

# splnkr v0.2 instructions



norns ui – page 1

recsamp: recorded sample player/cutter 1-4

**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)



**key terms:**

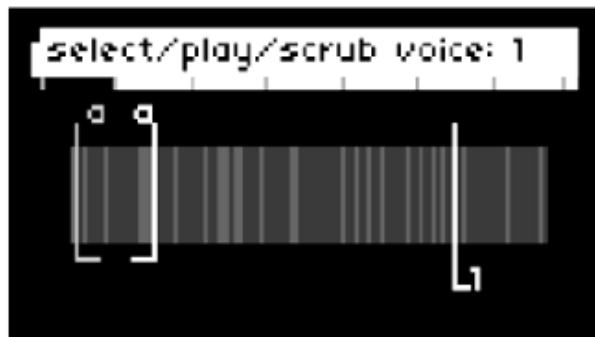
playhead: there are 3 voices that may be individually selected and controlled

cutter: a slice of a loaded sample

**k2:** select a sample

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

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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screen 2: play mode[voice]

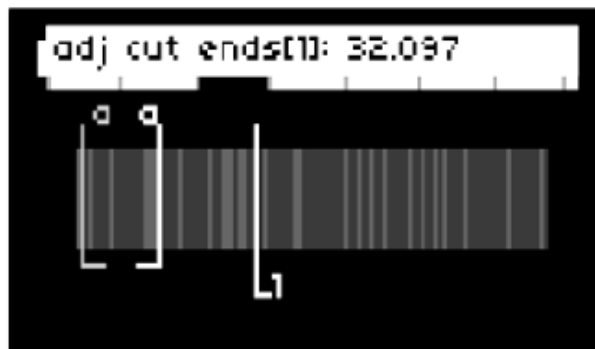


**k1 + k2**: stop/start selected voice  
**e3**: set the play mode of the selected cutter  
**k1 + e3**: set the play mode of all cutters

### 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

screen 4: move cutter[voice]



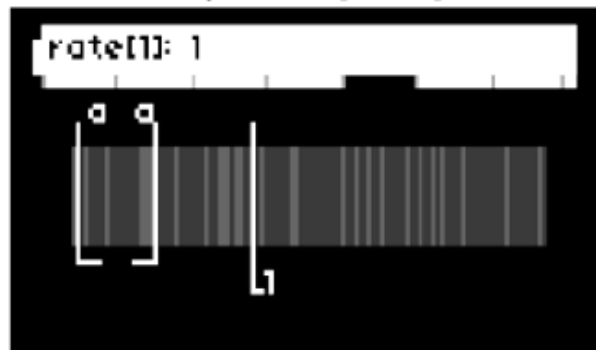
**k1 + k2:** stop/start selected voice

**k1 + e2:** select cutter

**k1 + e3:** adjust selected cutter location

**k1 + e1:** fine adjust selected cutter location

screen 5: adjust rate[voice]

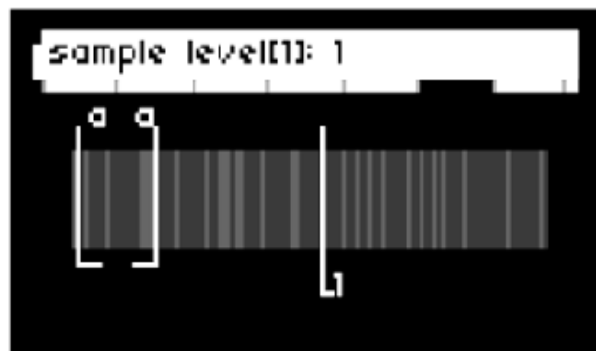


**k1 + k2:** stop/start selected voice

**e3:** adjust selected voice rate

**k1 + e3:** fine adjust selected voice rate

screen 6: set sample levels[voice]



**k1 + k2:** stop/start selected voice

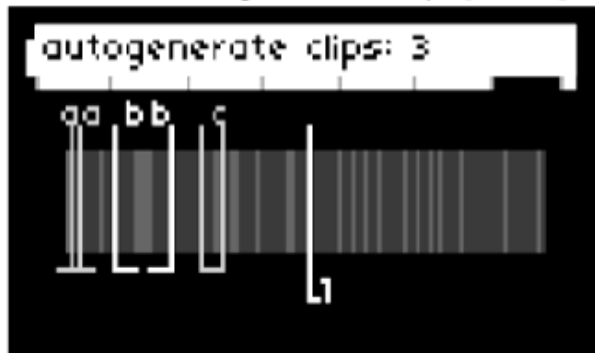
**e3:** adjust selected voice level

**k1 + e3:** adjust all voice levels

norns ui – page 1

recsamp: recorded sample player/cutter 4-4

screen 7: autogenerate clips[voice]



**k1 + k2:** stop/start selected voice  
**e3:** adjust number of cutters

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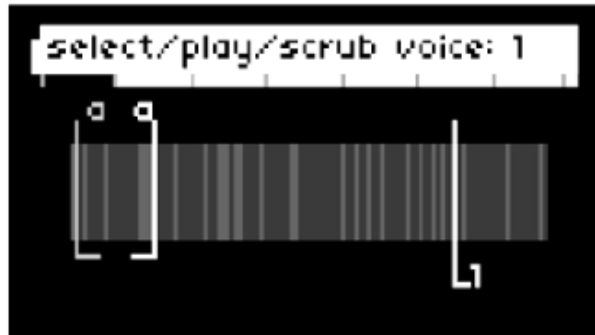
controls available on all page 2 screens:

**e2**: next/prev control screen

**k1 + k2**: stop/start selected voices

**k1 + k3**: show instructions

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



screen 2: play mode[voice]



**key terms:**

**playhead**: there are 3 voices that may be individually selected and controlled

**cutter**: a slice of a loaded sample

**k1 + e3**: scrub the playhead

**e3**: select the active voice

the sample selector/cutter page controls a sample player/cutter with 1-3 voices.

**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

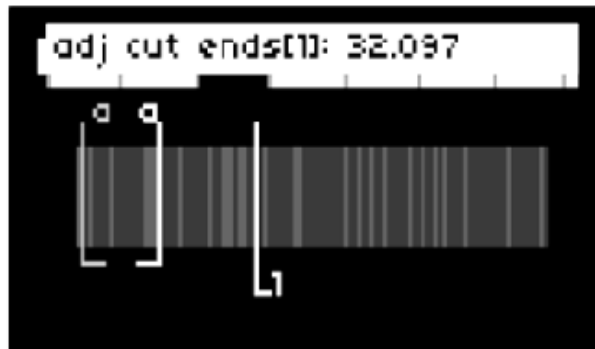
**loop all**: the selected playhead plays through the entire sequence

**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]



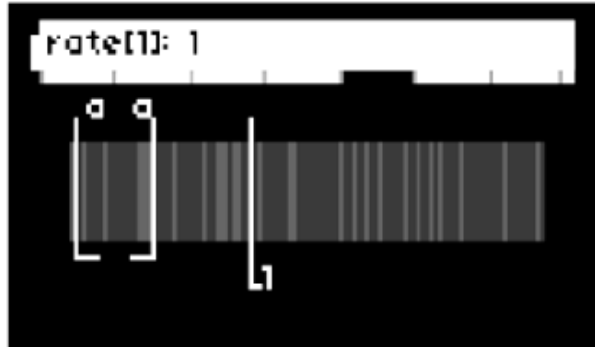
- k1 + k2:** stop/start sel voice
- k1 + e2:** select cutter
- e3:** select cutter end to adjust
- k1 + e3:** adjust selected cutter end
- k1 + e1:** fine adjust selected cutter end

screen 4: move cutter[voice]



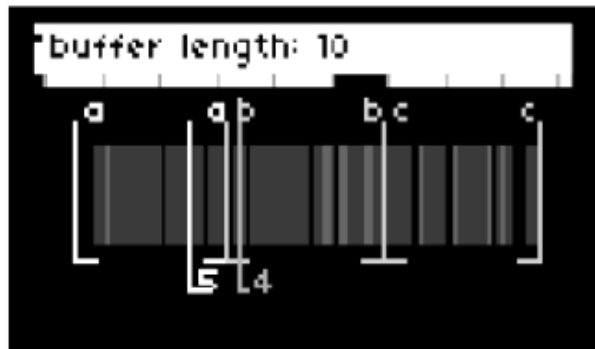
- k1 + k2:** stop/start selected voice
- k1 + e2:** select cutter
- k1 + e3:** adjust selected cutter location
- k1 + e1:** fine adjust selected cutter location

screen 5: adjust rate[voice]



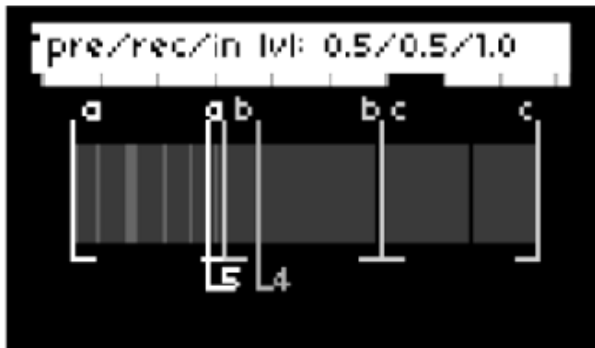
- k1 + k2:** stop/start selected voice
- e3:** adjust selected voice rate
- k1 + e3:** fine adjust selected voice rate

screen 6: set buffer length



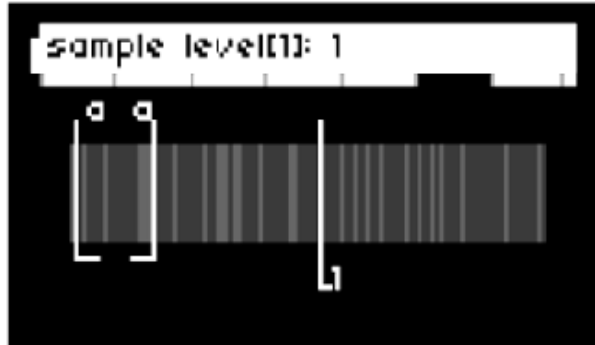
**k1 + k2:** stop/start sel voice  
**e3:** set buffer length  
**k1 + e3:** fine adjust buffer length

screen 7: set preserve/recording/input levels [voice]



**k1 + k2:** stop/start selected voice  
**e3:** set preservation level  
**k1 + e3:** set record level  
**k3:** toggle input levels between 1db and 0 (-infinite db)

screen 8: adjust sample levels[voice]



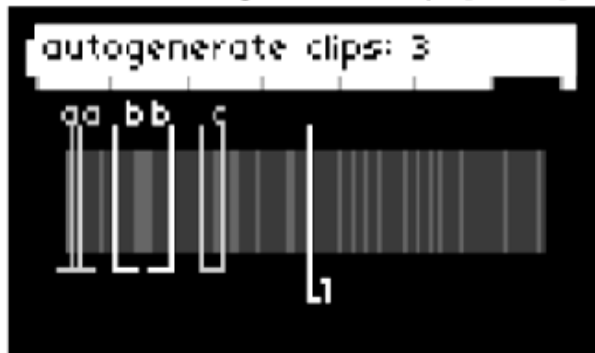
**k1 + k2:** stop/start selected voice  
**e3:** adjust selected voice levels (amp)



norns ui – page 2

livesamp: live sampling player/cutter 4-4

screen 9: autogenerate clips[voice]



**k1 + k2:** stop/start selected voice  
**e3:** adjust number of cutters

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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

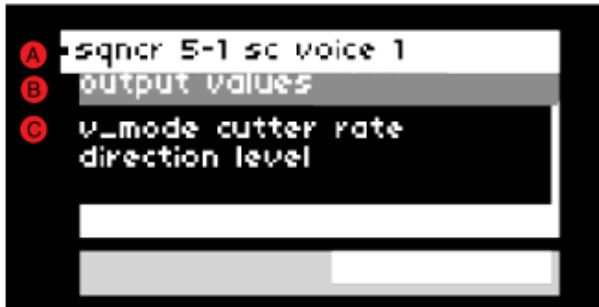
**level mod amt:** The amount of modulation that will be applied to the level value of each of the envelope's nodes

**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.

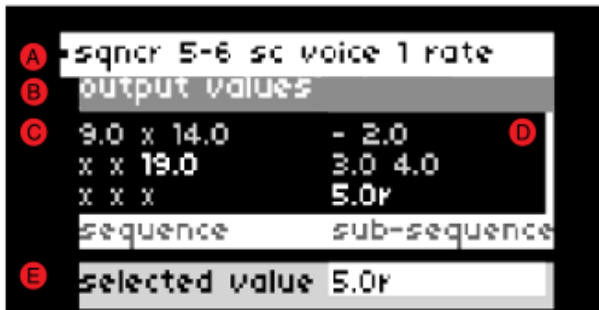
**env mod nav:** Selects which of the above seven parameters are selected on when env modulation is visible (by pressing k1+k3) on the env screen. This parameter is useful for controlling the env ui via midi.

sequencer norns ui



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

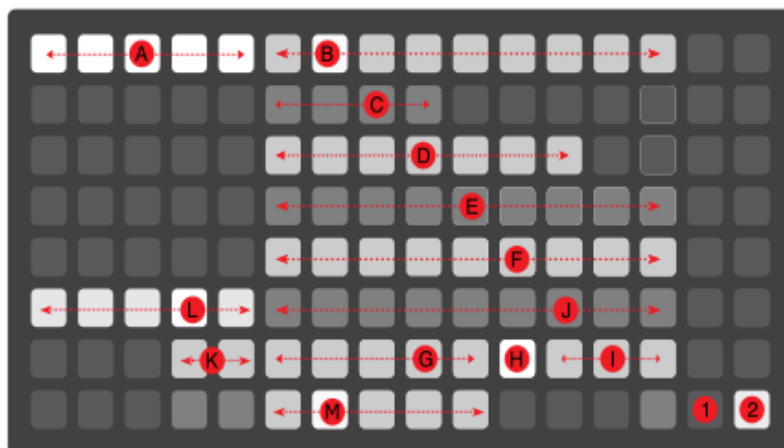
sequencer sets



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

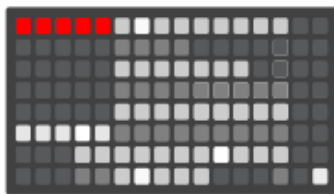
# sequencer – overview

## sequencer sets, steps, sub-steps



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

### **A** sequencer sets

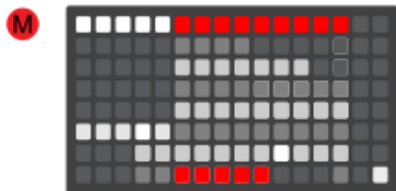


there are 5 *sequencer sets*

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



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

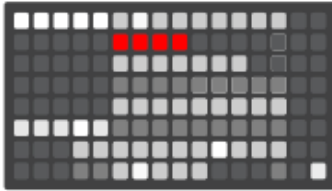
**short press** to select a short press of a sub-step assigns an output value to the sequence  
**long press** an unselected step/sub-step to copy from a previously selected step/sub-step  
**long press** an already selected step/sub-step to delete its outputs

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# sequencer – overview

## output types and outputs

### C output types



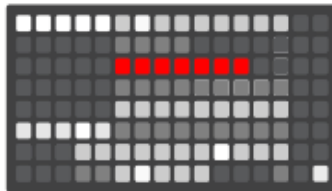
there are 4 *output types*:

- 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**

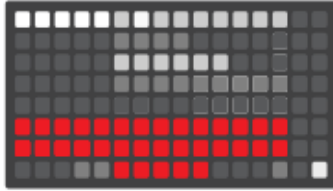
- amp (level)
- drywet
- delay
- bitcrush
- granular enveloper (env)
- pitchshifter (pshift)

#### **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

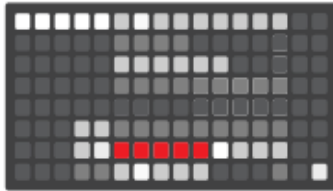
relative values will have an r appended to the selected number (e.g. *4r* )

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

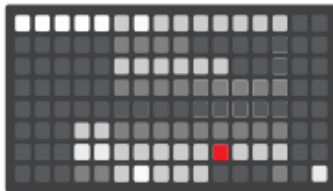
G



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

### decimal point selector

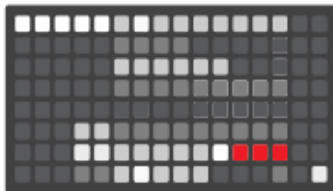
H



separates integer place selectors from decimal place selectors

### decimal places selectors

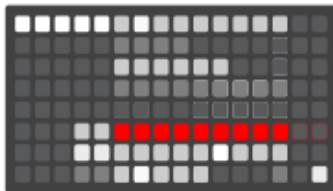
I



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

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.

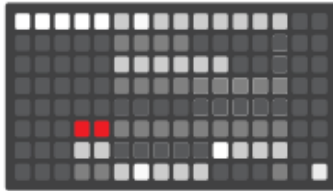
as a number is selected its value will appear on page 3 of the norns UI (sqncr screen)



## sequencer – setting output values numbers (2-2)

polarity selector

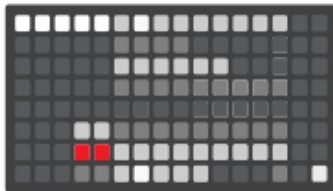
K



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 modular synth modules like Whimsical Raps' *Just Friends*)

number mode selector

K



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

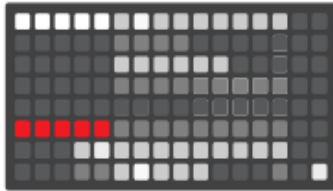
a number in absolute mode will be evaluated its set value

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

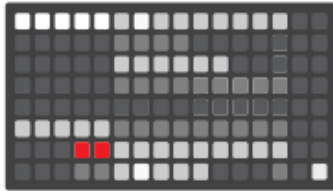
L



sets the octave of the selected note

## note mode selector

K



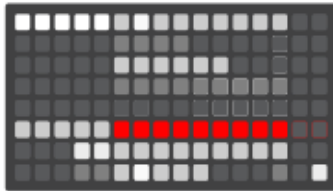
sets the mode of a note to either *absolute* or *relative*

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



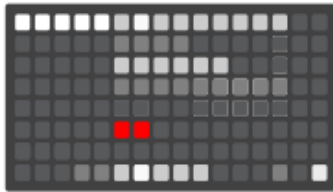
selects a note value based on the selected octave and note mode (absolute/relative)

as a note is selected its value will appear on page 3 of the norms 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



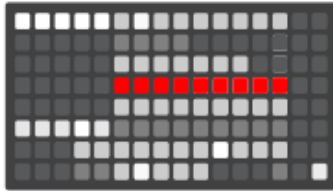
select a value from a list of options (e.g. 'on' and 'off')

# sequencer – overview

## modes and params

### output modes

E

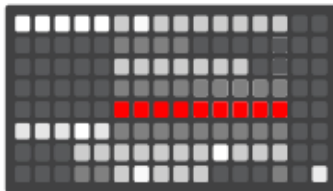


some outputs have multiple *output modes*

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

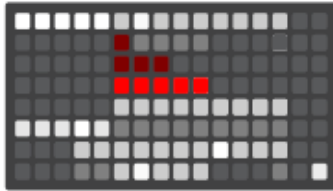
the *splnkr* script's norms UI and documentation refer to all controls related to the 4th grid row as *modes* even though some controls in this row don't really function as modes per se (e.g. they function more like parameters)

sequencer – devices

recsamp (recorded audio sampling)

recsamp

E



each resamp 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)

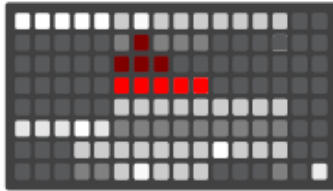
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sequencer – devices

livosamp (live audio sampling)

livosamp

E



each livosamp 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)

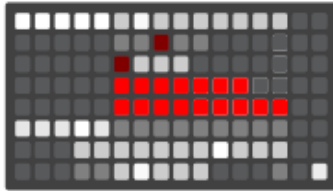
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# sequencer – devices

## 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 number  
**value:** cc value  
**target value (t\_val):** target to morph 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

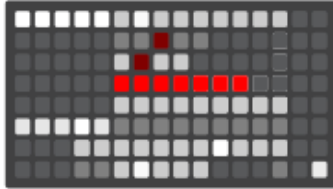
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## sequencer – devices

### crow

crow

E



there are 6 output modes  
for monome's crow  
eurorack module

#### **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 norms 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 norms ui  
page 2

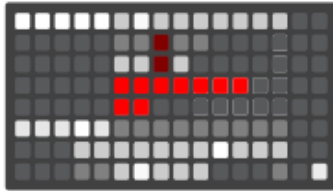
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## sequencer – devices

### just friends

just friends

E  
F



there are 7 output modes for Whimsical Raps' Just Friends eurorack module (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)

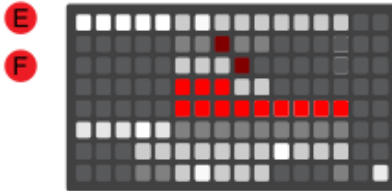
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## sequencer – devices w/ (1-2)

there are 5 output modes  
for Whimsical Raps w/  
eurorack module (3 wsyn,  
1 wdel karplus strong, and  
1 wdel)

w/ wsyn



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

### **wsyn 1-3**

play's a note with w/ in  
wsyn mode

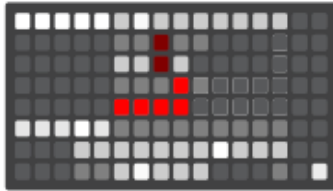
the 3 wsyn output modes  
have 9 parameters  
**pitch**: wsyn pitch  
**velocity (vel)**: wsyn velocity  
**curve (crv)**: wsyn  
waveshape  
**ramp (rmp)**: wsyn tilt  
**fm index (fm\_ix)**: FM  
modulation amount  
**fm envelope (fm\_env)**: FM  
envelope amount  
**fm ratio (fm\_rat)**: ratio of  
the FM modulator to carrier  
**lpg time (lpg\_tme)**:  
envelope speed  
**lpg symmetry (lpg\_sym)**:  
envelope symmetry

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## sequencer – devices w/ (2-2)

w/ wdel karplus strong

E  
F



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

### **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

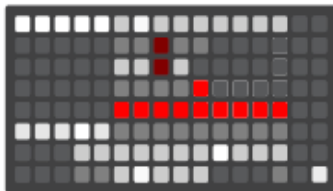
**mix:** wdel-ks mix

**feedback (fbk):** wdel-ks  
feedback

**filter (flt):** wdel-ks filter

w/ wdel

E  
F



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

### **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

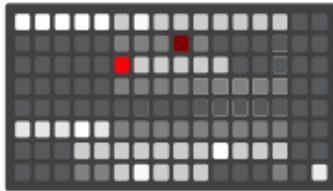
**freeze (frz):** wdel freeze

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## sequencer – effects 1-2

amp

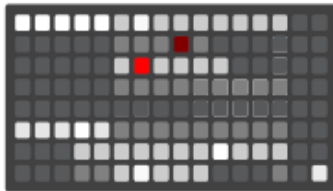
E



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

drywet

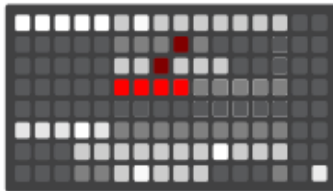
E



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

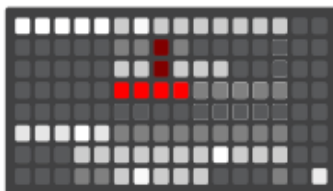
**delay time (del\_time):** the length of audio signal to delay

**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 length of audio signal to delay

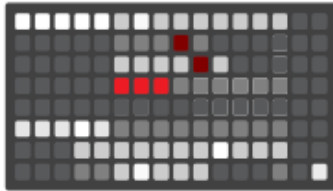
**delay decay (del\_dcy):** the decay time of the delay signal

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## sequencer – effects 2-2

### granular enveloper (env)

E



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

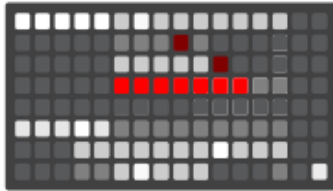
**off/on:** turns the enveloper on/off

**rate:** sets the rate of the envelope

**overlap:** the amount of audio signal to envelope

### pitchshift (p\_shift)

E



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

**amount (amt):** the amount of audio signal to pitchshift

**rate:** the rate of the pitchshifter's arpeggiator

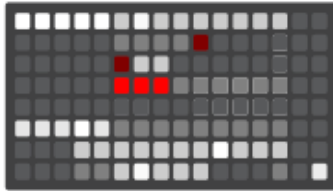
**ps1-ps5:** pitchshifted notes

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

## sequencer – time

### sequencer (seq)

E

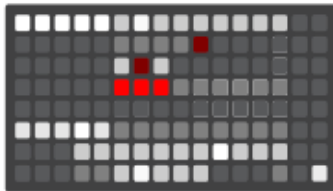


there are 3 modes that can be set for the sequencer mode

**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

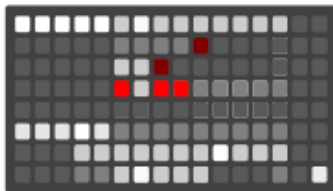


there are 3 modes that can be set for the sub-sequencer mode

**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:

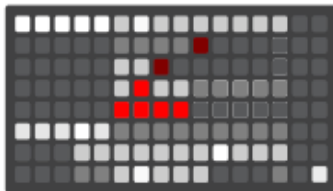
the first, third, and fourth clp modes do not have parameters

**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

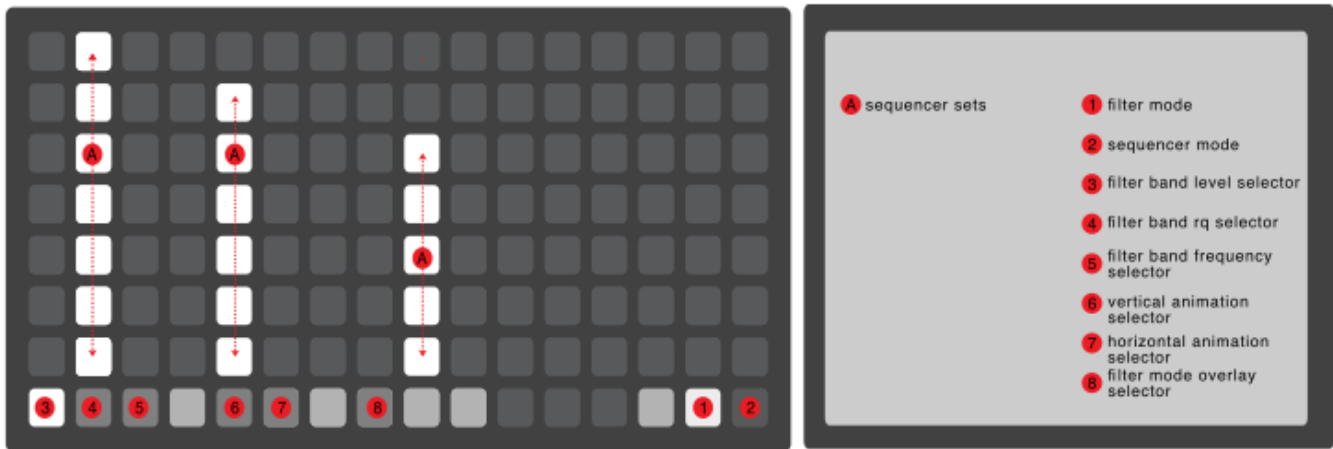
F



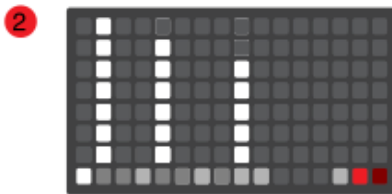
the second clp mode, **clock morph (c\_morph)**, has 4 parameters

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

# grid filter controls 1-2

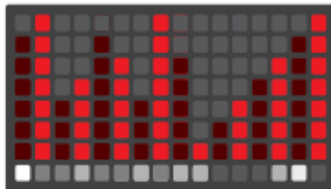


## 1 grid view selectors



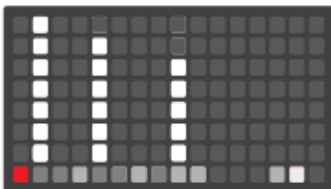
two buttons on the lower left corner of the grid switch between the (1) filter mode and (2) sequencer mode

## 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

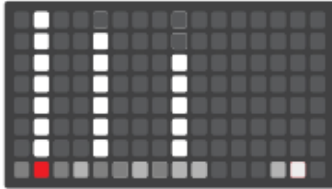


the *filter level* button sets the filter bank buttons to control each band pass filter's level

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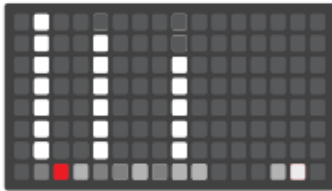
## grid filter controls 2-2

### 4 reciprocal quality (rq)



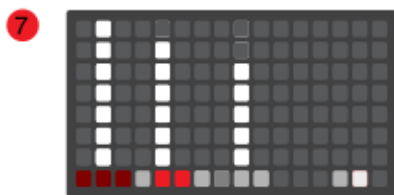
the reciprocal quality (rq) button sets the filter bank buttons to control each band pass filter's rq

### 5 center frequency



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

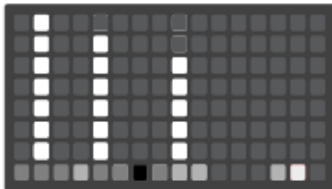
### 6 filter animations



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)

## 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 softcut audio to the supercollider engine

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

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## misc params (2-2)

### **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.

### **data management**

the current state of the cutters (norns screens 1 & 2) and the grid sequencer may be saved, loaded, and deleted from the \*data management\* sub-menu

### **inputs/outputs**

settings for midi, crow, jf, and w/ are available in the params menu