Intellijel — Plonk

- Manual PDF

Intellijel Plonk Manual (English, Firmware 1.16)

Using Plonk to create melodic components in a Eurorack system

Plonk is primarily presented as a **physical-modeling percussion synthesizer**, but the manual makes it clear that it can also do **pitched percussion, string-like tones, basses, guitar-like sounds, marimba/vibes, and other tonal material**. That makes it very usable for melodic roles, not just drums.

Because only one module manual is attached here, I'll analyze **how Plonk itself can function as a melodic voice**, and how its inputs/modulation architecture let it interact with the rest of a Eurorack system to produce musical lines, tuned parts, and expressive melodic gestures.

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1. Why Plonk works well for melody

Plonk has several features that make it more than a drum module:

- **1V/oct PITCH input**
- **Base pitch control** with octave and optional quantization
- **Resonator models** that include:
- String
- Beam

- Marimba
- Drumhead
- Membrane
- Plate
- **Internal pitch envelope** for attack transients or pitch sweeps
- **2-voice polyphony**
- **Velocity input**
- **Assignable X, Y, and MOD modulation destinations**
- **Preset storage and preset stepping/morphing**

That means Plonk can act like:

- a tuned mallet instrument
- a plucked string synth
- a metallic bell/chime voice
- a bass voice
- a semi-polyphonic melodic percussion voice
- a morphing “kit-to-melody” voice

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2. Core patch for melody

Basic melodic patch

Use Plonk like a standard tonal voice:

- Sequencer **pitch CV** → **PITCH**
- Sequencer **gate** → **TRIG**
- Optional accent/velocity CV → **VEL**
- **OUT** → mixer / VCA / effects / output

Good starting settings

From the manual and from practical use:

- Set **PITCH knob** around noon
- Set a suitable **Octave** in the PITCH menu

- Turn **Quantize** on if you want semitone stepping from the front-panel pitch knob
- Set **DECAY** fairly high for sustained melodic notes
- Choose a resonator better suited to pitch:
- **String** for plucks/bass/guitar-like sounds
- **Marimba** for tonal percussion
- **Beam** for bells and woody struck tones
- **Plate** for metallic melodic material

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3. Best resonator types for melodic use

String

Best for: - plucked melodies - basslines - pseudo-guitar parts - bowed/sustained textures when using noise exciter creatively

How to use it: - Use more **mallet** than noise for a plucked attack - Adjust **Resonator Position** to shape harmonic content - Use **Resonator Tone** to shift material feel from softer to brighter - Try moderate **Resonator Decay** for plucks, longer for sustained tones - Add a little **Pitch Envelope Amount** for a natural pluck transient

Musically: - Great for arpeggios - Works very well for modal or minimalist melodic lines - Can become a bass voice with shorter decay and lower octave

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Marimba

Best for: - mallet melodies - ostinatos - tuned percussion patterns - marimba/vibraphone-like phrases

How to use it: - Blend **mallet** and **noise** depending on how much attack detail you want - Use **Mallet Stiffness** to sharpen or soften articulation - Keep **Inharmonicity** moderate for more recognizably pitched notes - Use longer **Resonator Decay** for vibes-like ringing

Musically: - Excellent for repeating melodic figures - Great with probability-based triggers or polyrhythmic sequencers - Very strong for West African / minimal / gamelan-inspired melodic percussion

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Beam

Best for: - bells - claves/chimes - tuned wood/metal struck melodies

How to use it: - Use stiffer mallet settings - Higher tone values often produce more metallic/glassy material feel - Slight inharmonicity gives lovely bell-like complexity - Moderate decay helps preserve pitch clarity

Musically: - Strong for sparse melodic punctuation - Great for upper-register motifs - Useful in ambient and generative patches

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Plate

Best for: - metallic tuned sounds - gong-like pitches - shimmering upper-register melodic parts

How to use it: - Plate can get very inharmonic fast, so for stronger pitch identity keep modulation restrained - Use **Low Cut** to clear mud and emphasize upper partials - Works well with long decays and external reverb

Musically: - Excellent for evolving melodic layers - More about color and atmosphere than strict tonal precision

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Drumhead / Membrane

These are less obvious for melody, but still useful.

Best for: - tom-like tuned lines - electronic tuned percussion - hybrid melodic-drum sequences

Musically: - Great if you want melody that still feels percussive and rhythmic - Particularly useful in techno, IDM, electro, and experimental music

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4. Exciter design for melodic articulation

Plonk's melody isn't only about pitch; it's also about **how notes speak**.

Mallet exciter

Use for: - clean attacks - plucked and struck notes - more traditional melodic articulation

Mallet Stiffness

- Higher stiffness = sharper transient, more click/definition
- Lower stiffness = rounder attack

For melody: - Use **lower to medium stiffness** for warm marimba/plucked tones - Use **higher stiffness** for bells, claves, or articulate sequenced lines

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Noise exciter

Use for: - breathiness - scrape/bow textures - snare-like articulation - noisy attack emphasis

Key parameters: - **Noise Attack** - **Noise Decay** - **Noise Density** - **Noise LP/HP filters** - **Noise Envelope Type**

For melodic use: - Short filtered noise adds realism to attacks - Medium density plus envelope shaping can suggest bowing or friction - AHR mode can make longer, sustained articulated tones

Nice trick

For expressive melodic lines: - Use a little noise mixed with mallet - Route velocity to excite the note more dynamically - This makes notes feel more like performance gestures than static synth tones

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5. Pitch behavior and tuning

PITCH input

Plonk accepts **1 V/oct** at the **PITCH** input. This is the main path for melodic sequencing.

Important note from the manual: - Pitch is updated **only while the TRIG input is high** - If you want true audio-rate or continuous pitch modulation, use **X, Y, or MOD assigned to R Pitch**

This matters a lot musically:

For normal sequenced melodies

- Use standard gate + pitch sequencing into TRIG and PITCH

For vibrato / pitch bends / FM-like movement

- Assign **R Pitch** to **MOD** (or X/Y if available in your workflow)
- Then patch:
- LFO for vibrato
- envelope for pitch bend
- random CV for unstable acoustic behavior
- oscillator for FM-like clangorous tones

This is one of the most important “melodic unlocks” in the module.

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6. Velocity makes melodies expressive

The **VEL** input can operate in three modes:

- **accent**
- **dynamics**
- **volume**

Best options for melodic work

Dynamics mode

This is the most performance-oriented melodic setting.

It makes the **strength of the exciter proportional to input voltage**. That means: - harder notes feel brighter/more forceful - softer notes feel gentler - repeated notes become expressive

Use this with: - MIDI-to-CV velocity output - sequencer accent lane - manually programmed CV contour

Volume mode

Useful when you want: - tremolo - amplitude contouring - fade-ins/outs - more conventional amplitude phrasing

Accent mode

Simple and effective for: - alternating strong/weak notes - rhythmic emphasis in melodic percussion lines

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7. X and Y controls are extremely useful for melodic macros

Plonk lets you assign **X** and **Y** to a large range of exciter/object parameters. These act as macro controls and can also receive CV.

This is ideal for melody because you can tie expressive changes to performance movement.

Strong melodic destinations for X/Y

R Tone

Great for opening/closing timbral brightness across a melody.

R Position

Changes where the resonator is “struck,” altering partial balance. This can make a repeating melody feel alive.

Mallet:Noise

Morphs between plucked/struck and noisy/frictional articulations.

M Stiffness

Adds articulation variation across notes.

R Inharmonic

Very useful for moving between: - clear pitch - bell-like complexity - abstract metallicity

R PEnv Amt

Controls how much pitch attack transient happens. Excellent for expressive plucks and kicks-to-bass hybrids.

Saturation / Bitcrusher

Useful if you want melodic lines to move from clean to aggressive.

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8. MOD input opens advanced melodic behavior

The **MOD** input is especially powerful because it can do more than simple parameter modulation.

A. Use MOD for R Pitch

One of the best melodic setups: - Assign MOD destination to **R Pitch** - Send an LFO or envelope into MOD

This creates: - vibrato - pitch bends - expressive attacks - pseudo-FM tones - unstable acoustic drift

For melodic realism, subtle modulation here is gold.

B. Preset Step for melodic kits and multisamples-in-spirit

Preset Step lets Plonk switch presets based on incoming CV at MOD whenever a trigger is received.

This means one pitch/gate sequence can produce: - different resonator/exciter structures per note - alternating melodic timbres - pseudo-multisampled tonal sets - melodic “kits” where different notes in a line have different instrument identities

For example: - preset 20 = woody marimba - preset 21 = metallic bell - preset 22 = muted string - preset 23 = noisy attack pluck

Then use CV into MOD to select among them before each note.

Musically, this is amazing for: - call-and-response within one melodic sequence - phrase-based variation - different timbres across scale degrees - generative melodic orchestration

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C. Morph between presets

This is one of Plonk's best features for melody.

When MOD is set to **Morph**, incoming CV blends between: - the current preset - another destination preset

This does **not** morph resonator type, but it **does** morph the other exciter and object parameters.

This is ideal for: - evolving melodic phrases - changing a motif from muted to bright - moving from mallet to noisy articulation - slowly transforming a bassline into a bell sequence

Patch ideas: - slow triangle LFO into MOD for cyclical timbral movement - envelope into MOD for note-dependent timbre shaping - random stepped CV into MOD for per-note changes - pressure/manual controller into MOD for expressive live performance

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D. Randomize

Randomize is more experimental, but still melodic if used carefully.

A trigger at MOD with destination set to **Randomize** randomizes most exciter/object parameters.

Use with caution for melody: - can create fresh timbres - may reduce pitch clarity depending on resulting resonator settings

Best use: - randomize until you find a compelling tonal voice - save it as a preset - build a melodic bank from curated random discoveries

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9. 2-voice polyphony helps melodic phrasing

Plonk is **duophonic**.

That means: - one note can ring while another begins - melodic phrases can overlap - long decays don't always get cut off by the next note

This is especially useful for: - marimba rolls - bell/chime melodies - legato-ish plucked lines - ambient melodic ostinatos

Polyphony setting

- **1 voice**: new note chokes previous note
- **2 voices**: previous note continues ringing

For melodic applications:

Use 1 voice when:

- you want clean basslines
- you want tight mono articulation
- you want old notes cut off like a synth voice

Use 2 voices when:

- you want natural resonance overlap
- you want idiomatic percussion melodies
- you want richer ambient/tuned percussion textures

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10. Presets as melodic instruments, not fixed sounds

The manual emphasizes that Plonk presets behave differently from standard synth patches because the **panel knobs remain live**.

This is very important musically.

A preset on Plonk is better thought of as: - an **instrument model** - a performance-ready timbral state - a family of sounds rather than one exact sound

For melody, this is a strength.

You can load a melodic preset, then perform with: - **DECAY** for phrase length - **X/Y** for articulation and timbre - **VEL** for dynamics - **MOD** for morphing or pitch behavior

So one preset can cover: - muted notes - accented notes - bright notes - sustained notes - unstable/animated notes

That makes Plonk unusually expressive for melodic composition.

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11. Good melodic patch recipes

A. Marimba lead

- Resonator: **Marimba**
- Mix: mostly **Mallet**
- Mallet Stiffness: medium
- Resonator Decay: medium-long
- R Tone: medium-high
- Polyphony: 2
- VEL Mode: **dynamics**

Patch: - Sequencer pitch → PITCH - Gate → TRIG - Accent/velocity CV → VEL - Slow LFO → X assigned to R Tone

Result: - expressive tuned percussion melody - subtle tone drift over time

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B. Plucked bass

- Resonator: **String**
- Mix: mostly mallet
- Resonator Decay: short-medium
- Resonator Position: off-center
- Pitch Env Amount: slight positive
- Pitch Env Decay: short
- Polyphony: 1

Patch: - Bass sequencer CV → PITCH - Gate → TRIG - Envelope or accent lane → VEL - MOD assigned to R Pitch with tiny envelope modulation for bite

Result: - physical-modeled bass pluck - very musical in minimal techno, electro, downtempo

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C. Bell sequence

- Resonator: **Beam** or **Plate**
- Mix: stiff mallet with a little noise
- R Tone: high
- Inharmonicity: slight positive
- Decay: long
- Polyphony: 2

Patch: - Sequencer → pitch and trig - Random stepped CV → X assigned to R Position - Slow LFO → Y assigned to R Tone

Result: - evolving tuned bell melody - ideal for ambient / generative music

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D. Hybrid melodic drumline

- Resonator: **Drumhead** or **Membrane**
- Tune to a scale via PITCH input
- Decay: medium
- Noise mixed in moderately
- Velocity active

Patch: - Melodic sequencer → PITCH/TRIG - Accent lane → VEL - MOD set to Preset Step across a few tuned percussive presets

Result: - line blurs between melody and rhythm - especially good for IDM, tribal, experimental techno

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E. Morphing lead voice

- Create preset A: muted woody pluck
- Create preset B: bright metallic pluck
- MOD destination: **Morph**
- Choose preset B as morph target
- Slow or performance CV → MOD

Result: - one sequence evolves through a phrase - highly expressive for live sets

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12. Practical sequencing advice

Gate timing

The manual notes: - gate must be at least **1 ms** - pitch is sampled while **TRIG is high** - if your sequencer sends gate before pitch has stabilized, use **Gate Delay** in Global Config

For melodic accuracy: - keep Gate Delay low by default - raise it only if notes are coming out wrong in pitch

This is especially relevant with quirky analog sequencers or some MIDI-CV interfaces.

Quantization strategy

Plonk's internal quantize affects the **PITCH knob**, not external pitch CV in the same way a dedicated quantizer module would.

For melodies: - use an external quantized sequencer or quantizer if you need strict scales - use Plonk's pitch menu mainly to set **base octave** and knob behavior

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13. Sound design advice for clearer melodic pitch

Physical modeling can become very complex. If you want a melodic part to read clearly in a mix:

- prefer **String**, **Marimba**, or **Beam**
- keep **Inharmonicity** moderate
- don’t overdo noise mix
- use **Low Cut** if the sound is muddy
- adjust **Resonator Position** to emphasize useful partials
- use moderate decay for fast passages
- shorten pitch envelope decay if attacks feel too bent or kick-like
- avoid extreme bitcrushing if pitch clarity matters

If you want more abstract melodic color: - increase inharmonicity - use Plate - add noise - modulate R Tone and Position - use Morph between contrasting presets

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14. Best roles Plonk can play in melodic music

Plonk can serve as:

Primary melodic voice

For: - marimba lines - plucked leads - bell melodies - physical-model bass

Secondary countermelody

Its percussive onset helps it cut through mixes without occupying huge sustained harmonic space.

Tuned percussion layer

Excellent for doubling melodic lines with rhythmic identity.

Generative melodic texture

With polyphony, morphing, preset stepping, and modulation, Plonk excels at semi-autonomous melodic movement.

Bass/percussion hybrid

One of the most interesting uses: - tune it melodically - keep it punchy - let it function as both rhythmic and tonal foundation

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15. Bottom line

Plonk is not just a drum module. It's a **highly expressive physical-modeling melodic voice** disguised as percussion.

Its strongest melodic advantages are:

- proper **1V/oct tracking**
- **pitched resonator models**
- **velocity response**
- **macro modulation via X/Y**
- **R Pitch modulation for vibrato and bends**
- **2-voice polyphony**
- **preset morphing and stepping** for phrase-level timbral movement

If you build patches around **String, Marimba, Beam, and Plate**, and treat exciter design as articulation rather than just "drum attack," Plonk becomes a very musical source for:

- basslines
- mallet melodies
- bells/chimes
- plucks
- hybrid acoustic/electronic lead voices
- evolving generative melodic parts

Suggested “together” use in a larger Eurorack patch

Even though only Plonk is included here, in a broader Eurorack system it pairs especially well with:

- **pitch sequencers** for melodic CV
- **quantizers** for tonal control
- **clocked modulation** for timbral motion
- **MIDI-CV interfaces** with velocity output
- **function generators / envelopes** into MOD or X/Y
- **LFOs** for vibrato and morphing
- **random stepped CV** for preset selection or articulation changes
- **reverb/delay** for bell and plate-based melodic textures
- **mixers/VCAs** for final phrasing and layering

If you want, I can also turn this into: 1. a **set of specific melodic patch recipes**,
2. a **genre-based guide** (techno, ambient, IDM, house, electro), or
3. a **parameter cheat sheet for tuning Plonk into bass, mallet, bell, and lead roles**.
