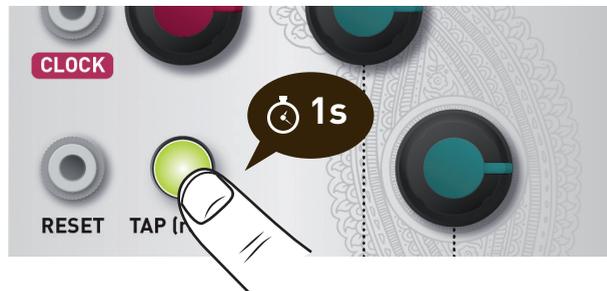## Advanced settings

Unplug all CV inputs and **hold the TAP (reset) button** for a second to adjust Grids' settings. Refer to the **diagram on the next pages** for a list of all available settings. The 3 LEDs indicate the value of the setting being modified. Hold the TAP (reset) button again for a second when you are done.

Online manual and help

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

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

Advanced settings diagram

Sequencer mode

Grids can also work as a plain euclidean sequencer.

○ ○ ○ Grids is yet another euclidean sequencer

● ● ● Grids is back to drumming duties

When euclidean sequencer mode is enabled, the MAP X / Y / CHAOS knobs have alternate functions, (STEPS 1-3) as shown in red on the panel – they control the duration (number of steps) of the sequence; while the FILL knobs control the fill rate.

Trig / Gate output

○ ○ ○ Outputs are 1 ms triggers

● ● ● Outputs are gates

Clock resolution

● ○ ○ 4ppqn

○ ● ○ 8ppqn

○ ○ ● 24ppqn

Tap button function

○ ○ ○ Tap to restart at the beginning of the sequence

● ● ● Tap to set the tempo

Outputs configuration

Grids can output either: three individual accent tracks (one per instrument); or a **global accent track**, a **clock** signal (received on the clock input or internal, whichever is used), and a **reset trigger** sent at the beginning of the pattern.

○ ○ ○ ACC 1 / ACC 2 / ACC 3

● ● ● ACC / CLK / RST
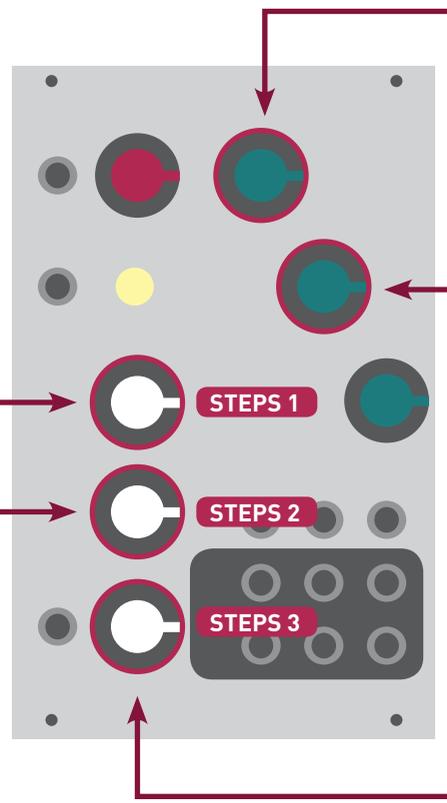
Mutable Instruments

Grids

Topographic drum sequencer

Installation

Grids 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: 1mA; +5V: 25mA.**

Concept

Grids is a 3-channel, algorithmic, rhythmic pattern generator based on data and models extracted from actual drum loops. Two steps are involved in the generation of the drum patterns:

Step 1: Synthesizing a pattern from the drum map...

A collection of drum loops has been spatially organized and compressed into a 2-dimensional map. Using interpolation techniques, any pair of X/Y coordinates can be translated into a rhythm, with smooth morphing from one rhythm into the other.

Step 2: ... and sculpting it

Once a rhythmic skeleton is read from the map, variations can be generated by controlling the note density of each of the three channels - gradually morphing the pattern from a sparse backbone to a frantic pattern.

Synthesizing

Sculpting
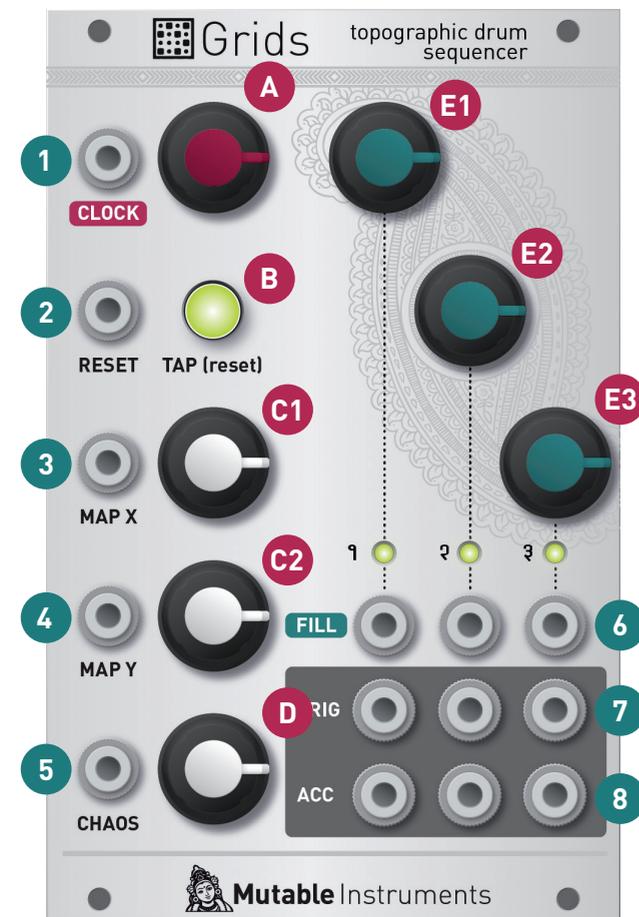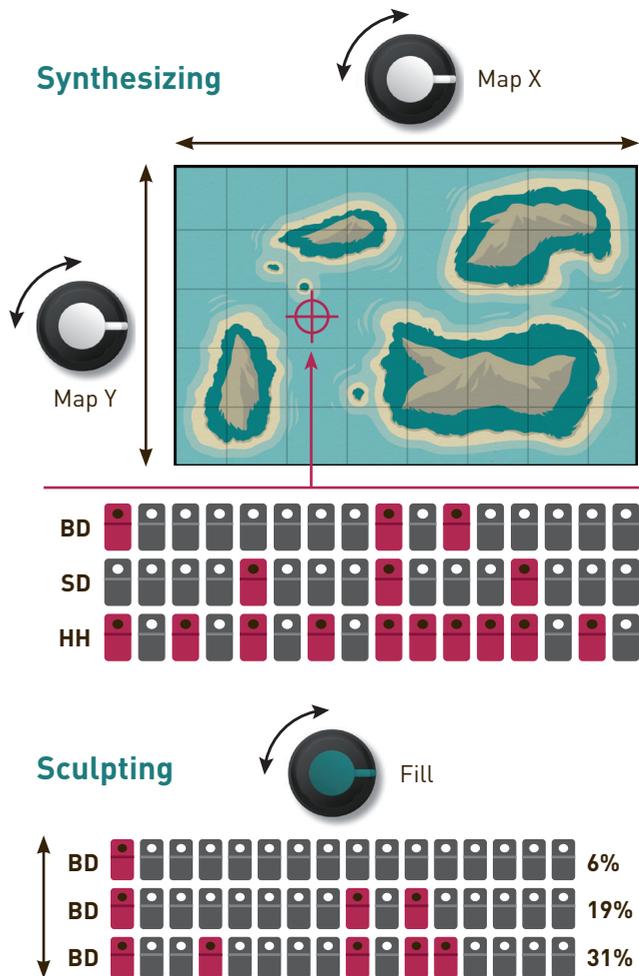
Front panel

Controls

A. Tempo, from 40 to 240 BPM. When turned fully counter-clockwise, the internal clock stops and the tempo is controlled by clock pulses received on the CLOCK input (1).

B. Tap to set the tempo. Tap just once to revert to the tempo set by A.

C1, C2. Map X and **Y** coordinates.

D. Pattern **randomness** amount.

E1, E2, E3. Note **density/fill** rate for each of the 3 channels.

Inputs and Outputs

1. External **clock** input.

2. Pattern **reset** input.

3. 4. 5. CV inputs controlling respectively the map X/Y and randomness parameters.

6. CV inputs controlling the **density/fill** rate parameters.

7. 8. Three **trigger** outputs and three **accent** outputs.