

# ROTEL RCD-991

**R**otel's flagship is this imposing new-comer, which went under Paul Miller's microscope in *HFC* 193, where its unusual switchable dither option attracted interest. It's a sophisticated and well specified player built around the Burr-Bro 20-bit PCM-63P D/A converter, with the Pacific Microsonics PMD-100 8x digital filter giving HDCD compatibility. The Rotel has a feature that is almost unique: switchable dither levels and types, which is an internal facility in the PMD-100 that Rotel has tapped into. To our knowledge, the feature is only paralleled in the £12,000 Linn Sondek CD12, which uses the same digital filter.

The RCD-991 is solid and businesslike and, although not pretty, it's in no sense unfriendly enough to alienate granny. The front panel is typical Rotel, but taller, barer, and with a handful of basic controls (open, play, pause, stop, and skip) the remote control adding the usual extras – a numeric track access keypad, repeat, scan, random and programming, but not display dim.

The fluorescent display is complete with a calendar style readout and a separate numeric display which indicates the various dither modes, numbered up to seven. Connections from the RCD-991 can be made in single-ended (phono) and balanced

(XLR) form, and from electrical and optical digital outputs.

## SOUND QUALITY

I spent a considerable time auditioning the various dither modes, and came to the same conclusion as Paul Miller in the previously mentioned review. The high numbers tended to sound a little wooden, with a suggestion of a "singing" (resonance) quality not related to the music.

The low numbers performed better, with Dither setting 2 fairly close to 4, and Dither 3 being in the same ballpark, but softer. Dither 4 sounded coherent and solid, and also smooth and integrated with better defined transients than the other settings. These differences could not be tied down absolutely, but were reasonably consistent, and best appreciated with percussive material – I used a piano recording for much of the time.

The issue of adjustable dither levels has little relevance in day-to-day use: once you've determined which one suits you best, you're unlikely to find much

**"One you've determined which dither setting suits you best, you're unlikely to find much mileage in switching them around."**

mileage in switching them around, partly because the differences can be quite subtle, but mainly because when you've found the right setting, it seems to be the right choice for all types of music.

In any case, this is a good to excellent player, although I wouldn't rate it in the high-end class – and neither did the panel. "It plays with enthusiasm, if not the last word in resolution," wrote one, while another wrote of its "good dynamics and image... [and] spaciousness with good tonal accuracy and resolution." "It's all very solid and musical," he wrote. A third panellist concluded that it was a "classy player, sophisticated, well balanced... melodious and

tuneful". Just occasionally there were complaints that it sounded loud and fatiguing, and of a slight loss of presence, but certainly not out, in the deep bass.

## CONCLUSION

Here's a player that offers near-battleship build, is extremely well endowed and has been voiced superbly. It offers the kind of performance that wouldn't disgrace some well liked players at twice the price, and easily earns a Best Buy flag. Some brief tests at the end of the test period showed real improvements in stature in balanced mode. **AG**

## VERDICT

**SOUND** ★★★★★

**BUILD** ★★★★★

**VALUE** ★★★★★

**PRICE** £750.00

**This player offers near high-end performance at a mid-market price.**

**TWO YEAR GUARANTEE**

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## THE LAB REPORT

**F**or the full technical details on Rotel's RCD-991 CD player, including a description of the user-configurable dither options, refer to *HFC* 193. Briefly, Rotel is employing a mix of Pacific Microsonics' PMD-100 digital filter with Burr-Brown's 20-bit PCM-63 DAC.

The former confers compatibility with HDCD software but also gives access to a variable dither facility that enables subtle changes in both distortion and noise. This is hardware, not software-dependent, and the optimum setting for the PCM63 DACs is No. 4. The +6dB gain-ranging required by HDCD is accommodated in Rotel's analogue stage rather than in the digital

domain, thus optimising its dynamic range. In this mode, the RCD-991 offers an ideal mix of low distortion (just 0.0025 per cent at -30dBfs and 0.0016 per cent at its 2V peak output), good low-level linearity (+0.0dB/-0.9dB over a 100dB range) and a wide 116dB S/N

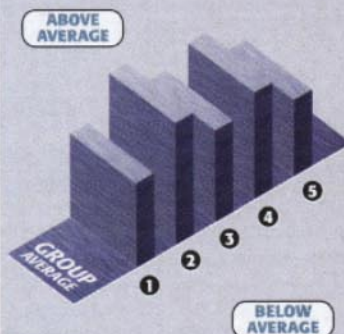
ratio. The symmetrical board layout helps to keep channel separation better than 115dB at all frequencies while the use of a refined, multi-bit technology ensures the sort of ultrasonic noise associated with bit-stream players is vanishingly low here. The Rotel's excellent performance in this regard bodes well for its compatibility in a wide range of systems. **PMI**



## HOW IT COMPARES

**A** very solid performer with, arguably, the best all-round technical performance of the 20-bit players in our survey. Dither setting No. 4 is mandatory, however!

- |                                |     |
|--------------------------------|-----|
| 1 SUPPRESSION OF DIGITAL IMAGE | 55% |
| 2 JITTER                       | 80% |
| 3 PRACTICAL DYNAMIC RANGE      | 60% |
| 4 HARMONIC DISTORTION VS LEVEL | 70% |
| 5 LINEARITY                    | 50% |



## SPECIFICATIONS

PARAMETER	MANUFACTURER'S SPEC.	ACTUAL SPEC.
Distortion @ 1kHz/0dBfs	0.0025%	0.0016%
Maximum output level	2.0V	2.0V
A-wtd S/N ratio	117dB	116.3dB