stages

_travelers guide
_for building launch sequences

6 segments	3 segment types	6× modules chain

› then noon = 12 o'clock tags = the panel drawing

six segments you combine into envelopes, lfos, sequencers and utilities · patching a gate starts a group

01 what it is

st_01

six segments	each: a pot, a button, a slider, a cv in, a gate in and an output
you build	envelopes, lfos, sequencers, s&h, delays · from segments
stack them	up to six modules chain into one long stages
voltages	step and hold levels 0 – 8 V · envelopes rise to 8 V

02 the type button

st_02 · per segment

[type]	press to cycle: ramp · step · hold
› [ramp]	glides between levels · slider = time · pot = curve
› [step]	glides to the slider level, waits for a trigger · pot = glide
› [hold]	holds the slider level for a time · pot = duration
LED colour	green = ramp · orange = step · red = hold
[type] 1 s	loop this segment · LED blinks
[first] + [last]	together: loop across a range · hold either end to unloop

__fig.04 : segment types

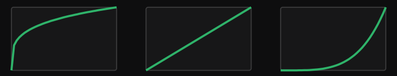
LED colour = type



press type to cycle · hold 1 s to loop (LED blinks)

__fig.05 : ramp curve

the pot



ramp pot = curve (looped: saw/tri → sine → trapezoid)

03 groups

st_03 · the big idea · fig.01

gate patched	that segment starts a new group
to its right	segments without a gate join the group
no gates	six independent, free-running segments
outputs	the group's first output = the envelope · the others = activity ramps (8 V → 0)
trick	a dummy cable in a gate jack splits a group

__fig.01 : gates make groups

● = gate patched



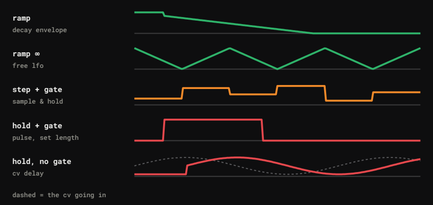
04 one segment alone

st_04 · what each type becomes

[ramp]	decay envelope
[ramp] looped	no gate: free lfo (slider = rate, pot = shape) · gate: lfo synced to it, ¼ – 4×
[step]	gate: sample & hold · no gate: tracks slider + cv, with glide
[hold]	gate: pulse of a set length · no gate: cv delay (pot = time)

__fig.06 : one segment

type × gate



dashed = the cv going in

05 envelope rules

st_05 · fig.02

1	the first ramp rises to 8 V
2	the last ramp falls to 0 V
3	a hold or step sets the level of the ramps beside it
4	otherwise a ramp's end level comes from its pot
5	a loop plays while the gate is high · ending on the last segment = forever
6	a step stops the envelope until the next trigger

__fig.02 : an adsr from segments

gate into segment 1



06 extended sequencer

st_06 · 2020 firmware

set up	one extra ramp or hold first, then steps (ramp · step · step · step · step)
first pot	playback: forward · backward · pendulum · random · addressable
gate	clock · in addressable mode the first cv picks the step
first = hold	no quantize · steps span 0 – 8 V
first = ramp	steps quantized to semitones over 1 V

__fig.08 : sequencer modes

first pot



first segment's pot picks the mode · addressable: first cv picks the step

07 the secret oscillator

st_07 · ouroboros

enter	link the module to itself with its own chaining cable
segment 1	slider = coarse tune · pot = fine · cv = v/oct
segments 2 – 6	slider + cv = harmonic level · pot = its frequency ratio
outputs	out 1 = all harmonics mixed · 2 – 6 = each harmonic
gates	ping a harmonic · [type] picks its wave

__fig.10 : ouroboros

harmonic oscillator



seg 1 = the fundamental (slider coarse, pot fine, cv v/oct) · pots 2 – 6 set each ratio
out 1 = the mix · outs 2 – 6 = each harmonic on its own

08 five patches

st_08 · manual examples

adsr — ramp · ramp · hold · ramp
gate into segment 1 · loop the hold for sustain · its slider = sustain level

free lfo — ramp, looped
no gate · slider = rate · pot: saw/tri → sine → trapezoid

sample & hold — step + gate
cv into the cv jack · gate samples it · pot = glide

4-step sequence — step × 4
clock into the first gate · sliders = notes

lfo + envelope — gate in 5
segments 5 – 6 = an envelope · 1 – 4 stay free for lfos

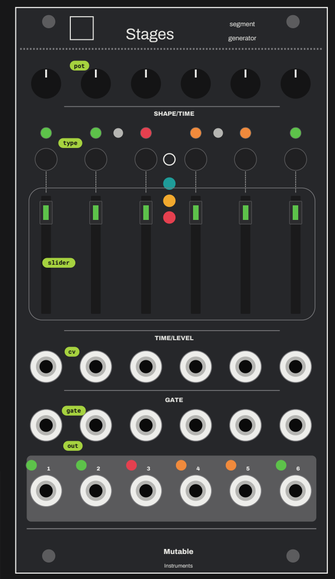
10 first flight

st_10 · an lfo in 10 seconds

1. unplug every gate
2. segment 1: press [type] to ramp
3. hold [type] a second · LED blinks = looping
4. out 1 is now an lfo · slider = rate
5. pot = shape: saw/tri → sine → trapezoid
6. then patch a gate into segment 1 to sync it

__fig.03 : the panel

numbers match the legend



- pot **shape knob** · curve · glide · duration · lfo s...
- type **type button** · green ramp · orange step ...
- slider **time / level** · time for ramps · level f...
- cv **time / level cv** · adds to the slider
- gate **gate in** · patched = starts a group
- out **output** · envelope or activity

09 specs

st_09

levels	step + hold 0 – 8 V · activity outputs 8 V → 0
sync	looped ramp + gate: ¼ to 4× the gate rate
chain	up to 6 modules · power off to connect
power	80 mA +12 V · 20 mA –12 V
update	audio into the last segment's cv · power on holding its [type]