

# Burburgulator user manual

## What is Burburgulator?

Module name comes from polish word bulbulgulator, which is a word to describe a tool that can be used in many different ways. This is exactly what our module is, a modular synthesis multi-tool that can be used in many distinct scenarios.

## Installation

BBG requires standard eurorack power supply, on 10 pin IDC connector. The red stripe of the ribbon cable (-12V side) must be oriented on the same side as red part of power connector on the module. In case of big resistance during connection of power supply connector should be supported from other side, to avoid applying excessive pressure to PCB and damaging it. Module draws up to **30mA** from both **+12V** and **-12V** power supply rails.

Module should be screwed with 2 bolts into compatible eurorack case prior to any patching, otherwise damage may occur due to excessive forces.

## Inputs and Outputs

module has **3 inputs** and **9 outputs**. Outputs are divided into **3 groups**: addition, subtraction and complex. Every output has corresponding bicolor LED showing it's state.

## Behavior

### Section ADD

Like the name suggests this section is performing operation of summation. Signal from one input is imposed on signal from second input, like in mixer. This section among

other things allows user to mix 2 channels and **glue 2 trigger** sources.

$$A=X+Z$$

$$B=Y+Z$$

$$C=X+Y$$

## Section SUB

SUB section works similarly to ADD section, but instead adding it subtract two signals from one another. It imposes reversed signal from one input on signal from second input. This section allows for example to **block gate** signal (from positive input) with other gate signal (from negative input).

$$A=X-Y$$

$$B=X-Z$$

$$C=Y-Z$$

## Section CPX

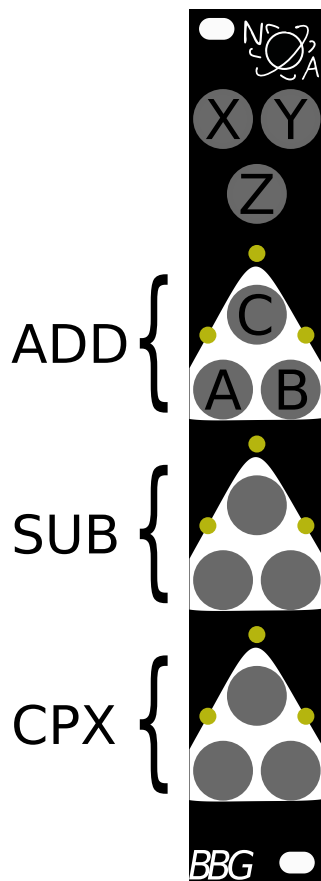
This section performs addition and subtraction in different combinations on every 3 inputs of the module, hence allowing user to combine all 3 inputs into one signal.

$$A=X-Y-Z$$

$$B=X+Y-Z$$

$$C=X+Y+Z$$

Since output C is a sum of every input, it allows to use BBG as simple, **unity gain** 3-channel mixer.



## Warranty

Module is covered with 2-years warranty since day of purchase. Warranty does not cover multifunction caused by incorrect use (such as reverse power connection, excessive voltage levels, bad weather conditions, or physical damages). This warranty covers any defect in the manufacturing of this product only. Before sending module to service, please contact us at [support@noiseofantimatter.com](mailto:support@noiseofantimatter.com)

If your warranty expired or malfunction is result of users actions feel free to contact us for out-of-warranty service and/or self-service help.

## Tips

- BBG allows for creating 9 rhythmically correlated envelopes with 2 or 3 signals given on module inputs. This will be very useful for anyone who is looking for tracking filters V/Oct modulated at once, generating **chords**.
- By patching one of the positive output back to it's input module allows to **compare 2 signals** together, and since inputs are normalised to 0V, it also allows to check the **sign** of one signal.
- By patching one of the negative output back to it's input module changes into precise **gain 2** two input mixer or precise **gain 3** amplifier.

# EMC compliance

Noise of antimatter verifies that a properly constructed modular system, adhering to doepfer standard, based on cases, power supplies, power distribution boards and a coherent selection of modules, available from other manufacturers meets the requirements defined by international certification bodies.

In the paragraphs that follow, Device refers to the Eurorack module, properly installed, powered, and patched as part of a system.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes / modifications could void the user's authority to operate the equipment.

This device meets the requirements of the following standards:

- EN55032. Electromagnetic compatibility of multimedia equipment. Emission requirements.
- EN55103-2. Electromagnetic compatibility - Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use.
- EN61000-3-2. Limits for harmonic current emissions (equipment input current  $\leq$  16 A per phase).
- EN61000-3-3. Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current  $\leq$  16 A per phase and not subject to conditional connection.
- EN62311. Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz - 300 GHz).