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behringer 1004 Oscillator Module Synthesizer User Guide

Quick Start Guide
OSCILLATOR MODULE 1004

Legendary 2500 Series Dual-Core VCO Module for Eurorack

Contents

Controls
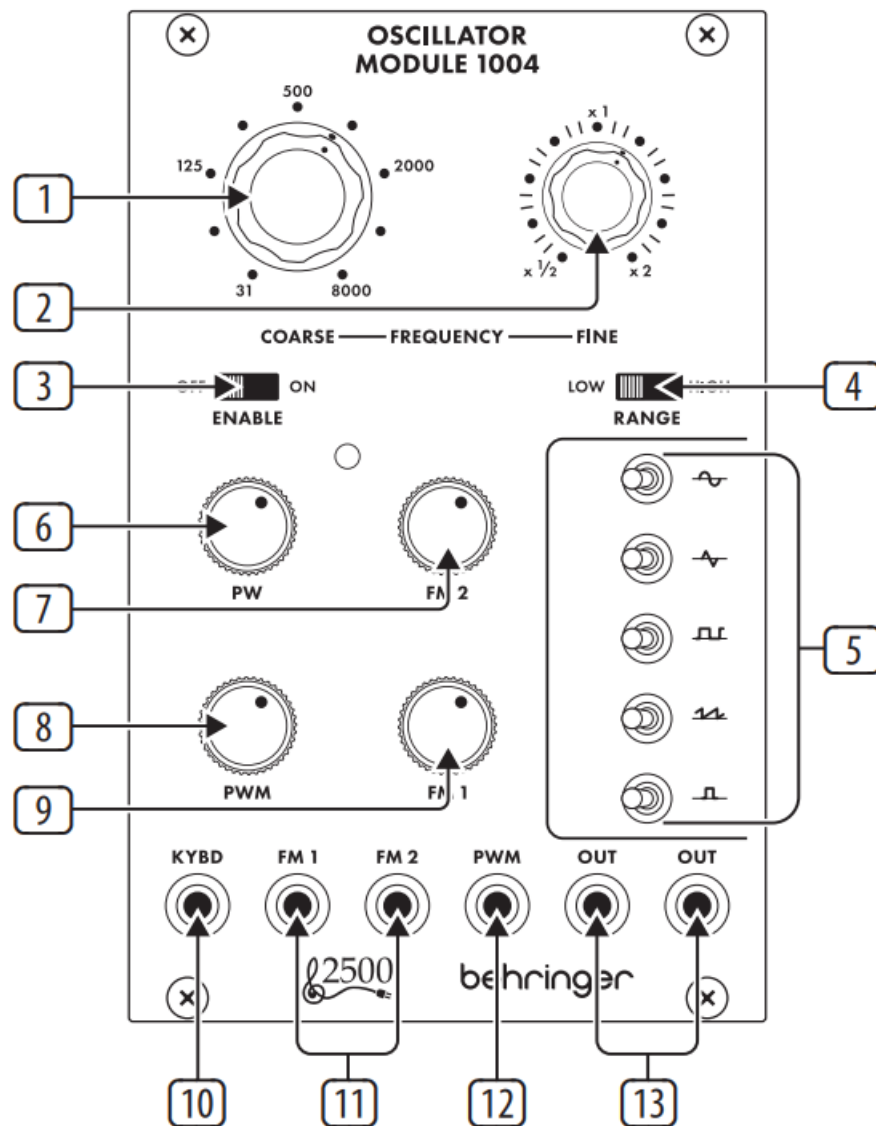
1. **COARSE FREQUENCY**

   Sets the frequency from 0.03 to 32 Hz in the low (LFO) range, or from 15.5 Hz to 16 kHz in the high (audio) range, depending on the Fine frequency knob setting.

2. **FINE FREQUENCY**

   Adjusts the frequency by a factor of ±1 octave, potentially halving or doubling the frequency at either extreme.

3. **ENABLE switch**

   Turns the oscillator on and off.

4. **RANGE switch**

   Determines whether the oscillator operates in the low (subsonic/LFO) band or the high module. The connector has a tab that will align with the socket for correct orientation.

5. **WAVEFORM switches**

   Engage up to 5 waveforms by moving the relevant toggle switch to the left, or engaging attached, you may mount the module in a case and turn on the power supply.

   the inverse waveform by moving the switch to the right.

   The center position turns the waveform off. Engaging multiple switches simultaneously produces the average of all active waveforms.

6. **PW knob**

   Manually control the pulse width for the pulse waveform.

7. **FM 2 knob**

   Attenuates the signal connected to the FM 2 input.

8. **PWM knob**

    Adjusts the modulation depth of the PMW control input.

9. **FM 1 knob**

   Attenuates the signal connected to the FM 1 input.

10. **KYBD**

    Connect a keyboard or other external frequency control via a 3.5 mm TS cable.

11. **FM 1/2**

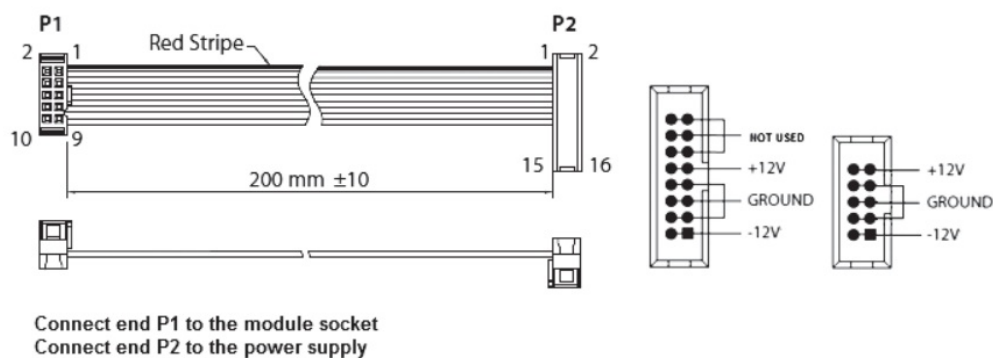   Connect external voltages to modulate the frequency.

12. **PWM**

    Connect an external voltage to modulate the pulse width.

13. **OUT**

    Send the oscillator signal to other modules via a 3.5 mm TS cable.

Power Connection

The unit comes with the required power cable for connecting to a standard Eurorack power supply system. Follow these steps to connect power to the module. It is easier to make these connections before the module has been mounted into a rack case.

1. Turn the power supply or rack case power off and disconnect the power cable.
2. Insert the 16-pin connector on the power cable into the socket on the power supply or rack case. The connector has a tab that will align with the gap in the socket, so it cannot be inserted incorrectly. If the power supply does not have a keyed socket, be sure to orient pin 1 (-12 V) with the red stripe on the cable.
3. Insert the 10-pin connector into the socket on the back of the module. The connector has a tab that will align with the socket for correct orientation.
4. After both ends of the power cable have been securely attached, you may mount the module in a case and turn on the power supply.

Installation

The necessary screws are included with the module for mounting in a Eurorack case. Connect the power cable before mounting.
Depending on the rack case, there may be a series of fixed holes spaced 2 HP apart along the length of the case, or a track that allows individual threaded plates to slide along the length of the case. The free-moving threaded plates allow precise positioning of the module, but each plate should be positioned in approximate relation to the

mounting holes in your module before attaching the screws.

Hold the module against the Eurorack rails so that each of the mounting holes is aligned with a threaded rail or threaded plate. Attach the screws partway to start, which will allow small adjustments to the positioning while you get them all aligned. After the final position has been established, tighten the screws down.

Specifications

Inputs	
FM 1/2	
Type	2 x 3.5 mm TS jacks
Impedance	50 kΩ, unbalanced
Max input level	10 V, 1 V/octave
Keyboard	
Type	3.5 mm TS jack
Impedance	50 kΩ, unbalanced
Max input level	10 V, 1 V/octave
PWM	
Type	3.5 mm TS jack
Impedance	50 kΩ, unbalanced
CV range	±10 V, 10% per volt
Outputs	
Out	
Type	2 x 3.5 mm TS jacks
Impedance	1 kΩ, unbalanced
Max output level	10 V p-p
Controls	
Coarse	Sets oscillator frequency (8-octave range)
Fine	Oscillator fine adjustment (±1 octave)
Range	Select LFO (0.06 Hz – 16 Hz) or audio band (31 Hz – 8 kHz)

Enable	Oscillator on/off
PW	Pulse width adjustment (5% – 95%)
PWM	Modulation depth adjustment (-∞ to unity gain)
FM 1/2	Attenuate FM inputs (-∞ to unity gain)
Waveform switches	Select up to 5 waveforms (sine, tri, square, saw, pulse)
Power	
Power supply	Eurorack
Current draw	60 mA (+12 V), 50 mA (-12 V)
Physical	
Dimensions	46 x 81 x 129 mm (1.8 x 3.2 x 5.1″)
Rack units	16 HP
Weight	0.17 kg (0.37 lbs)

LEGAL DISCLAIMER

LIMITED WARRANTY

For the applicable warranty terms and conditions and additional information regarding Music Tribe's Limited Warranty, please see complete details online at **musictribe.com/warranty**.

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