Octopus User Reference

Community Edition Addendum

Updated: April 2026, for Community Edition versions 5.6.7 through 5.9.9, covering all features and behavior added since the v5.00 manual.

This addendum supplements the Octopus User Reference CE v5.00 and assumes familiarity with the original document. Existing features and concepts that have not changed are not repeated here.

1. About this Addendum

This document covers every user-facing feature added to the Octopus Community Edition firmware between version 5.6.7 (the pre-FLOW v2 baseline) and version 5.9.9 (the current release). It is structured by feature area rather than version, so that each chapter reads as a self-contained reference for one capability. A chronological version timeline is included at the end for those who want a release-by-release summary.

The conventions of the original manual apply throughout. Button names are written in the same form as the panel silkscreen (e.g. **SEL**, **MUT**, **BK**). Encoder names use the four-letter labels (**VEL**, **PIT**, **LEN**, **STA**, **POS**, **DIR**, **AMT**, **GRV**, **MCC**, **MCH**). Modes that have a name in the original manual continue to use that name (zoomPAGE, zoomSTEP, zoomTRACK, zoomMAP, zoomGRID); new modes introduced since v5.00 are named in the same style (zoomCHORD).

Summary of New Features

FLOW v2 — Shape-Paint Maps. A redesign of the attribute-map modulation system. Pre-made curves are painted onto attribute maps via the MIXTGT buttons. Persistent paint state, second-press inversion, user-overwritable shape slots, and a runtime random shape are all part of the system. (Chapter 2.)

CHORD POOL — Pool-based Chord Editor. A new chord mode (zoomCHORD) and a curated 48-chord library. Eleven per-step chord attributes — inversion, voice spread, arpeggiation, humanize, FLOW-shaped velocity and length, FLOW-on-root harmonic motion, voice mute, and others — let you build and modulate complex chord voicings without leaving the step editor. (Chapter 3.)

Step Pattern Library. 64 hand-crafted rhythmic step on/off patterns scrollable per-track via track-hold + Big Knob, with a baseline snapshot for instant return to your hand-programmed pattern. Bulk scrolling across all selected tracks is supported. (Chapter 4.)

Random Event Values. A revival of a long-disabled feature. When a track has shuffle (positive GRV) and an event step lands on a shuffle-delayed position, the event's value is randomized on every fire — pairing wobble in time with wobble in value on the same hits. (Chapter 5.)

Bipolar Track Groove — Heisenberg Mode. Track GRV now spans **-16..+16**. Positive values are the original 909-style swing; negative values activate Heisenberg, a random per-step timing delay. (Chapter 6.)

zoomCHORD UX Polish. Five small but pointed quality-of-life fixes for chord-mode workflows: row-zero step switching with auto-arm, chord data married to step motion, the MUT buttons (CPY, PST, TGL, RND, CLR) wired into chord mode, and the left-panel MIX

rotaries repurposed to edit the focused step's normal attributes from within the chord editor. (Chapter 7.)

2. FLOW v2 — Shape-Paint Maps

FLOW v2 is a redesign of how attribute maps are populated. Instead of drawing each cell of a map by hand, you select a track and an attribute map, then press a MIXTGT button to paint a pre-made curve across the 16 columns of that map.

FLOW v2 is available wherever attribute maps are: in zoomMAP it paints across all 10 tracks of the selected attribute, and inside zoomTRACK it paints across the 16 step positions of the selected attribute on the selected track.

How to Paint

In zoomMAP, with one track and one attribute map selected, press a MIXTGT button (one of **ATR**, **VOL**, **PAN**, **MOD**, **EXP**, **USR0**, **USR1**, **USR2**, **USR3**, **USR4**, or **USR5**) to paint that shape onto the attribute map.

Press the same MIXTGT button a second time to *invert* the painted shape. Smooth shapes (rising ramp, triangle, hump, S-curve, sine) flip vertically — the highest point becomes the lowest. Pattern shapes (the saw, step, irregulars, and odd/even) reverse horizontally — the order of cells across the row is mirrored.

A third press of the same MIXTGT toggles back to the normal (un-inverted) paint. **KEY_CLEAR** on the map clears the FLOW state for that track/attribute pair: the LED turns off and the painted shape is gone.

LED Feedback

The MIXTGT LED reflects the current FLOW state for the selected track/attribute pair. **Green** means a shape is painted normally. **Red** means a shape is painted in inverted form. **Off** means no FLOW shape is bound to this map.

The Ten Shapes

The full mapping of MIXTGT buttons to shapes is as follows:

ATR — rising ramp (idx 0): 0 climbing to 120 across the row. Inverted = falling ramp.

VOL — triangle (idx 1): rises to a peak at the middle column and falls back symmetrically. Linear slopes on either side.

PAN — hump (idx 2): a smooth bell-shaped curve, rounded peak in the middle. Distinct from the triangle by curving rather than going straight.

MOD — S-curve (idx 3): smooth sigmoid rising from low to high.

EXP — sine (idx 4): one full cycle of a sine wave, peak at column 4, zero-cross at column 8, trough at column 12.

USR0 — saw x2 (idx 5): two cycles of a sawtooth pattern across the row. Pattern shape (inversion mirrors horizontally).

USR1 — odd/even (idx 6): every column alternates between maximum and zero (1, 0, 1, 0, ...). The most rhythmic of the patterns.

USR2 — step (idx 7): a staircase pattern, climbing in discrete steps across the row.

USR3 — irregular pattern 1 (idx 8): a hand-crafted irregular rhythm-feeling shape.

USR4 — irregular pattern 2 (idx 9): a different hand-crafted irregular shape.

USR5 — runtime random (sentinel): does *not* paint a fixed shape. Instead, every page loop the player picks a fresh random shape from the pool and paints it onto the map. Continually mutating modulation. The USR5 LED glows green when armed; press USR5 again to disarm.

User-Overwritable Shape Slots

Each of the ten shape slots (idx 0-9, addressed by the ATR through USR4 buttons) can be overwritten at runtime with whatever values are currently visible in the active attribute map. USR5 is not a shape slot and cannot be overwritten.

Capture (SEL + MIXTGT)
With one track and one attribute map selected, hold **SEL** and press a MIXTGT button. The currently displayed map is captured into that shape slot. The slot is now your custom curve and will be painted by future presses of that MIXTGT button.

While SEL is held, the MIXTGT LED of the currently bound shape *flashes green* as a hint of which slot SEL+press would overwrite.

Revert (MUT + MIXTGT)
Hold **MUT** and press a MIXTGT button to revert that slot to the factory shape. Only slots that have been customized will respond; factory slots are left alone.

While MUT is held, the MIXTGT LEDs of every customized slot glow **orange** (red+green), indicating which shapes can be reverted.

Special Behaviors

LEN Map Scaling

The LEN attribute uses an exponential display palette where the top bucket alone spans LEN values 65..128. To make FLOW shape-paint feel consistent across attributes, LEN raw values are mapped through a log-spaced palette: {2, 3, 4, 6, 8, 10, 12, 16, 24, 32, 48, 80, 128}. LEN doubles roughly every 20 raw units, so painted shapes step through display buckets evenly, matching the feel of PIT and VEL paints.

Persistence

Custom shape palettes are *session-only*. They are not yet saved to flash and will revert to the factory ten on power-cycle. Persistence is planned for a future build.

3. CHORD POOL — Pool-based Chord Editor

CHORD POOL introduces a new way to play chords on the Octopus. Instead of building each chord by hand from auxiliary notes, you can pick from a curated library of 48 chord types and modify each one with eleven per-step chord attributes — voice count, inversion, voice spread, arpeggiation, humanize, FLOW-shaped velocity and length, harmonic motion, voice mute, and more. The legacy auxiliary-note chord system (CHORDEYE) continues to work for steps that have no pool chord assigned.

Entering and Exiting zoomCHORD

With a single step selected in zoomSTEP, double-tap any chord-size button (the cluster of seven buttons at the bottom-right of the panel, labeled 1 through 7). This enters **zoomCHORD** — the chord editor.

Three things happen on entry:

(1) The Octopus enters zoomCHORD mode.

(2) The double-tapped chord-size button sets the step's voice count to the corresponding number.

(3) If the step does not yet have a chord assigned (pool index is 0), pool slot 1 (Major) is automatically armed. The chord becomes audible the next time the page loops.

Visually, the **STEP zoom LED** goes *solid orange* instead of its blinking-orange zoomSTEP state, marking that you are in the chord editor.

To exit, press **ESC**. Step selection is preserved on return to zoomSTEP.

The 48-Chord Pool

The chord pool contains 48 curated chord types organized into three tiers of 16 entries each. Tier color is reflected on the chord-size button LED while in zoomCHORD: **green** for tier 1 (slots 1-16, common chord types), **red** for tier 2 (slots 17-32, extensions and alterations), and **orange** for tier 3 (slots 33-48, advanced and exotic colors). When the step has no pool chord (index 0), the button still lights red so the cardinality affordance matches zoomSTEP.

Pool slot 1 is always Major. Slot 0 is reserved for the inactive state — a step with pool index 0 falls back to the legacy CHORDEYE-entered auxiliary notes (or plays the root only).

To pick a chord, turn the **PIT** encoder in zoomCHORD. The encoder scrolls through pool slots 0..48. A single matrix dot on row 1 (PIT) shows the active pool slot in the matching tier color.

Encoders in zoomCHORD

Each of the ten main editor encoders edits a chord-related attribute on the focused step. Big-knob (BK) controls strum direction and intensity. The full mapping is below.

VEL — Velocity FLOW Shape (-11..+11)
Applies a FLOW shape across the chord's voices, modulating each voice's velocity. Same encoding as track-level FLOW shapes:

+1..+9 = positive shape slot 1..9, sampled across columns 0..15.

-1..-9 = same slot, sampled across columns 8..14 (right half — different curve character).

±10 = random shape per event. The shape itself rolls fresh with each step play, but the sample points across voices are deterministic for that event.

±11 = full random per voice. Each voice picks its own random shape and column. Pure chaos.

0 = disarmed (no shape applied; voices play at their natural pool-defined velocity).

PIT — Pool Slot (0..48)
Selects which chord type from the pool. 0 = inactive (falls back to legacy aux notes). 1..48 = pool slots, with the chord-size button LED reflecting the tier color of the selected slot.

LEN — Length FLOW Shape (-11..+11)
Same encoding as VEL but modulates per-voice length. Useful for creating staggered releases across the chord's voices.

STA — Tumble Inversion (-8..+8)
Re-orders the chord's voices by octave displacement. **0** is root position (the chord plays as defined in the pool slot).

Positive N: cycles voices low-to-high, pushing each up one octave one at a time. After every voice has been pushed up +12, the cycle wraps — the lowest voice gets +24, then the next gets +24, and so on.

Negative N: same in reverse — cycles voices high-to-low, pushing each down one octave one at a time.

Effect: the chord *tumbles* upward or downward voice-by-voice as the encoder turns. Clamps at ±8 (does not wrap). The matrix strip on row 3 fills green for positive, red for negative.

POS — Voice Spread (-8..+8 octaves)
Spreads non-root voices outward by octaves. **Positive** opens the chord upward (upper voices rise). **Negative** pulls upper voices below the root (cluster rotates). The root (voice 0) stays anchored so the harmonic center holds. Zero = neutral pool voicing.

DIR — Arp Pattern Bank (-16..+16)

Bipolar pattern bank for chord arpeggiation. **0** = chord (block, all voices simultaneous). Non-zero values arpeggiate the voices across approximately one 16th-note (12 ticks).

Positive 1..16 are the primary patterns:

+1 up **+2** down **+3** up-down pyramid **+4** random per voice

+5 alternate hi-lo (sort, then alternate from extremes) **+6** outside-in **+7** inside-out

+8 skip-2 (evens, then odds) **+9** up-down wide (24-tick) **+10** down-up wide

+11 evens-up odds-down **+12** odds-up evens-down **+13** random walk wide

+14 chord+grace (voice 0 hits at 0, others flam at +12) **+15** grace+chord (reverse of +14) **+16** reverse ping-pong

Negative 1..16 are character variations of the corresponding positives — slower (48-tick languid), faster (4-tick compressed), V-shape, pulsed random, wider, mirrored, clustered, triple-flam, and so on. The matrix strip on row 5 fills green for positive, red for negative.

AMT — Voice Mute (-16..+8)

Bipolar voice mute. **Negative -1..-16** = random probability mute. Each voice has a per-fire chance of being muted, rising with the magnitude. -1 ≈ 6% chance; -16 mutes all non-root voices, leaving the root only.

Positive +1..+8 = shape-gated mute. Picks FLOW shape slot 1..8 and samples it across the chord's voices. Voices whose sample is below the shape midpoint (raw < 60) get muted. Deterministic, repeatable per-step pattern — complements the random negative probability mute.

GRV — Humanize (0..15)

Per-voice random jitter on start time and velocity. **0** = dead-tight (all voices fire exactly together). **15** = very loose. Adds organic feel to chord stabs without disturbing the step's overall timing.

MCC — FLOW-on-Root (-11..+11)

Long-form harmonic motion. When armed, the player reads the page's loop counter on every step play, samples a FLOW shape across the 16 page-loop positions, maps the result to ±12 semitones, and offsets the chord root by that amount. Across 16 page loops the chord root traces the entire shape, giving evolving harmonic motion without programming multiple steps.

Same encoding as VEL/LEN: **+1..+9** = shape 1..9 normal sweep; **-1..-9** = right-half sample (cols 8..14, different curve character); **±10** = random shape per loop; **±11** = full random.

MCH — Channel Spread (1..16)

Spreads the chord's voices across consecutive MIDI channels. **1** = all voices on the base channel. Higher values fan voices across that many MIDI channels. (Per-voice MIDI-out infrastructure is in development; the encoder's value renders on the matrix strip but full audible

delivery may depend on outboard routing.)

Big Knob — Strum Direction and Intensity
Big-knob in zoomCHORD edits strum, no **CHORDEYE** hold required. **Right** (clockwise) = forward strum; **left** = reverse strum; center value 9 = neutral block chord.

Display in the BK circle: green dots fill clockwise for forward strum (1 LED per click up to 9); red dots fill for reverse strum.

Inner-Circle Pitch Entry

In zoomCHORD, press a note key in the inner BK circle (**C**, **C#**, **D**, ..., **B**, **C-up**) to set the focused step's pitch directly. The gesture is identical to zoomSTEP. The step's current pitch is shown as an orange dot pattern in the inner BK circle.

Chord-Size Buttons in zoomCHORD

Press any chord-size button (1..7) in zoomCHORD to directly set the voice count of the focused step. No double-tap or CHORDEYE hold required.

LED behavior: the size-1 button (LED 257) *always* glows red as a fixed origin marker. The button matching the current chord size glows green. When current size is 1, both colors combine and the button shows orange. All other chord-size buttons stay off.

Per-Encoder Matrix Strips

In zoomCHORD, every chord-attribute encoder renders its current value as a column-fill on its own matrix row. This gives a live visual readout of every chord knob:

Row 0 (VEL): shape slot magnitude, green for positive / red for negative (right-half mode).

Row 1 (PIT): the pool-slot tier dot.

Row 2 (LEN): same encoding as VEL.

Row 3 (STA): inversion level, green for positive / red for negative.

Row 4 (POS): spread magnitude, green for positive (open) / red for negative (cluster-rotate).

Row 5 (DIR): arp pattern, green for positive / red for negative.

Row 6 (AMT): voice-mute magnitude, green for positive (shape-gate) / red for negative (random).

Row 7 (GRV): humanize 0..15.

Row 8 (MCC): FLOW-on-root shape slot.

Row 9 (MCH): reserved for the lauflicht.

Phase A Compatibility

Steps that have **no** pool chord assigned (pool index 0) play exactly as they did before the chord pool — the legacy CHORDEYE-entered auxiliary notes and chord_data continue to work. The chord pool is a non-destructive addition: it activates only when the step's pool index is 1 or higher.

4. Step Pattern Library

The Step Pattern Library is a collection of 64 hand-crafted step on/off patterns covering common rhythmic feels — kicks, snares, hats, claves, syncopation, breakbeats, and fills — accessible on any track via a single-handed gesture.

How to Scroll Through Patterns

In **zoomPAGE**, hold a track button (any of **BK1**..**BK10**) and turn the **Big Knob**. Each click of the Big Knob advances the held track to the next preset in the library.

This gesture **replaces** the prior track-hold + BK behavior, which used to scroll the track's MIDI program-change number.

Slot 0 — Your Baseline

Slot 0 is reserved for your *baseline* — the pattern you have manually programmed on that track. The Octopus snapshots this baseline the first time you turn the Big Knob away from slot 0. Scrolling back to slot 0 always restores your baseline, no matter how far you've scrolled into the preset library.

Each track keeps its own baseline. Track A might be on slot 3 while track B is on slot 8 — they are independent.

Slots 1-64 — The Preset Library

The 64 presets are organized into eight categories of eight patterns each:

1-12 Solid grid (4-on-floor, all-on, every-other, etc.)

13-16 Pairs / eighth-note feels.

17-24 Clave / tresillo / Latin.

25-32 Breakbeat / kick-snare patterns.

33-40 Ascending / diagonal patterns.

41-48 Sparse accents.

49-56 Syncopated patterns.

57-64 Three-in-a-row triplets.

Every entry is unique (the library was audited and rebuilt for the 5.9.6 release), every label has been bit-by-bit verified, and the library deliberately limits patterns to a maximum of three consecutive on-steps — except slot 1, which is the all-on grid.

Bulk Shift Across Selected Tracks

To scroll multiple tracks at once: **double-click SEL** to put all 10 tracks into selection (or use the standard SEL gesture to put a subset into selection). Then hold any track button and turn the Big Knob.

Every track currently in the selection advances its preset by one step per Big Knob click. Each track keeps its own independent index and baseline — track A on slot 3 and track B on slot 8 will go to slot 4 and slot 9 respectively after one click.

Persistence

Step pattern state — both the baseline snapshot and the current preset index — lives in RAM only and is *not* saved across power-cycle. Persistence is planned for a future build.

5. Random Event Values

Random Event Values is a revival of a feature that existed in the original v1.6203 firmware but was disabled. It allows an event step's value to be randomized on every fire instead of stepping through a deterministic ramp — but only on the steps that the track's groove is already shuffling.

How It Works

The trigger requires three conditions to all hold:

(1) The step has the event flag set (it is an event step on the track).

(2) The track's **GRV** is non-zero positive (shuffle is on).

(3) The step is at an *even*-indexed locator — i.e. one of the steps that track GRV is actually shuffle-delaying. (The original manual notes that 909-style shuffle delays only even-indexed steps.)

When all three hold, the event's resulting offset is randomly attenuated to **[0, deterministic_value]** on every fire. The sampling is per-fire: every step play rolls fresh.

On odd-indexed steps the event value remains deterministic even when track GRV is non-zero. The two halves of the pattern stay musically distinct — on-beat hits stay solid, shuffled hits wobble in time and value together.

How to Use It

(1) Program an event step on track X (turn a chord-size button into an event type as you would normally).

(2) Hold track X and turn the GRV encoder to a non-zero positive value (any swing amount).

(3) On every page loop, the event's track-scale offset on the even-indexed event hits will be a fresh random value in the [0, deterministic_ramp] range. The shuffle effect on those same steps fires together with the random value.

Setting GRV back to 0 disables both the shuffle and the random.

Interaction with Negative GRV (Heisenberg)

With the introduction of bipolar GRV (chapter 6), Random Event Values follows the same split as the timing groove:

Positive GRV: only even-indexed event-steps randomize (as described above).

Negative GRV: *all* event-steps randomize. In Heisenberg mode every fire is randomly delayed anyway, so it makes sense for the events to follow the same pattern.

6. Bipolar Track Groove — Heisenberg Mode

Track **GRV** now spans **-16..+16**. Positive values are the original 909-style swing, unchanged from previous releases. Negative values activate *Heisenberg mode* — random per-step timing delay, applied to every step on the track.

Editing Track GRV

Hold the track's **BK** button and turn the **GRV** encoder. The encoder now wraps the full range -16 through 0 to +16. Zero is the center.

The track's GRV display on the matrix shows the current value and color-codes the mode:

Positive (1..16): orange fill, increasing with magnitude.

Zero: no fill — clean playback.

Negative (-1..-16): red fill, increasing with magnitude.

Positive GRV — 909 Swing

Positive values produce the original 909-style swing: even-indexed steps get a deterministic shuffle delay proportional to the GRV value. Odd-indexed steps stay on-beat. This is the behavior described in the original manual on page 46, and it is unchanged.

Negative GRV — Heisenberg Random Delay

Negative values activate Heisenberg mode. Every step on the track gets a fresh random delay between 0 and |GRV| ticks on every fire — no even/odd distinction. The point of Heisenberg is that *every* hit wobbles, not just half of them.

Examples:

GRV = -1: each step play is delayed by a random 0 or 1 ticks. Subtle organic looseness, like a tape edge wobble.

GRV = -6: each step play is delayed by a random 0..6 ticks. Audible drag and pull, but still inside the rhythmic pocket.

GRV = -16: each step play is delayed by a random 0..16 ticks. Very loose, almost free-time within the bar.

Zero GRV

Zero is the neutral center. Neither the positive shuffle nor the negative random is active. Clean, deterministic playback.

Note on Other Display Views

The matrix attribute view shows the bipolar fill correctly (orange for positive, red for negative). The extended display view and the MIX attribute view currently show GRV in their original positive-only style — functionally the negative GRV still works, but those two extra views show the value as if it were positive. Updating those views is queued as a future polish task.

7. zoomCHORD UX Polish

Five quality-of-life improvements to chord-mode workflows, introduced in version 5.9.9. All are scoped to zoomCHORD and do not change zoomSTEP behavior — except that step CPY and PST in zoomSTEP now carry the chord pool data along with the rest of the step (see *Marriage* below).

Row-Zero Step Switcher with Auto-Arm

In zoomCHORD, pressing any row-zero (laufllicht) step button switches the focused step to that column.

If the pressed step was **off**: it is also toggled *on* and automatically armed with chord pool slot 1. You hear a chord on that step immediately, and you can tap any chord-size button to dial in the voice count without leaving the chord editor.

If the pressed step was **already on** with chord data: focus switches without overwriting the existing chord data.

This makes it possible to tour through the steps of a track in chord mode, building chord progressions one row-zero tap at a time, without having to drop back out to zoomSTEP.

Chord Data Married to Step Motion

The chord pool block (pool index plus the eleven per-step chord attributes — inversion, vel/len shapes, spread, humanize, arp pattern, voice mute mask, channel spread, cc spread, cc number, FLOW-on-root) now travels with the step wherever it goes:

Track POS rotation (hold track + turn POS): the chord block rotates with the step toggles. A chord set on step 4 follows step 4 around the page.

Step CPY/PST: copying a chord-bearing step and pasting it onto another step now carries the chord block. This works in zoomSTEP as well as zoomCHORD.

Multi-step bulk operations: any operation that already moved step data now also moves the chord block.

MUT Buttons in zoomCHORD

The MUT button cluster (**CPY**, **PST**, **RND**, **TGL**, **CLR**) is now active in zoomCHORD. The semantic principle is: *data motion* ops (CPY, PST, rotate) treat the chord block as part of the step; *view-scoped* ops (CLR, RND) only affect what you are looking at.

CPY
Copies the focused step (including its chord block) into the step clipboard. Same gesture as zoomSTEP.

PST
Pastes the step clipboard onto the focused step. Carries the chord block along.

TGL
Toggles the focused step on or off. Chord block is preserved through the toggle.

CLR (zoomCHORD)
Clears *only* the chord pool block on the focused step. The step toggle stays on, and the step-level attributes (VEL/PIT/LEN/STA/POS/AMT/MCC) are left untouched.

CLR (zoomSTEP)
Clears everything on the focused step, including the chord pool block. The chord pool is treated as subordinate to the step under CLR — wiping the step wipes the chord too.

RND (zoomCHORD)
Randomizes only the chord pool block. The focused step gets a fresh random pool slot (1..48), random FLOW shapes for VEL/LEN/MCC, random bipolar values for inversion/spread/arp/mute/cc-spread, random humanize, and a random voice count. Step-level attrs are left untouched.

RND (zoomSTEP)
Randomizes only the step-level attributes (VEL/PIT/LEN/STA/AMT/MCC). The chord pool block is left untouched.

The unifying rule: *view-scoped operations only touch what is visible in the current zoom; data-motion operations treat chord as a step extension*.

MIX Rotaries Edit the Focused Step

In zoomCHORD, the ten left-panel **MIX** rotaries override their normal cross-track mix behavior and edit the *focused step's* regular step-page attributes. This lets you tweak step-level VEL/PIT/LEN/STA/POS/AMT/GRV/MCC values from inside the chord editor without leaving the mode.

The mapping, top to bottom on the panel:

MIX 1 (top) → VEL

MIX 2 → PIT

MIX 3 → LEN

MIX 4 → STA

MIX 5 → POS

MIX 6 → DIR (no-op — step has no DIR field)

MIX 7 → AMT

MIX 8 → GRV

MIX 9 → MCC

MIX 10 (bottom) → MCH (no-op — step has no MCH field)

No MIX-view visual is started when the rotaries are turned in zoomCHORD — the override is silent so the chord editor display stays put. The MIX rotaries continue to work normally in all other zoom levels.

8. Version Reference Timeline

A chronological summary of every CE release covered by this addendum, for those who want a release-by-release reference. The chapter numbers in parentheses point to the chapter in this addendum that describes the feature in detail.

FLOW v2 era (5.6.7 — 5.7.4)

5.6.7 pre-FLOW v2 baseline.

5.6.8 introduced FLOW v2 shape-paint. (2)

5.6.9 initial split-linear LEN remap; groovebar underrun fix. (2)

5.7.0 significant FLOW v2 refinement: log-spaced LEN palette, persistent paint state, second-press inversion (vertical flip for smooth shapes / horizontal reverse for patterns), MIXTGT LED shows painted state, KEY_CLEAR clears map FLOW state. (2)

5.7.1 LEN encoder auto-bump multiplier; MAP4 odd/even shape (USR4); MAP5 runtime random (USR5). (2)

5.7.2 palette cleanup — slot 1 is now triangle, slot 4 is now a proper one-cycle sine, slots 6-9 reordered (odd/even promoted next to other patterns). (2)

5.7.3 user-overwritable shape slots: SEL+MIXTGT captures, MUT+MIXTGT reverts, LED hints while SEL/MUT held (RAM only). (2)

5.7.4 shape-paint orange-alternate; USR5 three-state (green/red/orange random). (2)

CHORD POOL era (5.7.5 — 5.9.2)

5.7.5 CHORD POOL Pass 1 — zoomCHORD plumbing. Mode entry (double-tap chord-size button), exit (ESC), STEP zoom LED solid orange. (3)

5.7.6 chord-octave gesture regression fix.

5.7.7 zoomCHORD render fix — selected step blinks at native (row, col) again.

5.8.0 CHORD POOL Phase B Build 1a — data model + encoder dispatch + matrix display. Ten new chord attributes, encoder dispatch, tier-color chord-size button. (3)

5.8.1 STA / POS player wiring; chord-size LED fix for pool chords. (3)

5.8.2 full audible pass — chord-size buttons in zoomCHORD, double-tap entry sets size, GRV humanize, AMT negative (random mute), DIR arp 0..4, VEL/LEN FLOW shapes, big-knob strum without hold. (3)

5.8.3 playtest fixes — chord-size LED now lights for sizes 1..3, VEL/LEN shape ARMED bit fixed.

5.8.4 chord-size LED single-color fallback; STRUM big-knob value feedback in BK circle. (3)

5.8.5 VEL/LEN bipolar -9..+9 (right-half sample on negative); STRUM bipolar display. (3)

5.8.6 AMT positive shape-gate; STA pitch-sorted textbook inversion; POS widened to ±8 octaves; per-encoder matrix strips. (3)

5.8.7 FLOW-on-root on MCC encoder: long-form harmonic motion via shape-sampled root offset across page loops. (3)

5.8.8 random states on VEL/LEN/MCC FLOW-shape encoders — slot ±10 and ±11 = random shape and full random. (3)

5.8.9 chord-size LED redesign — LED 257 always red as origin marker, current size green, both = orange when size 1; STA encoder switched WRAPPED → FIXED. (3)

5.9.0 STA tumble inversion (-8..+8 bipolar); DIR pattern bank expanded 0..4 → 0..16; step pitch shown in inner BK circle. (3)

5.9.1 DIR negative variations -1..-16; inner-circle pitch entry from zoomCHORD (crash fix + working entry). (3)

5.9.2 auto-arm pool slot 1 on double-tap zoomCHORD entry — fresh steps land in zoomCHORD with an audible chord. (3)

Step Pattern Library era (5.9.3 — 5.9.6)

5.9.3 Step Pattern Library — 64 hand-crafted presets scrollable on track-hold + Big Knob. Replaces the previous track-MIDI-program-change scroll. (4)

5.9.4 catch-up resync — no source changes, rebuild with 5.9.1 source updates this time included.

5.9.5 bulk shift across selected tracks — double-click SEL puts all 10 tracks into selection; one BK click advances every selected track's preset. (4)

5.9.6 library rewrite — 64 unique patterns, bit-by-bit verified labels, max-three-in-a-row constraint (slot 1 is the deliberate all-on exception), 8 categories of 8. (4)

5.9.7 — Random Event Values revival

5.9.7 revived the v1.6203-disabled GROEF feature as a per-fire random on track-shuffled event-step values. (5)

5.9.8 — Bipolar Track Groove

5.9.8 track GRV bipolar -16..+16. Positive = 909 swing (orange fill); negative = Heisenberg random delay 0..|GRV| on every step (red fill). Random Event Values follows the same split. (6)

5.9.9 — zoomCHORD UX Polish

5.9.9 row-zero press in zoomCHORD switches step and auto-arms pool slot 1; chord block married to step data (rotate/CPY/PST carry chord); MUT buttons CPY/PST/TGL/CLR/RND wired into zoomCHORD per view-scope rules; MIX rotaries in zoomCHORD edit the focused step's normal attrs. (7)

Octopus is an instrument with long-lasting value. Every change described in this addendum is non-destructive: existing songs and saved patterns continue to play back the way they did before, and the new features only activate when you explicitly use them.