IO Labs — Flux Sequencer

- Manual PDF

Manual PDF

Using IOLabs Flux to Create Melodic Components in a Eurorack System

Flux is presented primarily as a **4-channel rhythm sequencer**, but the manual makes it clear that it can also be a very capable **melodic control source** when you treat its CV lanes, quantization, modulation buses, and auxiliary trigger logic as pitch-and-phrase tools rather than only percussion tools.

What Flux gives you for melody

Each of the 4 channels includes:

- **1 main rhythm output**
- **2 auxiliary rhythm outputs**
- **1 CV output**

So across the module you effectively get:

- **4 independent CV lanes**
- **12 trigger/gate lanes** total if you count main + aux outputs per channel

That combination is enough to build complete melodic structures: - pitch CV - note gates - accent/variation gates - transposition or articulation modulation - phrase resets and derived clocks

The key melodic features in the manual

1. Per-step CV sequencing

On **Main UI Page 2: CV Outs**, each step can output one of several CV modes:

- **VOLT** — fixed voltage per step
- **LFO** — free-running modulation source
- **ENV+ / ENV-** — envelope shapes
- **RANDS** — random voltage once per step
- **RANDT** — random voltage once per trigger within a step

For melody, **VOLT** is the most direct pitch sequencer mode.
Set a channel's CV output to **VOLT**, then program **MAXV** per step as your note value.

Because each step has independent values, you can create: - basslines - lead melodies - repeating motifs - transposition sequences

2. Built-in quantization

Flux's CV output includes **per-step quantization** via:

- **QUAN** — number of equally spaced nodes per volt, from 1–24
- **QUAN NODES** — enable/disable individual notes in that division

This is extremely useful for melodic work.

Examples: - Set **QUAN = 12** for semitone division across each volt - Turn on only scale tones in **QUAN NODES** to create a custom scale - Change quantization settings per step for modal movement or unusual harmonic behavior

This means Flux can behave like: - a pitch sequencer - a scale-locked melody generator - a constrained random melodic source

3. Per-step voltage range

Each step has: - **MINV** - **MAXV**

For melody this is powerful because you can define: - fixed pitch by setting VOLT mode and using MAXV - pitch windows for random generation in **RANDS** or **RANDT** - limited register zones for phrases

For example: - bass channel: keep MINV/MAXV low - lead channel: set higher voltage range - harmony channel: use same quant scale, different voltage span

4. Trigger generation for note articulation

Flux's main strength is timing. Its rhythm engine can generate very intricate trigger structures using:

- **DENS**
- **CURV**
- **VAL**
- **LENG**
- **PHAS**
- **COMP**
- **MASK**
- **PROB**
- **HUMA**

For melody, these parameters do not just make rhythms—they shape **note articulation**.

Patch idea: - CV out → oscillator pitch input - main rhythm out → envelope gate or LPG trigger

Then Flux determines: - **which pitch** is heard via CV - **when it is heard** via trigger output

This lets you make melodies that are: - straight and clocked - ratcheted - polyrhythmic - sparse - humanized - probability-based

Practical melodic patching strategies

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1. Basic 1V/oct melodic sequencer

Patch

- **Channel CV out** → oscillator **1V/oct**
- **Channel main rhythm out** → envelope gate in
- **Envelope out** → VCA CV in
- **Oscillator audio** → VCA → mixer/filter

Setup

- On CV page, set **CVSEL = VOLT**
- Set **QUAN = 12**
- Enable desired scale degrees in **QUAN NODES**
- Program per-step **MAXV** values
- On rhythm page, set note timing with:
- **DENS = 1** for one note per step at first
- adjust **LENG** for note duration framework
- use **GATE** to control note length feel

Result

Flux acts like a melodic step sequencer, but with more flexible timing than a standard 16-step pitch sequencer.

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2. Ratcheting melodic lines

Because trigger density can exceed 1 per step, a single step can generate multiple note events.

Patch

- CV out → oscillator 1V/oct
- Main rhythm out → envelope gate

Setup

- Use **CVSEL = VOLT**
- For selected steps increase **DENS**
- Experiment with **CURV** and **VAL**
- **VAL = 0** gives even subdivisions
- positive/negative values skew trigger spacing
- Adjust **GATE** for tight plucks or longer ties

Result

You get: - repeated notes - clustered attacks - accelerating/decelerating note bursts - ornamental melodic figures

This is especially effective for: - Berlin-school lines - IDM-style ratchets - generative arpeggio embellishments

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3. Quantized random melody generator

Patch

- CV out → oscillator 1V/oct
- Main output → envelope gate

Setup

- Set **CVSEL = RANDS** for one random note per step
  or **RANDT** for a new random note on every trigger
- Set **MINV/MAXV** to constrain register
- Set **QUAN = 12**
- Use **QUAN NODES** to define the scale
- Use **PROB**, **MASK**, and **DENS** to control phrase density

Result

This creates scale-constrained generative melodies.

Use: - **RANDS** for stable note-per-step random sequencing - **RANDT** for volatile, trigger-level melodic motion

This is one of the strongest melodic uses of Flux.

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4. Four-part melodic system

Because Flux has **4 channels**, it can function as a small compositional brain for multi-voice music.

Example allocation

- **CH1**: bassline pitch + gate
- **CH2**: lead melody
- **CH3**: harmony or countermelody
- **CH4**: modulation lane or additional voice

Possible patching

- Each channel CV out → separate oscillator or voice 1V/oct
- Each channel main output → each voice envelope gate
- AUX outputs → accents, resets, chord changes, clocking other modules

Result

You can create: - interlocking melodic polyrhythms - canon-like patterns - polymetric harmony - percussion-plus-melody hybrids

Because each channel has independent loop points and timing behavior, voices can cycle against one another.

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5. Using AUX outputs as melodic articulators

Each channel has **AUX1** and **AUX2** with many modes, including:

- delayed copies
- first/last trigger
- start-of-step
- dividers
- boolean logic
- clock divisions
- CV threshold comparisons

For melody, AUX outs are excellent for: - accents - opening a second envelope - switching wavefolders or filters - clocking sample-and-hold - triggering octave jumps or transposition events - selectively firing a second oscillator layer

Example

- Main out triggers the note envelope
- AUX1 triggers a second, shorter envelope to open a filter only on selected steps
- AUX2 sends a divider or logic-derived pulse to transpose another sequencer

This can make a simple melody feel animated and phrased.

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6. Melodic modulation with Macro Pots, CV inputs, and Evolve LFOs

Flux has 3 modulation sources:

- **Macro Pots**
- **CV Inputs**
- **Evolve internal LFOs**

These can modulate many parameters including rhythm and CV behavior.

Why this matters melodically

You can modulate: - **MAXV / MINV** for transposition or pitch drift - **ATK / REL / ACUR / RCUR** for note shape - **DENS** for phrase activity - **VAL / CURV / COMP / PHAS** for articulation timing - **SHUF** for groove changes - even **BPM** in internal mode

Musical uses

- a macro knob for live transposition
- CV input to animate note range
- slow Evolve LFO to drift melody density over time
- performance macros that move from sparse to busy lines

The manual notes that modulation is controlled through **mod buses**: - Yellow - Grey - Purple

Per step, you choose which bus affects it.
That means modulation can be active on some steps and absent on others, which is very useful for melodic phrasing.

Example phrase design

- Put transposition modulation only on steps 5–8
- Apply density modulation only to end-of-bar steps
- Apply CV modulation to one phrase section but not another

This creates evolving melody with intentional structure.

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7. Envelopes and LFOs as melodic support signals

The CV outputs are not limited to pitch.

A channel can instead generate: - **AR envelopes** - **inverted envelopes** - **free-running LFOs**

So one channel can sequence melody, while another channel's CV out can modulate: - filter cutoff - wavefold amount - FM index - VCA level - stereo placement

Melodic use case

- CH1 CV = pitch for oscillator A
- CH1 main out = note gate
- CH2 CV = synced envelope controlling filter
- CH2 main or AUX = accent trigger

Now Flux is doing both pitch and expression.

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8. Scale-based melodic probability and masking

The rhythm side includes: - **PROB** - **MASK** - **MSK>** - **LOOP** - **STEP on/off** - **GEN** on/off generator

For melody, these functions create phrase variation.

Good uses

- **PROB St**: occasionally skip an entire note group
- **PROB Tr**: probabilistically thin ratchets within a step
- **MASK**: create repeating omission patterns
- **LOOP**: set shorter phrase loops inside longer harmonic movement
- **ON/OFF generator**: algorithmically create active/inactive steps

If the pitch stays the same but note occurrence changes, you get melodic variation without reprogramming the line.

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9. Shuffle and humanization for melodic groove

The module provides: - **SHUF** - **SH16** - **HUMA**

These are often thought of as drum tools, but they are equally important for melody.

Use them to make: - basslines swing - leads feel less rigid - arps become more playable and human

A very mechanical pitch sequence can become musically convincing with just subtle timing movement.

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10. Burst mode for triggered melodic phrases

In **BURST** mode, a channel's step can be triggered from gate inputs or MIDI notes. This can be used for melodic bursts or ornaments.

Patch concept

- External keyboard gate / sequencer pulse into gate input
- Flux in Burst mode
- CV out to oscillator pitch
- Main output to envelope gate

Result

Each incoming trigger can launch: - a ratcheted note burst - a predesigned ornament - a short melodic flourish

This is great for: - fills - grace-note clusters - responsive live performance phrases

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Best melodic workflows from the manual

Workflow 1: Flux as a classic melody sequencer

Use: - **CVSEL = VOLT** - **QUAN = 12** - **QUAN NODES** = scale - **DENS = 1** - main out as note gate

This gives you a stable, scale-aware melodic sequencer.

Workflow 2: Flux as a generative melodic composer

Use: - **CVSEL = RANDS or RANDT** - quantization enabled - probability, masking, and modulation buses active - AUX outputs for accents and phrase changes

This gives you self-varying melodic material.

Workflow 3: Flux as melody + articulation brain

Use one channel for pitch and note gate, and the AUX outs for: - accent triggers - filter pings - phrase resets - clock divisions

This turns one melodic line into a complete articulated performance lane.

Workflow 4: Flux as a 4-voice polymetric melody engine

Use all 4 channels with different: - loop lengths - quantization scales - step lengths - densities - shuffle amounts

This creates layered melodic counterpoint.

Especially strong pairings with other Eurorack module types

Flux will work particularly well with:

Oscillators / voices with 1V/oct input

Use CV outs for pitch and main outs for note triggers.

Quantizer-adjacent voices

Flux already has internal quantization, so it works especially well with voices that want clean stepped pitch CV.

LPGs and percussion voices

Because Flux is rhythm-centric, it excels at plucked and percussive melodic patches.

Sequential switches

Use AUX logic/dividers to switch between oscillators, timbres, or transposition sources.

Sample & hold / shift register modules

RANDT and AUX clocks can feed or synchronize generative melodic systems.

VCAs and filters

Use additional CV channels or envelope modes for dynamic shaping of melodic voices.

MIDI-connected systems

The manual notes MIDI I/O support from v1.06 onward, including clocks, note outs, and control messages, so Flux can coordinate melodic structures across modular and external synths.

Important caveats for melodic use

The manual warns about parameters that can cause silence. For melodic patches, watch out for:

- **DENS = 0**
- **MASK** muting all effective triggers
- **PHAS** pushing triggers outside step boundaries
- **negative COMP** expanding triggers beyond step length
- **MOD = OFF** if you expect macro/CV modulation on that step

If a melodic line disappears, these are the first things to check.

Also note: - the CV output range is **0–8V** - many oscillators expect **1V/oct**, so this is musically useful, but you may want to constrain the range to avoid excessively wide pitch spans - use **MINV/MAXV** carefully to keep melodies in register

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A few concrete melodic patch recipes

1. Scale-locked bassline

- CH1 CV out → bass oscillator 1V/oct
- CH1 main out → envelope gate
- CH1 CVSEL = VOLT
- QUAN = 12
- enable minor scale notes in QUAN NODES
- DENS = 1
- SHUF slightly above 0

Result: tight bassline with swing.

2. Generative lead

- CH2 CV out → lead voice 1V/oct
- CH2 main out → envelope gate
- CVSEL = RANDS
- MINV/MAXV limited to 1–3V equivalent range
- QUAN = 12 with pentatonic nodes enabled
- PROB < 100
- HUMA moderate
- AUX1 = DEL or 1st for accents

Result: melodic but controlled random lead phrasing.

3. Ratcheting arp

- CH3 CV out → oscillator pitch
- CH3 main out → envelope gate
- CVSEL = VOLT
- some steps with high DENS
- CURV and VAL adjusted for acceleration/deceleration
- AUX output triggers filter envelope

Result: animated arpeggio line with timbral articulation.

4. Harmony drone with motion

- CH4 CV out = LFO or ENV to modulate filter/FM on another voice
- AUX outs provide divider clocks or logic gates
- another channel handles pitch

Result: Flux provides harmonic motion and expression, not just notes.

Bottom line

Flux can absolutely be used to create **melodic components**, not just drum patterns. Its most useful melodic strengths are:

- **4 independent CV/gate sequencing lanes**
- **per-step fixed or random voltages**
- **built-in quantization and selectable quantization nodes**
- **complex rhythmic articulation**
- **AUX outputs for accents, dividers, logic, and phrase control**
- **deep modulation via macros, CV inputs, and internal LFOs**
- **per-step modulation bus assignment for structured variation**

In practice, Flux is best understood as a **composition and articulation engine**:
it can generate pitch, timing, dynamics, variation, and phrase structure all at once. If paired with oscillators, VCAs, filters, and envelopes, it can drive entire melodic and harmonic systems with a level of rhythmic sophistication that most pitch sequencers do not offer.

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