pamela's new workout

_travelers guide
_for low-gravity fitness

8 outputs	/512 to ×48	26 banks of 8 outputs

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

programmable clocked modulation source · 8 outputs, each its own clock, wave, pattern and cv

01 the clock — pnw_01

[prog] push	select the BPM · twist 10 – 300 · push again to keep it
[start / stop]	runs the clock · press again = stop + reset
outputs	eight 0 – 5 V outs, green LED = level · each its own clock

02 getting around — pnw_02 · fig.03

[prog] twist	BPM › out 1 › … › out 8 › BPM
[prog] push	highlight a value · twist to change · push to leave
[prog] 1 s	on an output = extended parameters · on BPM = clock settings + banks · again = back
[prog] + [start / stop]	mute / unmute the shown output

03 modifiers — pnw_03 · per output

×	up to ×48 steps per beat
/	down to /512, one step every 512 beats
odd ones	decimal values for triplet + dotted timing
utility	on · off · a pulse at start · a pulse at stop (sequencer reset) · no extended parameters
cv 1 / cv 2	scroll past the end to put the modifier on a cv

05 timing parameters — pnw_05 · fig.02

[delay]	% of the step before the wave starts, end gets cut
[dly /]	which steps get the delay · 2 = swing · must be set
[slop]	chance of timing errors · humanise

__fig.01 : waves

[wave] · [width]



one full wave per step · yellow = width 75 %, grey = 25 % · 100 % turns a triangle into a saw

04 shape parameters — pnw_04 · fig.01

[wave]	gate · triangle · sine · envelope · random · smooth random
[level]	0 – 100 % of 5 V
[offset]	adds 0 – 100 % of 5 V, clips at 5 V
[width]	gate length · tri / sine skew · envelope release · smooth random roundness
[phase]	where in the wave each step starts

06 pattern parameters — pnw_06 · fig.04

[estep]	steps in the euclidean pattern
[etrig]	hits spread through them, fewer than estep
[erot]	rotates the pattern
[rskip]	chance a step is skipped
[loop]	resets the output every N **beats** · loops random + euclid · 0 = new seed

__fig.04 : patterns

estep · etrig · erot · rskip



filled = the step plays · empty = skipped · loop counts beats, not steps

__fig.05 : modifiers

gates at width 50 % · 4 beats shown



07 quant · logic — pnw_07

[quant]	NO · MA · mi · Hm · PM · Pm · Ly · Ph · Jp · P5 · C1 · C4 · C5 · Ch
held	quantised random holds through skipped steps · 10 bit over 5 oct
[logic]	& and · + or · ^ xor with another output
try	out 1 ×4, out 2 /3, out 1 logic &2

08 mute · save · load — pnw_08

[mute]	still editable while muted
[save] [load]	26 banks a – z × 8 slots · NO aborts · saving while running can glitch timing
[reset]	back to basic values
[prog] on BPM	all-outputs load · save · reset of a whole bank
auto	current settings survive power-off

__fig.02 : one wave, five settings

level · phase · width · delay



a sine through the shape and timing parameters · delay only acts on the steps dly / picks

11 external clock — pnw_11

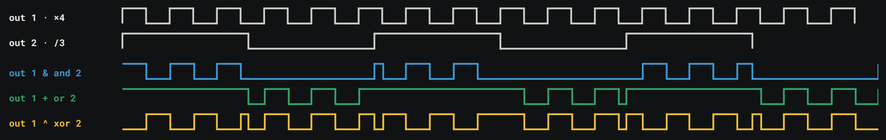
[prog] on BPM	PPQN 48 – 1, default 24 · or CV: CV 1 sets tempo
run?	Y = wait for run · N = start when a clock arrives
BPM 10?	PPQN set too high
best	use pam as master · use 24 PPQN + run when slaving

12 expanders — pnw_12

pexp-1	4 hp · din sync + midi clock out · gates ×1 ×2 ×4 /4 · +25 mA
pexp-2	2 hp · midi jack, ×24 + run outs · +15 mA
one	one expander at a time · not for the original pam

__fig.06 : logic

[logic] · out 1 combined with out 2



09 cv inputs — pnw_09

[cv 1]	0 – 5 V · positive only
[cv 2]	–5 – +5 V · 0 V = 50 %
assign	scroll a value past its end to CV 1 / CV 2
[prog] on cv	attenuation (± inverts) · offset · live monitor
many	one cv can drive many parameters, each with its own scaling

10 run input — pnw_10

run	default · clock runs while high (din sync)
RS	reset all outputs
LD	load next bank · CV 1 high = previous
RA · RR	rotate all 8 / the top row · CV 1 high = clockwise
LC	load the bank CV 1 picks (banks a + b)

__fig.03 : front panel

9 tags

1 **clk** · clock in · 48–1 ppqn
2 **run** · run · reset · bank · rotate
3 **cv 1** · 0 – 5 V
4 **cv 2** · –5 – +5 V
5 **display** · oled
6 **prog** · twist · push · hold
7 **start / stop** · run · stop + reset
8 **out 1 – 4** · 0 – 5 V + LED
9 **out 5 – 8** · 0 – 5 V + LED



the extended parameters, in the manual's order · hold [prog] on an output

wave · level · offset · width · phase · delay · dly / · slop · estep · etrig · erot · rskip · loop · quant · logic · mute · save · load · reset

yellow = shape + timing · green = pattern · white = housekeeping · any value can go on cv

_where things hide

all on the one knob · pnw_14

holds

- **prog on an output** extended parameters
- **prog on BPM** clock in · run · all-output banks
- **prog on a cv value** attenuation · offset · monitor

combos

- **prog + start / stop** mute the shown output
- **prog at power** service menu · start exits

13 service · firmware — pnw_13

[prog] at power	service menu: clock calibration (pre rev 063), clear saves, firmware version · start exits
update	unpowered, mini usb on the side · dfu-util (or the mac gui) · clears saves
spec	8 hp · 22 mm · 50 mA +12 V · outs 10 bit



design homage to the house of x / powers of x data pages — designed by tom muller with jonathan hickman
not affiliated with alm / busy circuits, mathias kettner or marvel