



DeS

Dual Band De-Esser 500 Series Module



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► Version 1.0 – 02/2016

Developer: Wolfgang Neumann

This manual contains a description of the product SPL Dual Band De-Esser DeS. In no way it represents a guarantee of particular characteristics or results of use.

The information in this document has been carefully compiled and verified and, unless otherwise stated or agreed upon, correctly describes the product. Sound Performance Lab (SPL) continuously strives to improve its products and reserves the right to modify the product described in this manual at any time without prior notice.

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▶ Scope of Delivery

DeS – 500 Series Rack Module

Quickstart/Product Overview

▶ Measurement & Weight

Singe Slot 500 Series Rack Module

Weight: 1.53 lbs (0.65 kg)

Please keep the original packaging. In case of a service procedure the original packaging ensures a safe transport. It also serves as a safe packaging for your own transports if you do not use special transportation cases.

► Welcome

and thank you for purchasing the Dual Band De-Esser DeS. Back in the 1990's, we developed an alternative way to process signals based on phase cancellation in order to reduce sibilance.

Unlike traditional compression methods, this procedure is much more unobtrusive and simplifies control to one single parameter. SPL's De-Esser quickly became a standard reference among recording studios, broadcast stations and live sound engineers.

The Dual Band De-Esser DeS expands on this concept by making use of two frequency bands that can be used independently or jointly. Two de-esser stages increase processing effectiveness without introducing audible artifacts. Focused processing with high and low bands makes it possible to process sibilant sounds with great precision. Furthermore, input signals are automatically adjusted so the processing is uniform, regardless of the distance between source and microphone. The Male/Female modes adapt processing in the lower band to male or female voices.

Now, the Dual Band De-Esser DeS is also available in 500 series format.

▶ General

Frequency Response: 10 Hz - > 100 kHz

Noise: -93 dBu (A-weighted)

Dynamic Range: 116 dB

Common Mode Rejection Ratio: > 80 dB (at 1 kHz)

Total Harmonic Distortion and Noise (THD+N): 0.03% (0 dBu input level/unity gain)

Current consumption: 30mA at +/- 16 Volt DC

▶ Input

Electronically balanced

Impedance: approx. 20 kohms

Max. Input Level: +22 dBu

▶ Output

Electronically balanced

Impedance: approx. 150 ohms

Max. Output Level: +22 dBu

→ Content

► Installation into a 500 series rack

- Please read the manual that comes with the 500 series rack. You should gain all information necessary for the installation process.
- Your 500 series rack should be switched off and the power cable should not be connected.
- Insert the DeS module into a free slot of your rack. Make shure the connector of the DeS is precisely aligned with the rack connector.
- Press the DeS module carefully into the rack connector and tighten the screws.
- Connect the DeS module with your audio environment using the connections from your 500 series rack.
- Insert the power cable to the 500 series rack and switch it on.

Control Elements



► On/Bypass

With the **ON/Bypass** button you can switch the DeS into the signal path. If the button is in position “On”, the DeS is active. If the button is in position “Bypass”, the audio signal passes through unprocessed.



► Hi-S

Use the **Hi-S** control to adjust the intensity of the sibilance reduction in the upper frequency range. The center frequency for sibilance recognition is set at 11.2 kHz with a 3 kHz bandwidth.

Scale values for the filter are displayed in dB. The actual reduction values, i.e. after phase cancellation, might be less.

Please note that the **Voice Male/Female** button has no effect on the high band de-esser.

In practice, for most applications, the best results are usually achieved when Hi-S setting is set between 3 and 7.



► Lo-S

Use the **Lo-S** control to adjust the intensity of the sibilance reduction in the lower frequency range. The center frequency for sibilance recognition is set at 7.6 kHz in **Voice Female** mode and 6.4 kHz in **Voice Male** mode. For more information, please refer to section “Voice Male/Female” on page 13. The bandwidth of the low band de-esser is 1.44 kHz.

Scale values for the filter are displayed in dB. The actual reduction values, i.e. after phase cancellation, might be less.

In practice, for most applications, the best results are usually achieved when Lo-S setting is set between 3 and 7.



► High Band/Low Band De-Essing On/Off

Use the **High Band De-Essing On/Off** button to turn the Hi-S reduction on or off. Use the **Low Band De-Essing On/Off** button to turn the Lo-S reduction on or off.

You can use the two processing stages separately or jointly. They are connected in series as independent de-esser modules. The low band de-esser is set first in the chain.

If both de-essers are engaged, there is interaction between them: a signal already processed with the low band de-esser is different from the raw material that the high band de-esser would otherwise process.



► Voice Male/Female

The **Voice Male/Female** switch allows you to adjust the Low Band De-Esser to the type of voice being processed. These values have been determined by practical experience, so that the processor adapts better to gender. Nevertheless, you cannot take for granted that these settings will suit every single male and female voice.

Consider the Male/Female function as an additional tool to help you set the Low Band De-Esser more precisely according to your needs. Always trust your ears to find the best settings.



► Signal-LED

The signal LED (Sig) indicates that an audio signal reaches the input with a level above -20 dB. This LED helps the operator especially in complex setups to determine immediately whether the Dual Band De-Esser DeS actually receives a signal.



▶ Exclamation mark within a triangle

An exclamation mark within a triangle is intended to make you aware of important operational advice and/or warnings that must be followed.

Be especially attentive to these and always follow the advice they give.



▶ Lightning symbol within a triangle

In this Manual a lightning symbol within a triangle warns you about the potential for dangerous electrical shocks – which can also occur even after the device has been disconnected from a power source.



▶ Symbol of a lamp

The symbol of a lamp directs your attention to explanations of important functions or applications.



► Connections

Only use the connections as described.

Other connections can lead to health risks and damage the equipment.



► Water and humidity

Do not use this device anywhere near water (for example in a bathroom, a damp cellar, near swimming pools, or similar environments). Otherwise you are dealing with an extremely high risk of fatal electrical shocks!



► Insertion of objects or fluids

Be careful to not insert any object into any of the chassis openings. You can otherwise easily come into contact with dangerous voltage or cause a damaging short circuit. Never allow any fluids to be spilled or sprayed on the device. Such actions can lead to dangerous electrical shocks or fire!



▶ Air ventilation

Chassis openings offer ventilation and serve to protect the device from overheating. Never cover or otherwise close off these openings. Never place the device on a soft surface (carpet, sofa, etc.).



▶ Electrical power

Operate the device only from power sources that can provide proper power. When in doubt about a source, contact your dealer or a professional electrician. To be certain you have isolated the device, disconnect all power and signal connections. Make sure that the power supply plug is always accessible. When not using the device for a longer period, make sure to unplug it from your wall power socket.



▶ Opening the unit

Simply put: DON'T, if you are not a certified SPL technician or engineer. Really: Do not open the device housing, as there is great risk you will damage the device, or – even after being disconnected – you may receive a dangerous electrical shock.



▶ Power connection overloads

Avoid any kind of overload in connections to wall sockets, extension or splitter power cords, or signal inputs. Always keep manufacturer warnings and instructions in mind.

Overloads create fire hazards and risk of dangerous shocks.



▶ Lightning

Before thunderstorms or other severe weather, disconnect the device from wall power; do not do this during a storm in order to avoid life threatening lightning strikes.

Similarly, before any severe weather, disconnect all the power connections of other devices and antenna and phone/network cables which may be interconnected so that no lightning damage or overload results from such secondary connections.



▶ Controls and switches

Operate the controls and switches only as described in the manual. Incorrect adjustments outside safe parameters can lead to damage and unnecessary repair costs. Never use the switches or level controls to effect excessive or extreme changes.



▶ Repairs

Unplug the unit from all power and signal connections and immediately contact a qualified technician when you think repairs are needed – or when moisture or foreign objects may accidentally have reached inside the housing, or in cases when the device may have fallen and shows any sign of having been damaged. This also applies to any situation in which the unit has not been subjected to any of these unusual circumstances but still is not functioning normally or its performance is substantially altered.

In cases of damage to the power supply and cord, first consider turning off the main circuit breaker before unplugging the power cord.



► Replacement/substitute parts

Be sure that any service technician uses original replacement parts or those with identical specifications as the originals.

Incorrectly substituted parts can lead to fire, electrical shock or other dangers, including further equipment damage.



► Safety inspection

Be sure always to ask a service technician to conduct a thorough safety check and ensure that the state of the repaired device is in all respects up to factory standards.



► Cleaning

Do not use any solvents, as these can damage the chassis finish.

Use a clean, dry cloth (if necessary, with an acid-free cleaning oil).

Disconnect the device from your power source before cleaning.



► Declaration of CE Conformity

The construction of this unit is in compliance with the standards and regulations of the European Community.



► Notes on Environmental Protection

At the end of its operating life, this product must not be disposed of with regular household waste but must be returned to a collection point for the recycling of electrical and electronic equipment.

The wheelie bin symbol on the product, user's manual and packaging indicates that. The materials can be reused in accordance with their markings.

Through reuse, recycling of raw materials, or other forms of recycling of old products, you are making an important contribution to the protection of our environment.

Your local administrative office can advise you of the responsible waste disposal point.

WEEE Registration: 973 349 88



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