

stereophile

BRIAN DAMKROGER

Audio Research Reference 5SE

LINE PREAMPLIFIER



I've heard a lot of great audio components over the years, but even in that steady stream of excellence, a few have stood out as something special. These are the products that, in their day, set a new standard for performance, and many of them are ones I wish I'd hung on to. Among these products are three preamps from Audio Research: the SP-3A, the SP-6B, and the SP-10.¹ I know I'm not alone in viewing these models as classics.

¹ I bought a sample of the Audio Research SP-10 after I reviewed it for the English magazine *Hi-Fi News* in May 1984. It was both the most expensive and most enjoyable audio purchase I had made at that time and I still have it, occasionally taking it out for an satisfying canter around my music collection.—John Atkinson

Rumor has it that in the mid-1990s, when William Z. Johnson set out to design the original Reference 1 preamplifier, his jumping-off point was the SP-10. What's *not* a rumor is that the Reference 1 carried on the tradition and lineage of those classic preamps. It was fully tube driven, it was the best preamp that ARC could build with the technology available at the time, and, like its predecessors, the Ref 1 redefined what was possible in a tube preamp—and, to some ears, what was possible in a preamp of any type. It thus became an instant classic. Time and technology marched on, and the Ref 1 was replaced by the References 2, 3, and 5, each one in turn carrying on the lineage and setting a new standard of

SPECIFICATIONS

Description Tubed, remote-controlled line preamplifier with six sets of balanced and unbalanced inputs, three sets of balanced and unbalanced outputs, and a unity-gain Processor input. Tube complement: 6550C and 6H30P (power-supply regulation), four 6H30P (dual triodes). Frequency response: 0.2Hz–200kHz, +0/–3dB, at rated output (balanced, 200k ohms load). Maximum voltage gain, main output (single-ended or balanced

input): 12dB, balanced output; 6dB, single-ended output. Distortion: <0.01% at 2V RMS, balanced output. Input impedance: 120k ohms balanced, 60k ohms single-ended. Output impedance: 600 ohms balanced, 300 ohms single-ended main, 20k ohms minimum load and 2000pF maximum capacitance. Output polarity: non-inverting. Maximum input: 20V RMS maximum balanced, 10V RMS single-ended. Rated output: 2V RMS (1V RMS

single-ended) into 200k ohm balanced load (maximum balanced output capability is 30V RMS at <0.5% THD at 1kHz). Noise: 1.7×V RMS residual IHF-weighted balanced noise output with volume control at “1” (109dB below 2V RMS output). Power consumption: standby, 2W; full output, 130W. **Dimensions** 19" (485mm) W by 7" (178mm) H by 15.5" (394mm) D. Handles extend 1.5" (38mm) forward of front panel. Weight: 30.4 lbs (13.9kg)

net, 41.6 lbs (19kg) shipping. **Finishes** Natural Aluminum, Black. **Serial Number of Unit Reviewed** 59304913. **Price** \$12,995 (upgrade from Reference 5 to Reference 5SE: call ARC). Approximate number of dealers: 50. **Manufacturer** Audio Research Corporation, 3900 Annapolis Lane N., Plymouth, MN 55447-5447. Tel: (763) 577-9700. Fax: (763) 577-0323. www.audioresearch.com.

performance.² The latest in this series is the Reference 5SE (\$12,995), introduced in late 2011 to replace the Reference 5.

The Reference 5SE

The Reference 5SE benefits from several advancements that Audio Research developed for the cost-no-object, limited-edition Anniversary Reference preamplifier (\$24,995), including two readily visible changes from the Ref 5. First, the 5SE's front panel mirrors that of the Anniversary: the buttons are now tidy, round, metal, and set directly into the faceplate, rather than the Ref 5's square, recessed plastic buttons. Added on the inside, to the left, is a vertically mounted circuit board, stuffed to the gills with capacitors to nearly double the Ref 5's already massive energy storage. Other changes include new Teflon and hybrid coupling and bypass capacitors, and changes in the internal wiring.

Otherwise, the Reference 5SE's basic circuitry resembles that of the Ref 5: it's mostly contained on a single-sided board that stretches from wall to wall. Additional, smaller boards handle I/O, switching, and display functions. As in the Ref 5, the Ref 5SE's transformers—an R-core for the audio circuits, a toroidal for the display, relays, and microprocessor controls—are mounted on the sides of the chassis, above the board, to reduce vibration in the audio circuits. The audio

² The Reference 1 was reviewed by Wes Phillips in the November 1998 *Stereophile* (www.stereophile.com/tubepreamps/1198ar/index.html); the Reference 2 by Michael Fremer, in September 2000 (www.stereophile.com/tubepreamps/288/index.html); and the Reference 3 by Paul Bolin, in December 2006 (www.stereophile.com/tubepreamps/1206arc/index.html).

circuitry's power supply is a hybrid-regulated design employing both FETs and a 6H30 dual-triode tube controlling a 6550 pentode tube. The audio circuit itself is "as simple and good as we could make it," according to ARC's David

Gordon: a single gain stage with a cathode follower tube in a zero-feedback, fully balanced, pure class-A triode layout. There are six tubes: four 6H30s in the analog stage, and the 6550 and 6H30 in the power supply.

The Ref 5SE's cosmetics and layout are handsome in Audio Research's traditional fashion, and it's the same goodly size and weight as the Ref 5: 19" wide by 7" high by 15.5" deep, and weighing 30 lbs. The chassis is of heavy aluminum, with a thick, elegantly machined aluminum front plate and two rack-mount handles. The review sample's top plate was of tinted polycarbonate, with slot vents. A cover of perforated aluminum is also available,

The Reference 5SE benefits from several advancements that Audio Research developed for the cost-no-object, limited-edition Anniversary Reference preamplifier.

but ARC recommends the polycarbonate, perhaps because of lower chassis resonances. The Ref 5SE is available in natural aluminum or black.

MEASUREMENTS

SI measured the Audio Research Reference 5SE with *Stereophile's* loan sample of the top-of-the-line Audio Precision SYS2722 system (see www.ap.com and the January 2008 "As We See It," <http://tinyurl.com/4ffpve4>). There was one problem: During shipping, one of the four large, 10 μ F Teflon output-coupling caps at the right rear of the printed circuit board had broken off. ARC sent me a replacement, along with the appropriate solder. However, although my soldering iron is temperature-controlled, it dates from a time when solder was lead-based and melted at a lower temperature. That, coupled with the fact that the Ref 5SE's printed circuit board traces are very large and thus have significant thermal mass, meant that I was unable to do a professional job of installing the new capacitor. I rigged a temporary solution with clips that appeared to work correctly. But I do wonder if some of the distortion measurements of the left channel had been compromised, so keep that in mind as you read on.

The maximum gain of the Ref 5SE, with the volume control set to its maximum ("103" indicated on the front-panel display), was close to the specification at 12.33dB for fully balanced operation, 6.26dB single-ended. The volume control operated in 0.5dB steps, with the unity-gain settings between "78" and "79" balanced, and between "90" and "91" unbalanced. (Props to Audio Research for designing a display that can be easily seen from across the room.) The preamp preserved absolute polarity in both modes,

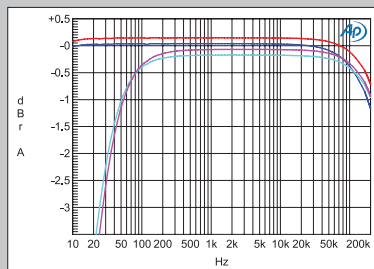


Fig.1 Audio Research Reference 5SE, balanced frequency response with volume control at "103" at 1V into 100k ohms (left channel blue, right red), and at 1V into 600 ohms (left cyan, right magenta) (0.25dB/vertical div.).

the balanced XLR jacks being wired with pin 2 hot. At low and middle frequencies the input impedance was slightly but inconsequentially lower than specified, at 114k ohms against the specified 120k ohms balanced, and 55k ohms against 60k ohms unbalanced. The input impedance dropped slightly at the top of the audioband, to 100k ohms balanced and 42k ohms unbalanced.

At high and middle frequencies the Ref 5's output impedance was slightly higher than specified, at 628 rather than 600 ohms balanced and 322 rather than 300 ohms unbalanced. However, at 20Hz the impedance rose to 1447 ohms balanced and 637 ohms unbalanced, which, with an extremely low load impedance of 600 ohms, rolls off the low bass by 3dB at 15Hz (fig.1, cyan and magenta traces). Into the more realistically high 100k ohm load, however, the Ref 5's low-frequency response is flat to below 10Hz (fig.1, blue and red traces). This graph was taken with the volume set to "103"; the upper-frequency response extends to -1dB at 200kHz. (Note

Like the Reference 5, the 5SE has at the center of its faceplate a large window that prominently displays the volume setting with both a bar graph and large numeric display. Also displayed, in far smaller characters, are the selected input, whether it's single-ended or balanced, and the status of several functions: mono/stereo, mute on/off, and polarity non-inverted/inverted. The display can also be used, via the remote control, to show the hours each tube has been used, handy for confirming what your ears will tell you: that you've reached the 600 hours of break-in time that ARC recommends. Via the remote, the display's level of illumination can be set to one of eight levels, from off through bright. But even when the display is fully dark, any change in status lights it up for 10 seconds to display the change.

Flanking the display are two return-to-center knobs, attached to a microprocessor, that turn through an arc of about 60°. The one on the left changes the volume across 103 steps; the one on the right selects among the six inputs. Below the display are six small buttons: Power, Mute, Mono, Balanced/SE (input selection), Processor, and Phase Invert. All front-panel controls are duplicated on the utilitarian remote control, which also includes buttons for adjusting balance and display brightness, and to display tube hours.

On the rear panel are six line-level inputs, a processor input that bypasses the volume control to allow the Ref 5SE to be integrated into a home-theater system, a set of line-level output jacks for recording, and two sets of outputs. All inputs and outputs have both single-ended and balanced connections.

For each input, the type of connection is selected with the Balanced/SE button on the front panel or remote.

Use, Handling, and ...

The Reference 5SE was a delight to use. All of its controls were intuitive and positive, and the single-ended and balanced connectors were all nicely solid. An interesting feature of the Ref 5SE is that it's supplied with a 20A IEC power cord, not one of the standard 15A cords we're all used to. I would have liked to experiment with different power cords, but no dice: Although ARC's extremely heavy cord is removable, it takes a different type of IEC connector. I used the Ref 5SE with both single-ended and balanced sources, and though I experimented with both types of outputs, I found that I marginally preferred the sound with the Ref 5SE's balanced outputs driving my VTL amps. In any configuration and throughout my listening, the ARC was completely quiet.

Performance

The Audio Research Reference 5SE's lineage and \$12,995 price led me to expect a lot from it, and it didn't disappoint. I can sum up my impressions of it in one word: "Wow!"

The Ref 5SE was no shrinking violet of a preamp. It was big, bold, brash, and brassy, in exactly the way live music is big, bold, brash, and brassy. While listening to Howard Hanson and the Eastman-Rochester Orchestra's *Fiesta in Hi-Fi* (CD, Mercury Living Presence 434 324-2), I was repeatedly taken aback at how the Ref 5SE reproduced this recording's

measurements, continued

also the slight channel imbalance in this graph: the right channel is 0.1dB higher in level than the left.) There was some dependency of the upper-frequency response on the volume-control setting. The most restricted response, -1dB at 40kHz, was with the control set to "98"; at "66" it was -1dB at 60kHz, and at "55" it was -1dB at 90kHz (not shown). This variation will have no audible effects. The single-ended frequency response was the same as the balanced.

Channel separation (not shown) was excellent at >100dB in both directions below 4kHz, and still 85dB

at 25kHz. The wideband, unweighted signal/noise ratio, ref. 1V output with the input shorted but the volume control set to its maximum of "103," was very good in the right channel, at 85.6dB, but less so in the left, at 79.8dB. Switching in an A-weighting filter improved these figures to a superb 102dB right and 91.5dB left. I'm not sure why the left channel was noisier; the spectrum of the Ref 5's balanced noise floor while the preamplifier reproduced a 1kHz tone at 1V into 100k ohms is shown in fig.2. The left-channel noise floor (blue trace) is not much higher than the right (red),

while in the latter can be seen some very low-level odd-order harmonics of the AC supply frequency.

Fig.3 plots the THD+noise percentage against the left channel's balanced output voltage into 100k ohms. Below 1V output the actual distortion is buried beneath the noise floor, indicated by the upward slope of the trace with decreasing voltage. The distortion slowly rises above 1V, but is still just a low 0.05% at 18V RMS, when actual waveform clipping starts. Defining clipping as 1% THD+N, the Ref 5's balanced output clips at 32V into 100k ohms. The single-ended output clips

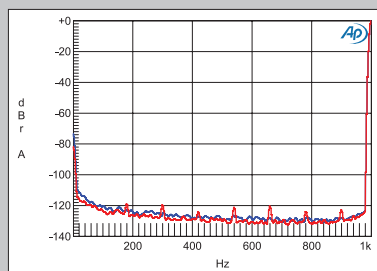


Fig.2 Audio Research Reference 5SE, FFT-derived spectrum with noise and spurious of 1kHz sinewave, DC-1kHz, at 1V into 100k ohms (left channel blue, right red; linear frequency scale).

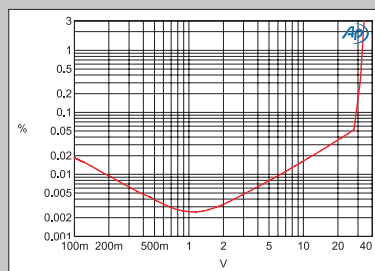


Fig.3 Audio Research Reference 5SE, balanced distortion (%) vs 1kHz output voltage into 100k ohms.

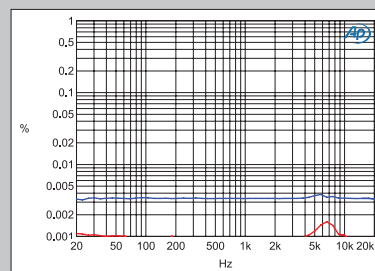


Fig.4 Audio Research Reference 5SE, THD+N (%) vs frequency at 2V into 100k ohms.

full dynamic spectrum and harmonic richness. Bass drums exploded and boomed with a wonderfully round, taut tone. Castanets cracked with perfect woodiness. Cymbals rang and shimmered, maracas hissed and clattered, violins sang, cellos swooned, basses groaned ominously. You name it, the Ref 5SE nailed it.

The Ref 5SE's performance at the extremes of the audioband, usually tube electronics' bête noir, was superb.

Nor did the Ref 5SE shine only with sonic spectaculars. It was equally impressive with small, intimate recordings, such as Doug MacLeod's *Brand New Eyes* (CD, Reference Fresh FR-703CD). Its incredible resolution and recovery of fine detail made it seem as if several layers of the recording chain had been wiped away and I was in the room with MacLeod.

Regardless of the genre or scale of the music, the Ref 5SE brought about a fundamental, not-subtle jump in my system's performance.

It was like hearing a good direct-to-disc record for the first time, or maybe an analog master tape. It wasn't just a question of being a little bit better, or better in one or two ways—it was a broad-brush, wholesale improvement, like going from two dimensions to three, or from black-and-white to color. It was almost the sort of fundamental change in the fabric of the music that (dare I say it) separates live music

from recorded. This isn't to say that my system magically became the real thing with the Ref 5SE installed, but it was definitely a step closer.

The ARC's reproduction of timbres was uncanny; it seemed to be painting the music with a tonal palette both bolder and more nuanced than I'd heard before. Tonal colors were richer and denser, harmonic structures more complex. With the Ref 5, instruments sounded more like themselves, more alive. Violas were more distinct from cellos and violins, and each woodwind retained more of its inherent characteristics, whether it was the woody, airy tone of a clarinet or the reedier buzz of an oboe. The rich way the Ref 5SE portrayed instruments also made it easier to discern individual musicians in a chorus or orchestra, the differences in timbre and texture enhancing the image specificity to create a nearly holographic effect. With recording after recording, I noticed more complexity in background voices and passages—and not just across the midrange, but from the very bottom to the very top of the audioband, and across the full range of volume, from the faintest *pppp* shadings to thundering *ffff* climaxes.

The Ref 5SE's performance at the extremes of the audioband, usually tube electronics' bête noir, was superb. The bass register of the organ in Charles Munch and the Boston Symphony's reading of Saint-Saëns's *Symphony 3* (CD, RCA Living Stereo/Sony S70475C/88697720602), was astounding, absolutely subterranean, and the double basses had power and precision and a creamy, luscious tone. In Ataúlfo Argenta

measurements, continued

at 8V into 100k ohms (not shown), which is still well above any level needed to drive a power amplifier into overload. The distortion increases dramatically into low impedances; I recommend the Ref 5 be used with power amplifiers having an input impedance of at least 10k ohms, when the preamplifier will be at its most linear at typical operating levels.

Fig.4, for example, plots the THD+N percentage against frequency at a balanced output level of 2V into 100k ohms, which is both sufficiently high to ensure that I'm measuring THD rather than noise, and close to the maximum that will be required of the preamplifier in practical use. The left channel's distortion (blue trace) is slightly higher than the right's (red), but both are extremely low in absolute terms.

The spectrum of the Ref 5's output at 2V is shown in fig.5. The difference between the two channels' THD+N percentage in fig.4 can be seen to be due to the left channel's (blue trace) having more second harmonic than the right (-90 vs

-112dB). This might be due to tubes being mismatched—when the tubes are perfectly matched, balanced operation will completely cancel even-order distortion—but the level of the distortion is low enough not to be heard, and in any case, its character is subjectively innocuous. Dropping the load impedance starts to increase the level of the third and fifth harmonics (not shown), confirming that the Audio Research preamp needs to be used with higher-impedance power amplifiers. The Ref 5's performance with the demanding 19+20kHz high-frequency intermodulation test was superb, all intermodulation components in the right channel (fig.6, red trace) lying at or below -112dB. Even in the less-linear left channel, the second-order difference component lies at a very low -96dB (0.0015%), and the higher-order distortion products are the same as in the right channel.

Despite the small disparity in the two channels' linearity and noise floor (and remember my caution about the temporary repair I had to do), Audio

Research's Reference 5SE is a superb-measuring preamplifier.—John Atkinson

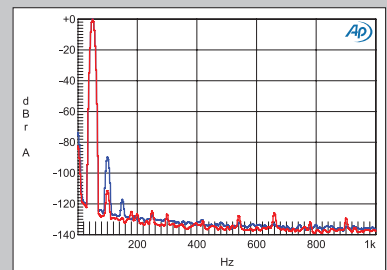


Fig.5 Audio Research Reference 5SE, balanced spectrum of 50Hz sinewave, DC-1kHz, at 2V into 100k ohms (left channel blue, right red; linear frequency scale).

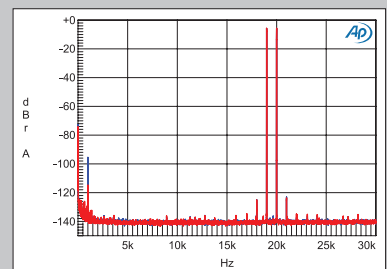


Fig.6 Audio Research Reference 5SE, balanced HF intermodulation spectrum, DC-30kHz, 19+20kHz at 2V into 100k ohms (left channel blue, right red; linear frequency scale).



The Ref 5SE's interior is stuffed to the gills with capacitors.

and the London Symphony's recording of Chabrier's *España* (CD, Decca 478 3157), the double basses had a nice, resinous woodiness and big, booming dynamics. However, the piccolos also spanned huge dynamics, and retained their hollow, metallic character even at the top of that range. The triangle, too, had exactly the right character: the mix of metallic edge and bell-like ring was perfect, and cut realistically through the air across and above the orchestra. My notes for the Saint-Saëns and Chabrier are full of superlatives; it was the kind of sound that kept me in my listening chair, digging out (and ordering, via my iPad) CDs and LPs.

The ARC always sounded effortless, regardless of how complex or demanding the music.

that its transients were superb throughout the audioband. Certainly, the plucked basses and big, booming bass drum in *Fiesta in Hi-Fi* sounded spectacular. On the other hand, subtle bass passages in which bows merely grazed strings were equally well served, with even the faintest microdynamic shadings audible. Similarly, massed violins at full tilt were epic in their sweeping majesty, but even the faintest, most

The Ref 5SE's dynamics were another contributor to its vivid performance. Across the spectra of both frequency and loudness, the ARC's dynamic transients were consistently more pronounced than I'm used to hearing. At first, I wondered if the Ref 5SE's dynamic transients were expressed to a greater extent in the midrange and bass than in the upper midrange and above. But the more I listened, the more I was convinced

plaintive notes were nuanced and rich. Ella Fitzgerald's voice in "Mack the Knife," from *Ella in Berlin* (CD, Verve 825 670-2), swung across huge transients as Gus Johnson's drums and cymbals cracked and shimmered; both were completely in proportion to the transients of Paul Smith's piano and the bass of Wilfred Middlebrooks.

The Ref 5SE's resolution of detail was absolutely superb. This, combined with its transparency and freedom from any sort of grain, figured largely in its ability to bring Doug MacLeod into my listening room. In "Midnight in Memphis," the finest, faintest strains of MacLeod's guitar and voice were clearly rendered and achingly beautiful. The Ref 5SE didn't uncover just another level of subtle detail and nuance in his voice; it seemed to uncover 10 more, or 20. Each string of MacLeod's guitar was its own instrument, as was the guitar's body—each stood out vibrantly, yet all were parts of a coherent whole. Massed choruses provided more examples of the Ref 5's resolution of detail; unfailingly, these were rendered as groups of distinct voices, each voice produced by a clearly discernible chest, throat, and head.

The Ref 5SE's detail resolution made it a champion of ambience recovery: It did a fabulous job of painting portraits of original recording spaces. Orchestra halls, jazz clubs, bars, studios, recording booths—all were tangible and clearly defined. Each element of sound on *Brand New Eyes*—MacLeod's voice, the strings of his guitar, its body, his knuckles rapping on it—existed within a single, coherent space. Similarly, the sound of each instrument on *Fiesta in Hi-Fi*—trumpet, cello, maracas, whatever—clearly painted a picture of the space around it.

Soundstages were slightly larger in all dimensions through the Ref 5SE than through other preamps I've used, but especially in width—the ARC's soundstage extended farther outside the speakers than I'm used to hearing. Even soundstages manu-

factured in the studio, such as some of the otherworldly effects surrounding M. Ward's voice on his *A Wasteland Companion* (CD, Merge MRG433), sounded larger. Similarly, individual images, such as Ward's voice or his piano, sounded a bit larger than through other preamps. I don't know if the ARC was telling a greater or lesser truth than those other models, but it was a slightly different truth. Regardless, the Ref 5SE's images were beautifully painted, with a satisfying heft and three-dimensional solidity. MacLeod and his guitar were solid enough for me to feel I could reach out and touch them. Ditto for individual instruments in the Eastman-Rochester orchestra—I felt I could get up and walk among the players. Orchestral sections sounded solid in themselves, even as they also clearly comprised individual instruments with distinct fronts, backs, and sides.

The Ref 5SE's perspective on the sound was a bit more forward than those of some other preamps I've heard, beginning a little in front of the plane of the speakers' front baffles, extending a few feet outside the speakers, and far enough back to transcend the dimensions of my room. In contrast, other preamps' soundstages typically start at or slightly behind the speakers, then take the soundstage out and back from there. With the same CD, for example, one preamp put me two-thirds of the way back in the hall, while the Ref 5SE put me in the front third—not in Row 1, but noticeably farther forward than some other preamps. Again, I'm not saying that the Ref 5SE is more or less right than other preamps; it was just a bit different.

The ARC always sounded effortless, regardless of how complex or demanding the music. *Ella in Berlin* was a good example: Even with the noise of a wildly enthusiastic crowd, the Ref 5SE could still separate out and portray each instrument, no matter how loudly or quietly it was played, while retaining the same levels of articulation and timbral accuracy as when the audience was quiet. Saint-Saëns's "Organ" Symphony was another great example: Although the climaxes and cymbal crashes nearly made me jump out of my chair, I noticed that neither the images nor the timbres of the instruments got the least bit confused, even in crescendos that build to full-tilt climaxes. Instead, the music swelled and swirled around the stage, exactly as it does in the concert hall.

Tonal balance was another area in which I at first thought the Ref 5SE slightly deviated from absolute neutrality in sounding perhaps a bit warm. I thought it put a little more emphasis or tonal richness on instruments and voices in the midrange and bottom end than on those higher in frequency. But as I spent more time with the ARC, I came to believe that it was pretty well balanced from top to bottom. Double basses and cellos were all treated lavishly by the Ref 5SE, but so were female voices, flutes, and triangles. Still, if anything—and this is a big if—there might have been a little extra warmth. It might have favored the trombones in Chabrier's *España* just a bit over the trumpets, for example, but any such deviation was slight, if it existed at all. What was more important was that any slight increase in warmth didn't

The Ref 5SE's detail resolution made it a champion of ambience recovery.

ASSOCIATED EQUIPMENT

Analog Sources VPI HR-X turntable & tonearm; Spiral Groove SG-2 turntable & tonearm; Triplanar Precision Mk.VII tonearm; Lyra Titan i, Grado Signature Reference cartridges.

Digital Sources Audio Research CD8, Primare CD 31 CD players.

Phono Preamplifiers Sutherland Engineering Phono Blocks.

Power Amplifiers VTL MB750 SE, Mark Levinson No.20.1 (both monoblocks).

Loudspeakers Wilson Audio Specialties Sophia 2.

Cables Interconnect: Nirvana SL, Nordost Valhalla.

Interconnect: Stereovox. Speaker: Audience Au-24e. AC: Audience Au24 & PowerChord-e, Synergistic Research.

Accessories Audience aR-12TS & aR-2TS power conditioners; Echo Busters room-treatment products; Finite Elemente Reference Pagode equipment stand, MusicTools CD-only CD rack & equipment stand; Audience Auric Illuminator, Disk Dr., Nordost Eco-3 CD cleaning & treatment systems; VPI 16.5 record-cleaning machine, VPI & Disk Dr. record-cleaning fluids; Wally Tools turntable-setup tools.—**Brian Damkroger**

diminish the immediacy with which the Ref 5SE plugged me directly into the performance.

The Bottom Line

As I review my notes and what I've written here, I realize how hard it is to describe a component as good as the Ref 5SE. It was a struggle to say anything relevant using the standard audiophile criteria and vocabulary. Over and over, I found myself simply describing what it was like to hear more of the music than before, a performance that now sounded more engaging and compelling than it ever had. The Reference 5SE was so good, and such a complete package, that I often felt I was grasping at straws to find things to critique. In 2006, Paul Bolin said that "discovering the weaknesses of the Reference 3 will be possible only when it has been bettered." That's exactly where I'm at with the Reference 5SE.

Summing up my experience of Audio Research's Reference 5SE preamplifier is pretty easy: I was smitten. I hear a lot of great audio gear, but it's been a long time since I've been so taken with a component. I can't imagine anyone hearing the Ref 5SE and *not* falling head over heels for it. It's been a long time, too, since I've heard a component that seemed to be so fundamental and significant an advance over all others I've heard. It's true that I haven't heard the latest models from Ayre Acoustics, Simaudio, Sutherland Engineering, and VTL. And \$12,995 is a lot of money—but not for a component this good and this well built, and not for one that Audio Research stands behind. There are a lot more expensive preamps out there today, but I'm not sure that any amount of money will buy better performance than the Reference 5SE's. One thing I *am* sure of: Like its illustrious predecessors, the Ref 5SE is a component I'll wish I'd held on to—assuming I ever let go of it. The Reference 5SE gets my highest recommendation. ■

audio research

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