

From the December 1997 issue of Sound on Sound magazine (published in the U.K.) Bellari RP583 Dual Tube Studio Compressor



"Paul White finds out whether a blend of valves and photocells really can deliver the ultimate vintage compressor sound."

It never ceases to amaze me that the recording market can support so many different brands and types of compressor, yet every month new ones continue to appear, each one claiming some kind of sonic advantage over its rivals. Bellari produce moderately priced valve processors, or, to be more precise, valve/solid-state hybrid devices, like the RP583 reviewed here. In addition to valves, however, this particular compressor also features a photo-electric gain element. Many early compressors used photo-electric gain cells, and the latest Jomeek products are probably the most famous for bringing that technology up to date, but, as with any electronic design, it's not the components that matter as much as the circuit in which you use them.

THE TOUR

Housed in a 2U-high case with a brushed gold-effect front panel, the RP583 is a mains-powered, dual-channel compressor with conventional controls, a choice of balanced and unbalanced inputs and outputs, and side-chain access via input/output insert points on separate unbalanced jack connectors. The balanced audio ins and outs are on XLRs, while the unbalanced connections are on regular quarter-inch jacks. Having the choice of unbalanced ins and outs is always a good idea, as the majority of mid-price consoles have unbalanced insert points, and using balanced to unbalanced cables with such equipment generally leads to a 6dB level loss.

The feature set of the RP583 is absolutely conventional, with the two identical channels sporting Threshold, Ratio (2:1 up to hard limiting), Attack (0.5 to 100ms), Release (0.1 to 2S), and Output Level controls, though, unusually, the Output Level control is placed first rather than last in the row of controls. Each channel has its own bypass button with red Active LED, and there are two backlit moving-coil meters that can be switched to show either the amount of gain reduction taking place or the output level (referenced to +4 dBu). A further button switches the two channels to Stereo Link mode, whereupon channel 2 (the lower set of controls) becomes the master. There's no auto mode, no peak/RMS switching and no choice of 'knees' - the basic controls are what you get.

Internally, there's only one twin-triode valve per channel to provide buffering either side of the photo-electric gain cell. The principle of operation is that when a signal above the threshold is detected, an LED adjacent to a photo-resistor illuminates, causing its electrical resistance to change. This, in turn, attenuates the signal, causing it to be compressed.

ON TEST

Because photocells don't have an infinitely fast response time, and because their characteristics may not be exactly linear, compressors built using these devices tend to exhibit a characteristic sound that people relate to as being warm or musical. Having worked with a good number of compressors over the years, I had a fair idea what to expect from this model, and it didn't disappoint. My first test was to compare the sound with the compressor switched in then out, but with the threshold set so high that no compression was taking place. This is always a good test - it's surprising how much damage some processors do to your sound when they're not supposed to be doing anything at all. Fortunately, the RP583 made very little difference to the sound - I'd expected the valve characteristics to be hyped up a little, but the designers have shown admirable restraint. Such subjective differences as there are might best be described as very slight benign valve coloration, but there's no loss of clarity or top end.

Winding in some compression demonstrates the typical opto gain-cell sound, which has a smoothing effect on the program material, but doesn't destroy transient information in the way that some of the less well-designed VCA compressors can. This type of compression is very good at levelling vocals, and though the compression isn't exactly transparent, the gentle pumping effects are very musical and flattering. One aspect of this particular compressor I wasn't quite comfortable with was the severity of the Threshold control. Even with a modest compression ratio of around 4:1, moving the knob by around 5mm could make the difference between no compression at all and the gain reduction meter hitting the end stop. I was able to get around this with careful setting up, but the control law was too fierce for my liking.

The RP583 also sounds nice on acoustic guitars, but it can be equally effective on drums, or even whole mixes, depending on the effect you're looking for. When it's used with drums, the result is a tight, full sound with plenty of attack, and if you compress hard it's possible to recreate a vintage pumping effect reminiscent of '60s pop and rock records. Complete mixes can pump rather