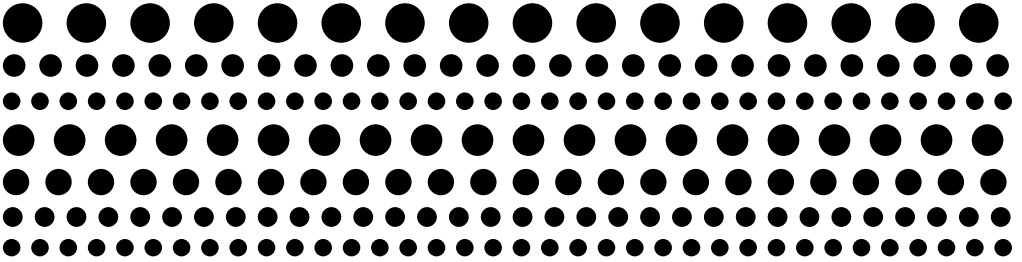
Making Sound Machines

Stolperbeats



Stolperbeats

Stolperbeats, roughly translating to "beats tripping over themselves", is a drum trigger sequencer designed to create shuffled beats influenced by the gritty, captivating push-and-pull grooves from the golden age of Hiphop.

We have always been fascinated with taking our beats offgrid to give them more fluidity and life. This module allows you to effortlessly switch between the shuffle and groove you had to nudge together in a DAW; until now!

Installation

Stolperbeats requires a -12V / +12V Eurorack power supply. Connect the 2x5 boxed pin header marked Power on the back of Stolperbeats to the bus board of your Eurorack case using the included ribbon cable.

The red stripe on the ribbon cable needs to match the Red Stripe mark on both Stolperbeats and bus board. The Expander is passive. Do not connect it to Power.

The Power consumption is: +12V 280 mA / -12V 13 mA

Thank you

Stijn and Priscilla Haring-Kuipers of TiNRS This is Not Rocket Science, Lauri Koponen of Vaski Embedded, Jan Hennig – Kabuki, Ben Wilson – DivKid, Konstantine.

Thank you for your time, enthusiasm and care, sharing insights and advice and for being there from the start.

Find an expanded online version of this manual under **makingsoundmachines.com/stolperbeats/manual/**

Press Play ▶

Press the Tempo Encoder to start / stop the sequence. With a clock at Sync In, Stolperbeats latches onto its ticks.

Rotate the Tempo Encoder to set a tempo from 30 to 300 bpm in increments of one. Nudge it to display the tempo. A clock at Sync In wins over the encoder.

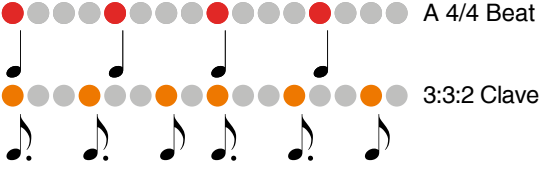
Select Pattern

Rotate the Instrument Encoders to select a Pattern for each track: Kick, Snare, Hihat 1+2, Perc 1+2. There are 24 Patterns per Bank. Click to Mute.

Stolperbeats displays the patterns it currently plays in a familiar 16-step grid format on its LED matrix.

Kick	4 lines	x 16 steps	= 64 steps	4 bars
Snare	4 lines	x 16 steps	= 64 steps	4 bars
Hihat 1	1 line	x 16 steps	= 16 steps	1 bar
Hihat 2	1 line	x 16 steps	= 16 steps	1 bar
Perc 1	1 line	x 16 steps	= 16 steps	1 bar
Perc 2	1 line	x 16 steps	= 16 steps	1 bar

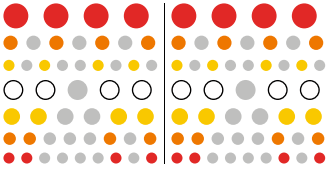
Imagine each step representing a 16th note in a 4/4 bar, before a Shuffle, Timing and Feeling are applied.



Select Shuffle

Rotate the Shuffle Encoder to select one of 7 Shuffles from the left hand matrix. The further down the matrix, the more pronounced the amount of Shuffle becomes.

The Shuffle Display is a visual approximation of how 8 steps are distributed in time. Let's look at 2x4 steps. The number of subdivisions changes per line, depending on the shuffle, but the actual steps are always 8:



4 Unshuffled rhythm
7 Last step is rushed
9 A gap in the middle
5 A gap in the middle
6 A gap in the middle
8 Rush at start + end
9 Rush at start + end

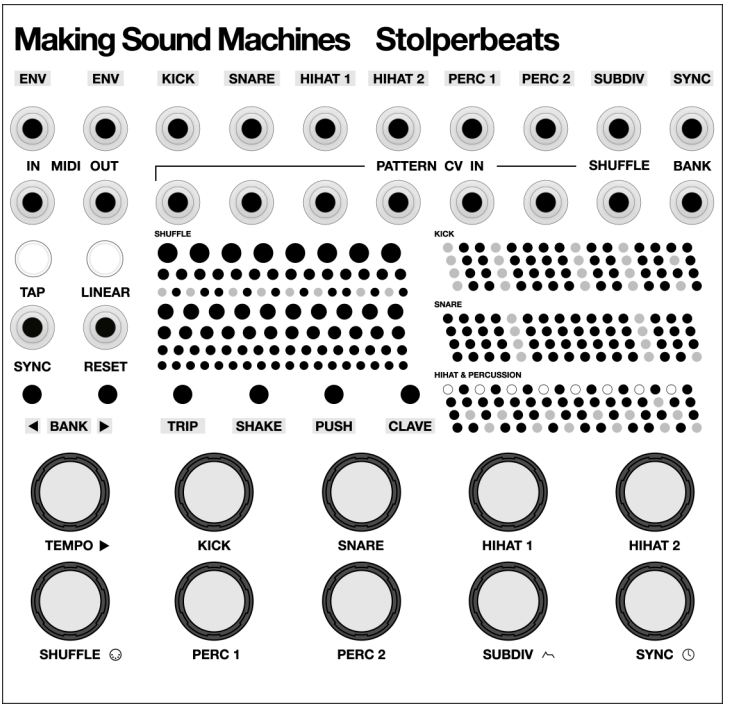
Timing and Feeling

Press the Trip, Shake, Push and Clave Buttons to select a Timing. This has a profound impact on the Shuffle:

Trip	N-Tuplet grooves tripping over themselves
Shake	The Golden Age of Hip Hop 8th note swing
Push	Gently makes time for the 4/4 downbeats
Clave	3:3:2 stay fixed, the rest swings around that

Press again to cycle through four Feelings, indicated by the backlit colour, to apply subtle rhythmic variants:

Tight	All Instruments Shuffle together in tandem
Rolls	Hihat 2 is substituted with a trigger burst
Flam	Kick and Snare get very slightly delayed
Slop	Like Flam but Hihats follow Kick and Snare



Edit Pattern

Long press + release an encoder to edit the currently active Pattern for Kick, Snare, Hihat 1+2, Perc 1+2. Rotate to change cursor position. Click to set a step.

Long press the Encoder again to exit Pattern Edit. Release while fast blinking to discard your changes, or wait and release while slow blinking to save.

Select Shuffle

Trigger Out for Kick, Snare, Hihat 1+2, Perc 1+2, at 10V. Patch to the Trigger In of Eurorack modules.

Subdiv Clock Out

Rotate the Subdiv Encoder to output a shuffled 16th note clock or a regular n-tuplet related to the Shuffle.

Use as a clock for any sequencer taking 1 tick per step. 10V triggers. Allows you to distribute a shuffled clock, or advance by a regular n-tuplet related to the Shuffle.

Sync Clock Out

Rotate the Sync Encoder to select the unswung Sync clock divider in ppqn. Click the Encoder to highlight which parameter to edit: Sync In (top) or Out (bottom).

Use as an unshuffled clock for any module that takes a straight 10V pulse clock. Also useful to create a 4/4, additional n-tuplets, or resets every 1, 2 or 4 bars.

Envelope Out

Two Tempo-synced 10V CV Outs. Long hold the Sync Encoder to enter and exit settings and select waveform, reset and scaling. Check the online manual for details.

Pattern CV In

Select a Kick, Snare, Hihat 1+2, Perc 1+2 Pattern from the active Bank using CV. Reads 0 - 5V, with jumpers that allow for a 0 - 10V Range in the back.

Shuffle + Bank CV In

Select one of 7 Shuffles from the left, and which of the active Banks is used via CV. Reads 0 - 5V, with jumpers that allow for a 0 - 10V Range in the back.

Linear + Reset In

The Linear Button toggles logic to mute steps in your Pattern. Snare wins over Kick, and both over Hihat. A trigger at Reset sets Stolperbeats back to step 1.

Tap + Sync In

Patch a clock into the Sync In and set a clock input divider using the Sync Encoder. Or tap 4/4 notes using the Tap button to set any tempo from 30 to 300 bpm.

Bank Buttons

Cycle through active Banks. There are 64 Banks à 24 Patterns, any of which can be set active (4 by default).

MIDI In + Out

MIDI Out is TRS Type A by default, as is the included DIN Adapter. For Type B, flip the switch on the back of the module. MIDI In accepts both TRS Type A and B.

Stolperbeats sends a MIDI Note per trigger on 7 tracks: Kick, Snare, Hihat 1+2, Perc 1+2 and Subdiv. You can adjust Channel, Pitch, Velocity and Duration per track.

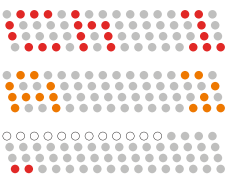
The module has two modes for editing its MIDI Output mapping. They differ in how incoming MIDI is handled:

MIDI Edit Press + release Shuffle Encoder for **2 secs**
MIDI Parameters on Matrix will blink **slowly**
MIDI In: default, see MIDI Select Pattern

MIDI Rec Press + release Shuffle Encoder for **3 secs**
MIDI Parameters on Matrix will blink **quickly**
MIDI In sets active Track's Note + Channel

Use ◂ **Bank** ▸ to select one of 32 MIDI Banks. Long press the left Bank Button to save changes to that Bank.

● **Channel** – Channels 1 – 16
● **Note** – Note and Octave
○ **Velocity** – 1 LED = 8 steps
● **Duration** – Clicky – Legato



Selected Parameter is blinking.

Nudge the Kick, Snare, Hihat 1+2, Perc 1+2 or Subdiv Encoder to display the Track's MIDI Out Parameters. Click to select, rotate to change the blinking Parameter.

Exit Menu Press + release Shuffle Encoder for **2 secs**

MIDI Clock

Stolperbeats sends and receives 24 ppqn MIDI Clock. Press Play to send MIDI Play or Stop messages. Use this to sync with Sequencers or to record into a DAW.

MIDI Select Pattern

The module can receive MIDI Notes on fixed Channels to cycle through the 24 Patterns in the active Bank, toggle Subdiv and select Shuffle, Timing and Feeling:

Ch 1	**Kick**	Notes	0 – 127	cycle	24	Patterns
Ch 2	**Snare**	Notes	0 – 127	cycle	24	Patterns
Ch 3	**Hihat 1**	Notes	0 – 127	cycle	24	Patterns
Ch 4	**Hihat 2**	Notes	0 – 127	cycle	24	Patterns
Ch 5	**Perc 1**	Notes	0 – 127	cycle	24	Patterns
Ch 6	**Perc 2**	Notes	0 – 127	cycle	24	Patterns
Ch 7	**Subdiv**	Alternates shuffled 16th and n-tuplet				
Ch 8	**Shuffle**	Notes	0 – 127	cycle	7	Shuffles
Ch 9	**Feeling**	Notes	0 – 127	cycle	4	Feelings
	+Timing	Every	4 Notes	cycle	4	Timings

Expander

Connect the Expander to the 2x8 pin header marked Expander on the back of the module, with the supplied ribbon cable. The red stripe on the ribbon cable must match the Red Stripe marking on both boards. The Expander is passive – do not connect it to Power.

The Expander allows you to toggle Linear, and Mute for Kick, Snare, Hihat 1+2, Perc 1+2 and Subdiv. Use with euclidean or random triggers for rhythmic variation.

Edit Pattern Banks

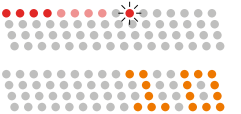
There are 64 Banks à 24 Patterns, any of which can be:
active – can be accessed by pressing ◂ **Bank** ▸
inactive – is skipped when pressing ◂ **Bank** ▸

You might want to program on one set of Banks, but perform with another set; or want to use the Banks creatively by having variations of the same Patterns in the same slots, so you can toggle them similar to the A, B and Fill Patterns on classic drum machines.

You can also choose to load an empty Bank if you want to start programming beats from an entirely blank slate.

Enter Bank Edit Press + release ◂ **Bank** ▸ for **2 secs**

Active Bank
Inactive Bank holds Pattern
Inactive Bank empty Bank
Selected Bank



The Bank selected to be set active / inactive is blinking.
Rotate **Kick** Encoder to select, click to set active / inactive.

Exit Bank Edit Press + release ◂ **Bank** ▸ for **2 secs**

SD Card

The SD card stores Stolperbeats' Pattern Data, Settings and MIDI Banks. It is a Class 10 FAT32 formatted card. Data is generally written once you stop the sequencer.

You should never have to remove it unless you want to backup data. Without an SD Card, Stolperbeats will work, but boot in default and forget settings over a power cycle.