

# Denon DCD-2500NE

If SACD is facing its last hurrah, then Denon's massively constructed but affordable, purist DCD-2500NE disc player may still make you fall in love with the format

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

Never making a secret of my love for SACD – as woefully-overlooked a format as has ever been offered – I have always delighted in how Denon, Esoteric and a handful of others have shown loyal support for it. Rumours abound that the drives are drying up, but this year has seen enough new players to suggest that reports of its demise are premature. If there is any justice, Denon's DCD-2500NE, at £1499, will win converts even at this late date.

A minimalist follow-up to 2010's DCD-1510AE, this unit smacks of hair-shirtism in relative terms, but the absence of the earlier machine's S/PDIF and DSD-ready USB inputs will be not be mourned by those who just want a no-nonsense player. I do concur, however, with Editor PM's disappointment in the lack of balanced XLR outputs – inexcusable in this day and age in any component at over a grand.

## DENON'S LUXURY FEEL

While it's likely that Denon's thinking regarding the USB inputs may have been a by-product of this player enjoying the release of a matching integrated amp, the PMA-2500NE with its own USB inputs (to be reviewed next month), the company didn't hamstring it in any other way. If, that is, 5in discs excite you more than USB sticks or streaming, for this machine will play any file you've burned to disc, including WMA, MP3, WAV, AAC, FLAC, ALAC and AIFF files up to 192kHz, as well as DSD128 (5.6MHz) files burned onto DVD-R/RW. I tried five of the formats and both writeable CDs and DVDs, with only one curious occurrence: the machine doesn't like cheapo CD-R/RWs or DVD-R/RWs, and mistracked on a few that worked fine in the Mac on which they were burned.

But that is to exploit its secondary purpose if commercially-available SACDs are the primary reason why you would

consider this player. Dispensing with other file formats here, as my main concern was how the unit handled SACDs and 'Red Book' CDs, was to note that it did extract the best sound I've heard from a number of FLAC, WAV, MP3 and AIFF tracks.

Absent USB input aside, this player, then, does address the current state of digital playback with a gracefulness and authority that certainly belies its price. If you have a hard-drive full of downloads – especially the bonus material that complements sets from Led Zeppelin, Paul McCartney and others – burning them to disc(s) is a fine (and nostalgic) way to access them instead of via your computer.

Leaving aside whether or not £1500 is big money to you, the DCD-2500NE still looks like something with double the price tag. The construction is superb, it has heft to please the tyre-kickers at 13.7kg, the finish is elegant and everything, including the remote, has a luxury feel about it. Even the way the tray slides in and out is redolent of far costlier hardware.

Again, though, we're ignoring the Pavlovian: audiophiles still expect high-end kit to ooze facilities, four decades after the self-appointed audio gods deemed tone and balance controls evil. This manages to suggest high cost despite its lack of gadgetry. The back is all but naked: IEC mains in, in/out for remote system control, a pair of RCAs for line output, and a brace of S/PDIF digital outputs: coaxial and Toslink. At the front, there's not much to confuse the user, either.

## AUDIOPHILE FEATURES

Its fascia bears a centrally-sited slot for the disc tray, above an information-laden display that can be dimmed, or shut off completely. To the right are the four transport buttons plus eject, but to the left are two buttons and two LEDs that need a bit of explaining. The power-on button is situated to the far left, and its behaviour can be overridden with the use of an auto-shut-off mode, with the remote control turning it back on.



**RIGHT:** Separate power supplies feed the DVD transport mechanism, digital processing and analogue stages. Burr-Brown's proven 192kHz/32-bit DAC handles LPCM and DSD data



The other, less-obvious buttons choose between an SACD's disc layers and 'Pure Direct', while the LEDs indicate if you are listening to an SACD, and whether or not its 'Advanced AL32 Processing Plus' is in play. Choosing between layers allows the user to select the two-channel, multichannel or CD layers on a hybrid disc.

I should note here another omission that probably won't bother too many of you, if surround sound isn't your thing. When playing a multichannel SACD, this mixes it down to stereo and its status is shown on the display. It's not the player for a 5.1 rig!

'Pure Direct' is going to be the preferred mode for the hard-core listener, as it switches off the display and deactivates the digital outputs, all in the cause of better sound. I think it makes a difference, especially as low-level information enjoys greater clarity.

'Advanced AL32 Processing Plus' is what, in all probability, makes this unit a stunningly good CD player. This is Denon's proprietary data processing regime, evolved from the original 'Alpha' and 'AL24' algorithms featured in its digital products for over 25 years. The version implemented here upscales CD's native 16-bit/44.1kHz data to 32-bit/705.6kHz 'to achieve smoother recreation of sound

waves'. Also part of the process is adaptive 'interpolating across a large number of data points to provide audio as close as possible to the original sound'. [See PM's Lab Report, p53.] It certainly closes the gap between CDs and SACDs, its tell-tale LED glowing when a CD or data disc is inserted, or when the user chooses the CD layer of an SACD, but not the SACD layer.

### WORKING ITS MAGIC

With a half-dozen SACD and universal disc players already in my possession, including models from Sony, Cambridge, Marantz and, indeed, an earlier Denon player, the new DCD-2500NE was connected with Crystal interconnects to an Audio Research REF 6 preamp [HFN May '16], driving an Audio Research REF 75SE power amp into Wilson Alexia floorstanders [HFN Mar '13], the latter via Transparent cable. My battery of favoured SACDs included Carly Simon's *Anticipation* [Mobile Fidelity UDSACD 2166], Love's *Da Capo* [Mobile Fidelity UDSACD 2130] and Harry Belafonte's magnificent *Belafonte At Carnegie Hall* [Analogue Productions CAPF 6006 SA].

**ABOVE:** Heavyweight build and an immaculate finish distinguishes this elegant and very minimalist SACD disc spinner. Pure Direct function mutes the display and digital outputs

For comparison's sake, rather than depend solely on the SACD's CD layer, I also used The Detroit Emeralds' *Greatest Hits* [Westbound CDSEWD 119 CD] and The Hues Corporation's *The Very Best Of The Hues Corporation* [Camden 74321 603422 CD]. And, yes, I compared the Love album

on normal CD vs the CD layer, as I've found in the past that some CD layers on SACDs are better than the CD-only pressings, some are worse and some are indistinguishable. Suffice it to say, the Denon AL32 processing worked

*'Denon's player elevates SACD to a new level of desirability'*

its magic on all of the CDs.

While I am not about to tell you that any of the CDs-via-AL32 made them sound superior to the SACD, I must reiterate that the gains are notable. Playing both The Hues Corporation and Detroit Emeralds discs revealed that these early-1970s, pre-disco epics, originally recorded in analogue, possessed the kind of tuneful bass that once had a certain breed of reviewers suggesting greater 'pace, rhythm and timing'. There was a sense of flow, of extension and of weight that came as close to the LPs as I've heard, with the dryness of CD players somehow ameliorated.

A far better illustration of this, however, is to be found in the lower registers on the Carly Simon release. Flipping from CD-only, to SACD to the SACD's CD layer, it proved to be one of the more vivid 'tells' when doing comparisons. Indeed, I recommend it if you manage to find a store that will allow you to audition the player. The player extracted lower registers that I can only liken to a change from KT120s to KT150s.

But bass isn't everything. Vocals are far more revealing, and thus far ➔

### KEEPING THE FAITH

**It's no secret that Denon is a kissing cousin to Marantz, so the continued championing of SACD is no mystery. Both companies remain committed to the format, even as Sony seems to be abandoning it. More to the point – and this will impress those of you who, like me, enjoy the purism of Mobile Fidelity, Analogue Productions and others who leave their SACDs in stereo – Denon has always maintained a two-channel selection alongside its multichannel offerings, and has done so since its CD players of the 1980s and '90s, through to the first universal disc player – the DVD-A11 from 2003 – and its successors. Perhaps that's the point: although SACD does multichannel, the need for it has emigrated to Blu-ray audio. SACD is inherently more purist than other post-CD disc formats, so the two-channel-only status is no great sacrifice. Still, it's nice to have the option if you've some 5.1 SACDs that beg to be heard in surround. Which reminds me: I've been using a DVD-2900 since 2003, which I really must return to Denon.**

## CD/SACD PLAYER



**ABOVE:** The lack of balanced XLR outputs is disappointing so standard 'Red Book' S/PDIF digital outs (coax and optical) are all that join the analogue RCAs

more challenging of a system's competence, and Simon's voice – familiar almost to the point of predictability – was so free of digital artefacts via SACD that I would have added a point to my disc review this month [see p93]. The title track is an ear-opener, the voice crystal-clear above solo guitar, then the band kicks in. All of a sudden, you have a move from unplugged intimacy to forceful, angsty rock with a serious kick to it.

### AS SMOOTH AS SILK

It's an unexpected example of dynamic contrasts from a song one might be forgiven for thinking of as 'a bit wimpy'. The percussion from Jim Keltner has enough power to tax the Alexias, despite the rest of the track's delicacy. The balance maintained by the SACD-via-Denon bears comparison with the CD, the latter – despite the AL32's benefits – lacking the same levels of coherency. Relative levels from instrument to instrument seemed more natural, the CD exhibiting a trace of artifice that provided the sonic signature of that format versus the superior composition of the stereo SACD.

Love's *Da Capo* has a killer track in 'Seven And Seven Is', a drum/guitar assault that pre-dates The Clash's more manic moments by a decade, and surely must have inspired a thrash exponent or two. After the relentlessness of the track, which leaves you as breathless as an episode of 24, a thunderclap stops the juggernaut. Then you move into 'Orange Skies', so fragile and delicate that it makes a typical Donovan song sound like Motörhead. For the

DCD-2500NE, such changes of level, pace and texture, from heavy metal to summery pop, presented no challenges – the segues were as smooth as silk.

This disc is a marvellous showcase for solo instruments, such as flute, contrasting with hard, pounding rock. The latter is never allowed to swamp the former. The instruments enjoy spatial positioning and form that approaches the holographic qualities of the best analogue. And if it's space that reveals the resolution of a player, then the Belafonte concert will leave you dazzled.

I don't 'know' Carnegie Hall, and I was barely seven when this milestone release was recorded. But if ever a recording transported the listener to the venue... there's a reason why this set has been reissued on every format imaginable, as holy an audiophile release as Miles Davis' *Kind Of Blue*. If the sense of air and space is a definitive arbiter of natural-sounding playback – and I'm not suggesting it's the only thing that some find 'wrong' with 'digital' – then this player elevates SACD to a new level of desirability. Why? Because it only costs £1500. ☹

### HI-FI NEWS VERDICT

Whatever appeals to you (or me, for that matter) about Denon's DCD-2500NE, be it the no-nonsense minimalism or simply the wonderful sound, this machine is a triumph. Sure, I lust after an Esoteric at five or more times the price, but the Law of Diminishing Returns sorts that out for most of us. This is simply a joy to use in every way, the sonics are superb and I could even learn to live without XLRs. SACD lives!

Sound Quality: 84%

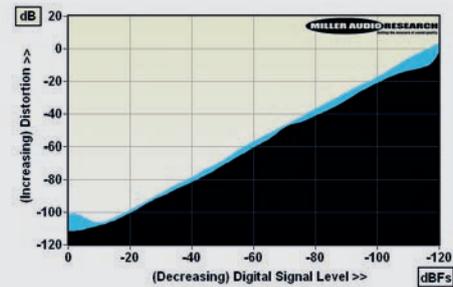


## LAB REPORT

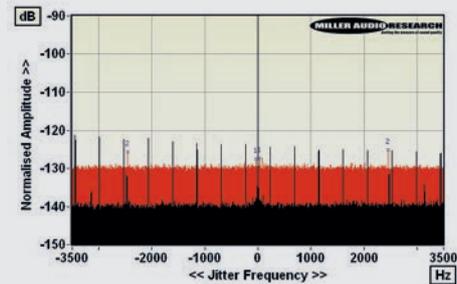
### DENON DCD-2500NE

Successor to Denon's EISA 2010/11 award-winning DCD-1510AE, the new DCD-2500NE is clearly an evolved version of this proven chassis. Maximum output is a little higher at 2.3V (or 2.45V via SACD) with a full 110dB A-wtd S/N ratio achieved along with slightly lower distortion – 0.00025% through bass and midrange, increasing to just 0.00055% at 20kHz via CD [see Graph 1, below] but to 0.029% via SACD as THD+requantisation noise. Jitter remains as low as possible from CD and SACD [see Graph 2] while the analogue stage has clearly been 'tweaked', the output impedance now reduced from 320ohm to 96ohm and stereo separation widened from 96dB to 107dB at 20kHz.

Furthermore, and also in common with Denon's DA-300USB outboard DAC [HFN Oct '14] which shares the company's 'AL32 Processing' regime, the DCD-2500NE's behaviour adapts to either transient or steady-state signals. Tested with time-invariant signals (sweep or multitone) it yields a flat response with a steep cut-off amounting to –1.85dB/20kHz with CD while, with an impulse, not only is the time domain response free of pre/post ringing but it yields a magnitude response with a very slow roll-off of –1.5dB/10kHz and –6.6dB/20kHz. Indeed, this impulsive time domain response is almost identical to the 'Optimal Transient' filter used in Audiolab's M-DAC+ [HFN Jun '16]. With SACD, where the output is realised via the analogue FIR filter structure of the PCM1795 DAC and subsequent 4th-order LPF, the response rolls smoothly away from –0.5dB/20kHz to –1.6dB/40kHz, –4.2dB/60kHz, –10.5dB/80kHz and –20dB/100kHz. The older DCD-1510AE offered a very similar, and appropriate, high treble roll-off. PM



**ABOVE:** Distortion versus digital signal level over a 120dB range at 1kHz (black) and 20kHz (blue)



**ABOVE:** High resolution jitter plots via CD (16-bit limit, black) and SACD (red, with markers)

### HI-FI NEWS SPECIFICATIONS

Maximum output level/Impedance	2.31Vrms / 96ohm
A-wtd S/N Ratio (CD / SACD)	110.3dB / 110.8dB
Distortion (1kHz, 0dBfs/–30dBfs)	0.00025% / 0.0037%
Distortion & Noise (20kHz, 0dBfs/–30dBfs)	0.00055% / 0.016%
Freq. resp. (20Hz-20kHz/100kHz)	+0.0dB to –1.85dB/–20.2dB
Digital jitter (CD / SACD)	116psec / 38psec
Resolution @ –100dB (CD / SACD)	±0.2dB / ±0.1dB
Power consumption	15W (1W standby)
Dimensions (WHD) / Weight	434x138x335mm / 13.7kg

