

Mutable Instruments – Plaits

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[Mutable Instruments Plaits Manual \(PDF/manual page\)](#)

Using Plaits to Create Melodic Components

Plaits is a very flexible **macro-oscillator voice** for Eurorack, and based on this manual, it can serve as the core melodic sound source in several different ways: as a conventional pitched oscillator, a chord generator, a plucked/struck physical model, a wavetable lead, or even a speech-like melodic texture.

What Plaits gives you musically

Plaits contains:

- **16 synthesis models**
- **1V/Oct pitch input**
- **internal LPG (low-pass gate)**
- **internal decay envelope triggered from TRIG**
- **main OUT plus AUX output**
- CV control over:
 - model
 - timbre
 - morph
 - harmonics
 - frequency / FM
 - level

That means it can function either as:

- a **complete melodic voice** with only pitch and trigger required, or
- a **deeply modulatable oscillator** inside a larger patch.

Best melodic uses from the available models

For melody writing, the strongest Plaits models are:

1. Virtual analog model

Great for:

- basslines
- mono leads
- arpeggios
- classic subtractive-style sequences

Controls: - **HARMONICS**: detune between the two waves - **TIMBRE**: pulse shape / hardsync formants - **MORPH**: saw/triangle/notch variation

How to use melodically: - Send a sequencer or keyboard into **V/OCT** - Send gates/triggers into **TRIG** - Use the internal LPG for instant articulation - Modulate **TIMBRE** or **MORPH** slowly for evolving lead lines

This is probably the easiest “traditional synth voice” inside the module.

2. Waveshaping / wavefolding model

Great for:

- expressive leads
- brighter melodic hooks
- animated basses

Controls: - **HARMONICS**: waveshaper waveform - **TIMBRE**: wavefolder amount - **MORPH**: waveform asymmetry

How to use melodically: - Patch pitch CV to **V/OCT** - Trigger the internal envelope via **TRIG** - Add slow CV to **TIMBRE** for movement across phrases
- Use **AUX** as an alternate folded tone for layering or parallel processing

This model works well when you want melodic material that feels more modern and harmonically rich.

3. FM model

Great for:

- glassy melodies
- electric piano-like lines
- metallic but playable leads
- complex bass tones

Controls: - **HARMONICS**: frequency ratio - **TIMBRE**: modulation index - **MORPH**: feedback/chaos character

How to use melodically: - Keep **MORPH** near noon for more stable pitched tones - Sequence pitch via **V/OCT** - Use light CV on **TIMBRE** to animate note brightness - Use **AUX** sub output to reinforce the fundamental for bass melodies

This is one of the best models for melodic lines that need more harmonic complexity without losing pitch definition.

4. Additive model

Great for:

- organ-like leads
- hollow melodic lines
- soft harmonic pads when externally enveloped
- clear, trackable tonal material

Controls: - **HARMONICS**: spectral bump count - **TIMBRE**: center harmonic - **MORPH**: bump shape

How to use melodically: - This model responds very musically to subtle modulation - Use it for tonal sequences where each note should remain clear - The **AUX** output gives a Hammond-like subset of harmonics, useful for second-layer melody doubling

This is a good choice when you want melody without too much harshness.

5. Wavetable model

Great for:

- evolving leads
- digital arpeggios
- melodic ostinatos
- retro/futuristic tones

Controls: - **HARMONICS**: bank selection - **TIMBRE**: row - **MORPH**: column

How to use melodically: - Sequence notes into **V/OCT** - Modulate **TIMBRE** and/or **MORPH** with slow LFOs, random, or envelope CV - Use **AUX** low-fi output for a doubled or contrast voice

This model is especially useful when the melody should change tone over time without changing pitch.

6. Chord model

Excellent for melodic-harmonic writing.

Controls: - **HARMONICS**: chord type - **TIMBRE**: inversion/transposition - **MORPH**: waveform selection - **AUX**: root note

How to use musically: - Send 1V/Oct to **V/OCT** to transpose the entire chord - Trigger with **TRIG** - Sequence chord changes as if Plaits were a harmonic voice - Use **AUX** root output separately as: - a bassline source - pitch reference - doubled melody

This is one of the most powerful “melodic component” tools in the module because a single pitch CV line can become full harmonic movement.

7. Speech model

Useful for:

- vocal melody fragments
- robotic hooks
- spoken textures integrated into pitched music

Controls: - **HARMONICS**: vowel/speech algorithm/word bank - **TIMBRE**: species/formant shift - **MORPH**: phoneme or word segment

Musical use: - Sequence pitch melodically for “singing synth” effects - Trigger words/segments with **TRIG** - Use CV over **MORPH** to scan phonemes rhythmically - Use FM attenuverter to affect intonation when triggered

This is less conventional, but very effective for melodic ear candy or top-line motifs.

8. Resonator / string models

Great for:

- plucked melodies
- mallet-like sequences
- pseudo-acoustic lines
- ambient melodic figures

Controls: - **HARMONICS**: inharmonicity/material - **TIMBRE**: excitation brightness - **MORPH**: decay

How to use melodically: - Send note CV to **V/OCT** - Send gates/triggers to **TRIG** - Let the internal exciter and decay shape each note - Use **LEVEL** as accent input for more expressive phrasing when using triggered physical models

These models are especially strong for melodic sequences that need natural attack and resonant decay.

Using the internal envelope and LPG for melodic patches

One of the most important melodic features in Plaits is that you do **not** always need an external envelope + VCA.

With TRIG patched:

Plaits can: - trigger its own decaying envelope - strike its internal LPG - excite physical/percussive models - sample-and-hold model CV

This means a minimal melodic patch can be:

- sequencer pitch CV → **V/OCT**
- sequencer gate/trigger → **TRIG**
- audio out → mixer

That alone creates a playable melodic voice.

Why this matters

For melodic composition, this makes Plaits ideal for:

- compact live systems
- generative patches
- quick sketching of riffs and motifs
- multi-voice systems where you want to conserve VCAs/envelopes

Important note about the attenuverters

The manual notes that when a corresponding CV input is **unpatched** and **TRIG is patched**, the attenuverters for **TIMBRE**, **FM**, and **MORPH** control the amount of internal envelope modulation.

This is extremely useful for melody because it gives you note-by-note timbral articulation without extra patching.

For example: - internal envelope to **TIMBRE** = brighter attack on each note - internal envelope to **MORPH** = shape changes per note - internal envelope to **FM** = pitch sweep or transient movement

This is a major feature for expressive melodic phrasing.

Simple melodic patch ideas

1. Classic mono lead

Use: - virtual analog, waveshaping, or FM model

Patch: - pitch sequencer → **V/OCT** - gate/trigger sequencer → **TRIG - OUT**
→ mixer/filter/effects

Technique: - use internal LPG - set moderate decay - assign internal envelope to **TIMBRE** with attenuverter for dynamic attack brightness

Result: - expressive lead line with minimal patching

2. Plucked melody

Use: - string/resonator model

Patch: - sequencer → **V/OCT** - triggers → **TRIG - OUT** → reverb/delay

Technique: - short to medium decay - increase excitation brightness with **TIMBRE** - use **LEVEL** CV for accents on selected notes

Result: - melodic plucks, kalimba-like lines, or modal sequences

3. Chord progression plus bassline from one module

Use: - chord model

Patch: - sequence → **V/OCT** - gates → **TRIG** - **OUT** → main mixer voice - **AUX** → separate bass processing chain

Technique: - OUT carries full chord sound - AUX gives root note, which can become a bass component - tune waveform with **MORPH** - animate inversion using **TIMBRE**

Result: - harmonic and melodic content from one module

4. Evolving arpeggio voice

Use: - wavetable or additive model

Patch: - arpeggiator/sequencer → **V/OCT** - triggers → **TRIG** - slow LFO/random → **TIMBRE** or **MORPH**

Technique: - keep pitch sequence simple - let timbre modulation create variation - use AUX as contrasting secondary texture

Result: - melodic line that evolves without becoming harmonically unclear

5. Expressive bass melody

Use: - FM or virtual analog model

Patch: - bass sequencer → **V/OCT** - gate → **TRIG** - **AUX** sub or alternate output mixed with main out

Technique: - use AUX sub to support low end - keep LPG response tighter and more VCA-like if you want punch - shorter decay for rhythmic articulation

Result: - bassline with both definition and body

6. Vocal top-line

Use: - speech model

Patch: - melodic CV → **V/OCT** - trigger sequence → **TRIG** - slow/stepped CV → **MORPH**

Technique: - scan phonemes or words while notes change - use reverb or delay after the module - automate **TIMBRE** for different “vocal characters”

Result: - unusual melodic hooks and vocal-style motifs

Using **OUT** and **AUX** together for melody

A big compositional strength of Plaits is the relationship between **OUT** and **AUX**.

Depending on the model, **AUX** may be: - a sub oscillator - another timbral variant - a low-fi version - a raw exciter - a root note - filtered/noisy complement

This allows several melodic strategies:

Layered melody

Mix **OUT** and **AUX** together for a fuller lead.

Split roles

Send: - **OUT** to main melodic chain - **AUX** to another filter/VCA/effect path

Bass + melody

On the chord or FM models, **AUX** can support the root or sub while **OUT** carries the more complex upper content.

Parallel processing

Use different effects on **OUT** and **AUX**: - dry **OUT** + wet **AUX** - distorted **AUX** + clean **OUT** - mono center **OUT** + stereo FX **AUX**

Settings that matter for melodic use

1. FREQUENCY knob range

You can narrow the coarse tuning range to **14 semitones around a fixed octave** instead of the full 8-octave span.

This is very helpful for melodic work because: - fine tuning is easier - live pitch adjustment is safer - it behaves more like a conventional oscillator tuning control

To do this: - hold the **second model button** - turn **HARMONICS** to select the range

For melodic systems, this is one of the first settings worth changing.

2. LPG response

You can adjust the internal low-pass gate from: - **VCFA-like** response to - **VCA-like** response

For melody: - more **VCFA** = plucky, organic, darker tail - more **VCA** = more neutral, direct articulation

If you want clean sequenced melodies, move it more toward VCA. If you want West Coast plucks or softer note edges, stay more toward VCFA.

3. Decay / ringing time

Adjustable with the button + **MORPH** combo.

For melody: - short decay = basslines, staccato sequences, arps - medium decay = leads, plucks - long decay = ambient lines, overlapping phrases

Melodic role by synthesis family

Best for stable tonal melodies

- virtual analog
- additive
- wavetable
- chord

Best for animated expressive leads

- waveshaping
- FM
- formant synthesis
- speech

Best for plucks and struck melodic material

- string/resonator
- physical/percussive models used tonally

Best for bass melodies

- virtual analog
- FM
- chord model with AUX root
- filtered noise model if tuned carefully for synth bass textures

Performance ideas

1. Model switching per phrase

The model CV input can be modulated, and if TRIG is patched, model changes happen only when a trigger is received. That means you can switch synthesis model on note boundaries.

Musically, this allows: - verse lead on one model, chorus lead on another - alternating timbres every step - controlled phrase-by-phrase variation

Because model changes can be sampled on triggers, it can stay rhythmically coherent.

2. Accent-based phrasing

For physical/percussive models, **LEVEL** acts as an accent control when TRIG is patched.

This is great for: - melodic percussion - expressive plucked sequences - more human phrasing in repeating melodic patterns

3. Internal envelope as timbral articulation

Instead of only opening amplitude, use the unpatched CV attenuverters to route the internal envelope to timbre-related parameters.

This gives each note: - a brighter start - a pitch transient - a shape sweep

That makes simple sequences sound much more musical.

Practical melodic patch recipes

Recipe A: Minimal lead voice

- V/OCT from sequencer
- TRIG from gate sequencer
- OUT to mixer
- model: virtual analog or waveshaper
- short-medium decay
- envelope to TIMBRE via attenuverter

Use when you want: fast patching, clear melody

Recipe B: Ambient pluck line

- V/OCT from sequencer or quantized random
- TRIG from clock divider or sparse gates
- model: resonator/string
- OUT to reverb
- AUX to separate shimmer/delay path

Use when you want: sparse melodic ambience

Recipe C: Harmonic melody engine

- V/OCT from sequencer
- model: chord
- OUT for chordal body
- AUX for bass root
- TRIG for articulation

Use when you want: instant musical structure from one voice

Recipe D: Digital arp

- fast sequence into V/OCT
- wavetable model
- slow LFO into MORPH
- random stepped CV into TIMBRE
- TRIG every note

Use when you want: animated, modern melodic motion

Recipe E: Metallic tuned melody

- FM model
- tuned V/OCT sequence
- low to moderate modulation index
- MORPH near noon
- AUX mixed in lightly

Use when you want: bellish or electric melodic hooks

Bottom line

Plaits is exceptionally strong for melodic duties because it combines:

- a wide range of **pitched synthesis models**
- proper **1V/Oct tracking**
- built-in **triggered articulation**
- internal **LPG + envelope**
- dual outputs for **layering or split roles**
- enough timbral modulation to make even simple note sequences sound expressive

In practice, Plaits can cover:

- basslines
- leads
- arpeggios
- chord progressions
- plucked lines
- tuned percussion
- vocal-like melodies
- layered harmonic/melodic textures

If you are building melodic patches, the most immediately useful models are: - **virtual analog** - **FM** - **wavetable** - **additive** - **chord** - **resonator/string**

And the single most important trick from the manual is this:

With **TRIG** patched and the timbre CV inputs left unpatched, the attenuverters can apply the **internal envelope** to timbre parameters, giving every note built-in melodic expression.

That makes Plaits not just a sound source, but a very complete melodic voice.

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