splnkr v0.1
instructions

norns ui – page 1
sample player/cutter 1-3

controls available on all page 1 screens:

e2: next/prev control screen
k1 + k2: stop/start selected voices
k1 + k3: show instructions

screen 1: select/scrub sample/voice (initial view)

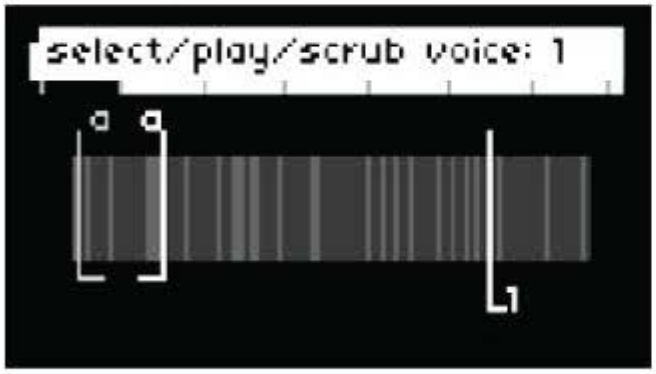
k2: select a sample

the sample selector/cutter page controls a simple sample player/ cutter with 1-6 voices.

key terms:

playhead: there are 6
cutter: a slice of a loaded sample

screen 1: select/scrub sample/voice (after a sample has been loaded)



k2: select a new sample to play
k1 + e3: scrub the playhead
e3: select the active voice

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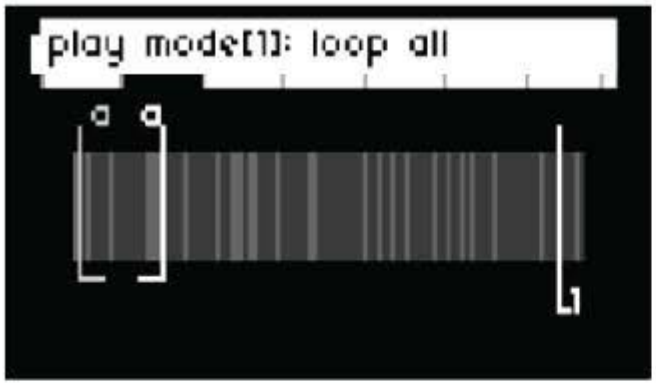
norns ui – page 1
sample player/cutter 2-3

screen 2: play mode[voice]

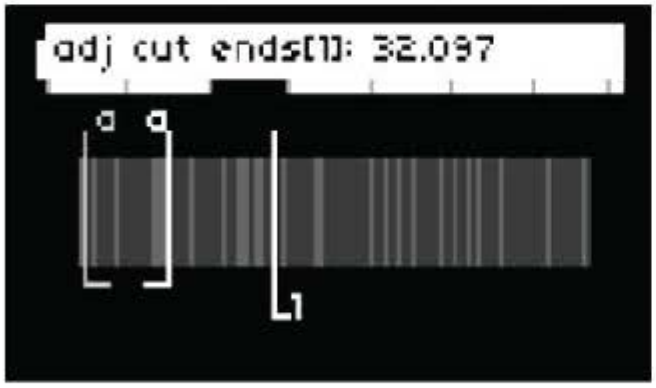


k1 + k2: stop/start selected voice
e3: set the play mode of the selected cutter
k1 + e3: set the play mode of all cutters

play modes

stop: stops the selected playhead
loop all: the selected playhead plays through the entire sequence
all cuts: the selected playhead jumps from one cutter to the next
sel cut: the selected playhead plays just the selected cutter
1-shot: the selected playhead plays just the selected cutter one time

screen 3: adjust cut ends[voice]



k1 + k2: stop/start sel voice
k1 + e2: select cutter
e3: select cutter end to adjust
k1 + e3: adjust selected cutter end
k1 + e1: fine adjust selected cutter end

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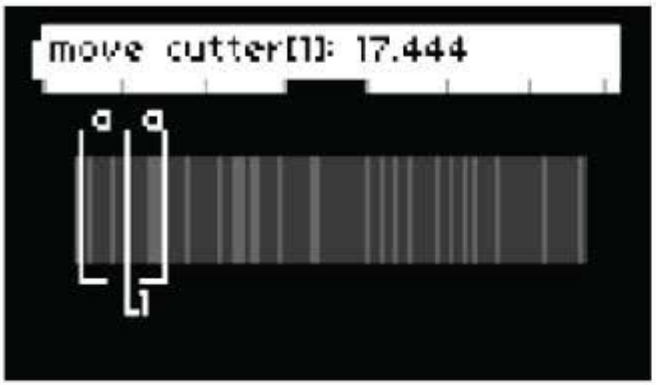
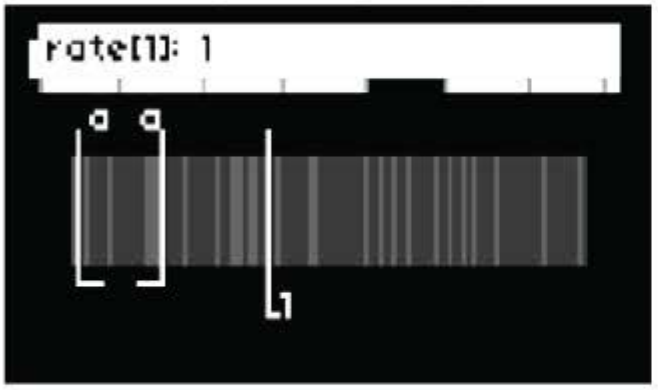
norns ui – page 1
sample player/cutter 3-3

screen 4: move cutter[voice]



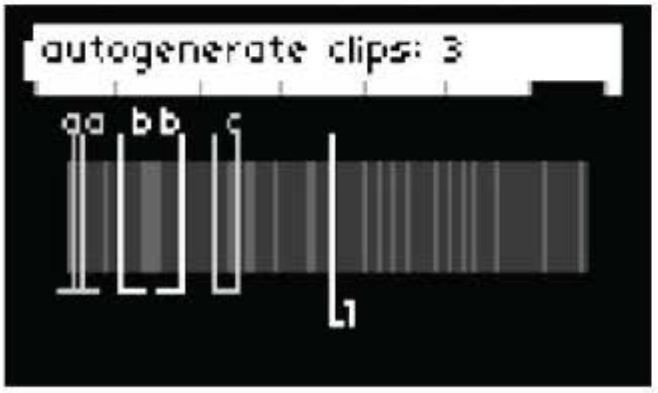
k1 + k2: stop/start sel voice
k1 + e2: select cutter
k1 + e3: adjust selected cutter location
k1 + e1: fine adjust selected cutter location

screen 5: adjust rate[voice]



k1 + k2: stop/start sel voice
e3: adjust selected voice rate
k1 + e3: fine adjust selected voice rate

screen 6: autogenerate clips[voice]



k1 + k2: stop/start sel voice
e3: adjust selected voice level
k1 + e3: adjust all voice levels

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norns ui – page 2
envelopes (1-2)

envelope controls

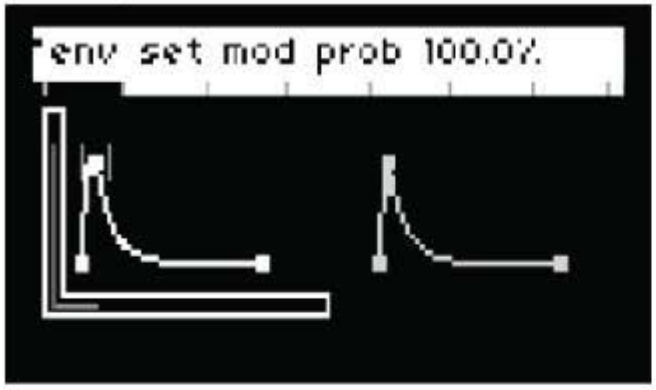
e2: select envelope control
e3: change envelope control value
k1+k2: show/hide envelope modulation controls

envelope control types
env level: the maximum amplitude of the envelope
env length: the length of the envelope
node time: when the node is processed by the envelope
node level: the amplitude of the envelope at the node time
node angle: the shape of the ramp from the prior node time to the current node time

envelopes may be applied to external devices (i.e. crow, jf, midi, w/)

the envelope is also used to shape the granular envelope if enabled

envelope modulation controls

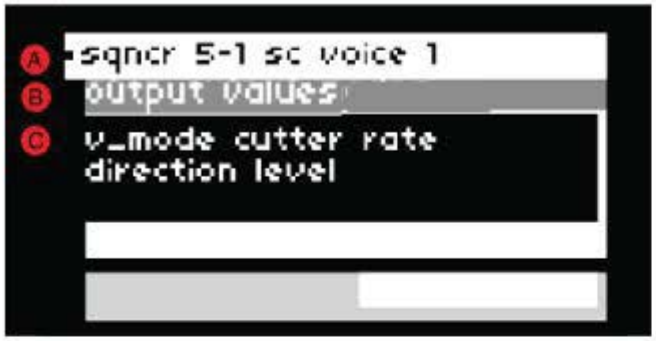


short press to activate/stop/ restart a sequence
long press an inactive *set* to copy from the active *set*
long press an active set to delete all outputs for the set

envelope control parameters
mod prob: The probability that one of the other modulation parameters will be evaluated. If it is set to 0%, no envelope modulation will occur for the selected envelope
time prob: The probability that the time value for each of the envelope's nodes will be modulated.
time mod amt: The amount of modulation that will be applied to the time value of each of the envelope's nodes
level prob: The probability that the level value for each of the envelope's nodes will be modulated
level mod amt: The amount of modulation that will be applied to the level value of each of the envelope's nodes
curve prob: The probability that the curve value for each of the envelope's nodes will be modulated
curve mod amt: The amount of modulation that will be applied to the curve value of each of the envelope's nodes.
env mod nav: Selects which of the above seven parameters are selected on when env modulation is visible (by pressing k1+k3) on the env screen. This parameter is useful for controlling the env ui via midi.

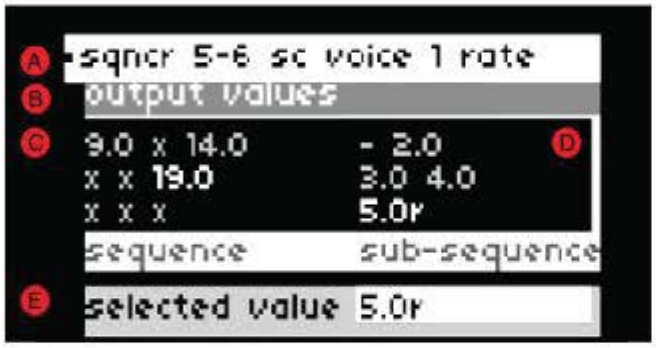
norns ui – page 3
sequencer

sequencer norns ui



- A breadcrumbs
- B active ui group
- C selection values

sequencer sets



- A breadcrumbs
- B active ui group
- C sequence values
- D sub-sequence values
- E selected value

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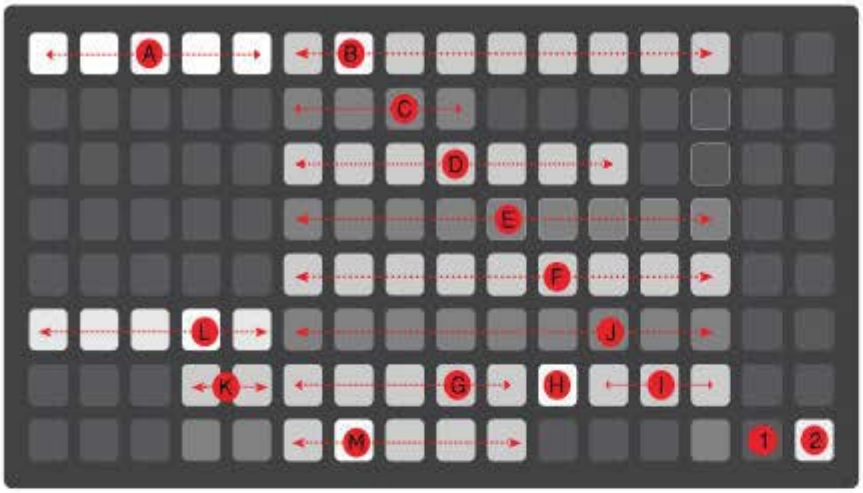
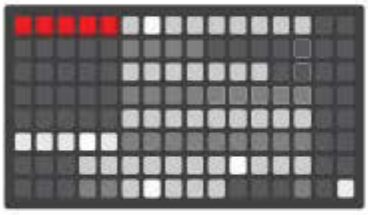
sequencer – overview
sequencer sets, steps, sub-steps



- A sequencer sets
- B sequencer steps
- C output types
- D outputs
- E modes
- F params
- G integer places
- H decimal point
- I decimal places
- J note/option/place value selectors
- K number/note mode selectors
- L polarity/octave selectors
- M sub-step selectors
- 1 filter mode
- 2 sequencer mode

A sequencer sets

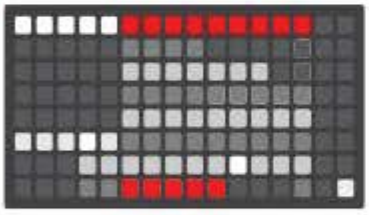


there are 5 *sequencer sets*

each sequencer set represents a unique sequence

short press to activate/stop/restart a sequence
long press an inactive *set* to copy from the active *set*
long press an active set to delete all outputs for the set

B steps and sub-steps
M



there are up to 9 *sequencer steps* in each sequencer set

there are up to 5 *sequencer sub-steps* for each sequencer step.

sub-step values are selected incrementally as the sequencer cycles through its set of steps

sub-step buttons (M) do not appear until a value has been set for a selected output

short press to select
a short press of a sub-step assigns an output value to the sequence
long press an unselected step/sub-step to copy from a previously selected step/sub-step
long press an already selected step/sub-step to delete its outputs

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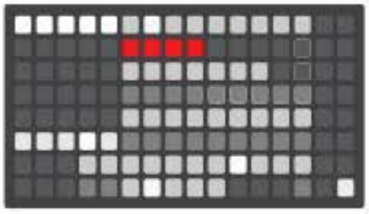
sequencer – overview
output types and outputs

C output types

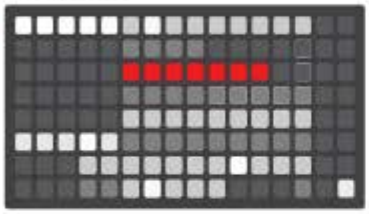


there are 4 *output types:*
- softcut (sc)
- device (dev)
- effects (eff)
- time

short press to select an *output type*

outputs

D



there are multiple *outputs* for each output type

the number of available *outputs* depends on the output type selected

softcut (sc) outputs
- voices 1-6

device (dev) outputs
- midi
- crow
- just friends
- w/

effect (eff) outputs
- amp (level)
- drywet
- delay
- bitcrush
- granular enveloper (env)
- pitchshifter (pshift)

time outputs
- sequence
- sub-sequence
- clock/lattice/pattern (clp)

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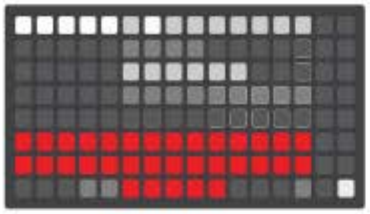
sequencer – setting output values overview



grid keys in the bottom 3 rows are used to select output values and add it to the sub-step of a sequence.

there are 3 kinds of output values:

- notes
- numbers
- option values

the first two kinds of output values (notes and numbers) may be set as *absolute values* or *relative values*

absolute values are evaluated as they are set (according to the methods described on the following pages)

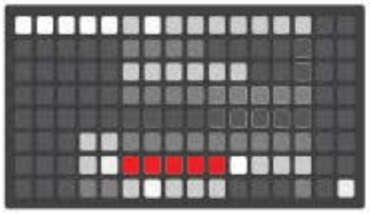
relative values are set relative to the other values that have been set in a sequence for the selected output

for example, a value set to 3-relative (or 3-r), preceded by a value of 2 will be evaluated as 5 (i.e. 3+2=5)

sequencer – setting output values numbers (1-2)

integer place selectors

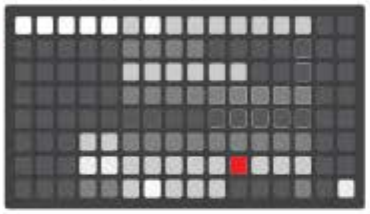
G



sets the integer place used to update a number value (e.g. ones, tens, hundreds, etc.)

decimal point selector

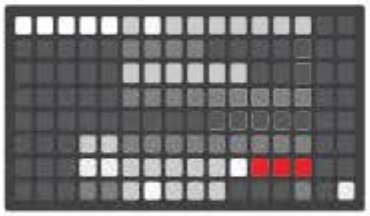
H



separates integer place selectors from decimal place selectors

decimal places selectors

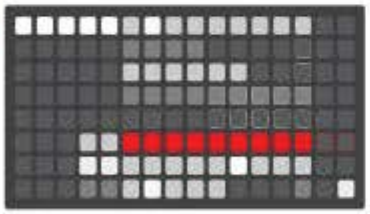
I



sets the decimal place used to update a number value (e.g. tenths, hundredths, thousandths, etc.)

number selectors

J



updates a number value based on the selected integer or decimal place value

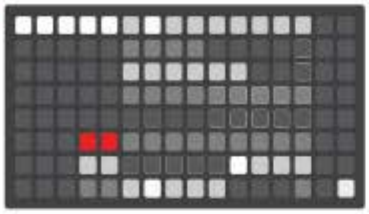
as a number is selected its value will appear on page 3 of the norns UI (*sqncr* screen)

norns encoder e3 may be used to select numbers and other values, however, adding a selected value to a sequence must be done with the 5 sub-step buttons at the bottom of the grid.

SPL NKR Project

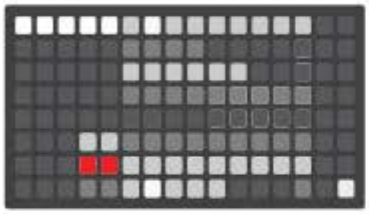
sequencer – setting output values
numbers (2-2)

polarity selector



for (the few) output values that may span both positive and negative numbers, the polarity selector is used to make a value positive or negative (e.g. many numerical values related to the i2c controls for w/)

number mode selector



sets the mode of a number to either *absolute* or *relative*

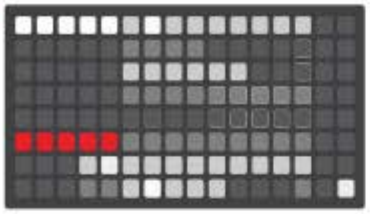
a number in absolute mode will be evaluated its set value

the value of a number in relative mode will be relative to the prior values in a sequence

sequencer – setting output values
notes and options

octave selectors

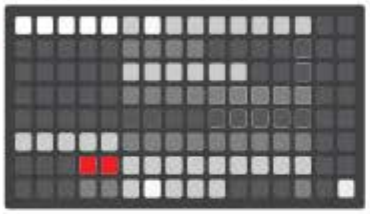
L



sets the octave of the selected note

note mode selector

K



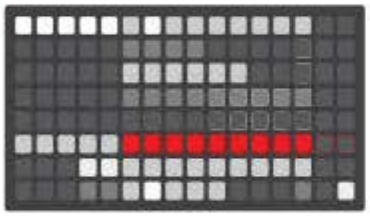
sets the mode of a note to either *absolute* or *relative*

a note in absolute mode will be played its set value

the value of a note in relative mode will be relative to the prior notes in a sequence

note selectors

J



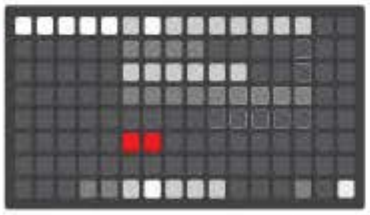
selects a note value based on the selected octave and note mode (absolute/relative)

as a note is selected its value will appear on page 3 of the norns UI (*sqncr* screen)

norns encoder e3 may be used to select notes and other values, however, adding a selected value to a sequence must be done with the 5 sub-step buttons at the bottom of the grid.

option selectors

J



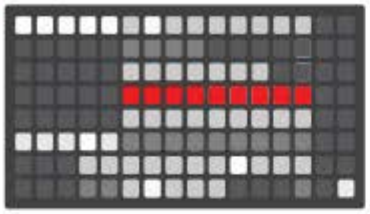
select a value from a list of options
(e.g. 'on' and 'off')

SPL NKR Project

sequencer – overview
modes and params

output modes

E

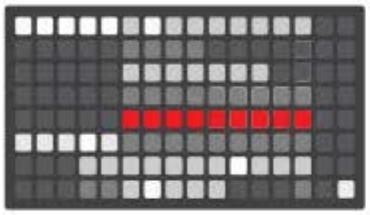


some outputs have multiple *output modes*

the number of available *output modes* depends on the output selected

output params

F



some output modes have multiple *output params*

the number of available *output params* depends on the output mode selected

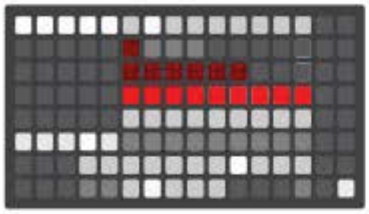
multiple modes and params may be set at the same time for a single output

the *splnkr* script's norns UI and documentation refer to all controls related to the 4th grid row as *modes* even though some controls in this row don't really function as modes per se (e.g. they function more like parameters)

SPL NKR Project

sequencer – devices
softcut

softcut (sc)



each softcut voice has 5 modes

voice mode (v_mode):

stop (stp): stops the playhead
loop all (la): loops the playhead
all cuts (ac): loops between cutters
selected cut (sc): loops the selected cutter
1-shot (1sh): plays the selected cutter 1-time

cutter: selects an active cutter

rate: sets the voice's rate of playback

direction: the voice's direction of playback

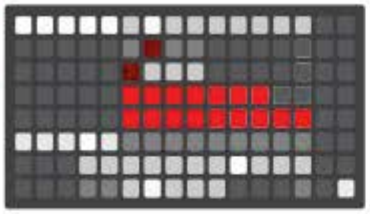
level: the voice's level (amp)

sequencer – devices
midi

midi

E

F



there are 7 midi output modes (3 midi voices, 3 midi cc's, and stop/start)

midi voices 1-3 (v1-v3) each midi voice has 6 params

pitch: the pitch of the voice
repeats (rep): the number of times to repeat each note
repeat frequency (rep_frq): the frequency of note repetitions
duration (dur): the duration of each note
velocity (vel): note velocity
channel (chan): note channel

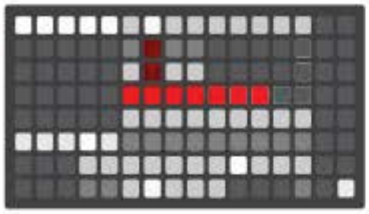
midi cc 1-3 (cc1-cc3): each midi cc has 7 params

cc: cc id
value: cc value
target value (t_val): target to moph the current cc value
morph duration (m_dur): the duration of a midi cc morph
morph steps (m_stps): the number of steps to morph from the current to target cc value
morph shape (m_shp): the shape of a midi cc morph
channel (chan): cc channel

stop/start (stp/strt): sends a midi stop/start command

sequencer – devices
crow

crow



there are 6 crow output modes

crow 1 pitch (c1_pitch)
the pitch (in volts) to send to crow output 1

crow 1 repeats (c1_rp)
the number of times to repeat the pitch sent to crow output 1

crow 1 repeat frequency (c1_rpfq)
the frequency of crow output 1 pitch repeats

crow 3 pitch (c3_pitch)
the pitch (in volts) to send to crow output 3

crow 3 repeats (c3_rp)
the number of times to repeat the pitch sent to crow output 3

crow 3 repeat frequency (c3_rpfq)
the frequency of crow output 3 pitch repeats

when a pitch is sent to crow output 1, an envelope, trigger, gate, or clock signal is sent to crow output 2, depending on the *crow out2 mode* setting in the PARAMETERS menu.

if an envelope is sent to crow output 1, the envelope's shape is set with the first envelope shape on norns ui page 2

when a pitch is sent to crow output 3, an envelope, trigger, gate, or clock signal is sent to crow output 4, depending on the crow out4 mode setting in the PARAMETERS menu.

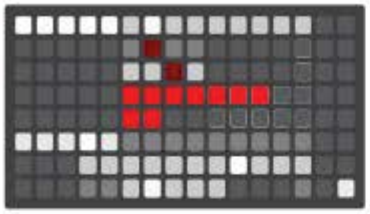
if an envelope is sent to crow output 4, the envelope's shape is set with the second envelope shape on norns ui page 2

sequencer – devices
just friends

just friends

E

F



there are 7 just friends output modes (1 polyphonic mode and 6 individual voice modes

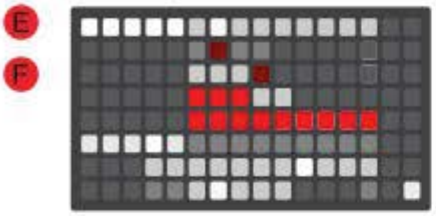
play_note
play's a note in polyphonic mode

voice 1- 6 (vce1-vce6)
plays a note to the assigned voice

each output mode has 2 params
pitch: the pitch of the voice(s)
level: the level of the voice(s)

sequencer – devices
w/ (1-2)

w/ wsyn



for additional details see:
https://llllllll.co/t/mannequins-w-2-beta-testing

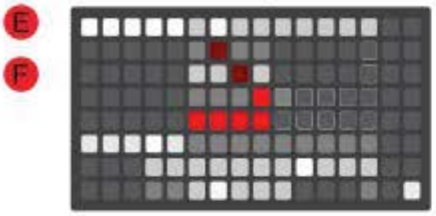
there are 5 w/ output modes (3 wsyn, 1 wdel karplus strong, and 1 wdel)

wsyn 1-3
play's a note with w/ in wsyn mode

the 3 wsyn output modes have 9 parameters
pitch: wsyn pitch
velocity (vel):wsyn velocity
curve (crv): wsyn waveshape
ramp (rmp): wsyn tilt
fm index (fm_ix): FM modulation amount
fm envelope (fm_env): FM envelope amount
fm ratio (fm_rat): ratio of the FM modulator to carrier
lpg time (lpg_tme): envelope speed
lpg symmetry (lpg_sym): envelope symmetry

sequencer – devices
w/ (2-2)

w/ wdel karplus strong



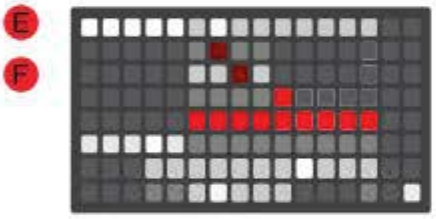
there are 5 w/ output modes (3 wsyn, 1 wdel karplus strong, and 1 wdel)

wdel-ks
play's a note with w/ in wdel mode using karplus strong style synthesis

the wdel ks output mod has 4 parameters
pitch: wdel-ks pitch
mix: wdel-ks mix
feedback (fbk): wdel-ks feedback
filter (flt): wdel-ks filter

for additional details see: https://llllllll.co/t/mannequins-w-2-beta-testing

w/ wdel



there are 5 w/ output modes (3 wsyn, 1 wdel karplus strong, and 1 wdel)

wdel
play's a note with w/ in wdel mode

the wdel output mod has 9 parameters
mix: wdel mix
time (tme): wdel time
feedback (fbk): wdel feedback
filter (flt): wdel filter
rate (rate): wdel rate
frequency (frq): wdel frequency
mod rate (mod_rte): wdel modulation rate
mod amount (mod_amt): wdel modulation amount
freeze (frz): wdel freeze

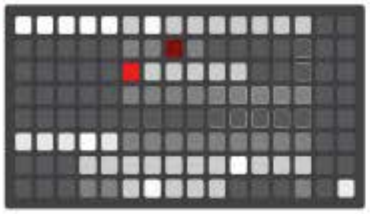
for additional details see: https://llllllll.co/t/mannequins-w-2-beta-testing

SPL NKR Project

sequencer – effects 1-2

amp

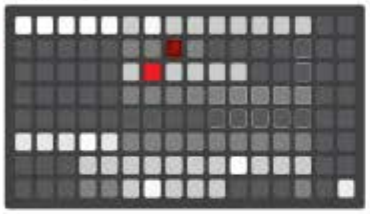
E



sets the amp (level) of audio sent to the engine

drywet

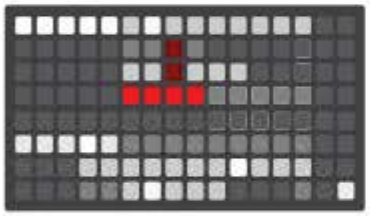
E



sets the amount of (wet) signal sent to the engine to mix with the dry signal

delay

E

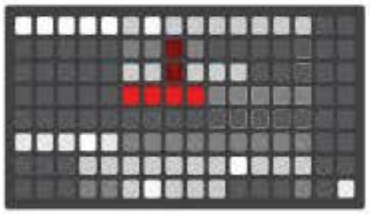


there are 4 modes that can be set for the delay effect

amount (amt): the amount of delay
delay time (del_time): the length of audio signal to delay
delay decay (del_dcy): the decay time of the delay signal
delay amp: the amp (level) of the delay signal

bitcrush

E



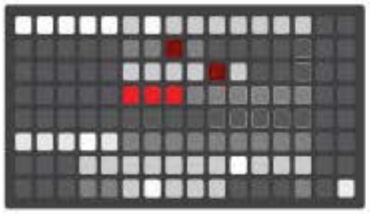
there are 3 modes that can be set for the bitcrush effect

amt: the amount of delay to add to the wet audio signal
delay time (del_time): the lengh of audio signal to delay
delay decay (del_dcy): the decay time of the delay signal

SPL NKR Project

sequencer – effects 2-2

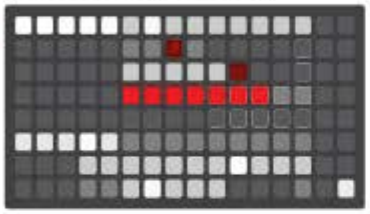
granular enveloper (env)



there are 3 modes that can be set for the arpegiating pitchshift effect

off/on: turns the enveloper on/off
rate: sets the rate of the envelope
overlap: the amount of audio signal to envelope

pitchshift (p_shift)



there are 7 modes that can be set for the arpegiating pitchshift effect

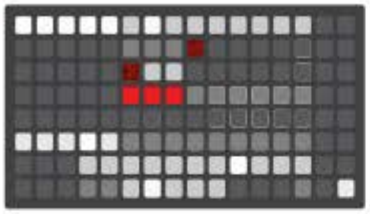
note: the PARAMETERS menu contains two params note set by the grid (*grain size* and *time dispersion*)

amount (amt): the amount of audio signal to pitchshift
rate: the rate of the pitchshifter's arpeggiator
ps1-ps5: pitchshifted notes

sequencer – time

sequencer (seq)

E

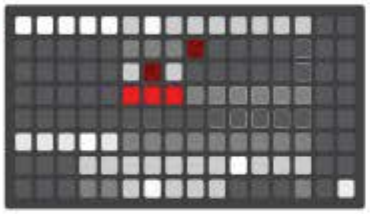


there are 3 modes that can be set for the sequencer mode

step: sets steps to skip
num seq steps (#seq): the number of sequence steps
starting seq step (stseq): sets the starting step of the sequence

sub-sequencer (subseq)

E

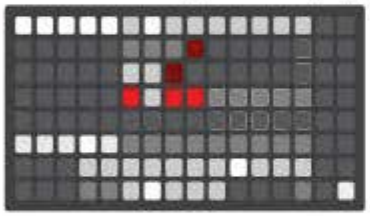


there are 3 modes that can be set for thesub-sequencer mode

step: sets steps to skip
num subseq steps (#seq): the number of sub-sequence steps
starting subseq step (stseq): sets the starting step of the sub-sequence

clock/lattice/pattern (clp)

E



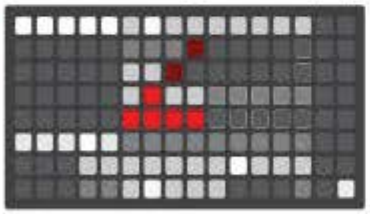
there are 4 clp modes that can be set:

the first, third, and forth clp modes do not have parameters

clock: sets the clock speed
meter: sets the meter of the sequencer's lattice
pattern division (pat_div): sets the division of the pattern. there is one pattern for each *sequence set*

clock/lattice/pattern (clp)

E
F

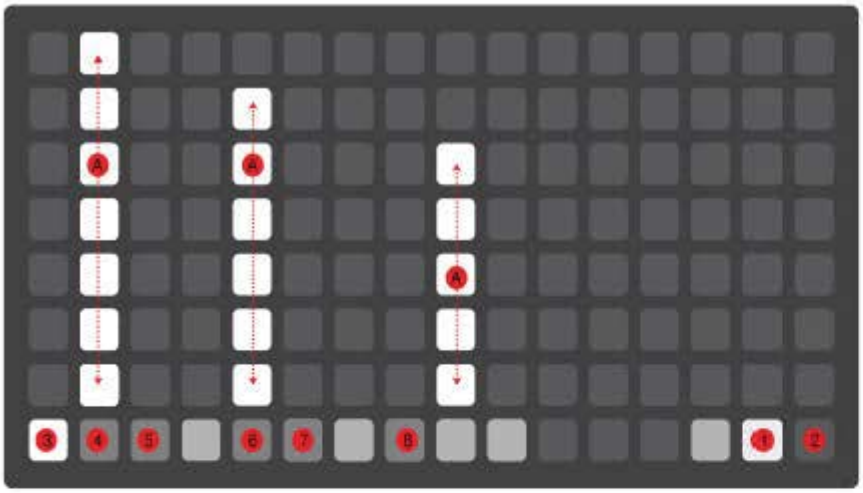


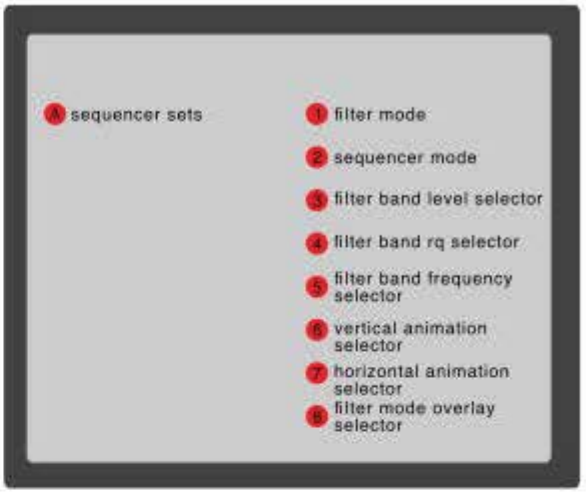
the second clp mode, **clock morph (c_morph)**, has 4 parameters

tempo: sets the clock speed
duration: sets the meter of the sequencer's lattice
steps: sets the division of the pattern. there
shape:

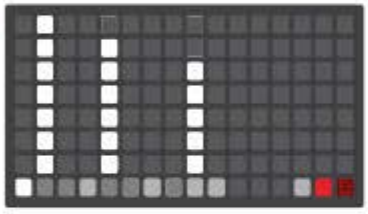
SPL NKR Project

grid filter controls
1-2



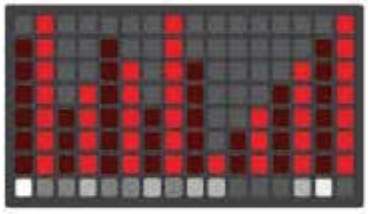


1 grid view selectors
2



two buttons on the lower left corner of the grid switch between the (1) filter mode and (2) sequencer mode

A filter banks



the top 7 buttons of each column represent the settings for one of the splnkr engine's 16 bandpass filters

3 filter levels

the *filter level* button sets the filter bank buttons to control each band pass filter's level

SPL NKR Project

grid filter controls
2-2

4 reciprocal quality (rq)

the reciprocal quality (rq) button sets the filter bank buttons to control each band pass filter's rq

5 center frequency

the center frequency button sets the filter bank buttons to control each band pass filter's center frequency

6 filter animations
7

the two filter animation buttons animate the currently selected filter mode (level, req, center frequency) settings.

the first animation button (6) animates values horizontally, the second animates values vertically

5 overlay

the overlay button overlays the values of the three filterbank settings over each other (useful when animations are enabled)

SPL NKR Project

misc params (1-2)

the controls listed below are found in the PARAMETERS>EDIT menu

with a few exceptions, these are not controllable with the grid sequencer

record player
records the loaded audio sample. how the sample gets recorded depends on the play mode setting:

- **stop**: record the entire sample
- **loop all**: record the entire sample
- **all cuts**: record all sample areas set by cutters
- **sel cut**: record the sample area set by the selected cutter

if play mode is set to all cuts, all rate settings must either be positive or negative

scales, notes, and tempo
set scale mode, root note, meter, and divisions

audio routing
three routing options are provided in the params menu:

- **in+cut->eng**: sends audio in and softcut audio to the supercollider engine
- **in->eng**: sends audio in to the supercollider engine
- **cut->eng**: sends audio in and softcut audio to the supercollider engine

when the splnkr script is unloaded (e.g. when loading a different script or restarting norns), the script will reset the routing to the norns default settings

amp/freq detection
the *splnkr* script's SuperCollider engine includes frequency and amplitude detection which can be set in the params menu to trigger midi notes and crow notes/envelopes/gates/triggers

a number of options are provided to filter the frequency and amplitude (level) ranges sent to midi and crow

the notes sent to midi and crow can also be quantized to the values set in in SCALES, NOTES, AND TEMPO section of the params menu.

saving sequences
the current state of the grid sequencer may be saved and recalled from the *sequencing* sub-menu

inputs/outputs
settings for midi, crow, jf, and w/ are avaiable in the params menu