

TEST REPORTS



Rotel RCD-965BX Compact Disc Player

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ROTEL audio components have enjoyed a reputation for quality at very moderate prices, and the RCD-965BX CD player is a good example of the company's approach to product design. A conventionally styled player, its front-panel markings announce that it features dual Bitstream digital-to-analog (D/A) converters (Bitstream is the Philips version of the 1-bit conversion that has been featured in so many recent CD players). The display window shows the current track number and its remaining time, the player's operating and programming status, and the disc size (5- or 3-inch). Its blue-white characters are exceptionally legible.

Rectangular buttons below the window open and close the disc drawer and control the standard transport functions: play, stop, pause, and track skipping. Smaller buttons to the right of the display control high-speed search in either direction, random-play and repeat functions, programming of up to twenty selections for playback, and access to indexed portions of discs that have that feature. The rear apron of the player contains both analog and digital outputs.

The RCD-965BX comes with a wire-

less remote control whose numbered keys provide direct access to any track. Other keys duplicate the front-panel programming, random-play, and repeat functions and all transport and search controls except index search.

The Rotel RCD-965BX's performance specifications are typical of today's top CD players, including ± 0.05 -dB frequency response from 20 to 20,000 Hz, ± 0.5 -dB channel unbalance, ± 0.5 -degree phase linearity, 100-dB signal-to-noise ratio (S/N), 96-dB dynamic range, and 0.0025 percent

total harmonic or intermodulation distortion. The Rotel RCD-965BX is black and measures 17 $\frac{3}{4}$ inches wide, 12 $\frac{1}{2}$ inches deep, and 3 $\frac{1}{4}$ inches high. It weighs 12 $\frac{1}{4}$ pounds. Price: \$550. Rotel of America, Dept. SR, P.O. Box 653, Buffalo, NY 14240.

Lab Tests

The Rotel RCD-965BX's frequency response measured ± 0.06 dB from 20 to 20,000 Hz, with the channel levels matched within less than 0.01 dB. Demphasis error was less than 0.06 dB from 1,000 to 16,000 Hz. The channel separation was unusual in being quite different for the two channels, although both were very good. From left to right, separation increased smoothly from 94.3 dB at 100 Hz to 96.7 dB at 20,000 Hz. From right to left, separation was considerably greater, increasing from 102.6 dB at 100 Hz to

MEASUREMENTS

Maximum output level: 2.02 volts

Frequency response: ± 0.06 dB from 20 to 20,000 Hz

De-emphasis errors: -0.06 dB at 1,000 Hz

Channel separation (left to right):
94.3 dB at 100 Hz, 95.1 dB at 1,000 Hz,
96.8 at 20,000 Hz (see text)

Dynamic range (A-weighted): 92 dB

Signal-to-noise ratio (A-weighted): 93.2 dB

Maximum interchannel phase shift: 0.2 degree at 20,000 Hz

Distortion (THD + noise): at 0 dB, 0.0043% from 20 to 2,000 Hz, 0.011% at 10,000 Hz, 0.035% at 20,000 Hz; at 1,000 Hz, 0.0032% from -80 to -10 dB, 0.0042% at 0 dB

Linearity errors: -0.45 dB at -60 dB, -0.67 dB at -70 dB, -1.37 dB at -80 dB, -2.72 dB at -90 dB

Defect tracking: tracked 4,000-micrometer errors on Pierre Verany #2 test disc

Slowing time: 1.8 seconds

Cueing accuracy: A

Impact resistance: top, A; sides, A

105.1 dB at 10,000 Hz and then decreasing to 100 dB at 20,000 Hz.

The D/A converter linearity at low levels was satisfactory, though not quite as good as we have measured from some other 1-bit converters. The error was less than -0.5 dB at a -60-dB level, increasing to -1.3 dB at -80 dB and -2.7 dB at -90 dB. We also repeated these measurements using dithered test signals, with slightly but not significantly different results.

The player's output voltage from a 0-dB test track was 2.02 volts. Its laser pickup slewed from Track 1 to Track 15 of the Philips TS4 test disc in about 1.8 seconds. The player was highly impervious to external shock, withstanding fairly hard hand slaps on its top or side without mistracking.

We tested the RCD-965BX's defect-tracking ability with the calibrated defects of the Pierre Verany #2 test disc. There was a single momentary "tick" at the transition from the 2,000-micrometer level to the 2,400-micrometer level, but the player appeared to track at that level and higher up to the disc's maximum of 4,000 micrometers. Tracking of other test defects, such as two successive dropouts of 2,400 micrometers, was also good, although there were several ticks at the transition to 3,000 micrometers.

Comments

The RCD-965BX is one of the simplest CD players we have seen in some time, yet it is as full-featured as most of us could wish for. It is also more solidly built than many players in its price range.

This player's ability to cope with information-layer damage on a disc was truly exceptional, well beyond the achievement of any other we have tested. Although it was not 100 percent perfect when encountering an error larger than 2,000 micrometers, it settled down after one or two slight ticks and continued tracking at levels that would cause complete mistracking and shut-down by most players in tests with the same calibrated disc.

The RCD-965BX's price, near the upper end of the range for popular, mass-market CD players, is well below typical audio high-end prices. It is a solid value, considering both construction quality and performance. If the RCD-965BX is typical of the new Rotel line, we look forward to seeing other components. □

AUDIO/VIDEO INTERIORS

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Rotel RC980BX Preamplifier and RB980BX Amplifier

The name Rotel has been bouncing around the hi-fi world for about as long as most audiophiles can remember. But most buffs would probably tell you the name has been less than memorable. Rotel hopes to change that, however, and it's pinning those hopes primarily on an ambitious new series of preamps and power amps (although you'll find a cluster of CD players, tuners and other components in the revamped line as well). Noting one tiny entry on the spec sheet, I decided to take an unorthodox approach to assessing the *nouveau* Rotel: Along with the top preamp, the RC980BX (\$500), I opted for two of the second-banana power amp, the RB980BX (\$600 each).

What had caught my eye was the way the amp's rated power (120 watts/channel stereo) jumps when a handy little rear-panel switch is engaged, "bridging" the unit to mono. It becomes a 360-watt muscle machine. Ah, but you'd need two for stereo, right? Right, but at \$600 apiece, that's still a reasonable sum for what should be a

bottomless well of power. Find me a stereo amp for those dollars that will deliver 360 watts a side. In any case, the twin RB980BX's proved to be one Siamese superamp.

Rotel prides itself on this amp's high-current design, which spells lots of reserve for bass drum shots, or perhaps torpedo shots if it's bringing you *The Hunt for Red October*. Yet, I was just as taken by the twin amps' steady sonic focus and airy upper register. As a 120-watt stereo amp, the RB980BX may be run of the mill; doubled up, it's tremendous.

The matching, modestly priced RC980BX preamp isn't likely to displace established audiophile favourites, which typically sell for upward of \$1,000 or more. But it's a well-provided control centre (complete with that vanishing amenity, a phono input), recommended to anyone ready to make the leap from an all-in-one receiver to separate components. The Rotel offers independent source selectors for listening and recording, as well as connections for two power amps to simplify bi-amping your speakers. Unquestionably, an excellent value.

