

# TRUE GRAIN

## USER MANUAL



**True Grain** is an advanced audio plugin that creates high-fidelity sound particles from multiple files, offering real-time processing and precise harmonic control. This manual provides detailed descriptions of each parameter in the plugin.

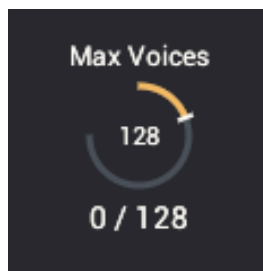


WARNING: This plugin can produce high densities of audio events. Performance will vary depending on your system's capabilities, so be mindful of resource limits!

**Supported Audio Formats:** WAV/AIFF/FLAC/ALAC/MP3, 16/24/32bit, 44/48/96kHz, Mono (stereo files are automatically converted to mono by averaging both channels). Audio files are automatically resampled on load to match your DAW sample rate.

**Plugin Formats:** VST3, CLAP, AU

## Max Voices



Sets the maximum number of simultaneous grains. When the limit is reached, new grains are dropped while existing ones continue. The counter below shows active voices vs. the limit (e.g. 64 / 128). At the limit, it turns red and a pulsing red ring appears around the knob. Lower values reduce CPU

but limit overlap; higher values allow denser clouds at higher processing cost. A permanent default value can be set in the settings.

## Enabling Hints

At the bottom right of the GUI there is a switch designated by a question mark. Click to switch on. Then hover over any parameter **title** to get more details about its function. When hints are enabled the current version of the plugin is displayed at the top right corner.

## Snapshots

The snapshot system at the bottom of the interface allows you to store and recall up to 16 parameter configurations, organized in two grids of 8 slots each (left and right).

**Storing Snapshots:** Click a numbered button (1-8) in either the left or right grid to select a slot, then click the center store button (red circular button between the numbers) to save all current parameter values to that slot. Empty slots are indicated by a folded corner.

**Recalling Snapshots:** Click any filled snapshot button to instantly recall those parameter values. The left grid controls the left morph position, and the right grid controls the right morph position.

**Morphing:** Use the horizontal fader between the two grids to smoothly interpolate between the left and right selected snapshots. The toggle switch above the fader enables or disables morphing. When disabled, you can still select snapshots but the fader has no effect.

**Copy/Paste/Clear:** Right-click on any snapshot slot to access a context menu with Copy, Paste, and Clear options.

**Tip:** You can automate the morph fader as well as the preset selection for the left and right grid.

**Tip:** The behaviour of **Pitch Quant** morphing is different to other parameters. The new value snaps in place when the slider touches the left or right side. This allows for properly timed chord changes.

## Settings

Click the cog icon to open the Settings window. Here you can configure which parameters are excluded from snapshot morphing. Unchecked parameters will not be affected when moving the

morph fader, allowing you to keep specific parameters static or under manual or automation control while morphing others.

## Parameters Overview

Note that you can edit the value on a slider by using alt-click/option-click on the number display.

- **Density:** The number of grains emitted per second. A higher value will produce a denser texture of grains. Lower values work well for ratchet effects. You can toggle between grains per second and bar division using the button next to the slider.
- **Bar Division:** Number of grains emitted per bar based on the project's tempo. This setting is useful for creating rhythmically synced textures. For non-tempo-based grains, toggle back to grains per second (**Density**). **Tip:** To produce ratchet effects that transition to regular rhythms (as in Aphex Twin's Bucephalus Bouncing Ball, for example), add a new midi note where the regular rhythm begins. A MIDI note-on event always guarantees proper sync to the tempo.
- **Density Scatter:** Controls the randomness in the timing of grain emission. A low value results in a regular, clock-like pattern, while higher values make the grains scatter randomly in time. **Tip:** Use high scatter values for organic, non-repetitive textures, and low values (in conjunction with **Bar Division**) for precise, rhythmic grains.
- **Sound File:** Select the audio file to use from the folder chosen with the 'Choose Folder' button. Each grain plays the full file unless **Duration Scaling** is applied. The files are ordered alphabetically. You can rename them to achieve a specific order (e.g., 1\_first.wav, 2\_second.wav). **Tip:** Disable **Sound File Range** to use this as a switch between the sound files.
- **Sound File Range:** Defines the range of audio files used from the selected folder. Each event will randomly choose a file from the range.
- **Rate:** Playback rate of the audio file, in semitones with 0 being the original pitch. Positive values speed up playback (higher pitch), while negative values slow it down (lower pitch). Decimal values can be used to achieve microtonal tuning.
- **Rate Range:** Sets the range of playback rates for random variation. When enabled, each grain will have a different pitch randomly chosen from this range. **Tip:** To move the whole range up or down at the same time you can use the **Transposition** parameter or automate the upper and lower limit.
- **Pan:** Adjusts the stereo position of the grains. A value of -1 places the grains fully to the left, while 1 places them fully to the right. **Tip:** Disable **Pan Range** to use this as a normal pan slider.
- **Pan Range:** Defines the range of stereo panning for the grains. With this enabled, grains are randomly panned between the **Pan** value and this range. Disable it to fix grains at the **Pan** value. **Tip:** A wide panning range creates an immersive stereo effect. Smaller ranges can localise the sound while retaining a wider image. Automate both parameters to move a wider cloud around and/or change its spatial size.
- **Distance:** Perceived distance of the grains from the listener, in meters. Higher values simulate a more distant sound, with both amplitude and filtering reduced accordingly. **Tip:** This parameter can move the cloud towards or away from the

listener. Combine distance control with panning for dynamic spatial effects.

- **Distance Range:** Range for the **Distance** parameter, enabling random variation in perceived distance. If disabled, grains will remain at the exact distance defined by **Distance**.
- **Amp:** Controls the overall loudness of the grains. Amplitude is affected by other factors like **Distance**. **Tip:** Remember that **Distance** reduces the amplitude but also filters. If you are looking for an effect of depth use **Distance**. To only affect loudness use **Amp**.
- **Amp Range:** Sets the range for amplitude random variation. If disabled, grains will use the exact value defined by **Amp**. **Tip:** A subtle amplitude range can add variation to your sound, especially useful for percussion.
- **Attack:** Value in seconds. Determines how quickly the grain reaches its full volume. Shorter values create sharp, percussive grains, while longer attacks are smoother and more gradual. **Tip:** Remember that the duration of the file is always constant (**Rate** is taken into account). **Attack** and **Release** only affect the fade in and out for each grain.
- **Release:** Controls how quickly the grain fades out. Value is in seconds.
- **Attack Curve:** Defines the shape of the attack envelope, allowing for linear or more complex attack behaviors. **Tip:** The effect is more pronounced when using really short grains or large grains with a long attack.
- **Release Curve:** Defines the shape of the release envelope. Use this to control how the grain fades out.

- **Duration Scaling:** Scales the playback duration of each grain by multiplying the original duration by this factor. A value of 1 keeps the original length, while lower values shorten it.
- **Duration Scaling Range:** Sets the range for the randomized scaling of grain duration. When disabled, the grain duration will match the exact value set by **Duration Scaling**.
- **Start Position:** Sets the grain's start point within the sound file, where 0 is the start and 1 is the end. **Tip:** By using a very low **Duration Scaling** value and this parameter you can move through the sound achieving a classic granulation effect such as time stretching.
- **Start Position Range:** The range for the grain's start position. Grains can begin at any point between the defined start position and this range. **Tip:** Using start position range you can select a region in a sound to extract variable grains with consistent timbre. For instance, you could set the range to a syllable of a vocal sound.
- **Gain:** Applies gain to the entire output signal.
- **Transpose:** Transpose the pitch of all grains, measured in semitones. This affects all grains equally and it is additive to the current **Rate** of each grain.
- **Pitch Quant:** Quantizes the **Rate** to a specific grid. The custom option allows you to select a TOML file that defines the pitch grid in semitones. You can edit the TOML file directly within the plugin using the built-in editor (click the edit button next to the custom file selector), which features syntax highlighting and Save/Save As options. Alternatively, edit externally and reload using the refresh button. The TOML file allows comments (using the # character) which can be quite useful for documentation. **Tip:** Define multiple "chords" in the TOML file and use a harmonic sound to create chord clouds.

custom\_example.toml

```
custom1 = [-1, 0, 1]
custom2 = [-21, -17, -12, -9, -5, 0, 3, 7, 12]
custom3 = [-5, -2, 0, 4]
custom4 = [-10, 0, 10, 14]
```

Remember that you can use different values across different ranges, so changing the **Rate** range will have an effect on what portion of the custom grid is utilised.

#### ATTRIBUTIONS:

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Default sound from [60.wav](#) by [atonia](#) | License: [Creative Commons](#)



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