

MACKIE®

USER'S GUIDE



DSR-1 De-Esser plug-in

For Traktion 2



MACKIE®

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Iconography



This icon will lead you to some further explanations of features and practical tips.



This icon marks information that is very important, so please make sure you have a read.



This icon does not appear in this guide. Well, except here, of course.



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Introduction

Thank you for choosing Mackie software products for your computer-based audio recording system.

The DSR-1 plug-in is a highly accurate, frequency controlled, dynamics processor. It enables you to quickly isolate and correct unwanted sibilance in vocal recordings of singers and speakers.

The DSR-1 reduces annoying sibilant and popping sounds that are often found in recordings, without losing the crisp top-end clarity. Don't let the simple chicken-head controls and the funky retro-look fool you. The DSR-1 is a highly professional and invaluable tool that is ideal for editing vocals, instrumentals, and other sources.

The DSR-1 plug-in comes with Tracktion, our easy-to-use music production software application. When you install Tracktion, the plug-in is automatically installed in Tracktion's plug-ins folder.

Note: This plug-in only works with Tracktion, and will not work with any other VST host applications you may have on your computer.

Main Features

- Mono De-Esser plug-in for Tracktion
- Input Meter
- Input Overload indicator
- Output meter
- Output Overload indicator
- Global enable button
- User presets
- Memories A and B for quick comparisons
- S-Band Listen (solo)
- Input level control
- High-pass filter control
- S-band center frequency control
- S-band beamwidth control
- Threshold control
- Compression Ratio control
- S-band level meter
- Gain reduction meter
- Basic on-screen help
- Fizzy sherbet drinks maker
- Time portal into the Andromeda Galaxy

A brief word about De-Essers

A De-Esser is a useful audio tool used for removing Sss sounds, or sibilance, from vocal tracks.

The problem Sssss sounds exist in a frequency band (the S-Band), which we can narrow-in on with the DSR-1's Freq and Width controls.

The DSR-1's compressor works just on the S-Band. It allows us to compress the level of the higher peaks, once they get louder than a threshold level. The Ratio control sets the action of the compressor, once the signals cross the threshold.

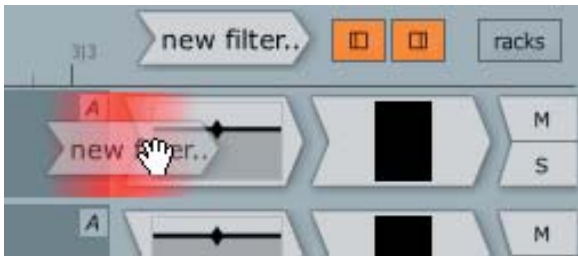
Passing your lovely tracks through the DSR-1 can be a good thing, resulting in vocals which are much improved, and much better than a poke in the eye with a blunt stick. Have a go, and have fun. It can improve even a great recording.

Adding the DSR-1 in Tracktion

The first thing to do is to open up Tracktion and open your project. Well, turn your computer on first; er... you do have a computer don't you?

Tracktion uses the term "filter" to refer to a plug-in, be it native to Tracktion, or a 3rd party plug-in such as a VST plug-in.

To add the plug-in to your tracks, simply drag the icon labelled "new filter.." located just above the filter section, and drop it where you want the new filter to be placed. The figure below shows a filter being added to track one.



Top Right of Tracktion Screen

Notice that the area in front of the volume/pan filter is glowing red; this is how you can tell where the filter will be placed. If there is no illumination, then you are not currently over a valid target area.

Once the "new filter" icon has been dropped, a list of available filters will appear, as if by magic. Choose the filter you



wish to add to the track from this list. The DSR and other plug-ins are available in the "Mackie Plugins" folder of this drop down menu.



DSR-1 Features

Global Controls



Main Controls and Meters

The Main Screen is made up of two sections:

- Global Controls
- Main Controls and Meters

Global Controls

The Global Controls section includes the Lock and Hide buttons, Preset up/down buttons, Preset title window, the Active, Menu, and Mem A/B buttons, and the S-Band Listen button.

Main Controls

The Main Controls section includes most of the controls, meters and readouts. You can change the controls using your mouse to move the knobs or the readouts.

These sections are described in more detail as we gently ramble-on over the following pages.

Global Controls



Lock

If this is pressed, the DSR-1 interface will not disappear when you select other items or areas in Tracktion.

Hide

This hides the DSR-1 interface from view, and is useful if you have previously selected "Lock."

Preset Toggle Buttons

You can save your own favorite settings as presets for later recall.

The preset up/down arrow buttons, on the left side of the Preset window, enable you to scroll up or down through the user presets.

In most vocal recordings, there are usually a number of areas that could be improved with the DSR-1. However, there is not necessarily one overall optimum setting that will work throughout the track. Building user presets is a good way to have multiple De-Esser settings that can be quickly accessed. You can then apply these settings to various regions of your track. There is no delay time in loading presets. You might try building performances by stacking user presets and toggling between them using the up/down arrows. For example, you can quickly switch from a Verse Ess to Chorus Ess preset and back. This would eliminate problematic spots in your recording.

Preset Title Window

This window displays the currently selected preset. Click on it to access the pull-down menu where you can choose your previously-saved user presets. You can save your presets in any folder location you specify. The default is the last folder you've saved or recalled presets from.

Note: if you load a preset, and then adjust any

controls, an asterisk will appear next to the preset name. This is a reminder that things have changed from the original preset.

DS Band Listen

Press this to audition (solo) the band of the "Ssss" frequencies you are trying to eliminate. This band's center frequency is set by the Freq control and the bandwidth is set by the Width control.

While listening to your track, adjust the controls until you can hear the "Ssss" (or other bothersome sounds) quite distinctly.

The button will flash on and off in a mesmerizing manner when engaged. (While under its influence, please cut my lawn every Thursday, and you will then forget everything.)

Menu

Pressing the MENU button opens a pull-down menu that performs some familiar functions:

About DSR: Opens a window that shows the version number and copyright information.

Undo: Undo the previous action.

Redo: Redo the previous undo.

Load DSR: Loads a previously saved preset file.

Save User Preset As...: Saves a Preset to the hard drive with a new file name. (for example, use this after making slight changes to a preset, and saving it as a variation)

Save User Preset: Saves changes to the current preset to the hard drive.

Reset DSR: Resets all the settings to the current preset values.

Cut DSR: Copies all the settings to the clipboard and resets them to their default values.

Copy: Copies all the settings to the clipboard, leaving the settings as they are.

Paste DSR: Copies the settings from the clipboard to the current window.

Note: Cut/Copy/Paste are useful for changing MEM A and B to identical settings.

Memory A/Memory B

The Mem A and Mem B buttons temporarily store all the current settings of the DSR-1 to allow comparative referencing. You can also copy and paste settings from one memory location to another using commands found on the menu.

Active

Use this to engage or disengage the DSR-1 from the signal path. If the red LED is on, the DSR is active, and any audio passing through is affected by its settings. If the red light is out, then the DSR-1 is bypassed, and it has no effect on the audio.

Help (?)

Pressing the question mark button will bring up a second screen showing a block diagram of the DSR, and some helpful text. The question mark becomes an X; click on it to remove the help screen and return to the controls screen.

Block diagram

This shows the signal path through the DSR-1. What happens is basically this:

The signals enter the input level adjustment, and into a high-pass filter (which reduces the level of the low-frequency range if required).

The signals are then split into three bands by the crossover:

- The S-Band containing your problem ess sounds. (The frequency and width are set by the Freq and Width controls.)
- Frequencies lower than the S-Band.
- Frequencies higher than the S-Band.

The compressor only acts on the S-Band. The compression action is set by the Threshold and Ratio controls to reduce the ess sounds. The Listen button lets you audition the S-Band before compression occurs.

The high, de-Essed S-Band, and low bands are then re-combined, and pass on their way to the output.

The screenshot shows the DSR-1 De-Esser interface with a help window open. The interface includes a top bar with 'preset: (untitled)*', 'ds band: listen', 'menu', 'mem a', 'mem b', and 'active' (with a red LED indicator). The help window is divided into three sections:

- Block Diagram:** A flowchart showing the signal path: Input Level Adjust → DC Filter → HP Filter → 3-Way Cross-over → Mid Band Compressor → Listen Over-ride.
- Definitions:**
 - Input - Adjusts the input level
 - Filter - High pass filter to remove low frequency noise
 - Freq - Adjusts the centering frequency of the De-Ess band.
 - Width - Adjusts the bandwidth size of the De-Ess band
 - Thresh - Compressor threshold (any dB level higher than the threshold in the De-Ess band is compressed).
 - Ratio - Compressor ratio of the De-Ess band.
- Steps to De-Ess:**
 1. Turn Listen ON to just hear the De-Ess band.
 2. Set the compressor Ratio to 1:1.
 3. Use the Freq and Width knobs to set the De-Ess band.
 4. Set the Threshold using the Key meter as a guide.
 5. Turn Listen OFF to hear full bandwidth.
 6. Adjust the Ratio to compress the Ess.

Main Controls and Meters



From left to right, the details are as follows:

Input and Output Meters and Overload OL LEDs

The meters on the left show the input levels of the signals going into the DSR-1 and the output (post-effect) levels.

The small boxes above the meters are the overload LEDs. They light if the signal goes above 0 dB, and this should be avoided. Most little red lights should be avoided, like that one in the car that says "Oil."

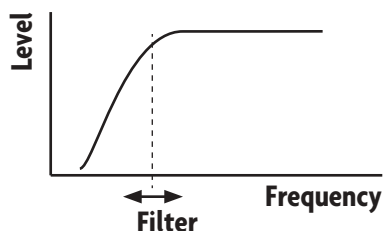
Input Control

This allows you to adjust the gain or attenuation applied to the input signal. If this is set to 0 dB, the input signal initially has no gain or attenuation applied.

You can adjust the control by grabbing the knob or the readout below it. (Move the mouse left or right, or up and down but not circularly.)

Filter Control

This controls the cut-off frequency of a high-pass filter, and it ranges from 20 Hz to 200 Hz. It offers you a quick and convenient way to reduce any low-frequency noise in your vocal input signals, such as microphone pops for example.



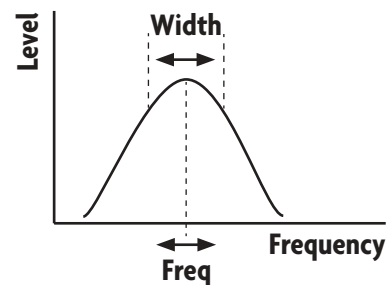
Freq and Width Controls

These controls are used to select the "ess" frequency range, where your problem frequencies exist to taunt you. (From now on, we will call this naughty range, the S-Band.)

FREQ, ranging from 1 kHz to 20 kHz, sets the center frequency of the S-Band.

WIDTH ranges from 1 to 100, with 1 being a very narrow band and 100 being very wide.

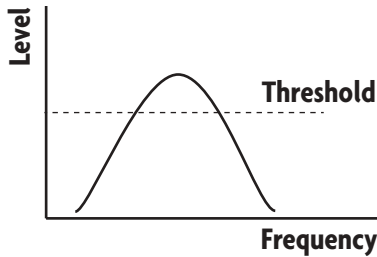
Setting the Freq and Width controls is a bit like setting a peaking EQ, only you are trying to highlight and isolate the problem S-Band, which will then be reduced by the DSR-1's compressor.



Use your ears to locate a troublesome frequency range by pressing the LISTEN button to hear the S-Band. Then use the FREQ and WIDTH controls to adjust the range.

Threshold Control

At the heart of the DSR-1 is a compressor, which operates on the S-Band set by the Freq and Width controls. Any peaks in the S-Band, louder than the threshold will be compressed. Input signals below the threshold, will not be affected.



Ratio Control

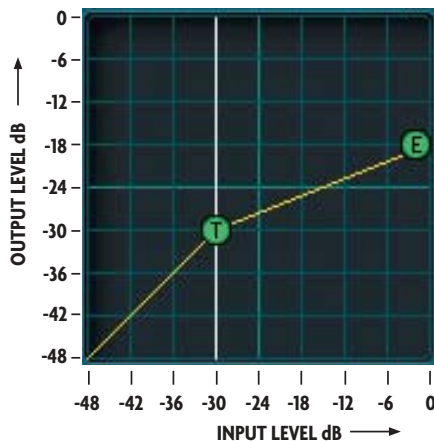
The compression ratio shows us how much compression is being applied, once (S-Band) signals have crossed the threshold level.

For example, if the ratio is 2.5:1, then for signals above the threshold, a 2.5 dB increase in input level will yield only a 1 dB increase in the output level. So, with this control, we can reduce the level of those peaks that have wronged us.

If the ratio is 1:1, there is no compression; any increase in input level yields the same increase in output level.

If the ratio is 20:1, then an increase in input level of 20 dB, will yield an increase in output level of 1 dB. This is heavier compression.

The Compressor action is often shown as a graph of output level vs. input level, like this:

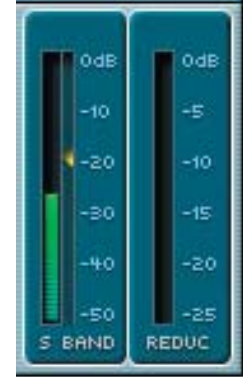


In this example, the Threshold (T) is set to -30 dB, and the ratio (the slope of the graph) is 2.5:1, after the threshold.

S-Band Meter

This meter represents the dB level of the S-Band.

The small arrow on the right edge of the meter shows the threshold level set by the threshold control. You can move this arrow with the mouse to adjust it below your S-band peaks. (The threshold control will move as you move the arrow.)



Reduction Meter

The gain-reduction meter shows the overall reduction in output level due to the compressor operation. It is a downward-moving meter, so it is not something you see every day. It gives you some idea of how much you might need to adjust the Input level to make up for the gain reduction.

The meter reads 0 dB whenever the input is below threshold, and moves down as the input level goes above threshold and gain reduction starts.

Using the DSR-1



1. Start by adding the DSR-1 to a vocal track.
2. Set the DSR-1's Input control to an acceptable level. Start with 0 dB, and adjust it later if needed, to make up for the reduction in gain caused by the action of the DSR-1.
3. Press the Listen button to isolate the S-Band.
4. Set the Ratio to 1:1 so that no compression is applied to the S-Band just yet.
5. Adjust the Freq and Width controls so you hear as much of the problematic sibilance as possible. At the same time, keep the width narrow enough so you do not hear too much of the good signals you would like to leave unaffected.
8. Adjust the Ratio control to apply a desired amount of compression to your specified S-Band. Start with mild compression ratios and work gently, with just enough to reduce the peaks of the bad effects.
9. Continue to tweak the ratio and threshold parameters until you've got the sound you want. You may need to change threshold level to compensate for adjustments made with the Freq and Width controls.
10. When you are happy, save your settings as a preset. If there are other frequencies in the same track that need work, you can repeat this procedure and save it as another preset for quick recall.

Typically, you will find a center frequency in the range of 3 kHz to 6 kHz, with a width ranging from 20 to 40 is useful. Watch the S-Band meter change as you adjust the frequency and width of the S-Band.

6. Adjust the Threshold level so it is just below the peak levels of the S-Band meter.

Watching the threshold arrow is a good way to see where your threshold level should be after you have dialed in an S-Band frequency and width.

The DSR-1 compressor only affects signals that are above the threshold.



7. Now you've got a good starting point. Take it out of Listen mode. (In Listen mode, you are hearing the S-Band uncompressed, and not affected by the Threshold or Ratio controls.)

Specifications

Input/ Output Meters

-40 to 0 dB

Input Control

Off to + 12.0 dB

High-Pass Filter

20 Hz-200 Hz (4th Order), and off

Frequency

1 kHz to 20 kHz (the frequency of the S-Band)

Width

Narrow to Wide (the width of the S-Band)

Compression Threshold

-40 dB to 0 dB (applied to the S-Band)

Compression Ratio

1:1 to 100:1 (applied to the S-Band)

S-band (Key) Meter

-40 dB to 0 dB

Gain Reduction Meter

-40 dB to 0 dB

Weight

Well it all depends on what you mean by weight

Dimensions

1.5 car parking spaces

Directions

Gindle the two left spansoes, and elevate the thronde's cotter pin longitudinally thence-ways.

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