Mutable Instruments — Ripples

- Manual PDF

Manual PDF

Module: Mutable Instruments Ripples 2020

Ripples 2020 is a **voltage-controlled multimode filter** with built-in **low-pass VCA behavior**, which makes it very useful for shaping raw oscillators into playable, melodic voices.

What it does musically

Ripples gives you:

- **Low-pass, band-pass, and high-pass outputs**
- **Switchable 2-pole / 4-pole response** on BP and LP outputs
- **Voltage-controlled resonance**
- **V/Oct tracking**, so the filter can **self-oscillate as a sine oscillator**
- A **VCA on the low-pass output**, controlled by CV

That combination means Ripples can work in multiple melodic roles:

1. **Classic subtractive voice shaper**
2. **Sine oscillator for melodies/basslines**
3. **Dynamic tone shaper for sequenced material**
4. **Final LPG/VCA-like stage for a voice**

Best melodic uses

1. Turn an oscillator into a melodic subtractive synth voice

Patch a harmonically rich oscillator into Ripples and use it as the main tone-shaping stage.

Patch idea - Oscillator saw or pulse -> **IN 1** or **IN 2** - Pitch sequence -> oscillator V/Oct - Envelope or modulation -> **FREQ CV** - Envelope or gate-derived CV -> **LEVEL** - Use **LP out** as your main audio output

Why it works - The **cutoff** sets brightness - **Resonance** emphasizes harmonics and adds character - The **LEVEL CV** on the low-pass output acts like an integrated VCA, so Ripples can serve as both **filter and amplitude control** - This is ideal for **basslines, leads, arps, and plucks**

Musical tip - Use **IN 1** when you want saturation/soft clipping and more aggressive melodic lines - Use **IN 2** when you want a cleaner, more classic tone

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2. Use self-oscillation as a sine voice

Ripples self-oscillates at higher resonance settings and tracks **V/Oct** over about 4 octaves.

Patch idea - Turn **RES** high until it self-oscillates - Send pitch CV from a sequencer/keyboard into **V/OCT** - Take audio from **LP out** or experiment with other outputs - Use **LEVEL CV** for note articulation

Why it works - In self-oscillation, Ripples becomes a **pure melodic sine oscillator** - Great for: - **sub-bass** - **sine leads** - **FM-like support tones** - **minimal melodic lines**

Musical tip - Because the module is **not temperature stabilized**, treat it as a characterful tracking oscillator rather than a precision VCO in all situations - It’s especially strong for **short melodic phrases**, **bass parts**, and **doubled lines**

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3. Create animated melodic timbre with cutoff modulation

For melody, movement matters as much as pitch. Ripples excels at making repeated notes feel alive.

Patch idea - Sequence a VCO normally - Send a slow or rhythmic CV into the **cutoff modulation input** - Set the **FM attenuverter** to control depth and polarity - Use **BP output** for nasal, vocal-like melodic phrasing

Results - Slight modulation creates expressive phrasing - Stronger modulation creates: - acid-like motion - talking lead tones - lively arpeggios - evolving ostinatos

Musical tip - Positive modulation opens notes dynamically - Negative modulation can create more percussive or “ducked” phrases

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4. Use the band-pass output for focused melodies

The **band-pass** output is especially useful for melodies that need to sit in a mix.

Why BP is useful - Removes excessive low-end and top-end - Gives a more **focused, reedy, vocal** sound - Helps melodic parts cut through dense arrangements

Good for - sequenced arps - midrange hooks - techno riffs - counter-melodies

Slope switch use - **12 dB/oct**: more open, lively, less severe - **24 dB/oct**: smoother, more rounded, more sculpted

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5. Use the low-pass LEVEL CV as the note-shaping VCA

A standout feature of Ripples is that the **LP output has voltage-controlled gain**.

Behavior from manual - **0V** = silence - **5V** = unity gain - above **5V** = progressively compressed - if nothing is patched, **7V** is internally applied

Why this matters melodically You can patch an envelope directly into **LEVEL** and get: - note articulation - dynamics - plucks - swells - accents

This means a minimal melodic voice can be:

- **Oscillator -> Ripples**
- **Pitch CV -> Oscillator**
- **Envelope -> LEVEL**
- **Envelope or modulation -> FREQ**

That is enough for a complete playable monosynth voice.

Input character and melodic implications

IN 1

- Gain from **0 to 5**
- Can **soft-clip**
- Great for:
- aggressive bass
- driven leads
- thicker sequences
- more pronounced harmonics before filtering

IN 2

- Always clean
- Better for:
- pure melodic content
- delicate sequences
- cleaner subtractive sounds
- preserving waveform identity

Combined use

Because both inputs are mixed together, you can build richer melodic timbres: - Saw in **IN 2** for body - Square or sub in **IN 1** for grit - Then shape both together through the filter

This is excellent for **big mono leads** or **weighty basslines**.

Resonance as a melodic tool

Resonance is not only for sweeps. In melodic contexts it can:

- emphasize note attacks
- tune the brightness contour of a sequence
- create vowel-like peaks
- push tones toward self-oscillation for a hybrid oscillator/filter sound

Practical melodic ranges - **Low resonance**: warm, stable melodic tone - **Medium resonance**: expressive, classic subtractive phrasing - **High resonance**: sharp, acid-like melodies - **Self-oscillation**: pure sine melody source

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Output choice for different melodic roles

LP output

Best for: - basslines - warm leads - classic subtractive patches - patches needing amplitude control via LEVEL CV

BP output

Best for: - riffs - arps - cutting midrange melodic lines - vocal or nasal textures

HP output

Best for: - thin melodic layers - bright plucks - parallel processing - removing low-end from secondary melodic parts

A useful technique is multing the same source into Ripples and recording or mixing multiple outputs for layered melody design.

Example melodic patches

Patch 1: Simple bass voice

- Saw oscillator -> **IN 1**
- Sequencer pitch -> oscillator V/Oct
- Envelope -> **LEVEL**
- Envelope -> cutoff CV
- Output from **LP**
- Set slope to **24 dB**

Sound A rounded, punchy bass with controllable drive.

Patch 2: Clean melodic lead

- Triangle or saw oscillator -> **IN 2**
- Pitch sequence -> oscillator
- Envelope -> **LEVEL**
- LFO or envelope -> cutoff modulation
- Output from **BP** or **LP**

Sound Focused and expressive, especially for melodic hooks.

Patch 3: Sine sequence without a VCO

- No audio input
- Increase **RES** until self-oscillation
- Sequencer -> **V/OCT**

- Envelope -> **LEVEL**
- Output from **LP**

Sound Minimal sine bass or pure melodic line.

Patch 4: Acid-style phrase generator

- Saw wave -> **IN 1**
- Sequencer -> oscillator pitch
- Accent envelope -> cutoff CV
- Gate/envelope -> **LEVEL**
- Higher **RES**
- Use **LP** at 24 dB

Sound Squidgy, resonant melodic sequences with built-in drive.

Patch 5: Dual-source melodic timbre

- Saw oscillator -> **IN 2**
- Square/sub oscillator -> **IN 1**
- Same pitch CV to both oscillators
- Envelope -> **LEVEL**
- Modulation -> cutoff CV
- Take **BP** out

Sound Complex, mix-ready melodic tone with body plus grit.

Strengths of Ripples in a melodic system

Ripples is especially good in a melodic Eurorack setup because it combines several voice-building functions:

- **Filter**
- **Sine-capable oscillator via self-oscillation**
- **CV-controlled resonance**
- **Built-in VCA on the LP output**

- **Drive option on input 1**
- **V/Oct tracking**

So even by itself, it can become the core of a compact melodic voice. Paired with: - a **sequencer** - a **sound source** - an **envelope** - optionally an **LFO**

it easily produces complete musical lines.

Bottom line

Ripples 2020 is most effective for melodic work as either:

1. a **subtractive voice-finishing filter/VCA**
2. a **self-oscillating sine voice**
3. a **resonant timbre animator** for sequences and arpeggios

Its biggest advantage is that it can make a melodic patch both **expressive and compact**: one module handles tone shaping, resonance character, and low-pass amplitude control all at once.