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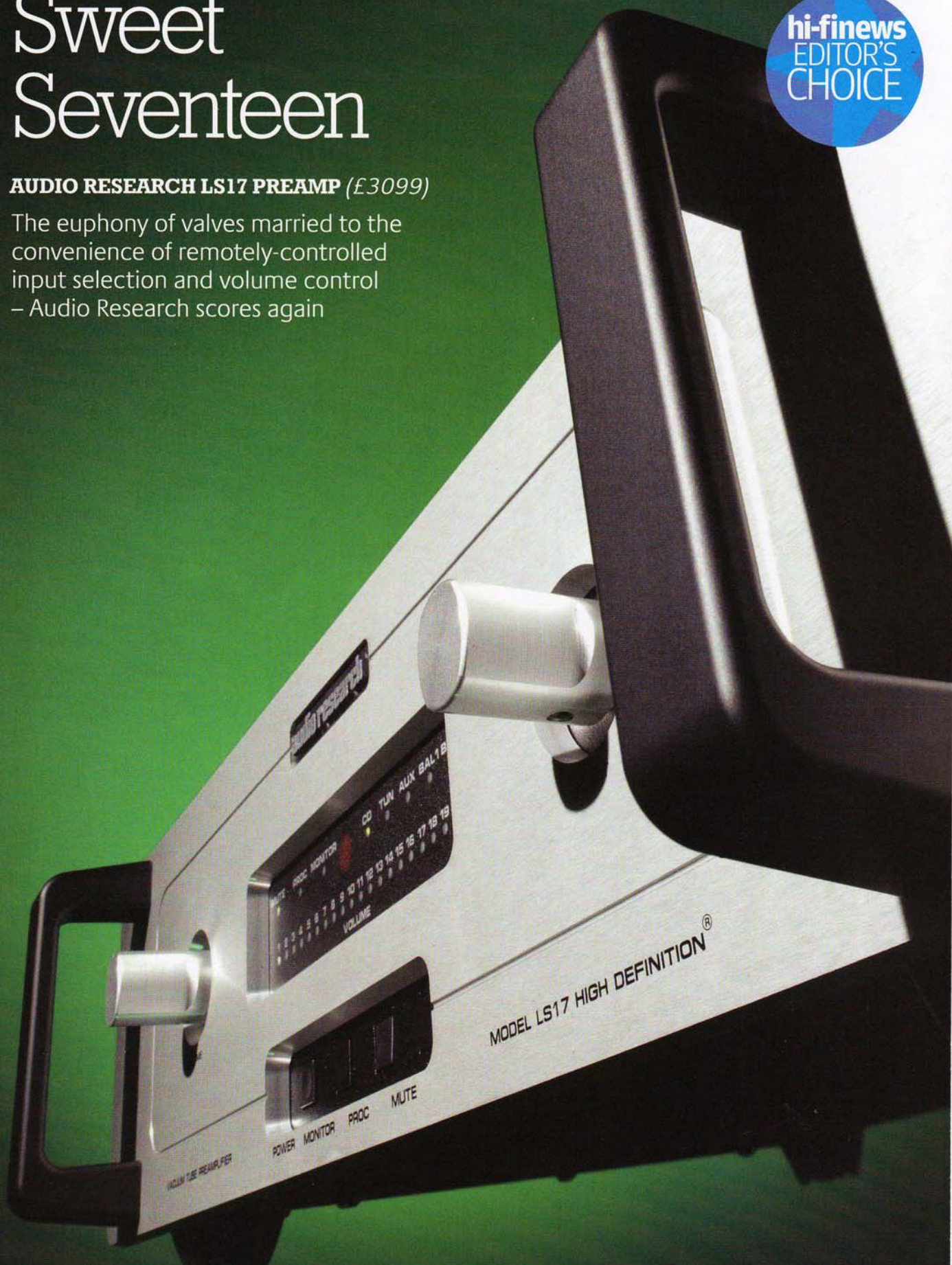


**AMAZING QUALITY
- GREAT PRICE
£400 AV AMPS FROM
CAMBRIDGE & ONKYO**

Sweet Seventeen

AUDIO RESEARCH LS17 PREAMP (£3099)

The euphony of valves married to the convenience of remotely-controlled input selection and volume control – Audio Research scores again



Tested by Ken Kessler

Given that Audio Research managed to provide a frisson of 'REF' sound in its entry-level PH5 phono stage, is it too much to hope that the same benediction might apply to a new entry-level LS-series preamplifier? Imagine: an affordable preamp with a goodly slice of REF3 magic.

Clearly, the LS26, which nestles smack in the middle of the range, exhibits much of the REF3's capability, but that unit costs £5300. You'd not merely expect top-flight performance at that price, you'd demand it. The LS17's price tag, though, brings us that much closer to earth. It costs a more attainable £3099.

Which is not to say that it lacks for anything beyond an elevated price, and I would not deduct a single point for the absence of a phono stage – this was designed from the get-go as a line-level-only preamp. Besides, it begs for the partnering PH5 phono stage, should vinyl be among your most-used sources.

A SENSIBLE DISPLAY

Audio Research has been making line-only stages for some time, and this one clearly respects the brilliance of its predecessor, the delightful LS16, by tampering only slightly with the recipe. Like its forebear, the LS17's ingress and egress include two balanced and five single-ended inputs, plus two balanced and one single-ended output, while a tape deck is served by a dedicated monitor input and record output. The seven inputs are labelled BAL2 and BAL1 for the XLR-equipped balanced inputs, while the phono-socket single-ended inputs are tagged Aux, Tuner, CD, Proc (for processor) and Monitor.

Where the '17 departs from the '16, while resisting the full-on light show of the REF3, is the fitting of a rather classy, newly-commissioned linear LED display. Its main function is a 20-lamp horizontal sequence for visual determination of where you've set the 104-step volume control – very tasty. It also contains indicators for the selected input and muting, and it's about as



ABOVE: Damping rings are used to control microphony in the 6H30 double-triodes

sensible and legible as one could want in this day of preamp/processors with miniature TV screens onboard.

So hair-shirt it is not. Two rotaries control volume and source selection, while pushbuttons access power, tape monitor, the unity-gain processor loop and mute; these functions are also found on the supplied handheld remote. The company has also addressed custom installations, so all of the LS17's functions are individually addressable by discrete codes for integration with external controllers. And despite such modern touches, the LS17, especially in silver, is unmistakably an ARC product, thanks to its lab look, complete with black handles fitted as standard.

TAKING A BALANCED VIEW

Under the bonnet, the LS17 employs two 6H30 twin triodes in its hybrid JFET/tube audio stage. The 480x134x305mm (whd) chassis houses a larger

'The LS17 is undeniably a valve pre-amp, yet it keeps the euphony in check. Vintage-sounding it certainly is not'

power transformer, redesigned power supply with line regulation better than 0.01% and new parts including proprietary output coupling caps. The power supplies are electronically-regulated, low and high voltage types. The circuitry provides an automatic 50-second warm-up time, which places the LS17 into mute mode after switch-on, thus precluding any nasty power-on thumps.

Around the back, a host of XLRs stared me in the face, so it was all but mandatory that I first savoured the difference between single-ended and balanced usage. Regular readers will know that I prefer the latter, and the LS17 did nothing to change my mind. If you have balanced-output sources and balanced input amplifiers, invest in some balanced-XLR-terminated cables and enjoy the added coherence, tighter bass and everything else that studio types will tell you do not exist merely by going to balanced operation. But, as I learned, those single-ended outputs came in handy when I stumbled upon a match made in heaven. Of which more anon. ☺



THE PERFECT DOWNSIZE

What confuses this seasoned Audio Research observer is the company's seemingly schizophrenic ability to take the core value of an exceedingly complex design, the REF 3, and translate it into something almost minimalist. With but two valves, a single large motherboard and two daughters, and a relatively cost-effective solid-state power supply, the LS17 is clearly cut-down and simplified. But this is never apparent. The only obvious economising is the removal of that oversized display, for which I am actually grateful. Close listening reveals little in the way of compromise – perhaps a shade less dynamic range, a tad less mass down below. But here is a perfect example of downsizing that demands the use of an oft-cited analogy: the LS17 is to the REF 3 what Porsche's Boxster is to the 911. In other words, 'nearly as good for a whole lot less money'. And that's music to most ears.

AUDIO FILE

Line-level valve-hybrid preamp with remote control

Price: £3099

Made by: Audio Research

Supplied by: Absolute Sounds

Telephone: 020 8971 3909

Web: www.audioresearch.com

Sources included balanced-output PS Audio and Simaudio Moon phono stages (with SME 30/SME V turntable and Koetsu Urushi cartridge) and the balanced output of the Marantz CD12/DA12 CD player. Power amps included the McIntosh MC2102 and Krell Evolution 600, driving Sonus faber Guarneris and Rogers 15ohm LS3/5As. Speaker wiring came from Yter, and interconnects contained a mix of Transparent and Kimber balanced and single-ended.

A SINGER-SONGWRITER DIET

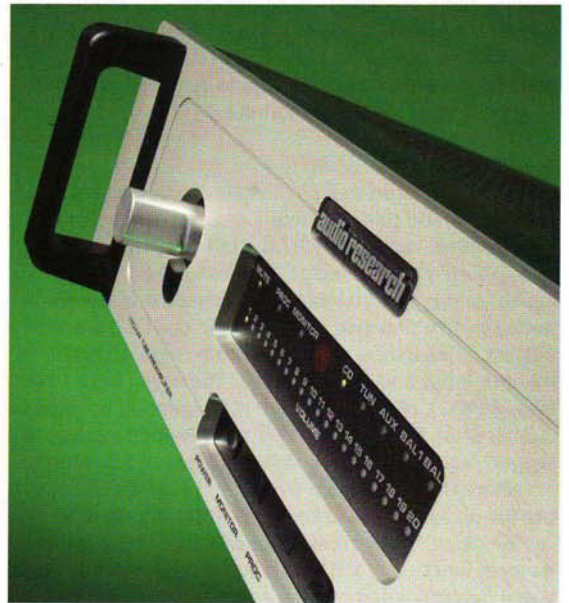
For some inexplicable, if not quite perverse reason, I've been masochistically over-indulging in singer-songwriter works of late, much of it like cod liver oil: you know it's supposed to be good for you, even if it tastes like something from the crankcase of a 1947 Hudson – filtered through Wayne Rooney's jockstrap. So, too, is the music of Joni Mitchell, something everyone with 'taste' is supposed to love, despite a voice like fingernails across a chalkboard. Bob Lind of 'Elusive Butterfly' fame, the supremely over-rated, tuneless Tim Buckley: whatever is music's equivalent of luvvies. Maybe I did it for, well, enlightenment. Or to understand why I worship the Ramones.

But what these 'poets' all share are breathtaking recordings, masterful backing musicians and vocals with character. Feeding them through a system with the LS17 at its heart enables the listener to tap directly

into their angst, which surely is the *raison d'être* of their whining. Where it shines most is in its ability to sound devoid of coloration, especially sss-artifice, while somehow conveying all the humanity of a voice without resorting to euphonic tube enhancement. That's the trickiest part of all to explain: the LS17 is undeniably a valve pre-amp, yet it keeps the euphony in check. Vintage-sounding it most certainly is not.

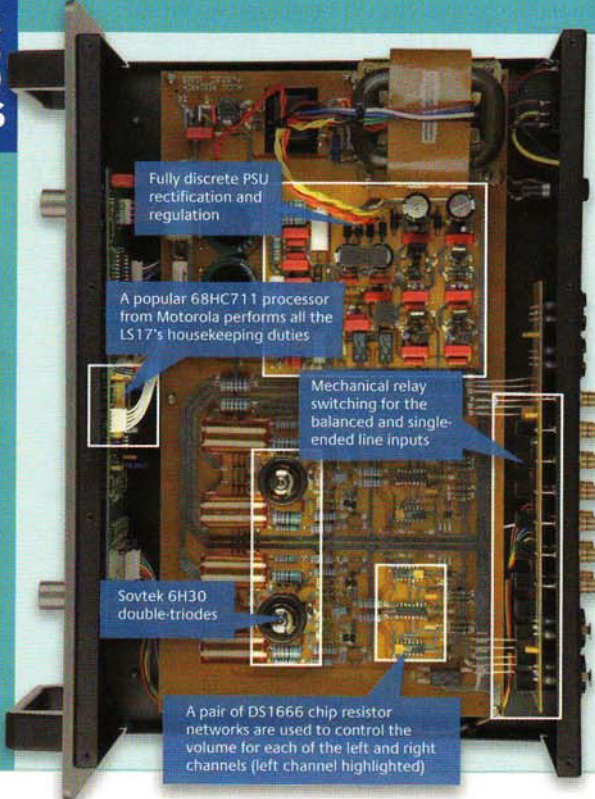
And that's because the LS17 has nearly all the detail retrieval and openness of the REF3, if the portrayal is somewhat less majestic in dimensional terms. If there's an ARC with 'warm' to one side and 'cool' to the other, with perfection in the middle, the REF3 is a mere degree or two towards warm, while Krell's Evolution 600 is a hair towards cool. The LS17? A teensy bit warmer than

BELOW: Logic-controlled selection is provided for two balanced inputs, 5 single-ended inputs with additional sockets for tape and single-ended preamp outputs alongside two balanced preamp outputs



hi-finews
LAB RESULTS

AUDIO RESEARCH
LS17 PREAMPLIFIER / £3099



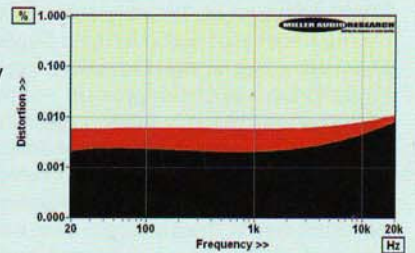
HI-FI NEWS LAB REPORT

Attempting to offer a preamp that combines the attraction of valve amplification with the convenience of remote control, volume and input selection might very easily result in an unhappy marriage, but Audio Research has cracked this particular nut to spectacular effect. The LS17's FET/6H30-based gain block provides a maximum +17.6dB of amplification, sufficient to raise 1V out from a 132mV input. The volume control steps

between a notional '1' and '20', the latter representing a full +17.6dB gain, dropping 2dB to +15.6dB at '19' then reducing in 3dB steps before reaching -48.3dB at '2'. This gives an effective volume range of 66dB with finer increments possible by momentarily twisting the spring-loaded volume knob between its 20 LED steps.

In practice, Audio Research is using pairs of DS1666 'audio digital resistors' for its volume control, 128-position

RIGHT: Distortion versus frequency for 1V output, left channel (black infill) vs right channel (red infill)



the REF3, but still close enough to dead-centre to qualify as a reference (with a small 'r') device.

Enhancing this experience, a midband so lifelike as to beg a diet of unplugged material, are rapid transients, and deep, rich bass able to flatter both the hard, tight lower octaves of modern funk as well as acoustic bass and percussion. Wilko Johnson's guitar fusillade on the remastered edition of Dr Feelgood's *Down by The Jetty* borders on the vicious, with all the attack that his chopping style should embody. In the same tracks, the late Lee Brilleaux's harp both punctuates and challenges the guitar, and the bass/drum rhythm section has such sheer mass that the mono disc sounds almost as visceral as the fuller stereo bonus CD.

Shifting from Essex R&B to twee folk and back, from the wry delivery of Long John Baldry's Anglicised blues to the intricate harmonies of The Four Seasons, the LS17 proved as versatile with material as it is with source handling. But all of that was in an ideal situation: balanced mode, feeding £6k's worth of amp and another £6k's worth of speakers. I wanted to have some real world fun with it.

CONNECTED CLASSICS

So out came the Quad II Classic power amp. And although it's single-ended, it presented one of the nicest surprises of the review sessions. I was messing around in the listening room, organising my CD library, doing the annual turf-out and clean up, and I suddenly got the urge to hook up the LS3/5As and the Quad II Classics – why I'm not sure. Still using the aforementioned vinyl and silver disc sources, I heard a system few would imagine assembling even in full-on 'Fantasy Hi-Fi' mode, but, by gum, it worked.

Both its immediate and net effects were revelatory, as if each component was allowed to shine and perform of its best – like tasting every ingredient in a fine sauce,



ABOVE: A valve preamp with the convenience of remote control – full input selection, up/down volume and mute are offered on this minimalist handset

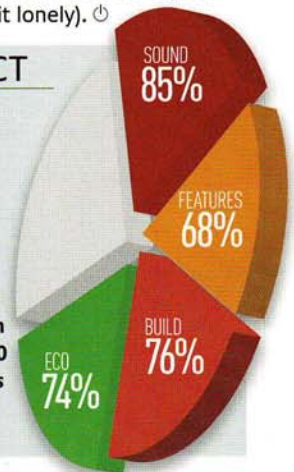
while they still blended into a whole. There was the trademark LS3/5A midband, used to great effect on the new collection of Dusty Springfield-at-the-BBC sessions. All the requisite textures were maintained, while the Quads inserted a tingle of warmth, a hint of lushness. Meanwhile, the LS17 simply did as it was told, commanding the sources components, feeding the amps.

It sounded so good that I even broke the rules by hooking the Guarneris to the Quads – a no-no because the Sonus fabers like more power. But at normal levels, with not-too-strenuous material, still I was able to hear the LS17 sounding almost as wide open as with the bigger amps, while it revealed a subtlety that complemented the small Beeb monitors. Acoustic guitars – some Eric Bibb, some Rory Block – possessed a deliciously authentic woodiness. Bottleneck? Slippery and suitably metallic.

Far be it from me to suggest that this preamp negates the need for an LS26 or a REF3. But it is, undeniably, the best value of the trio, and a product so impossible to fault that I've ordered one for myself (maybe my PH5 was feeling a bit lonely). ☺

HI-FI NEWS VERDICT

When Audio Research brings out new models, they always demonstrate the best of the 'trickle-down' theory. Thus, a salesperson could say with a straight face that the LS17 offers for circa £3000 what would have cost £6000 five years ago. So, yes, it flaunts an indecent amount of the £9000 REF 3's prowess. Yes, it sounds simply delicious. And, yes, I'm buying one.



potentiometers that support the intermediate steps between each of the 20 notional volume settings. Most manufacturers opt for a single chip solution shared between channels to ensure precise matching but, for reasons of fidelity and improved channel separation (89–106dB from 20Hz–20kHz), Audio Research uses pairs of these chips in each of its dual-mono channels.

The mere 0.08dB error in channel balance is thus explained even if it still surpasses what might be achieved with a conventional rotary analogue pot.

Because of the stepped impedance of this volume network, the response of the LS17 also varies by volume position, showing the greatest HF attenuation at the maximum setting (–2.4dB/20kHz). This improves to –0.53dB/20kHz at unity gain (volume '14') and –0.2dB/20kHz at –6dB (volume '12') as illustrated by the graph (below).

At 87.8dB, the A-wtd S/N ratio is just where I would expect it, although distortion (almost entirely 2nd and 3rd harmonic in composition) is rather lower than with some competing 'high end' valve preamps. The graph (below,

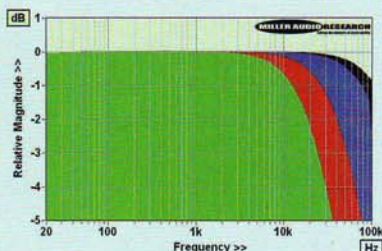
far left) indicates that distortion is slightly higher on the right (red trace) than left (black trace) channel at 0.006% vs 0.002%, respectively, from 20Hz right through to the upper midrange, increasing to just 0.01% at 20kHz and 0.02% at 40kHz. The difference between channels probably boils down to matching between the 6H30 triodes in each channel, so another LS17 might measure very slightly differently.

Distortion also varies according to the LS17's output level, which is not uncommon. Via its balanced

XLR connections, the LS17 achieves its most linear performance at 200–300mV output where distortion falls to just ~0.001%. At some 2V output, which might be required to drive a power amplifier to its rated specification, distortion increases to ~0.012%, while at 5V output the LS17 incurs some 0.05%. Once again, these figures are perfectly acceptable and, indeed, very well managed by the standards of this breed.

A full QC Suite Report for the LS17 preamplifier is available by following the links on www.hifinews.co.uk. PM

RIGHT: Frequency response at reducing volume level positions – position '20' (green), '15' (red), '10' (blue) and '5' (black)



HI-FI NEWS SPECIFICATIONS

Maximum gain	+17.6dB
Distortion, 20Hz–20kHz (1V output)	0.002–0.01%
Distortion at 1kHz, 10mV–5V output	0.0014–0.058%
Frequency response, 20Hz–100kHz (max. volume position)	+0.0dB to –13.5dB
Channel separation, 20Hz–20kHz	>89dB
A-wtd S/N ratio (re. 0dBV)	87.8dB