COMPRESSOR BOX
OPERATION MANUAL

BY SYNTHESCIENCE

Compressor Box Operation Manual

First of all congratulations and thank you for choosing the Compressor Box by Synthescience. We hope that you'll find this a useful plugin for your processing needs. To get the best from its features, please take some time to read this manual as it provides vital information about the plugins performance.

The Synthescience Team.

1. Introduction

Nowadays compressors are used on almost every conceivable studio and live scenario, its benefits are too many to mention and a good compressor is a tool that almost every electronic musician or sound engineer simply could not live without. The Compressor Box is a highly configurable compressor unit and features controls and functionalities that could only be found on top notch units. For those who are not familiar with compressors and dynamic processors in general, here follows a brief explanation.
The Compressor Box is a dynamics processor in a way that it takes the input signal and "limits" or "compresses" the input signal dynamic range by limiting its amplitude above a variable "threshold" value and depending from what is set in the "Ratio" and "Gain" controls. A practical application is to "boost" soft or weak sounds and to "soften" loud sounds with plenty of transients. Take for example an electric guitar or bass signal where normally not all the strings have the same output level, by applying some compression the musician or sound engineer could equilibrate the volume balance between the strings and make the overall sound more tight and consistent. Take another example, if you take a sound source of any kind that is subject of producing audio peaks of some sort, (for example a percussive sound with lots of transients) then the compressor if tuned right could smooth out the same audio peaks avoiding undesirable high volume "kicks" therefore making it more balanced in a mixing or live situation. As you can see there are some practical situations where the use of a compressor is a desirable and a practical option if not a true necessity at all.

The Compressor Box is fully automatable and has the ability to store 64 presets.
It ships with a few already pre programmed ones that will show what its all about and may be the starting point to your individual creations.

Installation procedure: Unzip the file, then copy the DLL's into your VstPlugins folder.

2. Front Panel controls

The controllers in the Compressor Box may be operated in three different ways:

Circular type controls – The grey knobs like Threshold, Attack, Release, Ratio and Gain
Toggle controls – G.Range, Mode, Knee and Process
Click controls (only active while clicked) – The effects nameplate which shows additional information about the plugin (like plugin version and credits).

Description of controls

Threshold - The Threshold control sets the initial value for the Compressor Box to work from. All levels above the set threshold value are affected and all values below the set threshold value remain unmodified. Threshold values range from -40 to 0dB

Attack - Adjusts the time needed for the Compressor Box to start the compression process that is to react to any signals above the set threshold. With short attack times the compressor snaps in almost instantly but with longer attack times, more of the initial portions from the input signals are allowed to pass through unprocessed. The Attack times ranges from 0.01 to 500ms.

Release - Adjusts the time it takes for the gain to return to normal, after the input signal drops below the threshold level. The Release times ranges from 1 to 2000ms.
* (Notice that short or very short release times are prone to introduce some clipping or distortion from the input signal depending greatly from the values set in the remaining controllers like low Threshold values and particularly when "Peak" mode is selected, this may or may not be a desirable behavior, to overcome it use higher release values but if you find it right for the context set it low..)

Description of controls (continued)

Ratio - Adjusts the amount of compression applied to the input signal. For example a ratio of 2:1 means that for each 2dB increase in volume the output level increases only by 1dB, with a ratio of 4:1 means that for each 4dB increase in volume the output level increases only by 1dB and so on. A set ratio of 10:1 and above lends to limiting

Gain – The Gain control or Make up gain allows the user to compensate for volume losses due to the processing of the compression or even to tame the volume a bit in the presence of high level audio signals. The Gain control is set in a variable range, from -30 to 30db, -15 to 15db or -6 to 6db, depending from which value is set in the G.Range

G.Range - The G.Range is short for Gain Range and adjusts the output signal in three selectable Db steps such as 30db, 15db and 6db.

Mode - Provides a choice of two distinct compressor behaviors like Peak or Rms. The Peak mode is more suited to work on percussive material or others with lots of transients whereas Rms is best suited to work on vocals or general sound sources with few transients.
Notice that when selecting "Peak" mode along with short or very short release times is a guaranteed way of getting into some unwanted distortion, because it leads the unit to behave like a hard clipping distortion unit. To avoid this potentially annoying (or welcomed depending from the context) situation we recommend you to select higher release times in the Release control

Knee - Selectable between Hard or Soft. The Hard knee mode induces a faster and more drastic type of compression kicking in immediately just above the threshold value whereas the Soft knee mode allows for a more smooth compression type, this type of compression sounds more like the original analog hardware equivalents and is said to be more musical. As a guideline if you work on audio material with lots of fast transients, the choice of Hard knee could sometimes be more effective and for general audio processing, Soft knee works fine but this is merely a guideline, not a strict rule.

Process – Switches the Compressor Box plugin on or off
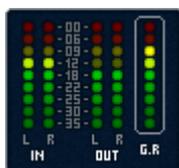
 Led Meter indicators – The Compressor Box features independent Led meters for displaying Input signal level, Output signal level and Gain Reduction for easy monitoring of what goes in and what goes out.

(About Box) - By clicking and holding the mouse arrow over the effect nameplate shows additional information about the plugin (like plugin version and credits).

3. Midi Controllers

Compressor Box Midi Controller List

10 Threshold
11 Attack time
12 Release time
13 Ratio
14 Gain (make up gain)
15 Gain range (6/15/30db)
16 Mode selector (Peak - Rms)
17 Knee selector (Hard - Soft)
18 Process (On - Off)

4. Credits and Acknowledgement

Manual by Synthescience
Graphics and Programming by Synthescience
This Plugin uses software modules by David Haupt
Synthescience products are developed with SynthEdit development system
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