# WOLF AUDIO DESIGN

# KOMPRESSOR


A multi-purpose compressor for scope !

## 1. INSTALLATION

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|---|---|
| Windows : | Just drag the content of the unzipped archive onto the scope / sfp folder. The devices for scope itself you'll find in the "Dynamic" subdirectory of the effetcs folder (or the pendant of the LiveBar). |
| Mac OS9 : | Unzip the archive and navigate into the folder Devices > Effects > Dynamics. Copy the device found there into your scope / sfp installation to Devices > Effects > Mono/Stereo > Dynamics. |

## 2. GENERAL

The feature set of the KomPressor was influenced by day-to-day usage and the need of an easy workflow for complicated routings, which brings old and forgotten trick to your DAW with a simple mouseclick. The internal flexible routing and combination of the different modes make the KomPressor a multi-purpose tool for tracking and mastering.

### Features :

The KomPressor has a standard and an extended mode, where two additional parameters are accessable (the latter mode uses slightly more dsp) :

- choose stepless between an optical and electrical compare stage
  this can be understood as emulation of modern and vintage compressors
- adjustment of the compression knee
  how fast the compression stage reacts, when reaching the treshhold value

Both modes feature following functions:

- spectral detection mode
- sidechain resolution parameter
- fast response mode
- true stereo compressing mode (usually left & right are summed)
- mid-side mode to compress the ambience separately from the main signal
- latency compensated sidechain mode (often also called "parallel compression and not in the sense of the usual sidechaining by routing another sound source to sidechain inputs, but by routing the compressed and clean signal "side by side" to the output, as often applied in mastering)
- look ahead function
- rms/peak mode
- soft clip
- fast attack (down to zero miliseconds), long release (up to ten seconds)

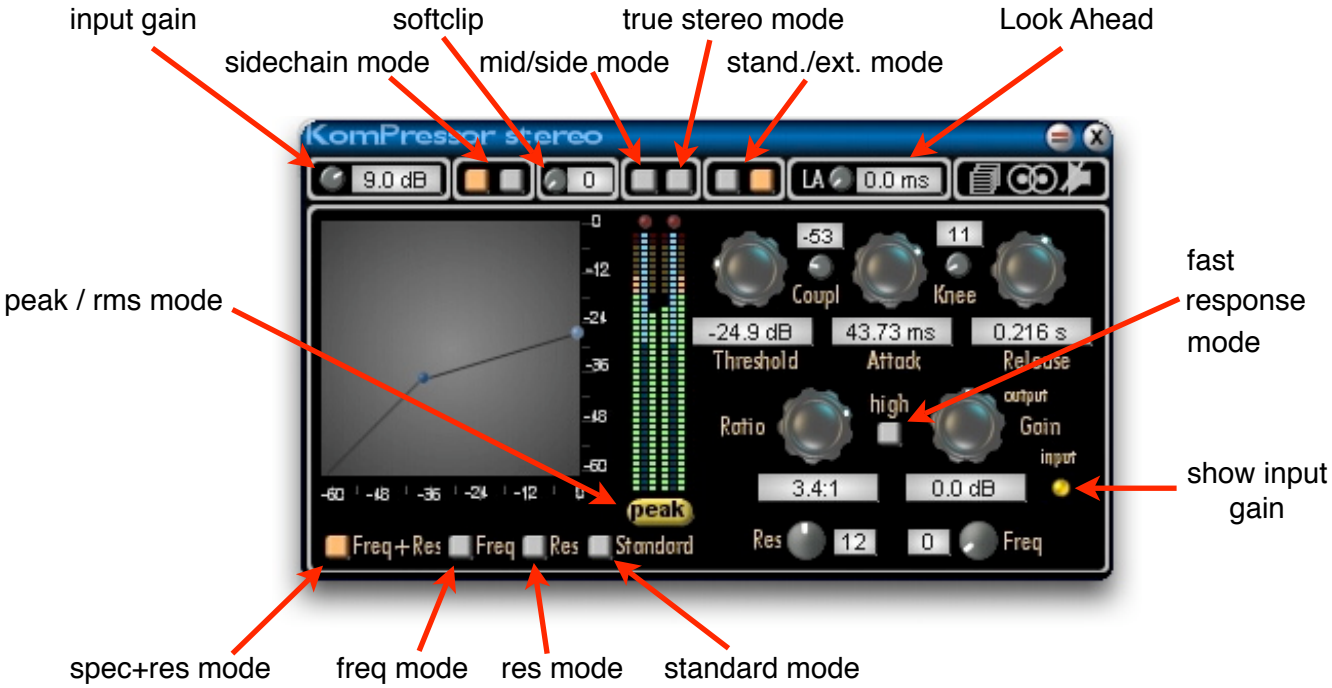
### Presets :

As with all wolf audio design devices, the mono and stereo flavour share the same preset list.

Following parameters are not saved within the preset list, but with the project :
LookAhead, mono-stereo switch, bypass, surface positions, show input gain knob.
The preset name is shown in the title bar.

## 3. EXPLANATIONS :

### Surface :



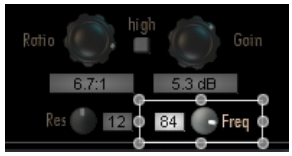

By moving the mouse pointer over the buttons, tooltips will show the functions.

### Compression / Detection Modes :

spectral mode

Instead of the most prominent level the most prominent frequency is used in this mode for the detection / compressing algorithm. Depending on the setting of the intensity parameter, which appears as soon as the mode is switched on, the frequency in question is pronnounced.

This mode (also in combination with the resolution mode) allows to emulate different compressing behaviours out there as well as creating an own characteristic.

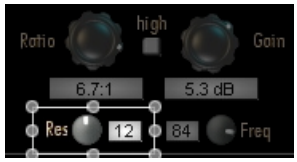



If activated, a control for the frequency influence amount appears.

resolution mode

The bit depth of the detection algorithm can be set between one and 32 bits. Using e.g. 12 bits as resolution makes the signal a bit more harsh as the compression stage reacts in less steps and therefor leaves out details. Another application for this mode is to achieve a nearly constant compression e.g. by using just four bits of the signal.

You can also achieve some kind of fake look-ahead with this parameter, as rougher edges lead to earlier reaction of the detection circuit.




If activated, a control for the resolution parameter appears.

spectral + resolution mode

A combination of both modes above, which makes it possible to emulate (vintage) compressors.

true stereo mode

Usually the left and right inputs are summed and fed together, before routed to the detection stage. This has the advantage that both channels are always compressed by the same values and therefor prevent heavy and unfamiliar volume differences between both channels.

However compressing each channel separately can be very enlightening and might create very nice results, as the stereo image is much more detailed.

fast response mode

As the name implies, in this mode the detection algorithm runs in a smaller time window and twice the sample rate of all other modes (that's why it's called high resolution mode on the surface, however this might be confusing regarding the usual resolution mode explained above).
Therefor the compression is a lot faster and more detailed (especially noticeable at higher frequencies).

mid / side compression mode

In mid-side mode the incoming stereo signal is converted to a mid and a side signal, which both are routed to the compression stage and the therefor compressed independantly. After the compression stage the signal is converted back to stereo.

With true stereo mode set to off, the mid signal is used as detection signal for both mid and side signals. With true stereo mode set to off on, each signal is compressed separately.

peak / rms mode

You can set the detection algorythm to peak or rms detection mode. Peak mode is used to e.g. model transients of congas and kicks, while rms mode is used e.g. for pads or to fatten up the bottom of kicks.

side chain mode :

Unlike routing some external sound source to the detection stage, "Side Chaining" in the case of the KomPressor is something completely different and what it finally says: Chaining the compressed and dry signal side by side.
The technique is often also called "parallel compression", which technically is not the correct term.

This method is often used in mastering e.g. for adding some punch without harming the original signal to much, but helps on single tracks as well.

### Standard and Extended Mode :

As mentioned in the General section, the KomPressor features two different compression modes. In extended mode two more parameters become accessable:

- coupling
- knee


With coupling the kind of converter for the comparation stage is determined. This paramter can be adjusted continuously from optical to electrical behaviour.
The knee parameter controls, if the compression should kick in at the treshold value (hard) or if it should start a bit earlier with raising ratio thus making the curve and therefor the compression a bit softer.
All other modes are available for both, standard and extended mode.

### Look Ahead :

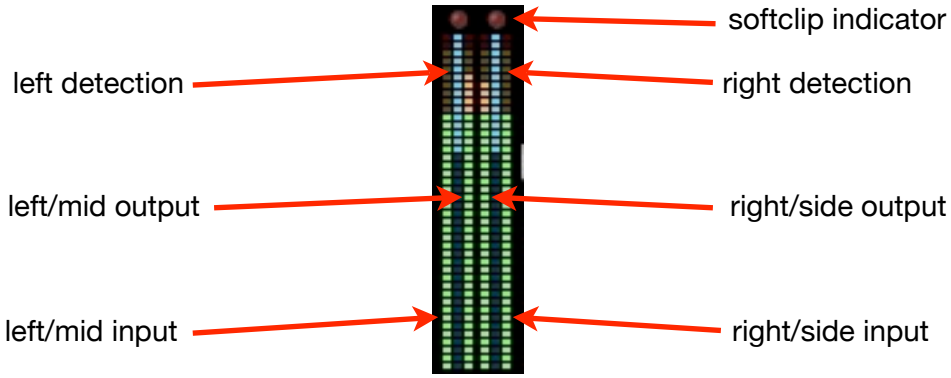
The look ahead time can be set up to 30 milliseconds. At zero milliseconds the whole look ahead circuit is unloaded from dsp.

### Soft Clip :

At the top of the surface is a control to set the soft clip amount. If it starts to clip the red LEDs above the detection meters will light (however the soft clip algorithm starts to influence the signal much earlier).


### Level / Detection Metering :

The meters show the dry and processed signal as usual level meters as well as the detection level / compression amount as blue graph.




With activated mid/side mode the left three graphs show the mid channel and the right three graphs show the side channel.

### Input Gain :

Activating the yellow LED beside the output gain shows the input gain knob on left top. If switched off, the mixer channel (if used as insert) is shown.

## 4. ADDENDUM

### Some explanations regarding the Extended Mode :

It is very easy to screw the sound up in extended mode due to the internal circuit design.
One way to circumstance this problem while development is to limit the access of some settings. Another way is to inform you about this, which I prefer as in the 1st case some effects would simply be impossible.

So it is easily possible to create complete silence, if the sidechained signal is always louder than the treshold. Depending on the settings (e.g. zero attack and 10 seconds release) it even can “hack” the sound and acts like a gate, because in extended mode the detection reacts very fast.

By comparing the attack and release of both modes, you’ll find differences in behaviour, e.g. release in extended mode sometimes has to be set longer to achieve the same effect as in standard mode. However this depends on the other settings like coupling, knee, if the detection works in peak or rms mode and last but not least on the fed material.

Finally it just shows that extended and standard mode are two different beasts with different applications and not only some added parameters.

### tips & tricks

pumping and breathing :

Both sometimes desired effects can be achieved at the same time by using the coupling parameter turned to optical, activated fast response and short release time.

mid-side-compression :

As already mentioned in true stereo mode the side signal is not compressed by the mid-signal, but by the (perhaps modified) side-signal. This raises the ambience of the whole signal (if present) therefor making the result more “airy”.

input gain and input distortion :

This parameter was added to adjust the input according the treshhold parameter. In some designs these parameters are the same (e.g. Vinco). For the input signal is no clip led available so take care, if the input isn’t set to high to avoid input distortion.

distorted signal, although the levels are in range :

This should happen only with extreme settings in extended mode, e.g. ratio is infinity, treshold is max. and release and attack very fast. In this case try the coupling parameter.

gate effect :

As mentioned above you can achieve complete silence in extended mode by using extreme settings in combination with the coupling parameter turned to electrical.

## 5. LEGAL BLURB

The manual and the device itself is subject of change without further notice. I take no responsibillity, if any connected gear is damaged while operating the KomPressor.

It is not allowed, to deliver this device to anyone without an agreement from the side of wolf audio design. However you are free to use this device on any of your computers.

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