

The



AVS-VCA-1 Dual VCA

User Guide



Thank you for purchasing from AvonSynth

Congratulations on your purchase of a brand new AvonSynth AVS-VCA-1 Dual VCA Eurorack Module. We trust that it will both serve and inspire you as you create beautiful music with it for years to come.

In order to get the most out of your module, please ensure that you read this User Guide in its entirety so that you fully understand all of its functionality, and that you follow all necessary safety directions during use.

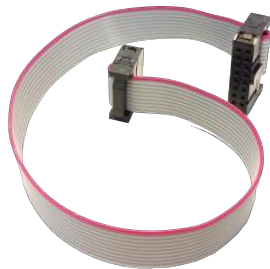
Included in the Box

1 x Dual VCA Module

1 x 10 pin to 16 pin flat-cable power cord

4 x M3 Mounting Screws

4 x Nylon Washers



Installation

Step 1: Power your system off. Place the module in your Eurorack-compatible rack in any convenient position. Affix the module to your rails using the included mounting screws and nylon washers. Neglecting to use these washers may result in unnecessary marking of the unit.

Step 2: Triple check the polarity of the power connector before connecting the power cord to your power supply. Ensure that the -12v line marked on the back of the module connects to the same end of the flat-cable that also connects to the -12v line on your power supply. While AvonSynth modules use shrouded connectors that make this process safer and more reliable, some systems do not conform to this polarity standard, so careful checking is **always** necessary. Connecting the module with incorrect polarity can result in damage done to the module which cannot be covered by warranty.

Step 3: Power up your system and start patching!



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Features & Specifications

- Fully Analogue Voltage Controlled Amplifiers
- 10 HP wide (50.5mm), 20mm deep
- Two independent and identical VCAs in one module
- Current consumption: +12V 25ma, -12V 25ma
- Linear or Logarithmic response switch
- Dual linked audio inputs
- Dual linked CV inputs
- At normal levels ($\pm 5v$), a very transparent utility VCA, but gain and **bias** can be set to overdrive the signal with very pleasing distortion characteristics.

Description of Functionality

Gain

Together with the Init trimmers on the rear, this knob sets the starting gain of the VCA before CV is applied to it.

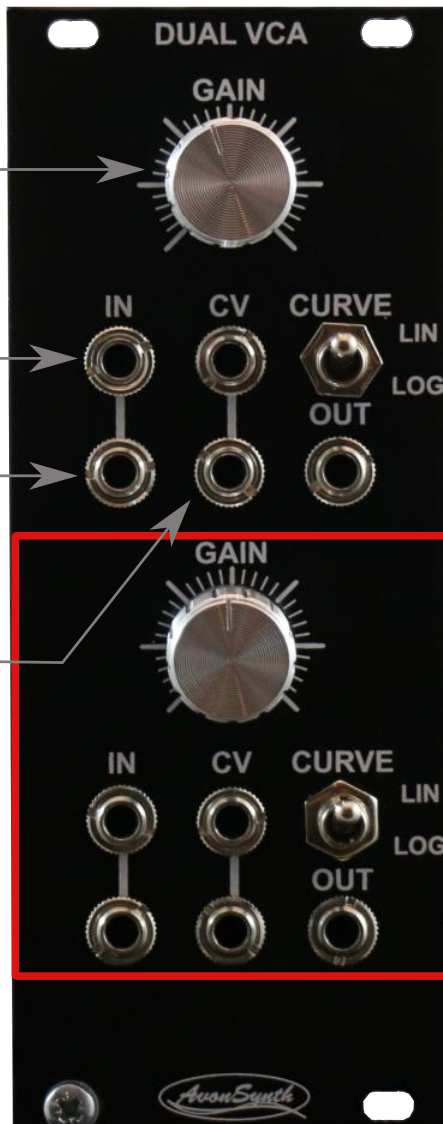
Turn to the right to add gain and overdrive to the signal, or turn to the left to ensure silence at times when no CV input is present.

Signal Inputs

Inputs for the signal whose amplitude you would like to control. Both inputs are summed - useful for controlling two sources together, for example as an oscillator mixer.

CV Inputs

Inputs for the CVs used to control the amplitude of the signal inputs. Both inputs are summed - useful for applying multiple CVs to the same amplifier, for example, an ADSR amplitude envelope and an LFO tremolo.



Curve Selector

2-position switch that chooses between a linear (up) and logarithmic (down) response for the VCA. When using analogue envelopes such as the AVS-ADSR-1, linear will generally be used. However, when using digital, linear-shaped envelopes, it may be desirable to use the logarithmic response. In this case, extra gain may need to be applied in order to achieve the desired output level.

VCA Output

The output of the CV-controlled attenuated or boosted signal.

The bottom half of the module is an identical reproduction of the top half with entirely independent circuitry.

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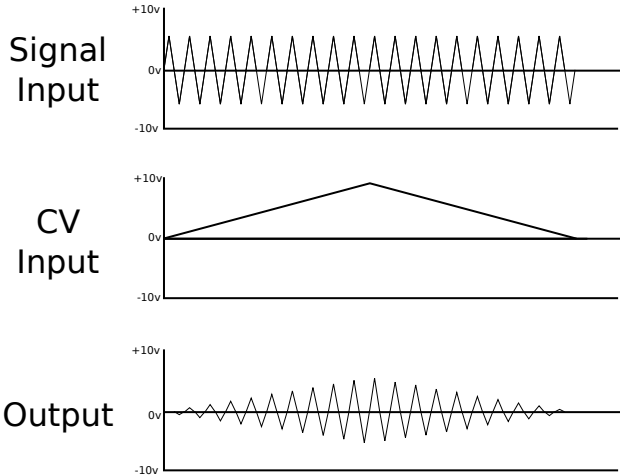


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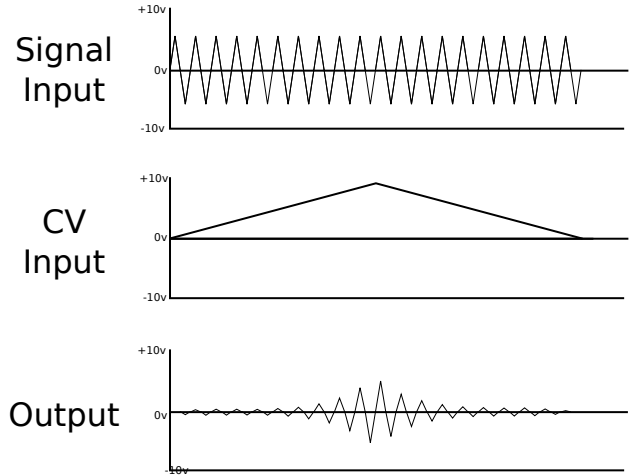
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Waveform Diagrams

Linear Mode



Logarithmic Mode



Calibration Trimpots

Your new AVS-VCA-1 Dual VCA was expertly calibrated by hand for maximum transparency and dynamic range. Multiturn trimpots are used for increased accuracy in calibration and can be turned using a small flat-head screwdriver or other suitable implement.

The Bias trimpots are used to adjust the level of DC offset created by the module in the course of its operation. The module is shipped with this set for minimum offset from ground, and therefore maximum dynamic range. Increasing the amount of bias applied in one direction will increase the amount of asymmetrical distortion created, which may be desired in certain applications.

The Init (Initial Position) trimpots are used to set the initial level of gain or attenuation applied to the input signal. This is generally set so that when the front panel gain knob is in the vertical position, the CV input is zero, and the input signal is +/- 5v, the output will be silent. As the CV input is increased, the output level increases correspondingly.

Recalibrating this module requires the use of accurate multimeters, oscilloscopes and signal generators. If you are not able to carry out recalibration yourself, the engineers at AvonSynth will be happy to recalibrate your module for you free of charge during the warranty period.

VCA 1 Bias

VCA 1 Init

VCA 2 Init

VCA 2 Bias



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Safety Precautions

Please use this module in accordance with the following safety guidelines in order to maximize the life of the module and ensure warranty from AvonSynth.



Keep water and other conductive liquids and materials away from this module. It is not water proof, or even water resistant. Exposure to these can cause short-circuits that can render the equipment unusable.



Be sure to keep this equipment in an environment with an ambient temperature above -20°C and below $+50^{\circ}\text{C}$. Excessively hot or cold temperatures can be damaging to the electronic circuits used.



Modules with exposed circuit-boards are delicate. Take the utmost care when handling and transporting this equipment, making sure not to subject it to excessive forces. Ensure that the module is installed correctly while being transported and that the original packing materials are used when sending the module anywhere by post.

Warranty & Support

This product is covered by AvonSynth's warranty for one year from the manufacturing date. Within this timeframe, any manufacturing defect will be repaired or replaced by AvonSynth. Damage caused to the product due to not following the safety precautions above, unauthorized modification of the hardware, or misuse such as subjecting the unit to reverse or excessive voltages will void this warranty.

If you have any concerns about your AvonSynth hardware, please get in touch via info@AvonSynth.com to discuss any issues. We will do our best to assist you in getting your hardware operating correctly, and if necessary, we will provide an RMA (Return Merchandise Authorization) to send back the unit for inspection. Any postal costs incurred in this process will be the responsibility of the customer. Please do not send back merchandise before receiving this authorization.