C254-E Compressor and Limiter, for Nebula

General Info

This is my Nebula take on a legendary compressor known for its 'round', 'thick' sound. Known to be especially great for vocals. Many engineers find use for it with almost any kind of audio material, but it's definitely a character piece. A unique design featuring a diode bridge and multiple transformers, and which drops the input level greatly before compression with a subsequent make-up gain stage afterwards (done to bring down distortion levels), gives this compressor a sound all its own.

Two units were sampled in stereo. The hardware features separate compressor and limiter sections, and I've made separate programs based on each, but the compressor program also contains the limiter, as the highest setting on the threshold control. Some limitations/drawbacks of the hardware have been addressed with this release. The limiter section especially, was held back by its lack of an adjustable attack control. The compressor section also lacked adjustable attack, but it wasn't as detrimental there. I've made sure to recreate the attack shape from the hardware, while providing the ability to adjust the time up and down from the fixed setting of the real thing. This really unlocks a lot of power and potential. The auto release settings haven't been recreated here, but to make up for it the release control has also been extended beyond the 3 fixed settings offered by the unit.

Up to over 30dB of compression is possible, depending on input level. There's also a 'pass-through' program that works like the typical Nebula preamp style programs, useful for getting some tone of the hardware without any compression. Lastly, there are skins for both Nebula 3 and 4 which allow you to switch between the various programs by clicking buttons, which is great.

Installation

Just copy the .n2p files to your Nebula 'Programs' folder, and the .n2v files to the 'Vectors' folder. Be sure to install the correct set of programs, depending on whether you use N3 or N4, and are installing the skins or not. See the skin install guide contained in the skins .zip for info on how to install them.

Nebula Category Locations

This doesn't matter if you're using the C254-E skins, as you should be, but the compressor programs are found in the 'COM' category in Nebula, then in the 'CC4', 'CC5', 'CC8', and 'CC9' sub-categories, for the 44.1khz, 48khz, 88.2khz, and 96khz sets respectively. CC stands for 'Cupwise Compressors'. The pass-through programs are placed in the 'PRE', then 'CW4', 'CW5', 'CW8', and 'CW9' categories. I've been placing the pass-through programs from all of my libraries there, so that anyone who has several of my libraries will accumulate a nice collection of preamp style pass-through programs, all in the same place.

These programs work and sound best when your input signal levels are measuring around -18dBFS RMS.

Lite, Full, and SHQ

Lite programs use much less CPU, but have no sampled harmonics. The Full version adds 2nd and 3rd harmonic orders, but also increases the CPU use. SHQ has 6 harmonic orders on top of the fundamental, with a HUGE increase of CPU use. You will NOT be able to run them live- it is for rendering only! You shouldn't load SHQ programs unless you are ready to render, because the moment it loads, your system will take a huge hit in performance. Make sure to save your project before even trying! Here are the improvements you get if you render with SHQ:

- More accurate frequency response. The full or lite programs just don't have as perfect of a recreation of the frequency response of the hardware as the SHQ ones. This is subtle and mostly just affects the low bass frequencies (sub-100Hz), and the higher frequencies between 10-20khz. This difference in freq response may be noticeable in some cases!
- SHQ programs have more kerns for more harmonics, so the distortion model is more complete. The additional harmonics SHQ adds to the ones in the full programs are very very subtle, so it's up to you to decide if it's worth the extra time to render with SHQ.

I would recommend using either Lite or Full while mixing, then switching to Full or SHQ for rendering.

Controls

Attack- Variable from .1 to 30ms. By default, the programs load with attack set to 1ms, which gives you results that matches the fixed attack behavior of the hardware. You can adjust the time above and below that, unlocking potential not available with 'the real thing'.

Release- Variable from .04 to 3 seconds. The .1, .2, and .8 positions are what were recreated from the hardware, as it only had these three timings selectable. You can adjust the control above or below the 'sampled' positions as well as in between them, allowing for more versatility. By default the programs always load at .1, the fastest sampled position.

Thresh- Threshold control.

Ratio- Only in the compressor programs (not in the limiter ones), sets the ratio from 1:1 to 100:1. The 100 setting is actually the limiter. I put it in the compressor programs to allow you to be able to get the hardest knee there too, and also get settings 'in between' the limiter and the highest ratio setting of the compressor itself, which is 6:1.

Ahead- It allows you to add a look-ahead of up to 1.5ms.

Hi-Pass- A high pass filter on the internal side-chain used for the detection.

MakeUp- Allows up to 25dB of gain after compression.

Wet- This is a typical Dry/Wet mixer control. The value is the % of wetness.

Trim- This is an input drive control only found in the pass-through program, that compensates with the opposite amount of output adjustment. For example, if you boost input by 6dB, the output is lowered by 6dB. This helps keep a somewhat steady level, allowing you to more easily hear the difference in effect you get by having different input drive levels.

Dist- Only in the pass-through program. This control directly adjusts the level of the harmonics that the program creates. It's probably best to just leave it alone, really.

General Usage Tips/Ideas:

- Don't forget about the 'wet' control. Try settings that squash the input as much as possible, with fastest attack and fast release times, adjust makeup gain to bring the level up to match the input as close as possible, then adjust the wet control downward to bring back in some dry signal. With some inputs this can provide a really nice effect.

V1.3 – use this version number to keep track of updates. If the manual posted at my site has a higher version number than the one you have, your set probably isn't up to date.

www.cupwise.com

Skins were originally made by Scott Kane for an unreleased Acqua compressor I was going to do based on my Smooth 609 Comp, about 5 years ago. I never got to use those skins, so I slightly adapted the art assets to create these skins from his work on that.