

SEPARATES BUT EQUAL

Rotel's latest pre/power combinations match the sound of many more expensive items. Paul Miller tries the RC-870BX, RB-870BX and RB-890BX

RISING WITH CONFIDENCE from the ashes of earlier mediocrity, Rotel must rank as one of the success stories of the mid-1980s. It all began with the RA820 integrated amplifier and a basic circuit design culled from Stan Curtis, who was then a consultant to Rotel. Over the intervening years, Rotel's development engineer Tony Mills has been constantly refining and updating the 'original 820 circuit'. In what is probably its final form, this topology has been extrapolated further to produce several new amplifiers.

The RC-870/RB-870 pre- and power amplifiers have now been superseded by their 'BX' equivalents, with the addition of a beefier power amp, the £375 RB-890.

Rotel have actually *reduced* the price of the BX preamp by £20, pitching the RC-870BX at an affordable £225. The RB-870BX power amp costs just £5 more than the original model at £250. All the amplifiers have been restyled with deep, extruded matt black fascias capped off at the sides with smooth plastic cheeks. As a result they are easier on the eye and considerably safer to handle, now that the very sharp edges have been removed. The two power amplifiers obviously look very similar; however, the RB-890 is somewhat deeper than the '870BX and only carries front-mounted LED's for 'power' and 'protection' – forgoing the 'bridged mono' indicator fitted to the latter.

A dual-concentric volume control dominates the fascia of the preamp, but tone controls, filters and twiddly bits are naturally avoided! Two rotary-action selectors are provided for the two AV/aux inputs (which include rear-mounted phonos for video connection), CD, tuner and phono. The adjacent selector covers a full tape-dubbing and monitoring service. Both m-m and m-c options are available via a switch at the rear, while purists will be delighted by the CD-direct input, along with its own attenuator. A standard headphone socket completes the line-up of facilities, which though sparse should be more than sufficient for serious use.

ROTEL RC-870BX

Essentially built as a dual-mono design on a single chassis, the RC-870BX preamplifier employs a carefully screened toroidal mains transformer with two secondary windings. These feed separate rectifiers which supply four TOWA 4700µF reservoir electrolytics and the associated JRC regulators. Four 1A fuses provide protection.

Two levels of gain are accommodated at the phono input which also switches the load impedance (180ohms/47k-ohm). A low noise Signetics 5534AN bipolar op-amp functions as the input buffer while a further 5534AN is incorporated in the shunt-feedback network that constitutes the RIAA equalisation. Low noise 1% tolerance metal film resistors (Mullard MRS25) are used throughout, alongside 1% extended-foil polystyrene capacitors. Terminating the equalisation stage are high-quality Dubilier 10µF electrolytics, which are parallel-coupled to various metal-banded polystyrene caps to reduce sonically degrading inductive effects.

A low-coloration metallized film (Siemens) layer capacitor is incorporated at the input of both channels to the line stage with Suflex polystyrenes determining the passive input pole. Slightly lower quality Signetics 5534N op-amps are used in the line stage, though 1% tolerance passive components are still in evidence, including the Dubilier polystyrenes at the output. Encased 50k ALPS potentiometers are used for both the main volume and CD-direct facility although the latter remains unbuffered and so presents a

variable output impedance – interconnect properties will prove critical.

The video input has its own buffer stage and the Sanyo LA4170 headphone amplifier is disconnected from the main amp via an encapsulated relay to prevent in-line interference. Similarly, the output is grounded via a relay until the preamp has stabilised after switch-on. Overall, the quality of construction was very good.

Lab report

Technically, this preamp proved trouble-free. Disc equalisation was very accurate and showed fine uniformity between the two gain settings, with only a mild attenuation of 1dB on the m-c input at 20Hz. Furthermore, the overload margins were set sufficiently high to accommodate any potential peaks (120mV max at 30cm/sec). A good channel balance was observed on all inputs while the worsened noise figures on the m-c stage were not judged too serious. Finally, with a low-ish output impedance of 330 ohms and some 21dB headroom over the nominal 1V line out, this preamp should prove widely compatible.

Sound quality

Inserting the new Rotel preamp in a system consisting of PT TOO-SME V/Koetsu Red and Deltec DPA100S/Magneplanar MGIIc, there was a certain loss in transparency, as most instruments appeared very slightly larger and de-focused in absolute terms. Some such deterioration

might be expected of course; however, a similar reduction in openness was realised when the RC-870BX was teamed up with the remarkably transparent RB-870BX power amp. Bass appeared weighty, if not as sharp or honed as is possible.

Nevertheless, most performances offered a decent sense of proportion, with no one instrument dominating. *Tiden Bara Gar* (Opus 7917)

sounded excellent in this respect, its exuberant, spacious acoustic hardly compromised by the Rotel combination – the vocals were clear with no hint of treble grain or incipient hardness, while the bongos punctured the backdrop of guitars with frightening speed. Employing the CD-direct facility with one of the new Philips CD373 machines, there was a slight loss in sparkle, as the spritely treble of this player was mildly subdued. A subtle, often warm, and relaxing balance pervaded for much of the time, possibly due to a loss in extreme treble caused by the high (and variable) output impedance.

Returning to the active CD line input restored much of the bite and incisive clarity that provides the 'edge' to metal stringed guitars and cymbals alike. Overall however, this preamp was quite unusual in having a subjectively superior disc stage; more often than not the comparable simplicity of line inputs give less trouble.

ROTEL RB-870BX/RB-890

Due to their inherent similarity, I have decided to describe these two amps together rather than view them separately. Both use hefty, screened toroidal mains transformers and dual-channel rectification (bolted to the base of the amp for heatsinking), although the '870BX employs 4×10,000µF 63V TOWA cans and the '890 uses 4×15,000µF 80V electrolytics to maintain the higher working voltage. Protection is afforded by 5A fuses in each DC rail of both stereo channels, in addition to diodic resistance against loudspeaker back-emf.

The circuitry is essentially that of the original RB-870. All resistors are now close-tolerance Mullard MRS25s (instead of Japanese carbon-film types) while the input capacitors are the excellent Siemens

