

Introduction

Congratulations on your purchase of this API 500 format compatible SSL VHD™ Pre Module.

This module has been specifically designed to operate in a 500 format rack such as the API lunchbox® or equivalent. In common with many such modules, the nominal input/output level is +4dBu.

The VHD Pre is an immensely versatile recording and processing device. It can deliver ultra clean SSL SuperAnalogue™ grade recordings but also features a switchable VHD mode. SSL's patented Variable Harmonic Drive (VHD) system uses a 100% analogue signal path to generate rich harmonic distortion. As you increase VHD input gain, the Variable Harmonic Drive process introduces either 2nd or 3rd harmonic distortion or a blend of the two to your source material. At lower gain settings it adds gentle valve-style warmth or a touch of transistor edge. As the gain is increased the more extreme the distortion becomes until at high gain settings it delivers fierce trashy transistoresque grunge.

Operation

Please refer to the illustration opposite.

Signal LED ①

The signal LED is a tri-colour LED that indicates level according to the following table.

LED colour	+24dB Scale*	+18dB Scale*
Green	-24dBu	-24dBu
Yellow	+4dBu	0dBu
Red	+21 dBu	+16dBu

* The LED scale is selected from a jumper on the module PCB.

Gain Controls ②

The red pot provides up to +75 dBs of gain, whilst the black pot provides a variable mix of 2nd to 3rd harmonics (once the VHD-IN switch ③ is engaged).

The grey pot provides +/- 20dB of trim. Use this to control the output when driving the VHD preamplifier circuit.

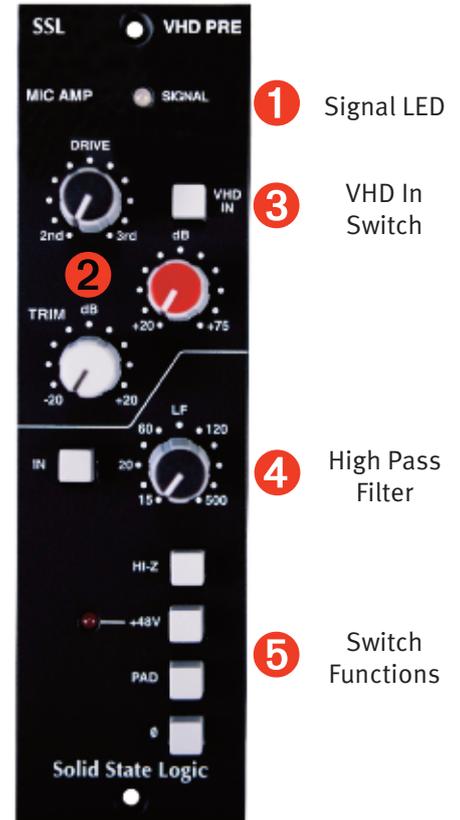
High Pass Filter ④

The High Pass Filter section is a switchable 18dB/Octave variable filter. See the block diagram for the position in the circuit.

Switch Functions ⑤

HI-Z	Switches the preamplifier impedance from 1.2KΩ to 10KΩ
+48v	Applies phantom power, a tell tale red LED indicates phantom power is active.
PAD	Applies 20 dBs attenuation before the signal enters the preamplifier.
∅	Polarity switch inverts the polarity of the signal by 180°.

Gain Controls



Using the preamplifier

When the VHD button is not engaged, the preamplifier has been designed to give a transparent sound, great for sources such as acoustic guitars, vocals and strings.

When the VHD button is pressed, the preamplifier can be driven to give a wide-range of overdriven sounds, ranging from subtle to... well, not so subtle! Drums and electronic instruments can often benefit from VHD colouration.

The best way to drive the VHD preamplifier is to increase the input gain (red pot) whilst using the Line Trim pot to reduce the overall level and not clip the channel output. Remember, it's the input to the preamplifier that likes being driven. From this point, adjust the harmonics to fine-tune the desired sound.

Block Diagram

