OCTOPULSE

MANUAL + USER GUIDE

Octopulse
Obligatory Legal Stuff

Thank you for purchasing this creative Max for Live MIDI effect!

Octopulse
Change Log

v1.6

• Added Live 12 Scale Awareness support

• Updated GUI

v1.5

• A new Multiplier Mode (X Mode) which provides the ability to specify whether randomized Pulse multipliers can result in any integer (All), odd integers only (Odd), or even integers only (Even); with a global base rate of 16n, Odd will produce more syncopated and compelling rhythms, but if you're using 32n or 64n, using Even ensures resulting randomized rhythms remain coherent even at higher levels of complexity

• A new Advanced toggle (with the same gear icon as Pattern Engine) provides access to a second layer of individual options for all eight Pulses, including:

  • Cycle Offset delay for each Pulse configured via Base Rate, Multiplier, and optional additional millisecond delay; in addition to allowing for highly dynamic and flexibl rhythmic programming, this finally addresses the issue of all Pulses starting together on the same downbeat.

  • Independent Reset cycle in bars for each Pulse, allowing for far more intricate and useful programming of multi-layered polymetric patterns each with their own cycle length in bars

  • Separate X Mode (All, Odd, or Even) setting for each Pulse

  • The ability to Lock: Play (chance of playback), Time (base rate, multiplier, and note length), Note (base pitch and octave randomization), Velocity (base velocity and randomization), and Reset (bar cycle reset) for each Pulse, ensuring any locked settings ignore global randomization and control, instead remaining at your manually specified per-Pulse values

• Optional 32n, 16n, and 8n Swing at the output stage

• Force legato output option when any of the three Monophonic (non-Poly) output modes are selected

• Bug fixes, performance optimizations, and numerous GUI improvements for clarity and ease of use
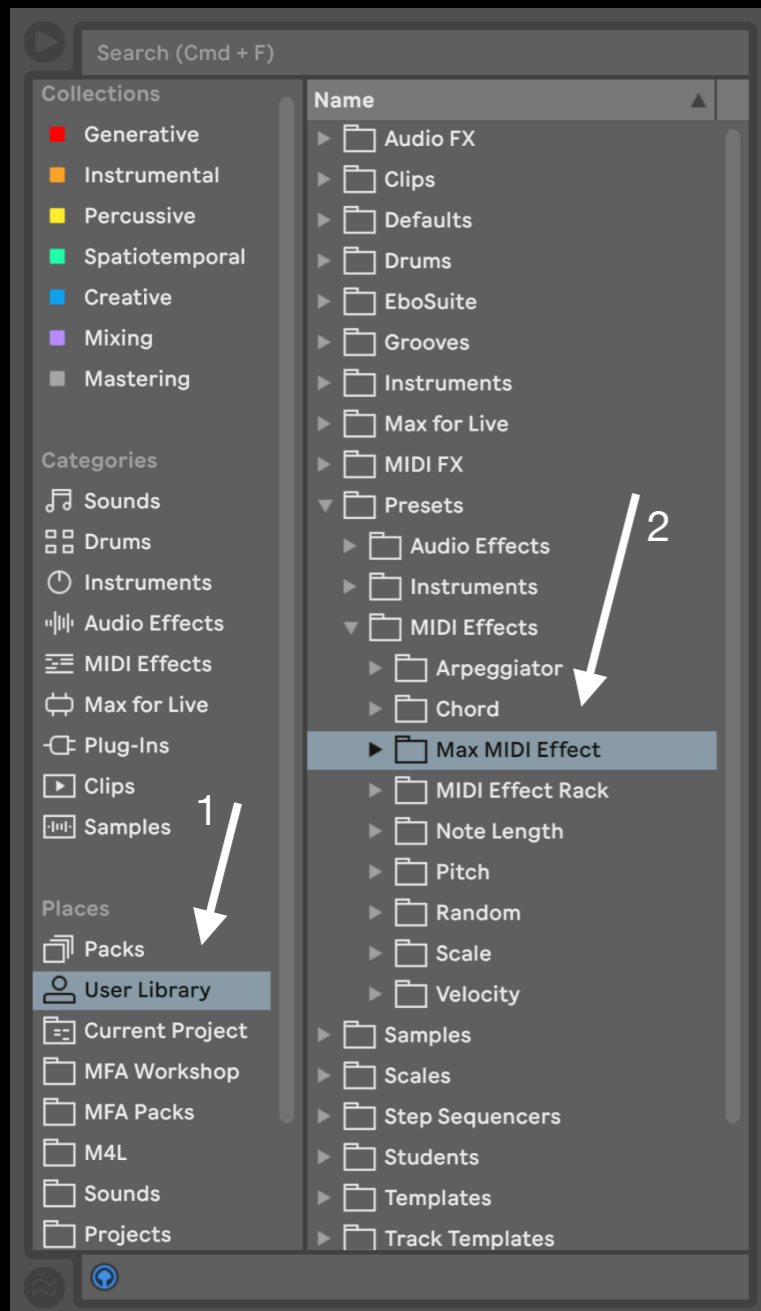
Octopulse

Important Info

Octopulse is a MIDI effect, which means it *cannot* be used on audio tracks, and *must* be placed *before* instruments.

The device requires Live Suite with Max for Live installed; we strongly recommend Live 10.1.x or higher with Max 8.1.x or higher.

Octopulse
Installation Instructions

To install Octopulse, first double-click to decompress the ZIP archive it arrived in. Presumably you've already done this, because you're reading the manual, also included in said ZIP — good job!

From Finder (Mac) or Explorer (Windows), drag the entire MFA Octopulse folder, including the Presets folder, which contains the Max MIDI Effect folder and all .adv preset files, to the User Library in the Places section of Live's Browser (Arrow 1 pictured left). This will copy the required files to your User Library. We recommend dragging it to the Max MIDI Effect subfolder of the User Library MIDI Effects folder (Arrow 2 pictured left). Once installed, we might humbly suggest adding it to an appropriate Browser Collection, if applicable.

*If Octopulse presets do not load correctly, please copy the included "MFA Octopulse.amxd" file to **both** of the following folders:*

· User Library → Presets → MIDI Effects → Max MIDI Effects
· User Library → Presets → MIDI Effects → Max MIDI Effects → Imported

Presets that begin with OPD are designed for drums or percussion; presets designated OPA are arpeggiators that must be triggered by incoming MIDI to sound; all other OP presets run freely. All presets have scale and key pinned locally, so switch them to global mode to receive Live 12 or Global Hub settings.

Octopulse

Device Overview

Did you know the otherworldly octopus has a uniquely distributed neural system? Its central brain is accompanied by networked brains in each of its eight arms — nine brains in total.

Inspired by this unique lifeform, Octopulse combines eight individually controllable pulse generators with global controls to manipulate them in unison while retaining distinct characteristics, directions, and behaviours.

Each pulse arm is set to a particular MIDI note and driven by its own clock, defined by a base musical rate and multiplier system, along with controllable length. Octave and velocity can both be automated and randomized, along with the chance given pulses will be triggered.

Any pulse arm can also be activated or deactivated to gradually build up unique melodies and rhythms — along with unique global activation inversion to produce alternating pattern options.

All outgoing MIDI notes are quantized to the selected scale and key, and can be transposed via incoming MIDI clips or real-time input for uniquely interactive musical results, in polyphonic or three monophonic modes, with additive transposition available for automation on top.

Note values, base rates, and rate multipliers for all arms can be randomized within constrainable ranges. These can all be randomized at once using the global dice to instantly produce a unique starting point, but for added control, you can lock a parameter to exempt it from global randomization.

Velocity, duration, and multiplier can be controlled for all steps simultaneously, as well as pulse trigger chance, octave. and velocity randomization — as well as hold probability, for classic acidic monophonic glides.

Finally, a reset interval in bars constrains otherwise endlessly sprawling polymetric playback into more predictable patterns, while a base offset and multiplier can stagger the entire rhythmic pattern off beat as needed — on a global basis, or per-pulse in advanced mode. Four playback modes allow it to interact with other MIDI elements in a project — or be used as an unconventional, retriggering arpeggiator.

Whether generating unique drum patterns or expansive melodic patterns, Octopulse is biomimicry in action. We hope it inspires you as much as the clever octopus inspired it.

Octopulse

Visual Guide

1 · These are the **Global Seed** controls.

Chances controls the play probability value of all eight pulse arms. Velocity percentage controls the chance of velocity randomization for all eight pulse arms, while the three sliders below control minimum, maximum, and base velocity values for all pulse arms.

Ocatves governs octave randomization for all pulse arms, Lengths mutliplies the triggered note length values for all pulse arms, and Hold randomizes sustain of all outgoing pulses. The fills section allows you to enable Euclidean mode for all pulses, and adjust their step fill counts as a percentage.

Reset restarts the entire pulse sequence at an interval measured in bars, with the default of zero never resetting. To the right of this is the global step division for simultaneous polyrhythmic adjustments. The entire pulse pattern can be delayed with a base rate and multiplier; multiplied by zero there will be no output delay.

2 · At upper left, toggle between the default melodic Notes mode, or switch to Drums to instantly arrange the pulses chromatically starting from C1, where most Drum Racks begin, and switch the output scale to chromatic. The chooser at left switches between Free running playback, Gate mode to only play when incoming MIDI notes are held, Side to play only between incoming MIDI notes, and Arp to only play with incoming MIDI notes and also restart the pattern from zero with each note on.

Clicking the large dice up top will randomize Notes, Rates, and rate Multis for all pulses, according to their ranges and constraints. Below this are three global controls: click the revert arrow to reset all pulses to default settings; click the opposite sideways arrows to invert Pulse activations; click the up/down arrows to activate all inactive Pulses, then activate and deactivate all Pulses together. Click the gear toggle to access advance Pulse Arm settings.

3 · These are the **Global Random** controls. To exempt Notes, Rates, or Multis from global Dice randomization, enable the lock toggle; to reset them to default, click the revert arrow; to randomize each one independently, click its dedicated dice button.

Notes and Multis both offer range constraints along with a probability slider. Rates, on the other hand, simply has a global rate control to set the base rate of all steps instantly, along with a probability slider. In the default Global mode, the G/I toggle will randomize one rate for all pulses simultaneously; toggle this to I to randomize a different base rate for each individual Pulse.

With the global multiplier at 1, all pulse multipliers play as shown, but increased to 2, for example, a pulse multiplier of 3 would play every 6 beats instead, 5 would play every 10, etc. Below that is an option to randomize multipliers to all integers, odd integers only, or only even integers, for a variety of rhythmic outcomes.

Please note the sliders described above will all override individual Pulse slider settings.

4 · Here we find our eight **Pulse Arms.** See the next pages for details on individual Pulse parameters.

5 · These are the **Global Output** controls. In default Receive mode, Octopulse is transposed by incoming MIDI input. The choosers below allow selection of the scale and key to which all outgoing notes will conform.

Default Poly mode allows multiple notes output simultaneously but if you wish only one at a time, experiment with the three mono options here. The global transposition slider is available for automation and MIDI control.

If you wish Octopulse to store the selected scale and key and/or ignore Live 12 or an instance of Global Hub, toggle the Global button to pin these settings locally. At the bottom is the real-time note and velocity output display; click here to flush stuck notes.

When a swing interval is selected, the slider to the right of the swing chooser is enabled to specify the swing amount.

Octopulse

1	Play	Octave	Velocity
	100 %	0 %	0 %
S	C3	0	100
16n ▼		2	127
3	1.0	-2	1

← Here we have an example of one of Octopulse's eight individual **Pulse arms.**

The number box at upper left toggles the Pulse off or on.

Below this, in the Play column, we have a trigger probability slider which governs the likelihood the Pulse will playback each trigger interval, the MIDI note that will be triggered, a solo toggle. Solo toggles are only available for currently active Pulses.

Next in this column are the timing settings, starting with the base metrical rate. Below and to the left of the rate, we have the rate cycle multiplier: with a rate of 16n and a multiplier of 3, this Pulse will be triggered every third 16th note. Below and to the right of that is the note length duration multiplier, which factors the currently selected base rate to determine triggered note lengths.

Below the Octave header we have a probability slider to control the chance of the Pulse octave being randomized. Below this we have a base octave slider, followed by maximum and minimum randomization range constraints. Octave parameters have a lighter grey background to help visually differentiate them; this same lighter grey is found in the global octave randomization slider.

Finally, on the right, in the Velocity column we have a chance slider to induce Pulse Velocity randomization, a base default velocity anchor value, and then maximum and minimum randomization range constraints.

In this example, we have Pulse 3 with 81% chance of playback at a pitch of D3. →

With Solo engaged, all other Pulses are muted. The rate is set to 6 x 32nd, with a duration of 0.7 of a 32nd. There's a 23% chance the Pulse octave will be randomized, within a slightly higher range skewed upward by a -1 minimum and a maximum of 3 above the default octave range. Velocity will be randomized 64% of the time between 13 and 123 with a default base value of 81.

3	Play	Octave	Velocity
	81 %	23 %	64 %
S	D3	0	81
32nd ▼		3	123
6	0.7	-1	13

Octopulse

MANIFEST AUDIO

Clicking the Gear icon toggles into Octopulse's advanced Pulse Arm settings.

Each Pulse Arm retains its Mute and Solo toggles, with a number of additional settings available.

Timing-wise, these include per-pulse multiplier modes to specify all, odd, or even integer results on a per-pulse basis, per-pulse cycle reset in bars to create dynamic, multi-layered rhythms, and a per-pulse offset determined by the usual base rate and multiplier combination, with an optional millisecond offset in addition to this.

Finally, each Pulse has five locks to exempt various settings from global device control and randomization: the Reset interval in bars, the chance of Play, Time including base rate, multiplier, and note length, Note pitch, and Velocity.

Octopulse
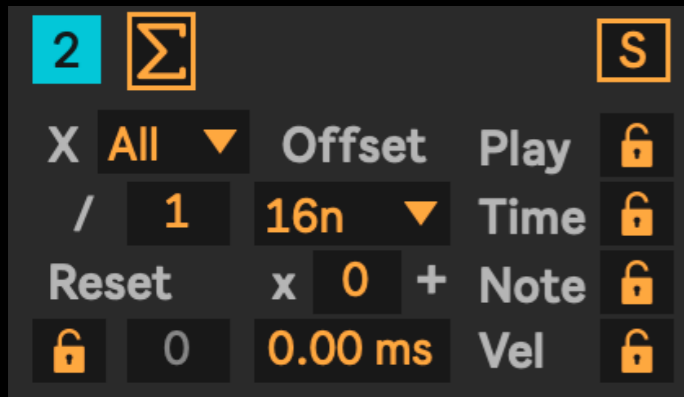
← Here we have an example of one of Octopulse's eight individual **Pulse arms** in advanced mode.

The number box at upper left toggles the Pulse off or on. The Solo toggle is located across and to the right.

X-Mode allows you to set whether a pulse will be randomized to all multiplier values, only odd multiplier values, or only even multiplier values.

Below this is the per-pulse bar Reset interval, which is only meaningfully activated when locked, lest it be overridden by the global Reset interval.

An individual per-pulse offset is defined by a base rate chooser and multiplier; a multiplier of zero means there will be no offset delay. These are combined with an additional offset in milliseconds for off-grid control.

At right we find the four locks: Play chance, Time settings, Note pitch, and Velocity.

In this example, we have the advanced settings of Pulse 4. →

It's set to receive and produce only odd-numbered multiples, generally resulting in more staggered, syncopated rhythms — especially given that the multiplied base rate will be divided by 3.

The Euclidean pattern is enabled, with 9 of 15 steps at the current rate filled, offset by 2 steps and played in reverse order. This individual pulse cycle will reset every two bars, with an offset of 3 1/16th notes plus an additional 11.1 milliseconds. Timing settings and Note pitch are locked and will therefore ignore any global control or randomizations.

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In this example, Octopulse is set to Gate mode, so playback will pause when it is not receiving a MIDI note. However, with Internal mode enabled, it will ignore the pitch of incoming MIDI notes for transposition purposes. The entire cycle is set to reset every 4 bars. Pulses 6 and 7 are deactivated.

Global play chance is set to 81%, but Pulse 2 will always play at 100% while Pulse 8 will play less often at 49%. Octaves will be randomized 21% of the time, with Pulses 1 and 8 choosing from lower values and Pulse 3 from higher ones due to their ranges. Velocities will be randomized 33% between 9 and 111, except for Pulses 1 and 4 which will both randomize less often, at 23%, in a higher range — from 64 to 127. Note hold sustain will be randomized 18% of the time.

When the dice are clicked, note pitches will be randomized by 64% within the standard deviation of 2 octaves, between C2 and C4. Global Rate is set to 32n with a random amount of 23% — but is locked and therefore ignores randomization when dice are clicked. Global Multis will be randomized by 42% within a range of 3 to 18 to Even values only.

Each Pulse arm currently has the same base rate of 32n but each has a different multiplier, except for the two deactivated Pulse arms: 6 and 7. This will result in a dynamic, multi-layered, polymetric rhythm. All outgoing notes will be transposed 12 semitones down and conform to an F Hungarian scale. The scale and key are pinned locally and will be saved with the device. Using Last mono mode, only one note will be output at a time, with the last played note taking precedence. 1/16th notes will be swung by 33% at output.

Octopulse   FAQ

Output keeps transposing when I play MIDI notes - how can I stop this?

Disarm record input for the MIDI track containing Octopulse, or toggle from Receive to Internal mode.

Note output seems transposed lower or higher than it should be — how do I reset it?

If Octopulse was receiving MIDI notes to transpose in Receive mode and then stopped receiving, it may be "stuck" on the last received note; to fix this, toggle the Receive mode button to Internal — and back to Receive, should you wish — to reset the internal note setting. Alternatively, you could feed it the note C3 in Receive mode.

Certain parameters do not randomize when I click the dice — why?

If a parameter's lock is engaged, it will not be randomized; toggle locks off individually, or click the key symbol button to unlock all parameters simultaneously. Locked parameters remain available for manual control.

How do I prevent certain parameters from randomizing when I click the dice?

For parameters that you do not wish to randomize, enable their lock toggle. Locked parameters remain available for manual control.

I don't want Octopulse to conform to Live 12 or Global Hub's scale and key — is this possible?

Any device that can be impacted by Global Hub has a Global toggle; click this to pin the scale and key to Local Octopulse settings. Toggling from Local back to Global mode will automatically force the device to inherit Live 12 or Global Hub settings.

Octopulse scale and key are not saved with my Live set or presets — what's wrong?

For device scale and key to be stored locally with a set without an instance of Global Hub, or with a preset, the scale and key Global mode must be toggled to pin the scale and key to Local Octopulse settings first. Toggling from Local back to Global mode will automatically force the device to inherit Global Hub settings.

MIDI notes are getting stuck for some reason — what should I do?

The MIDI note output display in the lower right of the Octopulse GUI doubles as a MIDI flush button — in the rare case of emergency, just click there to flush any stuck notes.

Octopulse looks small — how do I make it bigger?

In the Look/Feel tab of Live's Preferences pane, simply increase the Zoom Display percentage slider to 125% or 150%.

I'm getting glitches and drop-outs in Live — how can I avoid this?

In the Audio tab of Live's Preferences pane, increase the Buffer Size to at least 256 samples; we recommend 512.

I'm getting errors attempting to load the included .adv presets — how can I fix this?

For the Presets to work, you must copy the included "MFA Octopulse.amxd" file to both locations: 1. *User Library → Presets → MIDI Effects → Max MIDI Effects*; and 2. *User Library → Presets → MIDI Effects → Max MIDI Effects → Imported*

Thank you for supporting us by purchasing this device — we hope it inspires your creativity!

For more information, video tutorials, and other devices, please visit us online at: **manifest.audio**

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