FLUKE

Generative Sequencer & Drums for OP-1

Manual for FLUKE v.2.0.4, HITS v.1.0.4, FLUX v.1.0.5, GRIP v.1.0.4

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Introduction

FLUKE is a generative sequencer for the OP-1designed for musical exploration and creative expression.

Inspired by Iftah's Sting, Mutable Instruments' Marbles, the Torso T-1, and classic Korg sequencers, FLUKE combines controlled randomness with its own unique sequencing rules. Rather than simply programming patterns, FLUKE encourages you to play the sequencer like an instrument, **shaping evolving rhythms and melodies in real time.**

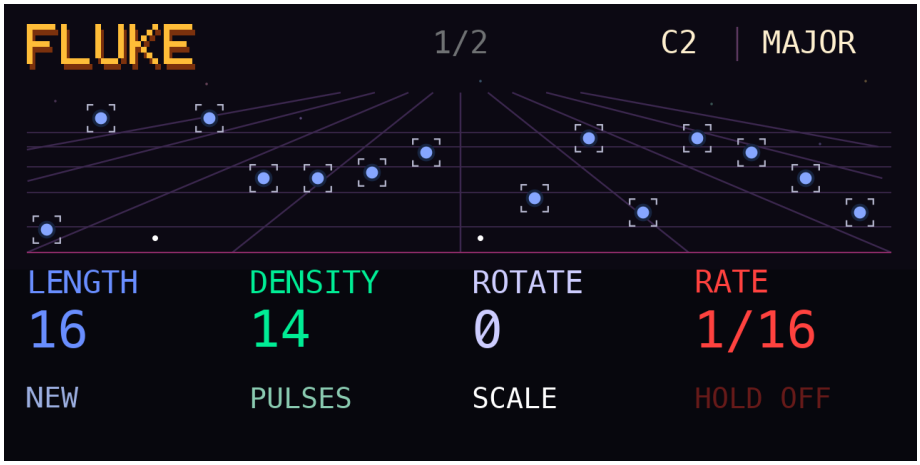
Experiment with different Styles and Rotate to discover unexpected musical patterns. Use Lift to **capture your current melody,** freely explore new variations, and **return safely to your original idea** with Drop.

Shape your rhythms using **Density for varying note activity, or switch to Pulses for** a more traditional Euclidean sequencing approach. Get creative with Cut, which jumps the running sequence back to the beginning on the next step boundary, opening up new rhythmic possibilities while staying in sync.

Use the OP-1 keyboard to select root notes and explore different musical scales.

FLUKE is all about experimentation, happy accidents, and hands-on musical expression.

Synth: Main page controls



Page 1/2 is the Main page. Turn an encoder to change its value; press it for the action shown underneath.

Encoder	Turn	Press
Blue	Length · 1–16 steps	New · generate a fresh melody
Green	Density · 1–16 Pulses · 0–Length	Toggle Density / Pulses
White	Rotate · 0–Length	Scale · select the next scale
Orange	Rate · playback division	Hold · continue without held keys

Generating a melody

Each time you load a new instance of FLUKE a new melody is being created.
Press Blue on Main for a genuinely new melody.

Length and Rotate

Length sets the visible loop length from 1 to 16 steps.

Rotate shifts the visible notes and rhythm. Its selector cycles from 0 through Length, then back to 0; a full rotation plays the same order as 0. At Length 7: 0, 1, 2, 3, 4, 5, 6, 7, 0. Turn backward from 0 to reach 7.

New patterns start at Rotate 0. Shortening hides the tail; increasing Length reinserts hidden notes in their circular order.

Density and Pulses

Density adds or removes notes using the generated rhythm.

Press Green to switch to **Pulses,** then turn Green to spread a precise number of HITS evenly through the loop. For example, 3 pulses over 8 steps fall on steps 1, 4 and 7. Zero pulses is silent; a pulse on every step fills the loop.

Rate and Hold

Rate ranges from 1/32 to a whole note and includes triplet and dotted divisions. Turn Orange right for faster playback and left for slower playback.

Press Orange to toggle **Hold.** With Hold off, release the last keyboard key to stop. With Hold on, the sequence keeps playing.

Choose a root and scale

Play the keyboard to **choose the root note.** While running, a new key changes the root without restarting the pattern.

Press White on Main to **cycle the six scales**; the existing pattern follows the new scale.

Screen label	Scale
CHROM	Chromatic
MAJOR	Major
MINOR	Minor
PENT	Major pentatonic
DORIAN	Dorian
MIXO	Mixolydian

Global Key: Choose a global tonic and scale

Global Key lets you change the melody's root while keeping every generated note inside one chosen musical key. It is enabled by default in FLUKE's Opus settings.

Press White on Main to choose the scale, then hold Shift and press a keyboard note to s**et the global tonic.**

For example, choose Minor and press Shift+C: the header reads C-MINOR. Playing another allowed key chooses a new melody root, while its notes remain in C minor. Root changes during playback do not restart the pattern.

Root keys outside the chosen key and scale are ignored. Holding an invalid key can still keep the sequence playing; it does not change the root or introduce out-of-key notes.

Clear the global key

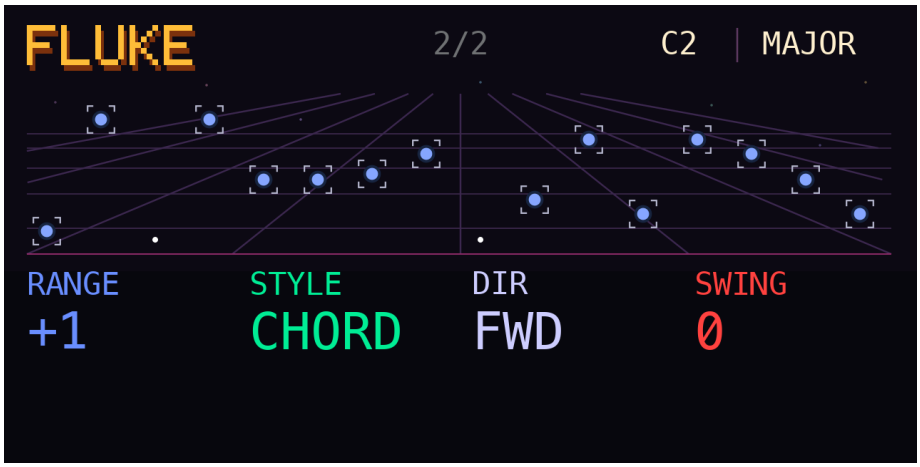
Hold Shift and press the global tonic again. The octave does not matter: if C is the tonic, any Shift+C clears it. Shift plus another note selects a different tonic. Without a global tonic, FLUKE returns to ordinary root-and-scale operation.

Read the miniature keyboard

When a global tonic is set, a miniature keyboard replaces the page indicator. Green keys mark notes allowed by the key and scale.



Synth: Page two controls



Hold Shift to open page 2/2. Release Shift to return to Main.

Encoder	While holding Shift
Blue	Range · –3 to +3
Green	Style · ten melody profiles
White	Direction · Fwd, Rev, F+R, Jump, RJump
Orange	Swing · 0–100

Range

Range changes the available pitch span around the keyboard-selected root; it does not transpose the root.
The default is +1. At 0, notes stay within the root's octave. Positive values add upper octaves; negative values include lower octaves.

Range	Pitch span
–3 / –2 / –1	Root's octave plus three / two / one lower octaves
0	Root's octave only
+1 / +2 / +3	Root's octave plus one / two / three upper octaves

Direction

Screen label	Scale
FWD	First to last.
REV	Last to first
F+R	Travels forward and back without repeating the endpoints
JUMP	Od steps first, then even steps: 1, 3, 5 … 15, 2, 4 … 16
RJUMP	JUMP but backwards

Swing and synchronized jumps

Swing delays alternate playback positions by up to half a step.

Press 

Split to cut the currently playing sequence and **jump to the start**. After the jump, playback continues in the chosen Direction.

Styles

Hold Shift and turn Green to select a Style. Styles reshape the current generated material; they do not select a new seed.

Style	Musical character
Scale	Uses the selected scale's full note vocabulary.
Chord	Favors stronger chord tones.
Fifth	Focuses on root and fifth.
Root	Uses the root across the available octaves; at Range 0 it has one pitch.
Triad	Selects root, third and fifth.
Walk	Moves mostly between neighboring scale tones.
Leap	Favors wider intervals with occasional stepwise recovery.
Motif	Repeats a short idea with small variations.
Reply	Introduces a phrase, then a changed response.
Anchor	Alternates roots with other scale tones.

Save and return

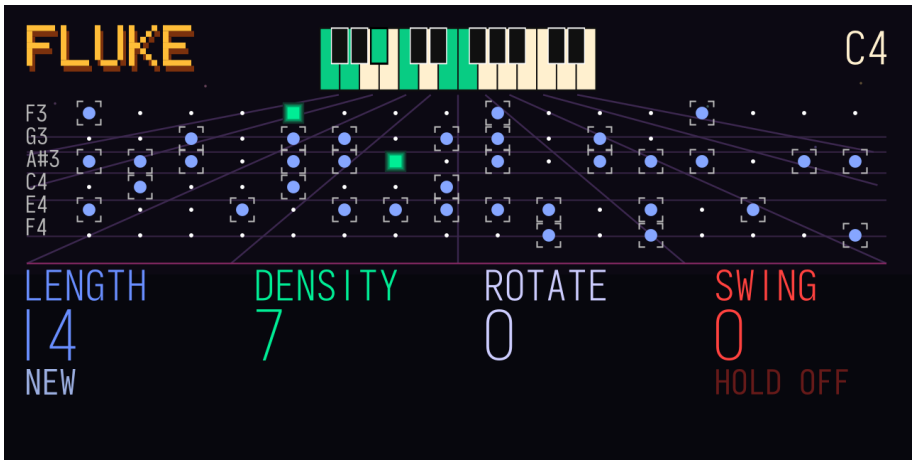
Use a saved phrase as a safe starting point for live exploration. A save includes the notes, rhythm, hidden notes, rotation and sequencer settings;

Control	Action
Lift	Save the current pattern. The monochrome SAVED popup confirms the write.
Drop	Recall the saved pattern on the next step boundary, starting at visible step one.

Recall preserves clock timing. If the saved Rate differs, that Rate starts at the recall boundary. A stopped sequence stays stopped; Hold and physically held keys stay current.

The saved pattern persists across restart, but it is never loaded automatically. Each reload or reselection makes a fresh pattern and restores defaults; press Drop to return to your save. New does not overwrite it. If NO SAVE appears, no valid snapshot is available. If SAVE FAIL appears, retry Lift: the latest pattern may be available only until restart.

Drums: ALL — shape the complete kit



Drum has up to six note lanes, each with its own rhythm and settings.

A fresh load creates F3, G3 and C#4 lanes in ALL mode.

Weighted control changes

Encoder	Turn	Press
Blue	Length	New for all lanes
Green	Density	No action
White	Rotate	No action
Orange	Global Swing	Hold on/off

Length, Density and **Rotate** affect every lane relative to its own state. They do not force all lanes to one identical value.

Length sets the visible loop length from 1 to 16 steps.

Density adds or removes notes using the generated rhythm.

Rotate shifts the visible notes and rhythm. Its selector cycles from 0 through Length, then back to 0; a full rotation plays the same order as 0. At Length 7: 0, 1, 2, 3, 4, 5, 6, 7, 0. Turn backward from 0 to reach 7.

Orange controls one **Global Swing** value, added to each lane's Swing and limited to 100.

New and Hold

Blue press creates fresh rhythms and generated settings for every lane, including Length, Density, Style, Rate and the other generation parameters.

Orange press toggles Hold. With Hold on, the sequence continues after key release.
Select, add and edit a lane

Add & Select new lanes

Hold Shift + a note to **add that note or edit its existing lane**.



- The miniature OP-1 keyboard covers two octaves beginning on F.
- **Green keys are selected lanes.** The edited key turns red and the header reads EDIT [note].
- The edited lane's active dots and boxes turn red.

Press Shift + note to select a lane. With Hold Off, this also auditions the pad. Press any note to leave Edit.. Shift plus another note changes the edited lane while Hold is On.

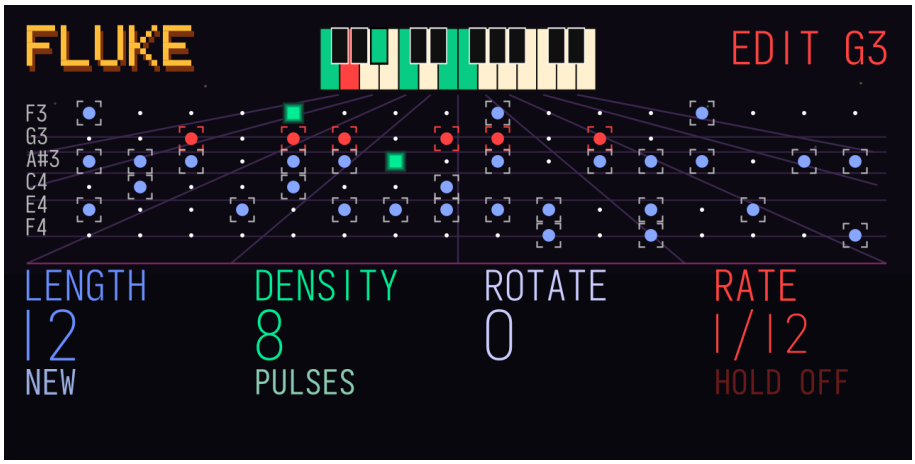
With Hold Off, Shift + note auditions the pad and keeps the current lane in Edit.

A seventh lane is ignored. If playback is already running, the lane joins the existing clock.

Remove a lane

Enter the Edit mode of a note, then hold Cut + that note. The lane is deleted and FLUKE returns to ALL.

Drums Page 1: Drum Edit — shape one lane



Hold Shift + a note to edit its existing lane.

Encoder	Main turn	Main press	Shift + turn
Blue	Length	New lane	Random
Green	Density/Pulses	Toggle Density/Pulses	Style
White	Rotate	No action	Direction
Orange	Rate	Hold on/off	Lane Swing

Length and Rotate

Length sets the visible loop length from 1 to 16 steps.

Rotate shifts the visible notes and rhythm. Its selector cycles from 0 through Length, then back to 0; a full rotation plays the same order as 0. At Length 7: 0, 1, 2, 3, 4, 5, 6, 7, 0. Turn backward from 0 to reach 7.
New patterns start at Rotate 0. Shortening hides the tail; increasing Length reinserts hidden notes in their circular order.

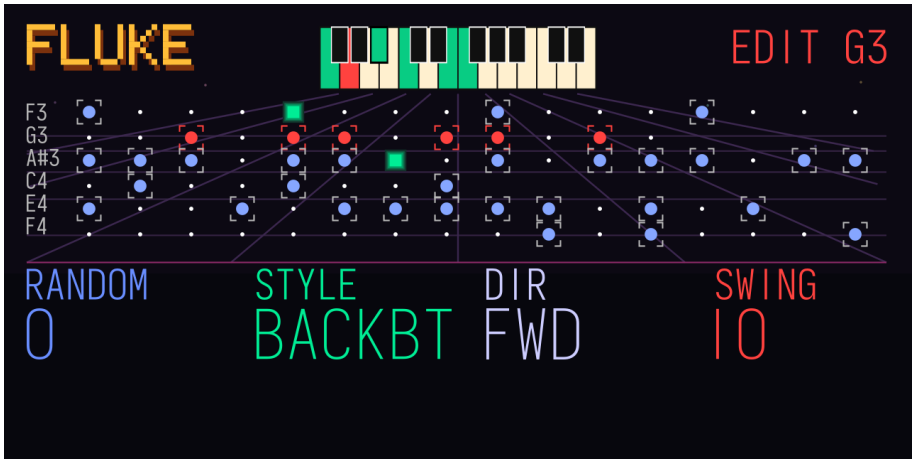
Density and Pulses

Density adds or removes notes using the generated rhythm. Press Green to switch to Pulses, then turn Green to spread a precise number of HITS evenly through the loop. For example, 3 pulses over 8 steps fall on steps 1, 4 and 7. Zero pulses is silent; a pulse on every step fills the loop.
Rate and Hold

Rate ranges from 1/32 to a whole note and includes triplet and dotted divisions. Turn Orange right for faster playback and left for slower playback.

Press Orange to toggle **Hold.** With Hold off, release the last keyboard key to stop. With Hold on, the sequence keeps playing.
New in Edit changes only that lane's rhythm and generated settings.

Drums Page 2: Styles and timing feel



Random introduces additional rhythmic variation per phrase.

Styles

Styles guide the edited lane's note placement and rhythmic feel.

Style	Screen	Rhythmic character
Straight	STRGHT	Steady pulse with main beats and regular subdivisions.
Backbeat	BACKBT	Accents on beats 2 and 4, with pickups and detail.
Offbeat	OFFBT	HITS between the main beats for an upbeat feel.
Tresillo	TRES	Rolling syncopation from repeating 3 + 3 + 2 groups.
Clave	CLAVE	Five clave-inspired accents with asymmetric spacing.
Break	BREAK	Broken beats, displaced HITS and rhythmic detail.
Fill	FILL	Builds activity toward the end of the phrase.
Random	RANDOM	Wider seeded variation; each generated pattern repeats.
Rock	ROCK	Solid foundation, a backbeat and steady eighth notes.
Funk	FUNK	Syncopated foundation and interlocking percussion.
Disco	DISCO	Quarter-note foundation, backbeat and offbeat cymbals.
Reggae	REGGAE	Spacious third-beat emphasis with offbeat support.
Latin	LATIN	Latin-inspired anticipations and layered counter-rhythms.
Shuffle	SHUFL	Paired eighth notes; Swing adds a shuffle lilt.

These are generative tendencies, not fixed song presets. Results also depend on lane role, Length and Density.

In Pulses mode, Style changes the starting phase while keeping even spacing. Swing 0 retains exact timing.

Direction

Screen label	Scale
FWD	First to last.
REV	Last to first
F+R	Travels forward and back without repeating the endpoints
JUMP	Od steps first, then even steps: 1, 3, 5 … 15, 2, 4 … 16
RJUMP	JUMP but backwards

Swing and synchronized jumps

Swing delays alternate playback positions by up to half a step.

Press  Split to cut the currently playing sequence and **jump to the start**. After the jump, playback continues in the chosen Direction.

Save and return

 Lift and  Drop work in  Drum ALL and Edit. They always capture or restore the complete drum pattern: every lane, assignment and its settings, plus Global Swing.

Control	Action
 Lift	Save the current pattern. The monochrome SAVED popup confirms the write.
 Drop	Recall the saved pattern on the next step boundary, starting at visible step one.

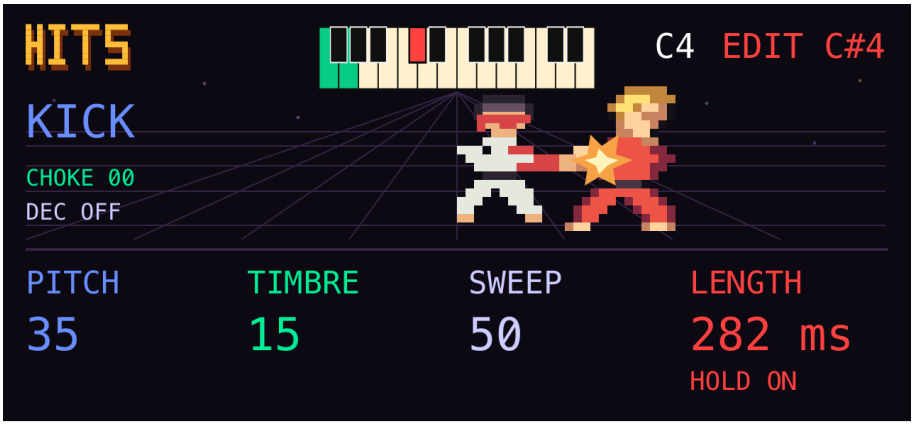
Recall preserves clock timing. If the saved Rate differs, that Rate starts at the recall boundary. A stopped sequence stays stopped; Hold and physically held keys stay current.

The saved pattern persists across restart, but it is never loaded automatically. Each reload or reselection makes a fresh pattern and restores defaults; press Drop to return to your save.

New does not overwrite it. If NO SAVE appears, no valid snapshot is available.

If SAVE FAIL appears, retry Lift: the latest pattern may be available only until restart.

HITS



HITS 1.0 pairs with FLUKE 2.0.

HITS is a drum engine with 17 Braids-derived models across 24 editable pads.

Encoder	Turn	Push	Shift + turn
Blue	Pitch	Cycle engine	Color
Green	Timbre	Cycle choke group	Pad Level
White	Engine parameter	Cycle bit depth	Low Cut
Orange	Length	FLUKE Hold	High Cut

HITS parameters

Pitch tunes the selected pad. On Clock Noise and QPSK it changes the clock rate, which alters the texture. **Timbre ch**anges how the engine makes its sound. On Snare it shifts the balance of the two body tones. On FM it changes the strength of modulation. **Length** sets how long the hit lasts.

White turn is engine-specific:

Engine	Sound
Kick	Changes the starting pitch of the kick's downward sweep.
Snare	Changes how quickly the snare's noise burst dies away.
Cymbal	Changes the spacing between the metallic oscillator frequencies.
Bell & Drum	Changes how quickly the higher partials decay relative to the body.
Pluck	Changes the brightness of the plucked-string tone.
All other	Shapes the fade-in. A short attack preserves the initial transient.

Color adjusts a second aspect of the model's tone. On Kick it changes brightness. On Feedback FM it changes the modulation ratio and feedback. **Pad Level** sets the selected pad's volume in the kit. **Low Cut & High Cut** Turn right to remove more low end left to remove more high end.

Pads in the same nonzero **choke group** cut each other off. Use group 0 for independent pads.

Decimate lowers the bit depths and gives coarser, grainier HITS. In Global scope, set the shared depth in Opus settings.

HITS engines

Play a pad to select it, then press Blue to cycle through the engines in the order shown.

Engine	Sound
Kick	Low, pitched thump with a falling pitch at the start.
Snare	Tuned drum body with a short burst of noise.
Cymbal	Metallic wash. Use short lengths for hats or longer lengths for cymbal accents.
Bell	Bright struck tone with ringing, inharmonic overtones.
Drum	Pitched, tom-like hit with a resonant body.
Pluck	Short, string-like tone. Try it for pitched percussion.
Noise	Filtered noise for shakers, hiss and soft accents.
Twin Noise	Noise through two resonant bands for a hollow, colored hit.
Clock Noise	Stepped noise for crunchy ticks and digital hats.
Cloud	Grainy cluster of pitched tones for textured accents.
Particle	Sparse impulses excite two resonances for a crackling, ringing hit.
Wild FM	Strong feedback FM for rough, aggressive digital strikes.
QPSK	Clocked phase jumps for glitchy ticks and bursts.
FM	Pitched FM percussion, from rounded tones to metallic HITS.
Feedback FM	Feedback adds bite and extra harmonics to the FM tone.
Toy	Buzzy, lo-fi digital hit for arcade-style accents.
Ring	Ring modulation creates metallic, bell-like sidebands.

Using HITS with FLUKE

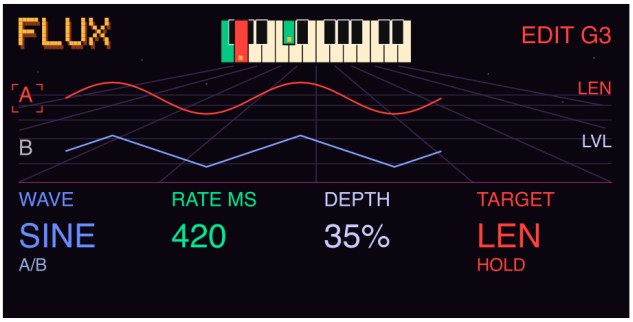
When FLUKE is active for Drum, HITS mirrors the green assigned keys and the red edited lane on FLUKE's mini keyboard. The top-right header shows the playing root, or Edit and its note.

On HITS Orange push toggles FLUKE Hold. With FX On and Hold Off, hold a keyboard note to play the sequence and release the last key to stop. Cut mirrors FLUKE's Drum gestures. Lift and Drop use the normal OP-1 behavior on HITS. Save a complete HITS kit with the OP-1 Drum preset workflow.

FLUX

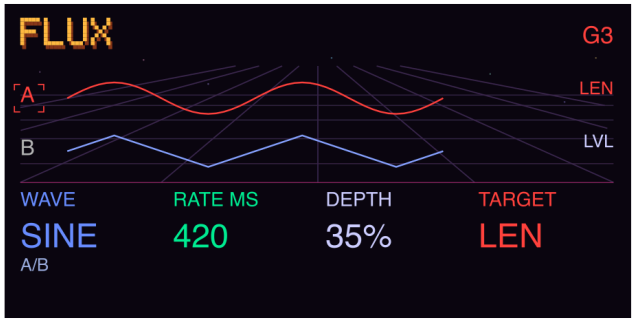
FLUX gives HITS two independent LFOs per note. In Drum mode, select HITS with **Shift + T1**, then choose FLUX with **Shift + T4**. Turn the LFO on and open **T4**. FLUX only works with HITS.

FLUKE active



Red: edit pad
Green: FLUKE lanes · Yellow: depth above zero

FLUKE off or absent



Top right: current HITS pad
A/B: active LFO · Encoder values remain visible

Select a pad

With FLUKE active: Hold Shift + note
With FLUKE off or absent: Play a note to select it.

FLUX shows the note at the top right and keeps all four encoder controls available.

Shape the modulation

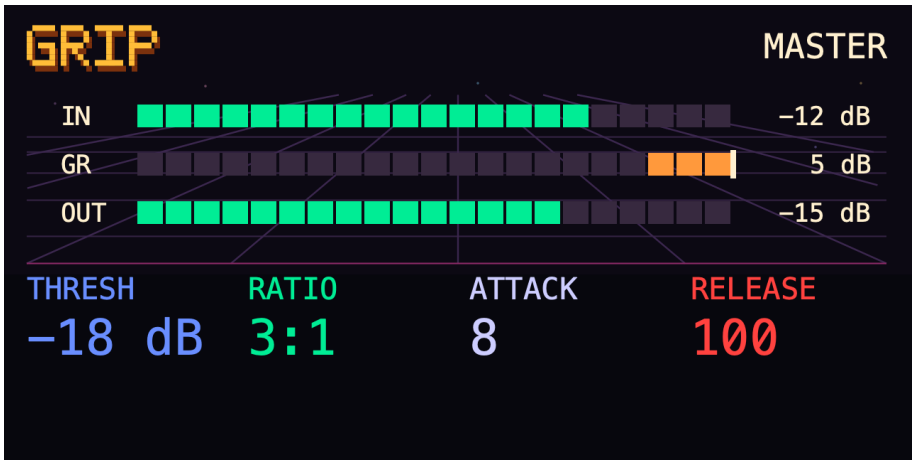
Encoder	Turn	Push
Blue	Wave	Switch between LFO A and B
Green	Rate	-
White	Depth	-
Orange	Target	Hold

The red waveform marks the active LFO.

Wave: Sine, triangle, ramp up, ramp down or square.
Target: LEN (Length), LVL (Level), PITCH, TIMB (Timbre), COL (Color), LO (Low Cut) or HI (High Cut). A defaults to Length and B to Level. Depth starts at 0%.
Length is sampled at the start of each hit. Other targets update throughout the hit.

Both LFOs run through silence, so the next hit picks up the current phase.

GRIP



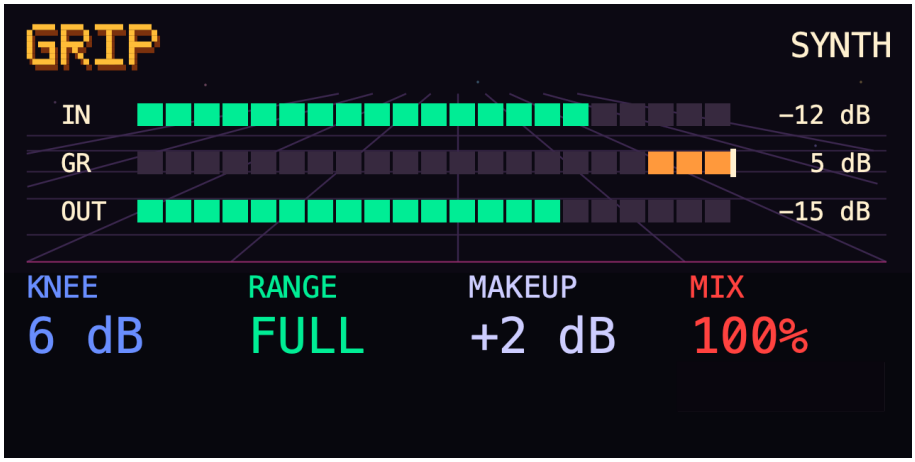
GRIP is a compressor for Synth, Drum and Master FX.

Main controls

Encoder	Turn	Shift + turn
Blue	Threshold	Knee
Green	Ratio	Range
White	Attack	Makeup
Orange	Release	Mix

Threshold sets when compression begins. **Ratio** sets how strongly it acts above the threshold. **Attack** and **Release** set how quickly gain changes. Both values are in millisecond

Shift controls



Knee shapes the transition into compression. **Range** limits gain reduction. **Makeup** adds gain to the compressed signal.

Mix blends the dry and compressed signals.

HITS Kick sidechain

With HITS selected, press White on Drum FX to toggle Kick SC. Orange toggles Hold on Drum and Master FX with HITS and FLUKE Drum active. Both controls are hidden on Synth FX. Kick SC is unavailable on Master.

Settings

Drum keyboard — Transpose or Preview

The Opus setting Drum keys offers Transpose (default) and Preview. It affects ordinary keyboard playing in ALL.

Transpose — play the sequencer
Press and hold a key to play. The first physical C is neutral and preserves the drum voices' original pitches. Other keys shift pitch by their interval from that C. With Hold off, releasing the last key stops playback; Hold keeps it running.

Changing keys midway changes subsequent HITS without restarting the playhead. HITS already sounding finish at their starting pitches.

Preview — audition drum sounds
Ordinary keys in ALL play the loaded drum sounds directly. Audition does not add/select lanes, change the rhythm or start the sequence.

Global key

Global Key: Off/On defaults to On. Off disables Shift+note tonic selection and clears the current tonic;

Autostart — both modes

In FLUKE's Opus settings, Autostart controls when tape transport automatically enables Hold and starts the selected Melody or Drum sequencer.

- Play & Rec: enable Hold when tape playback or recording begins.
- Rec (default): enable Hold when tape recording begins; ordinary tape playback does not enable it.
- Off: never enable Hold automatically. Manual Hold remains available.

HITS settings

Decimate Scope. Per Pad is the default. Each pad saves its own bit depth with the kit. Global applies one bitcrusher to the summed drum signal after the drum FX slot.

Global Decimate Depth. Defaults to Off. Choose Off, 12-bit, 8-bit, or 4-bit. The global setting is saved separately from the per-pad values.

Install and start

Copy FLUKE.opmod to the OP-1 disk's mods folder, eject, then restart. In the Synth sequencer list, select FLUKE. Open the sequencer screen and play a keyboard note. To update, replace the previous FLUKE.opmod. FLUKE 2.0 is for the original OP-1 with firmware 246 and Opus 2.0 beta 4 build 6 (core 2.33). Choose FLUKE in Synth for Melody, or in Drum for the six-lane Drum mode.

Credits

Created by Volker Junginger / ESC_CODE. FLUKE is an independent project. Its generator includes an integer adaptation of Mutable Instruments Marbles by Emilie Gillet under the MIT license.

FLUKE and HITS native adaptation and interface by Volker / ESC_CODE. Opus and its Plugin Kit by LizardMan. OP-1 hardware and interface references by Teenage Engineering.

Mutable Instruments and Emilie Gillet for Marbles, the source for FLUKE's adapted quantization and note-generation ideas, and Braids, the source for HITS' drum synthesis designs. FLUKE's groove design also draws on the density and map-interpolation ideas in Grids. Retain the upstream MIT notices with the source.

SoundHack and Tom Erbe for +decimate, the inspiration for HITS' bit reduction.

Capcom's Street Fighter II inspired the fighter artwork. The sprites are original illustrations.

FLUKE design and rhythm references include Iftah's Sting, Torso T-1, classic Korg sequencers, and the work of Richard Vogl, Christian Cvachovec, René-Pierre Bardet and Malcolm Braff. The existing FLUKE notices describe their individual contributions.

Screen images are desktop previews. The original FLUKE preview assets use Iosevka by Belleve Invis and contributors under the SIL Open Font License.

FLUX and GRIP are credited to ESC_CODE in their plugin manifests. The dbx 160A inspired GRIP?s RMS detection and program-dependent gain response.