

Rotel DX-5

Is the compact hi-fi form-factor witnessing a resurgence? Rotel certainly thinks so as its DX-5 'personal audio amplifier' looks likely to be the first in a wave of bijou separates
Review: **Andrew Everard** Lab: **Paul Miller**

You know where you stand with Rotel. This is a long-running company, still family-owned after almost 70 years, and with a commitment to spending money on what's on the inside of its products rather than the cosmetics. It still winds its own transformers, and tightly specifies other components it buys in. Its halo brand, Michi, has striking looks [*HFN* Apr '25 & May '24] – from the originals with their Japanese lacquered side-panels to the understated chic of the black-on-black current generation – but the core products remain plain and simple [*HFN* Apr '22], looking functional to the point where some might even consider them dour.

Except... things are changing at the Japanese company with the arrival of a new generation of products, spearheaded by the £1399 DX-5 DAC/amplifier we have here and its DX-3 partner, selling for the same price but deleting the DX-5's speaker-driving capability to concentrate purely on the needs of those of a personal audio persuasion. The DX-5 has just a conventional headphone output as an alternative to its speaker terminals while the DX-3 has both balanced and single-ended headphone sockets. The DX-3 also has balanced XLR preamp outputs, suggesting that a matching power amplifier might be somewhere on the company's roadmap.

AMPS R US

It's not immediately obvious from our pictures but, at 21.5cm, the DX-5 is just half the width of the hi-fi separates norm. Of course, there's more to it than that as the styling has a hint of the latest Michi about it, with a softly chamfered look to the high-quality front panel, and perforated cooling vents in the lid surrounding a stylised 'R' logo. In silver or black, these

new models have that combination of 'hewn from solid' feel and exquisite finishing you'd find in more expensive full-size components from other brands – not to mention the company's own range of upmarket products. There's also a suggestion here that what we're seeing is not so much a standalone offering of compact products but, potentially, the new face of Rotel.

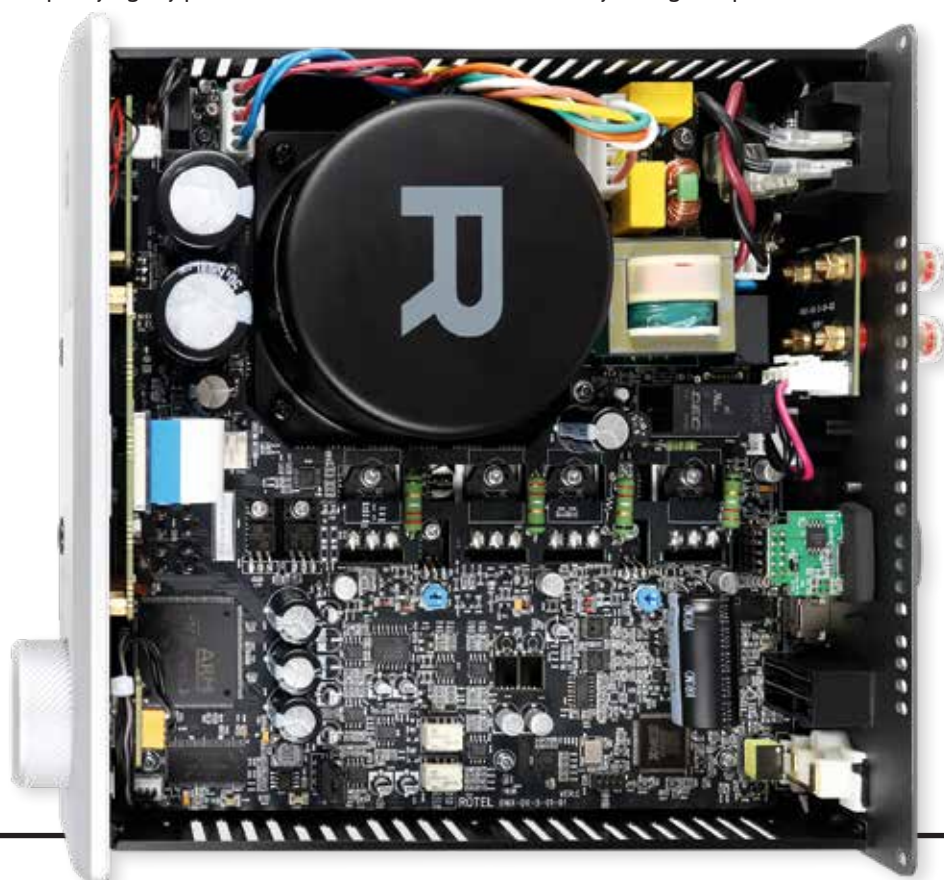
As our internal shot shows [below], all the elements of traditional Rotel hi-fi construction are present and correct, starting with that substantial toroidal transformer, wound in-house and shielded in a can also carrying that new 'R' logo. And while the DX-5's multiple functions may mean the inside of the unit is pretty tightly packed, Rotel has also

kept the core engineering well within its established expertise. For example, rather than taking the easy path towards a compact, off-the-shelf Class D amplifier module – already used to great effect in many a modern product – the company has

stuck with its traditional Class AB power amp topology, as evidenced by the quartet of Sanken power transistors slotted between that transformer and the DX-5's main circuitboard.

Rated power here is 33W/4ohm, or 25W/8ohm. These are modest figures, but more than adequate for the kind of small systems the DX-5 might likely be expected to inhabit. That said, as PM reveals [see Lab Report, p87], this little amplifier has rather more oomph to it than you might expect. 🎧

'The DX-5 is more than capable of blowing the doors off!'



RIGHT: PSU with custom toroidal [top] feeds Sanken transistor-based power amp [centre] and digital PCB [bottom] with ARM mainboard processor, XMOS USB receiver, ESS ES9039Q2M DAC and Burr-Brown PGA2311 volume chip



'The company has stuck with its traditional Class AB power amp topology'



Between mains power in and speaker power out, this seemingly simple device has plenty going on. It has a single set of analogue line inputs, digital optical and coaxial inputs, a USB-B port for connection to a computer or suitable streaming transport, and HDMI ARC to allow the DX-5 to handle TV sound. The USB-B port accepts content at up to 384kHz/32-bit and DSD256, while the optical and coaxial connections are limited to the usual 192kHz/24-bit. Completing the input options is a Bluetooth receiver, with aptX HD capability as well as the default AAC.

For a little 'un, Rotel's integrated amplifier has usefully substantial combination terminals to take bare speaker wires or 4mm banana plugs, and there's also a mono subwoofer feed summed from its two channels. The latter is an unfiltered, full-range output so the roll-off will need to be set on your subwoofer of choice.

Front panel controls, meanwhile, are limited to power, source selection and volume. To delve into the DX-5's menus, which offer features such as display

dimming/off, power-saving, source naming and digital decoding mode, the supplied remote handset [p87] is used. Incidentally, that digital option allows the user to choose between handling DSD and PCM files up to 24-bit, which is the default setting, or to omit DSD altogether in favour of 32-bit LPCM capability. For most users, the default will do very nicely.

DRIVING LESSONS

Before I'd clapped eyes on PM's Lab tests [p87] I'd already experimented with the DX-5 driving a selection of speakers, including the tiny and ridiculously cute/affordable DALI Kupids, and PMC's compact prodigy5 floorstanders. Over an extended listening period – punctuated only by the need to perform a running firmware update, something of a faff involving a PC and the purchase of a USB-to-3.5mm serial adapter cable – I came to appreciate one of the DX-5's strengths. What it lacks in stature, it more than makes up for with its ability to drive loudspeakers both comfortably and convincingly. And this, I

ABOVE: High-resolution TFT display, with embedded headphone socket, reveals volume level and input, in addition to Setup, Source, Audio, Display and System configuration menus

might add, includes everything from simple accompanied voice all the way up to full-force rock and orchestral music.

What's more – and perhaps fortunately, given the emphasis on digital sources here – the ESS ES9039Q2M-based DAC/analogue stage performed well across a range of file formats. These spanned from relatively low-bitrate podcasts streamed via Bluetooth to online services and locally stored files served up via computer. I tried a couple of affordable DACs, from AudioQuest and iFi Audio, between my computer and the DX-5's analogue ins, but have to admit to preferring the generous but detailed sound of its onboard conversion.

LOVERLY STUFF

With plenty of dynamic headroom in hand, the DX-5 breezed through the big, exuberant new Sinfonia of London/John Wilson recording of Lerner & Loewe's *My Fair Lady* [Chandos CHSA5358(2)]. There was excellent clarity both to what was being sung and the vocal character of the star-studded cast, plus a wonderful richness in the orchestral playing. It's another triumph for Wilson's ongoing re-imaginings of classic Broadway and Hollywood scores, and the DX-5 – especially driving the PMC speakers – delivered it with panache.

After recently hearing his trio in concert, I've been exploring the catalogue of Suffolk-based folkster John Ward, his simple instrumentation both reflecting and creating music celebrating his home county. The ability of the DX-5 to dig deep into the recordings on Ward's multi-instrumental/vocal *East Of The Sunrise* [Ion Music IONCD9] brought out the close harmonies and the musicianship in these (mainly) seafaring tales. ➔

SMALL WONDERS

Is it a decluttering trend, or simply the fact that most music-loving consumers would prefer their hi-fi to dominate the room audibly, but not visually? Whichever it is, we are witnessing a real outburst of compact, high-performing audio. Moreover, this is a wave Rotel is currently seen surfing with its DX series products – miniaturising hi-fi without cutting the design and engineering corners. It's not alone: the trend may have been led by market newcomers such as Eversolo and WiiM, but other brands are now doing the 'good things in small packages' thing. Think, for example, of the recent arrival of the Quad 3 integrated amplifier [HFN Sep '25]. That company has made preamps this small in its long and illustrious past, but the latest addition is its first all-in-one solution with the iconic '60s design, and comfortably compact at just 30cm wide.

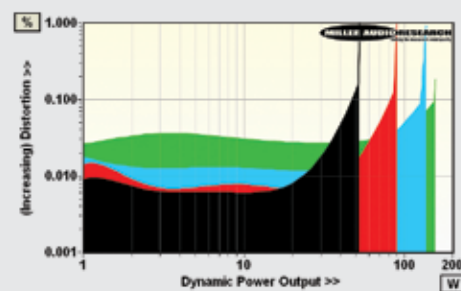
And what if you'd like an impressive-looking pre/power amp combo, complete with illuminated VU meters, but just in miniature? Look no further than TEAC's new 507 series, which includes the UD-507 DAC, the HA-507 headphone amplifier/preamp, and the AP-507 power amplifier, rated at 70W/8ohm. Each has a footprint no larger than a sheet of A4 paper and boasts serious intent, as a price of around £1900 a unit suggests.

LAB REPORT

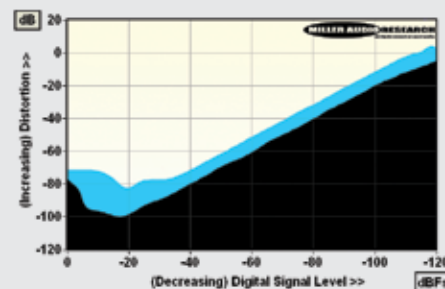
ROTEL DX-5

Dubbed a 'Personal Audio Integrated Amplifier', and rated by Rotel at just 25W/8ohm, the diminutive DX-5 is, in practice, no shrinking violet. In reality it will deliver 2x33W/8ohm and 2x46W/4ohm with sufficient in reserve to support 52W, 90W, 137W and 156W into 8, 4, 2 and 1ohm loads, respectively, under dynamic conditions [see Graph 1, below]. So the DX-5 will drive speakers well beyond its notional pay grade with greater ease, and perceived loudness, than that 25W specification might suggest. Rotel also claims an uncommonly flat $\pm 0.17\text{dB}$ response from 10Hz-100kHz which, in fact, it meets and holds to within $\pm 0.15\text{dB}$ into any load from 8ohm down to 1ohm. The A-wtd S/N is a little below par at 78dB (re. 0dBW) but distortion is, again, rather better managed than Rotel's vague ' $<0.03\%$ ' rating indicates, holding to $<0.01\%$ over its rated 1-25W/8ohm at 1kHz and falling to a minimum of 0.004% at 3-5W. Versus frequency, distortion increases slightly at the extremes – 0.013%/20Hz and 0.031%/20kHz (all re. 10W/8ohm) – but this is to be expected.

Testing the digital stage via the speaker outs (2.18V into 47kohm re. 0dBfs) the A-wtd S/N is an improved 90dB and THD a moderate 0.018-0.039% [see Graph 2], dropping still further to 0.0018-0.014% over the top 20dB of its dynamic range (all re. 20Hz-20kHz). Low-level linearity holds true to within $\pm 0.5\text{dB}$ over a 100dB range while jitter is suppressed to 85psec over all sample rates with 24-bit data. Incidentally, the coax input only accepts 44.1/48kHz data. The $\pm 0.1\text{dB}$ response (20Hz-20kHz), and 74dB stopband rejection, are entirely determined by Rotel's choice of minimum phase filter from the ES9039Q2M DAC – the same filter utilised in the Michi Q5 CD player [HFN Apr '25]. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 12.5A



ABOVE: Distortion versus 48kHz/24-bit digital signal level over a 120dB range (1kHz, black; 20kHz, blue)

HI-FI NEWS SPECIFICATIONS

Power output ($<1\%$ THD, 8/4ohm)	33W / 46W
Dynamic power ($<1\%$ THD, 8/4/2/1ohm)	52W / 90W / 137W / 156W
Output imp. (20Hz-20kHz/100kHz)	0.043-0.045ohm / 0.077ohm
Freq. response (20Hz-20kHz/100kHz)	-0.05dB to +0.0dB / -0.15dB
Digital jitter (48kHz/24-bit)	85psec
A-wtd S/N ratio (DAC/Amp, 0dBW)	90.4dB / 78.0dB
Distortion (DAC, 0dBfs/Amp, 10W)	0.017-0.039% / 0.005-0.031%
Power consumption (idle/rated o/p)	11W / 105W (1W standby)
Dimensions (WHD) / Weight	215x76x251mm / 4.1kg



ABOVE: An analogue line in, and sub line out, are joined by Bluetooth (aptX HD/AAC), optical/coaxial (192kHz/24-bit), USB-B (384kHz/32-bit, DSD256) and HDMI ARC digital inputs. A pair of speaker outputs are offered on 4mm cable binding posts

On to a Proms-inspired listen, and the impeccable Quincy Jones score for 1960s caper movie *The Italian Job* [MCA MCD 60074]. This gave the DX-5 full rein to show its capacity to reveal scale and warmth, and its considerable speed when called upon to swing. The sound was lushly romantic with the opening 'On Days Like These', complete with the Matt Monro vocal, and it drove the good-time rhythms of the closing titles with superb snap and punch. Rotel's amp is more than capable of blowing the doors off!

With Vaughan Williams' *Fantasia On A Theme Of Thomas Tallis*, played by the Academy of St Martin in the Fields/Sir Neville Marriner [Argo 414 595-2], the DX-5 did superbly with a Kingsway Hall recording already well past its 50th birthday. Frankly, it delivered both the drama of the piece and the scale of the orchestra in a manner you wouldn't expect from a nominal 25W output.

Similarly, the little amp growled through the low bass on the EERA mix of 'Monsoons' from

Public Service Broadcasting's recent *Night Flight* remixes album [So Recordings SOAK622], powering the track along while illuminating the band's familiar use of snippets of archived sound. Yes, I'm sure a monster power amplifier

could shake the walls even more convincingly, but the Rotel DX-5 never sounds any less than up to the job. It stays clean and crisp even when working hard.

BLOCK PARTY

Not that some classic Police pushes it too hard. A blast of 'Spirits In The Material World' and 'Every Little Thing She Does Is Magic' from 1981's *Ghost In The Machine* [A&M 493 655-2] revealed just how tight the trio could be before it all got loose and tantrummy.

Stewart Copeland's drums hit really hard and Sting's bass thumped along behind the jangling guitar of Andy Summers. Mind you, if you want to hear the DX-5 getting really tight and funky, look no further than The Blockheads weaving their magic behind the great Ian Dury on 'What A Waste' from *Do It Yourself*. It slinks behind the verses and goes for the charge into the chorus, before sounding seemingly unstoppable on the extended 12in version of 'Reasons To Be Cheerful, Part 3' from the album's 2015 Deluxe Edition [Edsel EDSK 7081]. It's bonkers, but brilliant, and the Rotel DX-5 simply powers it along with panache. ☺

HI-FI NEWS VERDICT

This little amplifier may be the start of something big for Rotel, not least in the adoption of a fresher, more refined design language that seems likely to be adopted by the company for more of its products. However, it's clear the manufacturer's traditional values have been maintained beneath the skin, giving the DX-5 not just a bigger, more dynamic sound than its paper specs might suggest, but wider appeal, too.

Sound Quality: 86%



LEFT: RR-DX1 remote serves all forthcoming DX series separates, offering volume, mute, input selection, menu navigation and display brightness for the DX-5 amplifier