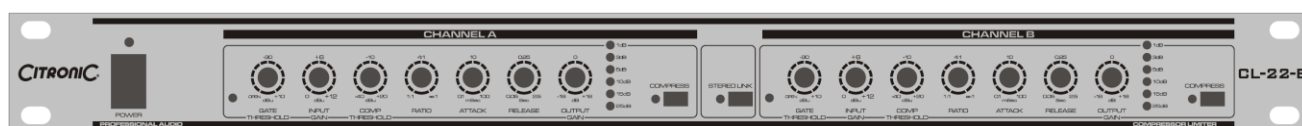


CITRONIC®

CL-22-B



170.934UK

Introduction

Thank you for purchasing this high quality Citronic compressor/limiter product. The aim of our audio processing range is to offer cost-effective, high performance sound sculpting tools for live sound reinforcement and installation applications. Citronic compressor/limiter units are set out in a familiar format with a comprehensive range of controls for trouble-free use.

The CL-22-B comprises a dual compressor/limiter with an integral gate. The unit has a stereo link function that allows channel B to clone the settings of channel A for an easy and accurate stereo setup. The CL-22-B employs “soft-knee” compression circuitry to produce a smooth and natural dynamic profile. Each channel also has a noise gate to shut out any background noise when a determined low threshold is reached.

Connection to the CL-22-B is via balanced or unbalanced 6.3mm jack or XLR connectors allowing flexible linking options.

The rear panel has a SIDE CHAIN input and output for each channel allowing external manipulation of the control signal. If a high pass filter were inserted here, the compressor would attenuate the output with particular respect to high frequencies, as used in a de-esser to reduce sibilance in a vocal passage.

This unit has been built to Citronic’s exacting standards using high grade circuit boards and components housed in a heavy duty steel chassis casing to give long term, reliable service.

Installation

Set the CL-22-B into a 1U space in a rack, ensuring enough depth to contain the unit and any connectors attached to it. Secure the front panel with rack screws and nuts to hold in place and stop the unit slipping. Plug the included power cable into the rear panel IEC connector and connect to the mains. Be sure to switch the CL-22-B on before switching on the power amplifiers to avoid loud thumping sounds through the speakers and switch the amplifiers off before switching off the CL-22-B. The unit draws relatively little current and it is recommended to be left powered whilst in the audio chain as switching can cause loud thumping sounds through the speakers.

This compressor/limiter will not require special venting requirements as there is little heat generated compared to amps etc. However, performance of this product may be impaired by exposure to continuous high temperatures generated by adjacent equipment. Also, this unit is very well shielded against electromagnetic interference but high levels in close proximity should be avoided. Nevertheless, spacing in between high power amplifiers is recommended if possible.

Connection to each channel is served by either jack or XLR for both inputs and outputs. Use either jack or XLR but never both for any input or output. For balanced connections, follow the table below.

| Connection | 6.3mm TRS Jack | XLR connector |
|-------------------|-----------------------|----------------------|
| Hot (+) | Tip | Pin 2 |
| Cold (-) | Ring | Pin 3 |
| Earth | Sleeve | Pin 1 |

For unbalanced connections, follow the table below.

| Connection | 6.3mm TRS Jack | XLR connector |
|-------------------|-----------------------|----------------------|
| Signal (Hot) | Tip | Pin 2 |
| Earth (Cold) | Sleeve | Pin 1 + 3 |

Applications

A compressor is an audio tool designed to control the dynamic (volume) profile of a signal. Most audio signals vary in volume level from quiet passages to loud transients. The difference between these levels can mean that the quietest parts are difficult to hear and the loudest parts are overwhelming in the mix. A compressor is able to help reduce these differences and “compress” the difference between quiet and loud (dynamic range).

Some applications for a compressor/limiter in a live sound reinforcement situation are...

- Compression to even out the level delivered by a vocal where the vocalist moves closer and further away from the microphone, affecting the volume.
- A limiter setting can be achieved by setting the threshold close to the highest required volume level and the ratio set very high which severely limits the output level to the ceiling level once it is reached. This is very useful with instruments with potentially high level output, like percussion.
- A limiter can also be helpful immediately before the power amplifier input to avoid overloading the amplifier when the highest signal levels are reached. This can offer protection to both speakers and power amplifiers.

For studio applications, a compressor/limiter may be used for...

- Compressing the erratic dynamics of a vocal passage to enable easier mixing with respect to other voices or instruments
- Reducing high level attack of drums and percussion, giving other tracks space within the mix
- Mastering the final cut of a mix to make the dynamic range more suitable for the recording medium

Typical guide settings are shown below...

| APPLICATION | VOCAL LEVELLING | GUITAR SUSTAIN | SPEAKER PROTECTION |
|-----------------|-----------------|----------------|--------------------|
| COMP. THRESHOLD | Low | Low | High |
| RATIO | 5:1 | 15:1 | >100:1 |
| ATTACK | 10ms | 5ms | 0.1ms |
| RELEASE | 200ms | 500ms | 90ms |

Operation

Front Panel

- GATE THRESHOLD – Sets the “floor” level to eliminate background noise when signal is quiet
- INPUT GAIN – Boosts the input by up to 12dB
- COMP THRESHOLD – Sets the “ceiling” level at which the compressor begins to attenuate the output
- RATIO – Sets the severity of level attenuation once the threshold is reached
- ATTACK – Sets the speed at which attenuation takes place, slower settings preserve the attack of a signal, faster settings will unnaturally reduce the attack.
- RELEASE – Sets the time taken to fade out the compression effect after the signal falls below the threshold. Slower settings help disguise the effect of compression for a more natural sounding result, faster settings permit more accurate compression or limiting
- OUTPUT GAIN – Cuts or boosts the gain by up to 18dB to help compensate for the overall level change
- LED Output Indicator – 6-LED indicator, 1 – 25dB attenuation
- COMPRESS Switch – Switches the process in or out for comparison
- STEREO LINK – Clones channel A settings onto channel B for stereo operation

Rear Panel

- XLR and jack inputs for each channel – Input via either jack or XLR, balanced or unbalanced
- XLR and jack outputs for each frequency range on each channel – Output via either jack or XLR, balanced or unbalanced
- SIDE CHAIN Output – Signal send for side chain control
- SIDE CHAIN Input – Signal return for side chain control
- IEC Connector – Connection to mains supply

Maintenance and Servicing

There are no user serviceable parts inside this unit. General case cleaning may be recommended using a dry or slightly damp cloth and connectors should be checked periodically for good electrical contact. Any attempt to open and modify or repair the circuitry of this unit will void the warranty. Refer all repair and servicing to qualified personnel and all warranty issues must be handled by the retailer where the unit was purchased.

Technical Specification

| | |
|-----------------------|--|
| Model | CL-22-B |
| Format | Dual or Stereo Compressor/Limiter/Gate |
| Frequency Response | 20Hz – 20kHz \pm 1dB |
| Input Impedance | 40k Ω balanced, 20k Ω unbalanced |
| Maximum Input Level | +21dBu |
| Output Impedance | 102 Ω balanced, 51 Ω unbalanced |
| Maximum Output Level | +21dBu |
| Side Chain Input Z | 10k Ω |
| Side Chain Max Input | +21dBu (ref 0.775Vrms) |
| Side Chain Output Z | 51 Ω |
| Side Chain Max Output | +21dBu (ref 0.775Vrms) |
| Gate Threshold | 55dBu – 10dBu |
| THD | \leq 0.04% Limiter off / \leq 0.5% Limiter off |
| SNR | \geq 97dB |
| Power | AC 230V, 18W |

