

# hi-fi news

THE HOME OF REAL HI-FI

## & Record Review

# TWO STEPS TO HEAVEN

### Audio Research Anniversary preamp – a dream come true?

**'I change... like the Hulk!'**

**Alice Cooper p68**



**RAFFERTY**  
City to City

### KEF Q900

**New £1k floorstander**

### Takumi K-70

**Stunning three-box hybrid amp**

### Group Test:

**USB headphone amps – plug & play musical bliss**



### VPI Classic 1

**Retro turntable for the 21st century**



**PLUS** 13 pages of music features • **VINYL RE-RELEASE** Alice Cooper's *Billion Dollar Babies* • **HI-FI @ HOME** Our reviewers' systems revealed • **INVESTIGATION** Pick-ups time forgot • **VINTAGE** Richard Allan A21 amp on test • **READERS' CLASSIFIEDS** Hi-fi bargains galore

UK £4.00 US \$9.99 Aus \$9.95



# Audio Research Anniversary Edition Reference (£24,000)

Wowing the world with the Reference 5 preamplifier, Audio Research has raised the bar for its 40th birthday – can the Anniversary Edition Reference be even better?

Review: **Ken Kessler** Lab: **Paul Miller**

An intriguing missive reached the world's audio press in early 2010. Its opening read: 'The Audio Research team thought long and hard about how to commemorate and continue this track record on the occasion of its 40th anniversary. It would have to be a product so special in its design, so groundbreaking in its performance, as to be regarded appropriately as a true "Anniversary Edition".' The press release should have come with an MP3 file providing a fanfare, for it heralded the Anniversary Edition Reference Preamplifier.

Whew. Hadn't ARC just released the Reference 5, a preamp so terrifyingly good that this writer followed a number of his reviewer colleagues in buying one? How on earth could this thing be improved? The Ref 5 was already a costly enough device to represent a flagship by any measure, not least financial. But a killer version of it costing double? Justifying that would require peerless performance. It would have to be a Ref 5 without restraint.

To that end, Audio Research addressed the few solutions not available in the single-chassis Ref 5. As is clear from the photos, the Anniversary is a two-chassis design, its valve-heavy power supply relegated to a box of its own. An immediate caveat was made known, necessary in light of publicity photos showing the two sections stacked: *don't*. That's strictly for photography purposes, and the two *must* be separated, either side-by-side, or on shelves with at least 6in above each unit for cooling.

Evolving into a true dual-mono layout is another departure between '5 and Anniversary, right down to two fat umbilical cords connecting the chassis. These are

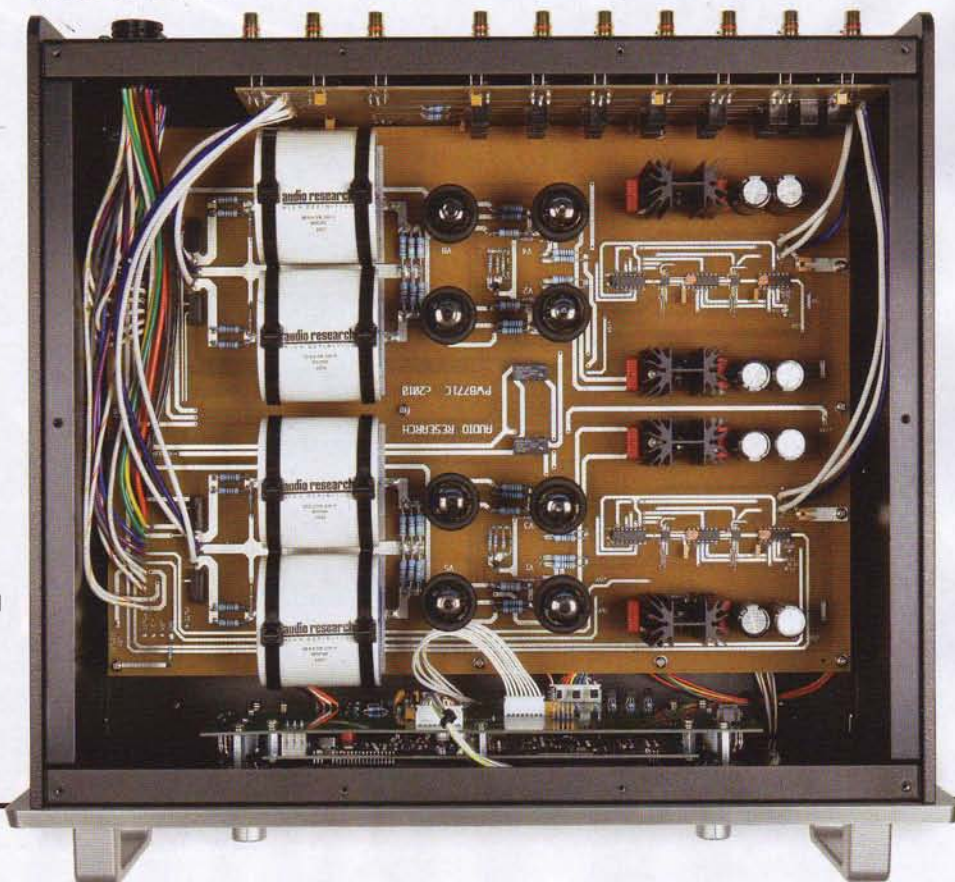
multi-pin affairs with industrial twist-to-lock connectors, and users are advised to connect them before attaching the mains.

## POINT TO POINT

Audio Research claims that the Anniversary enjoys 'twice the power supply energy storage compared with previous Reference preamps', which may go some way towards explaining the shocking gains in quietness, headroom and speed of this unit over its single-box sibling. The company also attributes the two-chassis topology to necessity, because the move to 'truly separate signal paths for each channel' increased the demands on real-estate within. In practice, this means a dual-mono power supply with separate low and high voltage transformers for each channel and

multiple stages of regulation, including separate valve regulation for each channel via two 6550C and two 6H30 tubes.

In the preamp chassis is an all-valve, zero feedback, pure Class-A circuit employing four 6H30 triodes per channel, again dual-mono. Those who love to gaze inside – the unit comes with a perforated, 'see-through' top panel – will find it hard to comprehend the sheer massiveness of the four custom Teflon coupling capacitors mounted on the bottom of the main board, each weighing around a kilo. Each valve is fitted with a now-familiar damping ring; the main circuitry is fitted to a large mother board; daughter boards deal with the front panel and the socketry, and – as if to charm older audiophiles – there's plenty of good old point-to-point wiring.



**RIGHT:** Built onto a single PCB as a dual-mono layout, the hand-wired Anniversary features no fewer than four 6H30P double-triodes per channel. And look at those decoupling caps!



### ...AND COUNTING

If you've played with ARC preamps in the past decade, the Anniversary will be instantly recognisable. With one exception: when you switch it on, the vacuum-fluorescent display reads 'Anniversary Edition Reference Preamplifier 1970-1971' and it then counts up, year by year, until it reads '1970-2010'. It's a nice diversion as the Anniversary warms up. Once the count finishes, the display switches to normal mode, showing volume, source, choice of balanced or single-ended input, and mute.

The fascia contains knobs for volume and input on either side of the display

while, below, are six aluminium buttons for Power, Processor, BAL/SE, Mono, Invert and Mute. Aesthetically, both chassis come fitted with silver handles, while black units are available. The top covers are in smoked acrylic, ARC suggesting that they're used for 'optimal sonics' as well as aesthetic appeal, but black metal is an option for those of a more conservative mien.

Functionally, there are no cautions nor surprises, aside from making sure that you separate the chassis and hook up everything before the mains. The display can be dimmed or turned off completely, with nine small pixels remaining to indicate

**ABOVE:** Front panel laid out as Ref 5, but with sleek new pushbuttons. The Anniversary legend counts up from 1970 from switch-on to warm-up! **NB:** stacking is for photo purposes only

that the unit is on; a tiny light also glows on the power supply's front panel. At the back – a practice I will laud from the rooftops – all inputs and outputs are offered in both balanced XLR or single-ended form: six line inputs, a unity-gain pass-through input, two pairs of main outputs and a record output. The unit also comes with a full-function IR remote and 12V trigger for remote switch-on.

For the review, I used the Anniversary with both balanced and single-ended components, preferring the former when able to try both, as with the McIntosh MC2102 power amp and the Marantz CD12/DA12. For single-ended use, I enjoyed the Quad II-eighty monoblocks and Quad 99 CDP II CD player. Also employed were the SME 20/3 with Series V arm fitted with Koetsu and Lyra cartridges, and Wilson Sophia 3s.

As the Anniversary allows the user to display the hours on the valves, I'm guessing that the review sample still had many to go before complete burn-in. ☺

### OUT OF THE BOX

Audio Research was born in 1970 with a preamp based on Dynaco's PAS, hot-rodged by Bill Johnson to match his equally-tweaked amp based on Dynaco's Stereo 70. The company produced a steady run of complete preamplifiers with phono sections, succumbing to the (presumed) decline in phono inputs in 1989 with the launch of its first line-level-only preamp, the LS1. Since 1982, though, ARC has treated us to a run of sensational two-box preamplifiers beginning with the all-valve SP10 (regarded by some as one of ARC's greatest-ever models), the hybrid tube/FET SP11 (1985) and the SP15 (1988). Intriguingly, the Anniversary Reference Edition is not only the first 'REF' model with an outboard power supply, it's also their first-ever line-stage to fill two chassis. The juicy closure? Johnson's hot-rodged Dynaco of '70 featured an... outboard power supply.

## VALVE PREAMPLIFIER

Only a mere 85 hours or so registered on the display. But did this near-virgin state, like its biological equivalent, mean uncertainty or indecision or innocence? If what I heard represents this preamp in its first flush of youth, I can't wait to hear one that's way past slattern.

### PUTTING ON BANGLES

My goodness – talk about first impressions being lasting. Whatever it was that led me to The Bangles, I have no idea. Hadn't played their music in ages. But brash and brassy powerpop, amassed female vocals, slick production, tight *and* jangly guitars, crunchy drumming – I figured that sorting out these recordings, with so much going on all at once, would be a trial worthy of such a component.

Their immaculate covers of 'Live' and 'Where Were You When I Needed You' were like a perfect lemon meringue pie: soft on the top, squidgy in the middle, with a crisp crust. Additionally, The Bangles' recordings enjoyed rather remarkable stereo imaging, not least the exquisite 'Eternal Flame' and the perennially irritating 'Walk Like An Egyptian'. It is the 'dance mix' of the latter that's punctuated with a synthetic-sounding percussive slam dead centre that sends off shimmering waves to the



**ABOVE:** Housed in a separate chassis, the choke-regulated Anniversary PSU employs a pair of 6550C and 6H30P tubes per channel. The idle power consumption is around 200W

### MAXED OUT

Dave Gordon, MD of Sales at Audio Research, isn't coy about describing the Anniversary as 'a Reference 5 taken to the max. Obviously, the major difference is the all-tube, external power supply, but other components have been upgraded as well, including four custom Teflon coupling capacitors, each weighing more than two pounds. Another major improvement is dual-mono construction throughout'.



outer edges. The Anniversary somehow ameliorated the artifice, with the decay of the CD nearing analogue fluidity.

Sibilance, often enough to mar the bliss of The Bangles through lesser systems, acquired a silkiness that rendered the merely tolerable positively seductive. Cymbal crashes, the strings on 'Eternal Flame'... nothing jarred, nothing replicated the onset of tinnitus or the edge of a compressed source. For a laugh, I subjected the Anniversary to the same track on last year's iPod nano via the Pure i-10 dock. It was 'not bad at all'.

### A DIFFERENT HAT

Back to the serious stuff, though. Mono Hollies on vinyl was tonally too similar to The Bangles to present any challenge, so they merely reaffirmed that the Anniversary has a deft way with abundant treble. Although more precise than the Ref 5, especially for arresting abrupt transient stops on electric guitar, the Anniversary never seemed aggressive nor harsher than the '5. It was more an example of presentation than quality, like adjusting a lens a mere half-stop in either direction. What the Anniversary does, in this respect, is throw down the gauntlet to


*'A squiggy middle and crisp crust – the perfect lemon meringue pie'*

any solid-state preamplifier champion who thinks that tubes are 'soft'.

Also compared to the '5, the Anniversary offered a slightly deeper soundstage effect on the mono Hollies recordings, making them seem bigger, fuller. I know this is anathema to those who refuse to believe that mono recordings have any spatial

value beyond that of a point, but the effect is easily discernible – and disconcerting. But, out of respect to sceptics, I will apply comments about the spatial only to stereo recordings, lest you think I'm attributing

imaginary virtues to a single channel.

Paul Carrack, one of this country's finest vocalists, has just released, *à la* Ferry, Stewart, *et al*, an album of standards that I fear will be overshadowed by those of his colleagues. A gentle affair, *A Different Hat* features the Royal Philharmonic in lush form, with a true analogue-era feel. If you didn't know it was Carrack, you might mistake him for any of a dozen or so stellar 

## VALVE PREAMPLIFIER



**ABOVE:** Rear is also reminiscent of Ref 5 but with addition of sockets to accept umbilical cables from power supply; single-ended and balanced for all inputs/outputs

Italian-American crooners from 50 years ago. And while instrumental drama is kept in check, the sound spread is breathtaking.

'Moon River' is so laidback that it's almost a textbook exercise in subtlety, showing how silences and low-level information are as important as vivid, in-your-face spectacle. The Anniversary's inimitable grace and composure allow the performance to slip out, embrace you lightly and vanish before you know it. With 'Don't Let The Sun Catch You Crying', though, Carrack ramps up the emotion, the sound swells, the orchestra shimmers. The antithesis of the orchestral bombast from, say, cinema soundtracks such as *Glory* or *Star Wars*, it shows that 'restraint' is not the same as 'constraint'. If anything, it's like Goldilocks' preferred porridge: just right.

### HAPPY TOGETHER

What kept me from switching off the Anniversary even when dinner beckoned, was the manner in which it presented vocals. Carrack's voice falls just short of 'fully-textured', like 20% of Mel Tormé or Rod Stewart, though neither is it verging on the Wayne Newton. Just as the Anniversary preserved the clarity and tingle in Susannah Hoffs' epic moment with 'Eternal Flame', so did it leave the nuances of Carrack's

voice in perfect proportion. (This is not to portray Carrack's as anonymous, though it is less distinctive than Mel's or Rod's.)

Following Carrack with Tormé's crazy interpretation of The Turtles' 'Happy Together' (yes, he did cover it, a 180° reversal on rockers covering crooners), the Anniversary dug deeper into its vocals palette, capturing the 'Velvet Fog' in all its Balkan Sobranie/Maker's Mark smokiness. Recalling his stance from TV shows seen in my youth, I could picture the plump composer of 'The Christmas Song' caressing each note, while smiling at lines like 'If I should call you up, invest a dime...' Happy, indeed. ☺

### HI-FI NEWS VERDICT

Owning a Ref 5 won't prepare you for this: the Anniversary is quieter, offers wider dynamics, tighter bass and faster transients. It sounds like a '5 on steroids, improved in every area. Which doesn't mean that the Ref 5 is any less a masterpiece. It's just that this is to its sibling what a Porsche 911 GT2 is to the Carrera S, or what Masseto is to Ornellaia: simply better. No, make that simply the best of its kind. Ever.

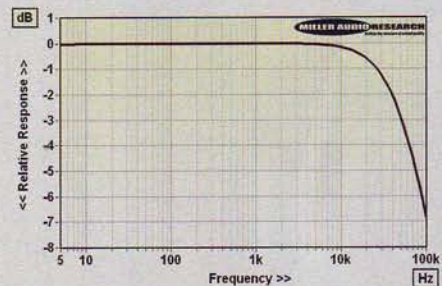
Sound Quality: 89%



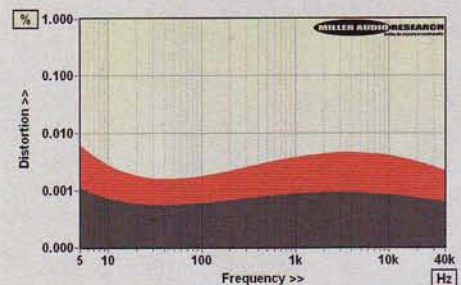
### ARC REFERENCE ANNIVERSARY (E24k)

This is, by any measure, a cracking tube preamp. If there's an issue then it's one of channel symmetry because, on our sample, the left channel exceeded its rated spec. more convincingly than did the right. The 6H30P dual-triodes themselves are precisely matched, offering a total +12.2dB (left) and +12.1dB (right) gain via its balanced in/outputs and with a supremely wide 96.9dB A-wtd S/N ratio (re. 0dBV). The channel responses are identical too, even if the -0.6dB/20kHz to -6.9dB/100kHz ultrasonic tailoring [see Graph 1, below] differs from Audio Research's -3dB/200kHz spec. Frankly, the tailored response is the more sensible when interfacing with modern wide-bandwidth sources so perhaps ARC has seen fit to adjust its performance in production. Interestingly, the 280ohm balanced output impedance (rising to 440ohm at 25Hz) is also lower than the suggested 600ohm, and no bad thing too.

The distinction between channels is seen in distortion, for though both left and right are lower than ARC's 0.006% limit, our sample had rather less 2nd harmonic on the left - 0.0008% versus 0.004%. This trend is broadly consistent with frequency [see Graph 2, below] and with output above 125mV right up to the maximum 30Vrms available from its XLRs. Nevertheless, it's the consistency of 'harmonic colour', mainly 2nd with a hint of 3rd/4th, with both frequency and level that's most impressive and most likely to exert a positive subjective impact. There are more than a few solid-state preamps that could learn a thing or two from this Anniversary... Readers are invited to view a comprehensive QC Suite test report for the ARC Reference Anniversary preamp by navigating to [www.hifinews.com](http://www.hifinews.com) and clicking onto the red 'Download' button. PM



**ABOVE:** Balanced in/out frequency response at 1V/60kohm. Bass response is flat to -0.8dB/1Hz



**ABOVE:** Distortion versus frequency from 5Hz to 40kHz (1Vrms/60kohm). Left (black) and right (red)

### HI-FI NEWS SPECIFICATIONS

Maximum output (<1% THD)	30Vrms (balanced)
Output impedance (20Hz-20kHz)	280-440ohm (balanced)
Input sensitivity (for 0dBV)	245mV (balanced)
A-wtd S/N ratio (re. 0dBV)	96.9dB (balanced)
Frequency response (20Hz-100kHz)	+0.0dB to -6.9dB (+6dB gain)
Distortion vs. freq. (L/R, 20Hz-20kHz)	0.0006-0.0008%/0.003-0.004%
Dist. vs. output (L/R, 100mV-20V)	0.0006-0.025%/0.001-0.085%
Power consumption	200W (1W standby)
Dimensions (WHD)	480x178x394mm