

# VEEBOOST+COMP

## 1216



## GUITAR COMPRESSOR

## TREBLE BOOSTER

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# 1 WHAT IS THE VEEBOOSTCOMP?

The VBC is a VST plugin that emulates a soft-knee guitar compressor and a treble booster, combined into one. For best sonic results it should be used as a guitar pedal, i.e. before the guitar amplifier.

## 1.1 WHAT IS A COMPRESSOR?

The compressor can be used to control the general level of loudness. It can "push up" quieter passages, making articulation nuances more audible, it can tame sudden volume changes (peaks). It is capable of making notes sound longer by enhancing sustain, place the guitar farther in the mix by limiting transients. When extreme values are dialed in, it imparts its own sonic character, changing the guitar's tone.

The soft-knee transfer curve used in the VBC makes the unit compress loud passages in a smoother, more transparent manner. The compressor reacts sooner ("anticipates" volume changes) and does not chop off the peaks of your notes. In other words: it can be completely inaudible when set to moderate values.

However, deep inside its digital soul the VBC is an "analogue character" compressor. When set to extreme and fed with a hot signal, it shows its sexy side, enriching the sound with juicy odd harmonics and imparting an EQ curve typical for real-life classic tube gear.

## 1.2 WHAT IS A TREBLE BOOSTER?

The treble booster was a tool designed in '60s to push harder the low gain amplifiers of the era and create more focused lead sound, capable of piercing through any mix. Famous users of treble boosters are Brian May, Tony Iommi, Ritchie Blackmore, Marc Bolan, Rory Gallagher, just to name a few. The unit present in the VBC is loosely based on the famous Dallas Rangemaster device, one of the most often cloned boosters of all times.

How does it work? Well, technical descriptions aside, it makes your riffs more juicy and your solos sexier. It helps your notes to be audible even when the rest of band go bananas. Also, it can push your amplifier into a completely new level of distortion... When used on a clean channels or on an acoustic guitars, it usually sounds awful - well, unless the low-fi, muffled tone is what you go for.

## 2 QUICKSTART

### 2.1 COMPRESSOR

1. Put the dll in the plugin folder of your DAW
2. Start a project
3. Place the VeeCompGT plugin BEFORE an amplifier emulation
4. Press the POWER button to turn on the compressor
5. Replay the guitar track
6. Turn the SENS(itivity) knob until the yellow and red LEDs flash (yellow often, red rarely), signaling the amount of compression: no light means no reduction, yellow is not much, red is very much
7. Set up GAIN compensation to make up for the volume loss

### 2.2 TREBLE BOOSTER

You are going to love it:

1. Press the button labeled as BOOST

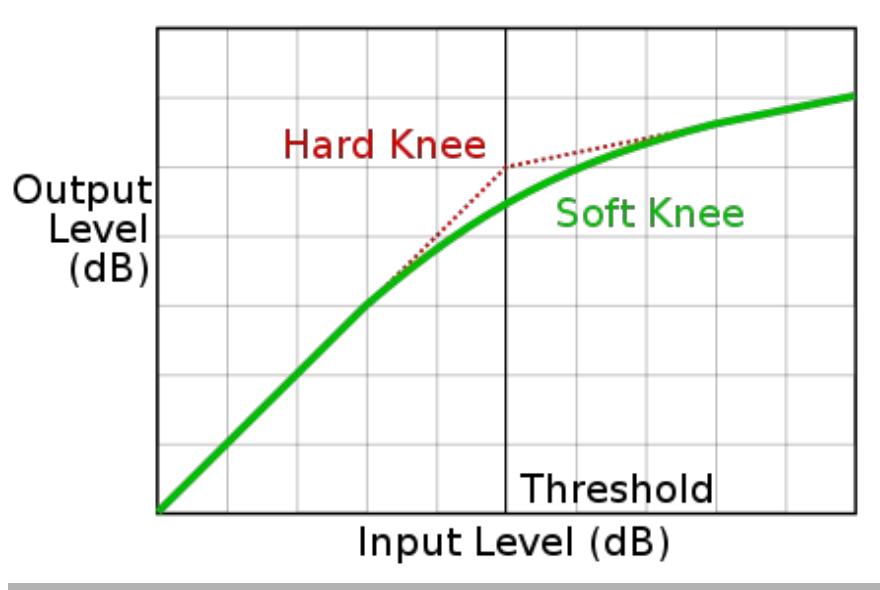
That's it. :)

## 3 THE MANUAL

Guitar players are looping the recorded tracks and admiring their new, "like totally awesome!!!" tone, so let us go to more detailed descriptions now without risking of overloading somebody's brains with unnecessary information.

### 3.1 COMPRESSOR

The compressor used in the VBC is a soft-knee feed-forward type.



Unlike the hard-knee compressor, this type of compressor works very smoothly, rather "riding" the volume level than aggressively "limiting" it. What is the difference in sound? The gain reduction happens a bit earlier and is much more transparent. The volume changes smoother and there is no significant change in the shape of transients. The compressor does not alter the sound of your performance, it simply controls the general volume level. Unless you crank the controls to extreme values, that is...

### 3.1.1 CONTROLS



	DESCRIPTION	VALUES
<b>ATT</b>	How quickly the compressor reacts when the volume level exceeds the threshold	~1 ms, 2 ms, 4 ms, 10 ms, 20 ms, 40 ms
<b>REL</b>	How quickly the compressor reacts after the volume level drops below the threshold	BPM dependent: 1/8, 1/4, 1/2, 1/1 notes
<b>SENS</b>	The threshold	0 to -40 dBFS
<b>BLEND</b>	The ratio between processed and clean signals	Percentage set up continuously
<b>GAIN</b>	A make up gain control	0 to 12 dB

#### 3.1.1.1 ATTACK

"Attack" is the time taken for initial run-up of level from nil to peak. When you pick a string, you create a transient (short energy burst) after which the main body of a note resonates. How to hear it "soloed"? It is very simple. Grab your guitar. Mute the strings. Pick a string with your plectrum. The ultra-short "snap" you hear is the transient.

How long does it last? Few milliseconds. Depending on a type of a plectrum it can last shorter or longer and can be more or less audible (when you pick strings with your fingers it is very long and smooth). A typical guitar transient is about 3-4 ms. Multiplied by 6: this is the duration time of a typical "strumming" on a normal guitar.

The values selected for the ATTACK knob are designed to cover most playing scenarios:

The left half of the knob covers soloing. 1ms, 2 ms attacks will usually "catch" every transient. 4 ms will let the initial attack go through while taming the rest of the note.

The right half of the knob covers chords/rhythmical playing. 10 ms, 20 ms will let the strumming come through and 40 ms will smooth out the general volume level without processing attacks (like a "bus compression" does).

### 3.1.1.2 RELEASE

Release is the time taken for the compressor to return to the initial state after the volume level falls down below the threshold. Shorter release times can create a slight distortion but allow to process fast played notes, while longer can make the long notes sustain much longer. You can limit longer sequences without audible pumping (the compressor will "wait" until the passage ends).

The release mechanism used in the VBC is quite unique. Most compressors use automatic or manual release. The automatic one follows the sound envelope while manual lets to dial in the values, well, manually. The VBC uses different, more practical approach. Since you use the plugin within your DAW and your project has the BPM set up (you were tracking your guitar with a metronome like all big boys do, weren't you?) and usually the best results are achieved when a compressor is synced with a tempo... at least that is what Mr. Brauer and Mr. Pensado claim... Then why not save your time and let you use the synchronized release times without forcing you to google the delay charts and meticulously dial in the values for all your tracks, time after time?

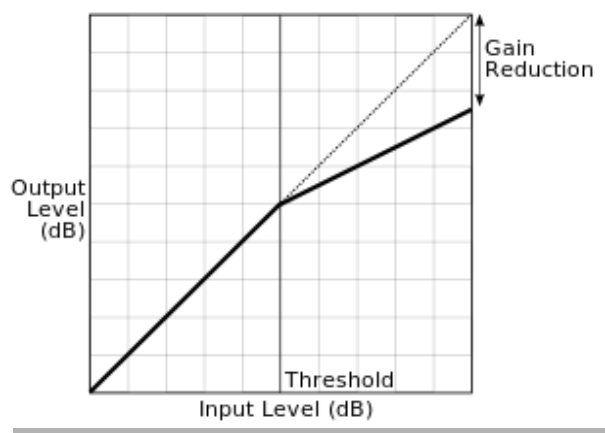
The release values are tempo-dependent and should be treated as "note lengths". An eighth, a quarter, a semi and a full note - those are the actual "times" of release.

***TIP: The VBC will follow any tempo change you may have in your project, always keeping the release times in sync***

### 3.1.1.3 SENSITIVITY

The threshold is a volume level that serves as a point at which the compressor starts attenuating. Quieter sounds which are below the threshold will be ignored. Louder sounds, above the threshold, will be processed.

The SENS knob sets up the threshold level, going from 0 to -40 dBFS. The more you turn it clock-wise, the more quiet notes will be turned down. This will make the compressor more and more "sensitive" to volume levels and operate more aggressively.



#### 3.1.1.4 BLEND

The blend knob lets (you guessed it) blend the dry and compressed signals together in various proportions. What for? A common practice, known as an "parallel" or "NY compression", is about blending a heavily compressed (or rather - over-compressed) signal with a clean one. Since brutally compressed notes often sound ugly, squashed and emotionless but at the same time they carry enormous amounts of sonic energy, it is good to mix in an unprocessed signal to have the track controlled and "lifted" but still maintaining the initial "shape" and emotional aspect.

When you crank up the compressor and you hear that the level is ok but feel that "something is missing", notes seem to be blurred and lacking definition and "punch" - dial back on BLEND until you girl cries again upon hearing your solo in the song you wrote for your 2<sup>nd</sup> anniversary (you remembered about it, did you not...?).

#### 3.1.1.5 GAIN

The control allows you to make up for the gain loss created by compression. Turn it clockwise to set the desired output volume. You will easily notice that the knob brings up the quiet parts, making the overall sound more "solid" and "juicy".

The effect is enhanced by the "tube power amp" placed at the output. The hotter the signal and the more Gain is dialed in, the stronger saturation occurs. The power amp circuitry is based on a classic "push-pull" amp design and thus generates odd harmonics.

***TIP: feed the VBC with a hot signal (you may want to make it louder with some other volume plugin), turn on the POWER but do not touch SENS. Now add Gain to make the power amp break up, "juicing up" the track.***

As you might have noticed, there is no RATIO control. The ratio is internally set at 8:1. Which seems to be pretty aggressive but when combined with the soft-knee transfer curve, it is quite ok for most guitar tracks.



### 3.1.2 GAIN REDUCTION LEDS



YELLOW	the compressor knocks off ~3 to 9 dB
RED	the compressor knocks off more than 9 dB

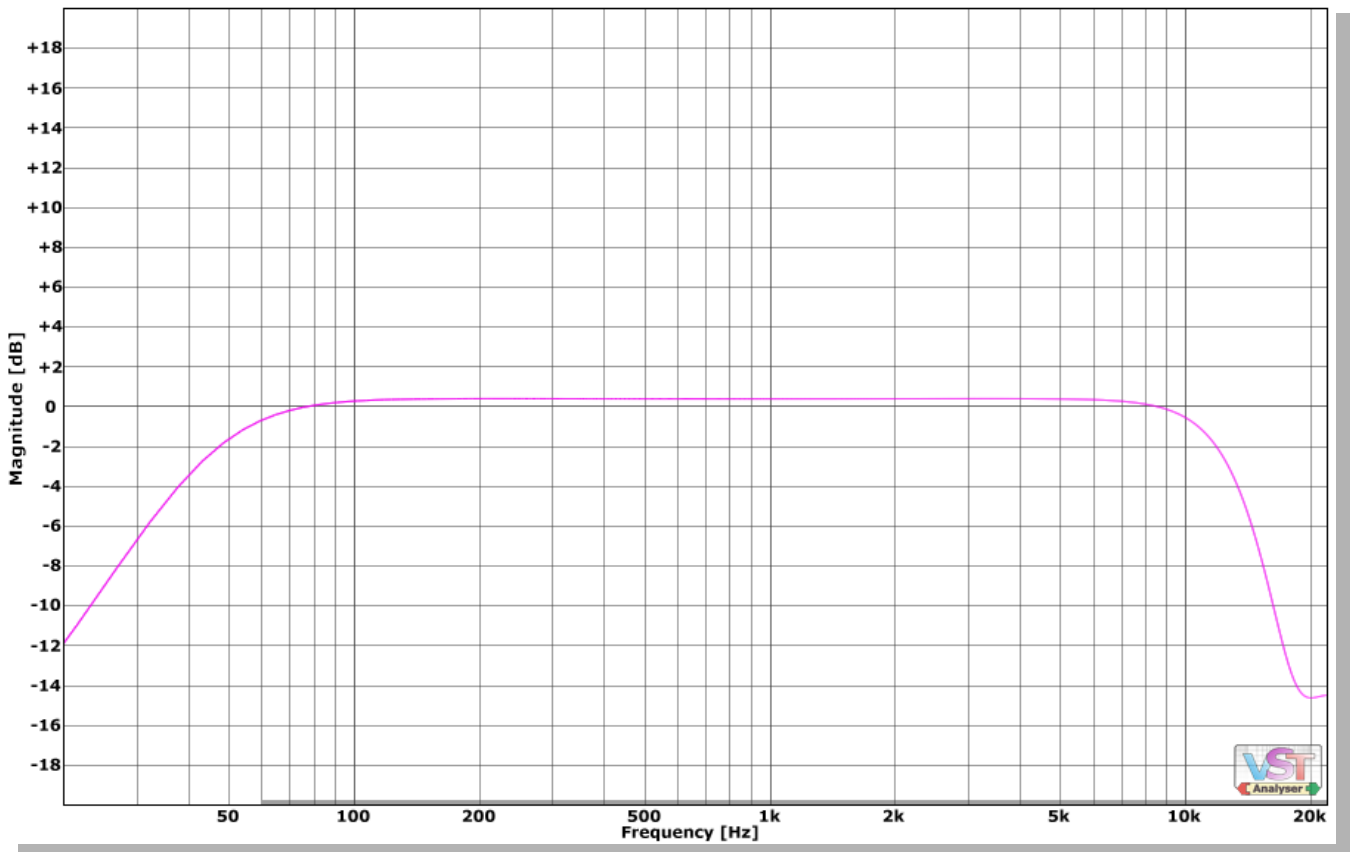
The GR leds indicate the level of compression. When no lights are lit up, the compression is not happening at all or is extremely light. When the yellow led lights up, there is a mild compression going on. When the red light lights up, there is some heavy limiting going on.

Certainly, there is no "right or wrong" when it comes to gain reduction values. Turn the SENS knob clock-wise and use your ears rather than eyes.

***TIP: when you have the yellow led flash often and the red one flash occasionally, it means that the compressor smoothly rides the volume and quickly catches sudden peaks in the meantime. Treat is as a "normal operation" mode and go from there. You will note that when you increase the ATT time, the red flash more rarely - this is because you instruct the compressor to ignore quick transients. And ditto, when you decrease the ATT time, the red will flash more often***

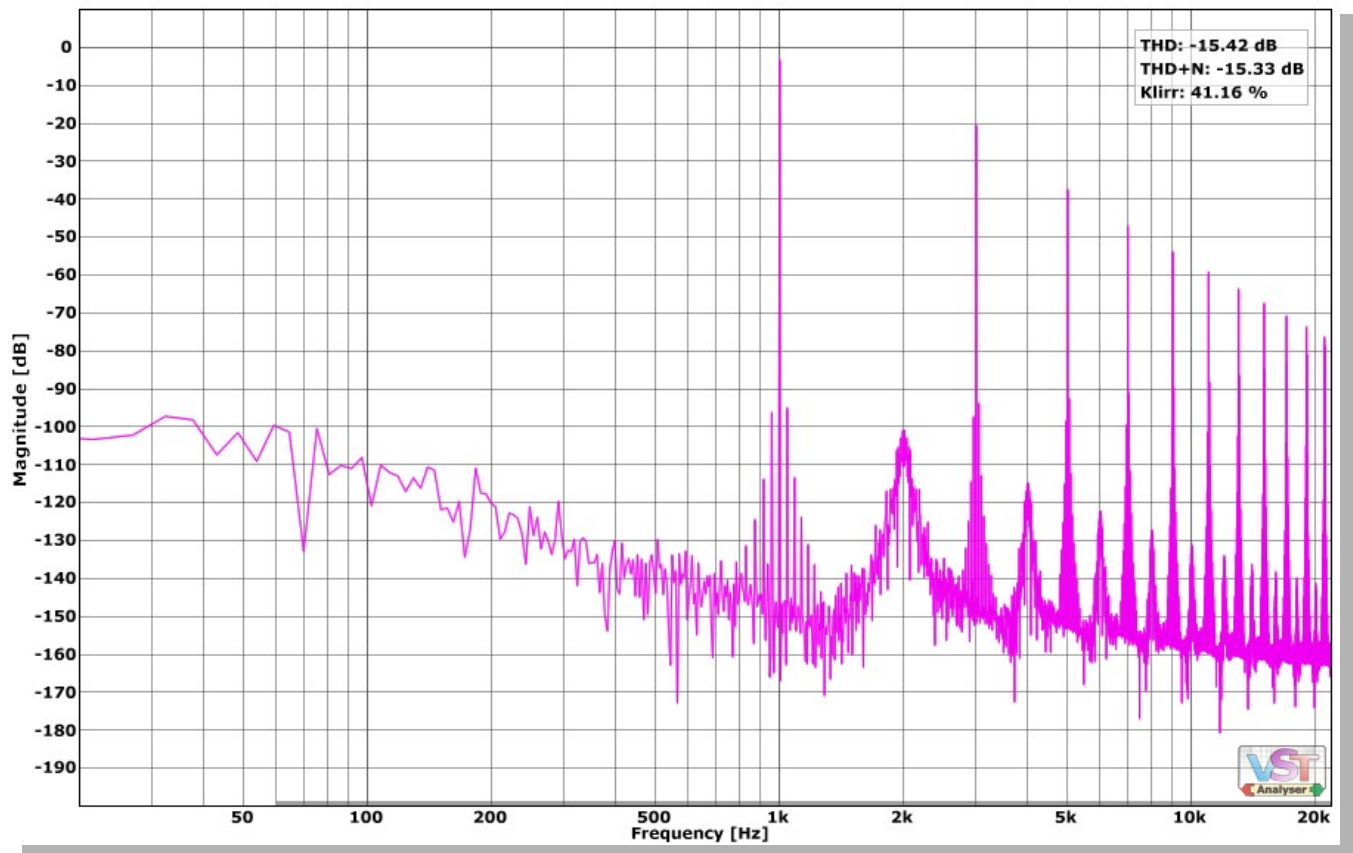
### 3.1.3 CHARACTER

As you will clearly hear, the guitar tone changes when you turn the compressor on. This is caused by two things: a tube saturation and an EQ curve imparted by internal modules. This is what your signal looks like when the BLEND control is fully CW:



As you can see, the sub sonic "rumble" and the "air" are attenuated. This way the VBC removes unimportant information, leaving cleaner, more focused sound to enter your amp.

The other element, contributing to "the tone" is the "tube power amp", placed right after the GAIN control. This is what it does (the GAIN if fully up and no Gain Reduction is happening):



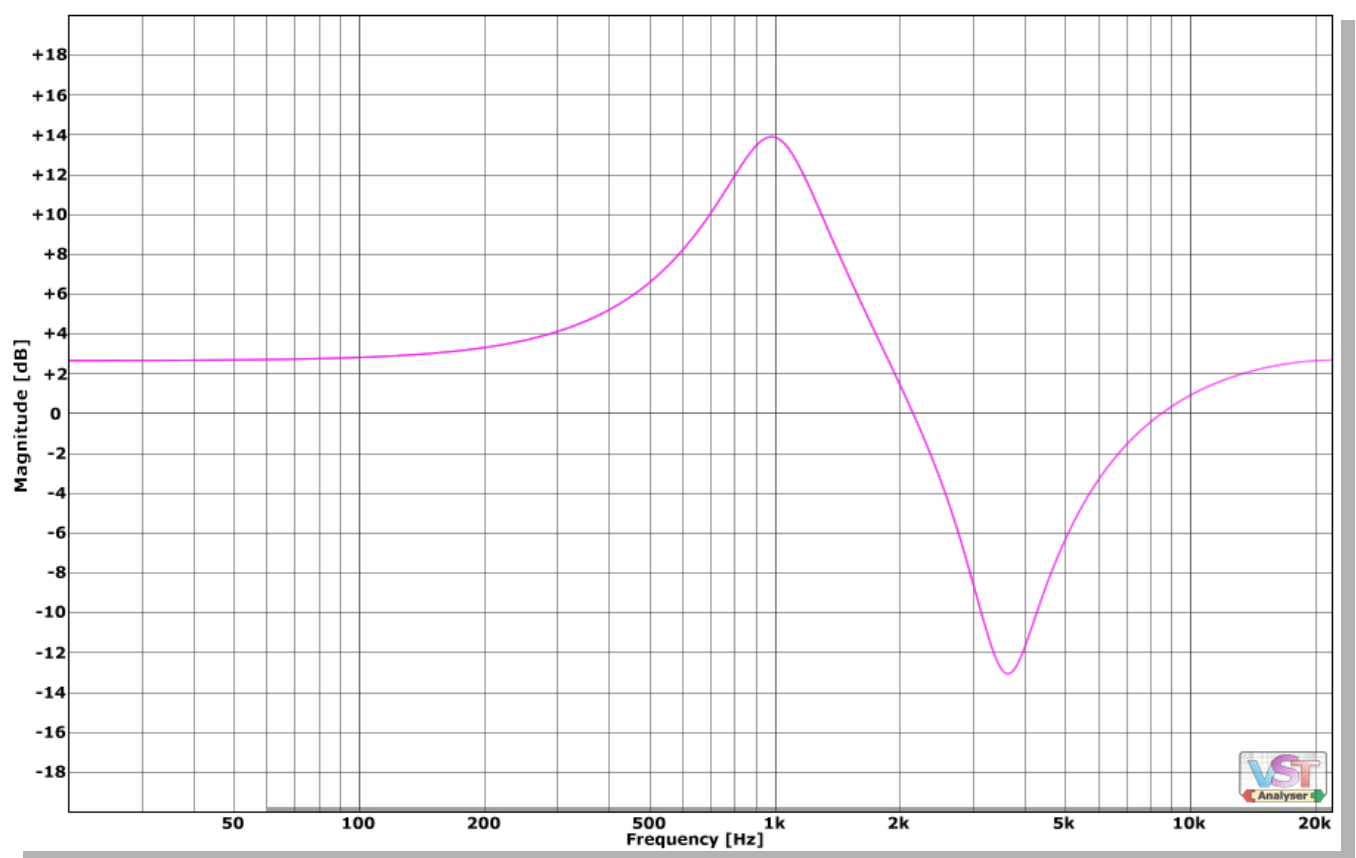
As you can clearly.. see, the compressor can be pushed into quite audible distortion. During normal operation, when the signal entering the power amp is at a sensible level, the saturation is not audible but rather "felt". The guitar tone gets "fatter", "more round", slightly saturated. Just as if it was processed by some nice analogue gear.

## 3.2 TREBLE BOOSTER

The booster used in the VBC is exactly the same design as the one used in the VeeTrebleBooster. The circuit is placed AFTER the compressor's power amp. It drastically changes the spectral content and the volume level. Unlike other Vee plugins, there is no safety net in form of the brickwall limiter circuit placed at the output... since it would defeat the very purpose of the unit.

As you will notice, the booster makes the outgoing signal much louder (yeah?). Please always use it before an amp simulation or a limiter to avoid damage to your ears and/or your speakers.

This is what the TB does to your signal (additional odd harmonics included):



**The Treble Booster can be used independently of the Compressor.**

The main purpose of the unit is to be used before a distorted channel of an amp in order to push the amp's preamp into greater distortion.

Also, as you can see, the spectral content of your guitar's signal changes. There is a huge energy boost in the 1 kHz area. Most instruments, like drums, bass, keys are EQed to have wide cuts in this area, since it sounds "tinny", "nasally". The vocals reside here and no other instrument should compete with vocals.

**Well, except for the lead guitar.**

This is why so many professional guitar players still choose treble boosters over plain boosters or OD pedals - the energy rise in the 1 kHz region makes the guitar cut through any mix and allows to play each note with authority, clarity and focus, filling the spectral area empty after the vocalist has finally shut his trap...

The treble booster is generally not used on clean tones, because it sounds, well, "ugly". The sound gets "tubby", carved, band-passed, lo-fi, as if played by an old radio... But sometimes this is what you may want for your mix so try the VBC on any source you want - just please remember about the sudden volume rise.

## 4 CREDITS AND THANKS

The VeeBoostComp reuse code and graphic resources generously shared by **Antress**. If you have not met this brilliant creator yet, visit his page and enjoy tons of great VSTs:

<http://antress.blogspot.com/>

A very special "thank you" goes to **Christian-WBudde** for his great VST Plugin Analyzer.

<http://www.pcjv.de/>

**Bartek Piwowarczyk** for proof-reading and correcting the documentation.  
**Iain Fergusson** for Wikipedia diagrams I stole

## 5 CONTACT

I hope the VeeBoostComp serves you well. Please give me your feedback here:

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<https://www.facebook.com/viperitb/>

Find my other plugins here:

[http://vst4free.com/index.php?dev=Viper\\_ITB](http://vst4free.com/index.php?dev=Viper_ITB)

I will be very happy to hear what you do with my tools and how they sound in your songs. :) Have fun!