GGrain Manual

Welcome to GGrain

GGrain is a granular resynthesis effect. It randomly takes short snippets (or "grains") from the incoming audio, modifies them, and then reassembles them.

Despite the random element of the process, the resulting sound retains much of the character of the original material.

Interface

The user interface features eight knobs and a switch to control all of GGrain's parameters. All of the controls are labelled appropriately.

Grains: This controls the maximum number of grains processed by GGrain at any instant. Using a small number of grains results in a sparse, grainy sound. Using more grains gives a fuller, denser sound. This parameter also has a direct effect on CPU usage, with more grains requiring more processing power.

Size, **SizeVar**: The "Size" parameter controls the base length of each grain taken from the input. The "SizeVar" parameter allows the grain length to vary randomly for each grain. When GGrain takes a grain from the input, its length will be a randomly chosen value between "Size" minus "SizeVar" and "Size" plus "SizeVar".

Pitch, **PitchVar**: The "Pitch" parameter actually controls the playback speed of a grain, which consequently affects its pitch. A grain's pitch can be shifted

by up to an octave up or down. The "PitchVar" parameter allows the pitch-shift to vary randomly for each grain. When GGrain plays back a grain, its pitch will be shifted by a randomly chosen amount between "Pitch" minus "PitchVar" and "Pitch" plus "PitchVar".

Gain, **GainVar**: The "Gain" parameter controls the playback volume of a grain. The "GainVar" parameter allows the gain to vary randomly for each grain. When GGrain plays back a grain, its volume will be adjusted by an amount between "Gain" minus "GainVar" and "Gain" plus "GainVar".

Mix: This parameter controls the mix of the original and resynthesised signals. At 0%, GGrain will pass only the input signal, and at 100% it will pass only the resynthesised signal.

High Quality: When this switch is on, GGrain operates in high-quality mode. In this mode GGrain uses better interpolation during playback and employs filters to minimize aliasing. This mode consumes considerably more CPU power than the normal mode.

Hints and ideas

- GGrain is one of the more experimental GVST effects. It can require high levels of CPU power and is usually best used off-line.
- You can create especially interesting vocal effects using GGrain. There are a couple of useful presets to get you started.

Installation

I've always aimed to ensure that the GVST plug-ins are each a single file and as compact as I could make them.

For simple plug-ins like these, installation usually boils down to copying a file, so I've never created any automated installers. I know some people would prefer an installer, so apologies for the extra hassle, but hopefully it won't be too difficult.

The installation process will vary for different hosts and different operating systems, but I'll try to cover the basics below.

32-bit or 64-bit (Windows and Linux)

The Windows and Linux plug-ins come in 32- and 64-bit versions. Generally speaking you will need the one that matches the host software you're running.

If you're not sure, you can usually tell if you look at the "About" screen, which can usually be found in one of the application menus.

Taking Audacity as an example: at the time of writing you can find the necessary detail in the "Build Information" tab of its "About" screen.

If all else fails, you could try both and see which works. These days 32-bit applications are becoming increasingly rare, so try the 64-bit version first.

General installation

1. All GVST plug-ins come compressed in a `.ZIP` file, so the first step is to extract the files from the `.ZIP` file.
2. Once extracted, you should have a plug-in file - on Windows it will be a `.DLL` file, on Mac a `.VST` file, and on Linux a `.SO` file.
3. You will need to copy the plug-in file to the appropriate folder for your host program and possibly configure the host software to find it.
4. Many hosts will allow you to specify a folder on your computer where it should look for plug-ins. For example, in the Preferences in Audacity for Windows or Mac, you can add extra locations for VST plugins.
5. In most cases, you will need either to restart the host program or re-scan the plug-in folder in order for newly-installed plug-ins to appear.
6. The exact process will depend on the software you're using. You should be able to find specific instructions by searching the Internet, e.g. "How to install a VST plugin in Cubase".

Special/default plug-in locations

On a Linux machine, the convention is to locate VST plug-ins under the `~/.vst` directory. I have all the GVST plug-ins copied into `~/.vst/GVST`.

Similarly, there is a common location for audio plug-ins on a Mac: `~/Library/Audio/Plug-Ins`. I copy all the GVST plug-ins into `~/Library/Audio/Plug-Ins/VST`.

It's usually more convenient to place the plug-ins in a location of your choosing and point your host software to it, if that's supported by the application.

License

1. GVST plug-ins are provided to the user at no cost. While every GVST plug-in is tested to the best of the developer's ability, no warranty or guarantee is offered to the end user.
2. No suggestions made by the developer or his representatives (i.e., freely offered support) are to be taken as an implied warranty or guarantee.
3. These plug-ins may only be distributed by the official GVST website, or by parties explicitly given permission by the developer.
4. GVST plug-ins are to be distributed only in their original form as intended by the developer (i.e., the unaltered archive).
5. GVST plug-ins are freeware, meaning you are never under any obligation to pay for them! However, should you wish to help support continued development of GVST software, please consider donating through the official website.
6. GVST plug-ins can be used freely to create and process audio for private or commercial works.

In a nutshell, the code's all mine, but any music or sounds you create using GVST plug-ins is all yours. Of course, if you hit the big time then do feel free to pop back and donate a little something.

Credits

- Plug-in development, website and graphics by Graham Yeadon.
- A special mention to Rick "grymmjack" Christy and Greg Pettit who helped me with the UI design and documentation early on.
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