.)

Although the Reference 5 comes with a back panel full of single-ended and balanced inputs and outputs, ARC recommends using the balanced inputs and outputs of this fully balanced unit for maximum performance. Now I am a single-ended kind of guy, and for the most part use single-ended interconnects when they are feasible (i.e., when I'm not using another component whose input or output is balanced only). However, I have to say that unlike some other equipment I've used, the Reference 5 does not sound markedly "darker" when used in its balanced mode. Oh, it is a little darker, but not so's you'd notice—or care. (It is also, audibly, somewhat quieter in the balanced mode.) While I still

prefer single-ended interconnects, I could live with balanced with the Reference 5.

As usual, ARC gives you a little diagram for seating tubes. (Do *not* plug this preamp in and turn it on before you've removed the top-plate, taken out the Saran-wrapped foam blocks with the tubes in them, and plugged all the tubes into their respective and numerically coded sockets.) Speaking of the top plate, the Reference 5 can be had with a non-metallic top plate that is said to lower chassis resonance and "breathe" better than ARC's traditional metal top plate. Frankly, I couldn't tell if it was making a difference.

At 30.4 pounds (net), the Reference 5 is a hefty item for a preamp, so use the usual precautions if you're lifting it onto a shelf. Unlike the Reference 3 (and probably because of its inherently better resolution, transient speed, and bass grip), I did not prefer the sound of the Reference 5 on tiptoes or other resonance-control devices. I liked it standing on its own feet; however, because of its weight and sensitivity to vibration, you should seat it on a suitably massive or inert stand. As is generally the case, the preamp sounds better with an after-market power cord, although ARC supplies a decent one with the unit. Be aware that the Reference 5 has a 20-amp power inlet, so your cord must have a 20-amp plug.

As noted in the review, this preamp takes a *long* time to break in. Don't get frustrated. When the thing finally does come around, it sounds glorious. **JV**

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ELECTRONICALLY REPRINTED FROM JUNE/JULY 2010



## Audio Research Reference 5 Linestage Preamp and Reference Phono 2 Phonostage Preamp

Speaking of Jenny, I find the roll that ARC has been on in the last few years hard to believe—at all. Last year, in Issue 199, I reviewed the ARC Reference Phono 2 and found it the best-sounding phonostage ARC has produced in its long illustrious history—a model of neutrality, transparency, and energy with a presentation that, in many ways, came closer to the absolute sound than any phonostage I'd yet tested, tube or solid-state. Guess what? The Audio Research Reference 5, which I will be reviewing later this year, is every bit as marvelous. To my ear, there is simply something “right” about the midband of ARC electronics—something

that makes voices and instruments sound more like real voices and real instruments (just as they do with the Maggie 1.7). Here ARC's recipe for realism has been extended higher into the treble and deeper into the bass (the Ref 5's low-end is sensationally good, no longer taking a back seat to solid-state in grip, impact, or extension). Given their price point and the price of the competition they are fully capable of playing with (and trouncing), the Ref 5 and Ref Phono 2 also have to be regarded as incredibly good deals—state-of-the-art sound for a small fraction of what some of the Big Boys charge. (Reference Phono 2 reviewed in Issue 199)

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