

Streams is four track sequencer. All play-heads share a common note pattern, however, playback direction, speed, loop size, octave, transposition, and output destination can be set independently. If something is unclear, please post your questions on // in the streams thread. Enjoy!

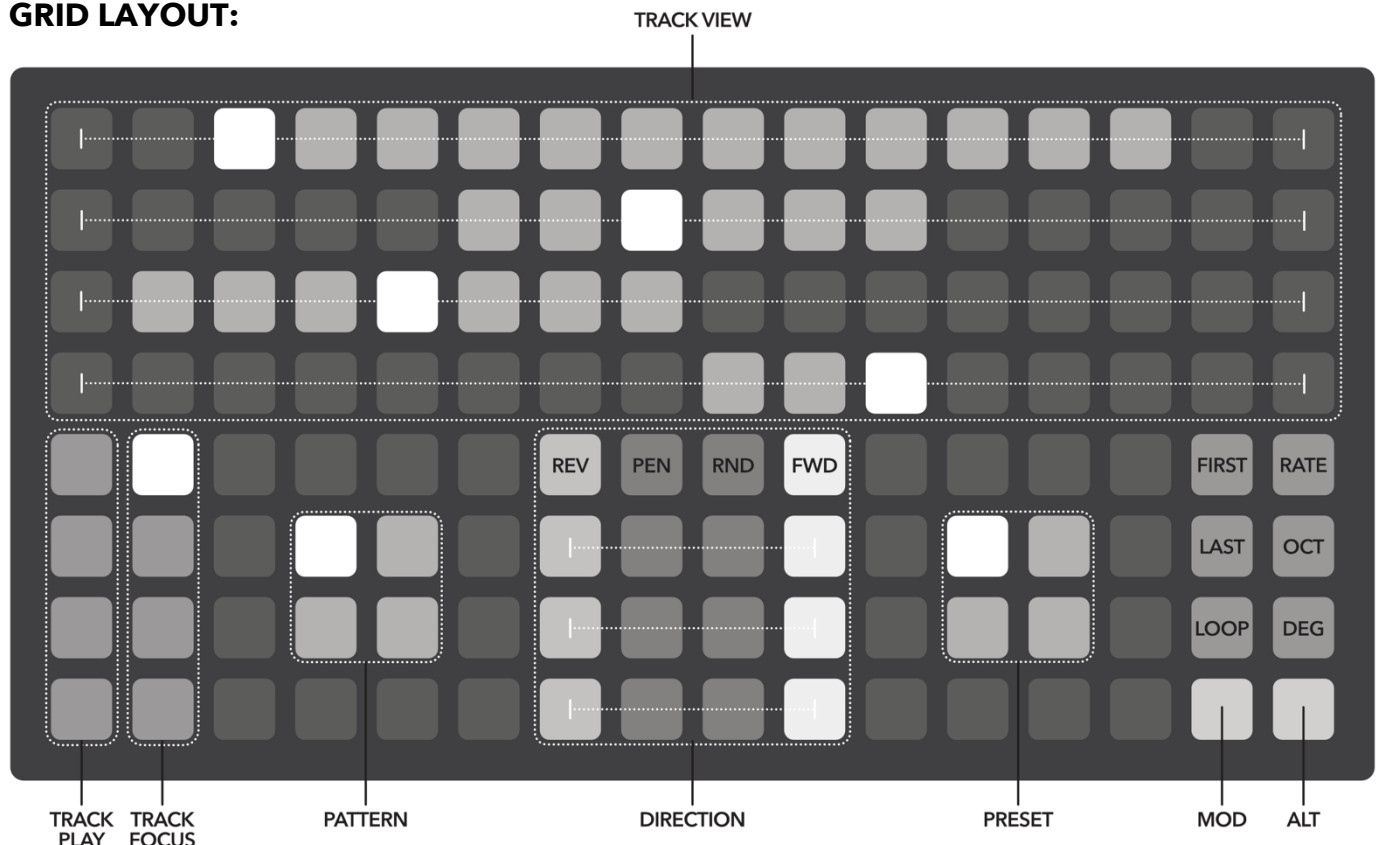
Requirements:

- ▷ Norns
- ▷ Grid
- ▷ Moonshine engine (<https://github.com/...>)

Supports:

- ▷ midi
- ▷ crow
- ▷ just friends synthesis via crow ii
- ▷ wsyn via crow ii

GRID LAYOUT:



TRACK VIEW:

The top four rows represent the four tracks. If a modifier key (**RATE**, **OCT**, **DEG**) is held the track rows will display the current settings of the corresponding parameter, otherwise the **LOOP** settings and play-head position of the tracks are displayed. A note pattern consists of 16 notes and can be modified via norms in the **SEQUENCE** page. Modify the loop of a corresponding track to define which of these notes are played.

- Press and hold **FIRST** and a key within the track row set the **start point** of a loop. Press and hold **MOD** simultaneously to make the play-head jump to the specified step.
- Press and hold **LAST** and a key within the track row to set the **end point** of a loop. Press and hold **MOD** simultaneously to make the play-head jump to the specified step.
- To shift the current loop while maintaining the loop size press and hold **LOOP** and the track position you wish the loop to start from. Press and hold **MOD** simultaneously to make the play-head jump to the specified step.

- If "quick loop set" is **on** (*global parameters > quick loop set*) the loop size and position can be set via key-combo à la mlr: press and hold a key to define the **start point** and subsequently press a second key to define the **end point**.
- If a track is not playing you can play the notes manually by pressing any of the keys within the track row. Hold **MOD** and press a key within the track row to play all non-running tracks simultaneously.
- Press any key within a track row of a playing track to jump to the according position. Please note that due to how the sequencer is implemented the voice will be triggered at the next step and not at key-press.

TRACK PLAY:

- Press a key to toggle playback of the corresponding track.
- Hold **ALT** and press a key to change the state of all tracks to the state of the pressed key. *Example:* If tracks 1, 2 and 3 are playing and **ALT + TRACK 3 PLAY** is pressed, all tracks will stop. Or, if only track 4 is playing and **ALT + TRACK 1 PLAY** is pressed, all tracks will start.
- Track transport responds to midi start and stop messages by default. The response to start messages can be turned on/off for individual tracks (*parameters > track*).

TRACK FOCUS:

- Press a key to select which track focused. The **track** and **sound** pages on norms will display the corresponding parameter values.

DIRECTION:

- Press a key to set the direction of the corresponding track. If set to **PENDULUM** the **FWD**, **REV** states will be flipped when a track reaches its loop start/end. If set to **RANDOM** the play head jumps randomly within the specified loop. The random behaviour can be set to **DRUNK** under *parameters > track*.

PATTERN:

- Press a key to select the currently active note pattern. Note patterns can be edited via norms (see **NORNS UI**).
- To copy the currently active note pattern to another pattern slot press and hold **ALT** and press the according **pattern key**.
- All note patterns are saved and recalled with psets.

PRESET:

- Press a key to select the currently active preset. A preset consists of all track playback parameters (loop points, rate, octave, transposition, direction, note probability and step probability) and is loaded on key release.
- To copy the currently active preset to another preset slot press and hold **ALT** and press the according **preset key**.
- All presets are saved and recalled with psets.

NORNS UI:

Norns user interface consists of four pages: **SEQUENCE**, **TRACK PLAYHEAD**, **TRACK SOUND** and **DELAY**. Use **ENC1** to scroll through the pages.

SEQUENCE:

The **SEQUENCE** page displays the currently active note pattern and the track loops/position. It functions as the note pattern editor and global transport.



- ▶ Press **K2** to toggle the playback state for all tracks.
- ▶ Hold **K1** and press **K2** to reset the track position of all tracks.
- ▶ Use **ENC2** to select a step.
- ▶ Use **ENC3** to change the note value. The note values are relative and are calculated according to the active scale (*global parameters > scale*).
- ▶ Press **K3** to mute the selected step.
- ▶ Hold **K1** and press **K3** to randomize the note pattern.

TRACK PLAYHEAD:

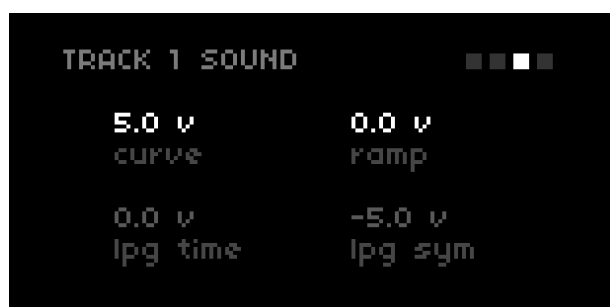
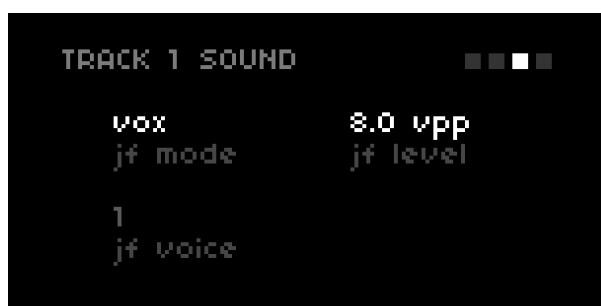
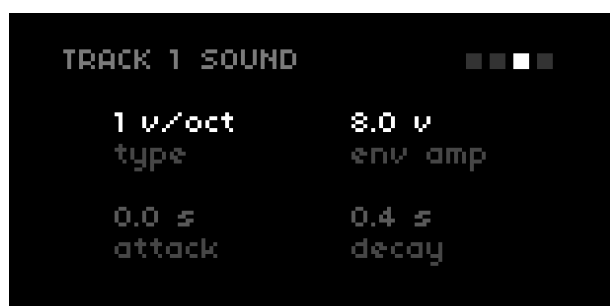
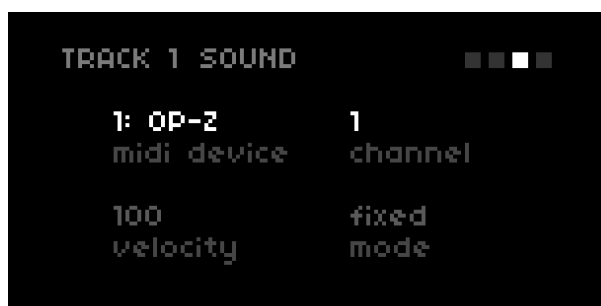
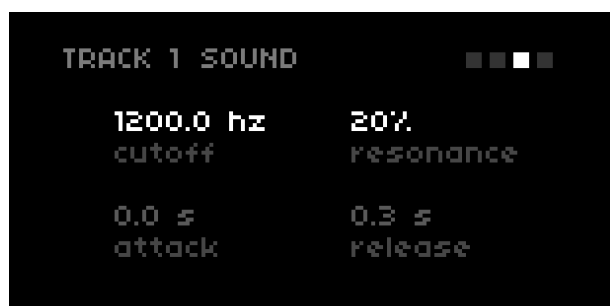
The **TRACK PLAYHEAD** page displays the playback parameters of the focused track. All parameters can be accessed over the parameter menu and are midi mappable.



- ▶ Press **K2** to toggle between top and bottom row.
- ▶ Use **ENC2** to edit the left parameter of the highlighted row.
- ▶ Use **ENC3** to edit the **right** parameter of the highlighted row.
- ▶ Hold **K1** to access the parameter *step probability*.

TRACK SOUND:

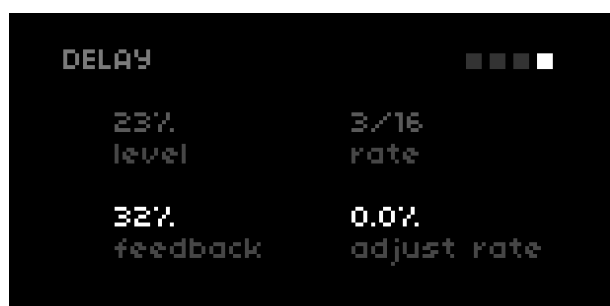
The **TRACK SOUND** page displays the sound parameters of the focused track. The parameter displays depend on the track output settings (*global parameters > global output* or *track parameters > track output*). All parameters can be accessed over the parameter menu and are midi mappable.



- ▶ Press **K2** to toggle between top and bottom row.
- ▶ Use **ENC2** to edit the **left** parameter of the highlighted row.
- ▶ Use **ENC3** to edit the **right** parameter of the highlighted row.
- ▶ Hold **K1** to access additional parameters (if present).

DELAY:

The **DELAY** page displays most parameters of the clock synced softcut delay. All audio from the engine and audio inputs is routed to the delay by default. The levels of the sources that are fed into the delay can be set under *parameters > softcut*. The left and right inputs are merged. All parameters can be accessed over the parameter menu and are midi mappable. To access the **tape warble** parameters, go to *parameters > delay*.



- ▶ Press **K2** to toggle between top and bottom row.
- ▶ Use **ENC2** to edit the **level** or **feedback**. If the feedback level reaches 1 the delay buffer will freeze resulting in an endless loop.
- ▶ Use **ENC3** to edit the **rate** or **adjust rate**.
- ▶ Press **K3** to freeze/unfreeze the delay buffer.

PARAMETERS:

The parameter menu consists of four sections: **GLOBAL SETTINGS**, **TRACKS**, **CROW**, and **DELAY**. All parameters are midi mappable.

GLOBAL SETTINGS:

```
global settings
output          per track
scale           dorian
root note       C2
quick loop set  no
global midi >
```

- ▶ output [**per track**, **moonshine**, **midi**, **jf ii**, **wsyn ii**] if set to "**per track**" the track outputs are set individually via track params.
- ▶ scale [**scales from the musicutil library**]
- ▶ root note [**C0 - C5**]
- ▶ quick loop set [**no**, **yes**] If set to **yes**, the track loops can be set via key-combo.

```
PARAMETERS / global midi

midi device      1: OP-2
midi channel     1
midi transport    off
```

- ▶ midi device [**1 - 16**] specify the device that sends midi data if the global output is set to midi.
- ▶ midi channel [**1 - 16**] specify the global output midi channel.
- ▶ midi transport [**off**, **receive**, **send**] receives/sends midi transport messages from the global midi device. If set to "**send**" a midi start message will be sent as soon as the playback of a track starts. A stop message is sent as soon as the playback of all tracks is stopped.

TRACKS:

```
tracks
track 1 >
track 2 >
track 3 >
track 4 >
```

Select which track (1 - 4) to edit under the "**tracks**" parameter section.

```
output
output          moonshine
run/stop
moonshine settings
level           80%
sub division    1
noise level     0%
cutoff          1200.0 hz
filter env      off
filter q        20%
attack          0.0 s
release         0.3 s
pan             MID 1.....1.....1
```

- ▶ output [**moonshine**, **midi**, **crow 1+2**, **crow 3+4**, **jf ii**, **wyn ii**] set the track output if the global output is set to "**per track**".
- ▶ run/stop [**trigger**] toggle playback for the according track.
- ▶ If the output is set to **moonshine**, **midi** or **jf ii**, the according parameters are displayed below the output. Parameters for **crow 1+2**, **crow 3+4** and **wsyn ii** are found under the **crow** section.

TRACKS [continued]:

playhead	
step probability	100%
rate	1/4
direction	fwd
step mode	normal
random mode	jump
sequence	
note probability	100%
octave	0
transpose	0 deg
start position	3
end position	13
midi start msg	follow

- ▶ step probability **[0-100%]** sets the probability for the play head to advance at each clock pulse. If it doesn't advance a step, the current note is retrigged.
- ▶ rate **[2 - 1/32]** sets the clock rate.
- ▶ direction **[fwd, rev]** sets the direction of the play head.
- ▶ step mode **[normal, pendulum]** sets the step behaviour.
- ▶ random mode **[jump, drunk]** sets the random behaviour.
- ▶ note probability **[0-100%]** sets the probability for a note to be triggered.
- ▶ octave **[-3, +3]** transposes the track by the specified octave.
- ▶ transpose **[-7, +7deg]** transposes the track by the specified degree (absolute transposition depends on the scale).
- ▶ start position **[1 - 16]** set the start position of the loop.
- ▶ end position **[1 - 16]** set the end position of the loop.
- ▶ midi start msg **[follow, ignore]** set whether a track listens to midi start messages or not.

CROW:

crow	
out 1+2 >	
out 3+4 >	
wsyn >	

The **crow section** contains the parameters for crow **out 1+2**, **out 3+4** and **wsyn**. The parameters for the crow outputs are identical.

v/oct type	1 v/oct
env amplitude	8.0 v
attack	0.0 s
decay	0.4 s

- ▶ v/oct type **[1, 1.2v/oct]** sets the voltage standard.
- ▶ env amplitude **[0 - 10 v]** sets the max env level.
- ▶ attack **[0 - 1s]** sets the attack time (lin curve).
- ▶ decay **[0.01 - 1s]** sets the decay time (exp curve).

CROW [continued]:

wsyn mode	lpg
level	5.0 vpp
curve	5.0 v
ramp	0.0 v
lpg time	0.0 v
lpg symmetry	-5.0 v
fm index	0.0 v
fm envelope	0.0 v
fm ratio num	1/2
fm ratio denom	1/2

- ▶ wsyn parameters. Please refer to the w/ manual for details.

DELAY:

delay	
level	23%
rate	3/16
adjust rate	0.0%
feedback	32%
warble amount	0%
warble depth	12%
warble speed	6.0

- ▶ level **[0-100%]** sets the delay level.
- ▶ rate **[1/16 - 1]** sets the delay rate.
- ▶ adjust rate **[-10, +10%]** adjust the delay time by...
- ▶ feedback **[0 - 100%]** sets the feedback amount.
- ▶ warble amount **[0 - 100%]** sets the probability of a warble event to take place.
- ▶ warble depth **[0 - 100%]** sets the warble amount.
- ▶ warble speed **[1 - 10]** sets the warble speed.