HoRNet MultiComp
User Guide

The HoRNet MultiComp is a sound processor that provides you with three different compression models, a VCA emulation, a FET emulation and an OPTO emulation. Every model is equipped with a special oversampling mode and a characteristic analog saturation. The algorithm makes no compromise trying to achieve the best possible quality, still maintaining a reasonable CPU load.

Input section

In the left side you can find the input control and next to it the input VU meter, yes VU meter not peak meter and this VU meter is calibrated so that 0VU are equal to -18dBFS, this is done so that the analog engine has 18dB of headroom before clipping, the input control slider (the orange arrow) controls the gain from -60dB to +30db.

Output section

In the right side you can find the output control and next to it the output VU meter, yes VU meter not peak meter and this VU meter is calibrated so that 0VU are equal to -18dBFS, this is done so that the analog engine has 18dB of headroom before clipping, the output control slider (the orange arrow) controls the gain from -60dB to +30db.

VU Meters

VU meters are in the input and output section of the plugin because knowing the level of the signal is crucial to proper gain staging, since the HoRNet MultiComp is built around its analog emulation you have to be careful not to overload each module (or drive them hard if you want dramatic distortion out of them). Each VU meter respect the VU standard and has a rise and fall time of 300ms, this means that what you are seeing is a representation of the average level of the signal, that's why these meter are calibrated so that 0VU equals to -18dBFS, this gives the emulation engine 18dB of overhead to handle transients like the one found in drum sounds. When the signal is over the 0VU level the meter will start becoming yellow up to +3VU, above this level they will become red to indicate possible clipping of the signal.

Options Section

In the lowest part of the interface there are two switches, turned on by default. The first labeled "*HQ*" enables or disables the oversampled mode of each compressor model, the precise amount of oversampling depends by the chosen compression type (the one of the FET model for example is higher than the one of the VCA because it's much faster and needs higher oversample rates). The second labeled "*ANALOG*" turns on or off the analog emulation of the models. Each model has a different analog behavior:

- **VCA**: *mimics the saturation made by operational amplifiers and, if the signal is stereo, some different level of compression is applied between left and right channel.*
- **FET & OPTO**: *add the saturation typical of class A transistor amplifiers to the*

signal and, if the signal is stereo, some different level of compression is applied between left and right channel.

Compression Controls

The central part of the interface is oppied by the usual compression control, this controls are common to every model, with the exception of the OPTO type that for its particular nature only has the *"Threshold"* control available.

Threshold:
It's the level the signal has to reach before the compressor starts to work, in the VCA model this is the actual RMS level of the signal in the other models it is the peak level.

Ratio:
This control detrmines the amount of the compression applied to the portion of the signal above threshold, the higher the value the more gain reduction takes place.

Attack:
This knob control the time it takes to the compressor to react to a level change, the lowest the attack the fastest the compressor adjust the gain.

Release:
This knob control the time it takes the compressor to recorver after a gain change, the lowest the value the fastest the gain comes back to zero after the signal falls below the threshold.

S.C. Filter:

This knob controls an high pass filter on the sidechain of the compressor, sometimes the compressor may react too much to the low frequency content of the program, with this control you are able to reduce the amount of low freqencies that hit the detector of the comrpessor

External Side Chain:

 This switch allows you to use an external signal for the compressor side chain instead of the same signal that is going to be compressed. This is useful for the classic "ducking" effect often found in dance music where the kick track is used as external sidechain for other instruments to make them "pump" and give the track more groove. It's also very useful to make the kick stand out more when used on the bass track.
The way side chain is implemented varies from host to host, refer to your host's manual for your specific case.

Gain Reduction Meter

 Located right above the common compression controls there is the "Gain Reduction Meter", it's a modern fast meter (not a vintage VU-Meter) that displays the actual gain reduction with great accuracy (rise time of 1ms). Each segment of the display represent 1dB of gain reduction.

Compression Model Selector

 The Compression Model Selector is used to toggle between the three different compression models that the HoRNet MultiComp provides, each model has a characteristic behavior:

- **VCA:** this model mimics the behavior of an 80s VCA compressor as found on some big console, it is an RMS compressor and has a fairly hard knee, if the analog emulation is on the saturation made by operational amplifiers circuit is added to the signal and, if the signal is stereo, some different level of compression is applied between left and right channel.
- **FET:** this model emulates the specific sound of vintage FET compressors, it's a feedback design and it's very fast with a fairly hard knee. If the analog emulation is on it adds the saturation typical of class A transistor amplifiers to the signal and, if the signal is stereo, some different level of compression is applied between left and right channel.
- **OPTO:** this model emulates the behavior of the optic cell found in some compressors, it has a smooth sound with a fast attack but a program dependent release that changes with the intensity of the signal and its frequency content. If the analog emulation is on adds the saturation typical of class A transistor amplifiers to the signal and, if the signal is stereo, some different level of compression is applied between left and right channel.