

MIDISTEP-16

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OVERVIEW

MIDISTEP-16 is a probability-based semi-generative 16 step MIDI sequencer with pitch quantise and two tracks of 16 step MIDI CC automation.

We designed and refined MIDISTEP-16 based on feedback from performing and recording electronic musicians, focussing on the “must have” features as best we could. These include support for dual pitch per step probability, time signature, variable swing and step ratcheting, along with 27 editable scale-quantise options plus velocity and gate randomisation.

With live performance and jam sessions in mind, we have also developed a companion controller module for multi-sequencer setups called MIDISTEP-CTRL included in the MIDISTEP SEQUENCER BUNDLE.

MIDI

At the MIDI IN jack, MIDISTEP-16 requires a MIDI clock signal (96 PPQ) to function and we recommend using our MIDISYNC module, also included in the MIDISTEP SEQUENCER BUNDLE. This is also where play, stop and continue transport MIDI commands need to be sent to get MIDISTEP-16 running. Again, MIDISYNC will perform these duties as an all-in one clock and transport solution.

By default, only sequencer generated MIDI will be sent to MIDI OUT. If you want to pass through all MIDI messages (except clock) turn on the THRU toggle.

PLAY, STOP and SYNC LEDs will light when receiving play, stop and clock MIDI messages respectively.

TEMPO

The large display will show the calculated tempo rounded to the nearest BPM that MIDISTEP-16 is receiving. Note that MIDISYNC will give you a more accurate readout to 0.01 BPM. You can also halve or double the internal tempo with the selector switch below the display.

TIME SIGNATURE

Time signatures can be based on bar lengths of 1 to 32 beat counts of 1/4, 1/8 or 1/16 notes. For CV connectivity, we've added +5.0V triggers on every new beat and bar. Please note that triggers will only be sent when the sequencer is running and a note is held.

STEPS

Specify the total number of steps and note length using the COUNT (1-16) and LENGTH controls. The length of each step can be 1/16, 1/8, 1/4 note, or a whole bar.

NEW BAR RESET, when enabled will re-start the sequence to step 1 every new bar according to your TIME SIGNATURE settings.

Steps can be turned on and off by toggling the the step number button. Bright blue is on, dark blue is off. When the sequencer is running, step LEDs will light blue when a step is on, and red when a step is off.

SEQ DIR

Sequence direction can be changed via the direction switch. Settings from bottom to top are forward (→), reverse (←), forward / reverse alternating (→|←), and random (?). Note that NEW BAR RESET will still set the current step to 1 if enabled. This can help “anchor” otherwise seemingly random sequences.

SWING

SWING introduces a shuffle or swing effect by delaying odd-numbered steps. Please note that swing only affects sequences with 1/8 or 1/16 note lengths. Higher percentages produce a more noticeable effect and OFF is no swing / 50%.

PITCH A/B

MIDISTEP-16 allows you to define two different pitches per step using the A (blue) and B (yellow) sliders. These pitches, in semitones, are relative to the MIDI notes received, so for example, zero will be the note you play, +12 will be an octave above. Range is +/- 24 semitones, i.e two octaves up or down.

The PROBABILITY sliders work in tandem like a seesaw and as you increase A, B will reduce and vice versa. At the centre position there is an equal, but random probability that A or B will play on any step and when either slider is all the way up, the corresponding pitch will always play. The A and B LEDs will light to show which pitches have been randomly selected. When MOD is enabled, the A slider is MIDI-mapped to CC 1 (usually the mod wheel) so you can morph easily between the A and B pitches in realtime during a performance.

MUTE allows you to individually mute the A or B pitch for that step. This feature can be used to morph from a sparse to busy sequence for example if you have several mutes on the A steps but none on the B steps.

RATCHET

Ratcheting or step-divide repeating effect can be optionally applied to pitch A or B for all step length durations with the exception of 1 bar. Turn on the orange R toggle on a step to enable ratcheting for pitch A or B. The number of repeats is determined by the COUNT PROBABILITY sliders for A and B. With the slider all the way down, two repeats will play, all the way up, four repeats will play. When the slider is somewhere between, the result will be random but more likely to be whichever is the closest value to the slider position. Imaginative use of pitch A/B probability and different ratchet probabilities can result in very hypnotic old-Berlin-school dreamy sequences with a random tangerine flavour!

VEL / GATE

The grey (velocity) and tan (gate) sliders set the MIDI velocity (1-127) and gate duration (1-99) as a percentage of the step length. You can also add interest to a sequence by introducing an amount of velocity and gate randomisation. This can work particularly well in the case of MIDI instruments that use velocity to modulate filter cutoff - MIDIMONO for example.

VEL / EXP

The large VOL / EXP control is a performance-oriented feature that sends expression (CC 11) to the target instrument. Typically this will be a volume control, but that's entirely up to the instrument. In the case of MIDIMONO for example, CC 11 is pre-mapped to volume. Sending CC 11 to MIDISTEP-16 allows remote control of this knob via MIDI when the toggle is enabled, allowing you to fade your sequences in and out in a multi-sequence setup.

PITCH QUANTISE

When enabled with the toggle button, pitch quantisation occurs on the incoming note and generated A/B pitch notes based on a root note and one of the 27 available scales. When selecting different scales, the buttons below show the "good" notes relative to the root, i.e. I is the root, ii (lowercase) is the minor 2nd and so on. You can add or remove notes as required after a scale has been selected.

KEYBOARD

This section determines how incoming MIDI notes, typically from a controller keyboard are handled. With HOLD NOTES enabled, the sequencer will continue to play after the note is released on the keyboard. When disabled, the sequence will only play while the note is held down.

Note that in order for a sequence to play, you must send MIDISTEP-16 at least one note via MIDI and this will be used as the base note for A/B relative pitches.

With TRANSPOSE enabled, and HOLD NOTES on, the sequencer will shift / transpose notes based on the new note played on your keyboard. When TRANSPOSE is off, the sequence will continue to play based on the first note received. Please note that the TRANSPOSE setting has no effect when HOLD NOTES is disabled, i.e. the sequence will always be based on the note you play.

ADVANCE STEP (WHEN HOLD OFF) changes the way the sequencer works when the HOLD NOTES option is off. When ADVANCE STEP is on, the sequencer will continue to advance the current step while the sequencer is playing. When ADVANCE STEP is off, the sequencer will only advance to the next step when a note is being held. Tip: Note that NEW BAR RESET will override this if switched on, and reset to step 1 on each new bar, so you might want to turn that off too.

MIDI CC

MIDISTEP-16 sequences really come to life when you add some per-step MIDI CC modulation. You can target two different CC destinations (A and B) using the two knobs, then set the A/B sliders on each step accordingly and enable the A and / or B step by toggling the purple buttons.

Please note that both MIDI CC "tracks" run during the sequence, i.e. they are not related to the A/B pitch probability setting.

AND FINALLY...

We hope you find MIDISTEP-16 enjoyable and inspiring to use. And if you'd like to get more into multiple sequencer setups, please check out our bundle guide available for download at waverley-instruments.com/midistep Many thanks, -Rob & the Waverley Instruments Team