GComp Manual

Welcome to GComp

GComp is a general-purpose compressor that offers a host of very useful features not found in other similar tools, such as a system of visual feedback and a full complement of parameters with which to craft exactly the right kind of compression for the job.

Interface

The user interface features a set of nine knobs which control all of the plug-in's parameters. Each is clearly labelled above, with a user-editable readout below. When working with stereo source material (or creative use of two mono signals in a modular environment), a L/R Link button appears.

Above the knobs is a visual representation of your compression curve, and to the right are windows showing how your settings are affecting incoming audio. With mono source material, only one window appears. With stereo source material, two windows and the L/R Link button appear.

Using Visual Feedback: As you tweak the bottom row of parameters

(Thresh, Ratio, Limit, Softness), you will see your changes reflected by the shape of the compression in the top window, as well as in the waveform display window(s) to the right, with lines that are relative to the actual audio. In the waveform display windows, the dark "shadow" waveform is your source material, and the brighter Cyan is the post-compression wave.

Gain: Before the compression algorithm takes over, this knob allows you to adjust the raw level of the incoming audio. As you adjust the gain, you will see the "shadow" waveform in the display reflect the change made. Since the window only shows up to full scale (0dB), anything above is visually trimmed even though the audio itself isn't actually clipped.

RMS/Peak: GComp tracks both the peak and the RMS (Root Mean Square) level of the incoming signal. The level considered for compression can be either of these, or a mix of both. The mix is controlled by the RMS/Peak parameter.

Attack: This determines how quickly GComp reduces level (compresses) once the incoming audio exceeds the threshold.

Release: This parameter allows the user to set how quickly GComp allows the source audio to return to its normal level. With a longer setting, GComp "holds" the audio's level in place for more time.

Threshold: The threshold determines the volume at which the source material "triggers" compression. When the audio stream is below the threshold, no compression will occur. When the threshold is breached, GComp looks to other settings (such as Attack and Ratio) to determine what should be done with the signal.

Ratio: The amount by which the level is reduced once the compression algorithm kicks in. At a 2:1 ratio, for every 2dB over the threshold, the level is reduced so that only a 1dB increase is allowed. At an 8:1 ratio, even a peak of 8dB over the threshold is only allowed a level increase of 1dB.

Limit: In addition to the "ceiling" enforced by the ratio, GComp allows the user to select an absolute limit. In practice, this is a second compression stage with a ratio of infinity:1, for further control of the resulting signal.

Softness: This parameter allows the user to set a curve (also known as a "knee") between the 1:1 (unaffected) signal and the current ratio. In practice, this means that you can vary between a noticeable effect when compression kicks in (a hard knee) and a gradual fading in of the compression (a soft knee).

Output: Allows the user to manually adjust the post-compression signal with make-up gain.

L/R Link: When compressing a stereo signal, this toggle appears. When the two channels are NOT linked, each is compressed separately, according to the current settings. When the two are linked, the channels receive equal and simultaneous gain reduction.

Hints and ideas

- The visual feedback is only a tool, with your ears being the ultimate judge of having selected appropriate settings.
- For applications in which a "ceiling" level is a deciding factor, peaks are more of a concern than the RMS.
- Changing the input gain will have a drastic effect on the way the signal is compressed. This will affect not only your own presets, but the way the factory presets respond to source material.

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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