

dB Smooth

FIR-based 4 Quadrant Dynamics Controller

Audio effect plugin by Raising Jake Studios

dB Smooth plugin is a unique dynamics controller that uses Finite Impulse Response (“FIR”) filters rather than traditional IIR, attack/decay level detectors. This unique approach provides extremely fast and precise dynamics control without the lag and “slurpiness” that can sometimes occur with traditional means.

dB Smooth is a “4 quadrant” dynamics processor which means it can be used for all dynamics control shapes including:

- 1) Wide range compression
- 2) Wide range expansion
- 3) Downward compression
- 4) Upward compression
- 5) Downward expansion
- 6) Upward expansion

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

dB Smooth 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 dB Smooth plugin is simply a matter of copying and pasting the appropriate files from the dB Smooth 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

FOR PC (“x64 PC zip” folder)

To install the VST3 plugin: make sure your DAW is closed then copy the “dBSmooth.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 “dBSmooth.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 “dBSmooth.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 “dBSmooth.vst” and/or “dBSmooth.vst3” and/or “dBSmooth.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 may be required before AU plugins will show up in your DAW(s) – and is typically required for Logic Pro X.

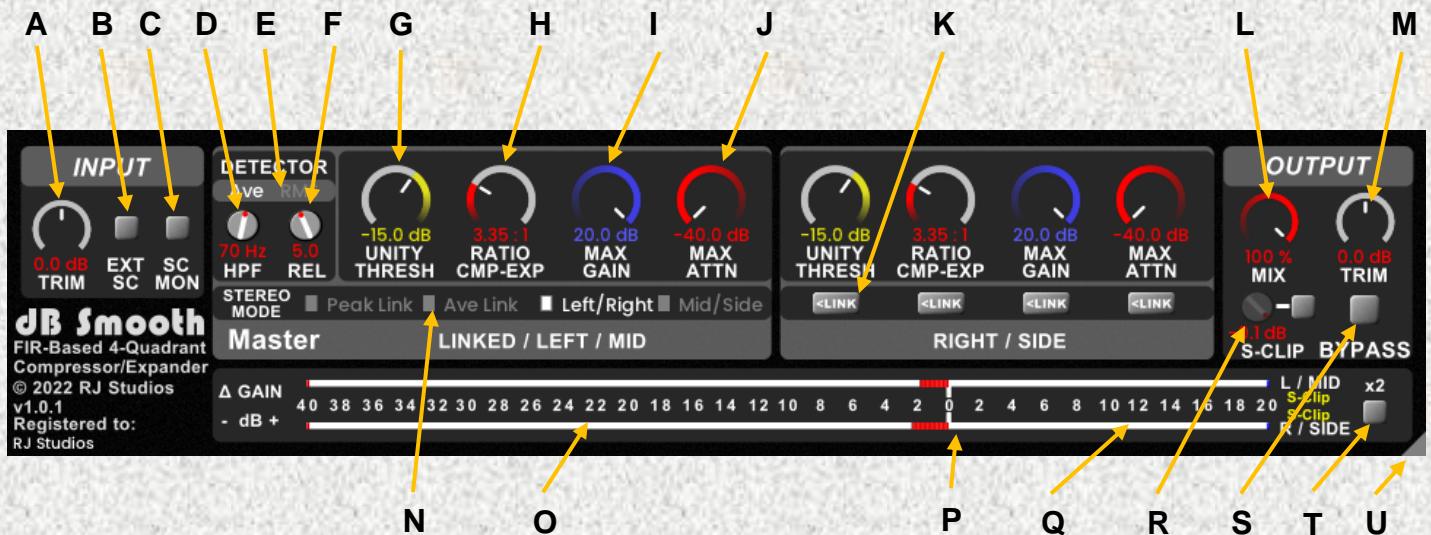
To install the AAX plugin for Pro Tools: make sure your DAW is closed then copy the “dBSmooth.aaxplugin” file from download file and save it to your Avid plugin folder (typically /user/Library/Application Support/Avid/Audio/Plug-Ins). The plugin will be automatically scanned/added the next time Pro Tools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

REGISTRATION

dB Smooth will be operating in demo mode when first installed and will operate unrestricted for 14 days. At the end of 14 days the demo will cease output unless a license is purchased. To install your license, click on the registration at the bottom left corner of the plugin window; copy and right-click paste the registration code from your purchase receipt 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 – TRIM – adjusts the input level by +/-15dB.

B – EXT SC – selects an external source as the sidechain input.

C – SC MON – sends the sidechain input signal – post HPF – to the audio outputs. This is the signal being sent to the level detector and includes the effect of the HPF (High Pass Filter, **D**).

D – HPF – High Pass Filter applied to the level detector input signal. This control does not affect the audio signal path.

E – Detector type

1. **Ave** – tracks the numerical average signal level providing a somewhat more “open” sound than the RMS option allowing more transients through in compression modes and a softer attack when in expansion modes.
2. **RMS** – tracks the RMS (Root Mean Square) signal level which provides tighter tracking to signal transients

F – REL – sets the release time of the dynamic action. The release time is program dependent and, therefore, displayed in relative values of 0.5-20.0 (vs. dB/second or mS) where 0.5 is fastest and 20.0 is slowest. Using slower release times produces less gain ride up between events when compressing resulting in a smoother overall effect.

G – UNITY THRESH – sets the absolute threshold level of the detector section. When used with combination upward and downward compression/expansion this control should be set so the gain reduction level is centered around 0dB on the gain reduction meters.

H – RATIO – sets the dynamic control ratio applied to the signal. Fully counterclockwise is 10:1 compression while fully clockwise is 2:1 expansion. **When entered as numbers, and in automation control lanes, the ratio value will appear as 0.1 (10:1 compression) thru 2.0 (2:1 expansion).**

I – MAX GAIN – sets maximum amount of gain that will be applied by the compression/expansion effect. When used as a downward only compressor/expander this control should be set to 0dB.

J – MAX ATTN – sets maximum amount of attenuation that will be applied by the compression/expansion effect. When used as an upward only compressor/expander this control should be set to 0dB.

K – LINK buttons – link the right channel controls to the left channel controls when used in Left/right or Mid/Side stereo modes.

L – MIX – selects the amount of dynamic affect applied to the output signal. This control should typically be set to 100% however smaller amounts (e.g., 70%) can be used to generate “parallel compression” effects.

M – TRIM – adjusts the overall output level, post “mix”, by +/-20dB.

N – Stereo Mode – selects how the plugin affects stereo sources. When the plugin is used on mono tracks select Peak Link.

- **Peak Link** – (default) detects the peak level of left/right channels and applies gain control equally to both channels. Use this mode on stereo material (individual stereo instruments, etc.) where you want the stereo image to remain as per the source.
- **Ave Link** – uses the average level of left/right channels while allowing individual left/right peaks. This mode is similar to Peak Link but provides more transparent action on mixed program material as a transient on one side will not pull down the other side.
- **Left/Right** – independent Left and Right channel operation.
- **Mid/Side** – internally separates the stereo audio signal into “Mid” (mono sum) and “Side” (difference) components allowing independent control of the “middle” and “sides” of the stereo image.

O – Maximum Attenuation indicator – displays the maximum attenuation limits set by the Max Atten controls (J).

P – Gain Boost/Reduction Meters – display the amount of dynamic gain reduction or boost being applied to the signal.

Q – Maximum Gain indicator – displays the maximum gain limits set by the Max Gain controls (I).

R – S-Clip – an oversampled soft clipper/peak limiter applied to the final output of the plugin. The clip level set here is the maximum absolute (dBFS) output level of the plugin. The soft clipper begins reducing the output level approximately 1dB below the set clip level and will reach the set clip level when driven hard. Leave this control OFF when not needed to reduce CPU usage.

S – BYPASS – turns plugin audio processing on/off. Always use this control – and not your DAW’s plugin bypass control – to turn the effect processing On/Off.

T – x2 – doubles the resolution of the gain meters. Engaging this control is useful in mastering where higher precision metering is desired. This is a meter display setting only and does not affect audio.

U – GUI Resize handle – click and drag to scale GUI up/down by +/-50%. 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) Hold down the Alt (Win)/Option(Mac) key and then click on any rotary control to reset that control to its default value
- 3) Double-click on any rotary control to type in a control value.

HOW TO USE dB Smooth

It is recommended that dB Smooth be used as an “insert” for full effect on tracks and buses. dB Smooth’s **Mix** control be used create parallel processing effects without the need to create a separate track/bus.

Factory Presets

dB Smooth comes with a basic selection of presets shown below to help you get started learning the various ways in which dB Smooth can be used.

NOTE: Not all DAWs support hard-coded factory presets in the VST3 version of plugins. If you are using the VST3 version of the plugin and the presets do not appear, please switch to the VST2 version.

Preset Name	Suggested Application	Notes
UpComp	Mixing	Use to raise signal levels below the UNITY THRESH setting
DownComp		A “traditional” downward compressor
UpExpand		Use to increase dynamics above the UNITY THRESH setting. See caution below* .
DownExpand		Useful for noise reduction
ExpGate		
LeadVox		Basic compression, some with direct signal mixed in for brighter transients
BkgVox		
RhythmGtr		
BassGtr		
ParallelDrums		Example of parallel compression using Mix control
LRMaster	Mastering	Independent Left/Right compression
MSMaster		Independent Mid/Side compression
DecompressTop		“Undo” over-compressed top end
RangeExpand		Subtle wide range dynamics enhance
FilmDialog	Post Production	Dialog dynamics reduction
CassetteDupe		Useful for transferring high dynamic range material (CD audio, etc.) to lower dynamic range formats (cassette tape, etc.)
Leveler		Wide range leveler useful for Webcasting, background audio, etc. This mode should be followed by a limiter in critical applications.
WebRadio		A high output leveler limited to 0.3dB by the soft clipper. Useful for Web Radio AGC.

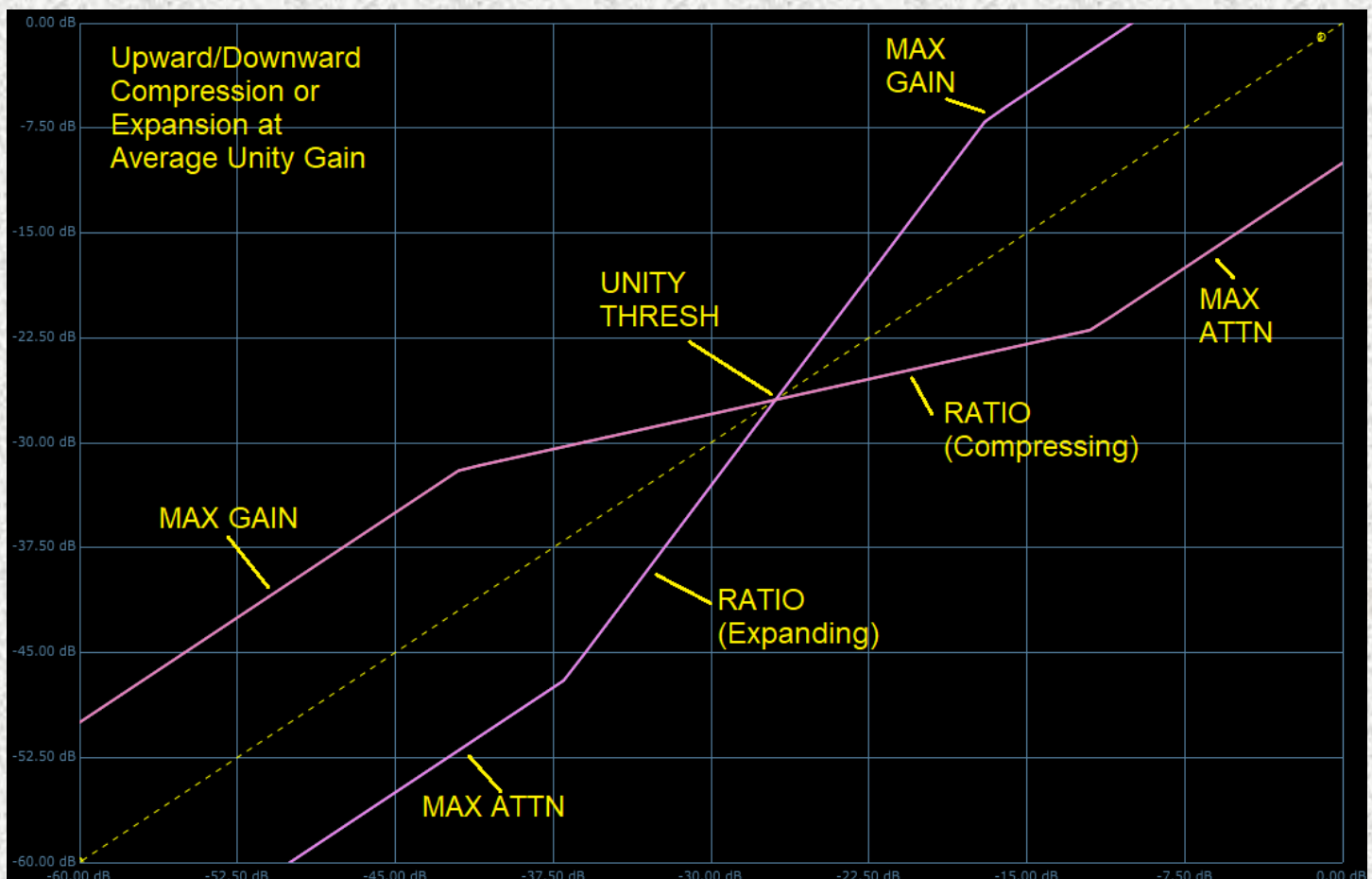
***Caution** – upward expansion can raise the output level significantly. Turn down the **OUTPUT TRIM** control before playing audio then raise the **OUTPUT TRIM** control to adjust the final desired output level.

GENERAL NOTE: For the smoothest response always use the LOWEST Ratios and SLOWEST Release times necessary to get the desired dynamic effect.

Upward/Downward compression and expansion

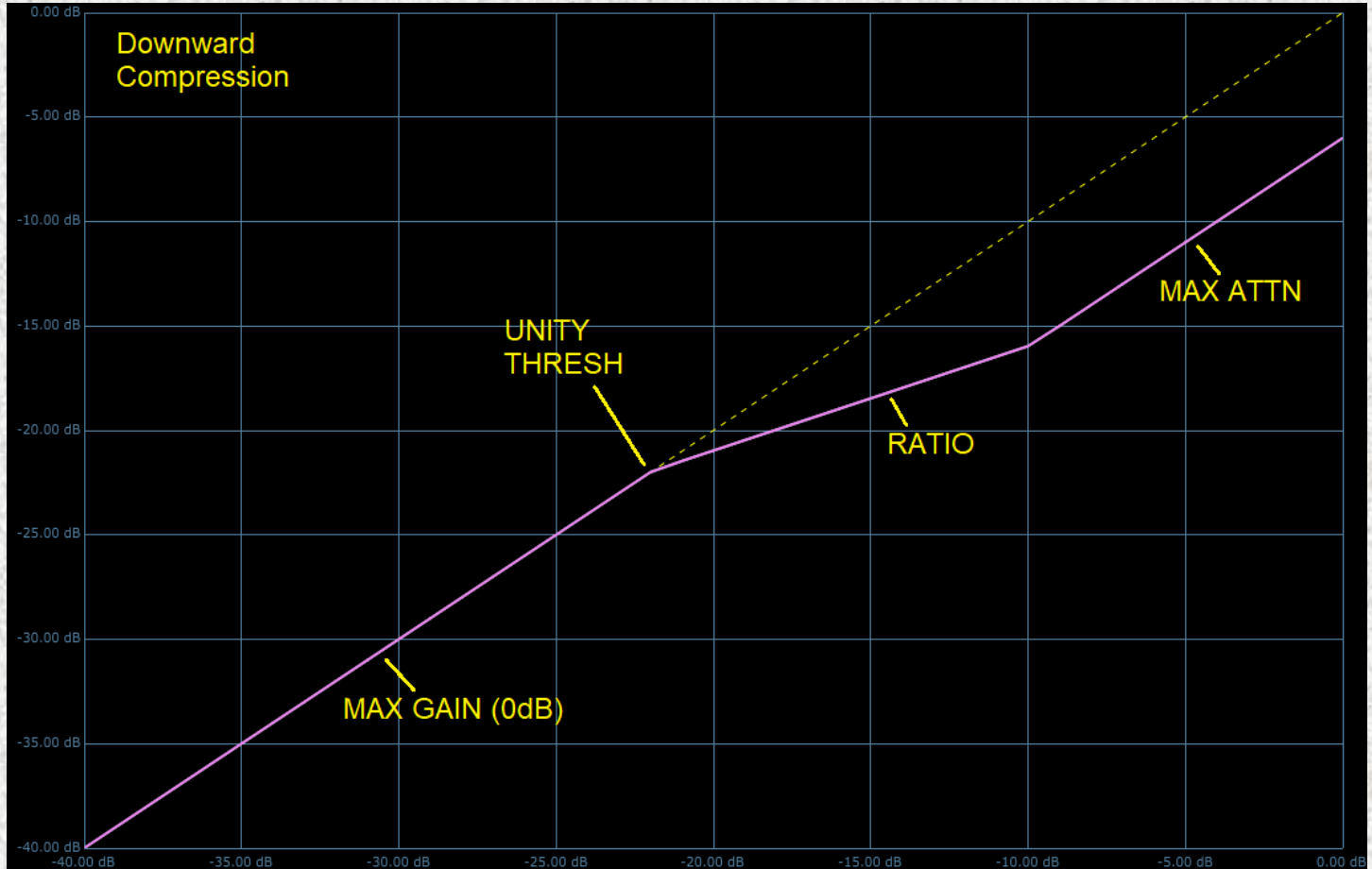
dB Smooth has been designed to be used primarily in a mode that provides both attenuation and gain centered around the **UNITY THRESH** setting. This provides for fast set up and the ability to change compression/expansion ratios without needing to re-adjust any threshold or makeup gain settings. This mode applies input/output level matching by default.

To use this mode: 1) Set the amount of compression/expansion **RATIO** desired. 2) Adjust the **UNITY THRESH** control so the gain meters move about the 0dB gain center point. 3) Set the **MAX GAIN** control to limit the maximum amount of gain applied. 4) Set the **MAX ATTN** control for the maximum desired amount of gain reduction.



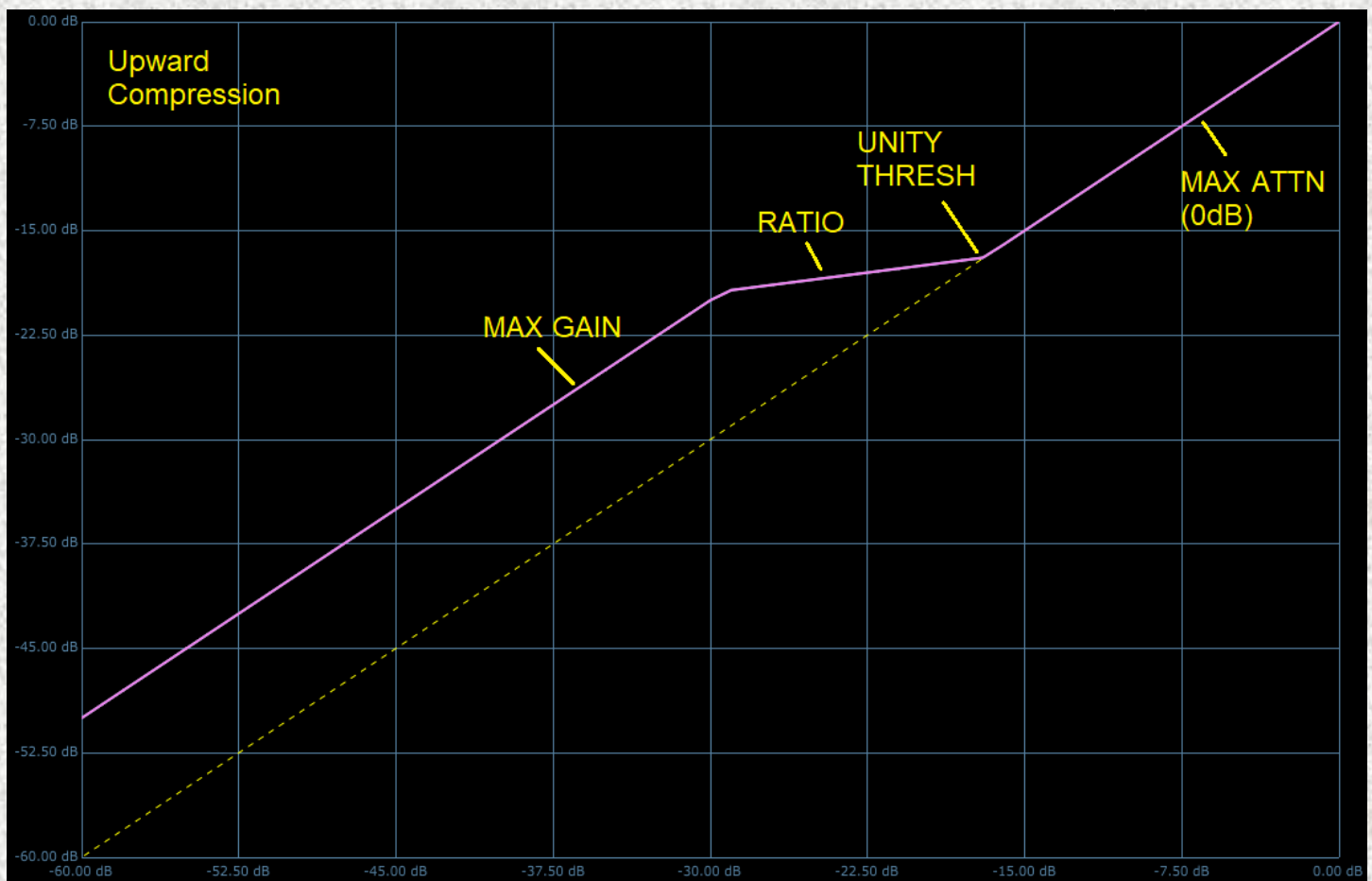
Downward Only Compression

To use dB Smooth as a traditional downward compressor: 1) Set the **MAX GAIN** control to 0dB. 2) Set the **UNITY THRESH** control to the desired threshold point for onset of gain reduction. 3) Adjust the **RATIO** control for the desired amount of compression. 4) Adjust the **MAX ATTN** control for the maximum amount of desired gain reduction. 5) Adjust the **OUTPUT TRIM** control as needed for makeup gain.



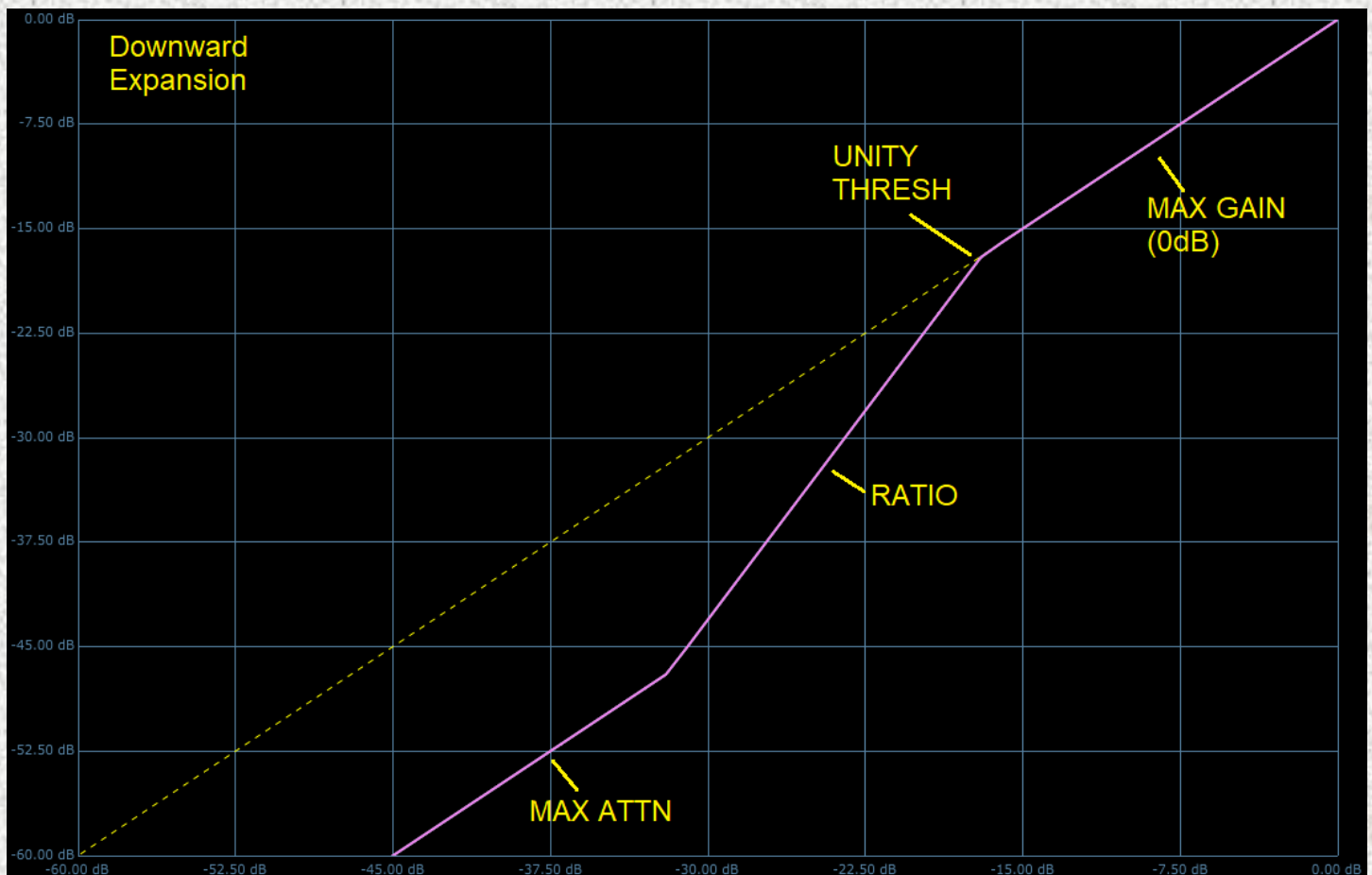
Upward Only Compression

To use dB Smooth as an upward compressor: 1) Set the **MAX ATTN** control to 0dB. 2) Set the **UNITY THRESH** control to the desired threshold point for onset of gain boost. 3) Set the **MAX GAIN** control for the maximum amount of desired gain. 4) Adjust the **RATIO** control for the desired amount of compression.



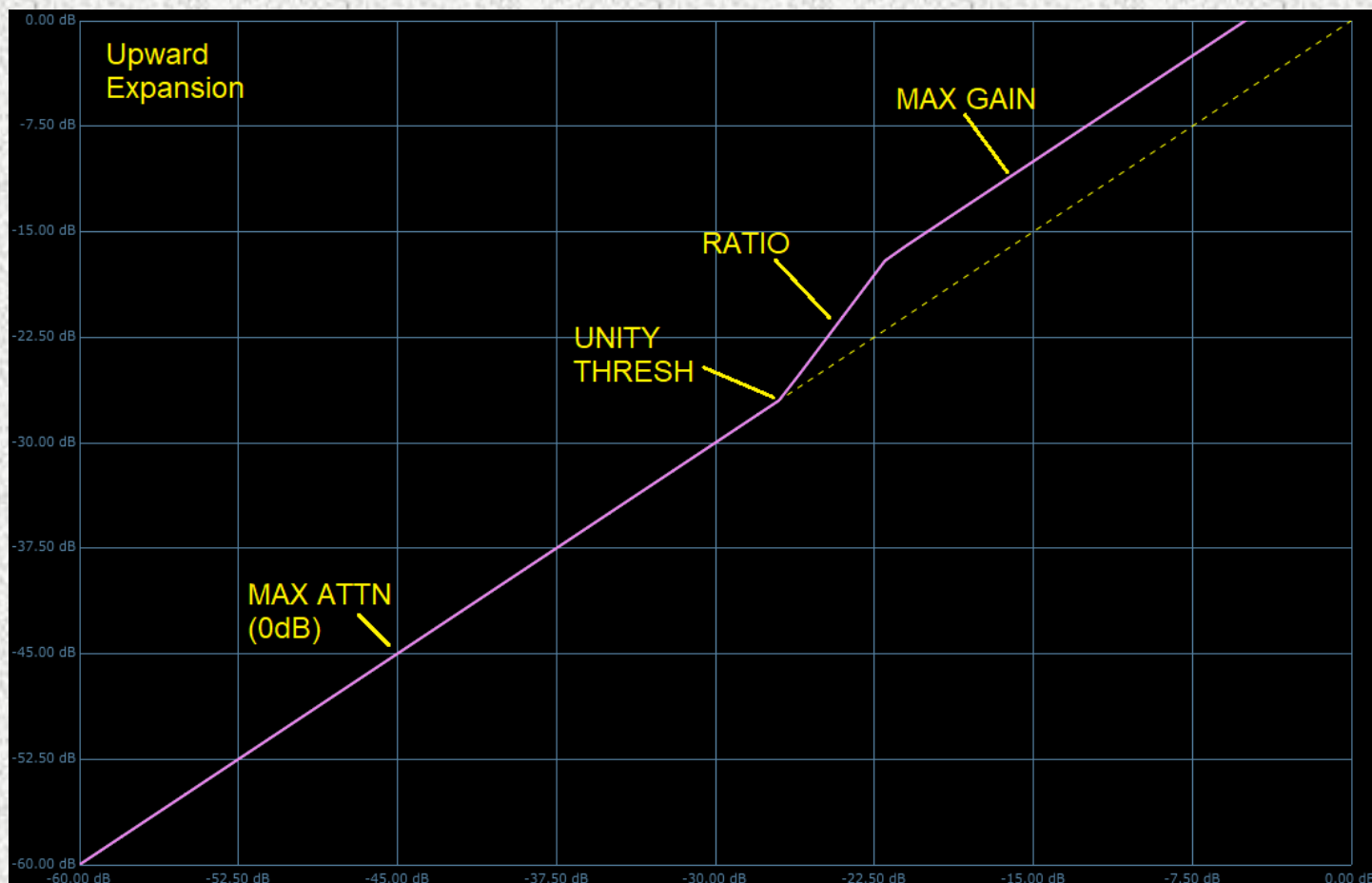
Downward Only Expansion (for noise reduction, gating, etc.)

To use dB Smooth as a downward expander: 1) Set the **MAX GAIN** control to 0dB. 2) Set the **UNITY THRESH** control to the desired threshold point for onset of gain reduction. 3) Adjust the **RATIO** control for the desired amount of expansion. 4) Adjust the **MAX ATTN** control for the maximum amount of downward gain. 5) Adjust the **OUTPUT TRIM** control as needed.



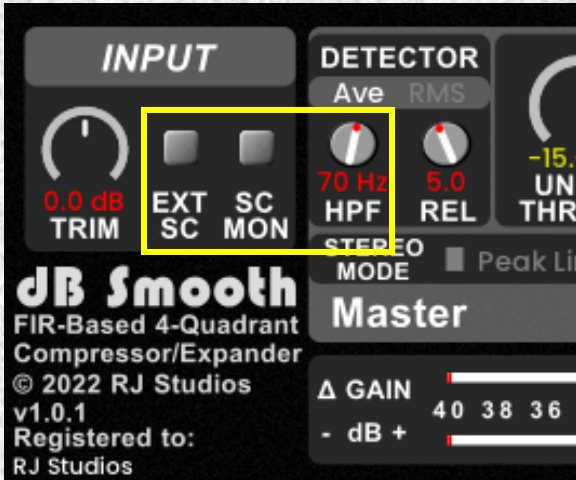
Upward Only Expansion

To use dB Smooth as an upward expander: 1) Set the **MAX ATTN** control to 0dB. 2) Set the **UNITY THRESH** control to the desired threshold point for onset of gain boost. 3) Adjust the **RATIO** control for the desired amount of compression. 4) Set the **MAX GAIN** control for the maximum amount of desired gain. 4) Adjust the **OUTPUT TRIM** control as required to control maximum signal levels.



dB Smooth's External Side Chain Input

dB Smooth's response can be controlled by another track or bus in your DAW by turning on the **EXT SC** input. In this mode a “send” signal from another track or bus can be routed to dB Smooth's detector input to control the main audio being processed. The side chain signal, whether internal or external, is high pass filtered by the **HPF** control and can be auditioned by engaging the **SC MON** (side chain monitor) button.



Ducking Effect

Sometimes it is helpful in a mix – and particularly for voiceovers on video tracks – to “duck” one signal when another signal is present. To setup dB Smooth for ducking start by inserting dB Smooth on the track you wish to duck and apply basic downward compression settings (see factory presets for examples). Turn on the external side chain input (**EXT SC**) and apply a “send” from the DAW track that you wish to use as the ducking control source to input pins 3/4 of the dB Smooth plugin. Adjust the **UNITY THRESH** control and/or the ducking signal send level to control the threshold at which the ducking begins. Then adjust the **RATIO** control for the desired amount of ducking.

Pumping Effect

A pumping effect – such as a bass guitar surging when a kick drum hits – can be produced by the dB Smooth using the external sidechain mode. The idea is to use the same setup as described above for ducking but with dB Smooth in expansion mode rather than compression mode. Start by inserting dB Smooth on the track you wish to pump and apply dynamic ratio expansion (see factory presets for examples). Turn on the external side chain input (**EXT SC**) and apply a “send” from the DAW track that you wish to use as the pumping control source to input pins 3/4 of the dB Smooth plugin. Adjust the **UNITY THRESH** control and/or the send level to control the threshold at which the pumping begins. Adjust the **RATIO** control for the desired amount of pump.

Frequency Sensitive Compression/Expansion

dB Smooth can be used to generate various frequency-selective gain responses using the external side chain input. Start by setting up dB Smooth using the Ducking setup described above. Now, instead of routing a different track to the sidechain input, route an EQ'd version of the SAME track to the sidechain input. On most DAWs this will require setting up an aux bus with EQ. Create a send from the vocal track to the EQ bus and then route the EQ signal back to dB Smooth's external side chain input pins 3/4 of the dB Smooth plugin. By using this “out and back” approach for the side chain input it is possible to shape the EQ contour of dB Smooth's response. This setup is useful for

ducking the main audio in response to excessive high frequencies (de-essing), taming resonances, etc.

NOTE: dB Smooth is a full band processor – any filtering or FX applied to the side chain signal only affect the response of the side chain. If you wish to process only select frequencies through dB Smooth you will need to set up the appropriate filter, crossover, etc., in front of dB Smooth's main input.

Other Side Chain FX

Try using a delay plugin in the side chain loop for unique decaying tremolo effects, etc. Lots more possibilities! Start with the presets and experiment!

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