

# 2hp – Grain

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- [Manual PDF](#)
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[Manual PDF](#)

## 2hp Grain – creating melodic components

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Based on the attached manual, this module is:

- **2hp Grain**
- A **granular audio processor**
- Designed to turn an incoming audio signal into **pitched grains, clouds, microsound phrases, and textures**
- Particularly useful for deriving **melodic material from existing sound sources**

## What Grain does musically

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Grain is not a traditional oscillator. It needs an **audio input** and then creates grains from that incoming sound. The melodic strength comes from two things:

1. **Pitch control over the grains**
2. The **Freq** knob shifts grain pitch from **-4 octaves to +4 octaves**
3. The **V/Oct** input allows **pitch-accurate sequencing**
4. **Controllable grain generation**

5. **Density** determines how often grains are created and how they behave:
  - **Left side**: periodic grains
  - **Center**: no grains
  - **Right side**: stochastic grains
6. Higher **Freq** also makes grains **smaller** and increases **generation speed**

That means Grain can act like a hybrid of:

- a pitch shifter
  - a granular voice
  - a texture-to-melody converter
  - a sampled microsound instrument driven by external audio
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## Panel summary

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From top to bottom:

- **In** – audio input
  - **Density CV** – CV control of grain density, **-5V to +5V**
  - **Density knob** – periodic ↔ stop ↔ stochastic grain behavior
  - **Mix CV** – CV control of dry/wet mix, **-5V to +5V**
  - **Mix knob** – dry input ↔ fully granular output
  - **V/Oct** – pitch control for grains, **1V/oct**, range **-1.5V to +5.5V**
  - **Freq** – pitch shift amount and indirect grain-size/speed behavior
  - **Out** – audio output
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# How to use Grain for melodic parts

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## 1. Turn any oscillator into a granular lead voice

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### Patch

- Patch a basic oscillator, wavetable oscillator, or harmonically rich voice into **Grain In**
- Patch a sequencer or keyboard CV into **V/Oct**
- Take **Out** to your VCA/filter/output chain
- Set **Mix** mostly or fully wet

### Why it works

The incoming oscillator provides a stable harmonic source. Grain then re-pitches and re-articulates slices of it. Because **V/Oct** tracks pitch, you can sequence melodic lines while the granular engine adds motion and texture.

### Best settings

- **Density** slightly left of center for regular grain pulses
- **Freq** near center for recognizable pitch, or above center for brighter, smaller grains
- **Mix** 75–100% wet for a clear granular melody

### Result

- crystalline lead lines
  - digital plucks
  - shimmering arpeggios
  - “frozen” melodic textures
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## 2. Derive melody from a drone

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### Patch

- Send a sustained drone, chord, or noise-rich source into **In**
- Sequence **V/Oct**
- Put **Mix** fully wet
- Set **Density** left of center for periodic grain generation

### Why it works

A static sound source becomes raw material for granular extraction. The sequence on **V/Oct** imposes melodic contour onto the grains, even though the source itself may not be playing notes.

### Musical use

This is excellent for: - ambient melodies - ghostly countermelodies - evolving intros - melodic overdubs derived from one sustained sound

### Tip

If the source is harmonically dense, the melody will feel more spectral and complex. If the source is simple, the melody will sound clearer and more tonal.

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## 3. Use percussion as a melodic grain source

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### Patch

- Feed a hi-hat loop, click track, snare, or short percussive sound into **In**
- Sequence **V/Oct**
- Set **Density** around the periodic side
- Increase **Freq** for tighter, faster grains

## Why it works

Granular processing of percussive sound often produces tiny pitched fragments that feel like mallets, bells, or glitch plucks.

## Result

- melodic glitch lines
- pointillistic arps
- IDM-style micro-melodies
- tuned percussion textures

This is one of the most interesting melodic uses of Grain because it lets rhythm become pitch.

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## 4. Crossfade between original note and granular harmony

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### Patch

- Input a melodic source into **In**
- Send the same pitch CV used by the original voice to **V/Oct**
- Modulate **Mix CV** slowly
- Send Grain output alongside or instead of the original voice

### Why it works

The **Mix** control blends dry source and granular-processed material. If your source is already melodic, Grain can add a pitched parallel layer that moves between recognizable note and transformed note-cloud.

### Result

- melody with shadow harmonics
- call-and-response between dry and granular versions
- expressive morphing lead tones

## Good modulation idea

Use a slow triangle or envelope into **Mix CV** so phrases bloom from dry to granular.

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## 5. Build stochastic melodic textures

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### Patch

- Send a sustained or looping sound into **In**
- Sequence **V/Oct** with a sparse melody
- Turn **Density** to the right of center for stochastic grain behavior
- Keep **Mix** wet or mostly wet

### Why it works

On the right side, Grain generates grains stochastically. The pitch can still be guided by **V/Oct**, so you get melodies that are recognizable but unstable and alive.

### Result

- fluttering melodic clouds
- unstable generative lines
- aleatoric upper voices
- “particle” melodies

This is especially effective in ambient, experimental, and soundtrack-oriented patches.

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## 6. Make octave-shifted melodic doubles

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### Patch

- Feed a melodic line or oscillator into **In**

- Sequence **V/Oct**
- Use **Freq** to shift the grain pitch up or down in octave ranges
- Blend with **Mix**

### Why it works

Since **Freq** spans **-4 to +4 octaves**, you can create upper or lower pitched doubles from the source material.

### Musical uses

- sub-octave granular bass reinforcement
- high octave sparkle above a melody
- layered “12-string” type shimmer
- artificial harmonics and register spreads

### Tip

Keep **Density** moderate so the pitch remains legible if you want clearly melodic results.

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## 7. Use Grain as a playable microsound voice

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### Patch

- Feed in a complex audio source
- Set **Mix** fully wet
- Sequence **V/Oct** from a keyboard or sequencer
- Fine tune **Freq**
- Use external envelopes/VCA after Grain for articulation

### Why it works

At full wet, Grain becomes less like an effect and more like a voice derived from captured audio. Because pitch is externally controllable, you can “play” the buffer material melodically.

## Result

- playable sample-cloud voice
  - expressive digital lead
  - granular pseudo-sampler
  - unusual tuned textures without a dedicated sampler
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## Important behavior to exploit

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### Density is not just “more or less”

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It changes the *character* of note production:

- **Far left:** grains become periodic, increasingly fast as you move further left
- **Center:** grain generation stops
- **Right:** grains become stochastic, increasingly fast as you move further right

So for melody:

- use **left side** for rhythmic, clock-like note definition
- use **right side** for loose, animated, probabilistic melody
- avoid center if you want continuous grain output

## Freq affects more than pitch

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The manual states that as **Freq increases**:

- **grain size decreases**
- **grain generation speed increases**

So high Freq settings give: - brighter - smaller - more active - more sparkling melodic output

Low Freq settings give: - larger - slower - heavier - often more smeared output

This interaction is key to shaping whether a melody feels like: - a clean plucked line - a shimmery cluster - a stretched, spectral phrase

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## **Best input sources for melodic use**

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Since Grain depends on incoming sound, source choice matters a lot.

### **Best for clear melodies**

- saw or pulse oscillator
- simple FM tones
- tuned percussion
- vocal phrases
- plucked strings or string-like synths

### **Best for textural melodies**

- filtered noise
- pads and drones
- field recordings
- percussion loops
- chords or full mixes

### **Best for strange but musical results**

- speech
  - metallic percussion
  - resonant filter pings
  - feedback tones
  - wavefolded audio
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# Practical melodic patch recipes

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## Patch 1: Granular lead

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- Oscillator → **In**
- Sequencer CV → **V/Oct**
- **Mix** full wet
- **Density** slightly left of center
- **Freq** slightly above center

**Sound:** articulate digital lead with sparkle

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## Patch 2: Ambient melody from noise

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- Filtered noise or drone → **In**
- Slow sequencer → **V/Oct**
- **Density** right of center
- **Freq** around center or slightly high
- **Mix** full wet

**Sound:** drifting, unstable, airy melody

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## Patch 3: Tuned glitch percussion

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- Hi-hat/snare loop → **In**
- Fast sequencer or random quantized CV → **V/Oct**
- **Density** left of center
- **Freq** high
- **Mix** full wet

**Sound:** tiny tuned clicks and glassy percussive notes

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## Patch 4: Morphing melody layer

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- Main melodic voice → **In**
- Same pitch CV → **V/Oct**
- LFO or envelope → **Mix CV**
- **Density** moderate
- **Freq** to taste

**Sound:** melody that fades between natural and granular versions

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## Patch 5: Granular bass accent

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- Bass oscillator → **In**
- Bass pitch sequence → **V/Oct**
- **Freq** below center
- **Density** moderate left
- **Mix** 50–100% wet

**Sound:** gritty, broken, sub-rich bass ornamentation

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## Performance tips

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- **Use Mix as a phrase control:** dry for clarity, wet for transformation
  - **Sequence V/Oct conventionally** if you want actual note lines
  - **Modulate Density CV** for evolving articulation
  - **Keep Density on the periodic side** for more rhythmically readable melodies
  - **Push Density stochastic** for fills, transitions, and generative passages
  - **Raise Freq for smaller, more agile grains**
  - **Lower Freq for heavier, slower, more smeared notes**
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# Limits and workflow notes

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From the manual, Grain has:

- one **audio input**
- one **audio output**
- CV over **Density** and **Mix**
- **V/Oct** for pitched control

That means Grain works best in a larger melodic patch when paired with:

- a sound source to feed it
- a sequencer or keyboard for **V/Oct**
- envelopes and a VCA after the output
- possibly a quantized random source for semi-generative melodies

By itself, it is **not a complete standalone melodic voice**. It becomes one when supplied with: 1. source audio 2. pitch CV 3. downstream articulation/amplitude shaping

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## Bottom line

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**2hp Grain** is excellent for making melodic material out of almost any sound. Its strongest melodic roles are:

- **granular lead voice**
- **pitched texture generator**
- **melodic layer derived from drones or loops**
- **glitch arp / microsound instrument**
- **wet/dry morphing harmony processor**

If you patch it with a stable source and a sequencer into **V/Oct**, it can produce very playable and musical melodic lines. If you feed it noisier or more complex material, it excels at creating **organic, unstable, and highly characterful melodic fragments**.

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