mini elements

_travelers guide
_for zero gravity botany

3	5	7
exciters from elements	menu pages	octave steps, locked

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

elements' exciter, borrowed into rings · a menu behind the two buttons · free alt firmware for rings

installs like any rings update · long press = 3 s

orange = hold

01 buttons

rng_01 · stock gestures kept

[poly]	voices 1 · 2 · 4 · in the menu: next page
[model]	resonator · in the menu: next value
[poly] 3 s	3 voices, odd / even rhythm (as stock)
[model] 3 s	the hidden twin of this model (as stock)
tap **[poly] + [model]**	frequency lock on / off (02)
[poly] › [model]	3 s: **options menu** (**[poly]** went down first)
[model] › [poly]	3 s: **calibration** (**[model]** went down first)
in the menu: **[poly] + [model]**	saves and leaves (LEDs flicker red / green)
power on + [model]	colour-blind mode, as stock

02 frequency lock

rng_02 · tap both

tap **[poly] + [model]**	all LEDs flash: red = will lock · green = will unlock · it flips when you let go
locked	**[frequency]** knob stops tuning · v/oct, frequency cv and its attenuverter still work
locked · rings modes	**[frequency]** = octave switch: 7 steps, –3 to +3 octaves
locked · mini-elements	**[frequency]** = exciter **timbre**
remembered	the lock and its tuning survive power off

06 hold on strum

rng_06 · menu page 3

● off	stock: the knobs act live
● on	each strum samples structure, brightness, damping and position (and most exciter settings) · frequency stays live
with voices	only the new voice takes the new values, so every voice rings with its own settings
a strum is	a **[strum]** trigger, or a v/oct note change when strum is empty

09 good to know

rng_09

32 kHz inside	down from 48 kHz, as on elements: nothing above 16 kHz
no slew	the structure, brightness, damping and position cv are no longer smoothed, so fast cv bites harder

03 five modes

rng_03 · menu page 1

● **classic rings**	stock rings, stereo
◉ **rings + waveform**	mono rings on **[odd]** · **[even]** = square, impulse train or saw at the resonator pitch: tune, sync, feedback
● **mini-elements**	elements' exciter plays the resonator inside · stereo
◉ **mini-elements + exciter**	resonator on **[odd]** · raw exciter on **[even]**: envelope it, patch it back into **[in]**
● **easter egg**	disastrous peace · the knob handshake is gone, the menu is the only way in

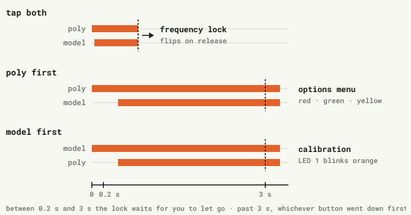
07 outputs

rng_07 · odd / even by mode

classic · mini-elements	stereo, as stock: split by partials or by voice
rings + waveform	**[odd]** = rings (mono) · **[even]** = the waveform
mini-el. + exciter	**[odd]** = resonator · **[even]** = raw exciter
in the two + modes	always patch **[even]**: unpatched, the hardware mixes it into **[odd]**

_fig.01 : three gestures

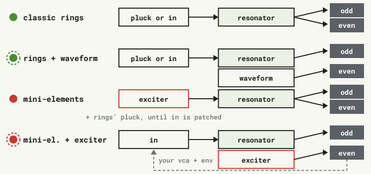
two buttons, held together



between 0.2 s and 3 s the lock waits for you to let go · past 3 s, whichever button went down first

_fig.06 : four ways out

menu page 1, drawn



04 the exciters

rng_04 · menu page 2

● bow

continuous · menu page 2

timbre	bow colour, dark → bright
position	still the strike point
strum	not needed: it sounds all the time, more oscillator than resonator

● blow

continuous · through elements' tube

timbre	pitch of the breath grains
position	**flow**: where the breath recording restarts
damping	also damps the tube

● strike

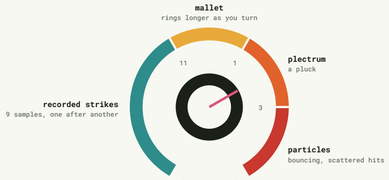
needs triggers or gates on strum

timbre	how bright the hit is
position	**mallet**: recorded strikes › mallet › plectrum › particles (fig.04)
strum	each trigger or gate fires the exciter

timbre = **[frequency]** once locked, or the frequency cv (menu page 5) · one exciter at a time, no envelope knob · rings' own pluck still plays: a dummy cable in **[in]** silences it

_fig.04 : the strike dial

position = mallet



strike mode only · timbre (frequency, once locked) = how bright the hit is

08 install · calibrate

rng_08

install

free · a .wav, like any rings update

1. download rings_mini_elements.wav · lines thread
2. power on holding **[poly]** · play the file into **[in]** · **[frequency]** = gain
3. back to stock: the rings 1.1 .wav, same way

retune the v/oct

hold **[model]** first, or you land in the menu

1. unplug all cv · keyboard into **[v/oct]** · a cable in the **[frequency]** cv jack, other end loose
2. hold **[model]**, add **[poly]**, keep both 3 s › LED 1 blinks orange
3. send 1 v · press **[poly]** › send 3 v · press **[poly]** › done

no calibration on copies downloaded before 2022.02.27: download it again

11 who made it

rng_11 · credits

firmware	lylepmills, on émilie gillet's open rings + elements code
chord tables	jon butler · joe mcmullen

05 chord tables

rng_05 · menu page 4

● classic

the stock tables

● jon butler

after his plaits chords

chords	reorganised, with a few more
3–4 voices	western chords plays the first 16 intervals instead, unison to major 10th

● joe mcmullen

five tables in one

easter egg	his plaits chord table, revoiced for each voice count
1 voice	15 scales (fig.05): a tuned reverb for whatever you feed into **[in]**
2 voices	21 chords of one key, descending in thirds: c am f dm b° g em …
3 voices	the first 16 harmonics of the overtone series
4 voices	23 just intervals after the 22 shrutis, 1/1 to 2/1

used by the easter egg and by western chords (the sympathetic strings twin) · **[frequency]** sets the key, **[structure]** picks the chord

_fig.05 : the scale dial

joe mcmullen · 1 voice



10 first patches

rng_10

bowed drone
mini-elements · bow · lock it
[frequency] now colours the bow · no strum needed, it never stops

breath pad
mini-elements · blow
[position] = flow · damping long

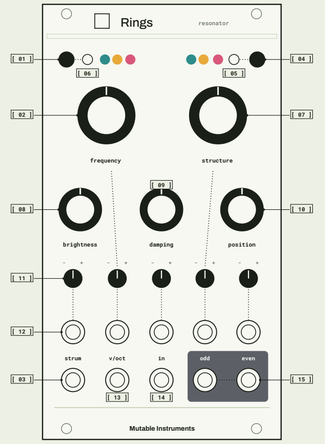
a new body every hit
strike · hold on strum on
random cv into structure, triggers into **[strum]**: each voice keeps its own body

shape the exciter
mini-elements + exciter
[even] › vca with an envelope › **[in]**

tuned reverb
[model] 3 s on sympathetic · joe table · 1 voice
any voice into **[in]** · **[frequency]** = the key

_fig.03 : front panel

what each part does here



[01] _poly : voices · menu page
[02] _frequency : timbre or octaves, once locked
[03] _strum : strike needs it
[04] _model : resonator · menu value
[05] _model LED : menu value
[06] _poly LED : menu page

[07] _structure : body · chord · scale
[08] _brightness : material
[09] _damping : decay · tube damping
[10] _position : strike point · flow · mallet
[11] _atts : one per knob
[12] _cv ins : frequency cv can drive timbre
[13] _v/oct : pitch · strums
[14] _in : dummy cable = no pluck
[15] _odd / even : see 07

_fig.02 : the options menu

left LED = page · right LED = value

● **mode** page 1	● classic rings ◉ rings + waveform ● mini-elements ◉ mini-elements + exciter ● easter egg
● **waveform / exciter** page 2	● square · bow ● impulse train · blow ● saw · strike
● **hold on strum** page 3	● off ● on
◉ **chord table** page 4	● classic ● jon butler ● joe mcmullen
◉ **frequency cv** page 5	● pitch, as stock ● exciter timbre

[poly] › **[model]** 3 s = in **[poly]** = next page **[model]** = next value
[poly] + **[model]** = save + out

◉ = blinking · in the menu the poly LED flashes every 10 s as a reminder