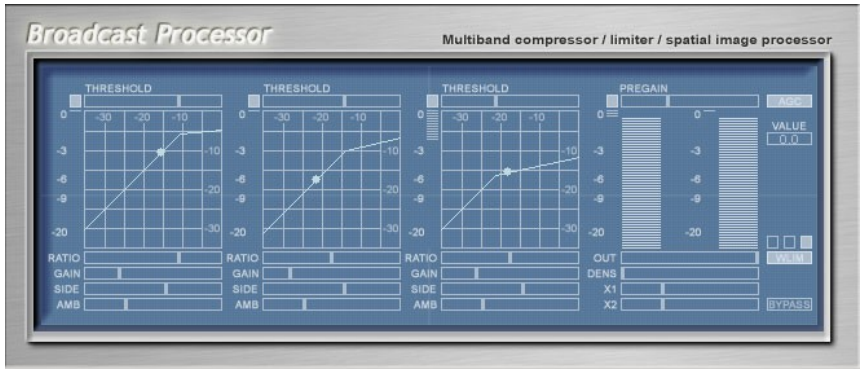
JB BROADCAST 3 BANDS COMPRESSOR



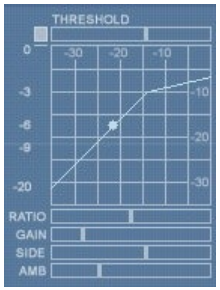
FEATURES

JB Broadcast is a free three-band VST compressor plugin made by Jeroen Breebaart
It combines the dynamics processing from the PC-2 compressor in a 3 bands way, spatial processing from OmniSone, and brickwall limiting from Barricade in a multi-band fashion.
Download the plugin here : http://www.jeroenbreebaart.com/

1 – the band compressor

> Dynamic processing

Conventional compressors are based on peak or rms-level estimation to compute their time-variant gain or attenuation. This property of most compressors often causes undesirable intermodulation distortion and pumping/breathing artefacts.
JB Broadcast features a '*psycho-acoustic relevance*' mode. Instead of using a peak or rms-level estimation, this mode employes a *perceptual loudness* model to compute the loudness of the input signal. This perceptual loudness model is combined with *advanced attack and release stages that model peripheral adaptation of the human auditory nerve*. The result is a very transparent compression characteristic, even with very short attack and release times.



- **threshold** and **ratio** are self-explicit, as in any compressor. *Attack* and *release* settings are automatic.

- gain : The gain knob adjusts the signal level before the band compressor.

- the **white square** on top left enables or disable each band individually. Clicking on it will mute the selected band.

- **X1** and **X2** (on the right side of the interface) allows to adjust the band's crossover frequency.

> Spatial processing

JB Broadcast features a spatial image processor with control of the *side signal* level, means to enhance the ambiance.

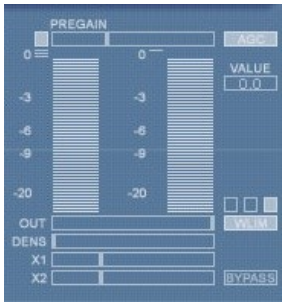
- **side** : control of the *side signal* level, means to enhance the ambiance. Pushing the fader to the right will increase the side signal level.
The value shown in the display is the % of the side signal. Thus zero means no side signal at all (everything mono); 100% means no adjustment, and 200% means that the side signal is 200% of the original (i.e., a gain of 6 dB).

- The **amb** parameter adds a synthetic side signal (on top of the conventional 'side' slider that only amplifies the existing side signal). It uses a more advanced method than just side signal amplification. You can find similar functionality in Omnisone, but now in a 3-band fashion.

2 – the master section

> Brickwall limiting

JB Broadcast features a simple yet effective brick wall limiter. The gain ride curve is very smooth and its time derivative is continuous, to ensure minimum distortion and aliasing artefacts.



- The *output brickwall limiter* is turned **on/off** by the **white square** in the top-left corner of the master section (next to the pre-gain fader). If this is off, the waveforms may clip and the limiter gain will not be changing.

- **pregain** : When the AGC is turned « off », it allows the user to boost the input (post-compressor, but pre-limiting) level of the signal. When the AGC is enabled, you can see the cursor moving according to the gain compensation amount.

- **AGC** : Auto Gain Compensation.

- The « **value** » readout displays the value of any selected parameter.

- **out** : the 'out' slider modifies the level *after* the limiter. It allows to reduce the output level to avoid output distortion.

- The **density** slider determines the amount of hysteresis of the limiter which influences the limiter/compressor characteristics in a similar way as the '*hysteresis*' from Barricade pro.
This is how it works : If there were many overs in the past, the limiter will react differently than if no overs were present in the past. The more overs were in the past, the larger the probability of overs in the future. This makes the limiter somewhat more conservative in terms of release (longer release times).

> *If the density is set to 0, the limiter is as conservative as possible* (using the information from the past).

> *If set to 100%, the limiter is more aggressive*, with faster decay times. It will generally result in a more 'dense' sound.

So if you want *transparency*, set it to 0. if you want more *drastic* limiting, set it to higher values.

> Width limiting

The **WLIM** is a **width limiter**. If the phase correlation in one of the bands comes below zero (= going out of phase), a width limiter will modify the stereo signal to ensure that the phase correlation stays within the range [0,+1] (which means that it manages to avoid the phase cancellation possibly caused by the 3 bands settings).
Basically, it prevents 'hollow' sounds that could result from too large side signals. If the side signal becomes large, the phase between left and right may become problematic (especially if you set the width and ambiance sliders to high values). This stage corrects potential out-of-phase problems.

- The **Wlim** button switches the width-limiter on and off. If it is on, any correlation value in one of the bands will be corrected if smaller than zero. If this happens, the corresponding white square (one for every band) just above the wlim button will become white.

- the two *vertical wide* **vumeters** display the Left and Right channels gain after processing, while the *thin* vumeters going from top to bottom on their left side shows the amount of reduction caused by the limiter.

– **Bypass** turns the whole processing off : Then, only the dry signal is audible.

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