



# CubuSynth Exhaust V2 Expander Module User Manual

[Home](#) » [CubuSynth](#) » CubuSynth Exhaust V2 Expander Module User Manual 

## Contents

- [1 CubuSynth Exhaust V2 Expander Module](#)
- [2 Product Information](#)
- [3 Limited Warranty](#)
- [4 Introduction](#)
- [5 Specifications](#)
- [6 Key features](#)
- [7 Installation](#)
- [8 Documents / Resources](#)
- [9 Related Posts](#)



**CubuSynth Exhaust V2 Expander Module**



## Product Information

- **Product Name:** Expander Module for the CubuSynth Engine V2
- **Model:** PCB V1.1 Jul 2023
- **Author:** Ruben Sponar

## Specifications

+12V: +6mA -12V: -5mA

## Key Features

- Two Sub-Octave generator with selection switch, Mix knob for -1 and -2 octaves (/2 and /4)
- 5 Channel Audio Mixer for 4 different Outputs from the Engine and the Sub-Octave generator
- External Input for Mixing with other signals
- Semi-Random Gate or Trigger Output generated by the Chaos signal
- Separate Outputs for Sub-Octave and Main Mix

## Installation

To install the module, follow these steps:

1. Power OFF your CubuSynth rack.
2. Plug in the 10pin Ribbon cable correctly to your CubuSynth Engine and the Exhaust. Ensure the orientation is correct (Red stripe down).
3. If you have V1 of the Engine, you will need to use the V1 Exhaust. Note that they are not backwards compatible.

### Warranty

CubuSynth guarantees this product to be without defects in materials and workmanship for a period of one year from the date of purchase (proof of purchase/invoice needed). Malfunctions due to improper supply voltages, incorrect or reversed Eurorack power cable connection, misuse of the product, removal of knobs, changing faceplates, or other causes determined by CubuSynth are the user's responsibility and are not covered by this warranty. During the warranty period, all defective products will be repaired or replaced in the CubuSynth workshop, with the customer paying the shipping costs to us. CubuSynth takes no responsibility for any damage to persons or equipment caused by the operation of this product. For any questions, authorization for return to manufacturer, or other needs and comments, please contact [cubusynth@gmail.com](mailto:cubusynth@gmail.com).

### Contact Information

- Website: <https://cubusynth.com/>
- Facebook: <https://www.facebook.com/cubusynth>
- Instagram: [https://www.instagram.com/cubusynth\\_modular/](https://www.instagram.com/cubusynth_modular/)
- Etsy: <https://www.etsy.com/shop/CubuSynth>
- YouTube: <https://www.youtube.com/@cubusynth>

### Expander Module for the CubuSynth Engine V2

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- During the warranty period, all defective products will be repaired or replaced, in the CubuSynth workshop with the customer paying the shipping costs to us.
- CubuSynth takes no responsibility for any damage to persons or equipment caused by the operation of this product.
- Please contact [cubusynth@gmail.com](mailto:cubusynth@gmail.com) with any questions, authorization for return to manufacturer or any needs and comments.

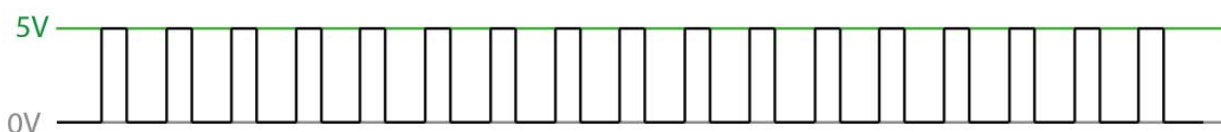
### Introduction

- The Exhaust adds many features to your Engine VCO module like Sub-octaves, Mixing and a Gate generated by the Chaos signal.
- You can select one of the two VCO cores of the engine to Produce Square Waves one and two octaves below the Oscillators frequency. You can blend between -1 and -2 octaves and Set the volume they are Mixed into

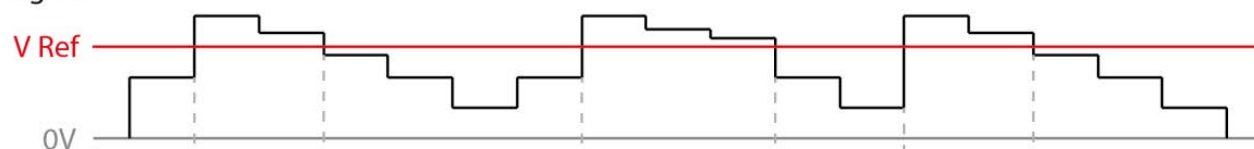
the Main “Mix” output.

- The knobs “VCO1” “VCO2” and “AM” set the level of the selected waveform of each VCO and the AM output from the Engine to the Main Mix. The “Ext In” Input is normalled from the RM output, but you can plug in any other signal to go to the Main Mix.
- The V Ref sets a Voltage between 0V and +10V which compares against the Chaos signal from the engine (Chaos attenuator on the Engine doesn’t matter). Whenever the Chaos signal is higher in Voltage than the Knob setting, It will Give you a Gate or Trigger signal depending on the switch. There is also a CV input, which offsets your V Ref and can create interesting Rhythms. This function works best when the “Clock In” on the Engine is synced by your Main Clock.
- Visual Demonstration of the Gate and Trigger Output:

Clock  
signal



Chaos  
signal



Gate  
Output



Trigger  
Output



## Specifications

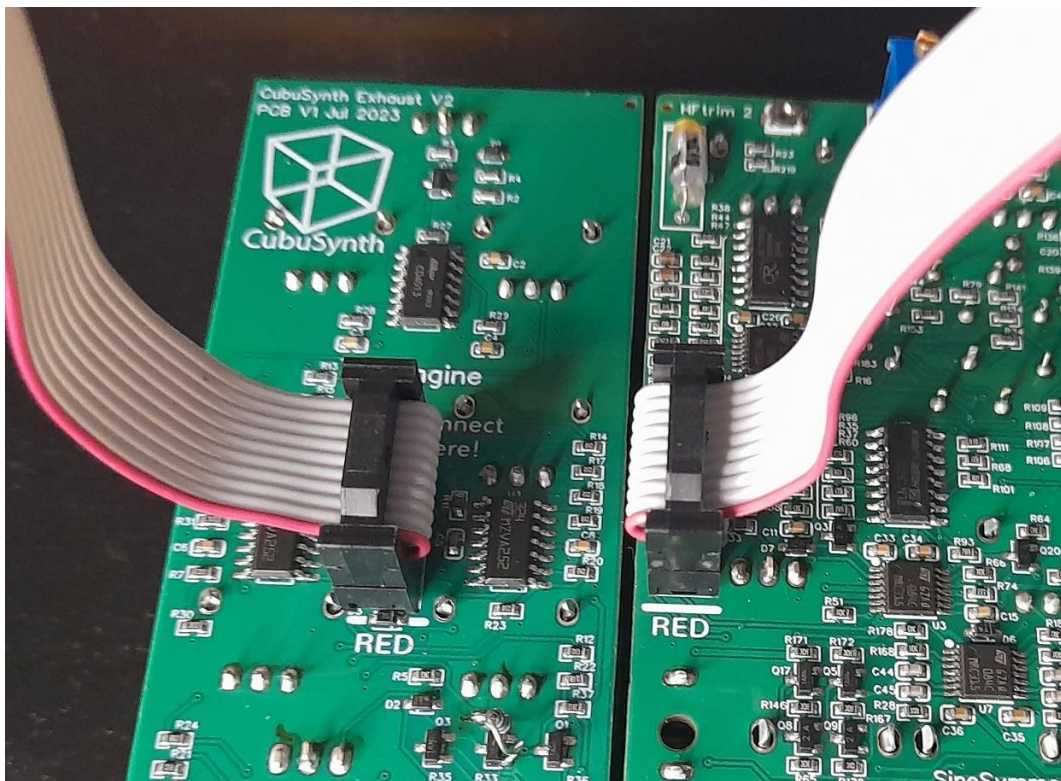
- **Size:** 8HP / 40mm
- **Depth:** 35mm (measured from the front panel)
- **Current Draw:**
  - + 12V: +6mA
  - -12V: -5mA

## Key features

- Two Sub-Octave generator with selection switch, Mix knob for -1 and -2 octaves ( $/2$  and  $/4$ )
- 5 Channel Audio Mixer for 4 different Outputs from the Engine and the Sub-Octave generator
- External Input for Mixing with other signals
- Semi-Random Gate or Trigger Output generated by the Chaos signal
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## Installation

- To connect the module, plug in the 10pin Ribbon cable correctly to your CubuSynth Engine and the Exhaust while your rack is powered OFF! Make sure orientation is correct. (Red stripe down).
- Please note that if you have V1 of the Engine, you will have to get the V1 Exhaust. They are not backwards compatible.



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<https://www.etsy.com/shop/CubuSynth>

<https://www.youtube.com/@cubusynth>

## Documents / Resources

	<p><a href="#">CubuSynth Exhaust V2 Expander Module</a> [pdf] User Manual</p> <p>PCB V1.1, Exhaust V2, Exhaust V2 Expander Module, Expander Module, Module</p>
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