

Ohmforce — Bohm

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Ohmforce Bohm Cheat Sheet

What it is

Bohm is a **stereo dual-voice kick system** for Eurorack: - **Bohm** = main kick voice - **Groove expander** = secondary kick / rumble / tops voice - **Performer expander** = stereo input, ducking, performance FX

Quick start

1. **Trigger HIT** to fire the main kick.
 2. Pick a **model** with the **FUNCTION** encoder.
 3. Shape the kick with:
 4. **LENGTH** = decay/duration
 5. **SUSTAIN** = body/level
 6. **ATTACK** = punch
 7. **PITCH** = base pitch
 8. **CURVE** = 808-ish CCW → 909-ish CW pitch sweep
 9. **TRS DECAy** = click length
 10. **TRS TONE** = click brightness
 11. **COLOR** = oscillator/timbre behavior
 12. **FX** = post-effect amount
 13. If installed, clock **Groove** from **CLOCK** for rumble/taps.
 14. If installed, use **Performer** to duck/process external stereo audio.
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Core workflow

1) Select a model

- Turn **FUNCTION** to browse kick models.
- Press **FUNCTION** to enter model variations/menu.
- In **Studio mode**, changes are immediate.

2) Main kick behavior

- **HIT** works as **trigger or gate**
- **Trigger** = normal kick hit
- **Gate held high** = sustain while gate is high, decay when released
- **PITCH** spans roughly **C1 (32.7 Hz) to C2 (65.4 Hz)**
- **CURVE**
- **CCW** = faster drop to base pitch, more 808-like
- **CW** = slower sweep, more 909-like

3) Groove expander behavior

- **CLOCK** triggers Groove voice independently of **HIT**
- Best use: feed it a regular clock, often **16th notes**
- **2 / 3 / 4** shape tap/envelope levels after each Bohm hit
- **LENGTH** and **PITCH** are **relative to Bohm**
- center = same as Bohm
- left = lower/shorter
- right = higher/longer
- **COLOR** blends sound generators:
 - repetition
 - kick reverb
 - noise
 - grit + sub
- **TAPS** output can emit Groove envelope, or other selectable envelopes in settings

4) Performer expander behavior

- Stereo **IN** is ducked on every **HIT**
 - **DUCK** controls how much input ducks
 - **VOL** balances Bohm/Groove against the external input
 - **ON/OFF** toggles or gates the Performer FX section
 - FX can process:
 - **ALL**
 - **KICK**
 - **INPUT**
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Best-use tips

For classic techno kick

- Start with **FM-2X**, **HZ-1**, **VX-T**, or **WT-4**
- Set:
 - medium **LENGTH**
 - medium/high **ATTACK**
 - low-mid **PITCH**
 - **CURVE** slightly CW for 909-ish snap
 - short **TRS DECA**
 - brighter **TRS TONE**

For 808-style long kick / bass

- Lower **PITCH**
- Increase **LENGTH**
- **CURVE** more CCW
- Raise **SUSTAIN**
- Try **BASS** FX variation on supported models

For pitch tracking / basslines

- Set:
- PITCH knob fully CCW
- PITCH attenuverter fully CW
- system PITCH CV mode to proper 1V/oct window: 0..1V , 1..2V , or 2..3V
- Use a 1V/oct sequencer
- Use enough LENGTH , or a gate into HIT

For Groove rumbles

- Patch steady clock into CLOCK
- Raise Groove VOL
- Use COLOR toward repetition/reverb area
- Use 2/3/4 to build movement
- Groove LENGTH only affects repetition generator, mainly from about 3 o'clock to full CW

For sidechain/performance use

- Patch stereo music into Performer IN
- Use DUCK for pumping
- Set Performer FX to DJ FILTER , BEAT ROLL , or SLIP ROLL
- Use synced FX switching if you want clean transitions on next HIT

Models at a glance

FM-2X

- 2-operator FM kick
- Great for punchy synthesized kicks

- **ATTACK** strongly affects FM bite
- **TRS TONE** changes modulator waveform character

HZ-1

- Wavetable kick + transient synth
- Good all-rounder
- **COLOR** adds transient distortion/motion

OLP4

- 4-operator FM / OPL-style
- Most experimental
- **COLOR** inactive
- **TRS TONE** adds FM feedback/noisiness
- Groove supported in newer firmware

PM-K1

- Physical-model acoustic bass drum
- Very different control mapping
- Groove **not supported**
- Good for acoustic/organic kick textures

PX3

- Wavetable + layered object-hit samples
- Harder / more experimental character

SP-6

- Digital-sounding wavetable + synthesized transient layers

VX-T

- Wavetable + FM transient synth
- Nice for click/toc/hihat-flavored transients

WT-4

- Analog-ish wavetable + synthesized transient layers

XT-88

- User wavetable + user sample model
 - Loads from microSD:
 - wavetables/
 - samples/
-

Variations / menu essentials

Bohm common variations

FX type

- TUBE
- BASS
- SOFT
- HARD
- WAVEFOLD
- BITCRUSH (some models)
- DECIM (some models)

Stereo

- STEREO = width 0% to 100%

Groove variations

FX type

- LP
- HP
- BP
- DIST

Stereo

- STEREO = width 0% to 100%

Performer variations

- DUCK TIME = duck release time
- DUCK SMTH = duck curve smoothing
- DUCK BS = band-split frequency for more transparent ducking
- FX types:
 - DJ FILTER
 - HP
 - LP
 - BEAT ROLL
 - SLIP ROLL
- DJ RESO = filter resonance
- CHN = ALL , KICK , INPUT

Running modes

Studio mode

- Default on power-up
- Immediate editing
- Best for sound design and browsing models

Live Song mode

- Programs act as **step sequences of kick snapshots**
- Trigger **FUNCTION** to advance to next step
- New step becomes active on next **HIT**

Live Jam mode

- Programs act as **banks of kick snapshots**
- Turn **FUNCTION** to choose next kick
- Press **FUNCTION** to cue it
- It becomes active on next **HIT**

Snapshot basics

- Save a snapshot by holding **HIT** and pressing **FUNCTION**
- Snapshots store:
 - model variations
 - knob positions
 - **LOAD**
- loads variations only
- **LOAD W/ POTS**
- loads variations + pot positions

System settings worth knowing

- **PITCH CV**: select 1V/oct mapping window (**0..1V** , **1..2V** , **2..3V**)
- **ATTVERT 2**: map **SUSTAIN** attenuverter to **SUSTAIN CV** or **VELOCITY CV**
- **FUNC RAND**: randomize Bohm+Groove or all including Performer
- **PERF FX**: FX switch **INSTANT** or **SYNCED**
- **PERF ON/OFF**: **TRIG** or **GATE**
- **GRV ENV**: **FALL** or **SUSTAIN**

- **TAPS OUT:** GROOVE , I BOHM , PERF , BOHM
- **PANNING:** hard-pan Bohm/Groove/Performer left, center, or right
- **POST EQ:** output EQ for Bohm/Groove
- **IN VOL:** attenuate Performer input
- **PERF VOL:** Performer slider controls B+G or BOHM
- **PERF MAX:** max Performer-controlled output level
- **LOCK MODEL:** prevent accidental model changes in Studio mode
- **BACKUP / RESTORE** via SD card
- **FACTORY RESET**

I/O and control reference

Global technical CV/audio specs

- **CV input range:** $\pm 5V$
- **0..5V compatible:** yes
- **Knob/CV resolution:** 16-bit
- **Audio output:** stereo
- **Sample rate:** 48 kHz
- **Latency:** 0.33 ms

Bohm main module

Jacks

| Jack | Type | Range | Function |
|--------------|-------|----------|-------------------------|
| LENGTH CV | CV in | $\pm 5V$ | Modulates kick duration |
| ATTACK CV | CV in | $\pm 5V$ | Modulates attack amount |

| Jack | Type | Range | Function |
|-----------------|------------------------|---|--|
| SUSTAIN CV | CV in | $\pm 5V$ | Modulates sustain/ volume |
| HIT | gate/ trigger in | 0..5V compatible / CV input spec $\pm 5V$ | Triggers or sustains the kick |
| TRS DECAY CV | CV in | $\pm 5V$ | Modulates transient decay |
| TONE CV | CV in | $\pm 5V$ | Modulates transient tone |
| FUNCTION CV | CV in | $\pm 5V$ | In Studio: randomize current variations; other contexts depend on mode |
| VELOCITY CV | CV in | $\pm 5V$ | Modulates kick velocity/level |
| PITCH CV | CV in | $\pm 5V$ | Pitch modulation; can be configured for 1V/ oct over selected 1V window |
| CURVE CV | CV in | $\pm 5V$ | Modulates pitch curve |
| COLOR CV | CV in | $\pm 5V$ | Modulates timbre/ wavetable behavior |
| FX CV | CV in | $\pm 5V$ | Modulates FX amount |
| OUT L/R | stereo audio out | Eurorack audio | Main stereo output |

Knobs / controls

| Control | Type | Function |
|--------------|--------------|--|
| LENGTH | knob | Kick duration |
| SUSTAIN | knob | Kick body/level |
| ATTACK | knob | Attack/punch |
| PITCH | knob | Base kick pitch |
| CURVE | knob | Pitch drop shape: 808-like CCW → 909-like CW |
| TRS DECAY | knob | Click/transient duration |
| COLOR | knob | Timbre / wavetable behavior |
| FX | knob | Kick post-effect amount |
| TRS TONE | knob | Click brightness |
| FUNCTION | push encoder | Model select, menu navigation, variation editing |
| HIT | button | Manual trigger; can also be held |
| microSD slot | storage | Firmware, models, user wavetables/samples |

Attenuverters / trims

| Control | Type | Function |
|---------------------|------|---------------------------------|
| LENGTH attenuverter | trim | CV depth/polarity for LENGTH CV |
| | trim | CV depth/polarity for ATTACK CV |

| Control | Type | Function |
|-------------------------|------|--|
| ATTACK attenuverter | | |
| SUSTAIN attenuverter | trim | CV depth/polarity for SUSTAIN CV or VELOCITY CV depending on setting |
| PITCH attenuverter | trim | CV depth/polarity for PITCH CV |
| CURVE attenuverter | trim | CV depth/polarity for CURVE CV |
| COLOR attenuverter | trim | CV depth/polarity for COLOR CV |

Groove expander

Jacks

| Jack | Type | Range | Function |
|--------------|---------------|---|---|
| FX CV | CV in | $\pm 5V$ | Modulates Groove FX |
| CLOCK | trigger in | 0..5V compatible / CV input spec $\pm 5V$ | Triggers Groove voice/ taps |
| COLOR CV | CV in | $\pm 5V$ | Modulates sound source blend |
| VOL CV | CV in | $\pm 5V$ | Modulates Groove volume |
| LENGTH CV | CV in | $\pm 5V$ | Modulates Groove duration (repetition) |

| Jack | Type | Range | Function |
|-------------|--------|------------------------------------|--|
| | | | source only where applicable) |
| PITCH CV | CV in | ±5V | Modulates Groove pitch relative to Bohm |
| TAPS CV | CV in | ±5V | Shapes tap envelope |
| TAPS CV OUT | CV out | not explicitly stated; Eurorack CV | Outputs selected envelope (GROOVE , I BOHM , PERF , or BOHM) |

Knobs / sliders

| Control | Type | Function |
|---------|--------|---------------------------------|
| 2 | knob | 2nd tap/envelope level |
| 3 | knob | 3rd tap/envelope level |
| 4 | knob | 4th tap/envelope level |
| LENGTH | knob | Groove length relative to Bohm |
| PITCH | knob | Groove pitch relative to Bohm |
| FX | knob | Groove post-effect amount |
| COLOR | knob | Selects/blends sound generators |
| VOL | slider | Groove output level |

Attenuverters / trims

| Control | Type | Function |
|--------------------|------|--------------------------------|
| FX attenuverter | trim | CV depth/polarity for FX CV |
| COLOR attenuverter | trim | CV depth/polarity for COLOR CV |

Performer expander

Jacks

| Jack | Type | Range | Function |
|--------------|---------------------|---|--|
| DUCK CV | CV in | $\pm 5V$ | Modulates ducking amount |
| FX CV | CV in | $\pm 5V$ | Modulates Performer FX parameter |
| ON/OFF CV | gate/ trigger in | 0..5V compatible / CV input spec $\pm 5V$ | Toggles or gates FX depending on system setting |
| IN L/ R | stereo audio in | Eurorack audio | External stereo input |
| VOL CV | CV in | $\pm 5V$ | Controls Bohm/Groove or Bohm-only level depending on setting |

Knobs / buttons / sliders

| Control | Type | Function |
|---------|--------|---|
| DUCK | knob | Amount of ducking on external input |
| FX | knob | Performance FX parameter |
| ON/OFF | button | Activate/deactivate or gate the FX section |
| VOL | slider | Level of Bohm/Groove before mix/effect, depending on settings |

Installation / power / size

Width

- **Bohm:** 18HP
- **Groove:** 10HP
- **Performer:** 8HP
- **Full set:** 36HP

Depth

- **Bohm:** 28 mm
- **Groove:** 26 mm
- **Performer:** 26 mm

Power

- **Bohm:** +12V 130 mA / -12V 10 mA
- **Groove:** +12V 20 mA / -12V 10 mA
- **Performer:** +12V 10 mA / -12V 5 mA
- **+5V:** unused

microSD / firmware / user files

- microSD / SDHC Class 10+
- Up to **32 GB**
- **FAT32 with MBR only**
- Used for:
 - firmware updates
 - model files
 - XT-88 user wavetables and samples
 - backup/restore

XT-88 user file formats

Wavetables

- `.wav`
- Serum/Serum 2 compatible, assumed **2048-cycle**
- or **mono 32-bit float**, assumed **1024-cycle**
- max **16 wavetables** or until **1.4 MB** memory full

Samples

- `.wav`
 - mono or stereo
 - 16-bit / 24-bit integer or 32-bit float
 - **48 kHz**
 - max **256 samples** or until **14 MB** memory full
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Practical patch recipes

Simple standalone kick

- Trigger sequencer → HIT
- Bohm OUT → mixer
- Start with FM-2X
- Tune with PITCH , CURVE , LENGTH , ATTACK

Techno rumble

- Main trigger → HIT
- 16th clock → Groove CLOCK
- Groove VOL up
- Groove COLOR toward repetitions/reverb
- Adjust 2/3/4 and Groove FX

Sidechain external synths

- External stereo synth → Performer IN
- Kick trigger → HIT
- Increase Performer DUCK
- Output from Bohm OUT

Envelope utility patch

- Use Groove TAPS OUT to modulate another VCA/filter
 - In settings, choose source:
 - Groove envelope
 - inverted Bohm envelope
 - Bohm envelope
 - Performer duck envelope
-

Gotchas

- Groove does nothing without **CLOCK**
- Groove **LENGTH** only affects repetition source
- **PM-K1 does not support Groove**
- For pitch tracking, ensure sequencer is **1V/oct**
- The module can preload next live snapshot, so ultra-fast step changes may be limited by model load time
- If you add Groove/Performer after purchase, **calibration is recommended**

Generated With Eurorack Processor