starlab

_travelers guide
_for deep space exploration

3 textures | **4** favorites | **15** scales

[infinite] press **[infinite]** hold › then noon = 12 o'clock cw / ccw = clockwise / counter

time-warped reverberator · reverb, delay, karplus-strong string, shimmer, glimmer, lfo

01 buttons · LEDs

sl_01

[infinite]	freezes what's going into the reverb · new sound keeps passing through
[favorite]	recalls the selected preset (09)
[regen]	● shimmer inside the reverb, it climbs · off = shimmer on the input only
[high band]	● glimmer lifts the high harmonics · off = the low ones
[echo on]	● the delay joins the wet output · off = it's a pre-delay
[tap / trig]	tap a tempo · karplus: quick press plucks, hold bows
[low pass]	high damp becomes a 24 db resonant low pass on the output

02 reverb

sl_02

[texture]	**sparse** granular · **dense** plate-like · **diffuse** slow, swelling wash
[size / pitch]	cw = bigger room, lower pitch · ±1 octave (½× to 2× size) · retunes the tail
[decay]	how long the tail rings · long settings also feel the filters
[dry]	analog, never digitized · none at min · unity at noon · +3 db at max
[wet]	reverb (and echo) level
[input gain]	into the reverb · LED ● clean › ● soft clip · ● in gate muted

05 harmonics

sl_05

[shimmer]	pitch-shifted reverb · off fully ccw
[regen] + [shimmer]	**interval**: −1 oct to +1 oct · ±10 cent detune either side of noon
[glimmer]	brings out harmonics already in your sound · off fully ccw
[interval] cv	shimmer interval in half steps, ±1 octave

_fig.06 : lfo shapes

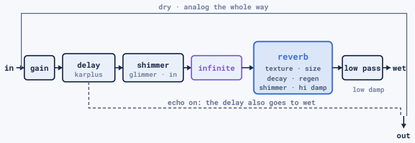
[shape]



env follows how loud you play · depth sets its direction, off at noon

_fig.01 : signal path

left to right



echo off = the delay is a pre-delay · infinite holds the input, the reverb keeps running
regen on = shimmer inside the reverb · off = shimmer on the way in

03 delay

sl_03 · delay / karplus

[delay / tune]	0–1.5 s, finer at the short end · with echo off and feedback low it's a pre-delay
[feedback]	more repeats, or resonance at short times
[echo on]	sends the delay to wet beside the reverb
[tap / trig]	tap the time · a clock in the jack turns delay / tune into a ratio (fig.02)
delay only	**[decay]** at min + **[echo on]**
longest	7.5 s: a 3 s clock with delay / tune on 5/2

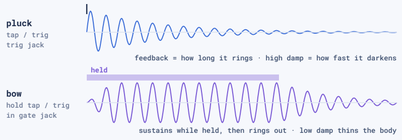
04 karplus-strong

sl_04 · a string voice

[echo on] + [delay] cw	until tap / trig turns ● = string mode · ccw until it blinks ● = delay again
[delay / tune]	tunes the string over 4 octaves · with size cv patched it becomes a 12-semitone fine tune
[tap / trig]	quick = pluck · hold = bow · trig jack plucks, in gate jack bows
[feedback]	how long the string rings
[echo on]	adds the dry string to wet · off = only the reverberated string
pitch cv	**[size / pitch]** jack, 0–4 v, 1 v/oct

_fig.04 : pluck and bow

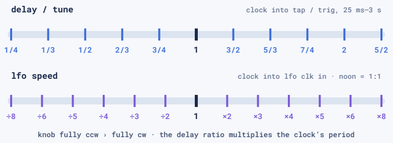
karplus-string mode



pitch: delay / tune (4 oct) or size / pitch cv 0–4 v · echo on adds the dry string

_fig.02 : clocked knobs

what each position means



knob fully ccw › fully cw · the delay ratio multiplies the clock's period

07 lfo

sl_07

[lfo target]	**delay** chorus, flange, vibrato (echo on for more) · **pitch** size / pitch · **filter** high damp (low pass on for sweeps)
[speed]	15 s to 15 hz · env: the decay time
[shape]	triangle · square · ramp · saw · random · env (follows your input)
[depth]	off fully ccw · env: off at noon, ccw negative, cw positive
[lfo clk in]	locks to a clock · speed picks the ratio (fig.02)
[ext lfo in]	your own modulation to the target · depth becomes its attenuverter, off at noon

08 pitch quantize

sl_08 · **[infinite]**

[infinite]	until it blinks ● = size / pitch steps through a scale · again until ● = off
[infinite] + [size]	pick one of 15 scales · the 4 center buttons show it (fig.05)
[low pass] + [size]	portamento between notes · min = none

_fig.05 : the 15 scales

[infinite] + [size]

	regen	band	echo	tap
octave	○	○	○	●
root, 5th	○	○	●	○
pentatonic	○	○	●	●
minor blues	○	●	○	○
major	○	●	○	●
dorian	○	●	●	○
phrygian	○	●	●	●
lydian	●	○	○	○
mixolydian	●	○	○	●
aeolian	●	○	●	○
harmonic minor	●	○	●	●
whole-tone	●	●	○	○
minor chords*	●	●	○	●
major chords*	●	●	●	○
chromatic	●	●	●	●

binary: tap = 1, echo = 2, band = 4, regen = 8

hold infinite + turn size

* chords build down from a single note

09 favorites

sl_09 · four presets

[favorite]	recall the selected one
[favorite] + [1–4]	choose · the current one shows ●
[favorite] long	until ● › **[favorite]** saves here, or a center button saves there
[favorite] cv	toggles between the knobs and the preset · dip 1 on = spillover between them

10 cv inputs

sl_10

continuous, ±5 v — the knob is the offset

[size / pitch]	±2 v, 1 v/oct: ±2 octaves · karplus 0–4 v
also	wet · decay · shimmer · interval · glimmer · high damp · feedback · speed · depth · ext lfo

triggers, 0–5 v rising edge

[infinite] [echo on]	toggle · latching by default
[in gate]	mutes the input while high · karplus: bows
[favorite] [clear]	knobs ‹› preset · empties the reverb
[tap / trig] [lfo clk in]	clocks, 25 ms–3 s · karplus: pluck

06 filter

sl_06 · into the reverb tank

[low damp]	cuts lows in the output and the regenerating core
[high damp]	cuts highs in the regenerating tail
[low pass]	high damp becomes a 24 db / oct low pass on the output
[low pass] + [high damp]	resonance · cw = a sharper peak

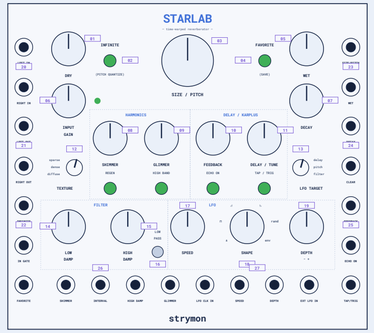
11 the module

sl_11 · 2021

size	28 hp · 41 mm deep · 210 mA on each rail · 96 khz, 32-bit float · analog dry path

_fig.03 : front panel

01–19 = controls · 20–27 = jacks



[01]	**_dry :** analog dry
[02]	**_infinite :** freeze · hold = quantize
[03]	**_size / pitch :** ±1 oct
[04]	**_favorite :** presets · hold = save
[05]	**_wet :** effect level
[06]	**_input gain :** drive · LED
[07]	**_decay :** tail length
[08]	**_shimmer · regen :** pitch shift
[09]	**_glimmer · band :** harmonics
[10]	**_feedback · echo :** repeats · to wet
[11]	**_delay · tap :** time · tune · pluck
[12]	**_texture :** sparse · dense · diffuse
[13]	**_lfo target :** delay · pitch · filter
[14]	**_low damp :** lows out
[15]	**_high damp :** highs out
[16]	**_low pass :** 24 db lp · hold = q
[17]	**_speed :** 15 s–15 hz
[18]	**_shape :** six waves
[19]	**_depth :** amount · attenuverter
[20]	**_ins :** left = mono
[21]	**_outs :** stereo
[22]	**_infinite · gate · fav :** triggers
[23]	**_size · wet · decay :** cv
[24]	**_clear :** empty the tail
[25]	**_fb · echo · tap :** cv · clock
[26]	**_shimmer → glimmer :** cv
[27]	**_lfo jacks :** clk · speed · depth · ext

_where things hide

no menus · sl_12

held buttons

- **infinite** pitch quantize · + size = scale
- **regen + shimmer** shimmer interval
- **echo on + delay** karplus ‹› delay
- **low pass + …** high damp = q · size = glide · gain = tracking
- **favorite** + 1–4 = pick · long = save

at power on

- **hold regen** infinite cv latch ‹› momentary
- **hold high band** in gate cv
- **hold echo on** echo on cv
- **dip 1 (back)** favorite spillover

LED codes

input gain	● clean ● soft clip ● in gate muted
infinite	● blink = quantize on ● blink = off
tap / trig	● karplus ● blink = delay
favorite	● chosen preset ● flash = save