

DMGAudio EQuality

Audio Tools Crafted With Love

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1 Introduction

1.1 About EQuality

Thank you for purchasing EQuality, the nine-band multi-mode equaliser from DMGAudio. EQuality is a feature-rich plug-in that will, by virtue of its several operating modes, fulfil nearly all the EQ needs of even the most demanding production environment.

With linear, analog, and minimum phase modes, along with our own Digital+ phase model, and variable Gain-Q interaction, EQuality moves from colourful processing to crystal clear scientific tone shaping with ease. M/S processing and a high resolution spectrum analyser turn EQuality in to a full-featured production toolbox.

The user interface provides a simple and quick-to-use overview, but advanced control over the internal processes are only a button click away, and its incredibly low CPU usage guarantees that your CPU won't get bogged down, no matter how many instances you use. In short, EQuality is the only EQ you'll ever need.

1.2 System Requirements

1.2.1 Windows

EQuality 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.

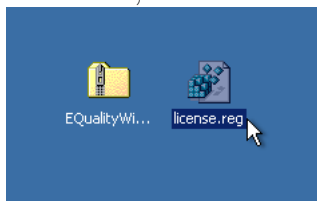
1.2.2 Mac OS

EQuality 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.

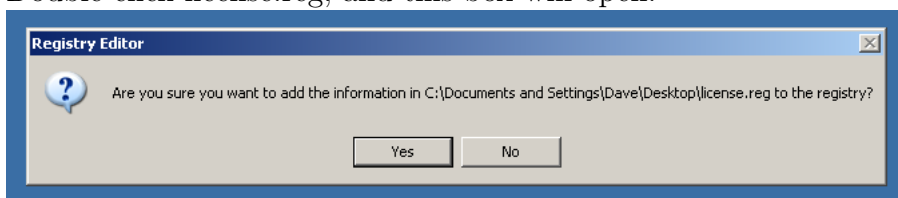
1.3 Installation and Setup

1.3.1 How to Install on Windows

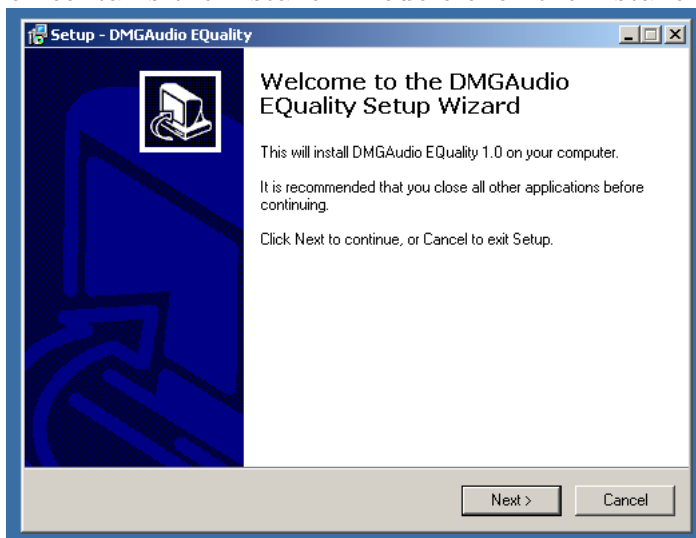
You need two files to install; the plugin installer and the license file. Both are available in your User Area. If you're using a demo, download the installer from the site, and use the form to have your license file emailed to you.



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:

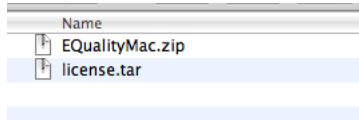


Click “next” (changing any options if you need to), and EQuality is installed! Reload your host, and enjoy!

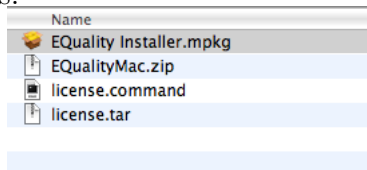
1.3.2 How to Install on OS X

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

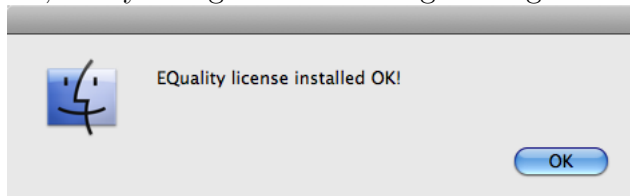
the site, and use the form to get your license file emailed to you.



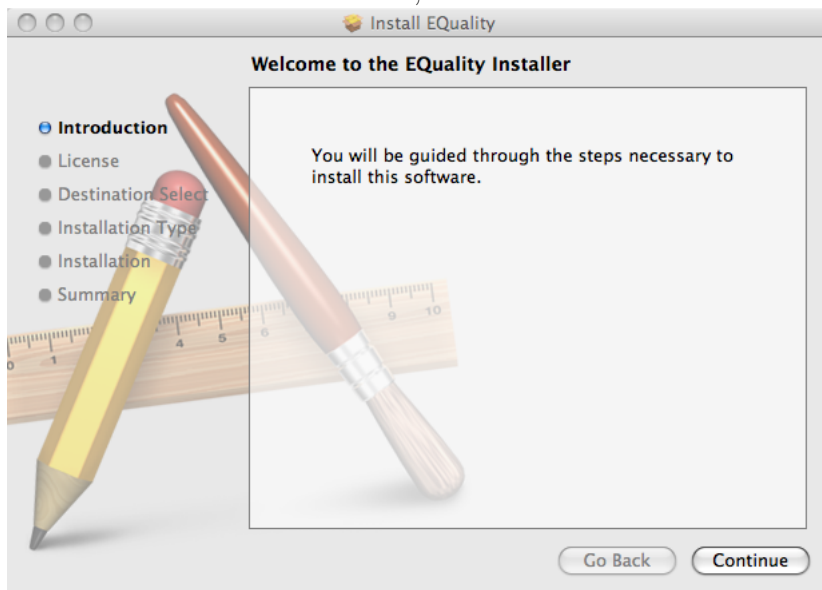
If you are using Safari, one or both of these files may be automatically unzipped for you. If not, double-click them to decompress them, so you get this:



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!

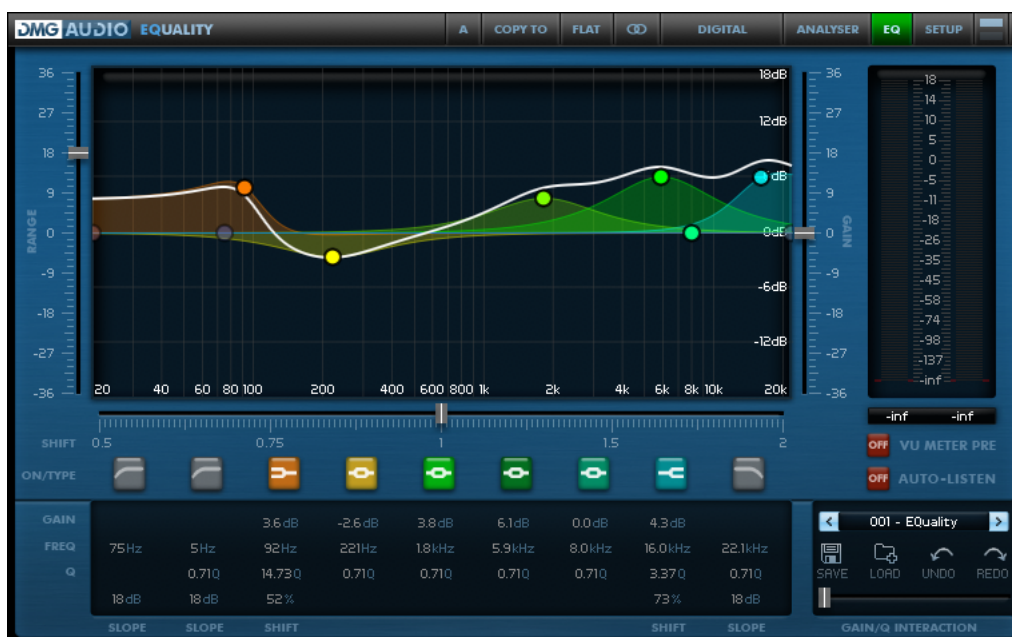
2 EQuality UI and Controls

2.1 The Three Modes

Full mode:



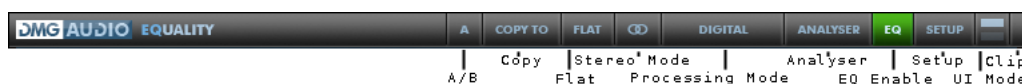
Graph mode:



Knob mode:



2.2 Top bar



The bar at the top of the UI contains controls to allow you to configure the behaviour of EQuality.

2.2.1 A/B

EQuality allows each instance to retain a bank of 8 sets of settings, so you can quickly audition different settings. The A/B menu allows you to choose

a value from A-H, each of which will store a setting for your convenience.

2.2.2 Copy

The Copy menu relates to the A/B menu. If, while working, you wish to save the current state of the plugin to a different A/B bank, select the bank you wish it to be saved in from the Copy menu. For instance, if you have a presence boost at 1k, and are working with bank A, and you Copy that to bank B (to save it away), and you then move the presence boost to 2k (still working with bank A. This will not change unless you use the A/B menu), you can now select A and B from the A/B menu to move the peak from 1k to 2k and back, to audition the change.

2.2.3 Flat

Clicking Flat will immediately reset the plugin to have a flat spectrum response from all non-filter bands. The shelves and bells will be reset to have 0dB of gain. Filters will be unaffected. Alt-clicking on Flat gives a total reset, sending all the parameters under the graph back to a default state, which very quickly gives you a flat spectrum.

2.2.4 Stereo Mode

By default, EQuality is a stereo EQ, operating equally on the left and right channels of input audio. If, however, you wish to dedicate the instance to operating on a specific channel, or on the Mid or Side of the stereo signal, you can select a different Stereo Mode to achieve this. When EQing Mid, the Side is passed through unaffected (and vice-versa). To use EQuality as an M/S EQ, insert two instances, one set to Mid and the other set to Side. The Stereo Mode menu will allow you to specify that EQuality should process either:

1. The stereo image, equally on both channels
2. The Mid of the image (affects only the mono sum of the channels, leaves the stereo data unaffected)
3. The Side of the image (affects only the stereo difference of the channels, leaves the mid unaffected)
4. The left channel
5. The right channel

The final entry on the Stereo Mode menu is a Solo. When enabled, this will mute any channel which is not being processed. In practice, this means that you can process Mid, and enable the Solo to hear only the Mid data, or

equivalently you can process Right, and enable solo to hear only the Right channel.

2.2.5 Processing Mode

EQuality is designed to not only sound great all day, but to provide you with all features you could conceivably need from an EQ. To this end, the Processing Mode allows you to alter the DSP mechanism that the plugin uses.

Digital Mode

CPU: Very low

Latency(samples): None

Digital mode is the standard processing mode, giving you a zero latency, low-cpu EQ for all tracks in a mix. This uses ultra-high precision prototypes and is as faithful as can be achieved to an analogue EQ.

Digital+

CPU: Low

Latency(samples): None

Digital+ mode supplements Digital mode by introducing an error-correction filter to render the frequency response more accurate. You should very rarely be able to discern a difference between Digital and Digital+ (only for very precise high-end adjustments), but when you need it, it's there!

Minimum Phase

CPU: Med

Latency(samples): None

Minimum phase implements an FFT-style minimum-phase EQ response. This mode gives the minimum possible transient distortion without introducing latency.

Analogue Phase

CPU: Med

Latency(samples): 4096 (Compensated)

This mode gives a precise replication of both the magnitude and phase response of an analogue EQ which exactly matches the settings of the plugin.

Linear Phase

CPU: Med

Latency(samples): 4096 (Compensated)

This mode implements the specified EQ response with absolutely zero phase

distortion. Transients are not phase-smeared in this mode. This mode is useful for mastering applications.

2.2.6 Analyser

Toggling this button will enable or disable the spectrum analyser when in a UI mode that has a graph.

2.2.7 EQ Enable

When this button is green, the EQ is engaged. Use this button to quickly bypass/re-enable the processing.

2.2.8 Setup

This button opens/closes the floating Setup pane.

2.2.9 UI Mode

Equality has three UI modes, to support different modes of work.

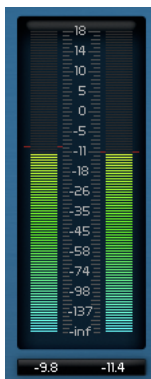
1. Full mode, with Graph and Knobs
2. Graph mode, with Graph but no Knobs
3. Knobs mode, with Knobs but no Graph

The UI Mode icon changes to reflect the nature of the current UI; the top box represents the Graph and the lower box represents the Knob panel. The icon in the screenshot indicates Graph mode. Clicking on a box will toggle the state of the UI.

2.2.10 Clip

This clip indicator will fill red to indicate that the output has clipped over the clip threshold (configurable to either 0dBFS or -0.1dBFS in the Setup panel). Click to reset the indicator state.

2.3 Output Section



This section contains the output meter. The scale is in dB, and the reference point can be adjusted in Setup. The box underneath is a readout of the peak values on each channel, using the ballistics chosen in Setup. The red marks above the meter values hold the peak values.

2.4 Range



Using the range control, you can adjust the overall effect of the EQ - even inverting the response. This has two primary uses:

1. setting overall range, to give control over the gain values
2. with a response dialled in, adjust the control to try flattening or intensifying the response.

2.5 Gain



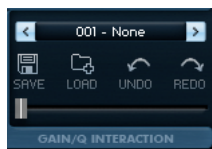
This is an output gain with ± 36 dB of range.

2.6 Frequency Shift



The Frequency Shift control scales the shelf/bell/notch frequencies up or down by an octave in either direction.

2.7 Presets

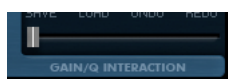


At the top is the preset selection menu. The arrows either side let you select the next preset with a single click.

Beneath this are the preset save and load buttons, which allow you to export/import banks of 20 presets as a “.eqb” file.

This section contains controls to Undo/Redo (history is saved until you close the session).

2.8 Gain-Q Interaction



At the bottom is the Gain-Q Interaction slider; use this to control how Q maps to Gain. On the extreme left, there is no interaction, giving a surgical but straightforward control. Moving towards the right, the response tightens as gain increases, which is usually described as a “musical” feel. In general

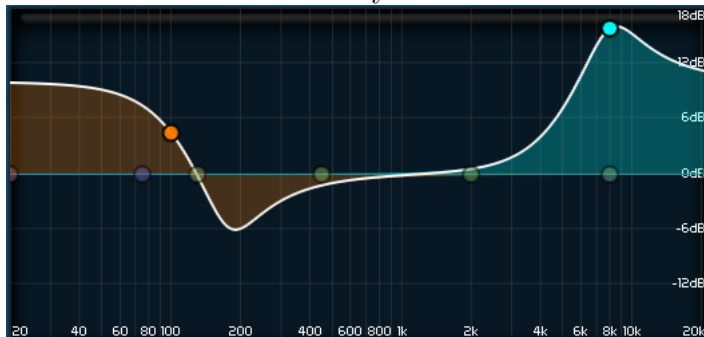
(since there are no fixed rules), expect to select wider Qs for higher Gain-Q interaction settings.

2.9 Shift/Slope Buttons



The “Slope” controls adjust the slope of the filters, in db/octave. Values of 12, 24 or 36 are typical for creative filtering. 18 db/oct is common for professional channel-strip filters.

The “Shift” buttons allow you to move the resonance of the shelf.



The low-shelf has a shift of -100%, and the resonance is below the gain. The high-shelf has a shift of 100%, and the resonance is above the gain.

2.10 Enables

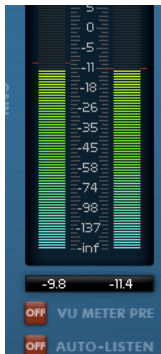


These buttons are used to enable/disable bands. When the buttons are grayed, the band is disabled.



Ctrl/Apple-clicking the buttons allows you to select an alternate mode for the band. Here you can see the shelves switched to bells, and the bells switched to notches.

2.11 Autolisten



The Autolisten button is used when “finding” frequencies. Enable the mode by clicking, and then any adjustment of a band will solo that band and convert it to a mode that makes selecting frequency easier.

For instance, adjusting the frequency of a bell will filter the signal through a band-pass filter at the same frequency, with the same Q as the bell, so you can hear exactly what this band will do to the signal.

3 Preferences and Options

Click the setup button in the top-right:



and the Setup window will open, allowing you to adjust your preferences. Preferences apply to all instances and are saved globally.

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 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 signal has muted.

3.1.3 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 [<http://www.digido.com/level-practices-part-2-includes-the-k-system.html> Bob Katz’s recommended reference levels] from the K-metering system.

3.1.4 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.

3.1.5 Clip threshold

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

3.1.6 Hide Mouse

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

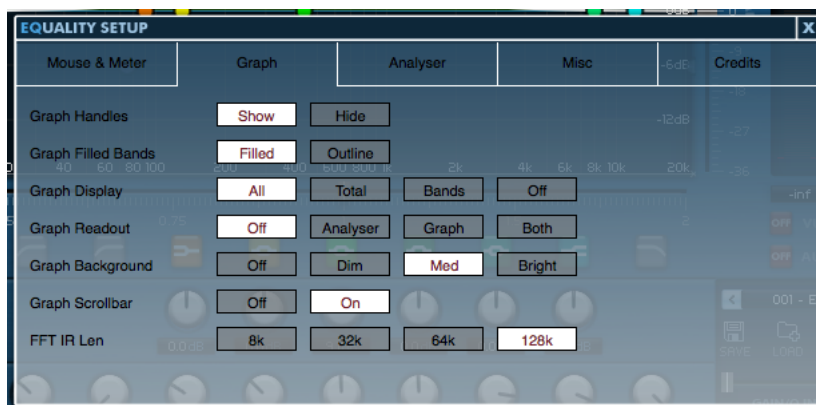
3.1.7 Inverted Q

This option inverts the Y-axis when alt-dragging to adjust Q on the graph, so that dragging upwards will cause Q to widen rather than narrow.

3.1.8 Slider Labels

This governs the behaviour of the numerical readouts of the slider controls. When “Off”, the readouts are never shown. When “On”, the readouts persist next to the slider handle. In “Hover” mode, the readouts are shown when you move the mouse over the slider.

3.2 Graph



3.2.1 Graph Handles

Use this to disable the circular handles on the graph.

3.2.2 Graph Filled Bands

Use this to choose filled or outlined band responses on the graph.

3.2.3 Graph Display

Use this to configure whether the graph displays the overall response and/or the band responses.

3.2.4 Graph Readout

Use this to select whether the Graph has a superposed readout indicating mouse-location, analyser values and graph values.

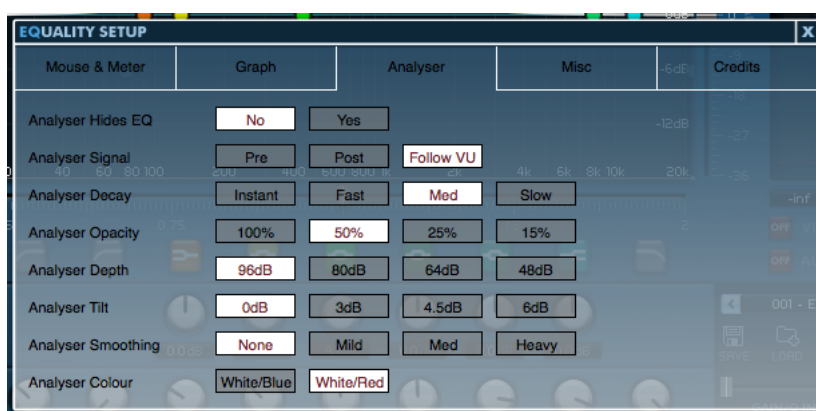
3.2.5 Graph Scrollbar

When “On” a small scrollbar is displayed at the bottom of the Graph. Dragging this will allow you to zoom in on parts of the spectrum.

3.2.6 FFT IR Len

By default, EQuality uses an IR len of 8192 for Linear, Minimum and Analogue phase modes. For some ultra-high resolution mastering projects, a higher IR size can provide better results. This preference allows you to increase the IR size up to 128k. Note that in linear-phase mode, this is equivalent to requesting nearly 1.5 seconds of latency, so this option should usually only be engaged for rendering a final master.

3.3 Analyser



3.3.1 Analyser Hides EQ

Use this option to disable the graph display when the analyser is active.

3.3.2 Analyser Signal

Use this to select the signal displayed by the analyser as pre/post the EQ, or alternatively to display the same signal as the meter (which has a pre/post control on the UI)

3.3.3 Analyser Decay

Use this to select the rate of decay of the analyser, to give a smoothed (easier-to read) response, or a faster (more accurate) response.

3.3.4 Analyser Opacity

Use this to choose the opacity of the analyser overlay on the graph.

3.3.5 Analyser Depth

Use this to choose how many dB of range are displayed by the analyser to show or hide low-level detail

3.3.6 Analyser Tilt

This settings allows you to compensate for spectral coloration. At 0dB, white noise appears flat on the analyser. At 3dB, pink noise appears flat. At 6dB red/brown noise appears flat.

3.3.7 Analyser Smoothing

If you find the accuracy of the Analyser distracting, use this setting to smooth the response to give a more approximate view of the spectral content.

3.3.8 Analyser Colour

Configures the colour of the Analyser plot.

3.4 Misc



3.4.1 Number Format

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

3.4.2 FFT Update throttle

Use this to control how fast EQuality responds to coefficient changes in Minimum/Analogue/Linear phase modes.

3.4.3 Frequency Labels

Use this to control how the frequency-markings on the graph are labelled.

3.4.4 AutoListen Gain

When AutoListen is engaged, this option allows you to specify whether the output level reflects the settings of the band (“correct”) or has a fixed value, which may make monitoring easier.

3.4.5 Autolisten Q

When AutoListen is engaged, you can choose to hear your actual settings (“correct”) or jump to a Q of 12, to assist with locating frequencies, without needing to adjust the band’s Q.

3.4.6 Solo Mode

In “Select” mode, enabling Solo will play the selected channel through both output channels. In “Mute” mode, enabling Solo will mute the unselected channel.

3.4.7 Show True Q

When enabled, this will display the exact Q value resulting from the Gain and Gain-Q Interaction settings of EQuality for each band.

4 Tips and Tricks

4.1 Saving default state

Instance a new EQuality, and set it up how you want EQuality 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 EQuality will open with the settings you just saved.

To revert to factory settings, navigate to:

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

4.2 Control linking

Use Alt+Apple / Alt+Ctrl -click on a control to add it to the control-link-group. Use Shift+Alt+Apple / Shift+Alt+Ctrl -click on a control to add it to the anti-control-link-group.

Adjusting any control in the group will move all the controls that are in the group by the same amount, whilst adjusting any control in the anti-group by the opposite amount.

To take a control out of the group, Alt+Apple/Alt+Ctrl-click again.

A typical usage is for spectrum tilt:

- Alt+Ctrl -click on Low-shelf gain
- Shift+Alt+Ctrl -click on High-shelf gain

Now, turning up the high-shelf will turn down the low-shelf and vice-versa.

5 Troubleshooting

5.1 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.

5.2 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

Or you can just email me: dave@dmgaudio.com