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› Behringer System 100 110 VCO/VCF/VCA Eurorack Module User Manual

Behringer Behringer-110-VCOVCFVCA

Behringer System 100 110 VCO/VCF/VCA Eurorack Module User Manual

Model: 110 VCO/VCF/VCA

INTRODUCTION

This manual provides essential information for the operation, setup, and maintenance of your Behringer System 100 110 VCO/VCF/VCA Eurorack Module. This module is designed to deliver authentic analog tones, reminiscent of the classic System 100, offering a versatile sound palette for electronic music production.

The 110 module combines a Voltage Controlled Oscillator (VCO), Voltage Controlled Filter (VCF), and Voltage Controlled Amplifier (VCA) into a single, compact Eurorack format.

PRODUCT OVERVIEW



Figure 1: Front panel of the Behringer System 100 110 VCO/VCF/VCA Eurorack Module, showing controls for VCO, VCF, and VCA sections, including patch points, knobs, and sliders.

The Behringer 110 module integrates three core synthesis components:

- **Voltage Controlled Oscillator (VCO):** Generates the primary audio signal with various waveforms.
- **Voltage Controlled Filter (VCF):** Shapes the timbre of the sound by attenuating or boosting specific frequencies.
- **Voltage Controlled Amplifier (VCA):** Controls the overall amplitude (volume) of the sound.

SETUP AND INSTALLATION

The Behringer 110 module is designed for seamless integration into any standard Eurorack system.

Power Connection

This module requires a Eurorack power supply. Ensure your Eurorack case provides sufficient power for all modules. Connect the ribbon cable from the module to your Eurorack power bus board, paying close attention to the correct orientation to avoid damage. The red stripe on the ribbon cable typically indicates the -12V rail.

Mounting

The module has a width of 16 HP. Carefully align the module with the rail screws in your Eurorack case and secure it using the provided screws. Do not overtighten.

Initial Connections

For basic operation, you will need to connect audio outputs to your mixer or audio interface. Control Voltage (CV) and Gate signals can be patched from other modules or a sequencer to control the VCO pitch, VCF cutoff, and VCA gain.

OPERATING INSTRUCTIONS

The 110 module offers a wide range of sound design possibilities through its integrated VCO, VCF, and VCA sections.

Voltage Controlled Oscillator (VCO)

- **RANGE:** Selects the octave range of the oscillator (e.g., 16', 8', 4', 2').
- **PITCH:** Fine-tunes the oscillator's pitch.
- **PW MOD IN:** Input for Pulse Width Modulation.
- **VCO OUT:** Audio output for the VCO signal.
- **Waveform Selection:** The module typically offers Triangle, Sawtooth, and Pulse waveforms.
- **Frequency Control:** The VCO operates from less than 1 Hz to 30 kHz, allowing for both audio and LFO (low-frequency oscillation) applications.

Voltage Controlled Filter (VCF)

- **SIG IN 1/2:** Audio signal inputs for the filter.
- **CUTOFF:** Adjusts the filter's cutoff frequency (20 Hz to 20 kHz).
- **RES (Resonance):** Controls the emphasis of frequencies around the cutoff point.
- **MOD IN 1/2:** CV inputs for modulating the cutoff frequency.

Voltage Controlled Amplifier (VCA)

- **SIG IN 1/2:** Audio signal inputs for the amplifier.
- **INITIAL GAIN:** Sets the base gain level of the VCA.
- **VCA OUT (LOW/HIGH):** Audio outputs for the VCA, potentially offering different gain levels.
- **MOD IN 1/2:** CV inputs for modulating the VCA gain.

Experiment with patching different signals into the modulation inputs (MOD IN) of each section to create dynamic and

evolving sounds.

MAINTENANCE

The Behringer 110 module is designed for durability and requires minimal maintenance.

- **Cleaning:** Use a soft, dry cloth to clean the module's surface. Avoid abrasive cleaners or solvents, which can damage the finish or components.
- **Environment:** Operate the module in a clean, dry environment, away from extreme temperatures, humidity, and direct sunlight.
- **Connections:** Periodically check all patch cable connections for secure fit.

No user-serviceable parts are inside the module. Do not attempt to open or modify the module, as this will void the warranty and may cause damage.

TROUBLESHOOTING

Problem	Possible Cause	Solution
No Sound Output	Incorrect power connection; Patch cables not connected correctly; VCA gain too low.	Verify power ribbon cable orientation; Check all audio and CV patch connections; Increase VCA INITIAL GAIN.
Unstable Pitch	VCO not warmed up; Unstable CV source.	Allow module to warm up for 15-20 minutes; Ensure CV source is stable and calibrated.
Filter Not Responding	Audio not patched into VCF input; Cutoff or Resonance set incorrectly.	Ensure audio signal is connected to VCF SIG IN; Adjust CUTOFF and RES controls.

If problems persist, consult the Behringer support website or contact customer service.

SPECIFICATIONS

Feature	Detail
Model Name	110 VCO/VCF/VCA
Module Type	VCO/VCF/VCA Eurorack Module
Body Material	Metal
Connector Type	3.5 mm TS jacks (AC coupled)
Item Weight	7.5 ounces (212.6 grams)
Product Dimensions (L x W x H)	6.25 x 3.9 x 2 inches (15.88 x 9.91 x 5.08 cm)

Feature	Detail
Power Source	Eurorack (requires +/-12V)
VCO Frequency Range	Less than 1 Hz to 30 kHz (with external CV)
VCF Cutoff Frequency	20 Hz to 20 kHz

WARRANTY AND SUPPORT

For detailed warranty information and technical support, please refer to the official Behringer website or contact your authorized dealer. Keep your purchase receipt as proof of purchase for warranty claims. Behringer provides comprehensive support resources, including FAQs, software downloads, and contact information for customer service.

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