de la Mancha sixtyfive (rev. a) - Soft Knee RMS Compressor
(VST for Microsoft Windows based host programmes)

Thank you for purchasing this de la Mancha plugin, we hope you enjoy using it in your studio.

The dlM sixtyfive is a vintage-style, Soft-Knee RMS Compressor, inspired by the dbx® 165A, a classic 1970's compressor found in many studios, but adding some new twists.

The RMS detection and soft-knee help to give a smooth and musical compression experience, the non-linear response imparts character and the gentle saturation brings colour and warmth. Your dlM sixtyfive will deliver compression from gentle smoothing of vocal performances to brutal slamming of your drum buss. Enjoy!

Note: dbx® is a trademark of dbx Inc. which is not associated or affiliated with de la Mancha LLP. This trademark is used solely to identify the product that was used as inspiration during the development of the dlM sixtyfive plug-in. Use of the dbx® trademark is for informational purposes only and does not imply an endorsement or sponsorship of de la Mancha products.

Feature list

- Vintage style RMS compressor with external sidechain, parallel compression and comprehensive metering
- Subtle colouring from a home-made blend of harmonics, saturation and noise
- RMS detection offers natural response
- Soft Knee makes for a less obvious transition
- Bypass control allows blending of dry uncompressed signal for phase-free NY style parallel compression
- Non-linear attack/release curves give unique character
- Auto attack/release available
- Manual attack/release with ultra-low values
- Distortion reduction for very short release times
- Stereo input detection can be linked or unlinked
- Internal or external sidechain routing
- Additional 'Internal sidechain only' version
- Optional hard limiting on final output
- Metering covers stereo input, output and gain reduction. All meters show actual and peak levels with adjustable peak hold time
- LED display to indicate above, in & below the knee/threshold
- Non-linear knobs for precise control at small values
- 18 presets covering different configurations
- Rev. a is an update to SynthEdit 1.1 which eliminates multiple instance problems with multi-core CPUs

Installation

Installation is simple, just extract *dlM_sixtyfive_a.dll* from the zip file and copy it into your VST directory. Install and load in your host program as you would any other VST effect. (There is also a *dlM_sixtyfive_a_int.dll* which is an Internal Sidechain Only version for hosts that are not compatible with multi-input plugins)

As sixtyfive will install some module files into a sub-directory with the dll, you need to make sure that Windows folder permission rights for your VST directory allows this, especially in Vista where it may default to block this process

To uninstall, simply delete the *dlM_sixtyfive_a.dll* file and the associated *dlM_sixtyfive_a* folder from your VST directory

Presets & Tweaking

The presets were made using source material peaking at -6dB and demonstrate the range of sixtyfive, from subtle to extreme. These presets can sound totally different depending on the source material and may not compress enough or could clip/distort depending on the level of the material that you try it on. The compressor settings will almost always need to be adjusted to the volume and dynamic range of the audio you are running through it. So the presets are a demonstration and a starting point, but you should expect to tweak each one a little if you want to get the best out of sixtyfive.

Compression basics

A compressor is a form of automatic volume control. It is the equivalent of someone listening to music and turning the volume down for the bits that get too loud. Of course, a machine or plug-in is much quicker and more reliable than a human for this and sixtyfive has the ability to react incredibly quickly to trigger compression.

Compression works by detecting the loudness of the signal, and trying to keep it below a certain limit, called the threshold. If the music is below the threshold, the compressor does nothing. If it is above the threshold, it turns the volume down until it goes back below the threshold. This reduces the dynamic range (the difference between the quietest and loudest bits) which can be useful for things like vocals, where the performance might vary in volume over the song, or as a sound design effect to make drums more powerful.

There are two signals in a compressor

- Audio
- Sidechain (also called Key or Control signal)

The Audio is the sound you want to compress, in stereo or mono.
The Sidechain is the signal that is used to trigger the compression if it goes over the threshold

Often, these signals are one and the same. The Audio is fed into the sidechain, and if it goes over the threshold, the audio is reduced in volume. However, you may want to use a different audio signal for the sidechain and sixtyfive lets you do this by allowing an external sidechain signal.

For example, you might want a vocal signal as the external sidechain, triggering compression of the music track. When the singer sings, the music is turned down slightly to allow focus on the voice. Radio stations use this for the when the DJ speaks over the music. Another common example is the kick drum as an external sidechain, triggering compression of the bass line. When the kick drum hits, the bass is reduced in volume (ducked) so the two are not competing.

Another use for an external sidechain is to process the Audio signal before it becomes the sidechain signal, so that only certain parts of the audio will trigger the compression. For example, in a drum loop, maybe you only want the kick drum to trigger the compressor, or you don't want the cymbals to trigger it. On a vocal track, maybe you only want sibilant sounds to trigger the compressor, as a form of de-esser. sixtyfive lets you do this by allowing an external sidechain signal. Simply route the audio through whatever filter, stereo imager, gate you wish before routing back into the external sidechain.

Controls

Main Controls

Threshold (dB) - sets the signal level at which the compressor is triggered. Incoming audio over the threshold causes the compressor to compress the audio until the level drops below the threshold again

Compression (Ratio X:1) - sets the ratio of compression. A ratio of 4:1 means a signal 4dB over the threshold will be reduced to only 1dB over the threshold. 1:1 means no compression and 30:1 means the signal at 30dB over the threshold will be compressed to only 1dB over. The higher the ratio, the less the compressor will allow the signal to exceed the threshold. A lower ratio will gently compress but allow the signal to exceed the threshold. The highest ratio will act more like a limiter to prevent all but the highest spikes to exceed the threshold

Attack / Release (ms) - the time for the compressor to reach full compression and release again. Short attack times mean the initial transient can be lost (the initial whack of a snare for example), long attacks mean the transient can exceed the threshold. Short releases can give distortion or pumping (may or may not be desired), long releases mean the compressor may always be on!

Out gain (dB) - adjust the volume of the outgoing audio signal. This is usually used to bring up the overall volume when the compressor has reduced volume to the threshold setting. Double-click to reset to zero

Other Options

Ext (External) - Here you decide where the sidechain signal comes from. Default (off) is Internal, which means it uses the incoming audio. External means it uses the signal you have routed to the 2nd stereo input of sixtyfive. This could be a completely different audio signal (see Compression basics above) or a processed version of the audio.

Stereo Coupler - This button will link the detection for L & R channels to ensure the compressor acts on both channels equally. When on, it means that a single sidechain signal is generated from the input, This control signal is then applied to the compression of both L and R audio channels, even if one of them has not exceeded the threshold. When off, both L and R have a separate sidechain signal, which means that the L audio channel is only compressed when the L sidechain exceeds the threshold, and the R audio channel is only compressed when the R sidechain exceeds the threshold.

Auto attack/release - When on, this will override the manual attack/release settings and use an automatic setting that adjusts with the amount of gain change.

Peak Stop - this adds a stereo limiter at the end of the signal chain, which can help to reduce clipping at the output

Bypass (%) - this controls the wet/dry mix level, where the wet signal is the output of the compressor and the dry is the uncompressed incoming audio. This allows parallel or NY compression without the phase issues you might otherwise get using your host send or mix levels. A mix of wet and dry can be powerful on drums, giving you both the compressed powerful sound and the preserved transients of the dry sound.

LED Indicators (Below/Knee/Above)
There are 3 LED indicators above the threshold knob that indicate the level of the incoming audio in comparison with the threshold settings

Below (Green) - Audio is below the knee level (no compression)

Knee (Yellow) - Audio is above the knee but below the threshold (partial compression)

Above (Red) - Audio is above the threshold (full compression)

Meters
There are 3 buttons to select between metering for Input, Output or Gain Reduction. The meter shows the actual level (needle) and peak level (sweep) in decibels. The peak hold time can be adjusted by turning the screw on the meter.

Internal / External Sidechain

There are 2 versions of sixtyfive included in the download

- *dlM_sixtyfive.dll* - the standard version that allows external sidechaining, which has 2 stereo inputs
- *dlM_sixtyfive_int.dll* - the modified version that has internal sidechaining only and 1 stereo input

The latter is intended for the few hosts that are not compatible with multiple input plugins
You can install both simultaneously if you wish.

There is an issue when using the standard version of sixtyfive with the energyXT2 host, where the inputs are seen by the host as dual mono inputs. As a workaround, you can download a free converter plug-in called 'Stereo to Dual Mono' from my website:
http://www.delamancha.co.uk/S2DM.htm

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Credits

Huge thanks to Paul Faby at Harman Pro Group (dbx®) for kind permission to reference the dbx® 165A as inspiration

Thanks to Jeff McClintock for creating SynthEdit and to the 3rd party SE module developers, without which this plug-in wouldn't exist.
Also a big thanks to g200gk for the fantastic knobman programme

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Links

Harman (dbx)	http://www.dbxpro.com/
SynthEdit	http://www.synthedit.com/
Dave Haupt Modules	http://www.dehaupt.com/SynthEdit/semodules.htm
Chris Kerry Modules	http://www.chriskerry.f9.co.uk/
K D Lynch	http://www.rubyhex.com/synthedit/
Scoofster Audio	http://scp.web.elte.hu/synthedit/modules.html
Daz Disley	http://www.roughdiamondproductions.com/SE/
Knobman	http://www.g200kg.com/en/software/knobman.html

The inspiration - dbx® 165A

sixtyfive is inspired by and pays homage to the dbx® 165A, a classic compressor from the 1970's

sixtyfive is not a precise emulation, but rather a compressor that draws it's features and goals from the dbx® 165A. You will see some of the controls of sixtyfive have ranges far greater than the dbx® 165A, and the Bypass control (which is on/off in the dbx®) is turned into a wet/dry control.

dbx® was founded by David E. Blackmer, inventor of the DBX® noise reduction system. More info can be found at http://www.dbxpro.com/

About de la Mancha

de la Mancha lives, eats, dreams and breathes VST plugins, seeking to bring randomization and modulation to the masses. He is also a producer of odd-skool breakbeat, downtempo glitchy beats and other assorted bleeps and noises. You can find his music at www.papadodo.co.uk www.3x0.co.uk and www.mono-log.co.uk

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