

The Glue

Installation and Quickstart



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Installation

Mac OS X 10.5 or above

The installation process for Mac is to copy The Glue to the appropriate plugin folder. By adding and removing plugins from these folders you can customise which plugins are loaded by your host.

1. If you have not already done so download and unzip The Glue from the Download section of your account at www.cytomic.com , or to use the trial version download it from the Trial section of www.cytomic.com/glue
2. Copy the contained plugin file to your plugin folder listed below. You can open one of the folders below in Finder by selecting the menu 'Go > Go to Folder...' and pasting the Plugin Folder into this box.

Plugin Type	Filename	Plugin Folder
Audio Unit	The Glue.component	/Library/Audio/Plug-Ins/Components
VST	The Glue.vst	/Library/Audio/Plug-Ins/VST
RTAS	The Glue.dpm	/Library/Application Support/Digidesign/Plug-Ins

Windows XP or later

The installation process for Windows is to copy The Glue to the appropriate plugin folder. By adding and removing plugins from these folders you can customise which plugins are loaded by your host.

1. If you have not already done so download and unzip The Glue from the Download section of your account at www.cytomic.com , or to use the trial version download it from the Trial section of www.cytomic.com/glue
2. Copy the contained plugin file(s) to your plugin folder

Plugin Type	Filename	Plugin Folder
VST	The Glue.vst	The folder location can vary depending on system, but the default location is C:\Program Files\Steinberg\VstPlugins
RTAS	The Glue.dpm and The Glue.dpm.rsr	C:\Program Files\Common Files\Digidesign\DAE\Plug-Ins

Authorisation

You never have to authorise your copy of The Glue. If you are using the trial version simply head to www.cytomic.com and purchase the full version. Upon purchase you will be allocated a serial number and allowed to enter your registration name. Every time you download your plugin from your account it comes pre-authorised with your registration information and serial number, so there is no separate authorisation process to worry about – the plugin will work for as long as your host supports it.

After installing

You can now run your host and load a copy of The Glue to process your audio. If The Glue isn't found you can try to “re-scan” your plugins if your host has this feature. If not then please contact support as detailed below.

Software Updates

Updates are periodically released, so please check back from time to time at Cytomic, or set your email notification settings of your Cytomic user account to be notified of updates. You can do this in the “My Account > Edit > Contact Information” section of your account.

Technical Support

If you have any trouble installing The Glue or using it in your host please contact technical support by sending an email to support@cytomic.com with the following information:

- Operating system and version (eg Win XP sp2 / Mac OS 10.5.6)
- CPU type (eg PPC or Intel Core 2 Duo)
- Host and version (eg Logic 8.0.2)
- Version and type of The Glue you are using (eg The Glue v1.1.2 Au)
- If you have a repeatable issue in using The Glue then please give a brief list of steps to

reproduce the problem from a blank project with no other plugins but those that come with your host

Operation

User interface overview

A/B Button – toggle between which of two presets is active

Preset Menu – load save and rename presets

Next and Previous preset buttons

Power Button – bypass to use no cpu

Compression Meter – shows the depth of compression, click to toggle peak needle

Peak Clip LED – lights up amber when not in use, or red when clipping is occurring

Threshold, Range, and Makeup Knobs – see the next section for details

Attack, Ratio, and Release Knobs – see the next section for details

Compression In, Mix, and Peak Clip In Controls – see next section for details

Sidechain High Pass and Sidechain External In Controls – see next section for details

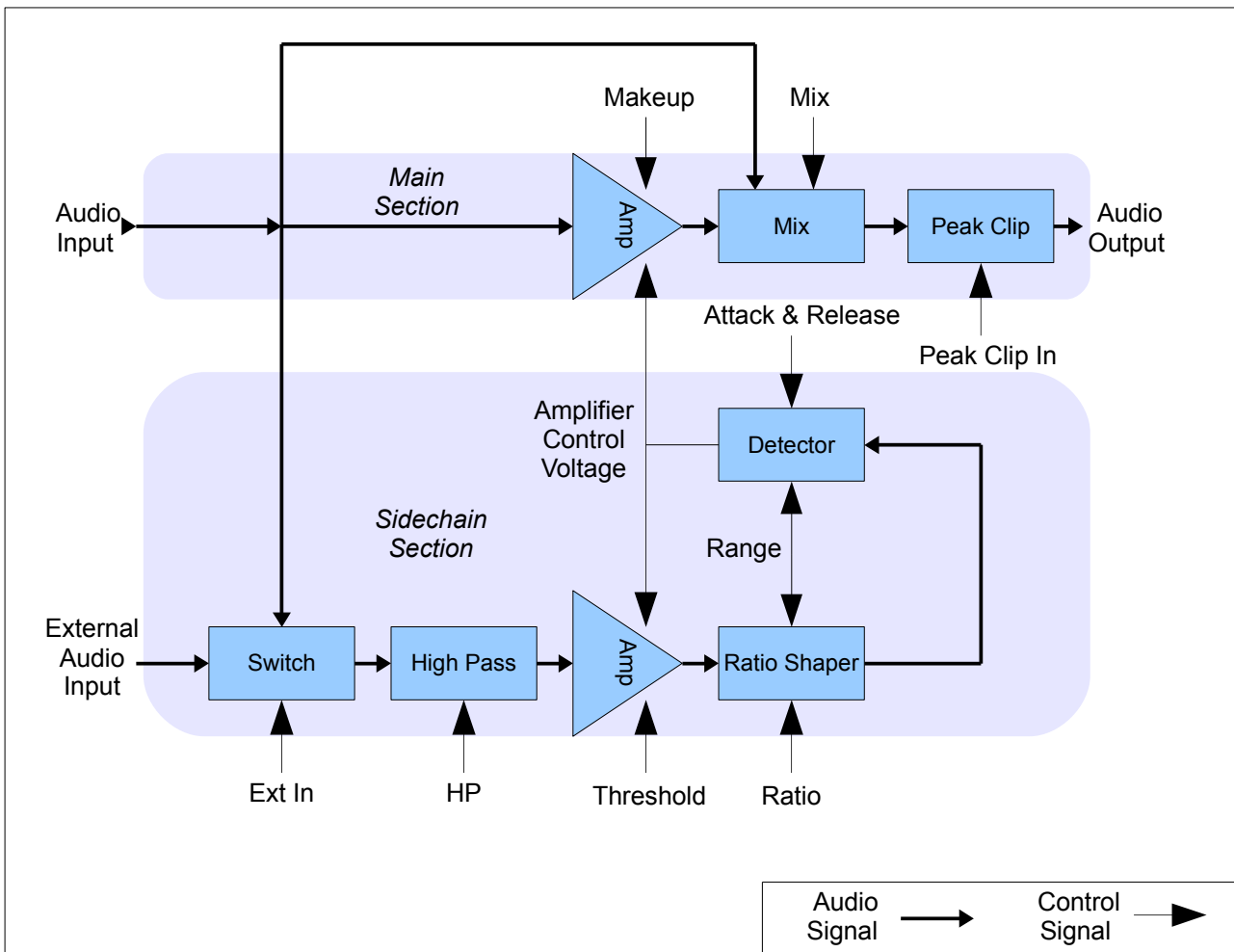
Version number

Registration Name – who the plugin is registered to

IO Config – shows the current IO mode, stereo or mono, and SC for sidechain



Signal Flow



A/B Button

This allows you to switch between two presets to compare them to one another, the active preset is shown in yellow and all operations on presets will only effect the active preset.

Power Button

With the power off you hard bypass The Glue and can save on cpu because all processing is suspended.

Preset Menu

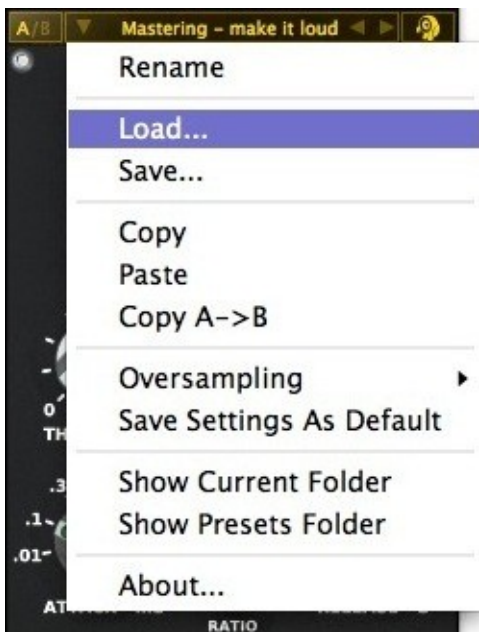
This menu allows you to manage your presets and can be opened by clicking anywhere on the preset name or on the down arrow on the left hand side. Operations work on the currently selected preset, which is either A or B. The arrows on the right hand side can be used to jump to the next and previous preset.

Managing Presets

You can copy and paste presets between different open copies of The Glue, or even email a friend

your preset as plain text by pasting it into your email program. You can also copy the current preset to the other one, which is handy when you are about to make an edit to a preset you like and want to be able to compare your changes.

When you load or save a preset the dialog boxes open at a default location, and you can open this folder in Finder/Explorer by picking “Show Presets Folder”. Any presets you want to have quickest access to save into this folder.



Browsing And Loading Presets

When you select “Load...” from the preset menu a file dialog box is opened. Any selected preset will be previewed for you immediately, and the knob positions updated – you can browse through many presets this way and also use the arrow keys. If you press cancel the original preset is loaded back for you.

The presets that come with The Glue are put in a folder called “Factory Bank 1”, but you can copy your favourite presets into the default preset folder for quicker access.

Saving Presets

When you select “Save...” from the preset menu a file dialog box is opened and you can update the name of your preset before saving, which also updates the preset name in the plugin.

Auto Loading Presets

You can auto load presets by saving a preset in the root of your preset folder with the following names:

- “Default A” will auto load into the A preset slot
- “Default B” will auto load into the B preset slot
- “Default” will autoload into both A and or B if they don't have their own autoload preset already

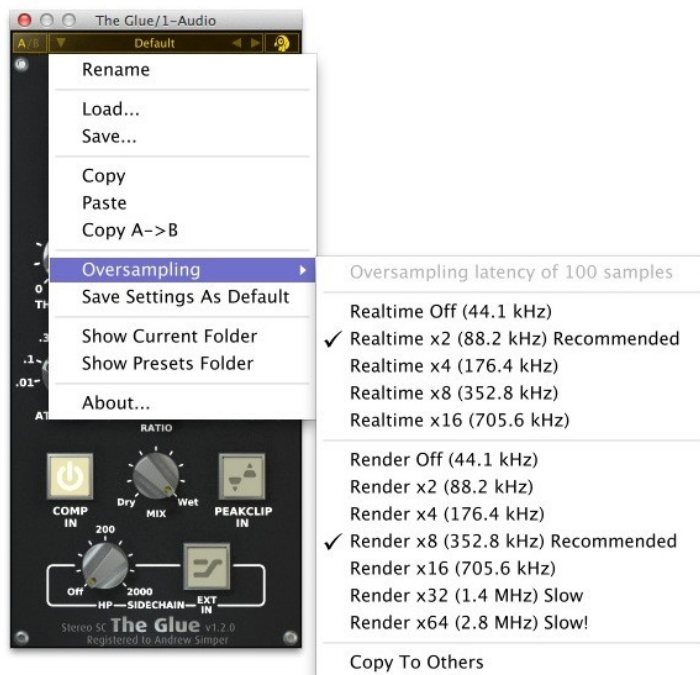
Oversampling

To improve the quality of audio processing can use oversampling. This takes extra CPU and introduces latency but can help the clarity of high frequencies. Oversampling is the process of up-sampling the input signal to a higher sample rate, then processes at this higher rate, then down-samples it back to the original rate. This helps reduce aliasing caused by both compression and the Peak Clip function.

You can select between Off, x2, x4, x8, and x16, which uses approximately x1, x3, x5, x9, and x16 respectively the CPU of what The Glue normally uses. Shown in brackets is the resultant sample rate, and at the top of the menu is the number of samples latency that will be introduced by the oversampling. The latter is important if your host doesn't support automatic latency compensation, or if you want to manually delay the audio yourself for any reason.

To make life easier if you switch the sample rate in your project, the multiplier is defined in terms

of a base rate of 44.1 kHz or 48 kHz. So a setting of x2 will mean you get a minimum quality of 88.2 kHz or 96 kHz processing. So if your project is already at 96 kHz, as shown in the picture below, you can see that setting a multiplier of x2 means no oversampling will be done since your project is already at the desired rate.



There are two different oversample amounts you can set: Realtime is what you hear with regular playback and monitoring in your DAW, and Render is used when you do an offline bounce or track freeze. The Glue will automatically switch between the two oversampling settings for you, and inform the host of any latency changes so the oversampled track remains locked in phase accurate position with the rest of your audio

Save Settings As Default

Select this menu item to make your current settings for all the knob and button positions and oversampling settings and make the the default ones that are loaded when you create another copy of The Glue. If you have already saved default settings for preset slot A and or B then you may need to delete those files for since the Save Settings As

Default just saves the “Default” file in your preset folder and discussed in the Auto Loading Presets section.

Copy To Others

Use this command to copy the current oversampling settings to all other copies of The Glue that are open. This is a quick and easy way to update old settings or to try out different levels of oversampling and see how it improves audio quality in your song.

Main Controls

Editing Values

You can edit the values of knobs in the following ways:

1. Drag up and down on controls to increase or decrease their value
2. Mouse wheel on controls to increase or decrease their value
3. Double click in the center of a knob to enter the exact text value of a knob
4. Double click on the outer ring of a knob to snap one of the notched values.

Threshold (dB): 0 to -40

This control adjusts when compression starts. For more compression turn the knob clockwise to a more negative value.

Range (dB): 0 to Full (-∞)

The Range Knob is a very useful addition to the original design, it allows you to limit the depth of compression and maintain a more natural sound. Since transients typically have the highest peaks in audio the Range Knob has a large effect on their sound, but also limits the total compression depth possible.

After analysing the SSL 4000* circuit it was found that various control voltages were limited at a fixed amount. The Range Knob provides a way to vary this limiting action which is such a key aspect in why the analog compression circuit sounds so good.

Any setting can be made more subtle with the Range Knob. It allows you to still grab the sound early but then off to not over-compress. This makes a great alternative to parallel compression with the Mix Knob.

As a guide use values from -60 dB to -80 dB to emulate the original characteristics of the compressor, and values of around -15 dB to -40 dB as an alternative to using the Mix knob.

Makeup (dB): 0 to 40

This gain is applied to the main compression amplifier, but pre mix control and Peak Clip. The action of the compressor will turn the volume down when the signal is above the Threshold, so use this knob to increase the signal level again that has been lost.

As a rough guide you can look at the needle and match the Makeup Knob to the peak amount of gain reduction being applied.

Attack (mS): 0.01, 0.1, 0.3, 1, 3, 10, 30

This controls the speed at which compression is applied. At fast settings transients will be decreased more quickly, and at slower settings the compression will take longer to act so the more of the peak pass through the compressor unaltered.

An extra time of 0.01 has been added to the Attack times so The Glue can be used for limiting applications.

Ratio: 2, 4, 10

The Ratio controls how much compression to apply once the signal has passed the Threshold level and the Attack has allowed the compression to start acting. The Ratio numbers are sometimes confusing since they are a measure of slope rather than a percentage. This is outlined in the table below:

Ratio	Equivalent Percentage	Gain reduction for per 10 dB over threshold
2	50%	$10 \times 0.5 = -5$ dB
4	75%	$10 \times 0.75 = -7.5$ dB
10	90%	$10 \times 0.9 = -9$ dB

* Trademarks of Solid State Logic used to identify the circuits and sounds analysed to develop The Glue. Cytomic is not an associate or affiliated with SSL in any way, and the use of third party trademarks do not imply any endorsement of Cytomic products.

So as you can see a ratio of 10 is very steep, in fact a ratio of 20 would only give you an extra -0.5 dB of gain reduction per 10 dB over the threshold, and an infinite ratio would only give you an extra -1 dB over a ratio of 10.

Because of the structure of The Glue the knee shape is linked to Ratio, a ratio of 2 has a soft knee, 4 has a medium knee and 10 a sharper knee.

Release (S): 0.1, 0.2, 0.4, 0.6, 0.8, 1.2, Auto

The Release time is how quickly the compressor returns the compressed signal back to its original volume. Some extra times have been added to that of the original. If you are looking for the 0.3 Second release time of the original unit this is equivalent to the 0.2 Second time on The Glue – the actual time is in between the two.

The Auto setting actually uses two times, a slow one as a base compression value, and a fast one to react to transients in the signal. You will see this from the needle, the minimum value of compression rises to match the overall volume of your source material and is slow to release, but the needle moves quickly up and back to this baseline amount. The Auto Release can be too slow to react to very large variations in source material, but generally is a useful way to tame a wide range of material in a gentle way.

Compression In (Switch): On, Off

This switch sets the compression applied and Makeup to 0 dB which in effect bypasses the compression action. There are still some DC blocking high pass filters and optionally the Peak Clip still in the signal chain, and the rest of the compressor is still in action, so you can quickly compare the effect the compressor is having on your dry signal.

Mix (%): Dry 0 to Wet 100

This control mixes the dry signal phase accurately with the compressed signal pre Peak Clip so you can achieve parallel compression amounts.

The knob shows you a linear percentage of operation, which fine adjustment on either end and more coarse adjustment near 50% which more closely matches a dB gain knob.

Peak Clip (Switch): On, Off

Warning: The Peak Clip distorts your signal so if you are unsure as to its use we recommend leaving it disabled! You may also want to consider using the overampling feature of The Glue for improved audio quality if you want to use the Peak Clip.

The Peak Clip is not a limiter, it is a fixed waveshaper. It is in effect a zero attack time, zero release time peak level compressor which fixed infinite ratio and medium knee. It is linear up -2.0 dB then has a smooth curve to -0.5 dB and then is horizontal. The maximum level of -0.5 dB is useful so signals aren't pushed too hard which can possibly cause inter sample overshoot on playback.

Care must be taken when using the Peak Clip not to distort the signal too much. It is useful for applications with have large transients that need taming and is ideal in combination with the Range Knob, which will stop the compressor from over reacting to these transients. When in use make sure to toggle the Peak Clip Button on and off and to make sure there is minimal audible difference between it being used or not.

For critical applications where distortion needs to be minimised it is recommended that you use two copies of The Glue, the first one with a limiting setting to tame the peaks, and the second one with the regular compression you want to apply.

Side-chain HP (Hz): Off, 20 to 2000

This filter allows for adjusting how the detector reacts to low frequencies. It is a gentle -6 dB per octave high pass filter that only acts on the sidechain signal, either internal or external. A value of around 200 Hz is recommended to reduce pumping caused by low frequencies.

For more surgical filtering please use the external sidechain facility, which is described next.

External Side-chain In (Switch): On, Off

This button allows you to use any signal you want as the input to the detector. You can use the same signal as the main signal but apply any filtering or EQ you desire, which is useful for more surgical and corrective use of The Glue – for example in de-essing.

Another use for it is to apply a musical rhythm from one signal to another, for example a drum pattern can impart volume changes on a synthesizer part.

The Glue declares an extra set of inputs to the host, for the mono version this will be input 2, and for the stereo version this will be input 3+4. Please consult your host documentation for how to route audio to these extra inputs of The Glue.

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