

# Solid State Logic

SOUND | | VISION



## Super-Analogue™ Outboard

### XR624 X-Rack 8 Input Summing Module User's Guide

This documentation package contains the User's Guide for your new X-Rack 8 Input Summing module. Depending on the age of your X-Rack, these pages may already be present in your X-Rack Owner's Manual – please check to see if these pages match your Manual. If they do not, these pages should be filed alongside it.

*Please Note. The XR624 X-Rack 8 Input Summing module operates in conjunction with the XR622 X-Rack Master module.*

*X-Rack units prior to serial number XRK0110 are compatible with the X-Rack Master module but may require a small modification to the buscard; if the 'SOLO' LED is permanently illuminated, resistors R1 and R2 will need removing. In addition, any Mic Amp or Line input module(s) must be fitted immediately to the left of the Master module – later X-Rack units do not have this limitation and modules may be freely placed anywhere in the later X-Rack units.*

*For correct operation of this module, your X-Rack unit must be running V1.2/0 or later software. Please refer to your X-Rack Owners Manual for instructions on how to check the current software version and how to obtain and install a newer version if required.*

*There may be a newer version of the X-Rack Owner's Manual available for download from our website ([www.solid-state-logic.com](http://www.solid-state-logic.com))*

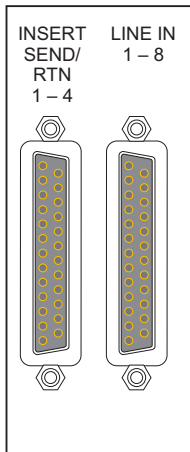


## G. Summing Module

### G.1 Introduction

The Eight Input Summing module was developed in response to requests from X-Rack users for a line input module designed to accommodate larger quantities of stereo line level inputs from studio sources such as multichannel audio interfaces, sub mixers and synthesizers. The module is designed for use with the X-Rack XR622 Master module and is equipped with eight line level inputs configured as four stereo pairs, each pair featuring on/off and mono/stereo switching, routing onto the internal Mix bus. In addition to this, there are stereo inserts available on the first two input pairs. The X-Rack Master module provides the monitoring facilities that would be expected; mix amps, monitor outputs and a headphone feed – please refer to the X-Rack Master module documentation for a full description.

### G.2 Connection



The rear panel of the module carries a pair of 25-way ‘D’ connectors. The left-hand connector provides Insert Sends and Insert Returns for the first two pairs of Inputs whilst the right-hand connector provides access to the eight balanced inputs (four stereo pairs).

This module contains no variable gain controls and operates at unity gain.

### G.3 Operation

This module is a fixed gain summing amplifier and so there are naturally few front panel controls.

#### G.3.1 Input 1/2 and Input 3/4 1

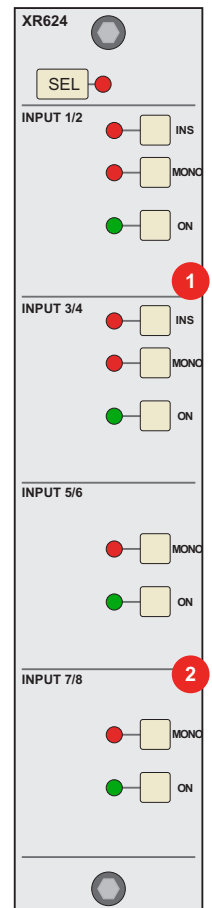
Signals applied to these inputs will be permanently available on the Insert Sends; the Insert Return for either pair can be selected in place of the Line Input by pressing the appropriate ‘INS’ switch. Note that the Insert Return can also be used to provide an alternative input to these input amplifiers.

Normally the left hand input of any pair will feed the left mix bus; the right input will feed the right mix bus. The ‘MONO’ switch will over-ride this behaviour by summing both left and right inputs and feeding both mix busses together at unity gain.

The ‘ON’ switch will act to un-route the appropriate pair of inputs from the X-Rack mix bus.

#### G.3.2 Input 5/6 and Input 7/8 2

These two pairs of inputs operate in a similar manner to the first two pairs of inputs above, but lack the Insert Send/Return.



## G.4 Performance Specification

The following page contains audio performance specification figures for the X-Rack Summing module. No other Solid State Logic products are covered by this document and the performance of other Solid State Logic products can not be inferred from the data contained herein.

### G.4.1 Measurement Conditions

For each set of figures on the following pages, the specific unit and test setup will be stated at the beginning of that section. Any changes to the specified setup for any particular figure(s) will be detailed beside the figures to which that difference applies.

### G.4.2 Measurement References

Unless otherwise specified the references used in this specification are as follows:

- Reference frequency: 1kHz
- Reference level: 0dBu, where 0dBu  $\approx$  0.775V into any load
- Source impedance of Test Set: 50 $\Omega$
- Input impedance of Test Set: 100k $\Omega$
- All unweighted measurements are specified as 22Hz to 22kHz band limited RMS and are expressed in units of dBu
- All distortion measurements are specified with a 36dB/Octave low pass filter at 80kHz and are expressed as a percentage
- The onset of clipping (for headroom measurements) should be taken as 1% THD
- Unless otherwise quoted all figures have a tolerance of  $\pm$ 0.5dB or 5%
- All measurements are made with the operating level switch set for +4dBu

### G.4.3 Performance

Signal applied to one channel of an X-Rack Summing module and routed to Mix Bus. Signal measured on Mix Output. All other inputs un-routed from the bus under test. Mix Bus Gain control set to 0dB.

Gain	Fixed, 0dB
THD + Noise (+24dBu applied, 0dB gain)	< 0.005% from 20Hz to 10kHz, < 0.008% at 20kHz
Frequency Response	$\pm$ 0.1dB from 20Hz to 20kHz -3dB at 150kHz
Noise (Input terminated with 150 $\Omega$ )	< -80dBu

## G.5 Connector Details

<b>Insert Send/Rtn 1 – 4</b>			
Location:		Rear Panel	
Conn' Type:		25-pin 'D' Type Female	
<i>Pin</i>	<i>Description</i>		<i>Cct</i>
1	14	Insert Return 4 (-ve)	8
2		Insert Return 4 (+ve) 0V	
3	15	Insert Return 3 (-ve)	7
3		Insert Return 3 (+ve) 0V	
4	17	Insert Return 2 (-ve)	6
5		Insert Return 2 (+ve) 0V	
6	18	Insert Return 1 (-ve)	5
6		Insert Return 1 (+ve) 0V	
7	20	Insert Send 4 (-ve)	4
8		Insert Send 4 (+ve) 0V	
9	21	Insert Send 3 (-ve)	3
9		Insert Send 3 (+ve) 0V	
10	23	Insert Send 2 (-ve)	2
11		Insert Send 2 (+ve) 0V	
12	24	Insert Send 1 (-ve)	1
12		Insert Send 1 (+ve) 0V	
13		n/c	

<b>Line In 1 – 8</b>			
Location:		Rear Panel	
Conn' Type:		25-pin 'D' Type Female	
<i>Pin</i>	<i>Description</i>		<i>Cct</i>
1	14	Line Input 8 (-ve)	8
2		Line Input 8 (+ve) 0V	
3	15	Line Input 7 (-ve)	7
3		Line Input 7 (+ve) 0V	
4	17	Line Input 6 (-ve)	6
5		Line Input 6 (+ve) 0V	
6	18	Line Input 5 (-ve)	5
6		Line Input 5 (+ve) 0V	
7	20	Line Input 4 (-ve)	4
8		Line Input 4 (+ve) 0V	
9	21	Line Input 3 (-ve)	3
9		Line Input 3 (+ve) 0V	
10	23	Line Input 2 (-ve)	2
11		Line Input 2 (+ve) 0V	
12	24	Line Input 1 (-ve)	1
12		Line Input 1 (+ve) 0V	
13		n/c	

*Note that the 'D' type connector binding posts fitted to the X-Rack 8 Input Summing Module are 4-40 UNC thread.*

## G.6 Physical Specification

Depth:	200mm / 7.9 inches	<i>including front panel knobs, excluding connectors</i>
	275mm / 10.9 inches	<i>including front panel knobs and connectors</i>
Height:	171mm / 6.75 inches	
Width:	35mm / 1.4 inches	<i>front/rear panels</i>
	49mm / 1.9 inches	<i>overall width (front and rear panels are offset)</i>
Weight:	260g / 9.5 ounces	
Boxed size:	190mm x 290mm x 70mm / 7.5" x 11.5" x 2.5"	
Boxed weight:	460g / 16.5 ounces	

*\* All values are approximate*

## G.7 Environmental Specification

*As per X-Rack – see page 19.*