

CharterOak SCL-1

Gain reduction has long been the healthiest, in terms of choice, of the outboard product sectors but most variants concern themselves with subtleties of flavour rather than dramatic differences in operating principle. **GEORGE SHILLING** is blown away by a new and wonderfully unique compressor.



CharterOak has been making boutique microphones since 2002. Endearingly, rather than boosting his ego, founder Michael Deming (an engineer and producer of some note) named the company after a local Connecticut landmark. With a product catalogue comprising mainly exotic microphones, CharterOak has surprised everyone with this highly unusual stereo compressor (MSRP US\$2899), an early example of which I was lucky enough to try.

Flipping the far left toggle to On makes the large VU light up. The two channels' controls are arranged above each other and each channel has seven pleasantly tactile knobs. These machined aluminium knobs are etched around the rims with a zero to 10 scale and they are smoothly damped, although a few of the knobs were snagging very slightly on the front panel of the review unit. CharterOak is already aware of this early problem and now simply mounts them slightly further from the front panel when the hex nut is secured.

At the far right a pair of toggles select between Dual and Stereo mode, and Metering of Channel 1 or Channel 2 Gain Reduction. In Stereo mode the Channel 1 controls become master, with the control signal derived from both channels. Input and Output gains sensibly always remain independent, allowing for precise left-right calibration.

The manual suggests fairly extreme initial settings as a starting point to help you understand the concept. Of course, I initially didn't read this(!) and wondered why the meter was so far off zero. First, the Input gain should be set at full tilt, which provides the lowest noise floor, with the furthest right Output gain knobs needing to be set at around 5 for OvU output. The next knob is Static Threshold and this effectively calibrates the unit. It is recommended initially to set the unit to stereo mode and the metering to Channel 1, and tweak this knob until the meter settles on zero.

Lowering Static Threshold (clockwise) moves the meter past zero, providing a harder knee — as when pushing all the buttons in on an 1176 but less extreme, and continuously variable. Raising this (anticlockwise) gives a softer knee by creating less potential for swing in the control circuit, and simply setting it a dB or two below zero softens the knee. Next along is the more conventional Dynamic Threshold control. It is recommended to crank this to 7, i.e. a fairly low threshold. The review model needed a fairly hot signal to enable a suitable threshold to be set and a couple of resistor

values have been changed in more recent examples allowing for 10dB lower threshold.

Attack and Release knobs are merely labelled 0 to 10 and work in opposite directions to each other — fast Attack is anticlockwise while fast Release is clockwise. These should initially be set to fairly fast and then you set the compression Ratio. This knob varies continuously between 1:1 and 1:20 so setting it halfway at 1:10 is recommended. Having made these adjustments, with a little tweaking it was possible to see average compression of -6dB or more on the meter, and hear, well, very little obvious effect! The transparency of the gain reduction and the effect of the gain make-up in the circuit results in an astonishing smoothness and clarity. Comparing a section of programme with and without the SCL-1, average perceived level was several dBs higher when using the processing of the SCL-1 (when normalised), and a delightful, subtle overall glow is revealed. The subtleties of different settings gradually become apparent, but large changes frequently sounded fairly subtle.

The design brief was to achieve complete transparency and Deming says it turned out even better than he expected. After 25 years of mixing without a bus compressor, he now has it hard wired across the mix. It is faster and cleaner than any other compressor I have ever encountered. There is always a measure of 'auto' recovery taking place, so with release set fast, dynamic material, like pop music, will make the meter waggle like crazy. The Auto circuit always releases to the constantly changing average level and this is what prevents any pumping or gasping.

The control circuit is effectively a discrete VCA circuit, with a control circuit governing the FET, which in turn goes to the gain cell. Cleverly, the circuit also makes up much of the gain automatically. However, this, and the lack of a bypass can make it difficult to tell what the SCL-1 is actually doing, such is the subtlety of the compression in some situations. There is no Bypass, but I understand that by request relay bypass is being planned as an option (as is a mastering version with 11-step potentiometers). Even with extreme compression, the stereo image stays remarkably true, and there is no discernable loss of top end, a by-product that you tend to expect with most compressors.

I initially had the unit for a classical/showtune vocal and piano session, and used it for piano recording and again subsequently for mix bus where it proved to be the perfect processor for the

job — invisibly and subtly reducing dynamics a little, without any discernable pumping or artefacts. In fact, I was way too cautious with the settings; it really is rather difficult to overdo things with the SCL-1. However, despite the transparency and lack of apparent distortion, there is certainly some enhancement audible with heavy compression settings. Some impressive solidity was noticeable in the low frequencies of a pop-rock mix when the SCL-1 was driven fairly hard.

The unit offers a 'soft symmetrical clip', so the mix certainly cooks, while retaining much of the dynamic range. I did find the metering a little misleading as it doesn't take into account the subsequent gain make-up, so even if the meter is off the scale past -20dB, total gain reduction is rarely more than about 6dB. CharterOak is considering switchable metering to show net gain reduction at output, which I think would be useful.

While there is some narrowing of the dynamic range, this kind of compression is generally too subtle for rock vocals. However, I did have remarkable success, making a dynamic vocal sit perfectly in a track by connecting the two channels in series using Dual mode, and using what would be fairly brutal settings on any other unit. The warmth, presence, size and microphone character shone through, and the vocal glowed rather than sounded squashed.

The SCL-1's philosophy has been cleverly executed and this is a wonderfully unique processor. ■

PROS

Uniquely transparent gain reduction; excellent auto-recovery; clever gain make up circuitry.

CONS

A few early-model niggles — all promised to be sorted; too subtle for some applications.

EXTRAS



CharterOak is primarily a microphone manufacturer but it builds accessories too. It claims its PF-1 Pop Filter outperforms others in three areas. The SaatiTech Hyphobe Acoustex fibre used in its construction is extremely effective at repelling moisture. The B010 Acoustex used in the PF-1 is said to stop plosives without compromising the frequency response of the microphone. The filter is designed to eliminate the need for bulky mic-clip/goosenecks and secondary mic stands, as the PF-1 comes attached to a Velcro strap that will fit most side-address large diaphragm microphones.

Contact

CHARTEROAK ACOUSTIC DEVICES, US:
Website: www.charteroakacoustics.com