legio

_travelers guide
_for navigating the legio starsystem

23	5	28
noise engineering firmwares	from the community	firmwares on one sheet

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

one 6 hp body · many minds · every control below is named by its tag on the panel drawing

labels from the noise engineering printable overlays · firmware data from each developer, 2026.10

orange = hold

01 the platform

lg_01 · fig.03

enc	encoder + cv jack (–2 to +5 v) · some firmwares add a tap
1 2	two knobs, each with a cv jack, 0 to +5 v
s1 s2	two 3-way switches, read up · mid · down
trig	trigger jack, about 1.6 v: hit, sync, fsu, mute…
in out	stereo · L feeds R when R is empty
LEDs	boot colours identify the firmware
size	6 hp · 1.5 in deep · 140 mA +12 v · 22 mA –12 v

02 swapping firmware

lg_02

hot swap

official ne firmware · no button combo

1. plug usb into the module (port on the back) and your computer · **it can stay in the case, powered**
2. open the noise engineering firmware swap page, choose legio, click **connect**, then **swap** · about half the old time

route a usb cable out of the case to swap mid-patch · usb data cable + chrome, edge or opera · not firefox or safari

first time

one last swap the old way

old way	power off, unscrew the legio, unplug its power, usb in, click **help** on the firmware page · any ne firmware turns hot swap on · swap the overlay to match

community firmware

built from source

flash	daisy patch sm in dfu mode (hold BOOT, tap RESET) · make program-dfu or dfu-util
go back	no hot swap from community firmware · back to ne the old way, with the button combo

06 community

lg_06 · continued

jawari legio

blue nautilus · github

tanpura drone: four strings strummed in turn, after the vcv module

enc tuning · push = coarse · 1 jawari shape · 2 lpf / string 1 · s1 knob 2 lpf · string 1 · s2 formants on · off · trig strum

mono, same on both outs · pitch + semitone are saved

rotary legio

gugenet · github

rotary speaker: horn + drum rotors, doppler, three cabinets

enc tap = max · balance · drive · 1 doppler · 2 mic distance · s1 speed max · cv · brake · s2 cab open · classic · dark · trig max speed · in in

hold the encoder 0.8 s = bypass · enc cv jack sweeps speed

03 oscillators + voices

lg_03 · 9 firmwares

virt iter legio

enter virt iter sector · manual

multi-algorithm stereo oscillator · a launch firmware

enc pitch · 1 flavor · 2 tang · s1 harm · sawx · bass · s2 II · I · 0 · trig sync · in pm

sinc legio

enter sinc sector · manual

stereo phase-modulation oscillator

enc pitch · 1 morph · 2 timbre · s1 warp · op · fold · s2 II · I · 0 · trig sync · in pm

gator legio

enter gator sector · manual

supersaw phase-mod oscillator, stereo pm ins

enc pitch · 1 detune · 2 saw mod · s1 saw count · s2 stereoness · trig 8va · in pm

at legio

enter at sector · manual

lfsr lo-fi oscillator after the ataraxic translatron

enc pitch · 1 tone · 2 mod · s1 mode env · rm · mix · s2 II · I · 0 · trig sync · in in

plus legio

enter plus sector · manual

full additive voice with envelope + lfo

enc pitch · 1 time · 2 timbre · s1 mod + · off · – · s2 lfo env · on · off · trig hit · in pm

03 oscillators + voices

lg_03 · continued

unda legio

enter unda sector · manual

full phase-mod voice, built for chaining

enc pitch · 1 time · 2 timbre · s1 mod +1 · 0 · -1 · s2 mode adsr · asr · ar · trig hit · in mix

reso legio

enter reso sector · manual

karplus-strong string voice + resonator

enc pitch · 1 decay · 2 brightness · s1 body banjo · violin · guitar · s2 chorus II · I · 0 · trig hit · in excite

marimba legio

enter marimba sector · manual

physical-model resonator voice + processor

enc pitch · 1 decay · 2 tone · s1 type tube · metal · wood · s2 mode ext · bow · hit · trig hit · in excite

morbus legio

enter morbus sector · manual

stereo noise generator

enc frequency · 1 harsh · in: fwr · 2 color · in: clip · s1 wtf · rough · none · s2 II · I · 0 · trig mute · in in

04 drums

lg_04 · 7 firmwares

kick legio

enter kick sector · manual

analog-style kick that ducks the audio at its ins

enc pitch / mute · 1 decay · 2 impact · s1 tone · s2 sat · trig hit · in duck

snare legio

enter snare sector · manual

physical-model snare

enc pitch / mute · 1 decay · 2 noise · s1 impact · s2 wire · trig hit · in mix

tom legio

enter tom sector · manual

toms, lasers, zaps, mid-range hits

enc pitch / mute · 1 decay · 2 punch · s1 tone · s2 sat · trig hit · in mix

cymbal legio

enter cymbal sector · manual

granular metal for hats, rides + crashes

enc morph / mute · 1 decay · 2 tone · s1 type ride · crash · hat · s2 alloy · trig hit · in mix

bos legio

enter bos sector · manual

more cowbell, stereo pm ins

enc pitch / mute · 1 decay · 2 tone · s1 mode fm · add · x0x · s2 tilt · trig hit · in fm

klang legio

enter klang sector · manual

zappy percussion after basimilus

enc pitch / mute · 1 decay · 2 impact · s1 harm · s2 spread · trig hit · in mix

tymp legio

enter tymp sector · manual

compact stereo digital drum

enc pitch · 1 decay · 2 wackitude · s1 mode boing · cat · boot · s2 tang · trig hit · in quack

06 community

lg_06 · 5 open firmwares

sawstack legio

carl tashian · github · altstrument

five-voice supersaw, no envelope · also an au / vst3 plugin · mit

enc fine pitch · push = coarse · 1 detune · 2 morph · s1 mode stack · rich · sub · s2 width mono · stereo · wide · trig hard sync

stutterer legio

carl tashian · github · altstrument

stutter › tape delay › dj filter › soft clip, clock-synced · mit

enc tape speed · tap = stutter · 1 subdivision · 2 dj filter · s1 clock ×2 · =1 · ÷2 · s2 wet 100 · 50 · 0 % · trig clock · in in

drifter legio

carl tashian · github · altstrument

random bézier auto-panner, crossfader or cv panner · mit

enc rate · tap = curve · 1 center · 2 depth · s1 mode pan · xfade · cv pan · s2 edge clip · fold · wrap · trig clock · in in

05 effects

lg_05 · 7 firmwares

librae legio

enter librae sector · manual

dynamics: compress, limit, expand, gate · a launch firmware

enc color · 1 ceiling · 2 room · s1 tilt high · off · low · s2 cut max · some · none · trig fsu · in in

chasma legio

enter chasma sector · manual

mid / side compression + limiting

enc distortion · 1 side limit · 2 mid limit · s1 mid comp · s2 side comp · trig fsu · in in

ampla legio

enter ampla sector · manual

multimode filter + gate, tube-style drive

enc freq · 1 a/d · 2 time · s1 howl · bite · calm · s2 hp · bp · lp · trig hit · in in

roucha legio

enter roucha sector · manual

stereo multimode filter with folder

enc frequency · tap = bypass · 1 resonance · 2 fold · s1 all · post · pre · s2 hp · bp · lp · trig bypass · in in

bitcrush legio

enter bitcrush sector · manual

pitch-tracking downsampler, bits + dither

enc rate / bypass · 1 bits · 2 dither · s1 env in · out · off · s2 lpf off · high · low · trig bypass · in in

megafold legio

enter megafold sector · manual

stereo wavefolder + shaper with chorus

enc envelope · 1 gain · 2 shape · s1 chorus lots · some · none · s2 speed fast · mid · slow · trig fsu · in in

ovis legio

enter ovis sector · manual

granular shepard-tone processor

enc pitch · 1 count · 2 length · s1 fade · s2 layers · trig hit · in in

__fig.05 : L feeds R

in · out



an empty R input copies L, so one cable feeds both channels

__fig.03 : tagged panel

the tags every card uses

[enc] __encoder : turn · tap in some firmwares
[1] __top knob : the first big knob
[2] __bottom knob : the second big knob
[s1] __left switch : up · mid · down
[s2] __right switch : up · mid · down
[trig] __jack : hit / sync / fsu, about 1.6 v
[cv] __enc · 1 · 2 : a cv jack for each
[in] __in L / R : L feeds R if alone
[out] __out L / R : stereo out
[LED] __two lights : boot colours = firmware



reading a card · kick legio as an example

kick legio enter kick sector · manual

analog-style kick that ducks the audio at its ins

enc pitch / mute · 1 decay · 2 impact · s1 tone · s2 sat · trig hit · in duck

the encoder and both knobs also have a cv jack under the same name · switch positions read top to bottom · "pitch / mute" = turn for pitch, tap to mute

__fig.04 : the star map

28 firmwares by family

