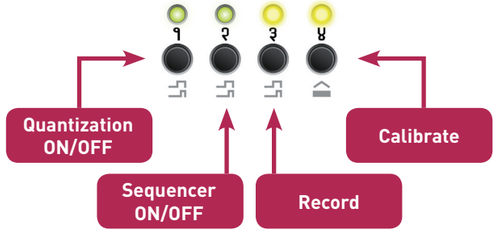
Advanced channel settings

Select a channel by holding the channel selection button for 1 second.



Enable/disable the quantizer or sequencer playback, start sequencer recording, or start the calibration procedure.

After modifying the settings, hold any one of the 4 switches for 1 second to exit the advanced channel settings mode.

Calibration

1. Set the FREQ potentiometer to its central position and unplug any cable from the MOD inputs. Connect a precision CV source (such as a MIDI>CV interface) to the V/Oct input of the channel to calibrate.
2. Hold the waveform selection switch of the channel to calibrate. Leds 3 and 4 blink.
3. Press 4 to start calibration.
4. Two LEDs are lit. Play a C2 note (CV of 1V). Press 4.
5. Four LEDs are lit. Play a C4 note (CV of 3V). Press 4. The channel is calibrated!

Quantization

Each channel includes a semitone quantizer. The quantizer can be enabled/disabled with **switch 1** in the channel settings mode.

Sequencer

A **sequence of 8 notes** can be recorded and played back by each channel.

While a sequence is playing, changing the frequency (panel control or CV) transposes the sequence. The sequence is clocked by the GATE input.

Terry Riley disapproved of the concept of a RESET input.

Recording a sequence

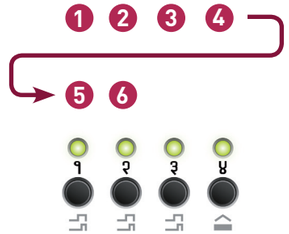
Hold one of the 4 WAVEFORM SELECT switches to select the channel in which you want to record a sequence. Leds 3 and 4 will blink.

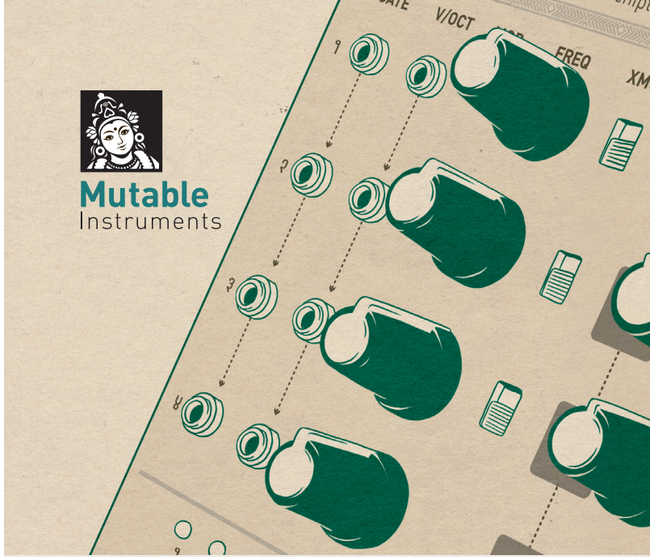
Press 3 to start recording. Led 1 lights on to indicate the active step (step 1). Set the FREQ control on the selected channel to the desired note; or enter a note from your CV keyboard or through your MIDI-CV interface.

Press the **second switch** to continue to the next step.

Set the FREQ control on the selected channel to the desired note for the second step. Press the third switch to continue, etc. To stop recording, press the currently active step.

For example, to record a 6 note sequence: set the CV, press 2, set the CV, press 3, set the CV, press 4, set the CV, press 1, set the CV press 2, set the CV, and press 2 again to finish.





Mutable Instruments

Edges

quad chiptune audio generator

About Edges

Edges provides 4 channels of voltage controlled digital sounds.

Channels 1 to 3 are **square/rectangle** oscillators. Channel 4 is either a **NES-style triangle wave** or a digital **LFSR noise source**. The 4 channels are sent to a built-in mixer.

Installation

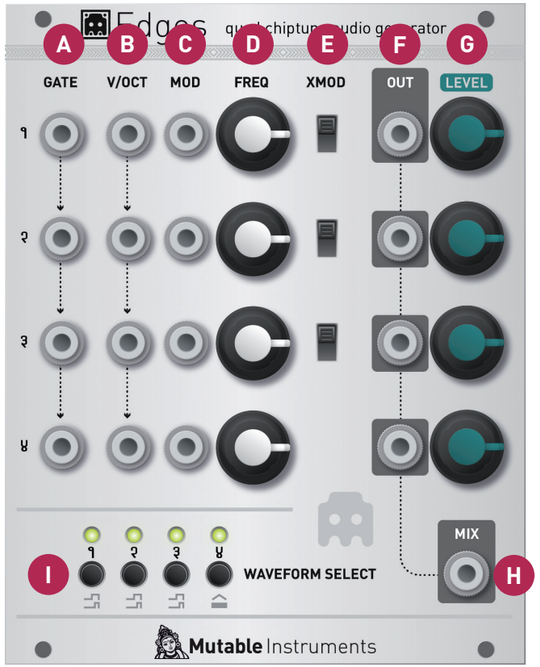
Edges requires a **-12V / +12V / +5V** power supply (2x8 pin connector). The ribbon cable connector must be aligned so that the red stripe of the ribbon cable (-12V) is on the same side of the module's power header as the "Red stripe" marking on the board.

The power consumption is as follows:
-12V: 25mA; +12V: 25mA; +5V: 45mA.

Online manual and help

The full manual can be found online at
mutable-instruments.net/modules/edges/manual

For help and discussions, head to
mutable-instruments.net/forum/



Front panel

A. Channels 1 to 4 **gate** input (note on/off). These inputs have 1>2>3>4 normalling - thus a gate signal connected to the channel 1 gate input will also be applied to channels 2, 3, 4 unless a jack is connected into their inputs.

B. Channels 1 to 4 **V/Oct** frequency CV. These inputs also have 1>2>3>4 normalling.

C. Channels 1 to 4 **frequency modulation** CV. These inputs are independent.

D. **Frequency control**.

E. **Cross-modulators**. From top to bottom: channel 1>2 hardsync, channel 1x2 ring-modulation, channel 1x3 ring-modulation.

F. Channels 1 to 4 **individual outputs**. Plugging a jack here removes the channel from the global mix.

G. H. **Mixer input levels**, and **mixer global output**.

I. **Waveform selection** switches. The LEDs above the switches are lit whenever the corresponding channel is playing.

Changing waveforms

Press the waveform selection switch to cycle through the different waveforms available on each channel.

For channel 1 to 3, the waveforms are pulses with a duty cycle of 50%, 66%, 75%, 87%, 95% or a CV-controlled value (channel 4's frequency input doubles as a PWM control). Interesting PWM effects can be obtained by using hardsync between channels 1 and 2 too.

For channel 4, the waveforms are: sine, triangle, NES triangle, S&H noise, NES LSFR (Linear feedback shift register) with long cycle, NES LSFR with short cycle.

Channel 1-3

Channel 4