

# DMGAudio Compassion

Audio Tools Crafted With Love

## Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
1.1	About Compassion . . . . .	3
1.2	System Requirements . . . . .	3
1.2.1	Windows . . . . .	3
1.2.2	Mac OS . . . . .	3
1.3	Installation and Setup . . . . .	3
1.3.1	How to Install on Windows . . . . .	3
1.3.2	How to Install on OS X . . . . .	4
<b>2</b>	<b>Compassion UI and Controls</b>	<b>7</b>
2.1	Clutter Bar . . . . .	7
2.1.1	A/B Menu . . . . .	7
2.1.2	Copy To Menu . . . . .	8
2.1.3	Listen Menu . . . . .	8
2.1.4	Bypass . . . . .	8
2.1.5	Setup . . . . .	8
2.1.6	Advanced UI . . . . .	8
2.1.7	Clip LED . . . . .	8
2.2	Main Section Controls . . . . .	8
2.2.1	Main Controls . . . . .	9
2.2.2	Main Graph and VU . . . . .	10
2.2.3	Knee and Response Graphs . . . . .	11
2.2.4	Extra Controls . . . . .	12
2.2.5	Preset and Mods browser . . . . .	12
2.3	Advanced . . . . .	13
2.3.1	Sidechain EQ . . . . .	13
2.3.2	Threshold Parameters . . . . .	14
2.3.3	Ratio Parameters . . . . .	15
2.3.4	Attack Parameters . . . . .	16

2.3.5	Release Parameters	17
2.3.6	Auto-Release Parameters	17
2.3.7	Main EQ Parameters	18
2.3.8	Detector Parameters	19
2.3.9	Threshold/Ratio Parameters	20
2.3.10	Attack/Release Parameters	20
2.3.11	Transient Shaper/Clip Limiter Parameters	21
2.3.12	Global Parameters	22
<b>3</b>	<b>Preferences and Options</b>	<b>24</b>
3.1	Mouse and Meter Preferences	24
3.1.1	Mouse Wheel Sensitivity	24
3.1.2	Hide Mouse	24
3.1.3	Meter Type	24
3.1.4	Meter Scale	24
3.1.5	Meter Peak/Hold	24
3.1.6	VU Zoom Range	25
3.1.7	Clip threshold	25
3.2	Misc	25
3.2.1	Number Format	25
3.2.2	Graph Display	25
3.2.3	Hide Graph	25
<b>4</b>	<b>Mods</b>	<b>26</b>
4.1	Presets vs Mods	26
4.2	Loading Mods and Mod Banks	26
4.3	Exporting Mods and Mod Banks	27
<b>5</b>	<b>Tips and Tricks</b>	<b>29</b>
5.1	Saving default state	29
<b>6</b>	<b>Troubleshooting</b>	<b>30</b>
6.1	Known Issues	30
6.2	Get in touch	30

# 1 Introduction

## 1.1 About Compassion

Compressors have something of a “dark-art” feel about them. Compassion tries to remedy this. The design of dynamics processors is certainly complex, but after extensive research, it transpires that almost any design fits in to part of a family. Compassion, beyond offering a very flexible set of compression controls, allows you to delve in to the character of dynamics, and tweak the sound until you get what you need. Moreover, we’ve incorporated a lot of research into how dynamics processors are used, to build an interface that allows for quick and intuitive work. We wanted to hit both problems at the same side: Flexibility AND ease of use.

We really hope that Compassion will not only serve as your workhorse dynamics module, but will provide you with access to the hardest-to-reach characteristics that esoteric dynamics processors can offer.

## 1.2 System Requirements

### 1.2.1 Windows

Compassion works with Windows XP, Vista and Windows 7, 32bit and 64bit. VST and VST3 are supported in both 32bit and 64bit hosts. RTAS is supported in 32bit ProTools 7 or newer.

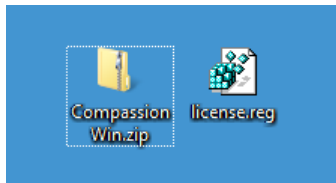
### 1.2.2 Mac OS

Compassion requires OSX 10.4.11 or better, on G4, G5 or Intel mac. VST, VST3 and AU are supported in both 32bit and 64bit hosts. RTAS is supported in 32bit ProTools 7 or newer.

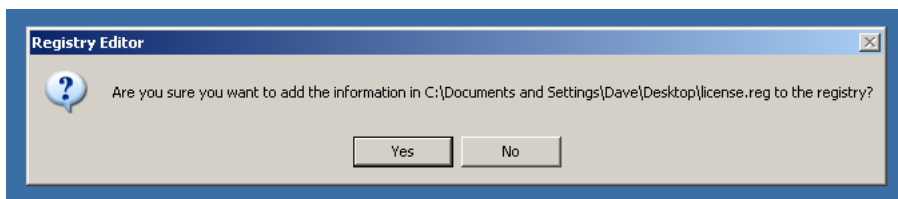
## 1.3 Installation and Setup

### 1.3.1 How to Install on Windows

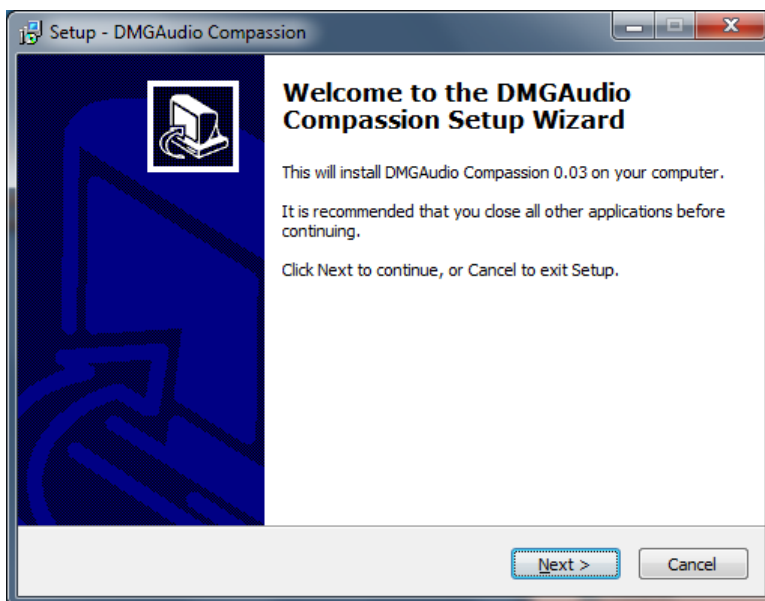
You need two files to install; the plugin installer and the license file. Both are available in your User Area. If you’re using a demo, download the installer from the site, and use the form to have your license file emailed to you.



Double-click license.reg, and this box will open:



Click “Yes” and the license is installed. Now double-click the zip-file which contains the installer. Double-click the installer; it will look like this:

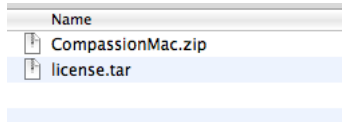


Click “next” (changing any options if you need to), and Compassion is installed! Relaunch your host and enjoy!

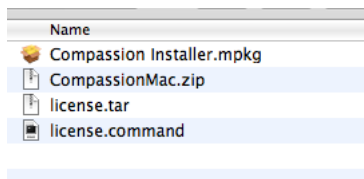
### 1.3.2 How to Install on OS X

You need to download both the installer and the license file. Both are available in your user area. If you’re using a demo, download the installer from the site,

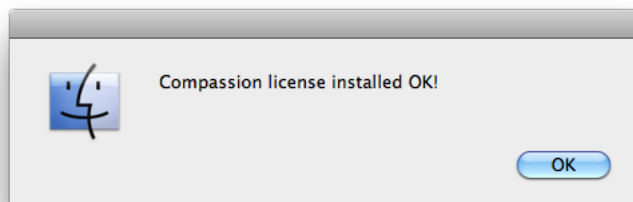
and use the form to get your license file emailed to you.



Depending on your browser, one or both of these files may be automatically unzipped for you. If not, double-click them to decompress them, so you get this:



Double-click "license.command" to install the license. The license will install, and you'll get the following message to confirm:



Now double-click the installer, and it will launch. It looks like this:



Click through until it installs, and everything is set! Now relaunch your host and enjoy!

## 2 Compassion UI and Controls



The Compassion UI splits up into 3 sections:

- The Clutter Bar at the top, containing workflow controls.
- The Main Section, featuring the graphs and major controls.
- The Advanced Section.

### 2.1 Clutter Bar



#### 2.1.1 A/B Menu

The A/B menu allows you to jump between 8 (A-H) different sets of settings, so you can quickly audition different configurations. The letter indicates which set is currently selected. Click and pick a new bank from the menu to jump to it.

### 2.1.2 Copy To Menu

The Copy To menu works in conjunction with the A/B menu. To quickly audition a change without modifying your current settings, click the Copy To menu and pick a new set to copy your current settings to. Then change to the new set with the A/B menu, and modify the settings. Now you can jump between the sets using the A/B menu to rapidly audition changes.

### 2.1.3 Listen Menu

The Listen Menu is used to select what signal you'd like to monitor. By default, Output is selected, which gives you the fully processed signal. Other options are:

- SC: the sidechain mix that will be used to determine compression amounts
- In: the input signal. equivalent to bypass
- Dry: the input signal passed through the Dry filter
- SC1: the signal that will determine compression for the left/mid signal
- SC2: the signal that will determine compression for the right/side signal
- Out1: the left/mid signal of the processed output
- Out2: the right/side signal of the processed output
- Split: when SplitEQ is enabled, the uncompressed part of the signal, to be mixed in with "Split mix"

### 2.1.4 Bypass

Bypass disables processing, for quick audition of the effect.

### 2.1.5 Setup

This opens the Setup window, to be discussed in the "Setup" section.

### 2.1.6 Advanced UI

By default, Compassion's UI opens in the Main Controls mode. Click the Advanced UI button to reveal the Advanced section.

### 2.1.7 Clip LED

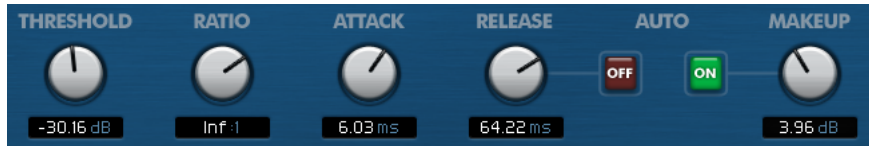
This icon illuminates to indicate clipping.

## 2.2 Main Section Controls

In this section, we'll discuss the major controls for Compassion.



### 2.2.1 Main Controls



In this section we have the core Compression controls.

#### Threshold

The Threshold determines the level above which Compassion attempts to reduce the level. High values, -12 up to 0, would be used to clip peaks from a signal, or clean up a recording with excessive transients. Medium values, -24 to -12 might be used to reshape the dynamics of drums, squeeze together the dynamic range of a mix, or to compensate for changes in level from a singer who moves toward and away from a mic. Low values, below -24 would be used either with a very gentle ratio to squeeze a mix, to crush a sound to get a fat thick sound, or for creative effect, to make a signal breathe or bounce. The suggestions above are just that, and of course everything depends on your input signal level, but nonetheless, the Threshold suggests the type of compression you're applying.

#### Ratio

The Ratio determines how aggressively Compassion attempts to reduce the level. At Inf:1, it acts as a limiter, attempting to prevent any signal from exceeding the Threshold level. At 1:1, Compassion will apply no gain reduction.

Values such as 1.2:1 to 1.4:1 are generally used for gentle compression. If you are after a firmer compression on instruments and vocals, it is suggested that you try values such as 2:1 to 4:1. Heavier compression can be achieved with values between 10:1 and Inf:1.

For characterful, or effect compression, you can dial in up to -1:1 (past infinity, and beyond), which will cause Compassion to overcompress - or reduce the gain by more than the input level exceeded the threshold.

#### Attack

The Attack determines how effective Compassion's attempts to reduce level are. With an Attack time of 0, Compassion can instantaneously reduce level in response to input. However, often allowing some of the peak of the input to "pop through" is highly desirable. Attack times from 0 to 10ms give extremely fast, aggressive limiter-like behaviour.

Times between 10ms to 50ms provide a softer, smoother behaviour characteristically found in older compressors, and allow you to finely adjust the transients of drums and instruments.

Longer attack times give very gentle, smooth changes in gain reduction, such as might be used for tracking gain changes in a recording.

#### Release

The Release determines how quickly Compassion will return to a default state of not reducing the gain, once a loud signal has been compressed and has passed. Quick Release times are used for clipping peaks, so that the gain reduction is abated quickly once the peak has been handled. From 50ms to 150ms, Compassion will have mostly recovered from compressing a kick drum before the next kick drum arrives; this range represents a “beat”.

### **AutoRelease**

Compassion has a fully-configurable auto-release, which varies the release time between a Short and Long setting, based on the intensity of the signal it is compressing. Clicking the AutoRelease button disables the Release controls, and engages this AutoRelease circuit.

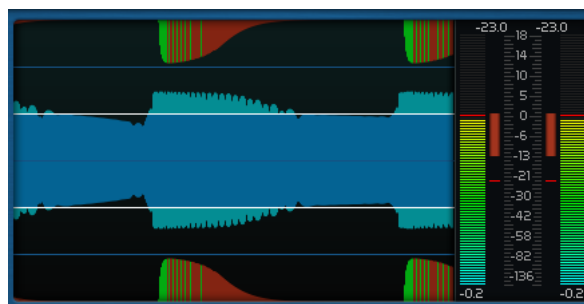
### **Auto-makeup**

While working, it can be useful to maintain a constant monitoring level. Auto-makeup measures the gain reduction that will be applied at a specified level (Autogain Level), as a result of the Threshold and Ratio settings, and applies gain such that that level will remain the same after compression. Since the actual perceived gain-change is a function of the dynamics of the input signal, this control is only an aid to working, but generally proves useful while configuring settings.

### **Makeup**

Since the function of a compressor is to reduce level, the Makeup gain allows you to compensate for any perceived loss in level (and to control the level sent to the next processor in your chain). This can be used in conjunction with Auto-makeup, to trim the level Auto-makeup gives.

## **2.2.2 Main Graph and VU**



This section forms the heart of Compassion’s main UI, and provides you with instantaneous feedback about the compression process. On the left is the Graph, and on the right is the VU.

The graph is designed to allow you to quickly intuit the compression process. The waveform displayed in the centre is your input signal, scaled such that the

signal “escaping” outside the white rails will be compressed, and any signal between the white rails will not trigger a response. Grab the curve and drag, to push transients through the rails, and the Threshold will be adjusted as you do so. Superposed in a darker colour is the output level, post-compression, to allow you to see how much has been compressed, and how much has been allowed through.

At the top and bottom are the gain-reduction signals. Green shows attack, Red shows release. As you increase the attack, you’ll see more Green appear.

Grab the GR curves and drag them to increase or reduce the amount of GR, and the Ratio will be adjusted as you do so.

The Graph stops scrolling as you mouseover, to allow you to pause the signal and inspect it.

The VU shows level, gain reduction, and peak values and readouts for both.

### 2.2.3 Knee and Response Graphs



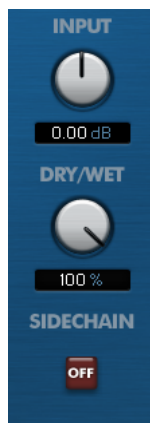
**Knee** The Knee graph shows you a rough sketch of the dynamic response that Compassion has been configured with. It shows the Threshold, Ratio and Knee parameters. Advanced parameters which affect the dynamic response will also be shown.

You can drag the graph to adjust the Knee values.

#### **Response**

The Response graph shows a rough sketch of Compassion’s currently configured transient response. It allows you to see the shape of your attack and release curves. The response can be configured in great detail using advanced parameters. This graph serves to give you a quick readout of the character you’ll hear as you compress.

### 2.2.4 Extra Controls



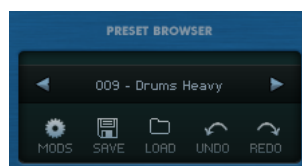
**Input** This is an input trim, to allow you to compensate for particularly high or low levels in the input signal, or just to finesse your gain structure easily.

**Dry/Wet** This dial allows a linear crossfade between compressed and uncompressed signals, for “parallel” compression. 100% gives the compressed (wet) signal, 0% gives the uncompressed (dry) signal.

**Sidechain** This button allows you to tell Compassion to use an external sidechain signal which has been routed to it via your host. For VST3, AU and RTAS, your host will likely support this automatically, typically via the plugin header.

For VST2, this feature is not officially implemented (except in Ableton Live), so you’ll need to instance Compassion on a Quad bus and route the input to the Front of the bus and the external signal to the rear.

### 2.2.5 Preset and Mods browser



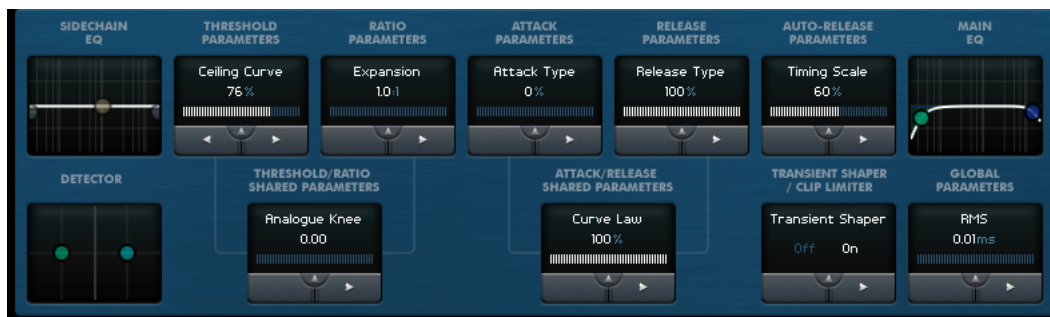
**Presets** Clicking the name of the preset will open a dropdown menu allowing you to select a preset. Pressing the left or right arrow will allow you to jump through the presets.

**Undo and Redo** Undo and Redo allow you to undo and redo modifications you’ve made, one control adjustment at a time. Undo history is only retained until your session is closed, but will persist across opening and closing the UI.

**Save and Load** These buttons allow you to export and import banks of presets, to share or audition.

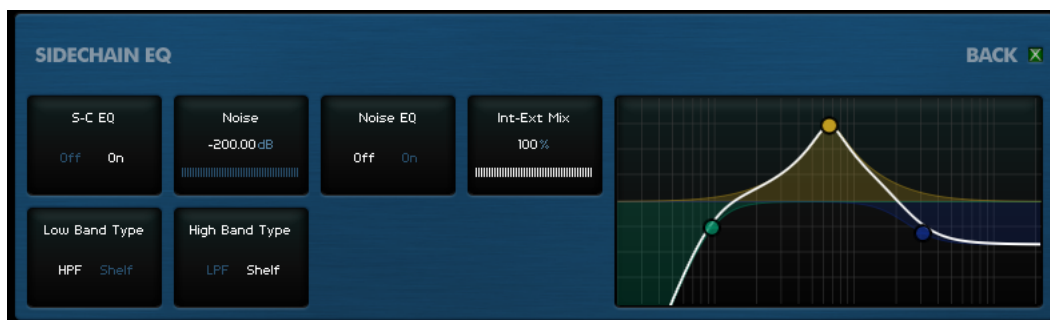
**Mods** Selecting Mods will replace the Presets menu with the Mods menu, and the Save and Load buttons will change to allow you to load and save Mods. See the Mods section for more detail.

## 2.3 Advanced



Using the Advanced section, you can configure Compassion in detail. Each box contains controls that pertain to part of the system. Double-clicking the background of the graphs, or the “up” arrow in the parameter boxes will open an expanded control page for each section. For the non-graph modules, all parameters are available and can be accessed by jumping left or right using the arrows at the base of the box.

### 2.3.1 Sidechain EQ



Compassion gives you a 3-band EQ with which you can shape the signal that invokes compression. By default, the bands are High-Pass filter, Peak, and Low-Pass filter. Shift-double-clicking a filter will change it to a shelf, and vice-versa. Dragging any band left-to-right adjusts the frequency. Dragging filters up/down changes the slope between 6/12/18/24 db/oct. Dragging the shelf/peak bands up/down changes the band. Alt-dragging the peak allows you

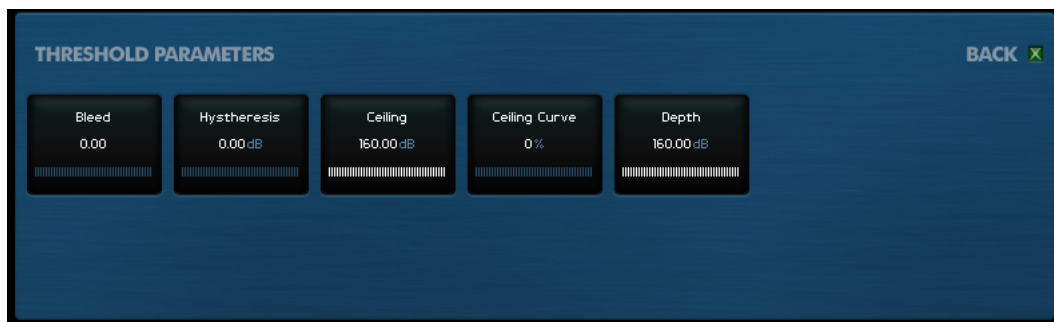
to adjust the band's Q. Double-clicking the filter/shelf bands will disable them. Double-clicking the peak band enables/disables the entire Sidechain EQ, as does adjusting "S-C EQ".

You can mix a noisefloor into the Sidechain mix (which causes the sidechain to react with less accuracy, in the style of an analogue compressor) using the "Noise" parameter. The "Noise EQ" parameter allows you to mix in the noise pre- or post- the Sidechain EQ.

The Int-Ext Mix parameter is applied in the case that the "Sidechain" button in the Main section is enabled, and allows you to mix the Input against the Sidechain Input to construct the sidechain trigger signal; for instance mixing sidechained kicks against an input bassline to compress the bass against both the bass and the kick.

The Low and High Band Type controls allow you to switch between filter and shelf types without using the graph.

### 2.3.2 Threshold Parameters



**Bleed** allows you to configure the compressor to gradually increase the intensity of the compression as the signal passes the threshold. At 0.00, no effect is applied, but at extreme values, the ratio increases from the value of the Ratio knob to higher or over-compressed values as the signal passes the threshold. This, in conjunction with Knee values, will give an "over-easy" compression knee shape, as will be seen in the Knee Graph settings.

**Hystheresis** designates a band of levels around the threshold which must be exceeded in order for the perceived input level to be changed. This control is more usually found on gate/expanders (and is very useful when Compassion is configured as such) to prevent chatter, and generally smooth the compression behaviour. The best explanation is via an example: Suppose a threshold of -10dBFS and a Hystheresis of 5dB. The signal must now exceed -5 dBFS before compression will be applied. When the signal does so, release will not start until the signal drops below -15dBFS. In this sense, Hystheresis acts to prevent

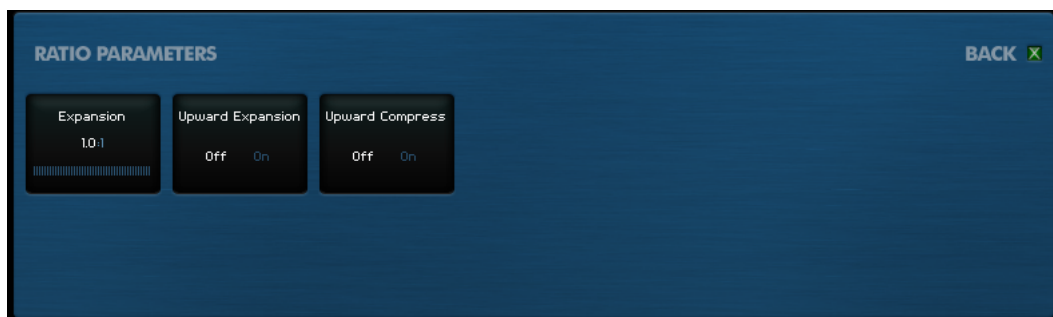
Compassion from changing its current GR level. Used on vocals, which require very subtle and gentle compression, or used when gate/expanding the signal, this parameter acts to enhance the smoothness of the overall response.

**Ceiling** specifies the maximum gain reduction that can be applied by Compassion while compressing. Many analogue units have their GR scaled such that above a certain level, compression just stops, and the Knee graph becomes linear; this control allows you to configure this. This control also allows you to grant Compassion a certain robustness against extreme peaks; if the Ceiling is set such that a 12dB excursion is seen as no greater than a 6dB excursion above the threshold, the release will not dip overaggressively in response to an unexpectedly large peak.

**Ceiling Curve** works with the Ceiling setting, allowing you to configure a gradual relaxation of the GR toward the Ceiling level. At 0% the ratio will be unaffected up to the Ceiling level, where it stops with a sharp curve. At 100%, the ratio eases off immediately from the threshold all the way to the Ceiling level.

**Depth** specifies the maximum gain reduction to be applied while Gating or Expanding the signal. This is identical to a Depth control on a regular gate.

### 2.3.3 Ratio Parameters



**Expansion** allows you to reduce the level of signals below the Threshold. It is equivalent to Ratio, except acting below the Threshold rather than above. Typically an expander is used with ratios like 2:1 to 4:1. Configuring Expansion to be Inf:1 will configure Compassion to Gate the signal.

**Upward Expansion** is a somewhat unusual feature that allows you to “make the loud bits louder”. It is sometimes used in Mastering to attempt to undo damage caused by overaggressive limiting. Try using the “Upward Expansion” Mod as a good starting point for this.

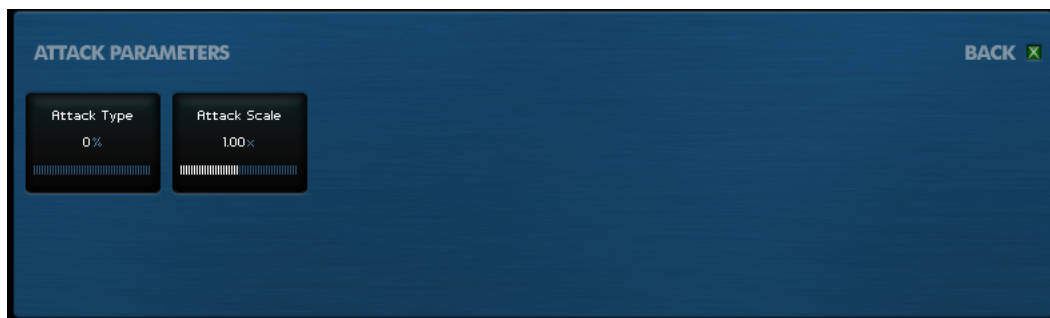
When the signal level exceeds the threshold, Compassion will act to further increase the level. Typical settings might see the threshold set around -6dB.

To prevent overs, you can set the AutoGain Level to 0dB, and enable Auto-makeup. Now 0dBFS will remain at the same level on output (thus saving your ears and speakers), but whatever dynamic range remained in the signal can be enhanced.

Similarly, you can use this feature to cause transients to “pop” out. The power that this feature has to increase level is not to be underestimated, and setting a Ceiling or engaging the ClipLimiter is strongly recommended.

**Upward Compress** reverses the direction of the Expansion control, causing quiet signals below the Threshold to be made louder. It has the effect of increasing the level of the noisefloor in the signal while leaving signals above the Threshold intact (unless you choose otherwise, with a Ratio other than 1:1). This parameter is useful in bringing out the innate character of the noisefloor of the input signal.

#### 2.3.4 Attack Parameters

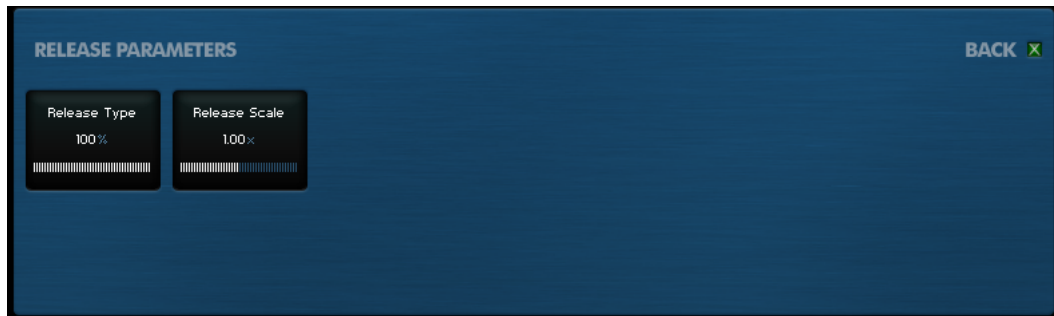


**Attack Type** performs one of two roles, depending on whether the A-R stage is Coupled (see Attack-Release parameters). When the A-R stage is Coupled, the Attack stage behaves as a perfect compensated attack circuit when Attack-Type is at 0% and behaves as an uncompensated circuit (similar to notable British designs) at 100%. The uncompensated Attack tends to under-respond to inputs, which gives a certain “thumpy” character to the compression. In Decoupled mode, at 0% the Attack stage behaves as a low-pass filter, which is typically how decoupled analogue circuits implement attack circuitry, superimposing a release equal to the attack time to the transient behaviour. At 100%, the Attack stage behaves as a perfect attack circuit, with instantaneous release.

**Attack Scale** multiplies the main Attack control time. There is something of a lack of consensus between American and British compressor designers as to what Attack Time measures, so you can use this parameter to compensate if Compassion’s timings don’t feel correct.

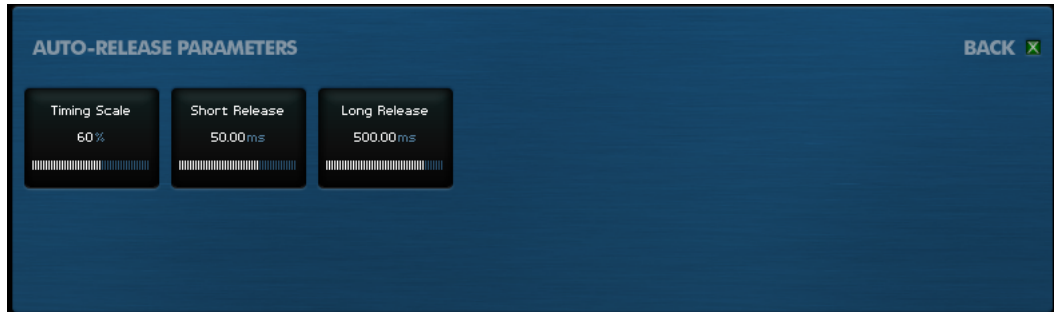


### 2.3.5 Release Parameters



**Release Type.** When a Compressor starts to release, it can choose either to release to the level of the current input, or to release back to zero. At 0%, this control gives “Release to Zero” behaviour; at 100%, “Release To Signal” is achieved. Release to Signal typically gives smoother behaviour, whereas Release to Zero does more to add character to a signal being compressed.

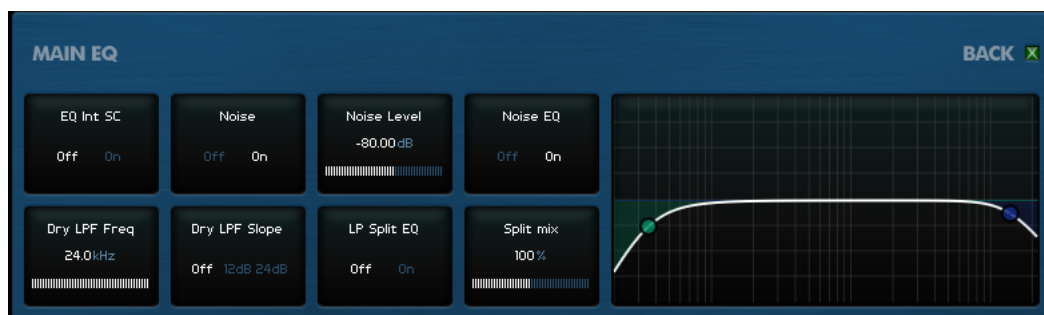
### 2.3.6 Auto-Release Parameters



**Timing Scale** affects how intense a signal must be to increase the release time from the Short to the Long time. At 0%, the auto-release will require a transient needing very significant compression in order to increase the Auto-Release from Short to Long duration. At 100%, even the most subtle of transients will invoke the Long release time. Midway, you’ll notice the release change length based on the transient being compressed.

**Short Release** is the minimum Release time that the auto-release will apply. **Long Release** is the maximum Release time that the auto-release will apply.

### 2.3.7 Main EQ Parameters



**Graph.** The Main EQ graph allows you to insert a high-pass and low-pass filter into the signal-chain of Compassion. The filters have selectable slopes of 6/12/18/24 dB/oct, and the bands can be disabled by double-clicking the control handles.

**EQ Int SC** determines whether the Main EQ shape influences the signal that's used to determine the compression signal. When this control is On, the compressor will only respond to the signal present between the two filters. When this control is Off, the sidechain signal will see the full, unfiltered signal, but the filtered signal will be compressed.

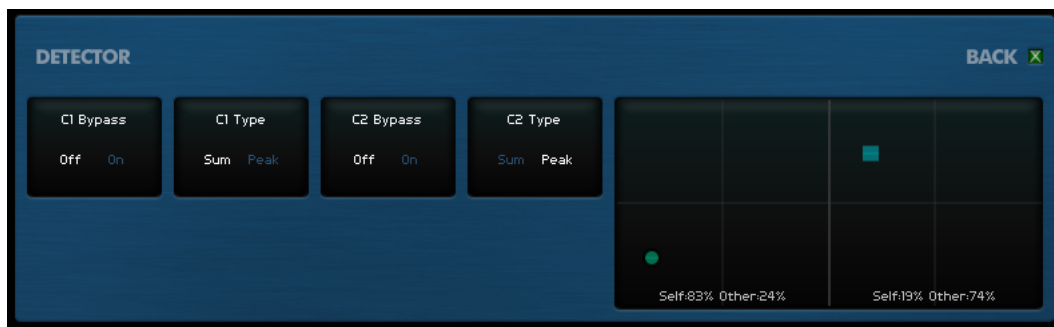
**Noise** can be mixed into the signal path, at the same time as the EQ is applied. **Noise Level** determines the level of noise to be mixed in, when Noise is On. Compassion mixes in Gaussian White noise, such as would be measured in analogue hardware. **Noise EQ** determines whether the noise is mixed in before or after the EQ is applied. When On, the noise will have the same spectral shape as the EQ curve.

**Dry LPF Freq** and **Dry LPF Slope** allow you to insert a low-pass filter of either 12 or 24 dB/oct slope into the “Dry” path, before the Dry/Wet mix. Some forms of compression can result in an overall loss of bass energy, so this control allows you to use the Dry/Wet control to mix back in the uncompressed low-end of the signal.

**LP Split EQ** allows you to use Compassion as a Dynamic EQ, or a stage in a Multiband Processor. When engaged, the Main EQ is implemented with a high-resolution Linear Phase EQ, and splits the signal into the signal to be compressed, and the “Split” or “Pass-through” band. This allows you to instance Compassion, select the band that you wish to compress, using the Main EQ filters, process it as you please, and then engage LP Split, to mix back in the uncompressed parts of the signal. **Split mix** is active when LP Split EQ is used, and allows you to adjust the relative level of the uncompressed audio (that which is filtered out by the Main EQ shape). At 100%, the default value, the unmodified audio is mixed

back in at its original level.

### 2.3.8 Detector Parameters



The Detector graph allows you to configure how each channel of audio will be processed. The two handles each represent the detector configuration for a channel; channel 1 on the left, and channel 2 on the right. The horizontal distance from the centre specifies how much a channel will respond to its own signal. The vertical distance from the bottom specifies how much a channel will be influenced by the signal from the other channel.

For instance, a stereo-linked compressor would have both channels in the centre of their squares, both receiving equal level from each input channel. Two unlinked compressors would have the detectors on the bottom of the graph (ignoring the other channel), as far from the centre as possible (listening to their own channel's input).

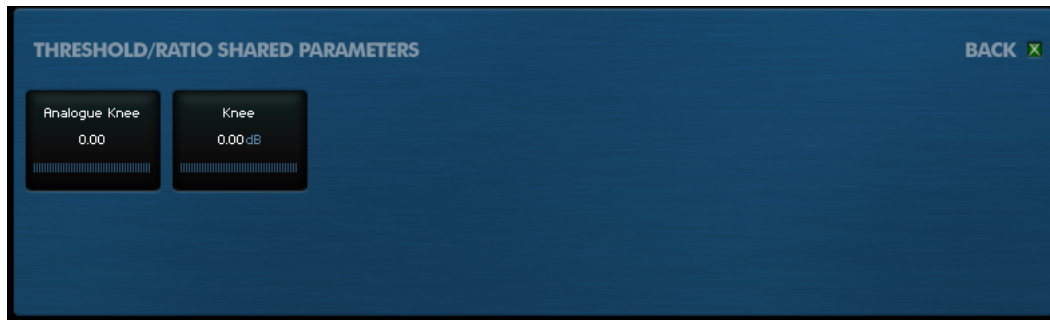
As a more esoteric example, in M-S mode, you might put the leftmost (Mid) detector in the bottom-left, ignoring the Side channel, and put the right-hand (Side) detector in the top-middle, ignoring its own signal, and reacting purely to the Mid signal. This would act to compress the Side whenever the Mid signal became loud.

The detector type is indicated by the shape of the handle. Circle indicates a “sum” detector, and Square indicates a “peak” style detector. You can change the channel’s detector type using the “C1 Type” and “C2 Type” controls.

Double-click a handle to disable compression for that channel, and have it passed-through without gain-reduction. Alternatively, use the “C1 Bypass” or “C2 Bypass” controls.

Alt-drag a handle to have it snap-to common values.

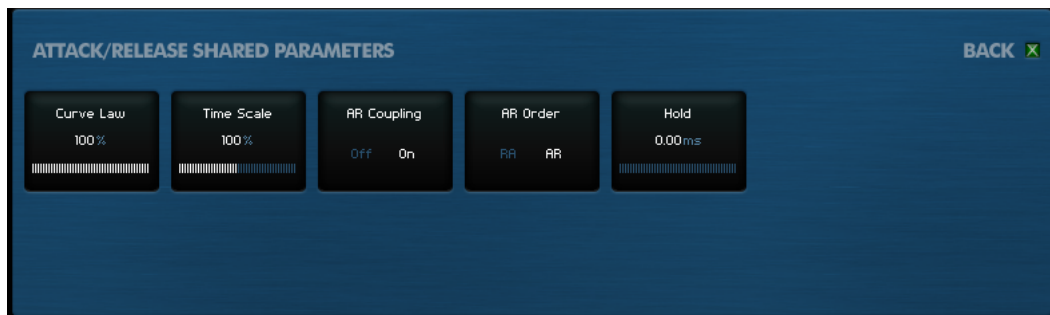
### 2.3.9 Threshold/Ratio Parameters



**Analogue Knee** allows you to implement the “below-threshold” soft-knee response that vintage compressors offer. This will prevent use of Expansion or Gating.

**Knee** gives you a modern, quadratic Knee, which is symmetric around the threshold. This will not interfere with expansion or gating, and gives a gentler corner to the Knee Graph, at the expense of beginning compression earlier.

### 2.3.10 Attack/Release Parameters



**Curve Law** allows you to modify the shape of Compassion’s transient response curves. At 0%, Compassion will give the style of most modern designs, with an exponential attack and release curve. At 100%, a vintage, analogue curvature is achieved. At 50% s-shaped attack and release characteristics can be achieved. This parameter allows you to tune the character of Compassion.

**Time Scale** works in conjunction with Curve Law when Curve Law is greater than 0%, and also allows scaling and shaping of Compassion’s transient response.

**AR Coupling** determines whether Compassion implements attack and release as one (coupled) circuit, or as two separate circuits (one for attack, one for release). Both options offer very different characters, and it would be meaningless

to suggest that one is better than another; like Curve Law and Time Scale, this parameter allows you to sculpt the sound of Compassion.

**AR Order** is used when AR Coupling is Off, and determines whether the Attack circuit precedes the Release circuit, or vice-versa. RA indicates that the Release precedes the Attack; AR that the Attack is first. RA style can offer greater interaction between the Attack and Release settings, and again this is a matter of taste.

**Hold** acts to keep Compassion in compression after a transient has passed. The Hold time determines how long Compassion will wait in a “sustained” state, retaining the current level of compression. This can be used with vocals, to prevent release during breaths, or while gating to keep the gate from closing too soon at the end of words or phrases.

### 2.3.11 Transient Shaper/Clip Limiter Parameters



**Transient Shaper.** This module operates in parallel with the Compassion dynamics engine, and allows you a different type of control over your signal. Transient Design works by running three Envelope Followers over the signal. The **Env Follower** follows the main curves of the audio, generating a smoothed version of the graph you’ll see in the Main Graph. The smoothing is determined by the Env Follower parameter. A second follower is the **Attack Env**, which follows the signal with a slow attack. The difference between the Env Follower and the Attack Env indicates when the signal is in an attack state. The third follower is the **Sustain Env** which has a slow release. The difference between the Env Follower and the Sustain Env reveals when the signal is in a sustain period. These differences are measured and limited against the **Max** parameter, and the **Attack** and **Sustain** controls are used to increase or decrease the signal’s level during these phases.

**Clip Limiter.** Often, slow-attack compression can generate peaks which are problematic. Likewise, after compressing parts of a signal’s spectrum, a wide-band limiter can be useful. Some peaks should be limited, but sometimes the

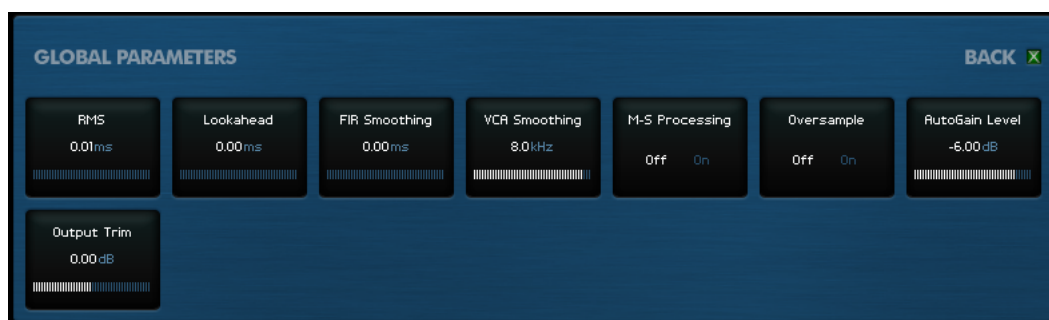
dynamic impact of a limiting is too costly, and a clip is an acceptable resolution. The Clip Limiter, when enabled offers this control. The **Limit** control allows you to dial between Clipping and Limiting. At 0% the Clip Limiter will apply a digital clip (with release), while at 100% a smoothed wideband limiter will be engaged. The **Release** parameter determines how quickly the gain reduction from clipping or limiting the signal is reduced. For a straight digital clip, both Limit and Release must be set to zero.

The **Drive** parameter allows you to apply gain before the Clip/Limit processing. The **Ceiling** parameter specifies the maximum level that can be output from the module. If you are processing a snare, and are measuring peaks at 12dBFS, and only 6dBFS is acceptable, set the Ceiling to 6dB.

**Softness** applies both a soft-clip and a soft-knee-limiting to the process, allowing you to tune the character of the limiting/clipping should you need to.

The Clip-Limiter module is positioned at the very end of the Compassion signal path.

### 2.3.12 Global Parameters



**RMS** determines the timing used for RMS detection. At 0, Compassion responds to the signal peaks. Increasing the RMS timing allows you to blend towards a smoother, RMS-compressor response.

**Lookahead** allows you to delay the audio, so that the compressor reacts before the audio is reached. It is generally recommended that the Hold parameter should equal or exceed the Lookahead time, to prevent the compressor from releasing before a transient has passed.

**FIR Smoothing** uses a gentle FIR filter to smooth the GR signal. For design of mastering limiters, Lookahead, FIR Smoothing and Hold should generally take the same value.

**VCA Smoothing** uses an IIR filter to smooth the GR signal. This allows you to access the character of compressors with slow-acting GR circuitry, such as opto-isolator or vari-mu based designs.

**M-S Processing** engages an MS-encoder on input, and an MS-decoder on output. In this mode, the “first” or “left” channel will carry the Mid signal, and the other channel will carry the Side.

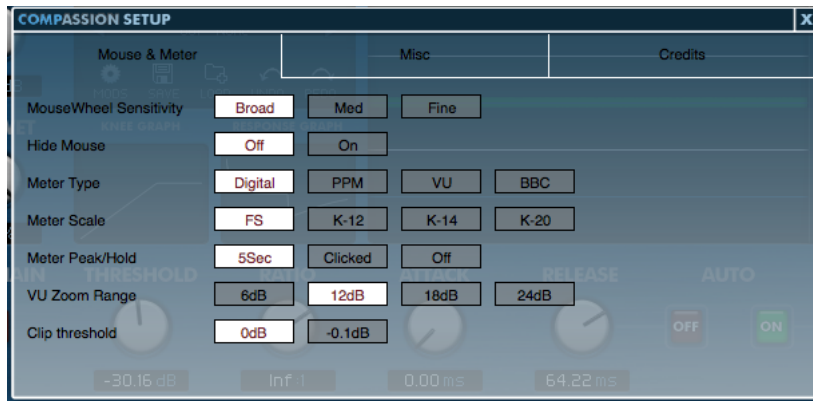
**Oversample** oversamples the signal processing to prevent aliasing.

**AutoGain Level** determines the level which will be compensated for when Auto-Makeup is engaged.

**Output Trim** allows you to trim the output level of the plugin after the Dry/Wet mix (but before the Clip-Limiter module).

## 3 Preferences and Options

### 3.1 Mouse and Meter Preferences



#### 3.1.1 Mouse Wheel Sensitivity

Use this to calibrate how big an adjustment a single “click” of the mousewheel makes to a control.

#### 3.1.2 Hide Mouse

When “On” the mouse will be hidden during drag operations on the UI, to minimise distraction.

#### 3.1.3 Meter Type

Select the meter ballistics you want the EQuality VU to use. Digital PPM will reflect all peaks. The other modes respond to the signal in more musical ways, by ignoring a certain degree of transience, and taking time to release once the signal has muted.

#### 3.1.4 Meter Scale

Select the Meter scale reference-point you wish to use. FS is the standard digital meter, where crossing 0dB represents clipping. K-12/K-14/K-20 are Bob Katz’s recommended reference levels from the K-metering system.

#### 3.1.5 Meter Peak/Hold

Use this to select whether the peak values of the meter are held indefinitely (until the meter is clicked, to reset), held for 5 seconds, or not recorded at all.



### 3.1.6 VU Zoom Range

Right/ctrl+clicking the VU meter changes the display to a linear (in dB) zoomed-in view of audio level. Use this preference to adjust how many dB of range should be shown in this mode.

### 3.1.7 Clip threshold

Use this to calibrate whether a clip is registered (in the top-right of the UI) at 0.0dBFS or -0.1dBFS.

## 3.2 Misc



### 3.2.1 Number Format

Use this to switch between using 'simple' number display (e.g. 15k) or 'precise' number display (e.g. 15000)

### 3.2.2 Graph Display

This preference allows you to choose whether to superimpose the sidechain signal or the input signal on the main waveform graph display, allowing you to view either the sidechain signal that Compassion is reacting to, or the difference between input and output in the waveform.

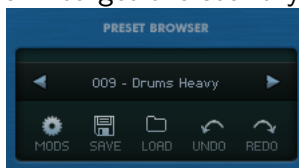
### 3.2.3 Hide Graph

Use this preference to hide the main waveform graph display.

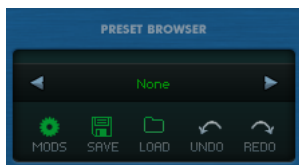
## 4 Mods

### 4.1 Presets vs Mods

A preset encapsulates the entire state of Compassion. However, for efficient workflow, sometimes reconfiguring the entire plugin is less than desirable. Being able to audition changes to just the character without influencing the overall style of compression can allow for very efficient workflow, and allow you to quickly tune-in to get the sound you need.



In the default state, with “Mods” unchecked, the Preset Browser will give you a list of presets which you can select. This list of presets is identical to that made available to the host in hosts/formats that support it (VST/AU).



When “Mods” is checked, the browser instead gives you access to the Mods menu. This menu is created by loading all the Mods you have installed into the Mods folder on disk. You can rearrange the contents of this menu as necessary. Note that reinstalling Compassion will reinstate the factory Mods folders, so you are advised to store your own Mods in differently named folders.

A Mod can alter some or all of Compassion’s settings, and is also able to reconfigure the UI state for convenience of use.

### 4.2 Loading Mods and Mod Banks

Clicking the Load button will open a file browser. Selecting a Mod (outside the Mods folder on disk) will allow you to import Mods or banks of Mods into your Mods folder. Once imported they will be immediately available from your Mods menu. If updated Mods do not appear in other Compassion instances, re-opening the UI will force a reload from disk.

Loading an individual Mod file will update Compassion’s settings without altering anything on disk.

### 4.3 Exporting Mods and Mod Banks

Exporting Mods is more complex. Clicking the Save button will open the Mod Save window.



To save an individual Mod to disk, use the “Save Mod” tab. On this page, you will see a list of which controls are to be stored inside the Mod. When the Mod is loaded, only those controls which you have saved will be altered.

To save a “top half” Mod, you would likely want to check:

- Major Controls
- Extra Controls

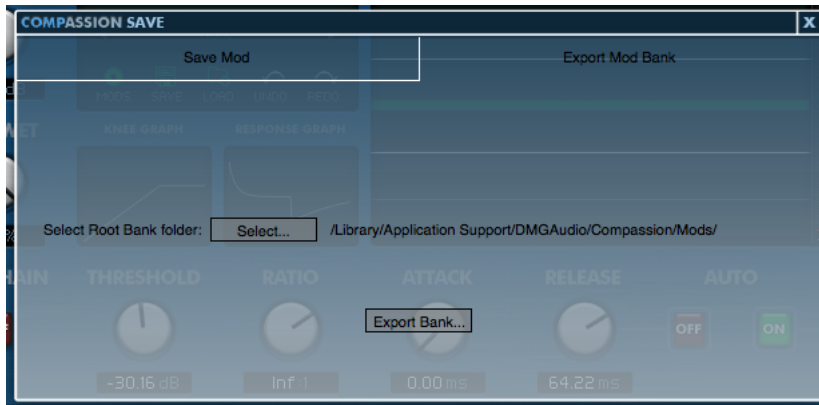
To save a “character” Mod, you would likely want to check:

- Knee Settings
- Autorelease Configuration
- Detector Configuration
- Character

A preset is equivalent to a Mod containing all settings except UI State.

With this system, you are able to finely control what the Mod will alter when reloaded.

When ready, clicking “Save Mod...” will open a file browser which will allow you to save the file into your Mods folder.



To export a bank of Mods to share, use the “Export Mod Bank” tab. Use the “Select...” control to designate which folder is to be exported. By default this will export all your Mods, including your Factory Mods.

When ready, select “Export Bank...” and a file browser will allow you to save the Mod Bank to disk.

## 5 Tips and Tricks

### 5.1 Saving default state

Instantiate a new Compassion, and set it up how you want Compassion to open in future (pick UI mode, preset, etc). Click “Setup” to open the Setup window, select Credits, and now click “Save current state as default”. From now on, new instances of Compassion will open with the settings you just saved.

To revert to factory settings, navigate to:

- Mac: /Users/<username>/Library/Application Support/DMGAudio/Compassion
  - Windows: C:\Program Files\DMGAudio\Compassion
- and remove “Default Bank.cmb”.

## 6 Troubleshooting

### 6.1 Known Issues

Known issues at time of writing:

- Cubase 5.5.2 on mac has a bug in handling of resizing windows. Updating to 5.5.3 fixes this.

### 6.2 Get in touch

If you run into trouble, get in touch! We're here to help, after all!

You can visit this page: [http://dmgaudio.com/index.php?\\_view=home.contact](http://dmgaudio.com/index.php?_view=home.contact)

Or you can just email me: [dave@dmgaudio.com](mailto:dave@dmgaudio.com)