

pocket operators

COMMON FEATURES — ALL PO-XX MODELS

teenage.engineering · master reference

HARDWARE CONTROLS

CONTROL	FUNCTION
keys 1-16	sounds / patterns / fx / steps / volume
knob A	param 1 / swing / hours (context)
knob B	param 2 / tempo / minutes (context)
sound	hold + key to select sound
pattern	hold + key to select / chain
fx	hold + key = toggle effect · hold alone = clear all
bpm	cycle presets; hold + knobs to fine-tune
write	enter write / record mode
play/stop	start and stop sequencer
3rd button	varies per model — see page 2

fx + **play** = fade out & stop · sync =
3rd btn + **bpm** (model-specific)

SOUND PARAMETERS

knob A	param 1 (pitch / timbre / character)
knob B	param 2 (decay / color / texture)

per-step parameter locking on all models

TEMPO & BPM

HIP HOP	DISCO	TECHNO
80	120	140

hold **bpm** + knob B = fine-tune (60-240 BPM)
hold **bpm** + knob A = swing amount
hold **bpm** + 1-16 = master volume (caution above 5 w/ headphones)

STEP MULTIPLIER / RETRIGGER

hold step + bpm	set step multiplier
press again	cycle 2x → 4x → 8x → 16x

some models use an **M** button instead

SEQUENCER BASICS

play/stop	start / stop
write	write mode (REC on LCD)
keys 1-16 (write)	enter / remove steps
16 patterns	each with 16 steps

RECORDING & PARAMETER LOCK

LIVE RECORD (WHILE PLAYING)

hold write + key	punch in live (quantized)
hold write + knobs	automate params over time

PARAMETER LOCK (WRITE MODE)

hold step + knob A	lock param 1 to that step
hold step + knob B	lock param 2 to that step

PATTERNS & CHAINS

hold ptn + key	select pattern
hold ptn + sequence	chain patterns in order

hold **write** + **ptn** + key = copy pattern to slot

3rd btn + **ptn** = clear active pattern

chain: 1,1,1,4 → plays pattern 1 × 3 then 4 · max chain: 16-128 (model-specific)

POWER CONTROLS

sound + write	manual power off (saves data)
sound + bpm	battery status check
any key	wake from sleep

factory reset: hold **ptn** + **write** while inserting batteries

SYNC & CONNECTIVITY — IDENTICAL ON ALL MODELS

SYNC MODES — 3RD BTN+BPM TO CYCLE (SEE PAGE 2)

MODE	INPUT	OUTPUT
SY0	stereo	stereo (default)
SY1	stereo	mono + sync
SY2	sync	stereo
SY3	sync	mono + sync
SY4	mono + sync	stereo
SY5	mono + sync	mono + sync

3.5mm stereo · audio: right ch · sync: left ch · master = SY1/SY3 · slave = SY2/SY4

CLOCK & ALARM

on startup	knob A = hours · knob B = minutes · any key = confirm
set alarm	hold sound + ptn → knobs for time → key
disable alarm	set alarm · turn knob A all the way down
reset clock	remove batteries and restart

UNIVERSAL SPECS

power	2 × AAA batteries
auto off	5 min idle / 60 min w/ line-in
BPM range	60-240 (presets: 80 / 120 / 140)
patterns	16 × 16 steps (all models)
sync modes	6 · SY0-SY5 (all models)
volume	16 levels
storage	all data saved on power-off

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MODEL GUIDE — SOUNDS, CONTROLS & UNIQUE FEATURES PER DEVICE

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PO-12 RHYTHM DRUM MACHINE

SOUNDS (HOLD SOUND + KEY)

1 Bass Drum	2 Snare	3 Cl Hi-Hat	4 Op Hi-Hat	5 Syn Snare	6 Sticks	7 Cymbal	8 Noise
9 Hand Clap	10 Click	11 Low Tom	12 Hi Tom	13 Cow Bell	14 Blip	15 Tone	16 Bass Tone

retrigger hold step+ **bpm** → 2×/4×/8×/16×

sync **fx** + **bpm** · chain: 16 patterns

PO-14 SUBMARINE BASS SYNTHESIZER

sounds 1-15 bass engines: FM, phase dist, wavetable, physical model + variants · knob A = pitch · B = decay

sound 16 micro drum kit · write: hold lit step+knob A = select drum voice

KEY button hold+key 1-16 = chord / arp / transpose · hold alone = clear

pitch / len write: hold lit step+knob A = pitch · knob B = note length

sync **key** + **bpm** · chain: 16 patterns

PO-16 PLANT LEAD SYNTHESIZER

sounds 1-15 lead engines: FM, subtractive, wavetable, physical model + variants · knob A = pitch · B = decay

sound 16 micro drum kit · write: hold lit step+knob A = select drum voice

KEY button hold+key 1-16 = chord / arp / transpose · hold alone = clear

pitch / len write: hold lit step+knob A = pitch · knob B = note length

sync **key** + **bpm** · chain: 16 patterns

PO-20 ARCADE CHIPTUNE / GAME SOUND

SOUNDS (HOLD SOUND + KEY)

1 Bass	2 Bass Drum	3 Snare	4 Hi-Hat	5 Tom	6 Blip	7 Hardsync	8 Noise FX
9 Arpeggio	10 Melodic Arp	11 Falling Arp	12 Octave Arp	13 Lead	14 Vibrato	15 Portamento	16 Echo

CHORDS (HOLD CHORD + KEY)

1 Dm	2 Em	3 Esus	4 E	5 F	6 G	7 C/G	8 E/G#
9 Am	10 C/A	11 Dm/A	12 D/A	13 A	14 B/A	15 C	16 D

chord btn hold+knobs = drone · hold+sequence = chain chords (128 max)

fx 1-4 solo: chords · chords+lead · drums · drums+bass

sync **chord** + **bpm** · chain: 128 patterns

PO-24 OFFICE OFFICE NOISE / PERCUSSION

SOUNDS (HOLD SOUND + KEY)

1 5.25" Floppy	2 3.5" Eject	3 3.5" Floppy	4 Keyboard	5 Printer	6 Joystick	7 Mouse Click	8 Top Switch
9 Bass Drum	10 PC Beeper	11 Hardsync	12 HSync Noise	13 Ring Mod	14 Bass	15 Glitch FX	16 Noise FX

SOLO btn hold+key = latch solo · multiple simultaneous · clears at ptn boundary

sync **solo** + **bpm** · chain: 128 patterns

PO-28 ROBOT ROBOT / CHIP SYNTHESIZER

SOUNDS — HI OCT (1-8) · LO OCT (9-15) · DRUM (16)

1/9 LFO Pulse	2/10 Pulse Wave	3/11 Mixed Wave	4/12 Triangle	5/13 Echo	6/14 Arpeggio	7/15 Vibrato	8 4-bit Tri
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channels 1-15 = melody · 16 = drums (2-channel sequencer)

GLIDE live hold+key = glide up · hold+release = falling chromatic

GLIDE write hold lit step+ **glide** = up · hold unlit step+ **glide** = down

GLIDE knobs hold **glide** +knob A = vibrato depth · B = rate

sync **glide** + **bpm** · chain: 128 patterns

PO-32 TONIC DRUM SYNTHESIZER

SOUNDS (HOLD SOUND + KEY)

1 Kick 1	2 Snare 1	3 Shaker/Zap	4 LFO Effect	5 Kick 2	6 Snare 3	7 Hi-Hat	8 Claves/Cow
9 Low Tom/Kick3	10 Rimshot	11 Tamb/Crash	12 Hand Clap	13 Bass	14 FM Snare	15 Cymbal	16 High Tom

ACC btn hold+step = accent · **acc** + **ptn** = clear

mute (4-ch) hold key while playing = mute that channel (keys by column)

data tx/rx **write** + **sound** = tx · **acc** + **sound** = rx

sync **acc** + **bpm** · chain: 64 patterns

PO-33 K.O! MICRO SAMPLER

slots 1-8 melodic · keys 1-16 = scale pitches · 40 sec total · built-in mic

slots 9-16 drum · keys 1-16 = individual slices (auto-sliced on record)

record hold **rec** +key = sample · **rec** + **sound** = delete slot

parameters press **fx** = cycle TONE (pitch/vol) → FILTER (freq/res) → TRIM (start/len)

lock tab hold **write** + **sound** +key = copy sample to slot

sync **rec** + **bpm** · chain: 128 patterns

PO-35 SPEAK VOCAL SYNTHESIZER + SAMPLER

VOICES (HOLD FX + KEY 1-8)

1 Neutral	2 Autotune	3 Retro	4 Noise
5 Robot	6 Fifth	7 Vocoder	8 Synth

slots 1-15 vocal recordings · max 8 sec each · built-in mic

record hold **rec** +key 1-15 · release = stop

params press **fx** = cycle Pitch+Formant ↔ Start+Speed

fx 9-15 Stutter Sweep · Trance Gate · Half Rate · 16-Bar Build · 6/8 · Retrigger · Reverse

transpose hold **ptn** +knob A = key · knob B = scale

sync **rec** + **bpm** · chain: 64 patterns