Softube

TUBE-TECH CL 1B

Rev. Apr 24, 2019

Softube User Manual

Acknowledgements and Licenses

Disclaimer

Every effort has been made to ensure that the information in this manual is accurate. However, there are a chance that we have made mistakes, and we hope that you understand that we are only humans. Please let us know about the mistake, and we'll fix it in the mix (or in the next version of this manual).

Support

On the Softube website (`www.softube.com`) you will find answers to common questions (FAQ) and other topics that might interest you.

Support questions can be posted at `http://www.softube.com`, where we will help you as fast as we can!

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1 Tube-Tech CL 1B & CL 1B Mk II Compressors

Foreword by John G. Petersen

After several years of consideration, we decided that the time had come to introduce a plugin of our TUBE-TECH CL 1B.

The development of the plugin was initialized in November 2006, as a cooperation between Lydkraft, Softube and TC Electronic. Hearing the result, we found that Softube was able to reach the difficult goal of making a plugin of the CL 1B which came extremely close to the original sound and gave the user all the characteristics of the hardware. After very serious testing of the software, the plugin was released late 2007.

To take this project one major step further, we decided in early spring 2009 to release a VST/AU/RTAS version of the plugin, and once again placed the developing task in the hands of Softube.

We are very impressed by the skills of these young guys from Sweden and we feel excited that the quality of the CL 1B is now available for all workstation users.

We hope you will enjoy the excellence of the TUBE-TECH CL 1B plugin.

Yours sincerely,

John G. Petersen
President, Lydkraft/Tube-Tech

About the CL 1B

The hardware CL 1B differs from many other compressors in that the gainreduction element is made from a nonsemiconductor component, which in itself has a very low harmonic distortion and none of the nonlinearity problems involved when using most semiconductor elements. All parts of these equally important design choices have of course been painstakingly modeled when creating the CL 1B plugin.

Another thing that is special about the CL 1B is the **Attack/Release Select** switch which allows the user to switch between a manual and a fixed attack/release setting, but also makes it possible for the user to combine both the fixed and manual settings. This gives a feature not normally obtained in other compressors: In the combined mode the attack and release controls makes it possible to obtain complex program dependent releasetime slopes where a fast peak results in a fast release and vice versa.

User Interface

Gain The **Gain** control is used to "make up" for the gain loss, which takes place when the unit is compressing. It is placed after the gainreduction circuit and therefore has no influence on the threshold setting. The **Gain** control is continuously variable from off to +30 dB.

Ratio The **Ratio** control varies the ratio by which the input signal is compressed. If the ratio selected is 2:1, and the input signal increases 10 dB, the output signal is only increased by 5 dB. The **Ratio** control is continuously variable from 2:1 to 10:1.

Threshold The threshold is the point where the compressor begins its action. It is defined as the point where the gain is reduced by 1 dB. The **Threshold** control is continuously variable from +20 dB to –40 dB.

Meter Select Select what the VU meter should display:

INPUT: The meter shows the input level.

COMPRESSION: The VU meter is showing the gain reduction.

OUTPUT: The meter shows the output level.

Please note that it does not show peak or true RMS, it is a VU meter and behaves just like the original unit.

The meter and the plugin is calibrated so that a sine wave showing 0 VU at the output corresponds to a –18 dBFS output signal. Correspondingly, a 18 dBFS sine at the input will show 0 VU if the meter is set at showing the input signal.

Attack Time The **Attack** control chooses how fast/slow the compressor responds to an increase in the input signal. It is continuously variable from 0.5 to 300 milliseconds.

Release Time The **Release** control sets how fast/slow the compressor responds to a decrease in the input signal. It is continuously variable from 0.05 to 10 seconds.

Attack/Release Select This switch selects how the compressor reacts to an increase (attack) or a decrease (release) of the input signal.

There are three settings of this switch:

FIXED: Attack time: 1 millisecond Release time: 50 milliseconds.

MANUAL: Attack time: From 0.5 to 300 milliseconds Release time: From 0.05 seconds to 10 seconds.

FIX./MAN: This setting combines the release times of fixed and manual mode. The attack time is as it is in the fixed mode.

The FIX./MAN. mode always has a fast attack, but it is possible to obtain a release time that depends on the input signal, for example get a fast release when the peak disappears, then superseded shortly thereafter by the release time selected by the **Release** control.

The time the peak disappears to the point where the selected **Release** time takes over, is dependent upon the setting of the **Attack** control. That is, the **Attack** control changes function from a pure attack control to a control of the delayed release with the same time range.

Turn the **Attack** control clockwise to increase the time before the **Release** control takes over. Decrease the **Attack** control to shorten the time before the **Release** control takes over.

This function is valid only if the time of the peak is shorter than the setting of the **Attack** control. If the peak of the program is longer, or if the **Attack** control is set at its minimum position, it will respond just as in the MANUAL mode.

The FIX./MAN. mode acts as an automatic release function with a constant fast attack time and fast release time for short peaks and longer release times for longer peaks. This settings is mainly intended for use on program material (overall compression).

Monitor the Gain Reduction VU Meter when you set the threshold, since the Input VU Meter will show the original input signal. Just work with the **Threshold** knob until you get enough gain reduction.

Suggested Applications

Here you will find suggestions on various applications of the Tube-Tech CL 1B compressor plugin. They are given as a convenient guide that enables you to familiarize yourself with the different aspects of using the compressor. We have not mentioned specific settings of the **Gain** and **Threshold** as they are dependent on the input levels. Instead we have specified how much compression in dB we feel is needed for the various examples.

These examples were taken from the CL 1B hardware manual, and are of course just as valid for the plug-in as for the real unit.

Overall Compression (Final Mix)

Compression needed: 3-4 dB
Attack/Release Select: FIX./MAN.
Attack: 2 o'clock
Release: 10 o'clock
Ratio: 9 o'clock

Standard Compression (Bass, Piano, Guitar, Keys and Vocals)

Compression needed: 4-5 dB
Attack/Release Select: MANUAL
Attack: 2 o'clock
Release: 10 o'clock
Ratio: 10-2 o'clock

Heavy Compression on Instruments (Line Guitar and Piano)

Compression needed: 10 dB
Attack/Release Select: MANUAL
Attack: 7 o'clock
Release: 1 o'clock
Ratio: 3 o'clock

Compression of Drums (Snare and Bass Drum)

Compression needed: 2-3 dB
Attack/Release Select: FIXED
Attack: –
Release: –
Ratio: 9-12 o'clock

Mono and Stereo Operation

In stereo mode, the gain reduction of the left and right channel is always linked, in order to reduce stereo image shifting. The gain reduction used will be calculated from a combination of the two channels, just as if two hardware CL 1B had been linked together using a sidechain bus.

CL 1B Mk II

Mk II version is enhanced with features not found in the original hardware:

Sidechain Low Cut	Filters the low end from the sidechain signal. Please note that the main signal path is not filtered.
Parallel compression	Sets the amount of parallel processing.

Credits

Arvid Rosén – modeling. **Oscar Öberg** – modeling and DSP programming. **Torsten Gatu** – framework and DSP programming. **Niklas Odelholm** – GUI and framework programming. **Ulf Ekelöf** – 3D rendering. Original hardware was designed by **John G. Petersen** at Lydkraft ApS.

Credits – Mk II Version

Paul Shyrinskykh – product management. **Kim Larsson** – DSP and framework programming. **Björn Rödseth, Kim Larsson, Patrik Holmström** – framework programming. **Niklas Odelholm** – graphic design. **Ulf Ekelöf** – 3D rendering. **Daniel Delviken** – marketing. **Maxus Widarson** – quality assurance. **Igor Miná** – user manual layout.

2 General Settings

SOFTUBE PLUG-INS ARE "what you see is what you get" products. You should be able to intuitively learn the products within minutes, so that you can work fast and efficiently with them. There are a couple of things that remain the same for all of our plug-ins, such as the menu row. These will be explained in this chapter. For detailed information on a particular plug-in, please see its chapter.

Menu Row

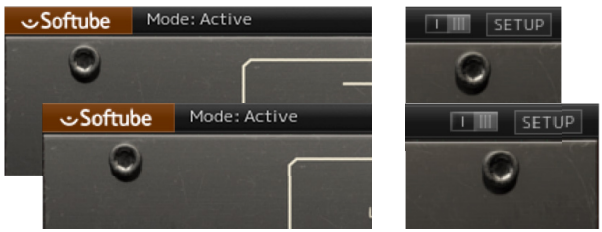
In the bottom of the plug-in interface, you will see a thin black row with some buttons. We'll use the Dytronics Tri Stereo Chorus as an example, but the same goes for all Softube plug-ins.

About Box Opens the "About" Box with version info.

Value Display Displays the knob value when the mouse is hovering over a control.

Enable Enable/Activate the plug-in. Set to OFF for bypass.

Setup Changes global options for all instances of that plug-in.



Enable

When the **Enable** switch is set to ON (I), the plug-in is active and will process audio. When set to OFF (0), it will be bypassed and not process any audio.

Setup

In the Setup window you can change settings that will affect all instances of that particular plug-in. If you, for example, deselect the "Show Value Display" option in the plug-in, the value display will be off for all instances of that plug-in on your system until you select that option again.

The different options vary between Windows and Mac, and also different formats and plug-ins. The most common options are:

SHOW VALUE DISPLAY: Enables the parameter and value display in the bottom row of the plug-in.

REVERSE MOUSE WHEEL DIRECTION: (Mac OS Only) Changes if the a knob is turned up or down when the mouse wheel is turned up or down. (Mac OS Only)

> You need to restart your host software (DAW) for the changes to fully take effect!

If you messed something up and manually need to set these options, you'll find them in text format in the following locations:

MAC OS: `~/Library/Application Support/Softube`

WINDOWS: `username\Application Data\`

Key Commands

All numbers and labels in the plug-in are clickable. This allows you to easily select a setting by clicking on the wanted value. Hovering above a label will turn the mouse pointer into a pointing hand.

Mouse

Up/Down or Mouse Wheel	Change a parameter, such as a knob or a switch.

Keyboard

Fine Adjust	⌘ (Mac) or CTRL (Win), while changing the parameter value.
Reset to Default	ALT, while clicking on the knob or fader.
Link Parameters	SHIFT, while clicking on a button or a knob.

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