Acid Rain — Constellation

- Manual PDF

Constellation Firmware V1.1 Manual (PDF)

Using Acid Rain Constellation to Create Melodic Components

Constellation is not a pitch sequencer in the traditional sense, but as a eurorack musician I'd absolutely use it as a **melodic rhythm engine**. Its real strength is generating highly structured trigger/gate relationships that can drive pitch, articulation, transposition, variation, and phrase switching across other melodic modules.

What Constellation contributes musically

From the manual, Constellation gives you:

- **8 trigger/gate channels**
- **8 Euclidean patterns per channel**
- Per-pattern:
- divide
- length
- events
- rotate
- burst
- ratchet
- chance
- Per-channel:
- logic combining patterns: **AND / OR / XOR**
- **width**

- **flop**
- Per-channel clock scaling for **true polyrhythms**
- CV control over many pattern parameters
- Save/load/live performance switching

That means Constellation is ideal for generating the **time structure** behind melody, even if another module supplies the actual voltages for pitch.

Best melodic use cases

1. Drive a CV sequencer with better rhythm than the sequencer alone

The most obvious melodic patch:

- Constellation channel output -> **clock input** of a pitch sequencer
- Pitch sequencer CV out -> oscillator 1V/oct
- Pitch sequencer gate out or Constellation gate -> envelope -> VCA/filter

Why this works

Most pitch sequencers become much more musical when their advance clock is not just straight 16ths. Constellation can create:

- uneven phrase lengths
- fills via burst
- ornamental repeats via ratchet
- probabilistic note omissions via chance
- polyrhythmic note movement with channel clock scaling

Musical result

A basic 8-step pitch sequence suddenly behaves like:

- syncopated bassline

- evolving arpeggio
- generative pluck line
- shifting ostinato

Good strategies

- Use one channel as the **main note advance**
- Use another as **accent or envelope retrigger**
- Use a third to **transpose** another sequencer or switch quantizer input
- Keep pitch sequence simple; let Constellation create the phrasing complexity

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2. Separate pitch rhythm from articulation rhythm

This is one of the best ways to get expressive melody.

Patch like this:

- **Channel 1** -> advance a pitch sequencer
- **Channel 2** -> trigger envelope/VCA
- Sequencer CV -> quantizer -> oscillator pitch
- Envelope -> VCA controlling oscillator

Now pitch changes and audible notes are no longer identical events.

What this gives you

- some pitch steps happen silently
- some notes repeat without changing pitch
- some new pitches sustain across multiple articulations
- some notes become staccato while others become legato

How to shape it

- Use **narrow width** for short articulated notes

- Use **high width** for longer gate-like phrasing
- Use **flop** on a channel to create alternating gate states and longer held phrases
- Use **chance** on articulation separately from pitch advancement

This is one of the easiest paths from “sequenced notes” to “actual melody.”

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3. Use channels as phrase layers for one melodic voice

Each Constellation channel combines up to 8 patterns. That makes each output more like a compositional layer than just a trigger stream.

For one melodic voice, you can assign:

- **Channel 1** = main melody trigger
- **Channel 2** = octave jumps / transposition trigger
- **Channel 3** = ornament trigger
- **Channel 4** = phrase reset or sequence direction change
- **Channel 5** = envelope accent
- **Channel 6** = filter envelope trigger
- **Channel 7** = sample & hold for pitch variation
- **Channel 8** = save-slot performance switching or mutes

Why this is powerful

You can build a complete melodic ecosystem where: - one rhythm determines when the melody advances - another determines when it speaks - another changes register - another introduces random movement - another switches to a different phrase

That’s much more musical than using a single gate source everywhere.

Melodic patch ideas

A. Euclidean bassline generator

Patch

- Channel 1 -> clock input of pitch sequencer
- Sequencer CV -> quantizer -> oscillator
- Channel 1 or 2 -> envelope -> VCA
- Channel 3 -> filter envelope trigger
- Channel 4 -> reset input of sequencer every longer phrase

Constellation setup

- Channel 1:
- OR logic
- pattern 1: length 8, events 3
- pattern 2: length 5, events 1
- pattern 3: chance around 70%
- Channel 2:
- lower density articulation pulses
- Channel 4:
- longer cycle, maybe length 15 or 16, sparse events

Result

A bassline with recurring structure but enough asymmetry to feel written rather than looped.

B. Generative lead melody with quantized sample-and-hold

If you don’t have a pitch sequencer, Constellation can still help generate melody indirectly.

Patch

- Noise or slow CV source -> sample & hold input
- Constellation Channel 1 -> sample & hold trigger
- Sample & hold output -> quantizer -> oscillator 1V/oct
- Channel 2 -> envelope trigger
- Channel 3 -> second envelope or accent
- Optional: Channel 4 -> transpose quantizer root or switch scales

Why it works

Constellation determines **when new pitches are sampled**, which is effectively melodic phrasing. Because the rhythm is structured and not random-clutter, the sampled melody feels intentional.

Tips

- Use sparse Euclidean patterns for melody triggers
- Add ratchets sparingly for trills and grace-note-like clusters
- Use chance to occasionally skip new pitch sampling so notes repeat

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C. Arpeggiator with irregular gate architecture

Patch

- Arpeggiator or sequential voltage source -> oscillator pitch
- Constellation Channel 1 -> arp clock
- Channel 2 -> envelope trigger
- Channel 3 -> switch arpeggiator mode / reset / octave shift

Constellation advantage

Instead of a static up/down arp, you get: - asymmetrical note timing - recurring phrase variation - occasional burst clusters - phrase-length drift via different pattern lengths and channel clock ratios

This is especially strong for techno, ambient, and Berlin-school style sequences.

D. Counterpoint from multiple melodic voices

Because there are 8 channels, Constellation can drive multiple melodic systems at once.

Example

- Channel 1 -> bass sequencer clock
- Channel 2 -> lead sequencer clock
- Channel 3 -> pluck voice envelope
- Channel 4 -> chord voice re-articulation
- Channel 5 -> sequence reset
- Channel 6 -> transposition trigger
- Channel 7 -> melodic mute logic
- Channel 8 -> phrase switch/load control

Why this matters

Per-channel clock multiplication/division means each melodic voice can exist in a different rhythmic grid.

For example: - bass on straight quarter/8th-note logic - lead in triplet-derived movement - pluck voice on a longer polymetric cycle

That creates the illusion that the melodic lines are independently composed.

Features especially useful for melody

1. Channel clock scaling = melodic polyrhythm

The manual explains each channel can run at its own multiplier/divider relative to the main clock.

This is huge for melody because you can make: - one voice move in straight time - another voice move in triplets - another move more slowly as a phrase voice

Musical use

- Bass: channel scaler 1/1
- Lead: channel scaler 3/2
- Harmony stabs: channel scaler 1/4

This creates layered melodic interplay without needing multiple clock processors.

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2. Pattern divide = phrase spacing

Pattern divide slows individual patterns relative to the channel clock.

For melody this is great for: - accents that only happen every few notes - octave changes that recur over long cycles - occasional phrase resets - cadential events

Think of divide as a tool for large-scale melodic architecture.

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3. Burst = repeated notes or ornaments

Burst repeats events on subsequent clocks.

Melodically, this can become: - repeated notes - stuttered pitch advance - decorative figures - rhythmic insistence before a phrase turn

If burst clocks a sequencer, you may get repeated step advances or repeated gate clusters depending on the destination.

If burst triggers articulation while pitch holds, it creates repeated-note ornaments.

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4. Ratchet = trills, rolls, fast embellishment

Ratchet repeats events between clock edges.

This is fantastic for: - lead flourishes - fast reiterations - pseudo-trills - note pressure/intensity effects if patched to envelopes

A good melodic trick: - Channel 1 advances pitch normally - Channel 2 ratchets the envelope only - Result: one pitch with rapid repeated articulation

That sounds much more intentional than ratcheting the whole sequencer.

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5. Chance = selective melodic variation

Chance applies probability to pattern events.

For melodic work, this is best used to control: - occasional note skips - rare accents - phrase fills - occasional transposition events - non-repeating articulation

A powerful move is using chance not on the main melody clock, but on a **secondary modulation function**: - transposition trigger - accent trigger - filter articulation - note repeat layer

That keeps the melody intelligible while adding life.

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6. Logic modes = compositional filtering

The logic section is easy to overlook, but for melodic patches it's one of the most compositional features.

OR

Best for: - dense composite trigger streams - melodic activity - lively advancing sequences

AND

Best for: - rare, significant melodic events - phrase boundaries - transposition moments - accent conditions

Use AND when you want something to happen only when multiple cycles align.

XOR

Best for: - syncopated alternation - unstable lead rhythms - call-and-response style trigger behavior

XOR is especially interesting for melodic articulation because it removes overlaps and emphasizes contrast.

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7. Width = note length shaping

Width controls pulse width per channel.

For melody: - low width = plucky, percussive, articulated - high width = connected, legato-ish, gate-like - very high width can blend events into held gates

This can dramatically affect perceived melodic style even when pitch content stays the same.

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8. Flop = phrase-level gate toggling

Flop turns combined pulses into alternating high/low gate states.

Melodically, this is useful for: - opening/closing sustained drones - alternating between held and silent states - creating slow phrase masks over faster rhythmic events - turning rhythmic event streams into structure gates for sequential switches or VCAs

One great use: - Use a normal channel for note triggers - Use a flop-enabled channel to open a VCA or sequential switch only during alternating phrase blocks

Now the same melody appears in sections, like arranged composition.

CV modulation for evolving melody

Constellation's CV inputs can modulate many pattern parameters, sampled on the channel clock.

This is excellent for slow melodic evolution.

Best parameters to modulate for melody

Length

Changes phrase size over time.
Great for evolving ostinati.

Events

Changes density.
Excellent for moving between sparse and busy phrases.

Rotate

Shifts accents and note placement without destroying the basic pattern.

Chance

Lets a melody become more or less assertive over time.

Width

Changes articulation from tight to legato.

Mute

Can drop whole melodic functions in and out.

Load

The manual notes CV can momentarily load a save slot. This is huge.

You can use a gate source to: - switch between melodic scenes - alternate verse/chorus-like phrase sets - momentarily recall fills - create call-and-response between saved pattern states

That turns Constellation into a performance-arrangement brain for melody.

Advanced melodic strategies

1. Use save slots as harmonic scenes

Even though Constellation doesn't store pitch directly, save slots can store totally different rhythmic structures for melodic control.

Create slots like: - Slot 1 = verse rhythm - Slot 2 = chorus rhythm - Slot 3 = break / sparse - Slot 4 = fill / ratchets - Slot 5 = long-note ambient mode

Then use: - live mode - manual loading - CV load assignment

to "perform" the melody structure.

If your external sequencer keeps the same pitch material while Constellation changes timing, the musical result feels like arrangement-level composition.

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2. Drive transposition events

A very musical trick is to dedicate one channel to transposition rather than note generation.

Patch

- Base pitch sequencer -> quantizer transpose-capable input or precision adder
- Constellation channel -> trigger sample-and-hold, sequential switch, or transpose gate

Uses: - occasional octave jumps - switching between root notes - enabling alternate quantizer offsets - chord tone shifts

Because Constellation can create long, sparse, logic-derived events, transposition changes can happen at meaningful phrase points rather than every bar.

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3. Create melody from logic intersections

Use logic modes to distinguish: - normal notes - emphasized notes - rare phrase markers

For example: - Channel 1 OR logic -> main note stream - Channel 2 AND logic -> only when multiple patterns align, trigger octave accent - Channel 3 XOR logic -> trigger alternate timbre or second oscillator

Now the melody has internal hierarchy: - common notes - accented notes - special notes

That’s a very compositional way to patch.

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4. Build call-and-response with two sequencers

Patch

- Channel 1 -> sequencer A clock
- Channel 2 -> sequencer B clock
- Channel 3 flop gate -> switch/VCA enabling one voice at a time
- Both sequencers to different oscillators or timbres

Result

Two melodic identities can alternate, overlap, or answer each other.

Constellation’s long polymetric cycles make this feel organic rather than repetitive.

Practical patch templates

Template 1: Melodic techno line

- Ch1 -> main sequencer advance
- Ch2 -> amp envelope trigger
- Ch3 -> filter accent trigger
- Ch4 -> occasional reset
- Ch5 -> transpose event
- Ch6 -> ratcheted ornament trigger

Use: - OR on Ch1 - chance on Ch5 - ratchet on Ch6 - width medium on Ch2 - long cycle lengths on Ch4 and Ch5

Result: driving but evolving melodic pattern.

Template 2: Ambient generative melody

- Ch1 -> sample & hold trigger
- S&H -> quantizer -> oscillator
- Ch2 -> VCA envelope
- Ch3 -> LPG ping
- Ch4 -> reverb duck/envelope
- Ch5 flop -> drone gate
- Slow LFO into CV input modulating length or rotate

Use: - sparse Euclidean events - long lengths - low event counts - moderate chance - slow channel clocks

Result: drifting melodic fragments with recurring structure.

Template 3: Polyrhythmic dual melody

- Ch1 -> bass sequencer clock
- Ch2 -> lead sequencer clock

- Ch3 -> bass articulation
- Ch4 -> lead articulation
- Ch5 -> bass transposition
- Ch6 -> lead ornament
- Different channel clock scalers for bass and lead

Result: interlocking melodic voices sharing one master rhythm source but living in different metric worlds.

What Constellation is best paired with

To make actual melody, Constellation pairs especially well with:

- **pitch sequencers**
- **quantizers**
- **sample & hold modules**
- **precision adders**
- **sequential switches**
- **switchable voltage memories**
- **envelopes / LPGs / VCAs**
- **clockable arpeggiators**
- **logic-addressed or gate-addressed switch modules**

In other words: Constellation excels when another module handles **what pitch**, while it handles **when, how often, how long, and under what condition**.

Bottom line

Constellation is best understood as a **melodic structure generator**, not just a drum trigger source.

It can create melodic components by controlling:

- **note timing**
- **articulation**
- **repetition**
- **ornamentation**
- **phrase length**
- **transposition events**
- **voice alternation**
- **scene switching**

If you pair it with a quantizer, pitch sequencer, sample & hold, or switch-based pitch system, it becomes an extremely powerful tool for writing melodies that feel alive, polyrhythmic, and performable.

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