

Rocksonics MB3X

Multi-Band Mastering Compressor

Audio effect plugin by Raising Jake Studios



The **MB3X** plugin is an emulation of the hardware MB3X Mastering Compressor designed and manufactured by *Rocksonics Professional Audio* back in the mid 1990's. The **MB3X** plugin re-creates the unique crossovers, controls and smooth, layered, program-dependent response of the original hardware unit. The plugin includes additional modern features including "Analogue" emulation, oversampled output peak clipper, A/B settings recall and, most importantly, a "Hilbert" function that reduces steady state THD in the compressor to inaudible levels over most of the audio range.

The **MB3X** is a multi-band mastering grade processor that can be used in a variety of critical applications including audio mastering, video production and web radio. It uses multiple layers of automatic, program-dependent, RMS-style level detection and three bands of dynamics control for automatic EQ balancing and compression.

All of that but no Mid/Side or independent L/R option? YES, that is correct! The MB3X was designed to MAINTAIN the stereo balance of source material while providing overall dynamic range control. That said, the plugin will operate in some DAWs, such as Logic Pro, as a "dual mono" plugin allowing M/S, L/R operation. In Pro Tools, and nearly every other DAW, stereo tracks can be split to two mono tracks for even more control. Otherwise, M/S L/R matrix plugins can be used if required or, optionally, insert one of our SideMinder plugins ahead of the MB3X for ultimate stereo width control.

The **MB3X** is a stereo/mono plugin that automatically detects and switches to mono mode when used on mono tracks for reduced CPU load.

MB3X is a 64-bit VST2, VST3 and AAX plugin for Windows and "Universal Binary" VST2, VST3, AU and AXX plugin for Mac OS 10.11 or higher on Intel and Apple Silicon.

INSTALLATION INSTRUCTIONS

Installing the **MB3X** plugin is simply a matter of copying and pasting the appropriate files from the **MB3X** purchased download to the proper folders on your computer.

All RJ Studios plugin files are double zipped. The top-level zip file (download) contains two sub-files for Mac(“dmg”) and PC (“.zip”) versions that are independently zipped. This was necessary to preserve the Pace iLok signatures for the AAX plugins for the respective OS systems. Please unzip the Mac or PC sub-files before copying the desired plugin to your folders. Copying/dragging the plugin without unzipping first may not work, especially with the AAX plugins.

FOR PC (“x64 PC zip” folder)

To install the VST3 plugin: make sure your DAW is closed then copy the “MB3X.vst3” file from the download file and save it to your VST3 plugin folder (typically C:\Program Files\Common Files\VST3). Restart your DAW and scan the plugins folder from your DAW’s plugin manager.

To install the VST2 plugin: make sure your DAW is closed then copy the “MB3X.dll” file from the download file and save it to your VST2 plugin folder (typically C:\Program Files\Steinberg\VSTPlugins). Restart your DAW and scan the plugins folder from your DAW’s plugin manager.

To install the aaxplugin for Pro Tools: make sure your DAW is closed then copy the “MB3X.aaxplugin” file from the download file and save it to your Avid plugin folder (typically C:\Program Files\Common Files\Avid\Audio\Plug-Ins). The plugin will be automatically scanned/added the next time Pro Tools is opened.

FOR MAC (“dmg” folder)

To install the VST2, VST3 and/or AU plugins, make sure your DAW is closed then copy the “MB3X.vst” and/or “MB3X.vst3” and/or “MB3X.component” folders from the download file and save them the VST and/or VST3 and/or “Component” folders on your Mac under /Library/Audio/Plugins.

NOTE: On Mac OS 10.13 and later a reboot is sometimes required before AU plugins will show up in your DAW(s).

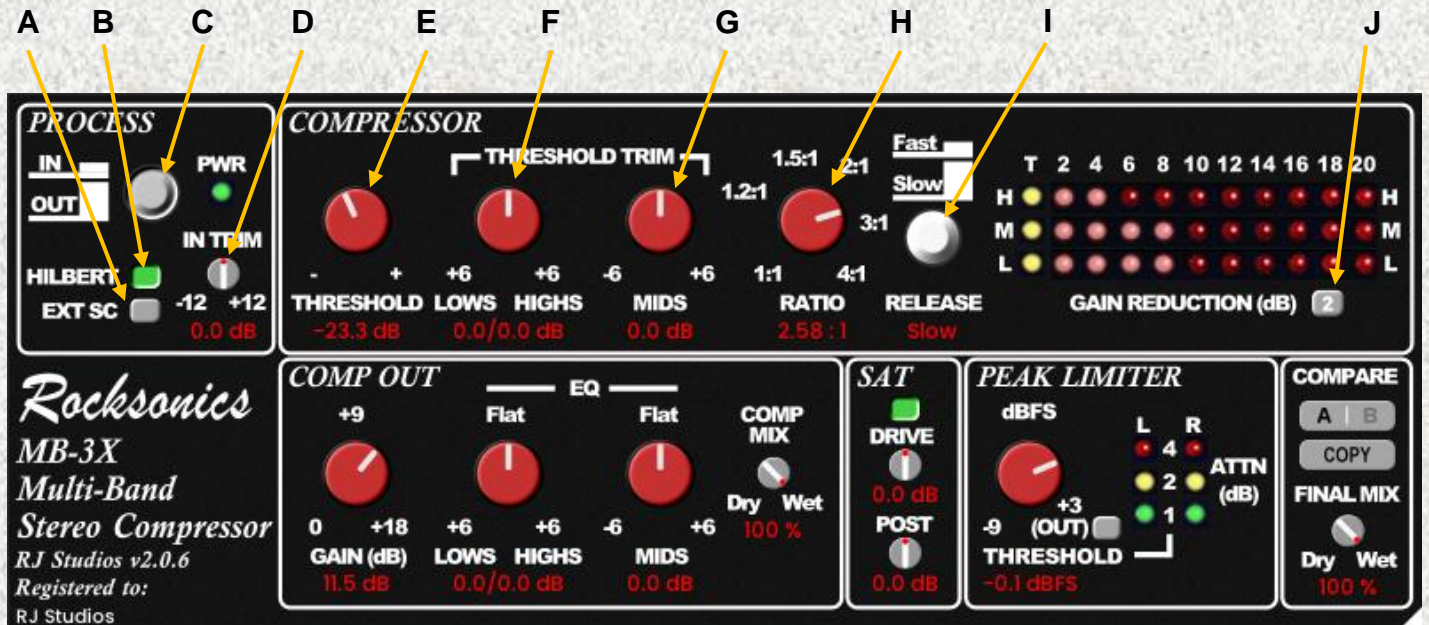
To install the AAX plugin for Pro Tools: make sure your DAW is closed then copy the “MB3X.aaxplugin” file from download file and save it to your Avid plugin folder (typically /user/Library/Application Support/Avid/Audio/Plug-Ins). The plugin will be automatically scanned/added the next time Pro Tools is opened.

REGISTRATION

The **MB3X** will be operating in demo mode when first installed and will operate unrestricted for 14 days after which the demo will mute the output unless a license is purchased. To install your license, copy the code from your purchase receipt; click on the registration field at the bottom left corner of the plugin window and right-click paste the registration code then press enter on your keyboard.

NOTE: Internet connection is required during registration. If your system is typically isolated from the internet for security or performance reasons you may disconnect after the plugin shows “Registered to: your name”.

Plugin Controls



A – EXT SC – selects external sidechain input to the Compressor section when engaged.

B – HILBERT – engaging this control adds a second, phase-shifted input signal to the level detector sections which reduces steady state distortion (THD) in the compressor to inaudible levels over most of the audio range. The effect is especially beneficial at low frequencies and at higher compression ratios. This parameter is CPU intensive and recommended only when extremely low distortion is needed such as in audio mastering and for ultra clean compression in mixing low frequency sources such as bass guitar, etc.

C – Effect In/Out – process/bypass switch. When the effect is on the green “PWR” LED will light.

D – IN TRIM – provides boost or attenuation to input signal level before any other stages.

E – THRESHOLD – sets the basic threshold level of all three compressor sections which can be further trimmed with the LOWS/HIGHS(**F**) and the MIDS(**G**) THRESHOLD TRIM controls.

F – LOWS/HIGHS THRESHOLD TRIM – “tilting” control for trimming the threshold levels of the Low and High compressor sections. Rotating the control clockwise raises the high frequency compressor’s threshold while simultaneously lowering the low frequency compressor’s threshold. Rotating the control counterclockwise creates the opposite effect.

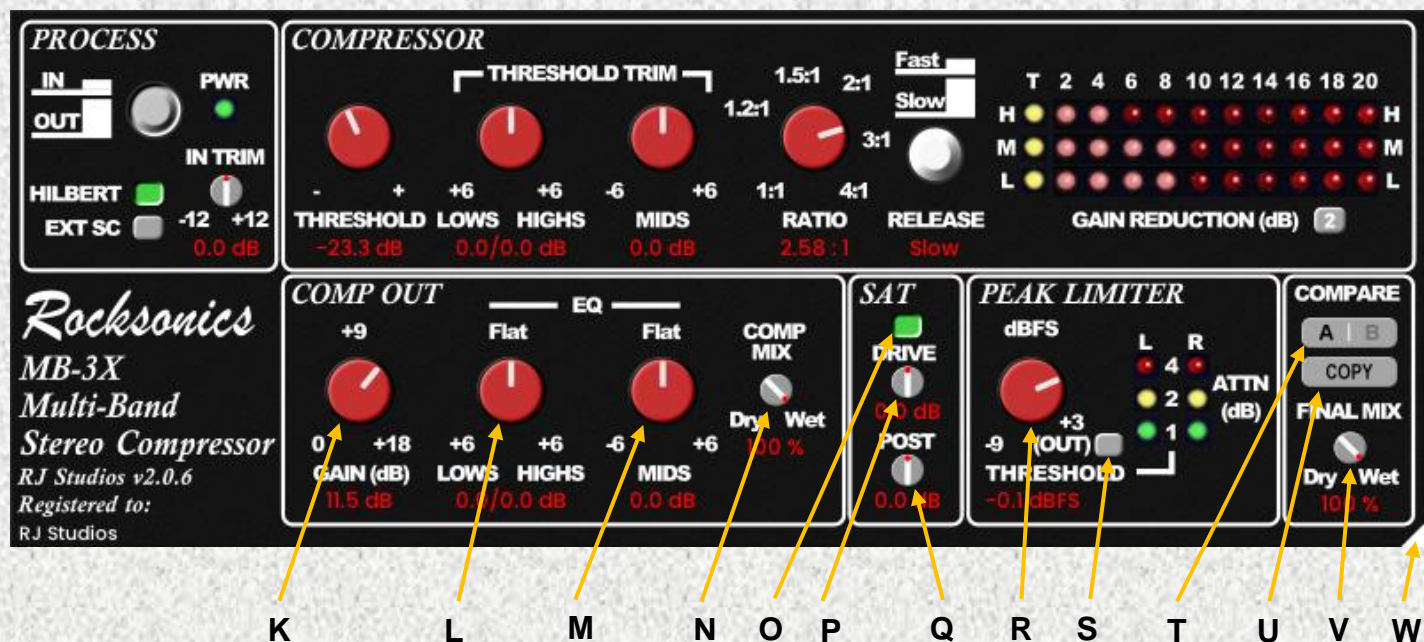
G – MIDS THRESHOLD TRIM – sets the offset of the Mid frequency compressor’s threshold from the main THRESHOLD(**D**) setting.

H – RATIO – sets the compression ratio of all three compressor sections.

I – RELEASE – selects fast or slow release times for all three compressor sections. This release is a second stage/layer of compression envelopes applied over fixed, fast release times of the first stages.

J – METER SCALE – selects the display scale of the meter for either 1dB per step or 2dB per step. This control only affects the range of the meter and does not affect the audio.

Plugin Controls (continued)



K – GAIN – controls the amount of post-compression “make up gain” is applied to the signal.

L – LOWS/HIGHS EQ – “tilting/differential” control for trimming the amount of lows and highs in the output mix. Rotating the control clockwise will boost the highs while simultaneously cutting the lows. Rotating the knob counterclockwise produces the opposite effect.

M – MIDS EQ – adjusts the amount of mid band level in the output mix.

N – COMP MIX – mixes compressor input with compressor output for “parallel compression”.

O – SAT – engaging this control adds a saturation curve to the MB3X output stage. The saturation curve was designed to produce a limited range of level-dependent harmonics that add an “Analogue” edge to the sound. Saturation amount is dependent on compressor output level and setting of the **Sat Drive (P)** control. This stage is oversampled to minimize aliasing.

P – SAT DRIVE – boosts or attenuates the signal level into the saturation stage.

Q – SAT POST – boosts or attenuates the signal level after the saturation stage. Can be used as a drive control into the Peak Limiter or for level matching pre-post saturation stage.

R – CLIPPER/LIMITER THRESHOLD – sets the peak output level from the MB3X. This stage is an oversampled soft clipper with a peak stop at the Threshold setting. Signals approaching the Threshold setting will be gradually reduced in level until the Threshold is reached at which point they will be hard clipped to the Threshold value. NOTE: the soft clipping curve begins subtly several dB below the clipping threshold and adds a bit of saturation to the signal. If you like the saturation effect but not the hard clipping simply set the Threshold above 0dB and following with another limiter of your preference. When the “OUT” button is engaged clipper/limiter is completely bypassed.

S – LIMITER OUT – turns the clipper/limiter stage on/off.

T – A/B COMPARE – toggles between two different sets of parameters for the MB3X controls. When a project is saved in the DAW it will save both A and B sets allowing further comparison upon project re-load. Likewise, if a user preset is created it will save both A and B in one preset – in other words

whatever is on A will save on A and whatever settings are currently on B will save as B. Factory Presets will load into BOTH A and B as starting points for user customization.

U – COPY – copies the current patch to the opposite patch. If there are no differences between A and B the COPY control will be greyed out.

V – OUTPUT MIX – allows blending the input to and output from the MB3X for “parallel processing” techniques. The mix ranges from 0% (full dry) to 100% (full wet) and is applied after all stages in the MB3X (just as if used in parallel tracks on a console).

W – UI RESIZE – click and drag to change the GUI size. Double-click to reset to default size.

ROTARY CONTROL MODIFIERS

- 1) Hold down the Ctrl key while dragging or scrolling any rotary control for fine resolution
- 2) Holding down the Alt (Win)/Option(Mac) key and then clicking on any rotary control will reset that control to its default value
- 3) Double-click on any rotary control to type in a control value.

PLUGIN PRESETS

The **MB3X** plugin comes with a basic assortment of built-in presets to get you started. These presets will appear in all versions of the plugin on both Mac and PC however not all DAWs support hard-coded presets for VST3 plugins. If you are using the VST3 version in your DAW and do not see the preset list it means your DAW does not support hard-coded VST3 presets. In that case, please use the VST2 version.

HOW TO USE THE MB3X

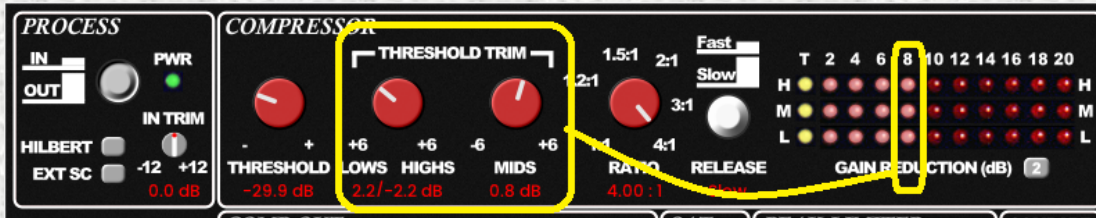
It is recommended that **MB3X** be used as an “insert” for full effect on buses and tracks but can also be used a “send” effect if you want to mix it in with the source (when used as a send effect “Mix” control (**V**) should be full wet (100%) position). **Always set the MB3X Gain control (K) to minimum initially then bring up the level as needed after all other controls have been set.**

The **MB3X** plugin comes with an assortment of basic Presets that illustrate some of the ways the **MB3X** can be used – start there and experiment! NOTE: some DAWs do not support hard-coded presets for VST3 plugins. If you are using the VST3 version and do not see the presets please load the VST2 version.

The **MB3X** is a 3-band compressor with fixed crossovers specifically designed to provide a smooth response over the entire audio range. With the Threshold Trim and EQ controls set to nominal position (12:00) the processor is designed to produce a pleasing spectral balance approximating a pink noise curve. However, the Threshold Trim and EQ controls can be used to shape the audio spectrum in a number of ways, two of which are outlined below.

To apply compression while maintaining the original spectral balance of the source audio, adjust the Threshold Trim controls so that the gain reduction on all three bands is approximately equal as shown below. Each band will move around with the music however try to set the Trim controls so the average levels are equal. Then use the main Threshold control to adjust the threshold of all three compressors simultaneously for the desired amount of gain reduction. Adjust the Gain

control to bring up the desired post-compressed level (“makeup gain”).



Compression while maintaining original source EQ balance

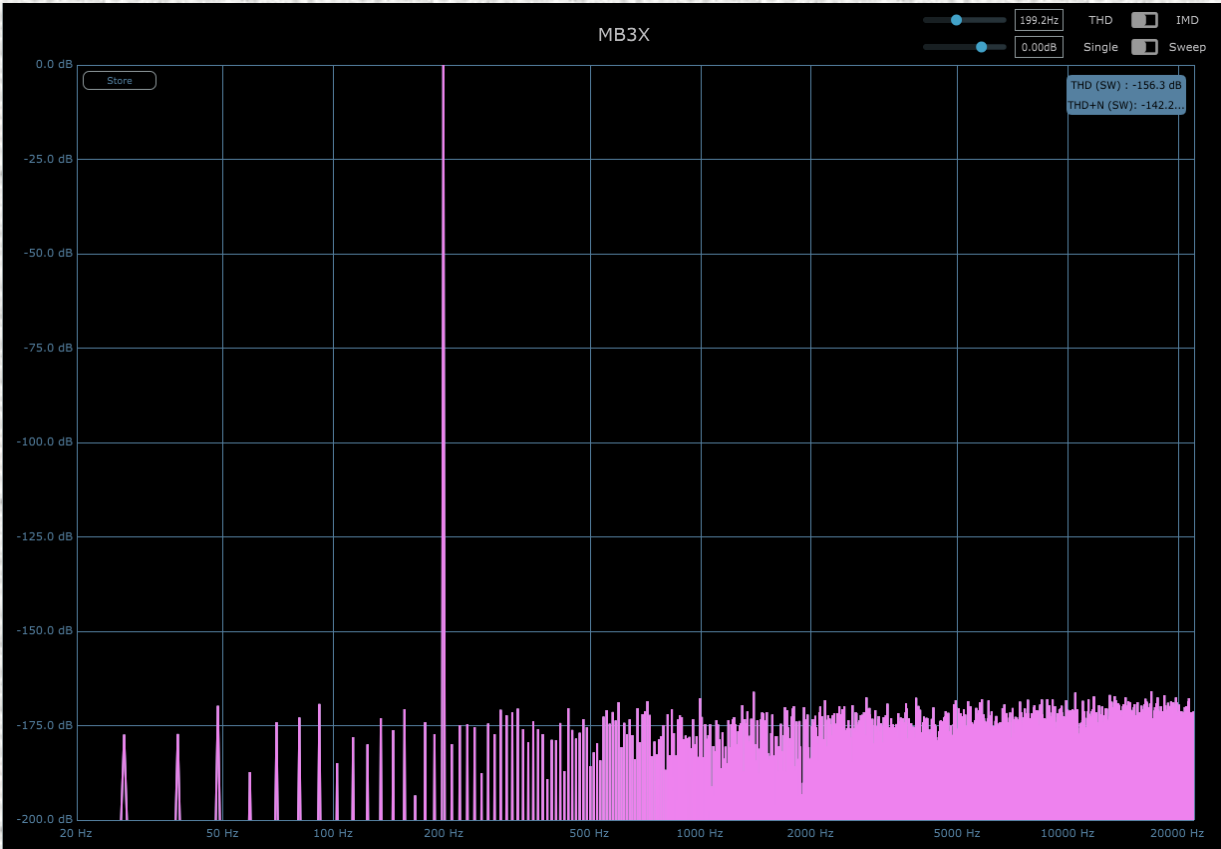
To apply compression while automatically balancing the spectrum of the source audio, set the Threshold Trim controls to default (12:00) position. Each band will then apply gain reduction to bring the spectrum to an approximately pink noise average balance. Use the main Threshold control to adjust the threshold of all three compressors simultaneously for the desired amount of gain reduction and use the Gain control to bring up the desired level (“makeup gain”).



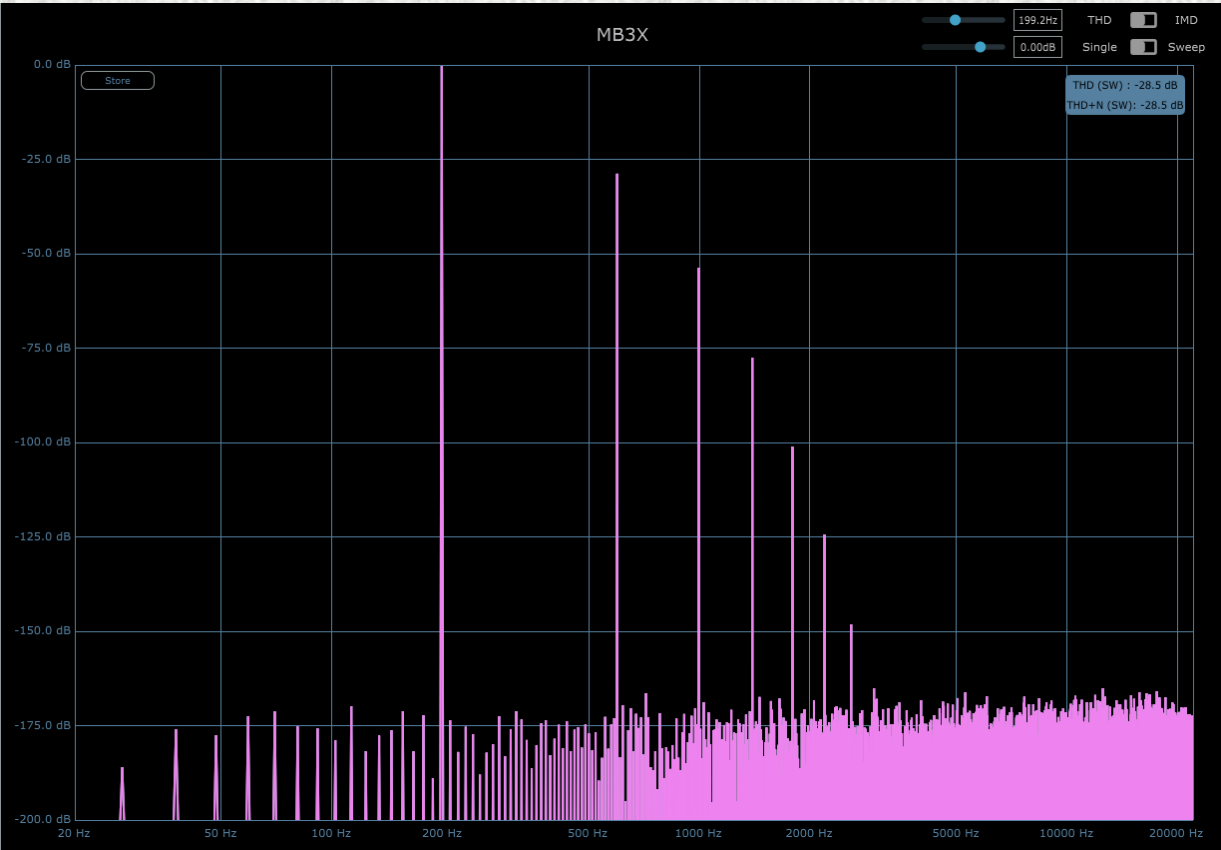
Compression auto-EQ to approx. pink noise balance

Using the EXT Sidechain input to “carve out” one track from another: Engage the **EXT SC** input and feed a send signal from another DAW track to the sidechain input of the MB3X. Compression in the MB3X will then be based on the sidechain input signal thereby producing a complementary “ducking” effect across the three bands on the source signal. This approach can be used to “carve out” space in the source track based on the spectral and amplitude energy in the sidechain track.

Saturation Control – default settings (0dB Drive, 0dB Post, 0dB output level)*

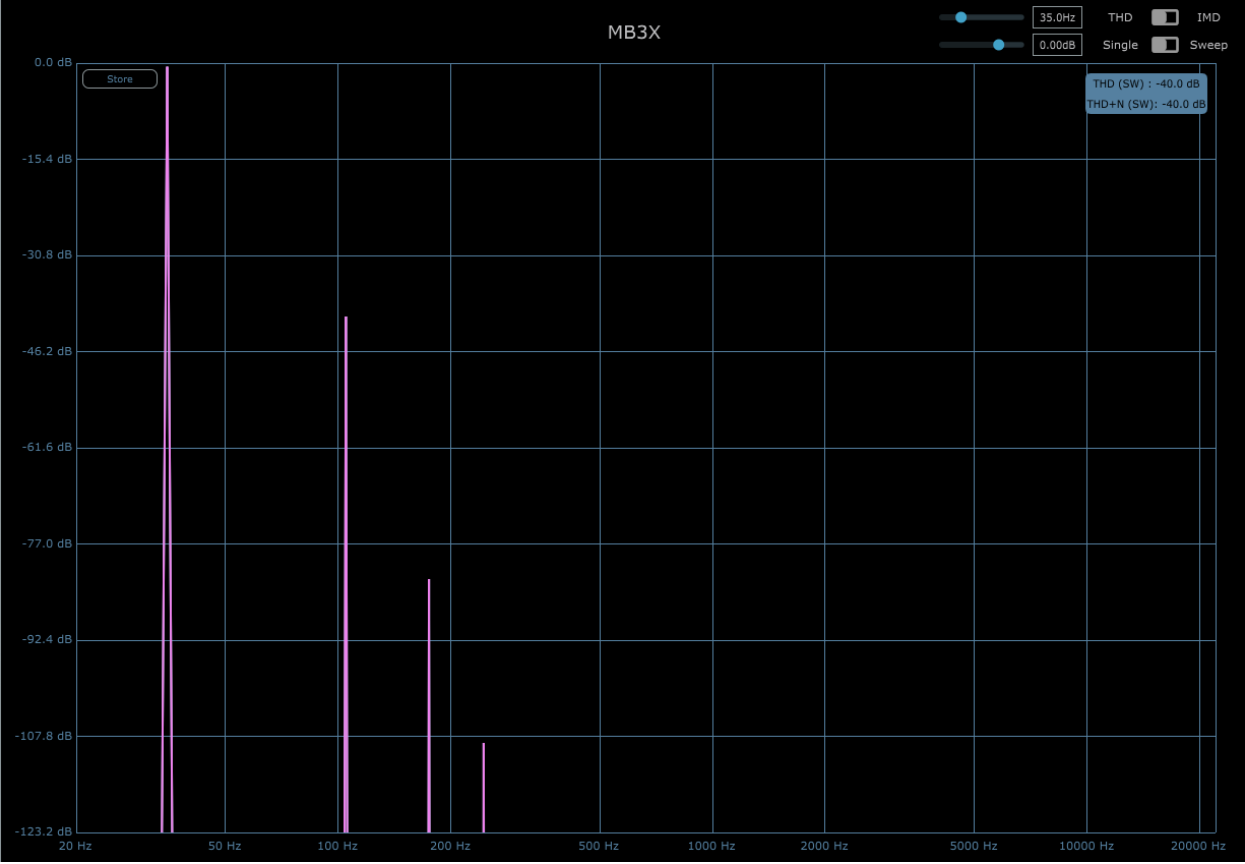


200Hz sine wave input, no compression, no limiting - Saturation OFF

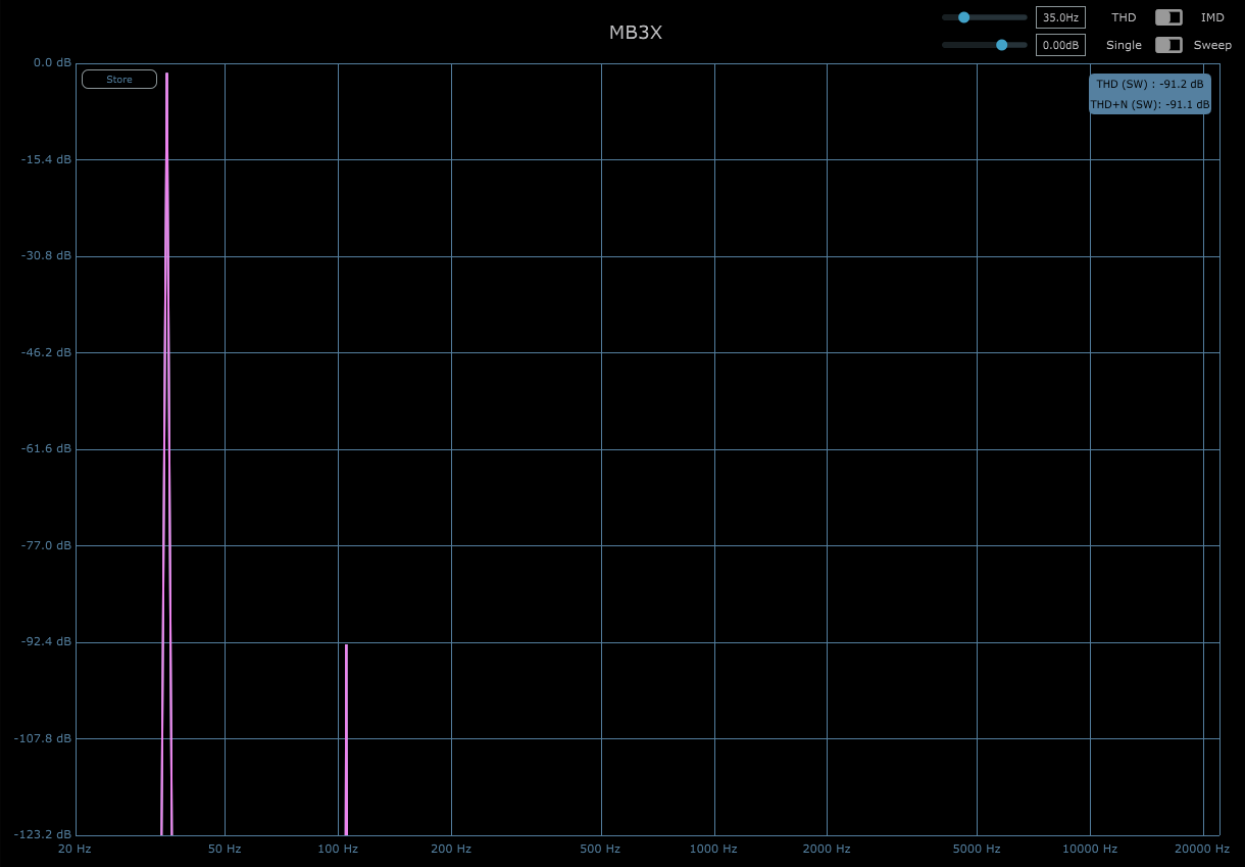


200Hz sine wave input, no compression, no limiting - Saturation ON

Hilbert Control*



35Hz sine wave input at 4:1 compression - Hilbert OFF (1.0%THD)



35Hz sine wave input at 4:1 compression - Hilbert ON (0.003%THD)

***NOTE:** The Hilbert and Saturation processes are **NOT** opposites! The Hilbert process reduces harmonic distortion in the bass frequencies while the Saturation section adds broad-band harmonics. Both can be used together to generate various distortion characteristics.

LICENSE INFO

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Harmonic analysis shown in this manual was produced on the DDMF “Plugin Doctor”. Please see DDMF’s website for all their great plugins! <https://ddmf.eu/>



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