pamela's pro workout

_travelers guide _for zero-gravity fitness

14 shapes	17 cross ops	64 banks

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

programmable clocked modulation source · 8 outputs with cross-modulation, flex timing and 4 cv ins

yellow = hold

01 the clock

ppw_01

[prog] push	select the BPM · twist 10 – 330 · push again to keep it
[start / stop]	runs the clock · press again = stop + reset
outputs	eight 0 – 5 V outs, 12 bit, green LED = level

02 getting around

ppw_02 · fig.03

[prog] twist	BPM › out 1 › … › out 8 › BPM
[prog] push	highlight a value · twist to change · push to leave
[prog]	on an output = its parameters · on BPM = settings · again = back
[start / stop]	+ turn = same parameter, next output · + push = mute the shown output

03 modifiers

ppw_03 · per output

x · /	×192 down to /16384, with triplet + dotted values
utility	GATE (high while playing) · OFF · START · STOP pulses
triggered	4 envelope-like types: start on a trigger at an assigned input, time in beats
cv	scroll past the lowest value to put it on a cv

05 euclid · loops

ppw_05 · fig.04

[steps]	pattern length · above 0 shows the rest
[trigs] [pad]	hits spread through them · blank steps added at the end
[shift]	rotates the start · a grid shows the pattern
[loop]	resets every N **beats** · repeats random, flex + euclid
[nap] [wake]	loops to stay silent · loops to play first
[loop shift]	offsets the nap / wake cycle · no cv

07 flex · invert · quant

ppw_07 · fig.02

[flex]	HUMAN · SWING · RAMP UP · RAMP DOWN · HUMP · DELAY · PWR2, + an amount
loop it	loop resets ramps + hump back to normal
[invert]	flips the final output
[quant]	scales + 3 user scales · [prog] on a user scale to edit its notes
[scope]	live view · push = full screen · twist = zoom

08 load · save · copy

ppw_08

[load] [save]	one output · or a whole bank (+ BPM) in settings · 64 banks
[copy]	to or from another output, or to all
[reset]	back to a 50 % pulse · or just reseed the random
auto	everything survives power-off, even while running

09 cv inputs

ppw_09

[cv 1] [cv 2]	0 – 5 V
[clk] [run]	set to CV in settings = cv 3 + 4
assign	scroll a value past its lowest to a cv
[prog] on cv	attenuation (± inverts) · offset · meter
rules	one cv can drive many values · one value takes one cv

10 settings

ppw_10 · [prog] on BPM

[clk]	CLOCK (+ PPQN, 24 best) · CV · NEXT BANK
[run]	RUN gate · RESET · CV · PREV BANK · ROTATE (start + end)
ui	theme · encoder hold time
banks	load bank · save bank · reset all

__fig.01 : 14 shapes

[shape] · grey text = what width does



04 parameters

ppw_04 · fig.01

[shape]	14 waves (fig.01) · one cycle per step
[width] [slew]	shapes the wave · slew smooths the random ones
[level] [offset]	% of 5 V · 20 % = 1 V · level 0 + offset = a stored voltage
[phase]	shifts the wave · wraps, so wide gates can double-trigger
[probability]	chance a step plays

06 cross ops

ppw_06 · fig.05

[cross op] [src]	combine with another out, IN1 / IN2, CVx (cv picks the out) or an axon-2 button
blend	MIX · MULT (ring mod) · ADD · SUB · MIN · MAX
control	HOLD freezes · S&H samples · MASK · NOT · SEED resets randomness
logic	OR · XOR · AND (full or zero) · BitOR · BitXOR · BitAND
order	cross ops happen before the quantiser

__fig.02 : flex timing

[flex] · amount sets how far



steps in time, one row each · human = random nudges · delay = start late · pwr2 = step time doubles

11 syncing

ppw_11

best	24 PPQN clock + a run gate (din sync style)
midi	fine from a clean clock-only line · alm mmmidi recommended
two pams	×24 out › clk, GATE out › run
BPM off by 1	still in sync

12 expanders

ppw_12

ppexp 1 · 2	MIDI-EX header: din sync + midi clock · ppexp1 adds ×1 ×2 ×4 /4 /16 + stop
axon-1	EXPAND header: 4 more cv ins
axon-2	4 cv ins with offsets + 2 buttons: menu · prev / next out · mute · tap tempo · bank ± · cross src · reset
careful	ppexp never on EXPAND · old pexp-1 / 2 not supported

__fig.05 : cross ops

[cross op] · out 1 with out 2 as source

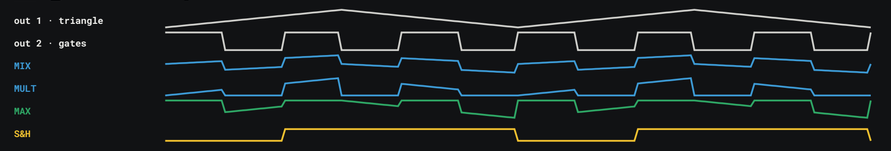


__fig.04 : patterns

steps · trigs · pad · shift · nap



filled = plays · empty = skipped · dashed = pad · loops count beats, not steps

__fig.03 : front panel

9 tags

1	**clk** · clock · or cv 3 · or next bank
2	**run** · run · reset · cv 4 · bank · rotate
3	**cv 1** · 0 – 5 V
4	**cv 2** · 0 – 5 V
5	**display** · colour lcd · themes
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 output parameters, in the manual's order · hold [prog] on an output

shape · width / slew · level · offset · phase · probability · steps · trigs · pad · shift · loop · nap · wake · loop shift · cross op · src · flex · amount · invert · quant · scope · load · save · copy · reset

yellow = shape · green = pattern + cross · white = flex, quant + housekeeping · children show once their parent is on

_where things hide

prog + start / stop · ppw_14

holds

- **prog on an output** its parameters
- **prog on BPM** settings
- **prog on a cv value** attenuation · offset · meter
- **prog on a user scale** edit its notes

combos

- **start / stop + turn** same parameter, next output
- **start / stop + push** mute the shown output
- **prog at power** factory reset, wait for the bar

13 firmware · backup

ppw_13

update	unpowered, usb-c on the left · copy the .fw to the PAM drive
backup	copy PPWDATA.BAK off the drive · copy one back to restore
[prog] at power	factory reset: wait for the bar · clears everything
vcv	ALM034 in the vcv library · backups move between them
spec	8 hp · 32 mm · 60 mA +12 V · 10 mA –12 V

