

MOB OF EMUS

Polyfunctional Harmonic Sextet

Thanks for purchasing Mob of Emus. This guide will get you to the point of creating some interesting patches, as well as giving you an overview of what Mob of Emus is about. But since it does a *lot* more than may be obvious from just looking at the panel, to get the most out of it, you *really* need to check out the full owners manual at:

www.rossum-electro.com/support/documentation

What is this thing?

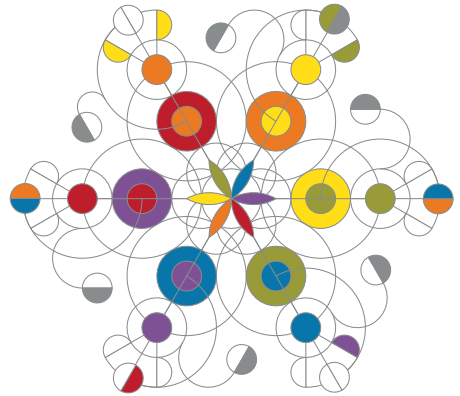
Mob of Emus is a flexible music and sound design tool that gives you six channels of oscillators, noise sources, cyclical and 1-shot modulators (including LFOs, envelopes, and various other shapes), sample and holds, slow random modulators, triggers, rhythm patterns, and quantization (of both internal and external signals) in pretty much any combination (well, any combination of six channels, anyway).

In addition to being able to independently program the function of each individual channel, Mob of Emus' Hex mode provides a macro control layer that allows you to control all of its channels simultaneously (while, in most cases, maintaining the relationships of each channel's independent programming).

What's more, Mob of Emus' "harmonic" control structure makes it extremely easy to combine its oscillators into rich additive timbres, to combine its LFOs into stacked harmonic low frequency modulation waves, and to create modulation sources and triggers with intricate polyrhythmic patterns.

With an external trigger input, six CV inputs that can operate in six different control modes, six independent outputs, and an assignable mix output, Mob of Emus can operate as the heart of an almost unlimited variety of patches.

And while Mob of Emus' interface is, by necessity, rather dense (given all it does), its eight real-time controls have been designed to give you immediate hands-on access to a channel's (or all six channels')



key parameters, inviting (and rewarding) exploration and improvisation.

Finally, Mob of Emus provides 12 preset locations to save your favorite creations.

Installation

While all Rossum Electro-Music modules are protected against reverse polarity, care should still be taken to connect the power cable correctly.

Plug the 16-pin connector into the header on the rear of the module such that the red stripe on the cable (the -12V side) is on the same end of the header as the "Red Stripe (-12V)" text on the PCB.

Mob of Emus requires a maximum of 130mA of +12V and 25mA of -12V.

We have included both M3 and M2.5 (for vector rails) mounting screws. Use what fits your system. If rack rash is of concern to you, use the included nylon washers when mounting Mob of Emus in your case.

Make some noise!

The quickest way to hear some of what Mob of Emus can do is to check out the Presets that come pre-loaded from the factory. Refer to the **Factory Presets** chapter in the manual for descriptions of what they're intended to do. Play around with them.

Then read the manual. Seriously. You'll be glad you did.

Functional Overview



- > **MULTI** In Hex Mode, control all channels. Target parameters are as labeled on the panel.
- > **FREQ** Independently control the frequency of all six channels.
- > **TRIG** Independently trigger the individual channels.
- > **GAIN** Independently control the output amplitude of individual channels.
- > **WAVE** Independently control the wave shape of individual channels.
- > **QUANT** Quantize external signals patched to the CV inputs.

Real-Time Controls

The real-time controls function in a primary mode (labeled in black) and in one or two Option modes (labeled in blue). Functions labeled in orange are active in Hex Mode only.

In individual channel mode:

FREQ/FINE/SEMI Sets a channel's frequency over a range of +/- 2 octaves.

Option 1: Fine tune.

Option 2: Constrain to semitones.

OCTAVE/2X Sets a channel's octave over a range of +/- 5 octaves.

Option 1: Doubles range to +/- 10 octaves.

WAVE/ENV/PAT Selects a channel's waveshape.

Option 1: Selects from a second bank of shapes, including envelopes.

Option 2: Selects from a third bank of shapes, including rhythm patterns.

PHASE/SYNC/1S Sets a channel's phase offset, from 0–360 degrees.

Option 1: Enables hard sync, with channel 1 as master.

Option 2: Sets a channel to 1-shot mode.

HARM#/SERIES Sets a frequency multiplier of 1 to 16.

Option 1: Sets a frequency multiplier of 17 to 32.

Here's a top-level overview of what Mob of Emus is all about. Suffice it to say that we can only hit the highlights here. You'll discover a lot more magic in the full manual.

TAP/TRIG BUTTON Repeatedly tap to set frequency. **OPTION + TAP** triggers all six channels simultaneously.

TAP/TRIG JACK Mirrors the function of the associated button or acts to trigger all six channels.

HEX BUTTON Toggle Hex Mode (LED indicates state). See back page for additional functions.

CV Inputs

Operate in one of six modes. Select the mode by double-clicking and holding **OPTION** and then clicking the desired preset button.

H.GAIN/MIX Sets channel level in dB, from -infinity to 0.

Option 1: Mix output control. Turn clockwise from noon to sum a channel into the MIX output. Turn counterclockwise from noon to remove a channel from the MIX output.

VARIATION/WARP Sets the probability that a channel will ratchet or drop a step. Turn clockwise from noon to increase the probability of a ratchet. Turn counterclockwise from noon to increase the probability of a dropped step.

QUANT/RND/DC Selects the scale that a channel's output will be quantized to.

Option 1: Add random frequency variation to a channel's output.

Option 2: Add a DC offset (+/- 12 semitones) to a channel's output.

In Hex Mode:

Unless noted, Options 1 and 2 are the same as individual mode.

FREQ/FINE/SEMI Offsets all channels' frequencies.

OCTAVE/2X Offsets all channels' octaves.

WAVE/ENV/PAT Selects all channels' waveshapes. Set 0 to enable the individual channels' waveshapes.

PHASE/SYNC/1S Offsets all channels' phase settings.

Option 1: Enables hard sync for channels 2-6, with channel 1 as master.

Option 2: Sets all channels to 1-shot mode.

HARM#/SERIES Sets the number of channels playing (from 1 to 6).

Option 1: Selects a preset harmonic series, setting the frequency multipliers of all 6 oscillators simultaneously.

H.GAIN/MIX Sets "Harmonic Gain." Turning counterclockwise from max progressively attenuates the higher numbered channels until, at full counterclockwise, only channel 1 is audible.

Option 1: Mix attenuation control.

VARIATION/WARP Offsets the probability that all channels will ratchet or drop a step.

Option 1: Warps each channel's frequency in the style of a frequency shifter. Just to the right of center provides chorus-style detuning. At full CCW, all channels swarm to the frequency of channel 1.

QUANT/RND/DC Selects the scale for the Mix output quantizer. Set fully counterclockwise for no quantization.

Option 1: Adds random frequency variation to all channel's outputs.

Option 2: Add a DC offset (+/- 12 semitones) to the Mix output.

Mixed Mode

When Hex mode is enabled and one or more channels are selected, all parameter edits will affect the selected channels, not the Hex layer. However, Mob of Emus will continue to apply the Hex layer offsets and modifications, allowing you to make edits to the individual channels while hearing the Hex Mode offsets.

Channel Selectors and LEDs

The channel selector buttons are used to select channels for editing, to manually trigger individual channels, and to solo or mute individual channels (see the back page for details). The LEDs indicate the channels selected for editing as well as displaying triggers. When OPTION is held or latched, the LEDs act as a graphical output level viewer.

When editing HARM/SERIES, HARM#, OCTAVE, QUANT, SEMI, or DC, the LEDs (along with the Preset LEDs and the HEX LED) will display the current pot value as a temporary LED meter. Check the manual for details.

Outputs

Six individual channel outputs and a summed Mix output.

Preset/CV Mode Selectors

Load or save one of 12 presets. Double-click and hold OPTION and click to select the CV Input Mode.

Secret Decoder Rings

For quick reference, here are guides to Mob of Emus' various button functions. You might want to keep this near your system until they become second nature to you.

HEX BUTTON

Click: Toggle Hex Mode

Double-click: Select/deselect all harmonics

Click and hold: Toggle Output Viewer

Click while an Option Mode is momentarily selected: Latch Option Mode

Click while an Option Mode is latched: Unlatch Option Mode

CHANNEL SELECTOR BUTTONS

Click: Select for programming. Deselect if already selected

Double-click: Solo. Unsolo and deselect if already soloed

Triple-click: Mute. Unmute if already muted

Click and hold: Select, and deselect any others

Double-click and hold: Solo, and unsolo any others

Triple-click and hold: Mute, and unmute any others

Hold OPTION and click: Trigger the channel

TAP BUTTON

Click repeatedly: Define frequency (i.e., like Tap Tempo)

Hold OPTION and click: Trigger all 6 channels

Hold for at least 1 second and click OPTION: Toggle TAP/TRIG jack mode

PRESET BUTTONS

Click: Load or deselect (if selected) preset 1–6.

Double-click: Load or deselect (if selected) preset 7–12.

Click and hold for at least 3 seconds: Save to preset 1–6

Double-click and hold for at least 3 seconds: Save to preset 7–12

Double-click and hold OPTION for 1 second (LEDs will chase) and click a button: Select CV input mode.

OPTION BUTTON (cross reference)

Click and hold: Momentarily engage Option Mode 1

Double-Click and hold: Momentarily engage Option Mode 2

Click and hold + HEX: Latch Option Mode 1

Double-Click and hold + HEX: Latch Option Mode 2

Click and hold: Clear latched mode

Click while an Option Mode is latched: Cycle through Option Modes

Click and hold + TAP: Trigger all channels

Click and hold + Channel 1–6: Trigger individual channel

Double-Click and hold for 1 second + Preset 1–6: Set CV Input mode

Double-Click and hold: Display Output Viewer (while held)

Hold TAP for 1 second and click: Toggle TAP/TRIG jack mode

Software Update

In the event that there is a software update made available via our website, you can update Mob of Emus' software as follows:

- 1 Patch your audio file player into the 6/FREQ CV input.
- 2 Hold the **HEX** button and the **Channel 5** button as you power up your system. The **Channel 1** and **Presets 1–3** LEDs will be lit, and the **HEX** LED will be off.
- 3 Press the **OPTION** button to proceed:
- 4 Play the audio file containing the Mob of Emus software. The **Presets 1–3** LEDs will show the input audio signal VU: **P1** is too low. **P1** and **P2** is better. All three is best. Once a file sync marker is detected the **Channel 2** LED will light and the remaining channel LEDs will light in sequence to show load progress. If a successful load occurs, all 6 LEDs will be lit.
- 5 Press the **OPTION** button to reboot using the new software.

If an error occurs, all Channel LEDs will go off, the **HEX** LED will light, and the **P4–P6** LEDs indicate the type of error. Press the **OPTION** button to try again. If it still isn't successful, get in touch and we'll work it out.

Utilities

Mob of Emus offers a number of utility and diagnostic functions, as well as the ability to save and reload presets to and from audio files. Check out the manual for details.

