# Fluct-Mew Mastering Compressor/Limiter


## General Info

A modern tube compressor with a great sound. It's often compared to the classic 660 as it uses the same gain control principal, but it has its own sound/behavior. Some really like it on stereo stems/buses and it's even commonly used in mastering (this library is even 'based on' the mastering version). Many like it for drum stems and overheads, and many report getting best results with only a few db of compression. It can be used for tone enhancement, and works well with things like electric guitars, pianos, e-pianos, and vocals, but really it can be used on just about anything with the right settings.

Both the compressor and limiter settings were sampled, with the limiter setting providing a hard knee and compressor a soft knee. Both were combined into one program, allowing you to transition between the two to get results 'in between', which isn't possible with the actual hardware. You can also go 'in between' no compression and the soft knee compressor setting, allowing you to get more subtle results (or interesting parallel compression results- see tips at end of manual), again not possible on the hardware. However, if you want to stay authentic you can always use the exact 'compressor' or 'limiter' settings.

There is also a bonus compressor called “Flucti-Mew Special”, which was sampled from the same hardware as the main Flucti comp, but with two **76 compressors driving it (one per channel). At higher levels of gain reduction the 76 comps are providing some of the compression. To make it even more interesting, I took the sampled attack/release behavior as well as the level detection setup from a different compressor release of mine- the Smack VU. The result is a very different sound compared to the main Flucti-Mew compressor. It also has higher levels of harmonic saturation with hotter inputs. This is more of an experimental thing so just try it out and see if you can find any uses for it!

Programs were all sampled in stereo, providing left and right channels that are very subtly different, adding to the analog imperfections that most of us came to Nebula looking for. There's also a 'pass-through' program done like the typical Nebula preamp style programs, for getting some tone of the hardware without any compression.

## Installation

Just copy the .n2p files to your Nebula 'Programs' folder, and the .n2v files to the 'Vectors' folder. To see how to install either the N3 or N4 skins, look at the mini-manual just for the skins!

## Organization

This doesn't matter if you're using the Flucti-Mew 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.

## Lite, Full, and SHQ

The Lite programs use the least CPU but they have no harmonics. The Full version adds 2nd and 3rd harmonic orders, but also significantly increases the amount of CPU use. SHQ has 7 harmonic orders on top of the fundamental, and uses the full impulse lengths, with a HUGE increase of CPU. You will NOT be able to run this live, and it is for rendering only! This means 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.
- Slightly better recreation of the tone of the hardware.

**ABOUT THE FLUCTI-MEW SPECIAL PROGRAMS:**

The Flucti-Mew Special compressor actually has 4 different levels of quality: Lite, Standard, Full Harmonics, and SHQ. The new addition is the Full Harmonics version, which is just like the SHQ except the kerns aren't using their full impulse lengths. So you get all of the harmonics like with SHQ, but without the huge increase in CPU that comes with it, because the full impulse length isn't being used. The reason I made this mode is because with Fluti-Mew Special there can be a big difference in sound between the SHQ and the lite and standard versions, due to the high harmonic levels going on in this compressor. So here I'm giving you the option to mix with the 'full harmonic' version which will sound similar to SHQ, so there won't be any surprises when you render with SHQ.

The custom Nebula skins made by JPN really makes switching between these different versions of the programs a breeze, so you really need to install and use them. With the skins, all you have to do is click on the button for which 'mode' you want to use. Simple. I would recommend using either Lite or Full while mixing, then switching to Full or SHQ for rendering.

## Program Dependent Behavior

There are a few behaviors sometimes referred to as 'program dependent'. A simple kind of 'program dependence' is when a compressor releases faster or slower depending on the amount of gain reduction happening at any given time. Here, the release time decreases (speeds up) as the amount of compression is increased. So higher amounts of compression will actually release faster than smaller amounts. Amounts below 2-3dB take the longest. This behavior scales pretty well in these programs, across the entire range of the release control. I had to analyze and fine-tune the programs to recreate this behavior, for each position on the unit's release control.

## Controls

**Attack**- Variable from 1 to 100ms. The actual hardware's attack can't be set as slow as in these programs, but I allowed for longer attacks to give a bit more versatility. It can also go a bit faster than the hardware, so I've set up the programs to load with the attack set to give very close to the hardware's fastest attack. The Flucti-Mew Special program has a different range, as it's attack was taken from my Smack VU compressor.

**Release**- Variable from .2 to 8 seconds. The full range of this control was painstakingly matched to the sampled compressor, not just for timing but also shape (which still isn't perfect but I believe it's as close as Nebula will allow), and program dependence. Again, the Special compressor has a different range with its release control, and the release behaves differently, due to being taken from Smack VU.

**Thresh-** Threshold control.

**Comp-** You can use this the same way you would use a ratio control, because increasing it gives you more compression, and decreasing it gives you less. However, it's actually a control made from 3 sampled settings on the hardware. The first one was sampled with the signal going through without getting compressed at all, and it's found at the '0' setting on this control. Next was the soft knee 'compressor' hardware setting, and it's found at '50' on the control (mid-way point), which is the default position on loading the programs. Finally, the 'limiter' setting with its hard knee, is found at '100'. Unlike with the hardware, you can transition between these settings, because of how I set this up. If you ever want to center the control exactly back at the '50' position, you can hold the 'cntrl' key on your keyboard and click it and it should snap back.

**Ahead-** It allows you to add a look-ahead of up to 1.5ms, and can be used to achieve an instant peak limiting effect.

**MakeUp-** Allows up to 25dB of gain after compression. Using this can increase compression amount because the compressor uses feedback detection which means the output level is what the detector compares to your threshold setting.

**Hipass-** Adjusts the cutoff point of a high-pass filter on the internal side-chain in Nebula that determines how much compression you get. If you don't want the bass frequencies to control the compression effect, try increasing this. It can be useful in mastering situations. Goes up to 500hz.

**Wet-** This is a typical wet/dry mixer control. 0% gives you just the dry signal, 100% gives you just the processed signal (wet). You can use this to easily dial in 'NY compression' type effects.

**Trim-** This is an input drive control, 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. Only in the pass-through programs.

**Dist-** Only in the pass-through programs. This control directly adjusts the level of the harmonics that the program creates.

## General Usage Tips/Ideas:

- If you want to make sure you're using exactly the sampled 'compressor' (soft knee) or 'limiter' (hard knee) modes, you can hold 'ctrl' and click the 'comp' parameter and it will snap to the '50' position which is the compressor mode. It's easy to max the control out at '100' to get the limiter mode. Don't be afraid to experiment with in-between setting though!
- Even very little compression can be useful on a mix or bus/stem, for subtle tonal enhancement.
- The input level dictates how high the harmonic levels will be, along with the level of gain reduction you're using. So a higher input along with more gain reduction equals more harmonic saturation. If you want less, try lowering the input level.
- You can get 'NY compression' AKA parallel compression, using the wet/dry mixer control.
- Because the '0' setting on the 'comp' control is a set of samples taken from the comp without any compression (a 'pass-through'), and '50' gives you the sampled compressor mode, this means that if you go between 0 and 50 you're actually *mixing* between no compression and compression. So this is another way to get the parallel 'New York' style compression, with a benefit over mixing in the actual dry signal- a fully dry signal doesn't have any of the tone of the hardware, but the pass-through samples at '0' still do.
- For example- you can set the threshold really low, and maybe even crank the input to get several dBs of compression, but then set the 'comp' control closer to '0' to dial it back, and because the comp control *isn't actually* a ratio control, and is more like a mix control, what you're getting is a blend/mix of the super squished signal, and a signal that's just passing through the hardware and getting some tone/harmonic coloring but not any compression. Once you start experimenting with this, you should see that you can get a lot of different types of results, including for use as mostly tone coloring and saturation/harmonics, which you will get more of if you crank the input and drop thresh, then set the 'comp' control close to, but not right on 0.
- The Flucti-Mew Special comp is very different from the main one. You should really check it out, especially if you're interested in super squished or saturated results. You can still get fairly clean/undistorted results with normal or lower input levels. It's very dependent on the input level, so keep that in mind, and if you get something that's too distorted, lower the input. The compression behavior itself is also very different from the main Flucti comp and can be useful in its own way as well. I really like how it came out so don't overlook it!

- The high-pass side-chain filter is very useful, especially for mastering situations. Make use of it!


V2.1 – 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.


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Huge thanks to JPN for doing the awesome custom skins, and updating them several times as well as making a new one for Flucti-Special!!!!