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EQUIPMENT REVIEW

Audio Research Reference Phono 2

by Dennis D. Davis and Roy Gregory

Audio Research's Reference line had been without a phono-stage since 2005, when the Reference Phono 1 Pre-amplifier was discontinued. The PH7 was released shortly thereafter and garnered rave reviews over the last three years, but vinyl aficionados still hoped that ARC was working on a reference phono pre-amp, while some of us knew that the new product would include switchable equalization curves. I helped RG set up and run his 2007 road show at the Denver Rocky Mountain Audio Fest, where he demonstrated the effect of equalization curves using the marvellous Zanden Model 1200 with its three curve choices. Audio Research's Warren Gehl was at the show and was impressed with the demonstration. Perhaps that encouraged the company to dig out and dust off the switchable equalization first developed for but subsequently omitted from the Reference 1. The result, a couple years later, is the Reference Phono 2 offering three equalization curves.

The phono-stage is the jewel of the LP playback system. A great phono-stage brings more magic to the system than any other box of resistors and capacitors, even the line-stage. They come in all sizes and price ranges, but if you have not inserted a top phono-stage into your system, you are in for a shock when you do. If you believe that CD or SACD has closed the gap on vinyl replay, plug in a really good phono-stage and just watch that gap widen again.

The Reference Phono 2 Vacuum Tube Phono Pre-amplifier ('Ref 2' to its friends) maintains the same look as other AR equipment, but introduces a few cosmetic changes that will become standard on Reference products. First, the top plate is available in an optional Plexiglas version, which Audio Research claims sounds superior to the standard metal lid. Warren Gehl experimented with lids of various compositions, trying to achieve the superior sound he heard when leaving the lid off altogether (don't try this at home if you have children or pets). He experimented with various plastic prototypes, some of which sounded worse than metal and some better. I reviewed the unit with the Plexiglas lid. The etching on the faceplate of the Ref 2 is a bit bolder than on prior Reference products and the handles now come standard in silver, although black handles are still available as an option. I find the new handles mated with a matching silver faceplate attractive and do not miss the more retro look of black handles against silver. The casework is a bit wider, although this added girth is hidden behind the front panel. Inside, the layout resembles

the interior of the Reference CD 8 and the new Reference 5. The circuit board is laid out horizontally with the transformers attached to the front of the chassis. The tube complement is also identical to the other new Reference front-end products—four 6H30s in the gain stage with a 6550C and 6H30 in the power supply. The analogue stage is also identical to these other units.

The Ref 2 phono-section is a wonder of convenience. In addition to offering a broad selection of adjustments, each one is accessible from the front panel, as well as from a well laid-out remote control. There is no need to pop the lid or reach around back to adjust loading or gain. User selectable gain choices are 45 dB low and 68 dB high. The low setting is ideal for virtually any moving magnet or for experimenting with a step-up transformer (if the fancy strikes you). The high gain setting supplies more than adequate gain for any low output moving coil cartridge. Unlike some prestige phono pre-amps, the Ref 2 uses low-noise FETs in the high-gain section rather than a step-up transformer. Audio Research claims this configuration provides superior sound to the use of a step-up transformer and I was skeptical—until I listened to the performance. There are seven loading options including six fixed settings (47K, 1000, 500, 200, 100 and 50 Ohms) and one “custom” factory established loading option to be specified when ordering the unit. In addition to the standard RIAA equalization curve, there are two selectable curves labeled as Columbia and Decca (more on that later). The remote does not toggle through the options but contains a separate button for each loading choice and equalization curve. That way, you know you have landed on the desired setting even if you cannot see the readout from your listening position. That is especially welcome to me, as I sit away from the components and use a wireless remote control extender to control my electronics.

The rear panel allows for hooking up two turntables, and the two inputs are selectable from the front panel or the remote. The inputs are single-ended only, with both single-ended and balanced outputs. The power socket requires a 20 amp IEC connection, rather than the more common 15-amp plug.

The unit requires a great deal of break in. A couple of hundred hours is recommended. I hooked my unit up to a solid stage CD player programmed to

repeat indefinitely, feeding the signal through a reverse RIAA filter for a week and a half. Keeping track of tube life is easy with a tube hour meter display on the front panel. Even after break in the phono section sounds much better after about an hour of warm up. Indeed, the Ref 2 sounds somewhat rough until it gets up to temperature, more so than most other tube equipment. I mated the Ref 2 to an Audio Research LS26 Preamplifier and Reference 110 amplifier, listening to Lyra Titan and Skala cartridges. I tried the phono section on its own feet but eventually settled on a Stillpoints Component Stand as best enhancing the phono section's strengths.

The phono pre-amplifier I used for a direct comparison was the Aesthetix Io Signature, which had just returned from the factory a few months earlier for updating. Although the Io has a reputation for being somewhat noisy, reports are that recent production models are much more quiet, and my refurbished unit was indeed surprisingly quite considering the number of tubes its employs. I have also spent a fair amount of time listening to the Zanden, the Audio Research PH7 and have heard several generations of the Lyra Connoisseur. How does the Ref 2 stack up?

One of the strong suits of the Aesthetix Io was its ability to deliver dynamic impact—the huge power supply assured you that it had unlimited reserves and I have never heard its equal before from a tubed phono-stage when it comes to delivering dynamic punch. The Ref 2 weighs considerably less the Io's separate power supply alone, and for that reason I was not optimistic that it could pack the same weighty punch, but I was wrong. The Ref 2 surpasses both the PH7 and the Io in this department, and does so across the frequency spectrum. It delivers quick and authoritative impact, and makes the effort seem unforced, like Alberto Contador leaving the rest of the world's best climbers behind in the Alps. The Ref 2 almost seems to draw on Contador's superior lung capacity. On large-scale orchestral works such as Stravinsky's *Rite* on Decca conducted by Solti, the percussion effects leap off the stage. And it delivers this dynamic punch without smearing. With the Io, the system ran out of steam on the largest scale dynamic swings, where now the Ref 2 seems to have blown





▶ the cobwebs out. The Ref 2 is no less impressive on smaller scale works, such as John Lee Hooker Alone on Labor LAB-4, a live small nightclub recording where his punchy guitar sound seems to dig deeper and with more impact than I've heard before.

But what truly sets the Ref 2 apart from the pack is the way it puts together the pieces of the delicate yet detailed sound in the upper midrange. Once the unit had broken in for 200 hours, I couldn't stop digging into my stack of violin LPs, drawn in by details of string tone that had escaped me before. At the 250-hour mark and beyond, the Ref 2 was still getting better and better at this—Audio Research claims it will continue to improve until the 600 mark has been reached. I've listened to Accardo play Paganini on 'Diabolus in Musica', a 1996 reissue by DGG, on many fine phono preamplifiers, but never heard the nuanced delicacy of string tone reproduced by the Ref 2. That's not to say that there aren't other phono sections in the same league when it comes to delivering beautiful midrange (the Zanden comes to mind), but there is something quite special here.

Is this delicate midrange beauty the result of a lower noise floor? Certainly the unit is quiet—the ear to the driver test proves it nearly as quiet as the best solid-state phono sections, with barely noticeable levels of hum and hiss. But I suspect that the contribution of a low noise floor is not an adequate explanation for the superb low-level detail that contributes to the magical midrange. It's not just low-level detail showing above the noise floor—somehow Audio Research has managed to organize these low level signals into a more coherent whole.

The Ref 2 is a world-class performer when it comes to structuring the elements of the soundstage. The best analogy I can come up with should be familiar to any computer user. Listening to a complex piece of music for the first time with the Ref 2 had the musical soundstage suddenly shifting into place and making sense. On recording after recording, it became clear that the spacing of instruments and events had become better organized. I've been listening to Giuliani's performance of Verdi's *Requiem* on EMI since the 1960s, always hoping that some change in my system would clean up the soundstage of this marvellous recording. The Ref 2 has made this admittedly

SECOND OPINION

Writing a second viewpoint to any review is always a fascinating experience, not just because of the "do I agree?" or "would I have put it like that?" aspects (or more often, the "I wish I'd thought of putting it like that!" ones) but because of the way it lets you off of the leash. The main review covers all the technical details and the sonic overview* and you have the opportunity to concentrate on the one or two specifics that really define this product's special qualities.

For me, the thing that makes the Phono 2 special is perhaps best defined by its sense of rightness. It's a naturalness of presentation, of perspective and ordered communication that underpins both its musical quality and that extra dimension it brings to vinyl reproduction through its provision of switchable equalisation. It's also what elevates it head and shoulders above the PH7, good as that unit was. The Phono 2 is a game changing product for ARC, finally lifting record reproduction onto the same plane first reached by the Ref 3 line-stage, and since further refined by the Ref 5.

So much of what the Phono 2 does right seems to stem from the bottom end, which is noticeably deeper, more defined, much more transparent and offers a rooted stability that simply escaped the PH7. That firm foundation creates both the clarity and micro-dynamic discrimination that so impressed DDD, revealing harmonic textures and nuances of technique that remain resolutely submerged with lesser units. The rock solid immobility of the sonic picture also adds more than just authority to proceedings. Instruments aren't just placed in the acoustic space, they stay where they are put, even under the most extreme dynamic provocation. Orchestral tuttis pass without the standard rush to the front of the stage that afflicts most hi-fi systems, while the "place for everything

▶ and everything in its place" sense of order reveals far more clearly the inner dynamic of the orchestra, the idea of a single massive entity, controlled by the conductor. And as impressively as you demonstrate it on large-scale classical works, it's almost more critical to the chemistry and intimacy, the complex interweaving of musical strands that characterizes smaller pieces. The subtle, repetitive but slowly evolving rhythmic patterns that make The Cure's *Seventeen Seconds* so hypnotically fascinating are a compelling experience through the Phono 2, each layer effortlessly unravelled.

What if the recording itself is wrong? The Audio Research doesn't just highlight the problem, it actually offers at least a partial solution. Of course, it can't do anything about recordings that are just plain bad, but where the ARC can help is when it comes to correct replay equalization, and that's a problem that's far more widespread than even many experienced LP collectors and listeners understand.

What are the symptoms of incorrect equalization? Perhaps the best-known and most recognisable instance afflicts DGG pressings, with their reputation for turgid, syrupy sound and a brittle top end. That's because you are playing them through an RIAA stage, with its own replay curve – a curve that doesn't match the one that many DGG pressings were cut with. The earlier the pressing, the more likely you are to have a problem. But this is much more than just a tonal aberration. You can listen round tonal shifts – we do it all the time. The reason that correct replay equalization is so important is the effect that it has on the integrity and quality of the musical performance itself.

For years I hated von Karajan's DGG recordings. Heavy handed and overbearingly mechanical, they lacked any sense of intimacy or musical subtlety, with phrasing that's most kindly described as prosaic and as much musical flow as a mangrove swamp. Frankly, I wrote him and his recorded legacy off a long time ago, aided and abetted by DGG's early digital efforts. But two things nagged at me, lurking in the back of my mind. The first was my favourite Carmen, with Leontyne Price and the Vienna State Opera, a recording from RCA's Soria series, with none other than HvK wielding the baton – and delivering drama, pace and impact in abundance. The other thing that gave me pause for thought was the fact that the Berliner Philharmonic elect their conductors. Would they really have tolerated a musically bereft martinet?

But it wasn't until I heard the Zanden phono-stage with its switchable replay equalization that the mystery was resolved. Switch the equalization to the preferred setting and those old DGG recordings just spring to life, with an injection of pace, drama and energy that makes you wonder if you can be listening to the same orchestra. Of course, RCA used the RIAA curve! Suddenly, you've got a whole new collection of records to listen to! It's a neat trick if you can do it, and one that the ARC Phono 2 does too...

Let's look at a specific example: a 1969 recording of Mozart Horn Concertos with HvK and the BPO, in a nice early pressing. This is a record that I acquired as part of a collection, but the light-hearted, almost jaunty music was so crushed under the Teutonic weight of what I took to be a typical DGG performance and recording that it has languished almost unplayed for years. Queuing it up with the Phono 2 set to the RIAA curve, it's easy to understand why. But switch to the (generic)

far from perfect recording shine through as never before, creating order out of the chaos of a large chorus and orchestra. But it wasn't until I queued up Falla's *Nights In the Gardens of Spain* on Decca 2091 that I fully appreciated what Audio Research has accomplished. The Ref 2 introduced a sense of structured layering I had never heard before in this recording, with the harp, violas and piano occupying their own space and, for once, that space all seemed properly organized not just in three dimensions but in time. Perhaps it was the Paella and Vina Bosconia Rioja I enjoyed the night before that primed me for this Moorish wonder, but the real credit has to go to this remarkable phono section.

Yet the feature of the Ref 2 that most fascinated me was the equalization curves. To my surprise, this has turned out to be a somewhat controversial subject, with some online observers dismissing the whole concept as voodoo, often without hearing the phono section. Prior to 1955, all the record companies used their own equalization curves and in 1955 they agreed to standardize their equalization using what is called the RIAA curve. The major recording labels claim to have fallen in line with the RIAA standard by late 1955. The operative word here is "claim". Why some observers would take such claims at face value is somewhat surprising, given the industry's reputation for creative accounting practices. I would no more accept the claims of retired or departed recording industry executives as to their timely compliance with the RIAA standard, than I would accept their royalty accounting at face value. Before accepting a recording company's royalty accounting, I would rely on a forensic accountant (and in my day job have had occasion to do so), and in the case of a recording company's claim to have complied with an RIAA contract stipulation to change its equalization curves, I would trust my ears more than their lips. And my ears tell me that the equalization curves on the Ref 2 are correcting for many recording companies' delayed RIAA compliance and not merely applying an equalization patch. In any event, I own many hundreds of jazz recordings waxed before any informed person claims the RIAA curve was instituted, and it has been a revelation rehearing these ▶

► Columbia setting and the musical picture changes dramatically. The stage deepens and instrumental positions lock in. The pace quickens and the playing takes on life and verve, a new sense of energy and flow. Suddenly it starts to make musical sense. What was, before, turgid, disjointed, thin and frankly tedious, is now bubbling with life and joy – just as it should be and full of that fragile quality, musical rightness.

It's a trick that I can pull again and again – and one that's not without its own twists and turns. DGG used non-standard (at least, non-RIAA) equalization well into the mid-80s. But playing a first pressing of a 1978 recording, Arturo Benedètti Michelangeli – Debussy Preludes, the Columbia setting generates a heavy, ploddingly mechanical performance that bears no relationship to the Debussy that I know. Switch to RIAA and light and goodness are restored. But how so? Eventually, I notice a sub-heading on the (in)famous cartouche – Made In England! Proof if needed then, that your ears don't lie...

Roll out the Deccas and the same results apply. An early, wideband SXL2000 of Il Trovatore comes alive when the Decca replay curve is engaged: space, body, presence and drama, a sense of musical tension. A French pressed wideband of the Tebaldi Aida, delivers exactly the same result, and another vindication for good old Herbert. Even a mid-80s London of the Milanov/di Stenano La Gioconda, pressed at Decca's New Malden plant (betrayed by the prominent shoulders around the label) still sounds right with the Decca EQ.

And that's really the point: this isn't just about old records and it isn't just about classical either. Jazz and pop are all affected in the same way. Of course, modern 180g repressings will all be RIAA, but if you own an older record collection or buy second hand discs, then you will hear very real benefits from a phono-stage with switchable EQ.

Given the cost of modern high-end record replay systems, I think it's a no-brainer. I feel that unless you have a decent record player with a good clamping system, adjustable VTA and the ability to switch replay equalization, you simply aren't hearing what's on most of your records. To many, correct replay equalization matters just as much, and if you want to get the best from 20th Century vinyl pressings then it should definitely matter to you.

Audio Research has ticked all the boxes with the Phono 2. It's quiet – quiet enough to accommodate my vdH Condor without any problems. It shares the organized clarity and stable musical authority that characterize the other Reference models. It offers just enough adjustability to really optimise your cartridge interface, and does it in a versatile and easily used package. It even offers two inputs to accommodate a second tonearm. And finally – it offers switchable EQ. Taken together, these things don't necessarily make this the best phono-stage in the world. But they do make it the one to beat.

Roy Gregory

*Two brief (and personal) asides when it comes to DDD's observations: I'd hate anybody to get the idea that the ARC is underweight and anybody brought up on conventionally proportioned phono-stages is going to be impressed by the substantial dimensions and weight of the Phono 2. The other concerns the handles: call me old-fashioned, retro or just plain 'ornery', but I'll have mine in black, please. The silver handles might look more modern, but in my opinion they also make the unit anonymous, bordering on the bland.

TECHNICAL SPECIFICATIONS

Type: Hybrid solid-state/tube phono-stage

Tube Complement: 5x 6H30, 1x 6550C

Inputs: 2

Gain: Switchable, 51dB or 74dB (balanced)

45 or 68dB (single-ended)

Input Impedance: 47k, 1000, 500, 200, 100, 50 Ohms, or Custom

Phono Equalization: RIAA, Decca, Columbia

Output Impedance: 200 Ohms (single-ended)

400 Ohms (balanced)

Dimensions (WxHxD): 480 x 178 x 394mm

Weight: 12.3kg

Price: £10,726

UK Distributor:

Absolute Sounds

Tel: +44(0)20 8971 3909

URL: www.absolutesounds.co.uk

Manufacturer:

Audio Research Corporation

URL: www.audioresearch.com

recordings with the curve options. My ears tell me that no matter what Wikipedia claims, Columbia did not convert its boards over to the new curves as promptly as it claims, and listening to many of Columbia's releases in the "6 eye" label era bears this out. The same pattern holds true for releases on many other labels, both large and small.

Audio Research's new Ref 2 clearly joins the elite of the phono section world. It delivers a performance level for others to aim at. With its remote access to loading and gain settings, it offers unparalleled convenience and adjustability. The optional equalization curves offer a fascinating opportunity for exploration and discovery. In short, this is one piece of audio gear to be reckoned with – and, if you are fortunate, enjoyed. +