



CEQ

Quick guide

Thank you for choosing CEQ for your Eurorack System.

Powering up

1. Turn off the power of your modular synthesizer.
2. Double check the power cord polarity. If you plug the module backwards you might damage its electronic circuits.



If you flip over your CEQ, you will find the "RED" mark at the PCB power connector, which must match the colored line on the ribbon cable.

3. Once you have checked all the connections, you can turn on your modular system.
4. If you notice any anomalies, turn your system off right away and check again your connections.

Description

CEQ is an **analog 3-band Equalizer and Compressor module in 4HP**.

What is a 3 Band Equalizer?

CEQ has 3 equalization controls, which allow the user to **adjust the tonal balance** of the input audio signal: **high, mid, and low**.

Each control adjusts the level of a specific frequency range in the audio signal and can be used to **boost or cut** the level of the corresponding frequency range, which allows the user to adjust the tonal balance of the audio signal to their liking.

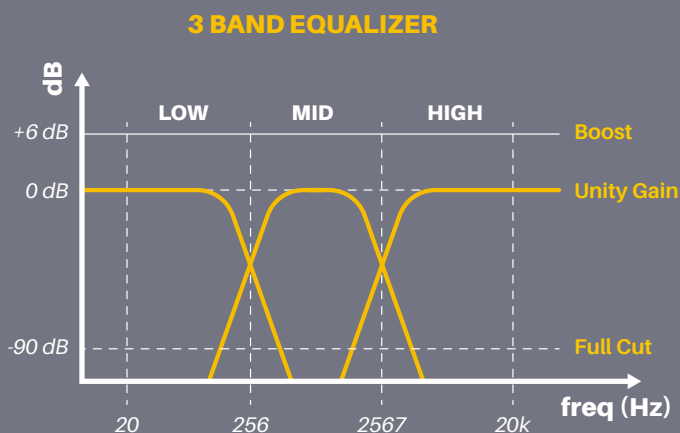


Fig.1 Frequency Response of CEQ Equalizer

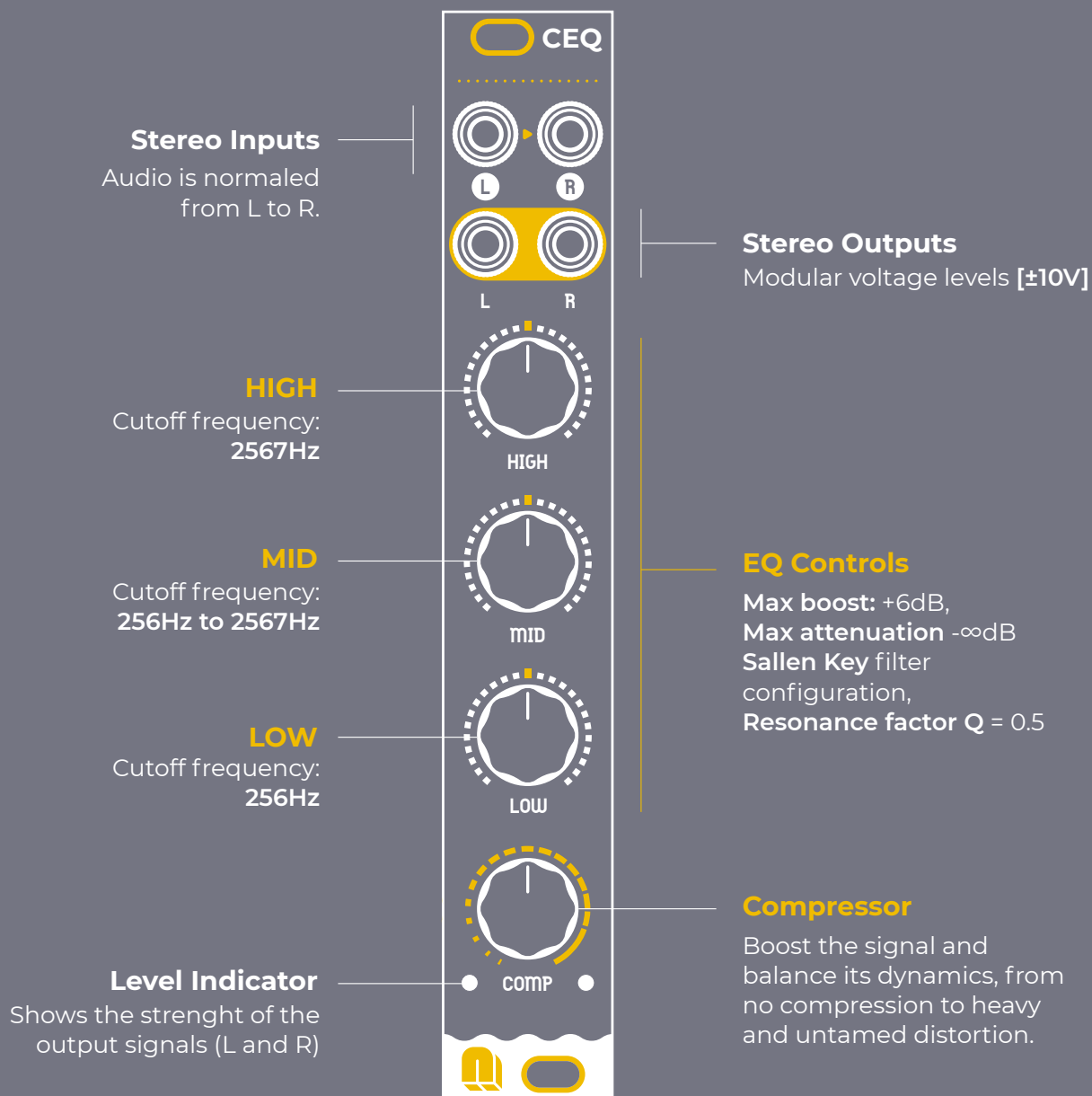
And a Compressor?

One-knob compressors are a type of audio processing tool that simplify the process of applying **dynamic range compression** to an audio signal.

The basic principle behind a one-knob compressor is to automatically **reduce the level** of the audio signal when it exceeds a certain threshold, and then **gradually increase** the level as the signal decreases. This helps to even out the dynamic range of the audio, making quieter sounds louder and louder sounds quieter.

One-knob compressors can be especially **useful for beginners** or less experienced audio engineers who may not be as familiar with the intricacies of more complex compression.

Layout



Controls

• HIGH

The high EQ control is a **high-pass filter** that reduces the level of frequencies **above 2567 Hz**. This control is used to **adjust the treble** or "top end" of the audio signal.



• MID

The mid EQ control is a **bandpass filter** that allows the user to adjust the level of a specific frequency range, **from 256 Hz to 2567 Hz**. This control is used to adjust the midrange of the audio signal, which can be important for **making vocals or other instruments stand out** in the mix.



• LOW

The low EQ control is a **low-pass filter** that reduces the level of frequencies **below 256 Hz**. This control is used to **adjust the bass** or "bottom end" of the audio signal.



Fig.2 Detail of EQ Controls

• COMP

Adjusts the ratio of the compression, which determines how much the audio signal is reduced when it exceeds the threshold. Higher ratios result in **more aggressive** compression, while lower ratios result in **more subtle** compression.

This One-knob compressor also includes **automatic makeup gain**, which automatically adjusts the output level of the audio signal after compression so that **the overall level remains consistent**.



Fig.3 Detail of COMP Control

Inputs & Outputs

• Stereo Inputs L · R

Stereo inputs allow you to process external stereo sources through the modular synthesizer.

Audio is normalled from L to R.

• Stereo Outputs L · R

Stereo outputs allow you to send separate signals to each side of a stereo sound system.

Modular voltage levels [$\pm 10V$]

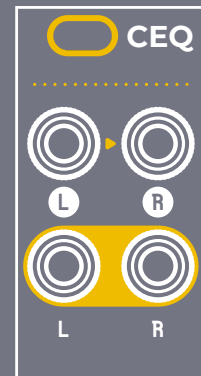


Fig.4 Inputs & Outputs Close-up View

Compliance

This device complies to the **EU guidelines** and is manufactured **RoHS** conforming without use of led, mercury, cadmium and chrome. Nevertheless, this device is special waste and disposal in household waste is not recommended.

This device meets the requirements of the following standards and directives:

- **EMC: 2014/30/EU**
- **EN 55032.** Electromagnetic compatibility of multimedia equipment.
- **EN 55103-2.** Electromagnetic compatibility - Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use.
- **EN 61000-3-2.** Limits for harmonic current emissions.
- **EN 61000-3-3.** Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems.
- **EN 62311.** Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields.
- **RoHS2: 2011/65/EU**
- **WEEE: 2012/19/EU**



Guarantee

This product is covered by **2 years of guarantee** on purchased goods, which begins when you receive your package.

- **This guarantee covers**

Any defect in the manufacturing of this product.
Replacement or repair, as decided by NANO Modules.

- **This guarantee does not cover**

Any damage or malfunction caused by incorrect use , such as, but not limited to:

- Power cables connected backwards.
- Excessive voltage levels.
- Unauthorized mods.
- Exposure to extreme temperature or moisture levels.

Please contact our customer service - jorge@nano-modules.com - for a return authorization before sending the module. The cost of sending a module back for servicing is paid for by the customer.

Technical Specifications

Dimensions 4HP 20x128,5mm

Depth 40mm - Skiff friendly

Power Consumption

+12V = 57mA MAX | -12V = 57mA MAX

Current 50 mA +12V / 30 mA -12V / 0 mA +5V

Output Signals $\pm 10V$

Impedance Input 10k - Output 10k

Materials PCB and Panel - FR4 1,6mm

Modules are designed and assembled in València.

Contact

Bravo!

You have learned the basic fundamentals of your CEQ Module.

If you have any doubts, please feel free to contact us.

nanomodul.es/contact