Solid State Logic

OXFORD • ENGLAND

SiX Channel Module
for 500 Series Enclosures

User Guide

Safety and Installation Considerations

This page contains definitions, warnings, and practical information to ensure a safe working environment. Please take time to read this page before installing or using this apparatus.

General Safety

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Do not expose this apparatus to rain or moisture.
- Clean only with dry cloth.
- Do not block any ventilation openings.
- Install in accordance with the rack manufacturer's instructions.
- There are no user-adjustments, or user-servicable items, inside this apparatus.
- Adjustments or alterations to this apparatus may affect the performance such that safety and/or international compliance standards may no longer be met.
- This apparatus is not to be used in safety critical applications

Caution

- This apparatus should not be used outside of the scope of API 500 series compatible racks.
- Do not operate this apparatus with any covers removed.
- To reduce the risk of electric shock, do not perform any servicing other than that contained in these Installation Instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

Installation

- Ensure power is removed from the rack before fitting or removing this apparatus to or from the rack.
- Use the panel fixing screws supplied with the rack to secure this apparatus into the rack.

Standards Compliance

This apparatus is designed to be installed and used in API 500 series compatible racks which are CE marked. The CE mark on a rack is indicative that the manufacturer confirms that it meets both EMC and the Low Voltage Directive (2006/95/EC).

Instructions for Disposal of WEEE by Users in the European Union



The symbol shown here is on the product or on its packaging, which indicates that this product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

Limited Warranty

Please refer any warranty claim to the supplier of this equipment in the first instance. Full warranty information for equipment supplied directly by Solid State Logic can be found on our website:

www.solidstatelogic.com

Introduction

Congratulations on your purchase of this 500 Series compatible SSL SiX Channel Module.

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

The SSL SiX Channel is a single-width 500 Series mini channel strip using the SuperAnalogue channel processing features from SSL's SiX console including the Mic-pre, low and high frequency EQ, as well as the single knob compressor.

The SiX Channel is a simple way to add additional Mic/Line inputs to the line level returns of any professional audio device, including the Stereo channels of the SiX console. It is also a flexible way to create a professional modular mixer from a 'summing' 500 Series rack unit.

Operation

Please refer to the illustration opposite.

SuperAnalogue Pre-Amp input

The SiX Channel pre-amp is the same wide gain range SuperAnalogue design as found in the SiX Console and thus developed from the mic pre-amps of the larger SSL Duality and AWS consoles. In these consoles, line and mic inputs are served by separate pre-amps. In the SiX Channel a wide gain range, ultra low noise SuperAnalogue design provides both Line and Mic facilities with a "Line" gain range switch to cover a wide range of source levels.

The pre-amp consists of a microphone input (from the 500 series rear rack XLR) and a front panel line level input (¼" TRS Jack Socket).

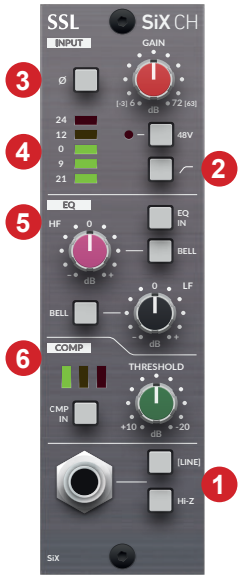
Mic Input (Rear XLR connector)

The default microphone input uses SSL's SuperAnalogue design and includes individually switched 48V phantom power. The Mic (XLR) input's nominal impedance is 1.2 kΩ. The rear 500 Series enclosure XLR is the default input.

Line Input (Front Panel TRS)

The input source can be switched to the front panel ¼" TRS jack line input by pressing the '[Line]' switch 1 on the channel.

The nominal Line Input impedance is 10 kΩ. This can be changed to 1 MΩ using the Hi-Z switch. The 1MΩ impedance makes this input suitable for very high impedance sources such as passive guitar pickups without the need for an external DI box.



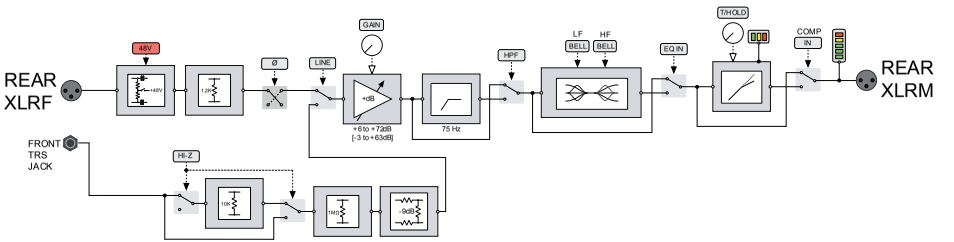
The Gain control adjusts either the microphone pre-amp gain (+6 dB to +72 dB), or the Line amp gain [-3 dB to +63 dB], depending on the selected input source.

Following the pre-amplifier is a switched 12 dB/oct, 75 Hz High Pass Filter (HPF) 2 to reduce unwanted LF such as Microphone Rumble, AC noise etc.

The Polarity Switch (ø) 3 inverts the polarity of the rear XLR Mic Amp (180° Phase Shift).

A five segment LED meter 4 shows the output signal level in dBu.

Block Diagram



Channel EQ 5

The EQ on the SiX Channel module is the same design as found in the SiX Console which has its roots in SSL's classic E series EQ. It is a gentle, broad stroke two-band design with high and low shelving filters at 3.5 kHz and 60 Hz, adjustable from +15 dB to -15 dB of gain.

Each band can be independently switched between shelving and bell curves using the BELL switch - a feature found on many SSL EQ designs. A useful feature of the bell curves is that they change centre frequency to operate at 5 kHz and 200 Hz giving greater versatility from the two controls.

The EQ is switched 'in' circuit or completely bypassed using the 'IN' switch. This guarantees no influence on the channel's flat frequency response from the tolerance of the EQ control centre detent positions.

COMP (Compressor) 6

The 'one knob' channel compressor on the SiX Channel module is responsive design with features that give powerful and versatile performance from its deceptively simple controls.

The attack time of the compressor is approximately 5 ms and has an over-easy/soft knee response. This allows the compressor to operate smoothly with a wide variety of content. The release time is approximately 300 ms and the ratio is 2:1. The single user control is for the compressor Threshold and is adjustable between +10 and -20 dBu with a three LED meter indicating the amount of gain reduction being applied. The circuit has automatic make-up gain to maintain signal level for the full range of threshold settings.

As with the EQ circuit, the compressor can be completely bypassed using the IN switch, for a simple way to compare the compressed and uncompressed signals. This also prevents component tolerances from influencing the sound of the channel strip when the Threshold is turned to minimum.

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As research and development is a continual process, Solid State Logic reserves the right to change the features and specifications described herein without notice or obligation.

Solid State Logic cannot be held responsible for any loss or damage arising directly or indirectly from any error or omission in this manual.

PLEASE READ ALL INSTRUCTIONS, PAY SPECIAL HEED TO SAFETY WARNINGS.

E&OE

October 2020

Revision History

Revision V1.0, Oct 2020 - First Release