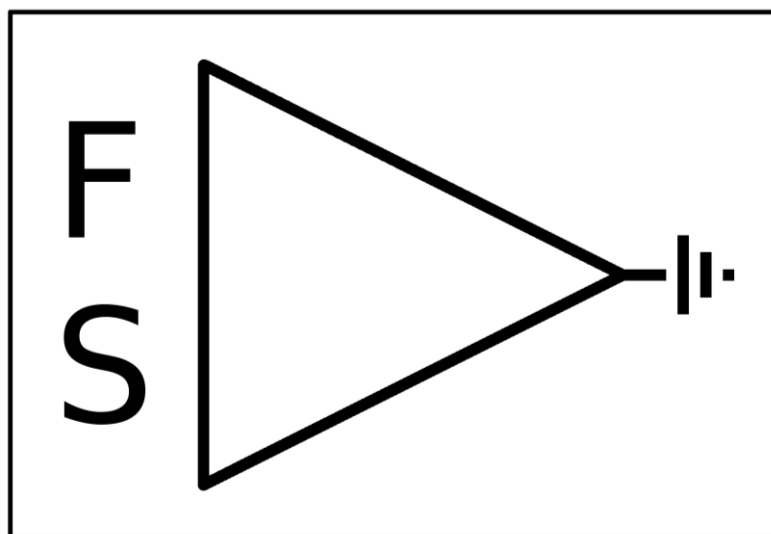# OMEGA

DYNAMIC EQ

USER MANUAL

by Forgotten Clank Studios

CONTENTS

WHAT IS A DYNAMIC EQ AND WHAT IS IT USED FOR?

EQs are usually static, meaning their processing is always applied. A dynamic EQ enables you to only cut or boost when needed. A common example is a de-esser. Sibilance in vocals can be a problem and it lives in an area where the voice also has its air and presence. If we just apply a static highshelf boost we will not only accentuate the air in the vocal but also make the sibilance sharper. If we use a dynamic EQ, we can let it cut only when there is a lot going on in that area which applies to sibilance. That way only the sibilance is cut and the air in the vocal left intact.

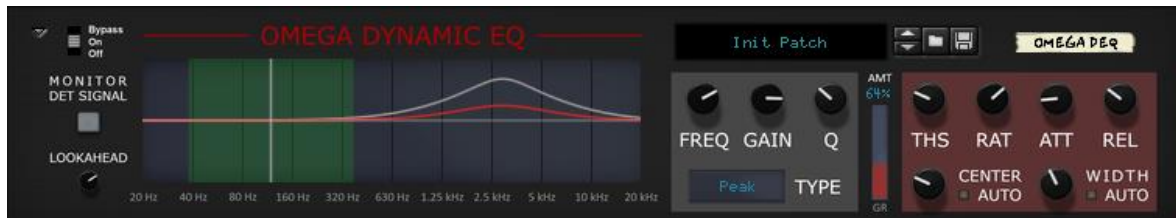# WHAT ABOUT MULTIBAND COMPRESSORS?

Some people also like to use multiband compressors for tasks like de-essing but dynamic EQs have one key advantage: They do not require crossover filters. A multiband compressor will split up the signal into the various frequency bands, compress them and stitch them back together. A dynamic EQ, on the other hand, only splits up the signal to determine how much gain should be applied to a highshelf, peak or any other EQ-type filter. As a consequence, a multiband compressor will introduce phase shifts into the signal that can be heard which impacts transparency. Because of this, dynamic EQs are great for also great for mastering.

CONTROLS FRONT PANEL

FREQ	Short for "Frequency". Determines the frequency of the EQ filter
GAIN	Determines the maximum amount of gain applied by the filter. The envelope follower will adjust the gain between 0 and the set value. Notice that cutting will be similar to compression while boosting while be similar to expansion. See "Threshold" for more details on this.
Q	Determines the "Q" value of the filter
TYPE	Determines the type of filter (either "Peak", "Lowshelf" or "Highshelf")
Amt	Short for "Amount". Controls how much of the boosting / cutting is being controlled by the envelope follower
Gr	Short for "Gain Reduction". Display that shows how much of the set gain is currently being applied to the signal.
THS	Short for "Threshold" and is the level at which the envelope follower starts reacting to the signal. When it exceeds the threshold the envelope follower will start moving the gain of the EQ filter from 0 to whatever it is currently set to. This means that if the gain is <0dB, signals that exceed the threshold will be attenuated (which results in compression) but if the gain is >0dB, signals that exceed the threshold will be boosted instead (which results in expansion).
RAT	Short for "Ratio". Determines how aggressive the envelope follower reacts to signals above the threshold.
ATT	Short for "Attack". Determines how fast the envelope follower reacts to signals exceeding the threshold
REL	Short for "Release". Determines how fast the envelope follower adjusts the gain back to 0, after the signals falls below the threshold.
Center Auto	*[Button]* When on, the center frequency is the same as the "FREQ"

Center	*[Knob]* Lets you set your own center frequency. As an example, this can be used to cut the high frequencies with the filter but only when the low frequencies exceed some threshold. The frequency is also shown as a vertical line in the main display.
Width Auto	*[Button]* When on, the width of the detection filters is set automatically depending on the filter type and Q value.
Width	*[Knob]* Lets you set your own detection width. This is especially useful when setting a different center frequency as well. The width of the detection is shown as a green area in the main display.
Monitor Det Signal	Lets you monitor the signal the envelope follower is listening to.
Lookahead	Determines the amount of time the EQ "looks" ahead to catch peaks in time without very low attack times.

CONTROLS BACK PANEL

In	Audio inputs
Out	Audio outputs
Side In	Sidechain inputs
Gain Red.	Gain reduction CV output
Stereo Mode	This is only applicable if audio is sent to both of the audio inputs or sidechain inputs.

	Maximum	Uses the maximum amplitude at any given time to detect the create the gain reduction envelope
	Mono Sum	Derives the gain reduction from the sum of the channels
	Split Stereo	Treats the left and right channel separately (may change the stereo image)

FAQ

I think I've found a bug. Where can I report it?

You can get in touch via E-Mail, Facebook or Instagram. I'll try to fix bugs as quickly as possible!

I've got this amazing idea for a new feature. Will you implement it?

It depends on many factors. I'm always happy when people that use my devices get in touch, so feel free to say hello! E-Mail | Facebook | Instagram

There's this awesome thing I can't do in Reason. Will you code a Rack Extension that does this thing?

There are still many Rack Extensions on my wish list that I would like to get to some time in the future. But I'm always interested in hearing your ideas! E-Mail | Facebook | Instagram

CHANGELOG

V1.2.1

- Fixed a bug where combining lookahead with "Split Stereo" mode would make the audio go crazy.

v1.2.0

- Added "Split Stereo" mode where the left and right channel are treated separately, contrary to the other two modes which combine the signal in some way to determine the gain reduction
- Fixed a few bugs making the device behave more predictably and improving sound quality in some cases

v1.1.1

- Bug fix: Changing the Q while monitoring a signal now locks in at the correct value all the times.

v1.1

- Added "Lookahead" control
- Added sidechain inputs
- Added gain reduction CV output
- Added "Stereo Mode" fader on the back. The current mode will change the behavior from what it was in v1.0. You can switch to v1.0 by using "Mono Sum" which will sum the left and right channel to detect the level while "Maximum" will always choose the channel that is louder. This will improve quality for signals with a prominent side signal (i.e. a lot of out of phase information).
- Bug fix: Fixed frequency analyzer when a mono source was connected