Energize II VST version 1.31

Energize II is a 5-band broadcast processor intended for Internet and low power FM broadcasting.

Energize II is donationware. Please consider making a donation, since it has taken me many, many hours to create this processor! To make a donation, go to http://www.bustad.com/energize and click on the PayPal-button.

Parameters

The plug-in uses a graphical user interface which is provided by the host running the plug-in. These are the parameters controllable by the user:

Slide B2-B5/Stereo Widener

A stereo signal can through linear transform be split up into a mid channel (left+right) and a slide channel (left-right) and be perfectly reconstructed from this information. By amplifying the slide channel the stereo width increases. This is what is done by the side-parameters. If a signal is going to be broadcasted as a mono signal these parameters should all be set to zero.

AGC release

Before the 5-band compressor there is a very slow wideband compressor which controls the level into the compressor. The threshold is fixed at -5 dB, the attack is fixed at 0.5 dB/sec and the released can be set to anywhere between 0.1 dB/sec to 0.5 dB/sec. If the input to the AGC goes below -40 dB, the release freezes. If the sider is pulled all the way up, the AGC is turned off.

15 kHz LP

If this processor is to be used for FM broadcasting, it is necessary to limit the bandwidth of the audio. This can be done with the built-in 15 kHz lowpass filter.

In drive

Before the signal enters the Stereo Widener and the compressor, it is amplified by the amount set by the In Drive setting. This controls the amount of gain reduction in the compressor later in the signal path.

Threshold 1-5

The compressor has five bands, where band 1 contains the lower bass, band 2 contains the upper bass, band 3 contains the lower midrange, band 4 contains upper midrange and lower treble and band 5 contains the highest treble. The values Threshold 1, Threshold 2,... , Threshold 5 controls the thresholds for the 5-band compressor. Try to set these so that all bands have similar gain reduction.

Gate thres, Release gate

If the output of EnergizeII is lower than the value set by “Gate thres”, all bands release very slowly. The release time is set by Release gate.

Coupling 4->5, Coupling 3->2, Coupling 2->1

To prevent the gain reductions of the bands from being too different, the gain control signal from a certain band can be fed into the gain control signal for an adjacent band. This is being done from band 4 to band 5, from band 3 to band 2 and from band 2 to band 1. Before the signal is fed to the other band, it is multiplied by the amount set by Coupling 4->5, Coupling 3->2 and Coupling 2->1.

Fast release

If all bands release at the same time, they all release faster than they otherwise would have. The speed is set by Fast release.

Release 1-3

If not all bands release at the same time, bands 1, 2 and 3 release with the speed set by “Release 1-3”.

Release 4-5

If not all bands release at the same time, bands 4 and 5 release with the speed set by “Release 4-5”.

Limiter 1-5 th, Limiter 5 rel

After the compressor in the signal chain, all bands are limited at the thresholds set by Limiter 1 th, Limiter 2 th, Limiter 3 th, Limiter 4 th, Limiter 5 th. The limiters for band 3 to 5 use lookahead limiting and the limiters for band 1 and 2 use zero-attack limiters. The release time for the limiter on band 5 can be set by Limiter 5 rel. A lower setting gives more distortion but a higher setting can make the the treble sound lifeless.

Gain 1-5

After the limiters each band is amplified by the amount set by Gain 1, Gain2, ... , Gain 5.

Pre-emphasis

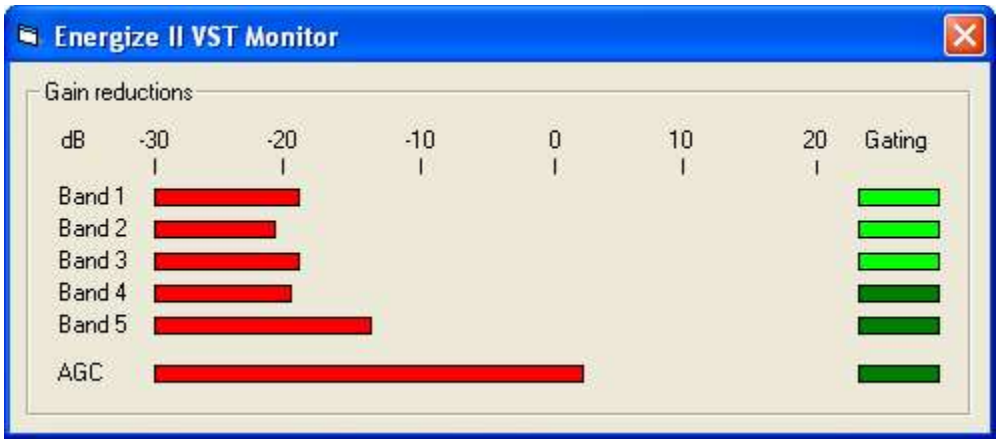
If this processor is to be used for FM broadcasting, pre-emphasis may be needed. This is an amplification of treble by the time-constants 50 microseconds (UK and Europe) or 75 microseconds (USA and Canada).

Final gain, Final dist

After the amplification above, all bands are summed, amplified by the amount set by Final Gain and fed into the Wideband Limiter. It is possible to control the distortion levels using Final dist.

Output Switch

Using the output switch it is possible to solo all a certain band. When the output switch is set to "Send", no band is soloed and the values of the gain reductions are saved 10 times per second to the file c:\EnergizeII.tmp. This file can then be read 10 times per second by the program EnergizeIIMonitor.exe, which displays the gain reductions.



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