magneto _travelers guide _for mastering magnetism

4	3	2
playback heads	modes	min of tape

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

four playback heads, one record head · echo, looper, phrase sampler, spring reverb, oscillator

magneto · 28 hp · manual rev b

cyan = hold

01 buttons · LEDs

mg_01

[modes]	echo ● › loop ● › sample ● › echo …
[tap] ×2	delay time at head 4, 50 ms–15 s · loop / sample: splice in › out › clear (04)
[1]–[4]	● green = that head feeds back into the record head, even with its level at zero
[transport]	the four buttons turn ● red and become ∞ ◂▸ ▸‖ (06)

02 knobs

mg_02

[speed / pitch]	tape speed, 8:1 · min ¼ · about 9 o'clock ½ · noon normal · max 2× (fig.04)
[dry]	your input to the outputs
[wet]	all four heads to the outputs, after their levels
[rec lvl]	into the record head · clean to fat and saturated
[repeats]	feedback for every head whose button is green
[level 1–4]	each head's volume · [● n] + turn its knob = pan it (pan on center)

03 tape mechanics

mg_03

[low cut]	min = full lows · max = thin, peaky "magnetic drum" repeats
[tape age]	min = fresh tape · cw = warmer · max = a peak that blooms at high repeats
[crinkle]	friction, creases, splices, dirt · min clean · max chewed
[wow & flutter]	ccw = a tuned machine · cw = one that needs service
[spring]	spring reverb level · dry and wet both feed it

crinkle and wow & flutter bite much harder at slow speeds

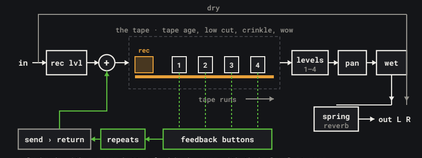
05 switches

mg_05

[heads]	**even** 1/16 · 1/8 · dotted 1/8 · 1/4 · **triplet** 1/16t · 1/8t · 1/4t · 1/4 · **shift** pitched heads (fig.02)
[pan]	**LRLR** 1 3 left · 2 4 right · **center** all middle, custom pans · **LRRL** 1 4 left
one output	everything sums to mono at that jack

__fig.01 : signal path

mono in, stereo out



only heads with a green button feed back, even with their level at zero
loop / sample: head 4 sits before the record head and plays the loop

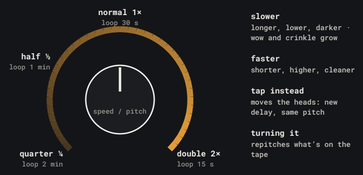
04 modes

mg_04 · [modes]

● echo	**four-head tape delay** · [tap] sets the head spacing, [speed] the tape speed
● loop	**sound-on-sound** · head 4 plays the loop, heads 1–3 keep echoing · needs [4] green and level 4 up
loop [tap]	splice in › splice out (plays) › clear · [repeats] lower = the loop fades as you layer
● sample	**phrase sampler** · [tap] record › stop › clear · [▸|] plays it once
length	longest loop or sample: 15 s at max speed · 30 s noon · 1 min half · 2 min min
heads 1–3	keep the delay time you had when you entered loop / sample, or follow [clk in]

__fig.04 : the speed dial

8:1



slower
longer, lower, darker · wow and crinkle grow

faster
shorter, higher, cleaner

tap instead
moves the heads: new delay, same pitch

turning it
repitches what's on the tape

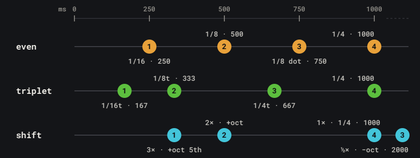
09 audio

mg_09 · 20 vpp

mono in	[left in] only
mono out	[left out] only · all sums to it
stereo out	both outs · works from a mono in too
[send] [return]	fx loop before the record head · both patched = repeats go mono
the module	28 hp · 41 mm · 210 mA each rail · 96 khz

__fig.02 : head spacing

and the clk outs



tapped or clocked at 1000 ms · clk 1–4 out tick at these times, 50% duty, phase-aligned
shift = each head plays at its own speed · loop / sample: clk 4 out = the loop length

07 pitch quantize

mg_07 · [tap]

[tap]	[speed / pitch] snaps to the notes of a scale · tap LED ●
[transport] + [speed]	turn to pick one of 15 scales · buttons 1–4 show which (fig.05)
range	two octaves (4:1) · chromatic 1.2 octaves · speed cv snaps to half steps

__fig.05 : the 15 scales

[transport] + [speed]



08 self-oscillation

mg_08 · no input needed

1. [speed / pitch] fully ccw · [repeats] at 100%
2. [tap] ×2, as fast as you can · it starts to sing
3. play [speed] and the four tape knobs · it wanders through pitches
4. [transport] › [∞] locks the pitch · speed and speed cv still play it

speed cv is 1 v/oct, −3 to +3 v: six octaves, three below the knob alone · LRLR / LRRL widen the tone

12 dip switches

mg_12 · on the back, off by default

s1 [feedback cv]	on: with the transport LED off, the transport jacks toggle feedback buttons 1–4 instead
s2 [dual split]	on: left in / out = mono four-head delay · right in / out = mono spring reverb

06 transport

mg_06 · [transport] first

[∞] infinite	record head off · the last delay cycle or loop plays forever
[◂▸] reverse	from that moment · echo: the whole tape backwards · loop / sample: the loop backwards
[▸|] restart	loop / sample from the top · realigns shift heads · leaves pause instantly
[‖] pause	the tape slows to a stop, or spins back up · while paused, level 4 = how fast
scrub	while paused, [speed / pitch] scrubs about a foot of tape · slower speed = more audio
defaults	all latch except ▸|, always a trigger · change one at power on (mg_15)

10 cv inputs

mg_10

continuous, −5 to +5 v — the knob is the offset

[speed]	−3 to +3 v, 1 v/oct
[wet] [repeats] [spring]	add to their knobs

triggers, 0–5 v rising edge

[clk in]	delay time as a quarter note, 50 ms–15 s
[rec gate]	record head on / off · rec lvl LED ● when muted
[shift]	shift head mode on / off
[∞] [◂▸] [▸|] [‖]	the transport buttons
[tap]	the tap button: delay, splice or sample · 10 ms–15 s

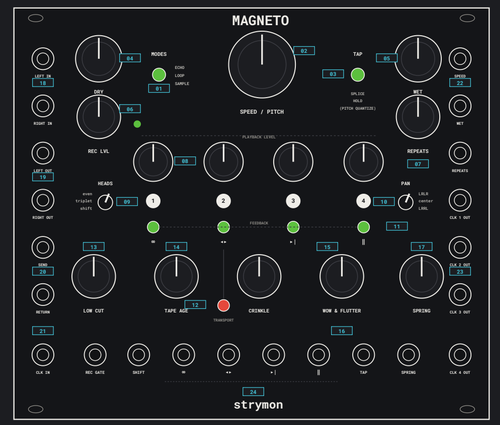
11 tricks

mg_11 · from the manual

sub-octave	shift heads · a gate into [▸|] cv = a zero-latency sub-octave from head 3
endless	sample mode · [clk 4 out] › [▸|] cv retriggers the phrase
extra tone	[∞] on a very short delay adds a harmonic at the seam

__fig.03 : front panel

01–17 = controls · 18–24 = jacks



[01]	__modes : echo · loop · sample	[13]	__low cut : thins the repeats
[02]	__speed / pitch : tape speed 8:1	[14]	__tape age : darker, peakier
[03]	__tap : delay · splice · hold = quantize	[15]	__crinkle : damaged tape
[04]	__dry : input level	[16]	__wow & flutter : speed wobble
[05]	__wet : all heads	[17]	__spring : reverb level
[06]	__rec lvl : into the tape · LED	[18]	__ins : left = mono
[07]	__repeats : feedback	[19]	__outs : one = mono sum
[08]	__level 1–4 : each head	[20]	__send · return : before record
[09]	__heads : even · triplet · shift	[21]	__clk in : quarter note
[10]	__pan : LRLR · center · LRRL	[22]	__cv : speed · wet · repeats
[11]	__1–4 : feedback · transport	[23]	__clk 1–4 out : the heads
[12]	__transport : flips 11 to red	[24]	__gates : rec · shift · transport · tap

_where things hide

no menus · mg_15

held buttons

- tap pitch quantize
- transport + speed pick a scale
- green n + level n pan head n (pan center)
- paused: level 4 slowdown speed

at power on

- hold ∞ ◂▸ ▸| or ‖ flips it: momentary ● / latch ●
- dip switches s1 feedback cv · s2 dual split (12)

LED codes

modes · tap	● echo ● loop ● sample ● tap = quantize
buttons 1–4	● feedback on ● transport layer / scale code
rec lvl	● none ● clean ● saturating ● heavy