WEISS
USER MANUAL

Supporting VST/VST3/AU/AAX Native and AAX

Rev. Apr 27, 2020

Softube User Manual

Disclaimer

Every effort has been made to ensure that the information in this manual is accurate. However, there are a chance that we have made mistakes, and we hope that you understand that we are only humans. Please let us know about the mistake, and we'll fix it in the mix (or in the next version of this manual).

Support

On the Softube website (www.softube.com) you will find answers to common questions (FAQ) and other topics that might interest you.

Support questions can be posted at http://www.softube.com, where we will help you as fast as we can!

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Contents

1   Preset Collection

The Preset Collection is a tool to organize your presets in logic, simple, advanced or mysterious (?) ways (it's up to you!), or just a simple mechanism to save your favorite sounds and easily browse through artist's presets.

You can either use the simplified version in the menu bar of each Softube plug-in, or you can press the open window icon ⊡ to open the full Preset Collection.

Browsing presets

Use the ◄► buttons in the menu row at the top of the plug-in to step through presets. Click ▼ to open a menu to select presets. By default, presets are sorted by "collection", usually by artist or theme.

Saving Presets

Press "ADD PRESET…" in the dropdown menu to save the current settings as a new preset. Type the name of the preset and press enter. If you've made changes to a current preset and wish to overwrite that preset, just press "SAVE". Press "SAVE AS…" if you want to save it with a new name.

Searching for Presets

If you want to find a specific preset and have a lot of presets, there are many smart ways to search for preset, and all of them require that you open the Preset Collection by clicking the ⯐ button.

Search by tag

All presets have a number of tags associated with them, in general they describe the function ("DISTORTION", "EQ", "COMPRESSION"), the use case ("FEMALE VOCALS", "BASS") and the character ("CREAMY", "DARK"), etc. In plug-ins that use modules, such as MODULAR, the tags also include which modules are used by the preset (for example "SATURATION KNOB")
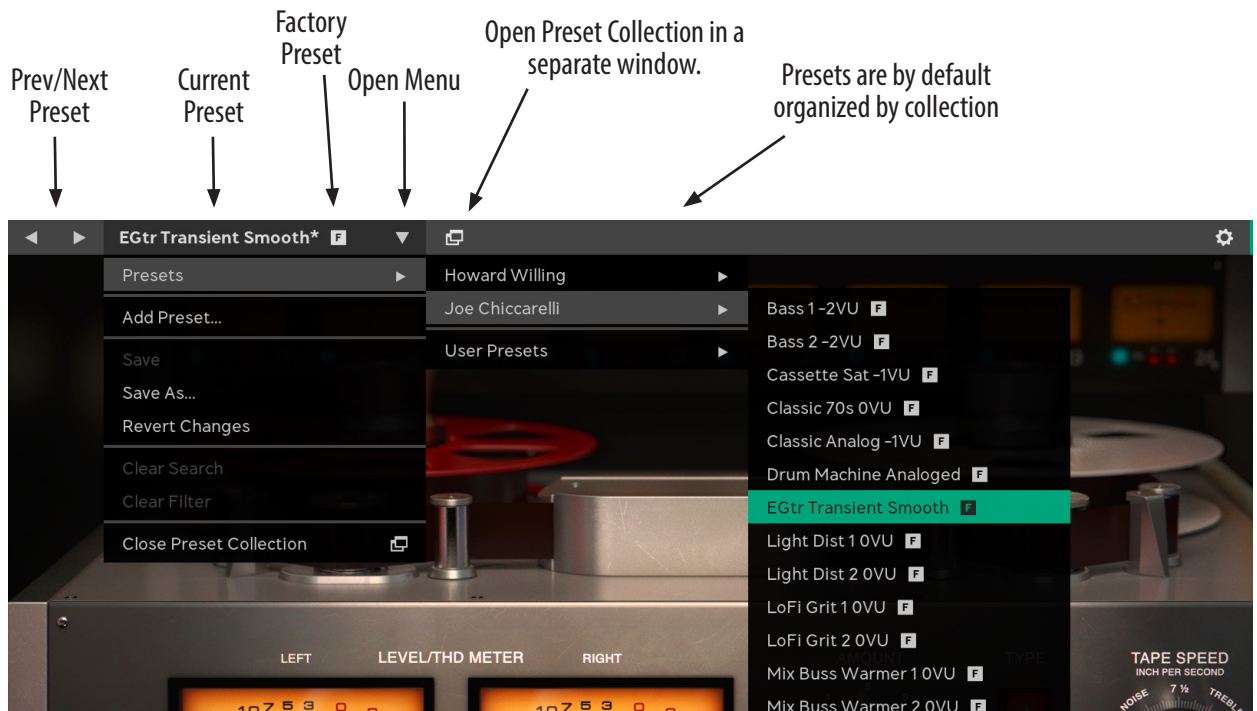
Browse presets directly from the menu bar at the top of the plug-in.
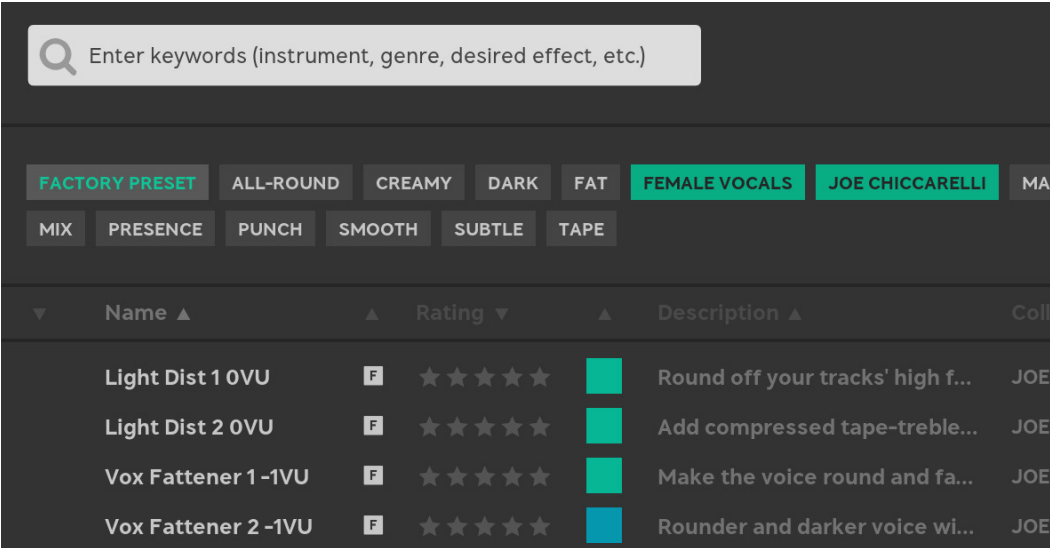
Two tags ("Female Vocals" and "Joe Chiccarelli") has been selected to show all Joe's presets suitable for female vocals.

Search box

A search in the SEARCH BOX will search through all metadata (name, tags, description, etc). If you want to narrow your search, you can specify what you want to search for by using a qualifier, such as "name:" or "description:".

Possible search qualifiers are *name, desc, description, tag, tags*, and *collection*.

Search in the menu bar

When you have selected a subset of presets, for example by searching for "vocals" or using a tag, the search results are available directly from the plug-in's menu bar. That means that you can easily step through the presets using the ◄► buttons.

Open the menu to see the search criteria or clear the search.
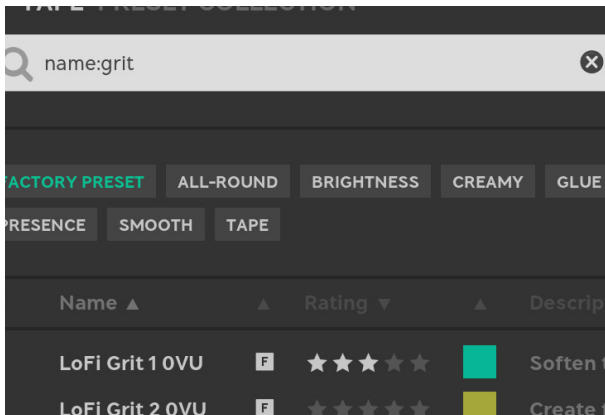
Type "name:" before the search criteria to limit the search to the name of the preset.
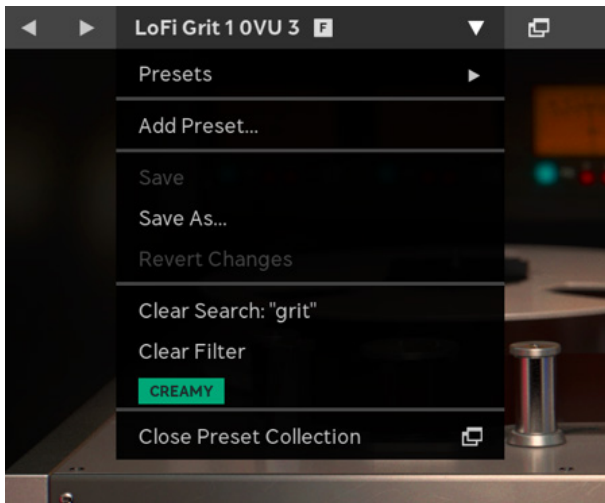
The menu shows the current search criteria, currently selected tags, and options to clear the filter and search criteria.

Plug-in Settings vs. "Metadata"

A Softube preset consists of two parts: the plug-in's settings and the description of it, what we call "*metadata*". Metadata is everything that's not the included in the plug-in's settings, for example preset name, description, color, rating, tags.

When you make a new preset by clicking "ADD NEW PRESET…" the only metadata that you save is the preset name. You need to open Preset Collection to add other metadata, such as a description and tags. If you instead use "SAVE AS…" when you save a preset, the metadata (for example tags) in the currently selected preset will be carried over to the new preset.

Whenever you change the settings in the plug-in, the preset name will be marked with an asterisk * to indicate the current settings are different from the current preset. It also indicates that the preset has changes that aren't saved. You need to click "SAVE" or "SAVE AS" to save those changes.

Asterisk (*) indicate that the settings of the plug-in is different from the saved preset.

> When you make changes to the metadata, you don't have to save these. All metadata changes are saved immediately in the preset database.

*) An asterisk looks like this: *
*) ibid.

Preset Collection

Click ⬚ to open the Preset Collection. Here you can organize, colorize, tag, add icons and images and sort your presets.

Search field

Add or save presets

Set display options

Menu

Tags pane

Info pane

Preset pane

Group edit

Category

Name

Factory preset indicator

Preset name
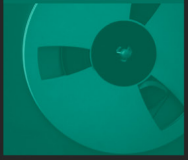
Color

Description

Collection

Workflow

For a plug-in with hundreds of presets, the easiest way to start is to type something in the search field, such as "bass", or select an appropriate tag.
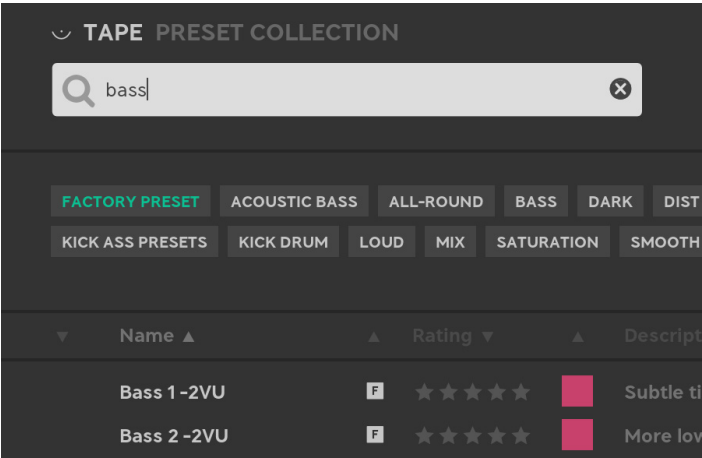
Type in the search field to find presets.

Use the keyboard up/down arrows to step through presets, and if you find something you like (or dislike), change the rating of that preset so that you can easily find it later.
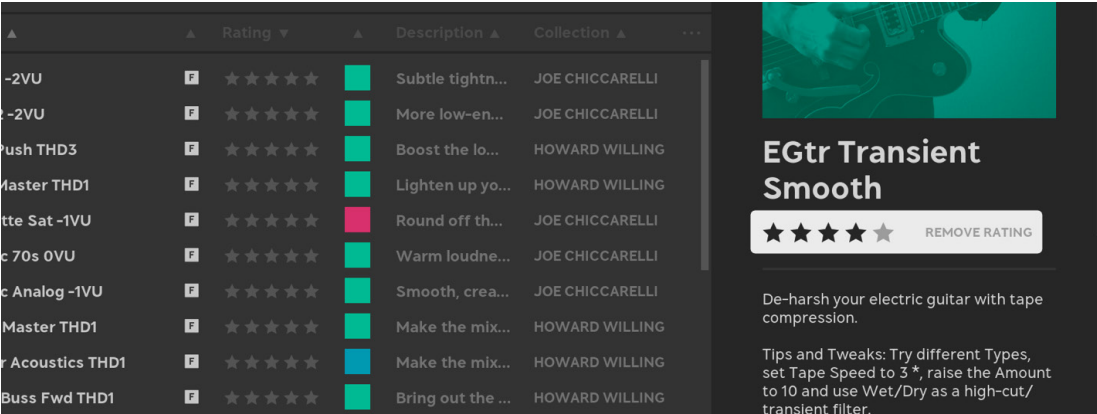
Click on the stars in the Info pane to change the rating. It is also possible to right-click the preset and change rating from the context menu.

Philosophy

The main ideas behind Preset Collection are

1. A preset name doesn't give enough information about how to use a preset. Sometimes you need more info, for example what to listen for, how to tweak it, in which context etc.

2. Everyone wants to organize their presets in different ways.

3. Tags are a simple way to create "folder like" structures, but without being limited by placing the preset in a single folder. A tag can be a use case, a project name, or just about anything!

With the preset's description you'll be able to add info, for instance how many dBs of gain reduction you need for the drum bus to really glue together, and with names, tags, ratings, categories, and colors you can organize those presets any way you want. The tags become powerful if you want to organize presets after projects you're working on. Tag each preset you make/use with the project name, and you'll have an extra dimension to use when you browse presets.

> Don't be afraid to add or change metadata in the factory presets. (And it's always possible to restore the original metadata later if you want to!)

Organizing presets

All factory presets come with tags and color, but you can remove those colors and tags and organize them in other ways. You can mark your favorite presets with a high rating, a specific tag ("kick ass presets!", "great for accordion"), a color, or a category, to make them easier to find later. You can select several presets at once to, for exam-

ple, reset their color, and use your own color scheme. All fields, except COLLECTION, are possible to change.

Customizing the Preset Collection

You can decide yourself how much or how little info you want to show in the Preset Collection, and these settings are stored globally.
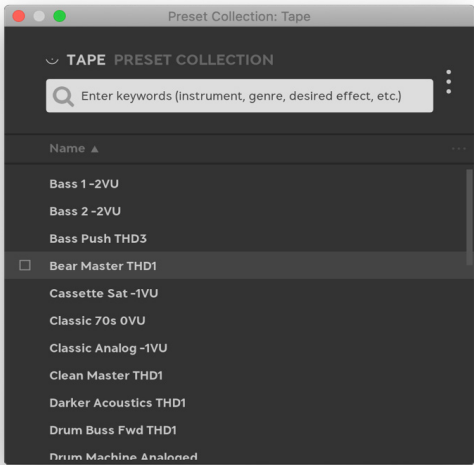
The minimal view of Preset Collection, only preset names and search field are visible.

Showing/hiding info panes

Click on ⊞ or ⓘ to show and hide the Tags and Info pane, respectively.

Showing/hiding columns

Click on the menu (•••) next to the columns header to turn on/off columns in the preset pane.
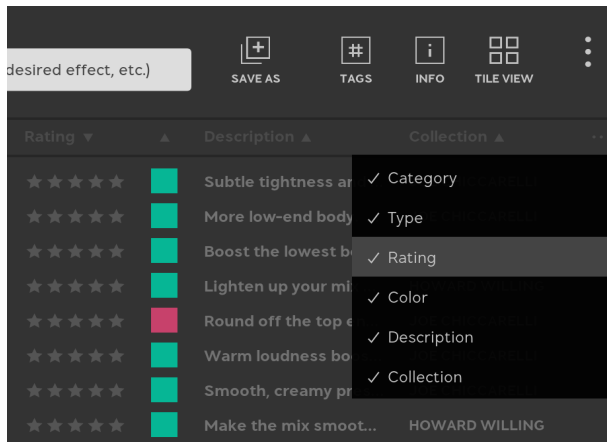
Select which columns are visible from the menu.

Sorting

Use the up/down arrows (▲▼) next the the column header to change preset sorting.

Tile view/List view

⊞ ≡ Click on Tile View ⊞ to show presets as tiles, or List View ≡ to get back to the default mode.
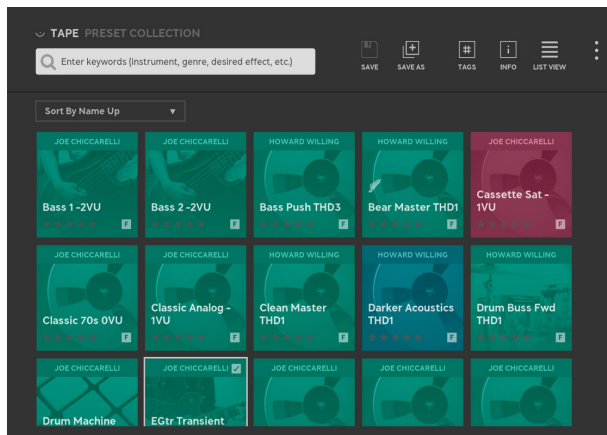
The Tile View.

Resizing tags pane or window

You can easily resize the Preset Collection window or the size of the TAGS pane by clicking the edge and drag it.

User Interface

🔍 Search Row	Searches in name, description, tags, etc. To specify a particular field to search in, use one of these qualifiers: *name, desc, description, tag, tags*, and *collection*, for example "*collection:chiccarelli*"
⊞ Add Preset	Create a new, empty, preset from the current plug-in settings.
🖫 Save Preset	Overwrite the selected preset with the current plug-in settings . Only possible with user presets. If the current preset is a factory preset, use "SAVE AS" instead.
🗗 Save As	Save the current plug-in settings, together with the selected presets meta data (tags, description, etc) under a new name.
# Tags	Show/hide the TAGS pane.
ℹ Info	Show/hide the INFO pane.
⊞ Tile view, ≡ List view	Switch between a list of presets (LIST VIEW) or tiled images (TILE VIEW)

⋮ Menu	Opens the menu with some additional options. See below for Menu options.

Menu Options

Add Preset	Add a new preset.
Save	Overwrite the selected preset with the current plug-in settings.
Save As	Copy the selected preset to a new preset with the current plug-in's settings.
Show/Hide Tags	Show/hide the TAGS pane.
Show/Hide Info	Show/hide the INFO pane.
Show Tile View	Show the TILE VIEW instead of LIST VIEW.
Import Preset(s)	Import presets from file, for instance if you downloaded a ".softubebundle" file from www.softube.com
Export Selected User Preset(s)	Exports the currently selected presets to a ".softubebundle" file, so that you can send them to a friend.
Enter Group Edit Mode	Let's you select several presets at once, which is useful if you want to export a batch of presets, or change tags, description or other meta data in several presets at once.
Preferences	Opens additional preferences, listed below.

Preferences

Warn When…	Turn warnings on/off when for example deleting or overwriting presets.
Show Images In Info Panel	Turn off to hide the image in the INFO PANEL.
Group presets by collection/group presets by category	Change how presets are grouped in the presets menu in the plug-in menu bar.

Pro tip: select "Group Presets By Category" to get a flat list for all uncategorized presets in the menu bar.

Tags pane ⊞
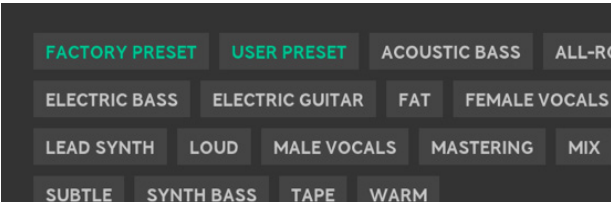
Use the Tags pane to filter presets by tag.

The TAGS PANE lets you filter presets by selecting one or several tags. Select for example the tag "MALE VOCALS" if you want to find all presets suitable for male vocals.

You can select several tags at once.

You can add tags to a preset by clicking "ADD TAG ✎" in the INFO PANE, and subsequently remove tags by clicking on the ⊗ on the tag.

Presets pane ⊞ ☰
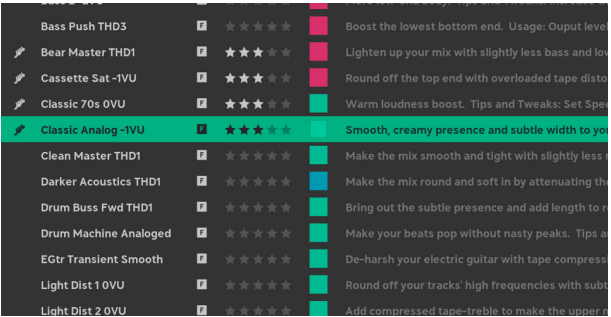
The Presets pane shows all presets in the current search or filter.

The PRESETS pane contains all presets in the current search. You can sort presets, select a preset, or edit a preset from the presets pane. The PRESETS pane can either be visualized as a list, or as a "TILE VIEW" with images for each preset.

Tip: Double click on the preset name to change it.

To sort presets in the LIST VIEW, click on ▲▼ for a column to sort down or up for that column. In the TILE VIEW, open the "SORT BY…" drop down to select sorting.

Context Menu (Right Click on a Preset)

Right-click on a preset to bring up a context menu with the following options:

Save	Save preset
Save As…	Save as a preset with a new name.
Revert Changes	Revert all changes made to the preset.
Rename…	Rename the current preset
Export…	Export the current preset
Delete	Delete the current preset
Restore Factory Metadata	If metadata edits, for example color, tags or ratings were made to a factory preset, you can revert them here.
Category	Sets the category of a preset. By default, no categories have been set.
Rating	Sets/changes the rating (0-5 stars) of a preset.
Color	Sets/changes the color of the preset.

Info pane 🔲
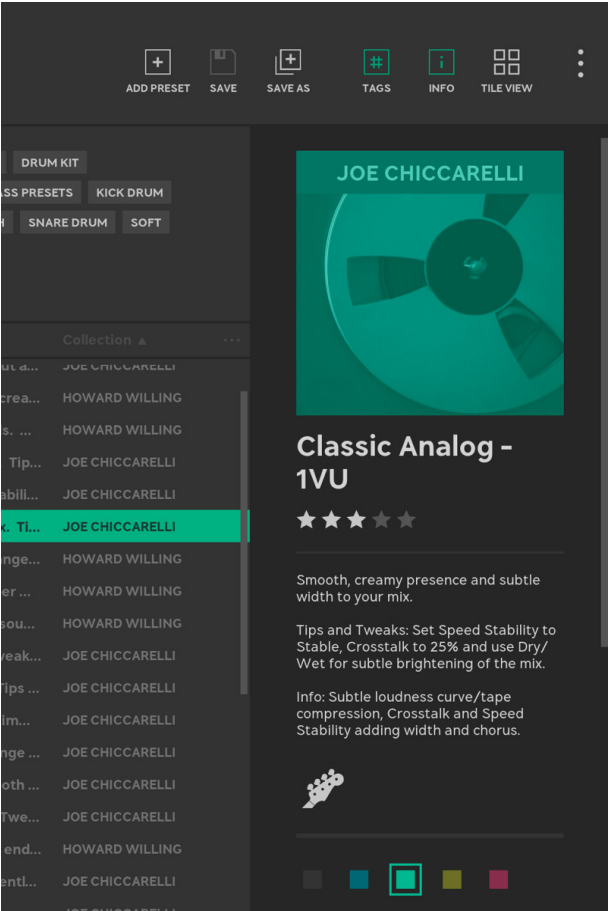
The Info pane contains all metadata for the currently selected preset and lets you edit these fields.

In the INFO pane you can edit the metadata of the selected preset. You can change image, name, rating, description, category, tags and color. Whenever it is possible to change a field, a pen icon ✎ will appear. All changes made to the description of the plug-in are saved immediately.

Change Image

The image needs to be in PNG format, and will be converted to black-and-white on import.

Group Edit Mode

It's easy to edit several presets at once, for instance if you want to change rating or add a tag to multiple presets. Enter the GROUP EDIT mode by selecting several presets in the check box on the left. Once in GROUP EDIT mode, you can use SHIFT + click to select a range of presets.
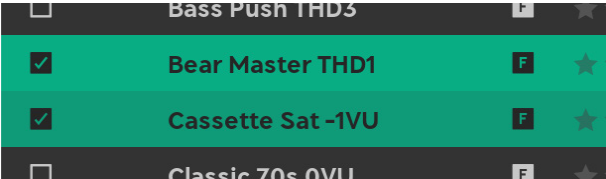
Select several presets by clicking the check box to the left.

In GROUP EDIT mode it is possible to edit several presets at the same time:

- Change rating, color, and category
- Append text to the name or description
- Add tags, or remove tags common for all selected presets

2 Compressor/Limiter

Weiss Compressor/Limiter is a versatile mixing and mastering unit based on the Weiss DS1-MK3 and has advanced features like FFT display, waveform display auto release and parallel mix. The Compressor/Limiter is was created to take the gold-standard DS1-MK3 experience to a new level of usability and workflows.

Differences between Weiss DS1-MK3 and Compressor/Limiter.

	Comp/Limiter	DS1-MK3
Scalable FFT display	Yes	No
Hi-Res waveform display	Yes	No
Filters available	• Full band • Band Pass • Low Pass	• Full Band • Band Pass • High Pass • Low Pass
Operational frequency range (Full band)	20 Hz – 20 kHz	20 Hz – 20 kHz
Operational frequency range (Band Pass and Low pass)	20 Hz - 3520 kHz	20 Hz - 20 kHz
Auto release offset	Yes	No
Parallel processing	Dry/Wet balance	Original

Main display features

The main display has several modes: Waveform, Frequency and Knee.

Waveform display

Waveform display is handy for controlling how much of the gain reduction occurs and when in time. It shows the peaks, RMS and gain reduction graphs.

Frequency display

Frequency display is useful to zoom in on a certain frequency when in a band selection mode.

On the Frequency display you can change Frequency, Threshold and Width of the filters. Each parameter has its own click area on the widget. To change the parameter setting, click and drag the selected click area.

Threshold: sets the level which the envelope signal has to reach before gain reduction is applied.

Frequency: sets the center frequency of the filter.

Width: sets the width of the filter.

Knee Display

Knee display shows the knee shape of the compressor.

Soft-knee: Determines how much the knee is rounded. The maximum setting (1.0) chooses a curve that reaches from 0dBFS down to twice the threshold value. This implies that if soft-knee is engaged the signal is already affected even if its envelope lies below the threshold.
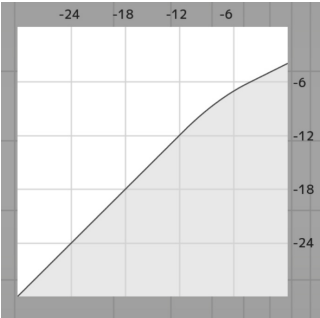
Meters

Input Gain	Shows Peak and RMS levels.

Output Gain	Shows the peak and RMS levels

Gain Reduction
Meters   In stereo mode, the gain reduction meters show gain reduction for L and R channels per band while in Mid/Side mode, the gain reduction meters show gain reduction for M and S.

Parameters

Ratio   Sets the slope of the segment above the threshold. The ratio can be adjusted for compression or expansion, depending on the requirement.

Attack and Preview   The longer the attack time, the more will the leading edge of fast transients pass by the gain reduction circuit unaltered (as in Graphic 9 during attack phase). Very fast attack time settings such as 20μs, i.e. one sample period, do catch every transient, but may distort low frequencies. To utilise longer attack times and still catch fast transients, use preview.

Release and Average   The input signal is monitored with two different methods: peak amplitude and RMS value. The peak amplitude is the programme portion we don't perceive as very loud,
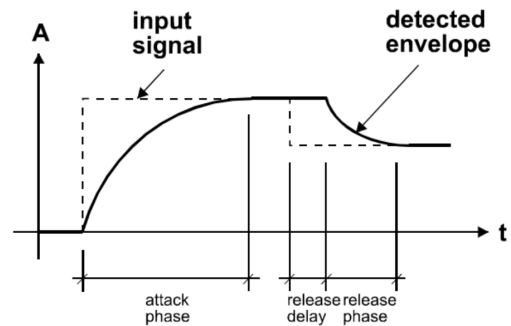
Graphic 1: Envelope parameters

however which can easily cause overloads. The RMS value of the programme material we perceive as loudness. Its variations contribute most to the dynamic range of the audio. The sidechain processor compares the two measurements it obtained from the peaks and the RMS. The ratio between the two determines which time constant would be the appropriate release, e.g. after short duration peak the faster release will be applied during the release phase. The time period over which the RMS value of the programme material is averaged is set by the "average" parameter. The effect of the average parameter can best be studied on the gain

reduction meter. Fast "average" settings will cause most of the gain reduction meter to move very fast (depending on the "release fast" setting) , slower settings will just have the top part of the gain reduction move fast, with the bottom part depending on the "release slow" setting.

Auto release offset | allows to control all three release parameters (Release Fast, Release Slow and Average) with one Release knob on the main screen. The feature adds the defined offset between Release Fast, Release Slow and Average. If Auto Release Offset is set to 100 ms and Release Fast is set to 50 ms, Release Slow will be automatically calculated as 150 ms and will change proportionally to Release Fast. TIP: It is possible to turn off the Auto Release Offset feature in the Side Panel. In this case all three release parameters (Release Fast, Release Slow and Average) wil have to be set manually.

Release Delay | Normally the release phase begins immediately after the programme material has fallen in level. The release delay determines how long the Compressor/Limiter holds the current level before entering release (see Graphic 9). The resulting dynamic characteristic is very smooth and avoids otherwise typi-cal 'pumping' effects. The ideal setting is programme dependent and experimentation may be necessary to achieve the best combination of all dynamic parameters.

Parallel mix | the parallel processing feature is implemented as a DRY/WET mix. Parallel Comp. button activates and disables the parallel processing for instant A/Bing.

TIP: Any move of the Parallel Mix button will enable the parallel processing if it was turned off.

Band Selective Mode | In this mode, a frequency crossover is put into the signal path, splitting it up into two or three bands, depending on the filter type setting. One of the bands is compressed, the other is delayed by the same amount used as „delay" in the compressor stage. This mode is completely transparent if no gain reduction is applied.

Filter Type | Selects the available filter types: Low Pass and Band Pass.

Ganged /Unganged The Compressor/Limiter allows for independent parameter settings in channels 1 and 2. If the ganged key is lit, both channels operate with the same parameter set. If the ganged key is not lit, the two channels can operate with different parameters. The CH1 and CH2, Mid/Side key assigns the knobs and the display to the appropriate channel.

Mid/Side Mode and Sidechain Link The Compressor/Limiter can be switched to Mid / Side mode. In M/S mode it usually is preferable to set the channels unganged and the sidechain unlinked, Channel 1 will operate as M part and Channel 2 will operate as S part.

Side Panel

On the side panel you can find additional parameters.

Output There are three types of limiters available in Compressor/Limiter plug-in:

-Original Safe limiter from DS1-MK3 hardware

- New generation Weiss brick-wall Limiter Type 1

- New generation Weiss brick-wall Limiter Type 2 (True Peak)

Limiters Type 1 and Type 2 are designed to provide the most transparent sound for mastering applications performing at high RMS levels.

TIP: Use Type 1 for highest RMS values and Type 2 when True Peak limiting is needed

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GENERAL

Input Gain	
Gain Make-Up	
Auto Make-Up	Man Aut
Monitor	Out Mon
Knee Range	-15 -30 -50 -70
Freq Zoom	

SIDECHAIN

Preview	
Sidechain Link	Off On
Sidechain	Int Ext

EXPERT PARAMETERS

Release Delay	
RMS	
Auto Release	
Average	
Release Slow	

OUTPUT

| Safety Limiter Mode | DS1 T1 T2 |
| Dither | Off 16 20 24 |

COPY

A → B   B → A   1 → 2   2 → 1

Monitor In band selective mode turning on the monitor feature allows you to listen directly to the processed band, ideal for zooming in on offending material and listening to the effect of the compressor stage.

Auto Make-up Allows to compensate gain automatically.

Knee range Sets different ranges for the knee view. Set larger ranges when using low threshold settings.

Frequency Zoom Allows to zoom in the FFT display view.

TIP: it is possible to click and drag the grid on the Frequency display to zoom in and out as well.

Sidechain parameter Set the external or internal sidechains.

Dither Sets dithering to 16, 20 and 24 bits.

RMS In the Compressor/Limiter the peak measurement is supplemented with an RMS measurement with variable averaging time. The left endstop of this parameter switches the detection to Peak mode (default one).

Copy option Allows to copy channels and settings from A to B, B to A, and channel settings from Channel 1 to Channel 2 and vice versa in order to have the same parameters in the two channels to start with.

TIP: you may copy or switch the settings from the bottom panel of plug-in as well

A/B   A=B   PRESETS   SETUP   MANUAL

Credits

Paul Shyrinskykh - features specifications and product management. **Arvid Rosén** – DSP and framework programming. **Björn Rödseth** – framework programming. **Niklas Odelholm** – graphic design.**Ulf Ekelöf** – 3D rendering. **Daniel Delviken** - marketing. **Maxus Widarson** - quality assurance.

3 DEESS

WEISS DEESS IS A TWO-BAND DE-ESSER based on the same algorithms used in Weiss DS1-MK3. DEESS provides features like scalable FFT display, two independent bands for ultimate control, near zero latency mode for real time recordings, additional notch filter design (originally not available in Weiss DS1-MK3), and flexible monitoring options.

Differences between Weiss DS1-MK3 and DEESS

	DEESS	DS1-MK3
Number of operational bands	2	1
Scalable FFT display	Yes	No
Low latency mode	Yes	No
Filters available	• Notch • Band Pass • High Pass	• Full Band • Band Pass • High Pass • Low Pass
Operational frequency range	2 kHz – 20 kHz	20 Hz – 20 kHz
Dithering	No	Yes
Auto Makeup gain	No	Yes
RMS detection	Peak	Peak – RMS
Preview (lookahead)	20 microseconds	Variable
Safe Limiter	No	Yes

Overview

1. Amount of gain reduction
2. Gain reduction meters
3. Output gain
4. Gain reduction values
5. Input gain
6. Side panel

There are two operational bands in DEESS: the Low Band and the High Band. In stereo and Mid/Side mode, the two bands allow to control the mid-range resonances and high-frequency sibilance simultaneously, providing the ultimate control.

Main display

On the main display you can change Frequency, Threshold, Range and Width of the filters. Each parameter has its own click area on the widget.

To change the parameter setting, click and drag the selected click area.

7455 Hz	7455 Hz	7455 Hz	Frequency: 7455 Hz
-60.0 dB	Threshold: -60.0 dB	-60.0 dB	-60.0 dB
20.0 dB	20.0 dB	Range: 20.0 dB	20.0 dB
Width: 5/6 oct	5/6 oct	5/6 oct	5/6 oct
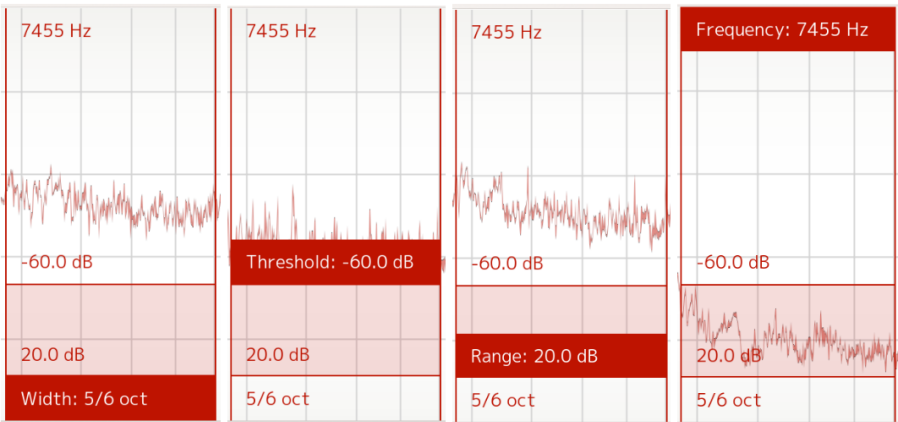
Options panel is available by clicking the arrows icon at the bottom left corner of the main screen.
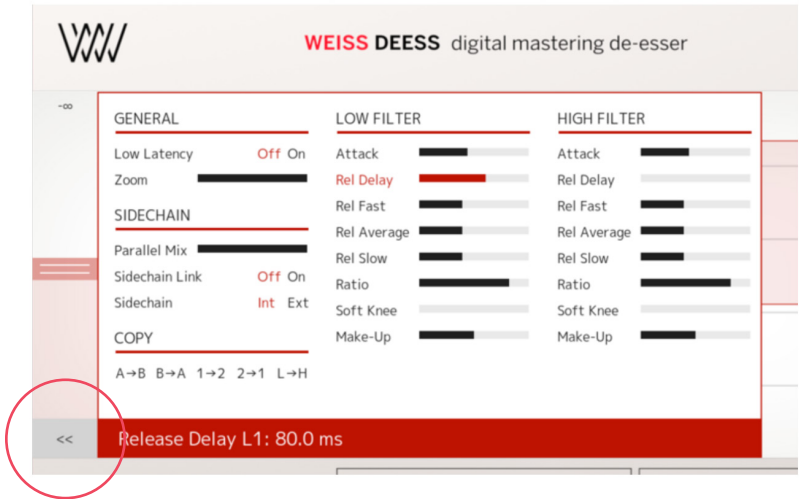
Meters

Input Gain	Shows Peak and RMS levels.
Output Gain	Shows Peak and RMS levels.
Gain Reduction Meters	Show gain reduction for Low and High bands. In stereo mode, the gain reduction meters show gain reduction for L and R channels per band while in Mid/Side mode, the gain reduction meters show gain reduction for M and S per band.

Tip: You can monitor the amount of gain reduction and affected frequency range on the FFT display.

Parameters

Threshold	Sets the level which the envelope signal has to reach before gain reduction is applied.
Frequency	Sets the center frequency of the filter.
Range	Sets the operational gain reduction range.
Width	Sets the width of the filter.

Attack The longer the attack time, the more will the leading edge of fast transients pass by the gain reduction circuit unaltered (as in Graphic 1 during attack phase). Very fast attack time settings such as 20μs, i.e. one sample period, do catch every transient, but may distort low frequencies.

Graphic 1: Envelope parameters

Release and Average The input signal is monitored with two different methods: peak amplitude and RMS value. The peak amplitude is the programme portion we don't perceive as very loud, however which can easily cause overloads. The RMS value of the programme material we perceive as loudness. Its variations contribute most to the dynamic range of the audio. The sidechain processor compares the two measurements it obtained from the peaks and the

RMS. The ratio between the two determines which time constant would be the appropriate release, e.g. after short duration peak the faster release will be applied during the release phase. The time period over which the RMS value of the programme material is averaged is set by the "average" parameter. The effect of the average parameter can best be studied on the gain reduction meter. Fast "average" settings will cause most of the gain reduction meter to move very fast (depending on the "release fast" setting) , slower settings will just have the top part of the gain reduction move fast, with the bottom part depending on the "release slow" setting.

Release Delay Normally the release phase begins immediately after the programme material has fallen in level. The release delay determines how long the DEESS holds the current level before entering release (see Graphic 9). The resulting dynamic characteristic is very smooth and avoids otherwise typical 'pumping' effects. The ideal setting is programme dependent and experimentation may be necessary to achieve the best combination of all dynamic parameters.

Ratio Sets the slope of the segment above the threshold. The ratio can be adjusted for compression or expansion, depending on the requirement.

Soft-knee Determines how much the knee is rounded. The maximum setting (1.0) chooses a curve that reaches from 0dBFS down to twice the threshold value. This implies that if soft-knee is engaged the signal is already affected even if its envelope lies below the threshold.

Gain Makeup Moves the whole transfer curve up or down. In de-essing mode the gain makeup is usually set between the minimum (- 10dB gain) and "off" (0dB gain) to actually attenuate the processed signal.

Low Latency Mode Sets the plug-in in near zero latency mode. The latency @96khz is 51 sample (~0.5 millisecond). Please note: in the low latency mode the Band Pass filter is not available. Low latency mode uses non-linear phase filters. The mode is useful during real time recordings, but for ultimate sound quality and transparency use the original linear phase mode.

Zoom Allows you to zoom in and out to a specific frequency range in the FFT display. TIP: it's possible to click and drag the FFT display area in order to change the zoom

Copy Allows to copy settings from A to B, Channel 1 to Channel 2 and vice versa, and also settings from Low Band to the High Band.

COPY

A→B B→A 1→2 2→1 L→H

Parallel Mix Controls the amount of Dry (unprocessed) and Wet (processed) signal.

Sidechain Link Links and unlinks the sidechains. It is useful to unlink the sidechains when in Mid/Side mode.

Sidechain Sets the internal and external sidechain

Filter Type Selects the available filter types: Band Pass, Notch and High Pass.

Please note: High Pass filter is available in the High Band only.

Solo and Monitor Provide the monitoring options for the selected band. The Solo allows you to listen directly to the affected frequency band while the Monitor allows to monitor how much of the actual de-essing happens. Please note: Solo and Monitor functions monitor both LR or MS channels simultaneously for the selected band.
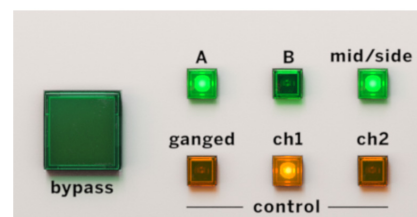
On Turns on and off the processing of the selected band.

Mid/Side Enables the Mid/Side processing.

A and B Allow instant switching between the different settings.

Ganged /Unganged The DEESS allows for independent parameter settings in channels 1 and 2. If the ganged key is lit, both channels operate with the same parameter set selected by CH1 or CH2 button. If the ganged key is not lit, the two channels can operate with different parameters.

Bypass Allows you to bypass the plug-in.

Input Gain	Controls the input gain to the plug-in.
Output Gain	Controls the output gain from the plug-in.

In Use

The best way to start using DEESS is to look through the presets first and tweak the thresholds to match the levels of the program material. The presets provide the starting point for many of the de-essing scenarios. For real time recording, use "Low latency tracking" preset as a starting point. In case you need to change the center frequencies of the filters, use Solo to find the offending frequency. Using Zoom to zoom in and out the FFT display can help to find the peaks of the offending frequency as well.

Often you'll need to use two bands for efficient de-essing in order to tame different resonances in vocals. "s" sound resonances usually reside in the 7 khz area, while "ch" and "sh" resonances reside in the area of 4 khz and below.

Tip: you can enable filter band highlight in the setup menu of the plug-in. In some situations, it's useful to see parameters of what band are being edited.

Highlight active filter

Credits

Paul Shyrinskykh – features specifications and product management. **Arvid Rosén** – DSP and framework programming. **Björn Rödseth** – framework programming. **Niklas Odelholm** – graphic design. **Ulf Ekelöf** – 3D rendering. **Daniel Delviken** – marketing. **Maxus Widarson** – quality assurance. **Igor Miná** – user manual layout.
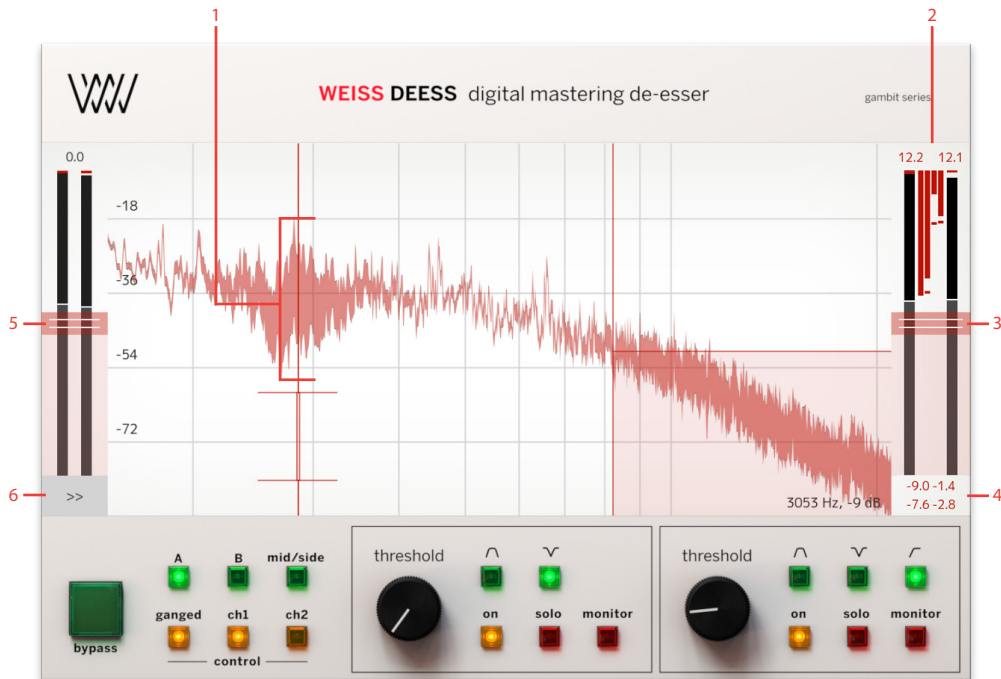
4 DS1-MK3

THIS TWO CHANNEL DIGITAL DE-ESSER / COMPRESSOR / LIMITER FEATURES linear-phase crossover filters covering the whole audio band. The controls for the two channels can be ganged or unganged (useful for M/S compression). Similarly, sidechain linking can be turned off. Double-precision up- and down-sampling units within the DS1-MK3 result in high transparency for absolutely clean sound. The non-linear segment can be adjusted from 1000:1 to 1:5, allowing every kind of dynamic processing, from limiting to upward expansion (for over-compressed signals). Put back a little dynamics into that ultra-finalized mix! An additional safety-limiter Type 1 and Type 2 will allow the most transparent sound for mastering and mixing applications.

User Interface
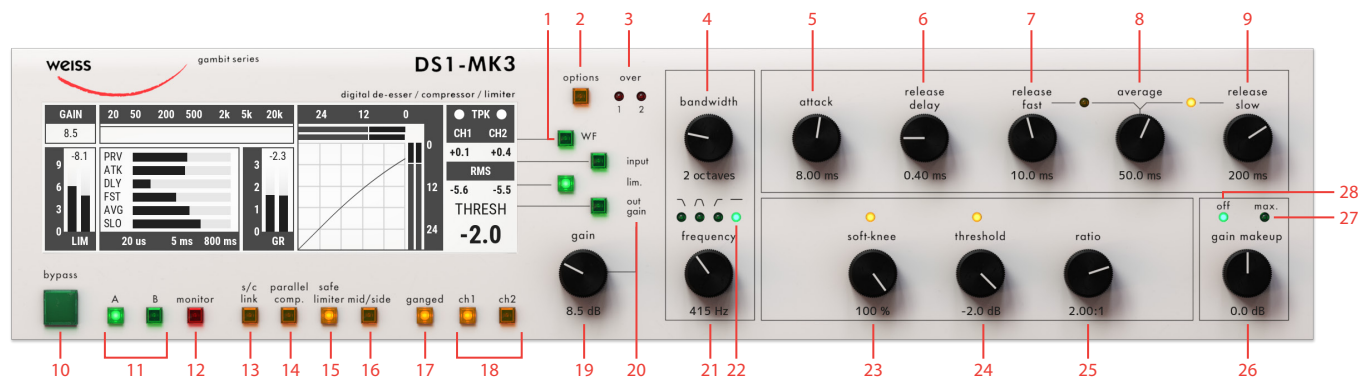
1. Waveform view
2. Options
3. Overload meters
4. Bandwidth
5. Attack
6. Release delay
7. Release - fast
8. Average
9. Release - slow
10. Bypass
11. A/B settings comparison
12. Processed frequency band monitor (in band split mode)
13. Side-chain link
14. Parallel compression
15. Safe limiter
16. Mid/Side
17. Ganged
18. Channel 1/Mid and Channel 2/Side
19. Gain
20. Input gain, Limiter gain and Output gain
21. Center frequency
22. Filter type
23. Soft-knee
24. Threshold
25. Ratio
26. Gain makeup
27. Auto gain compensation
28. Gain makeup off

Screen
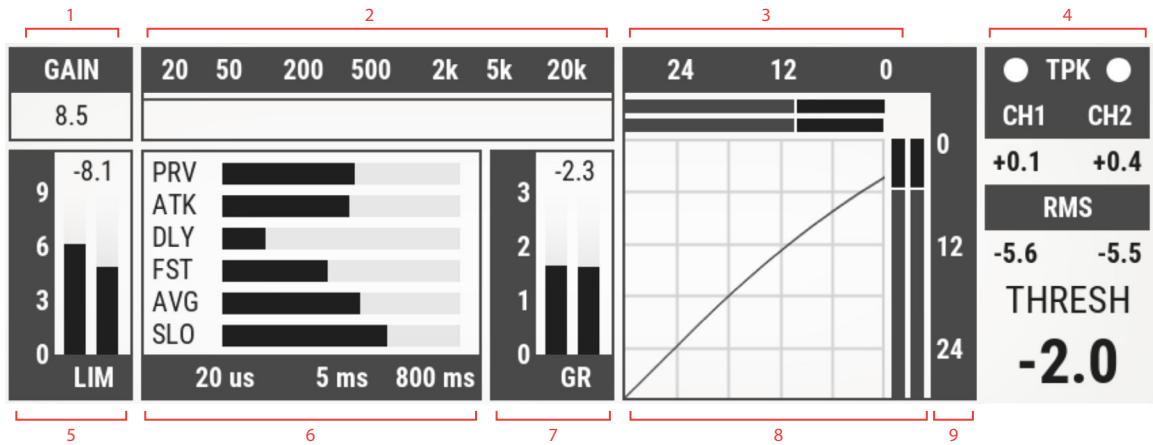
1. Currently selected gain

2. Crossover settings
   (Frequency selective mode only)

3. Input meter showing Peak and RMS values

4. Meters: TPK (True Peak), PK (Peak), RMS

5. Limiter gain reduction meter

6. Envelope follower settings (Attk, Rel etc.)

7. Compressor gain reduction meter

8. Non-linear transfer curve and signal metering

9. Output meter showing Peak and RMS values

Update from DS1-MK3 (v3.0) to DS1-MK3 plug-in

- New limiter Types added (Type 1 and Type 2, see description in the Limiter section)

- Processing resolution has been increased to 32 bit 192 khz (40 bit internal resolution)

- Added Waveform Display view for real-time gain reduction monitoring

- Options dialogs have been redesigned for better ergonomics in computer environment

- Preset management can now be done in the DAW or a dedicated Preset Collection tool

- Screen is now interactive. Users can click and change on various screen elements and settings (see the detailed description in Screen section)

- Original Data/Gain knob now performs only Gain change function

Limiter

There are three types of limiters available in DS1-MK3 plug-in:

- Original Safe limiter from DS1-MK3 hardware

- New generation Weiss brick-wall Limiter Type 1

- New generation Weiss brick-wall Limiter Type 2 (True Peak)

Limiters Type 1 and Type 2 are designed to provide the most transparent sound for mastering applications performing at high RMS levels.

TIP: Use Type 1 for highest RMS values and Type 2 when True Peak limiting in needed.

Options Menu
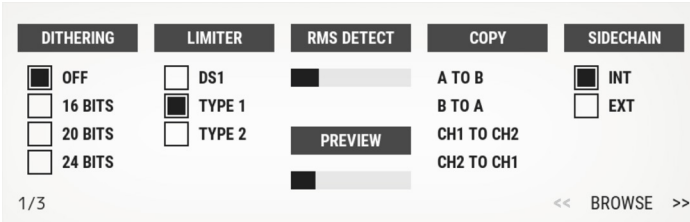
Dithering	Sets dithering to 16, 20 and 24 bits
Limiter	Option Allows to choose the limiter types. (see Limiter section)
RMS Detect	In the DS1-MK3 the peak measurement is supplemented with an RMS measurement with variable averaging time. The left endstop of this parameter switches the detection to Peak mode (default one).
	Copy option allows to copy channels and settings from A to B, B to A, and channel settings from Channel 1 to Channel 2 and vice versa.

A/B A=B PRESETS SETUP MANUAL

TIP: you may copy or switch the settings from the bottom panel of plug-in as well.

Sidechain Sets the internal or external sidechain.

Limiter meter range Changes the range of the meter.

LIM METER	COMP METER	PEAK METER	KNEE RANGE	METER TEXT
☐ 3 DB	☑ 3 DB	☑ SAMPLE	☐ 15 DB	☐ PEAK
☑ 9 DB	☐ 9 DB	☐ TRUE PK	☑ 30 DB	☑ HOLD
☐ 12 DB	☐ 12 DB		☐ 50 DB	RESET HOLD
☐ 24 DB	☐ 24 DB		☐ 70 DB	

2/3 << BROWSE >>
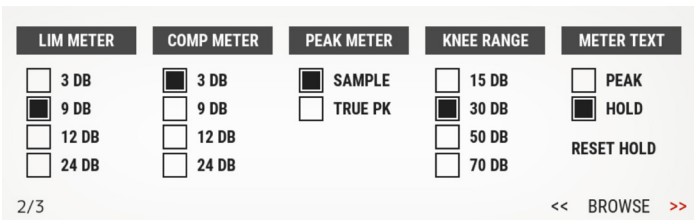
TIP: It is possible to change the meters range from the main screen by clicking and dragging the meters.

Compressor meter range Changes the range of the meter.

Peak Meter changes the meter type from on-sample peak meter to True Peak (intersample) meter.

Knee Range changes the visible range of the Knee on the main screen.

Meter Text parameter changes the peak meter from Peak to Hold. In Peak mode the meters read the instant values thus change values faster, while in Hold mode the meters update the peaks slower.

Reset hold resets the meter to the current peak value.

Peak reset sets the automatic peak reset option to ON and FF

PK RESET	SET # OVERS	AUTO MAKE-UP
☐ AUTO OFF		☑ MANUAL
☑ AUTO ON		☐ AUTO
RESET NOW		

3/3 << BROWSE >>
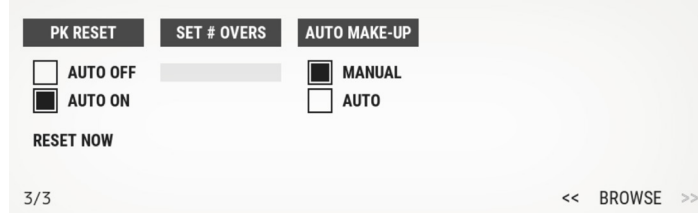
Set # of Overs Sets the number on consecutive on-sample overloads to detect and report overloads. By default the number is set to 3.

Compressor Parameters

Following is a detailed description of all parameters that can be adjusted in the compressor stage. Guidelines are given for settings (see also the factory presets), but optimal settings are usually programme dependent, so experimenting and listening is inevitable for satisfying results. **Graphic 1** shows schematic and parameters of the DS1-MK3 compressor stage:
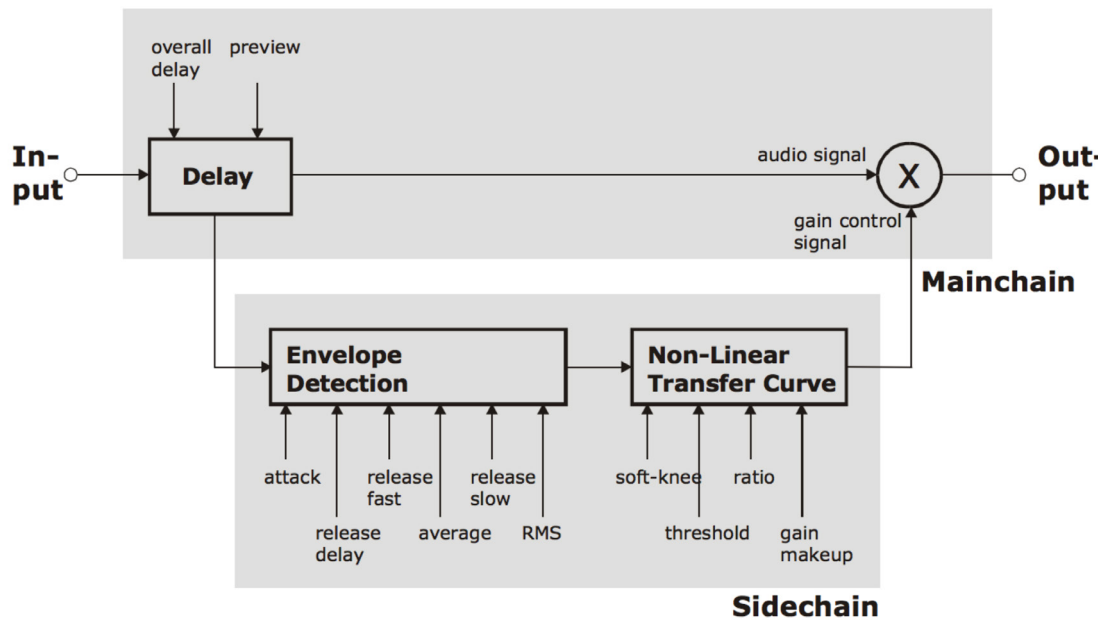
Graphic 1: Compressor schematic.

Attack and Preview The longer the attack time, the more will the leading edge of fast transients pass by the gain reduction circuit unaltered (as in **Graphic 2** during attack phase). Very fast attack time settings such as 20μs, i.e. one sample period, do catch every transient, but may distort low frequencies. To utilise longer attack times and still catch fast transients, use preview.
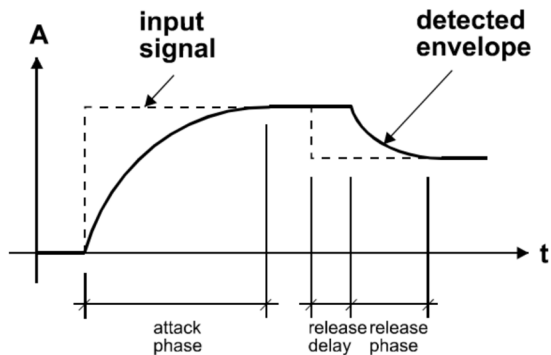
Graphic 2: Envelope parameters.

Release and Average The input signal is monitored with two different methods: peak amplitude and RMS value. The peak amplitude is the programme portion we don't perceive as very loud, however which can easily cause overloads. The RMS value of the programme material we perceive as loudness. Its variations contribute most to the dynamic range of the audio. The sidechain processor compares the two measurements it obtained from the peaks and the RMS. The ratio between the two determines which time constant would be the appropriate release, e.g. after short duration peak the faster release will be applied during the release phase. The time period over which the RMS value of the programme material is averaged is set by the "average" parameter. The effect of the average parameter can best be studied on the gain reduction meter. Fast "average" settings will cause most of the gain reduction meter to move very fast (depending on the "release fast" setting) , slower settings will just have the top part of the gain reduction move fast, with the bottom part depending on the "release slow" setting.

Release Delay Normally the release phase begins immediately after the programme material has fallen in level. The release delay determines how long the DS1-MK3 holds the current level before entering release (see **Graphic 2**). The resulting dynamic characteristic is very smooth and avoids otherwise typical 'pumping' effects. The ideal setting is programme dependent and experimentation may be necessary to achieve the best combination of all dynamic parameters.

Non-Linear Transfer Curve This part of the sidechain is responsible for the actual gain reduction calculations. The detected signal envelope is compared with the transfer curve, the gain control signal (see **Graphic 1**) is then adjusted accordingly if the envelope overshoots the transfer curve.
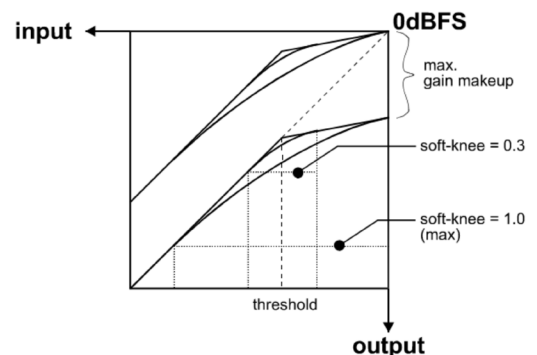
Graphic 3: Envelope parameters.

Threshold Sets the level which the envelope signal has to reach before gain reduction is applied. Ratio: Sets the slope of the segment above the threshold.

Ratio The Ratio can be adjusted for compression or expansion, depending on the requirement. For full band expansion (e.g. to reintroduce dynamics into an over-compressed signal), one will usually work with the gain makeup set to maximum. This means that a 0.0dB input will be passed through without gain, signals below the threshold will be reduced with a constant gain (depending on threshold and ratio setting, can be read from the display when touching the gain makeup controller), and signals between the threshold and 0.0dBFS get expanded. For full band expansion, one will typically have quite high thresholds (-1dB ... – 4dB), because of the resulting overall gain. The expander can also be used in frequency selective mode, for example to repair the effect of a misused multi-band compressor – for this purpose, the gain makeup can be set higher than the calculated maximum setting, to compensate for the overall gain that the expander causes. This can potentially cause overs (for loud signals in the expanded band), it is therefore good practice to engage the safety limiter.

Soft-knee Determines how much the knee is rounded. The maximum setting (1.0) chooses a curve that reaches from 0dBFS down to twice the threshold value. This implies that if soft-knee is engaged the signal is already affected even if its envelope lies below the threshold.

Gain makeup Moves the whole transfer curve up or down. In de-essing mode the gain makeup is usually set between the minimum (- 10dB gain) and "off" (0dB gain) to actually attenuate the processed signal, while in compressor (full band) mode the transfer curve usually gets to lie anywhere between "off" and "max", according to the amount of loudness correction one wants to apply. Once "max." is on, the transfer curve is attached to 0dBFS for maximum possible gain. "max" is engaged as soon as the curve reaches 0dBFS by manipulating any combination of the above parameters, or by selecting "max" from the gain makeup menu. This mode can be exited by manually reducing the gain makeup or by selecting "off" from the gain makeup menu.

Band Selective Mode vs. Full Range Mode

The DS1-MK3 can be used in conjunction with a frequency crossover (band selective mode) or straight (full range mode).
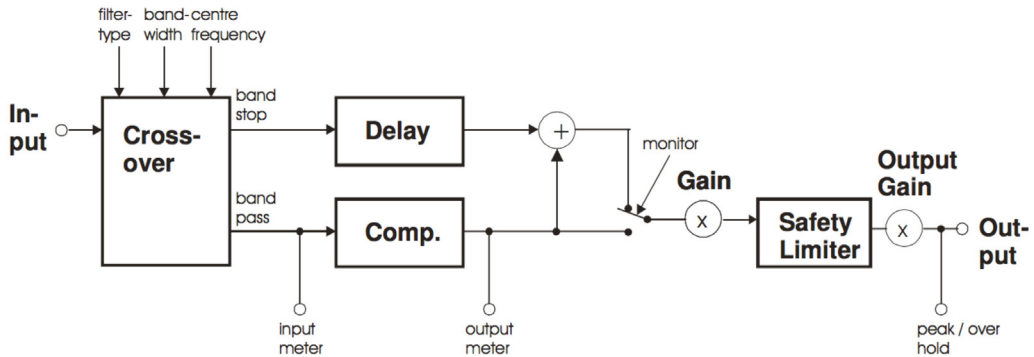
Graphic 4: Band selective mode.
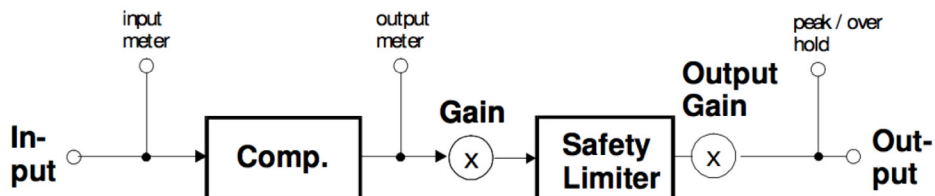
Graphic 5: Full range mode.

Band Selective Mode In this mode, a frequency crossover is put into the signal path, splitting it up into two or three bands, depending on the filter type setting. One of the bands is compressed, the other is delayed by the same amount used

as "delay" in the compressor stage. This mode is completely transparent if no gain reduction is applied.

Filter Type selects the available filter types: Low Pass, Band Pass and High Pass.

Frequency changes the center frequency of the selected filter.

Bandwidth selects the width of the selected frequency band.

Parallel Compressor The DS1-MK3 can be used in parallel compression mode, where the compressed signal is added to the straight signal.

Parallel Full Band Compression As can be seen in **Graphic 6**, the input signal and the compressed signal are summed. The gain make-up value can be used to control the amount of compressed signal. The pre-limiter gain can be used to scale the mix before limiting.

Parallel Band Selective Compression To add even more subtle compression, the compressed signal can be filtered before compression. Using the monitor function, one can listen to the filtered signal for optimal crossover setup (See **Graphic 7**).

Why parallel compression?

Read this quote from Bob Katz: "You want a patch that compresses without stomping on the attacks at all, preserves transients but gives you great inner detail? ... You have one control, one control only, and that is the output level of the compressor [gain makeup], the 'sidechain'.
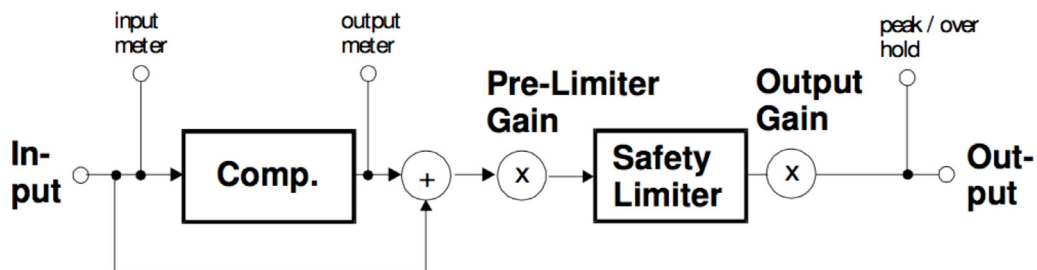
Graphic 6: Parallel band full compression.
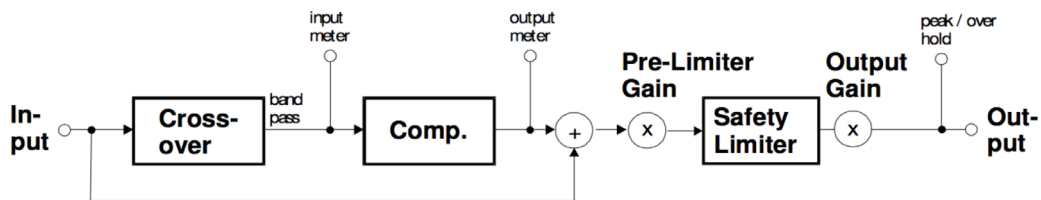
Graphic 7: Parallel band selective compression.

You can bring out inner details without losing breathing, and hardly affecting the upper dynamics at all. Works great. Not just great, absolutely fantastically. Fattens bass
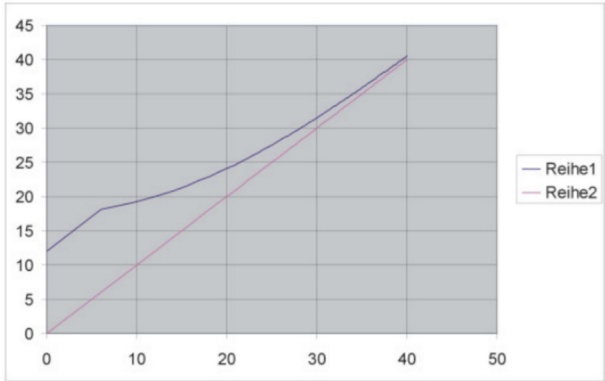
Graphic 7

instruments without causing breathing or pumping. You name it, it works very well. Variations: Use it by split band [i.e. parallel] compression, so that (for example) high frequency inner details at low levels are enhanced". This last paragraph refers to parallel band selective compression (crossover in highpass mode).

Starting point for parallel compression: Set the threshold for -50 dBFS, ratio to 2.5:1, attack to the fastest (microseconds), release to mid, around 250-300 ms (adjust to taste if you hear breathing or pumping). The makeup gain governs the amount of compression.

Graphic 7 shows the effect of Parallel Compression on the transfer curve (upper graph). Lower levels are raised while higher levels are not much affected.

Ganged /Unganged

The DS1-MK3 allows for independent parameter settings in channels 1 and 2. If the ganged key is lit, both channels operate with the same parameter set. If the ganged key is not lit, the two channels can operate with different parameters. The CH1 and CH2, Mid/Side key assigns the knobs and the display to the appropriate channel.
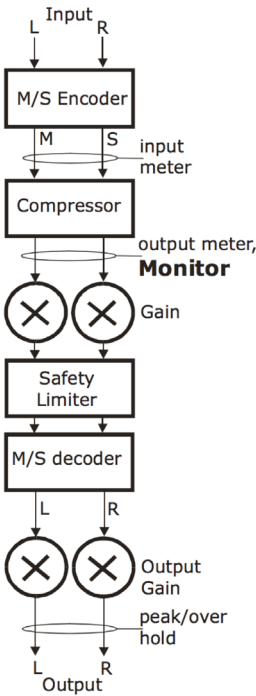
Mid/Side Mode and Side-chain Link

The DS1-MK3 can be switched to Mid / Side mode. In M/S mode it usually is preferable to set the channels unganged and the sidechain unlinked.

Graphic 8

Graphic 8 shows the block diagram of the DS1- MK3 when in M/S mode.

Monitor Key

In band selective mode pressing the "monitor" key allows you to listen directly to the processed band, ideal for zooming in on offending material and listening to
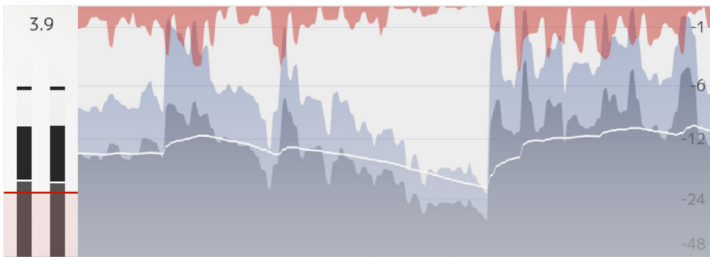
the effect of the compressor stage. See above for the Monitor output position. The Monitor output works as follows: DS1-MK3 in ganged mode: The stereo signal is fed forward to the output. If the band selective mode is selected, only the active band is fed to the output. DS1-MK3 in unganged mode: The currently selected channel (CH1 or CH2 or M or S) is fed to both L and R outputs. This allows for instance to listen to the S signal only in order to adjust the compressor optimally.

Waveform View

The Waveform view shows several meters in time: gain reduction, RMS and peak values.

Factory Presets

The DS1-MK3 has easily accessible factory presets for a quick setup which can then be refined and adapted to the programme being processed. The first few factory presets we created at Weiss Engineering, then a whole bunch of presets created by Bob Katz follow. Bob's presets come with a detailed on-screen description. Note that most of Bob's presets need a threshold and/or a ratio dialed in in order to work. We invite users of the DS1-MK3 to supply their favourite presets for adding them to the list. To access the factory presets press the Presets at the bottom of the plug-in.

In the Setup menu you can enable "Bob Ludwig mode" that shows current parameter values under each knob.

Credits

Paul Shyrinskykh – product design and product management. **Arvid Rosén** – DSP and framework programming. **Björn Rödseth, Kim Larsson** – framework programming. **Niklas Odelholm** – graphic design. **Ulf Ekelöf** – 3D rendering. **Daniel Delviken** - marketing. **Maxus Widarson** – quality assurance. **Igor Miná** – user manual layout.

5 EQ1

THE WEISS EQ1 IS A MODERN CLASSIC WHEN IT COMES to mastering grade equalization. Designed without compromises, featuring five Sharc processors and state-of-the-art digital filtering technology it's the one and only digital hardware for mastering purposes. The Weiss EQ1 plug-in is a line-by-line port of the original Sharc assembler code and has the exact same sound as it's hardware counterpart.

The heart of Weiss EQ1 is its two processing modes: DYNAMIC and LINEAR PHASE. Since these modes have fundamentally different architectures, you decide if you either want the ability to do dynamic processing per band (DYNAMIC MODE), or if you want to have all bands processed in LINEAR PHASE mode.

While the plug-in has the exact same sound as the hardware, its functionality has been extended beyond the capabilities of the hardware, with for example a user friendly "LARGE SCREEN" mode that allows you to click and drag in the EQ curves, a frequency analyzer display, and additional options in the dynamic section, such as the ability to set the ratio, attack and release times on each band.

We hope you will enjoy the sound of the Weiss EQ1!

User Interface

Click on the **Large Screen** button next to the screen to get into a click-and-drag mode!

There are two main modes of operation when it comes to the audio

- DYN MODE
- LP MODE

The first is the *dynamic EQ* mode, which you can either use as a normal, low latency EQ, or set a **Threshold** to get the EQ to react to the incoming audio. The second mode is the *linear phase* mode, which allows you to process the audio without introducing phase distortion, in many cases a cleaner and less intrusive processing.

The parameters for each band are different for these two modes, but the operation is very similar and it is easy to switch between them.

What Mode Should I Use?

If you want to do dynamic processing, you will obviously need to use the DYNAMIC MODE, but if you're just doing "normal eq:ing" there are a couple of differences between these:

- LINEAR PHASE has no phase distortion, but will instead introduce "pre-ringing". It's best suited for subtle EQ changes or mastering purposes. This mode has a lot of latency, since it needs to "look ahead" of time in order to compensate for the phase shift.

Frequency Visualization

Band Parameters

DYN/LP
Mode

Large
Screen
Mode

- DYNAMIC MODE is a "minimum phase" eq, which means that the phase shift is the lowest possible without being able to look ahead, that is also the same way nature tends to "eq" audio. It has lower latency and is the normal mode of eq:ing.

Both modes are implemented with high-precision low-noise calculations.

Start with the EQ in DYN MODE, then switch between LP and DYN to audition the difference.

General Parameters

Soft Bypass	Bypass the unit.
A/B	Switch between settings stored in A and B for easy comparisons.
DYN Mode/LP Mode	Switch between dynamic minimum phase and static linear phase equalization.
Mid/Side	Engage the Mid/Side routing mode, where CH1 affects the MID (L+R) and CH2 affects the SIDE (L-R).
Ganged	Link the controls to both channels.
Ch 1	Adjust the controls of Channel 1 (LEFT or MID).
Ch 2	Adjust the controls of Channel 2 (RIGHT or SIDE).
Options	Access additional settings and options.
Large Screen	Switch to a mode where the EQ curve screen covers the entire plug-in.

Output Meter   Options   Overs   Band Parameters

Out Vol.

Soft Bypass   A/B   DYN/LP Mode   Mid/Side   Channel Routing   Large Screen, Normal Knob Mode, Analyzer on/off, Advanced Knob Mode

Normal/Advanced In DYN MODE, it's possible to show the entire set of band parameters (ADVANCED) or just the original EQ1 parameters (NORMAL).

Analyzer Turn on/off the spectrum analyzer display.

Gain Adjust the output volume of the plug-in, either for both channels (in GANGED mode) or for the selected channel.

Over 1 and 2 These LEDs indicate when the output signal level has surpassed 0 dB for a selectable number of consecutive samples. You can adjust this value in the **Options** menu.

Band Parameters

Each of the seven bands has an identical set of parameters, but the parameter set is different in LP and DYN modes.

On Enable/disable the band.

Boost Sets the amount of gain for a peaking or shelving filter (from -39 dB to +18 dB).

Filter Mode Switch between shelving, peaking, or cut filters. In DYN MODE it's possible to select DYNAMIC PEAKING mode.

Q/Slope Adjust the Q of a peaking or shelving filter, or the slope of cut filter (6 or 12 dB/oct)

Frequency Adjust the center or cut-off frequency.

Solo Solo the current band.

The following parameters are unique to the DYN MODE operating mode.

Threshold Adjust the threshold for which the dynamic EQ starts to compress. When there is audio above the threshold in the selected frequency band, the gain of that band will be reduced.

To see the following parameters, you need to click on the **Advanced** button.

Attack/Release Adjust the attack or release times for the dynamic EQ. The attack time is three times longer when the band is cutting than when it's boosting, but the parameter value read-out corresponds to the shortest time. The release times are the same for boosting and cutting.

Ratio Set the ratio of the dynamic EQ band, the ratio between the amount of gain reduction as compared to the level above threshold.

EXPANDING MODE: If the ratio is between 1:2 and 1:1 the band will boost audio above the threshold.

COMPRESSING MODE: For ratios between 1:1 and 20:1 it will attenuate audio above the threshold.

The Small Screen

The screen has three sections, from left to right:

- Output meter and volume control.
- EQ curves and frequency analyzer.
- Current band parameters and peak/RMS information.

To the left you can see the output meters. If you hover over the meters you can grab the volume control and adjust the output volume. This is the same control as the **Gain** knob to the right of the screen.

EQ Curves

The middle section contains the EQ curves and frequency analyzer. The red curve is the current EQ, and if there is dynamic equalization that curve will change depending on the input audio.

The light blue curves in the background is the frequency analyzer. CH 1 has a faint white line at the top which makes it possible to distinguish from CH 2 if necessary.

If you hover the mouse over the screen, the curves for

The three different modes of the band parameters, from left to right: LP Mode, DYN Mode (Normal), DYN MODE (Advanced). On LP Mode, the Normal/Advanced options are greyed out.
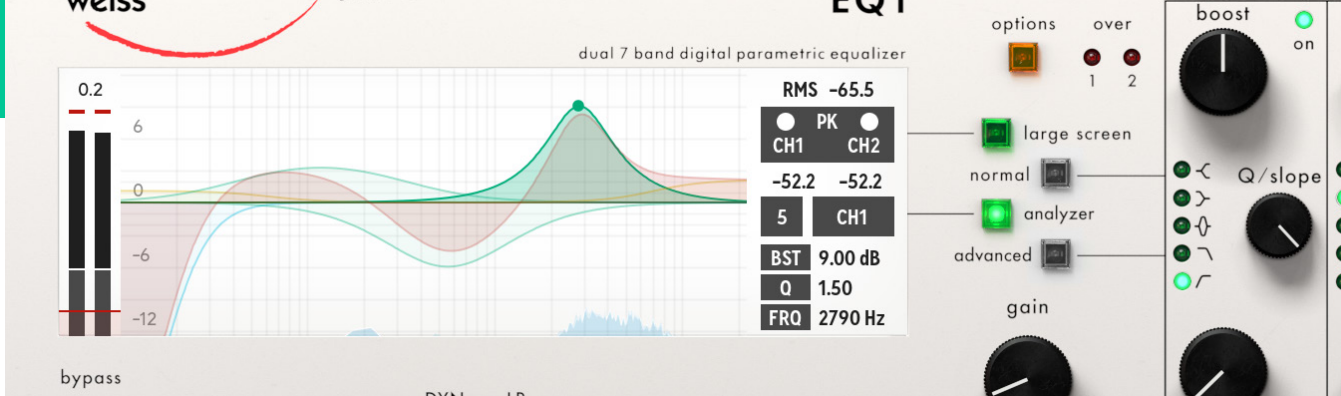
Output Meter and Output Gain	EQ Curves (red) and Frequency Analyzer (blue)

RMS meter
Clip meters, Peak/True Peak switch
Peak meters
Band and channel information

each individual band will appear, and you can click and drag each band separately. Use the scroll wheel on your mouse to adjust the Q/Slope.

The right-most section shows the last touched band's parameters, clip meters and RMS and Peak levels. It's also possible to click the PK (or TPK) text to toggle between peak and true peak measurements.

The Bands

There are three difference faceplates of the bands, the LP MODE faceplate with three main knobs, DYN MODE with the additional **Threshold** knob, and in DYN MODE it's also possible to turn on ADVANCED mode to show all band parameters, including **Ratio**, **Attack** and **Release**.

Options

The following options are available:

Dithering	Apply dithering for 16, 20 or 24 bit output
Set # Overs	Adjust the number of consecutive peak values above 0 dBFS needed to trigger to OVER LED.

PK Reset	Turn AUTO ON if the PK LED in the screen should reset automatically or not.
Copy	Copy settings from A to B, B to A or between the channels.
Dyn Latency	Set to LOW to use DYN MODE without the lookahead in the dynamics, in order to reduce the total latency through the plug-in.
Meter Text	The meter read-out in the small screen displays either the "hold" value or the current "peak" vaue.
Analyzer	Let the frequency analyzer analyze the audio on the input or the output.
Analyzer Tilt	Tilt the frequency spectrum with an amount of dB/octave.
Analyzer Speed	Set the response time of the analyzer.

Large Screen

Click on the **Large Screen** button next to the small screen to open the knob-less user interface of the Weiss EQ1.
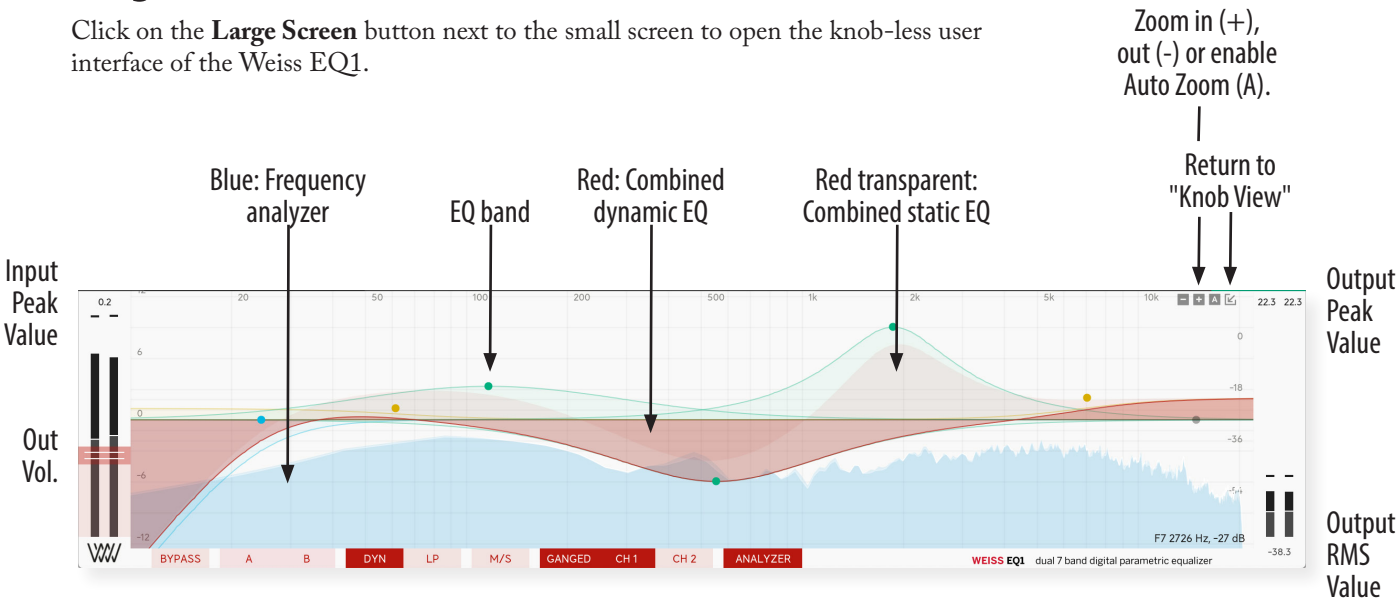
Zoom in (+), out (-) or enable Auto Zoom (A).

Return to "Knob View"

Blue: Frequency analyzer

EQ band

Red: Combined dynamic EQ

Red transparent: Combined static EQ

Input Peak Value

Out Vol.

Output Peak Value

Output RMS Value

Click and drag to adjust **Frequency** and **Boost**.

Scrollwheel to adjust **Q/Slope.**

Double click the dot to turn the band ON/OFF.

Right-click the band to bring up the context menu for more band parameters, such as **Filter Type**, **Solo** and **Threshold**.

Band 5	S	On Off	
Mode		⌐ < ↕ ⌐ ⌐ ⌀	
Boost.			9.00 dB
Freq.			1860.00 Hz
Q			1.50
Threshold			-30.00 dB
			▼

Click the arrow (▼) in the lower right corner to show more band controls (if available)

Band 5	S	On Off	
Mode		⌐ < ↕ ⌐ ⌐ ⌀	
Boost.			9.00 dB
Freq.			1860.00 Hz
Q			1.50
Threshold			-30.00 dB
Ratio			10:1
Attack			5.0 ms
Release			400 ms
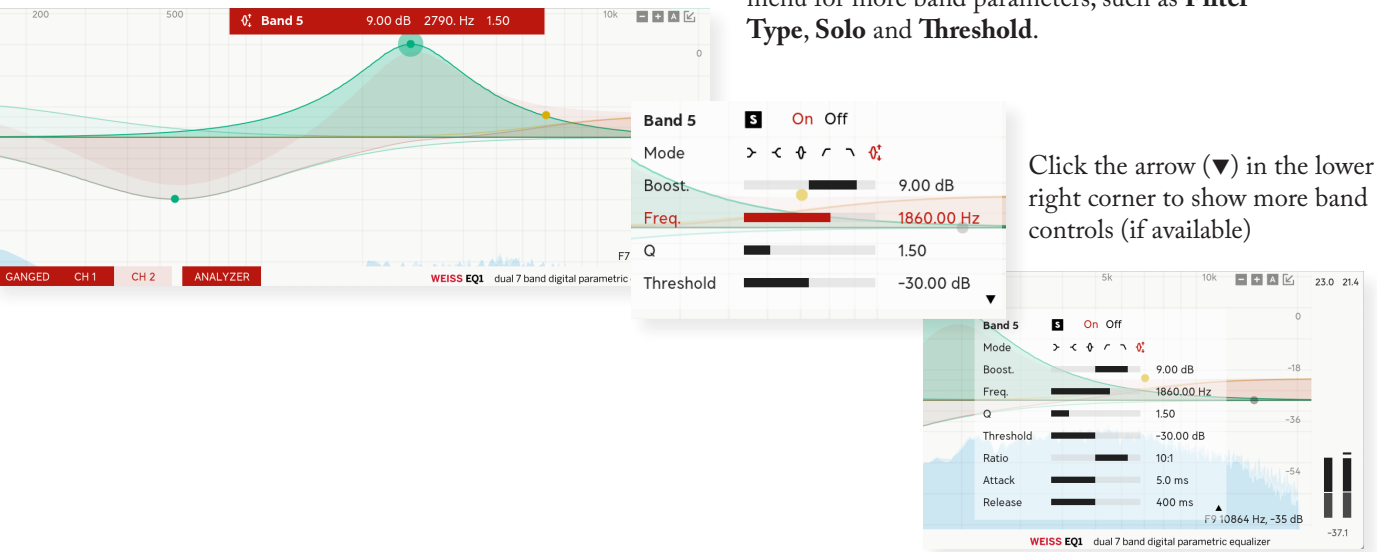
User Interface

From the user interface in the LARGE SCREEN mode you can do the same things as in the KNOB VIEW mode. Some users prefer to turn a knob, others prefer to drag a curve.

When the mouse pointer is outside the window boundary the view will highlight the combined effect of all EQ bands. The filled red curve is the current curve (including dynamic EQ effects), while the transparent red curve is the static curve, the nominal value of all dynamic EQ bands.

Without dynamic bands, the two red curves would be the same.

As soon as the mouse pointer enters the window, individual EQ curves will get highlighted. When ever the dot at the center frequency of the curve lights up, you can click and drag to adjust **Frequency** and **Boost**.

- Click and drag to adjust **Frequency** and **Boost**. Scrollwheel to adjust **Q/Slope.**

- Double click the dot to turn the band ON/OFF.

- ⌘ (Mac)/CTRL (Win) click to adjust Q.

- OPT (Max)/ALT (Win) click to set **Boost** to 0 dB.

- SHIFT-click to limit adjustments to either **Boost** or **Frequency**.

Right-click the band to bring up the context menu for more band parameters, such as **Filter Type**, **Solo** and **Threshold**.

Other Stuff of Importance

With great powers come great responsibility. That is true for most things, and that might be true for this EQ as well. Either way, it's a nice lead-in to this chapter about the intricate parts of the Weiss EQ1.

Expansion/Compression

The original Weiss EQ1 had a fixed ratio on the dynamic bands. With the Weiss EQ1 plug-in Daniel Weiss wanted to add variable ratio, attack and release times, as well as an option to to expansion with the ratio.
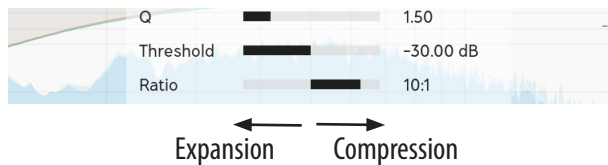
20:1, 10:1, 5:1, 2:1 … Compression!

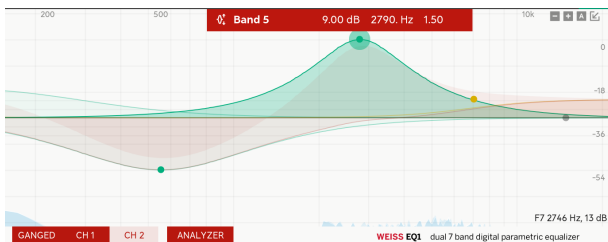These are the compression ratios, and 10:1 is the default value and the ratio built-in to the original Weiss EQ1. For example, using 10:1, for every 10 dB that the input signal goes above the threshold, the dynamic band will reduce the output to 1 dB.

With the dynamic EQ, the *maximum gain reduction* is decided by the band's **Boost**. The **Boost** will function as a *range control* for the compressor.

For boosts, maximum gain reduction means that the band is flat at 0 dB. For cuts, maximum gain reduction means that the cut is at its specified value.

1:2, 1:1.5, 1:1.2, 1:1.1 … Expansion!

These are the expansion ratios. For every dB above threshold, the compressor will increase the gain by the ratio. So using 1:1.5 as an example, with 10 dB above threshold, the resulting gain is 10 times 1.5 = 15 dB.

As with the compression ratios, the maximum gain change is limited by the setting of the **Boost** in the band. The unit can never increase the gain more than what **Boost** is set at.

> If you want to enhance a loud sound, like a kick drum, use the expansion ratios to only boost the EQ when the kick hits.

Latency/Low Latency

The Weiss EQ1 was built for mastering, and its algorithms require a lot of latency. We have however created a **Dyn Latency** = LOW mode which you can enable if you want to use Weiss EQ1 in low latency applications.

Linear Phase Latency

The LP MODE requires latency in order to correct the phase (the time) of the processing. There's no way around it, linear phase is just a trade off between a delay and phase distortion. The LP MODE latency is typically around 250 ms.

Dynamic EQ Latency

The DYN MODE uses latency for a lookahead to the dynamics section. The lookahead makes the compressor react faster (earlier in time), without having to set fast attack times. It is possible to disable this lookahead by selecting **Dyn Latency** = LOW in the OPTIONS menu.

Dyn Latency = Low (Dynamic Mode Only)

Low latency mode is only available for DYN MODE, and will process the audio without the lookahead buffers. The only latency in the plug-in comes from the Weiss oversampling filters used in 44.1 and 48 kHz.

Dynamic Latency Compensation

The plug-in will update the reported latency whenever switching between the different modes. This enables the DAW to properly compensate during playback. Most DAWs support dynamic latency compensation, but some require a start/stop before the compensation is updated.

Please see the documentation for your DAW for more info on Dynamic Latency Compensation.

Credits

Anton Eriksson - DSP programming, **Jacopo Lovatello** - DSP programming, **Björn Rödseth** - DSP programming, framework programming, **Filip Thunström** - UI programming, **Niklas Odelholm** - Product design, programming, **Johan Bremin** - Quality assur-ance, presets, **Ulf Ekelöf** - 3D rendering, **Daniel Weiss, Joschka Weiss** - Product design, **Andreas Mood** - Presets, **Jamie Dockerty** - Presets.

6 MM-1 Mastering Maximizer

Weiss MM-1 Mastering Maximizer features an advanced sound design that can deliver professional-sounding masters with minimum amount of tweaking. "Plugins like the MM-1 are the reason people think mastering is black magic. With very few controls, this plugin somehow just 'knows' how to get your music sounding great – loud, punchy, wide, and the de-esser is incredible! The MM-1 is one of the best mastering tools I've ever used", says Howie Weinberg.

User interface

1. Side menu
2. Input meter
3. Gain reduction meter
4. Output meter
5. Bypass
6. Amount knob
7. Parallel mix
8. Style
9. Limiter gain

Based on Weiss DS1-MK3

Weiss MM-1 Mastering Maximizer is based on technology that is used in Weiss DS1-MK3 – a gold-standard in mastering and TEC award winning mastering compressor/de-esser. Weiss DS1-MK3 is famous for its transparency, flexibility and ergonomics. Weiss MM-1 has all the benefits of DS1-MK3 and takes it to the next level of simplicity, ergonomics and can provide professional mastering results in no time.

Meters

Input Meter	Shows Peak and RMS level of the incoming signal.
Gain Reduction Meter	Shows actual gain reduction for Left and Right channels or M and S channels (in Wide and Deess styles).
Output Meter	Shows the Peak and RMS level of of the output signal.

Parameters

Amount Knob	Sets the amount of processing defined by the Style. If you set the Amount to 0% there will be no processing applied before the brick-wall limiter.
Limiter Gain	The gain after the initial processing that drives the brick-wall limiter.
Parallel Mix	A DRY/WET mix knob for the amount of processing (doesn't affect brick-wall limiter). If turn parallel mix to the Dry side, it will add unprocessed signal to the processed one. At 50/50 position it will be a 50/50 blend between processed and unprocessed signal. For more information about Parallel processing, please navigate to Weiss DS1-MK3 page in the manual and check Bob Katz' article about the technique.
Side Menu	Located at the top left corner. You can access Output Trim setting in it.
Output Trim	Allows to trim the output for different media. Use industry standards -0.1, -0.3 or -1dbfs (for iTunes Mastering) or custom settings using the continuous Output Trim slider.

Styles

Style is a mastering processing style that is added before the final brick-wall limiter. There are five common mastering scenarios or Styles available in MM-1:

Transparent	Style is designed to be less invasive among the 5 styles.
Loud	Style is designed to deliver high RMS masters.
Punch	Style is designed to add "punch" and "weight" to the masters.
Wide	Style will make the master wider and more "3D". Please note that the style uses MS processing and it's not compatible with mono or multi-mono versions of MM-1.
Deess	Style is a mastering all-round de-essing MS algorithm. Will shine during mastering and also mixing applications.

In use

The best way to start mastering with MM-1 is to choose the Style you'd like to use and move the Amount knob to add the amount of processing needed. Watch the Gain Reduction meter in order to see where the processing kicks in. You may want to switch between the Styles and see which one works best for your program material. As soon as you are pleased with the processing Style and the amount, increase the Limiter Gain in order to achieve the desired loudness level.

Tip: You can use several instances of MM-1 in series on one track, as you might want to combine Punch and Wide for example. Please note that only the last instance in the chain should increase the volume with Limiter Gain in order to avoid possible distortion.

Credits

Paul Shyrinskykh – sound design and product management. **Arvid Rosén** – DSP and framework programming. **Björn Rödseth, Kim Larsson** – framework programming. **Niklas Odelholm** – graphic design. **Ulf Ekelöf** – 3D rendering. **Daniel Delviken** - marketing. **Igor Miná** – user manual layout.

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NOTE FOR FLASH USERS: Fontstruct fonts (fontstructions) are optimized for Flash. If the font in this archive is a pixel font, it is best displayed at a font-size of 8.
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Christian Robertson
Roboto typeface
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