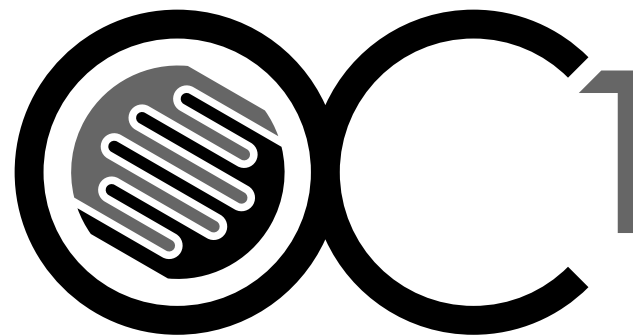
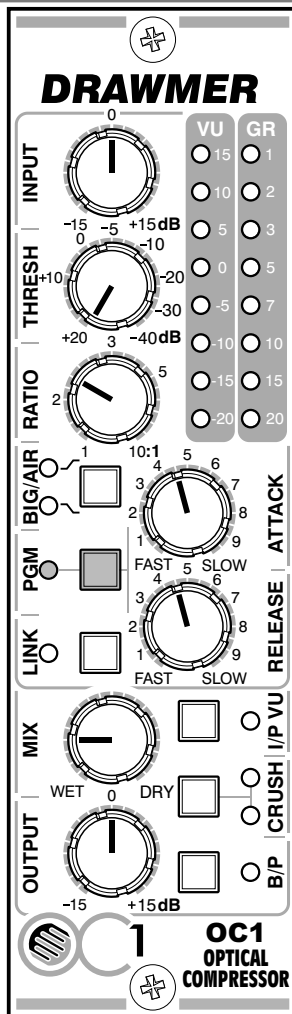


Setup Procedure

- Initially, set the I/P VU switch on to see the input level on the VU meter. Set the level so that the meter reaches 0dB on signal peaks.
- Switch the I/P VU switch off to see the output level at the VU meter.
- Set the Threshold at +20, Big and Air off, and the PGM switch on, so the Attack and Release are on Auto. Mix should be set to almost fully wet but not quite, so more compression could be applied easily if required, and Output level at 0dB.
- The Ratio setting depends on how firmly the signal dynamics need controlling; as a rule, higher ratios provide a higher degree of control but also tend to be more audible when high levels of gain reduction are required. We suggest less than 2.5:1 for vocals, even less for full mixes, and more for dynamic single tracks.
- Setting up is now simply a matter of adjusting the Threshold control until the desired amount of gain reduction occurs. This is judged partly by ear and partly by observing the gain reduction meter. Usually, a maximum gain reduction of between 8dB and 12dB will be adequate. The ideal is to set it nicely above the "comfort" level whilst below the "danger" level, to capture the performer's dynamics but catch any peaks that occur.
- Next adjust the MIX to obtain the desired amount of compression, and fine tune the Output gain so that the VU meter reads the desired output on signal peaks.
- At this point, the PGM switch may be disabled if manual control is wanted. For most musical uses, an initial fast attack time will bring the input signal under control very quickly to catch any peaks. A slow attack time is often used to accentuate the beginning of percussive or plucked sounds.
- For most signals a setting fairly fast Release is a good starting point, and adjust to suit the music, but be aware of pumping.
- If some harmonic distortion is desired activate the Crush switch. Adjust the Input gain to adjust the amount of Crush required, the more gain the more Crush, but be sure to keep an eye on the meters and use the OUTPUT to control the final level.



OPTO COMPRESSOR FOR 500 SERIES

QUICK START GUIDE

Congratulations on the purchase of your OC1 Opto Compressor. This quick start guide should provide you with the very basics to get you started with integrating the OC1 into your studio. More information can be found by going to the OC1 page on the Drawmer website: www.drawmer.com.

DOWNLOAD MANUAL

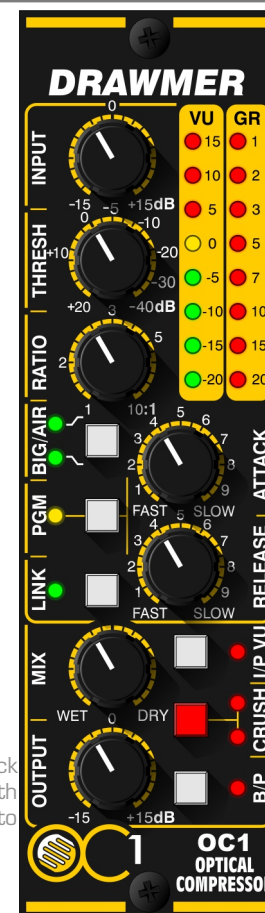


Obtain the OC1 Operator's Manual at https://www.drawmer.com/uploads/manuals/oc1_operators_manual.pdf or scan the code to the left using a QR scanner app on your mobile device.

PRODUCT REGISTRATION



Register your OC1 at <https://www.drawmer.com/register.php> or scan the code to the left using a QR scanner app on your mobile device.



CONTACTING DRAWMER

We will be pleased to answer all questions to enhance your usage of **DRAWMER** equipment.

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DRAWMER

Features

The OC1 brings **DRAWMER** optical compression to the 500 series format. Opto compressors respond with more hysteresis than others, such as FET, and soften the edges in a manner that feels organic, smooth, warm and natural-sounding all audio sources. However, they are particularly good for vocals and acoustic guitars.

The OC1 is a single-channel unit with optional multi-module linking. Alongside standard controls like Input Gain, Threshold, Ratio, Attack, and Release, it includes BIG and AIR modes to enhance low-end warmth and high-end clarity. A PGM mode adds adaptive release timing to minimise pumping during heavy compression. The OC1 features a Mix control for parallel compression and a CRUSH harmonic function for added musical saturation. Precision stepped potentiometers ensure accurate recall, while comprehensive metering displays gain reduction and signal levels.

- Full featured natural & musical soft-knee Opto design.
- All the familiar compressor controls and recallable through 21 indented steps on each.
- Input & Output Cut/Boost to get your levels perfect.
- BIG & AIR modes enhance low-end weight and high-end clarity without harshness or over-compression.
- Side-Chain Linking*
- Integrated 'CRUSH' feature that warms up your mix with harmonic saturation.
- Wet/Dry Mix provides effortless parallel compression.
- Hard wired bypass.
- Designed & handmade by **DRAWMER** in the U.K.

Typical characteristics:	Best Uses:
• Smooth and Musical	• Acoustic Instruments
• Natural	• Strings
• Contributes warmth and fullness	• Vocals
	• Bass

Installation

Installation the OC1 into a 500 series rack:

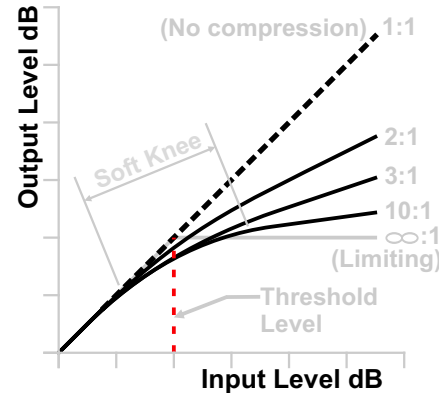
- It is crucial to refer to the manual that accompanies the 500 series rack, as it contains all the essential information regarding the installation process.
- The OC1 occupies one slot in the 500 series rack.
- Before installing or replacing the OC1 module, make sure that your 500 series rack is powered off and that the power cable is unplugged.
- Insert the OC1 module into the adjacent empty slot in your rack, ensuring that the module's connectors are properly aligned with those of the rack.
- Carefully press the OC1 module into the rack connectors, avoiding excessive force, and secure it by tightening the screws on the front panel.
- Connect the OC1 module to your audio system using the available connections on your 500 series rack.
- Finally, plug the power cable back into the 500 series rack and switch it on.

Controls

INPUT: -15dB - +15dB
Determines the input level.

Threshold: +20dB -40dB
Determines the signal level above which gain reduction will be applied. In order to provide as transparent processing as possible Soft knee compression takes place for signals exceeding the threshold level by a few decibels, above which level conventional 'ratio' compression is applied.

RATIO: 1:1 - 10:1
Sets the final compression ratio that will be applied once the 'soft-knee' region of the threshold control is exceeded. A ratio of 1:1 provides no compression. Common ratios include:
2:1 Soft: Gentle, natural compression.
4:1 Moderate: For vocals and acoustic instruments.
8:1 Hard: Aggressive, for controlling loud peaks.
10:1 Limiting: Hard compression. Essential for preventing clipping, but can squash transients if applied too heavily.



BIG/AIR Off-Big-Air-Big & Air
Multiple presses toggle the switch through Off, Big, Air and then Big & Air.

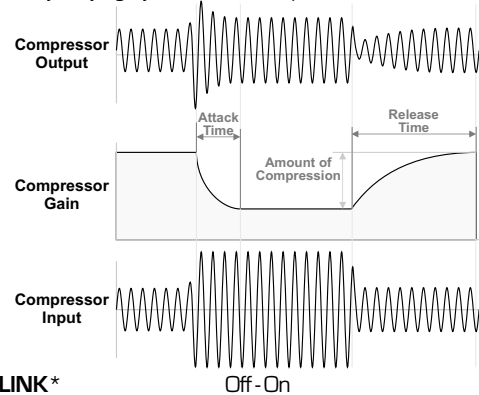
With the switch set in the Big position the side chain's sensitivity to low frequencies is reduced, with the result that less gain reduction is applied to those frequencies, creating the effect that the bass is louder or 'bigger'. It also has the benefit of reducing the ducking and pumping effect that occurs by high frequencies being 'pulled down' in sync with the bass, helping to make mix compression much more affable.

With the switch set in the Air position the side chain's sensitivity to high frequencies is reduced, the result being that the treble sounds more intimate, detailed and transparent, but without making it sound harsh or introducing any noticeably unnatural artefacts, adding definition, particularly to the human voice and acoustic instruments. Cymbals are more vibrant without becoming splashy, and vocals sound more open but without becoming sibilant.

ATTACK: Fast-Slow
Controls the speed that the compressor responds to signals that exceed the level set by threshold. For most musical uses, an initial attack setting of between 1 and 20 mS is typical and least obtrusive, with slower settings allowing the start of a percussive or transient signal to pass unaltered, before the compressor reacts. However, bringing the level under control quickly, using a very fast attack time, generally gives more natural results on vocals and mixes.

RELEASE: Fast-Slow
Sets the time taken for the signal to return to normal after the input level has fallen below threshold. For most signals a setting of around 0.2 to 0.6 seconds is a good starting point. Be careful with very long release settings, the Compressor might never have enough time for a total recovery between the signal peaks. However, if set too fast, the signal may "pump", which can be used creatively, but is generally undesirable.

PGM Off-On
When selected, PGM disables the Attack and Release controls and continually optimises the attack and release times to suit the dynamics of the material being processed. Enabling this setting will often produce the subtlest level control on signals with widely varying dynamics or complete mixes.



LINK * Off-On
The side chain of multiple OC-1 modules can be linked so that the gain reduction of each synchronise together. In this instance the module requiring the highest gain reduction is master and trigger for all the other linked modules. The link feature includes the Big, Air, Threshold and Ratio controls, however, Attack and Release remain independent to allow for differing transients throughout the modules.

*Note, the function utilises the side chain link feature on pin 6 of the chassis. However, this is not a standard API series specification, so please check that your chassis has the feature, as many modern units do, and also how to implement it.

VU METER:
Eight Leds at +15, +10, +5, 0, -5, -10, -15, -20dB

GAIN REDUCTION METER:
Eight LEDs at -1, -2, -3, -5, -7, -10, -15, -20dB

MIX WET-DRY
By mixing the amount of signal from the input (dry) with the (wet) compressed signal the overall amount of compression of the signal can be altered. In a method similar to parallel compression, but with the advantage of being one simple variable MIX knob, rather than altering several settings.

I/P VU Off-On
When selected, the VU meter displays the signal at the input level control.

CRUSH Off-On
When active adds musically pleasing harmonic distortion to the signal.

The feature works progressively in direct correlation to the Input gain control: as the input is boosted more distortion occurs. In addition to an active LED a progressive crush LED shows the amount of harmonic distortion occurring and lights up brighter the more the crush is driven. If you wish to apply much more gain in order to obtain more 'crush' be sure to keep an eye on the meters and use the OUTPUT to control the levels. Use the switch to listen to A/B comparisons to hear the effectiveness of the feature.

OUTPUT -15dB - +15dB
During compression the signal is attenuated and gain may be required to produce the required output level. The amount of gain required in order to bring the signal level to the same as at input is displayed on the G.R. meter. Adjust the gain so that the output VU signal approaches the desired level only on signal peaks.

BYPASS (B/P): Off-On
A fully balanced hard-wire bypass connects the input directly to the output, enabling an instant wet/dry comparison.

