

## SCL-1 ERGONOMICS

The SCL-1 has toggle switches for hard-wire bypass, stereo and dual mono operation modes and another switch to select which channel feeds the large backlit gain reduction VU meter. All pots are continuously variable. Separate input and output level controls remain autonomous even when in linked stereo mode, allowing for subtle L/R level matching. In stereo mode all other stereo parameters are controlled by the Channel 1 controls. The SCL-1 attack time can be set to a lightning quick 100us when on '10'. Compression 'Slope' ranges from 1:1 to 20:1.



# CHARTER OAK SCL-1 COMPRESSOR

A compressor that crosses the threshold twice without leaving a trace, just don't ask it to pump.

Story: Greg Walker

## PRICE

\$3599

## CONTACT

Galactic Music:  
(08) 9204 7555 or  
info@galacticmusic.com.au

## PROS

Great sonic flexibility and transparency  
Unique and very effective design topology  
High headroom and build quality

## CONS

Expensive  
Doesn't do compression effects

## SUMMARY

A quality compressor that excels at program compression with minimal artefacts. The SCL-1's Static and Dynamic Threshold controls allow for subtle tweaking of the compression behaviour while the unit's high headroom ensures transparent results.

▶ If there was ever to be a Jedi-style school for audio ninjas this would surely be one of their mantras — 'With great dynamics control comes great responsibility.'

I can see a robed padawan quietly meditating before a pair of giant futuristic VU meters and then weighing his choice, hand hovering over a bank of outboard compressors... What shall it be this time? The API? The AI Smart? Perhaps the Amek? What of the ELI Fatso, the JML MAC or the Tube-Tech? A dozen sonic blueprints present themselves, with both desirable and undesirable compression artefacts, transient responses and tonal characteristics. In a bold move, the apprentice's hand rests upon the controls of an unheralded contender, one that doesn't claim to colour or drive the sound in any particular direction but offers an astonishingly transparent path to dynamics control with no unpleasant side-effects or tonal compromise — the Charter Oak SCL-1.

## SOFT LANDING

With the SCL-1, Charter Oak's head honcho Mike Deming clearly set out to honour the audio ninja's compression mantra. His self-imposed task was to build a stereo compressor capable of handling mix bus duties without introducing all the artefacts we often associate with generously applied program compression — pumping, rush-up after rests, transient smearing and distortion et al. In order to succeed at such a perilous mission the SCL-1 utilises an unusual topology built around a parabolic average charge curve in the rectifier circuit. Using the Dynamic Threshold control to set the circuit's sensitivity, the threshold varies according to not only the incoming signal but also the capacitor charge held over from the previous moments of musical input — effectively creating a continuously variable 'soft landing' back to average program level.

In addition, the SCL-1 provides a separate Static Threshold control that is used to raise or lower the control voltage and thus control the amount of swing between peak and average levels — acting as a hard/soft knee control.

Using these two controls and tweaking the attack and release settings it is possible to grab and control big transients in an effective way while the body of the mix sails through on its own more gentle dynamic trajectory. While I can hear the dance fraternity groan as whole mixes fail to duck momentarily after each kick drum wallop, there are many styles of music where this kind of transparent dynamic control is an absolute godsend. For acoustic and classical mixes, indeed any mix situation where no extra colouration or 'compression effect' is required, the Charter Oak brand of dynamic control has undeniable benefits.

## ALL CLEAR

My first experiences with the SCL-1 were on some fairly complex and dynamic folk-rock material. I followed the manual's instructions and first calibrated the outputs of my converters to the unit by running reasonably loud program material at +4dB output levels. Charter Oak

## DEMING ON REAL DYNAMICS

Mike Deming: "In my 22 years of producing records one of my biggest problems, especially with acoustic and quieter musical styles, was trying to find a compressor we could put across the mix bus that was free of artefacts. Rush-up was my worst problem, I would have to cut my mixes into pieces to readjust my release curves and then stick them back together afterwards. You set your release time and it's a time constant in every compressor design in the world except the SCL-1. Unless the band is playing in exactly the same tempo from start to finish the result is not going to be good, especially when there's a rest or gap in the music. "The way we were able to get the rectifier circuit to work in the SCL-1, it's like it has a mind of its own. You use the settings to select a range of dynamic compression. The bottom is going to be the constantly changing average RMS, which is where the unit always returns to, and the top is the amount of dBs of compression you're applying on peaks.

"With all the other compressors we've had here in the studio over the years we were only ever able to get a dB or two of compression on the meter before it started to collapse a mix, but this thing is quite different. We even tell you in the manual to apply between 3 and 7dB of compression because that's where you get maximum modulation of the signal and a 4dB slope shift. Right at that point the mix starts to sound glued together and really nice. With this box, the more you make the meter bounce, the better it sounds. It's kind of the opposite to a lot of other compressors. "The key to how the SCL-1 behaves is all to do with the way the capacitors charge and discharge in the control circuit. It's actually dependent on two things; what just happened and what's happening at the moment. It will automatically give you a quick release on staccato notes and a nice long release on legato notes within the range that you've selected."

“ I found it hard to make this compressor behave in anything but a very musical way ”

recommends that the Static Threshold control is set at seven and left until the user is happy with all other aspects of the compression chain. Once this happens the control can be tweaked in the manner of a hard/soft knee control to fine tune things at the end of the process. By its very nature, a transparent dynamics controller makes the adjustment and tuning of attack, release and sensitivity thresholds a more subtle task and I found I needed to concentrate and really use my ears to hear all the nuances. After a bit of time and experimentation with the device I was achieving extremely pleasing results with expanded detail and RMS power in the body of the mix and effortless control of more unruly transients. There was also a definite smoothing of the whole soundstage and a sense of solidity about the mixes that to my mind showed the benefits of the unit's all-analogue design. Using the attack and release controls allowed for some very nuanced shaping of the rhythmic content and, like a lot of truly high-end gear, I found it

hard to make this compressor behave in anything but a very musical way.

## SOME LIKE IT HOT

It is worth noting that the SCL-1 loves a hot signal and can effortlessly cope with 10dB or more of gain reduction. The sweet spot seems to be at around 5dB of gain reduction but there's no need to stop there, the over-designed component tolerances, sturdy PSU and transformer outputs are more than equal to the task of staying on target regardless of how much juice is applied.

Moving to more of a mastering-style chain, I hooked up some quality EQs pre and post compression and did some tweaking on some heavier musical styles as well as some gentler ambient tracks. Again the SCL-1 came up trumps with its ability to fine-tune the transient response and the relationship between peak and average dynamic levels. Again I was impressed by the tonal transparency of the mixes even at heavy compression settings. There really was no noticeable change in tops, mids or bottom end and this of course explains the lack of the increasingly ubiquitous high-pass filter circuit — it simply isn't required. Finally I switched from stereo to dual mono mode and ran vocals and electric bass through the unit, once again coming away very pleased with the results. No matter what I threw at it or how hard I drove the unit, the result were never less than sonically pleasing and I've got to admit to being very impressed by Charter Oak's offering. The SCL-1 is undeniably a transparent high-end device that delivers on its promise of minimal artefact compression. ■