



ShinyBox

Si4

Microphone Preamplifier

Overview

The Si4 microphone preamplifier is a 1RU, four channel professional microphone preamplifier, capable of very high gain, with very low noise performance. Each channel has fully balanced XLR input and output connectors available on the rear panel.

Gain

The primary gain control for each channel is available via a twelve position Grayhill switch, with an available range of 6dB-72dB in 6dB increments. With the circuit stable down to 6dB of gain, it eliminates the need for a pad when using the preamplifier on loud source material. A 10dB output trim potentiometer provides a means to reduce the gain for settings between the 6dB increments. For best performance, the output trim is normally left at 0 (fully clockwise), and the gain switch is adjusted to achieve appropriate gain. If too much gain is achieved, the output trim can then be adjusted to reduce gain.

Phantom Power (48V switch)

Each channel provides a 48V phantom power switch for powering microphones with active circuitry (most condenser microphones, some dynamics and ribbons). Most dynamic and ribbon microphones are passive devices, and do not require phantom power. For passive microphones, it is best to unplug the

microphone before turning the phantom power off. Phantom Power off (blue)
Phantom Power on (red)

Polarity

Each channel provides a polarity reverse switch. With the switch out (blue), polarity is normal, with the switch pressed (red), the polarity of the signal is reversed.

Input Impedance (hi-z switch)

Each channel provides an input impedance switch that allows the user to change the input impedance between two fixed points. With the switch out (blue), the input impedance is set to 1.4K ohms. With the switch in (red), the input impedance is set to 8K ohms. Passive microphones (ribbon microphones, dynamic microphones) will often exhibit better frequency response when they are able to drive a higher load. Microphones with active circuitry will seldom exhibit much difference with the switch in either position. In practice, this button is something to check once you have a microphone positioned on a source and sounding good (passive ribbons and dynamic microphones). Press the hi-z button. You may like the result better in one of the positions.

FRONT PANEL



BACK PANEL



Microphone Preamplifier



Metering

Each channel provides an 8 segment LED meter. The meter indicates the rms output level of the preamplifier.

The meter can be switched between several metering modes. There is a small tactile pushbutton on the left side of each meter (to the right of the 48dB gain label), that allows you to work with the meter.

Entering meter program mode:

Press and hold the meter pushbutton for 2 seconds. The red meter light will turn solid. Release the pushbutton at this point.

Another meter light will be illuminated (1-5). This light indicates which metering mode the meter is in. Pressing the push button will allow you to cycle through the first five leds (it will wrap around to the first light after light 5). Once you have selected the

metering mode, press and hold the meter button for 2 seconds to exit meter programming mode. Below are listed the five meter programs:

1. Normal metering
2. Over metering (any signal over +18dbU will cause the red light on the meter to start blinking, with the push button acting as a reset. This is useful in live recording, when you are looking for which channel has a signal that is too hot.
3. Peak hold. The meter will leave the peak meter light illuminated, with the push button acting as a reset.
4. Peak hold + Over. This combines meter modes 2&3, with the push button acting as a reset.
5. Knight Rider. This is a test mode that scrolls the lights left to right. Helpful for making sure all meter lights are working, or for eye candy.

Power Requirements

The Si4 has an internal power supply capable of powering the mic pre from 85-220 Volts AC, 50-60Hz. Current draw for the 4 channel mic pre is roughly 200 milliamps (.2 Amps).

What this means is that it can be used worldwide, just plug in the proper IEC cable and you are good to go!

Specifications

Gain Range(6dB increments)	6dB-72dB
Output Trim	0—10dB
Input Impedance	1.4k normal, 8.1k hi-z pressed
Output Impedance	~50 ohm
Output Drive Capacity	18Vrms into 600 ohm load
Frequency Response (+4 dbU output, across the gain range)	5Hz-50kHz within 1dB
Equivalent Input Noise (30 ohm/150 ohm, 100K load, 72dB gain)	-131dB/-128dB
Intermodulation Distortion(72dB gain, +22dbU output, 100K load)	0.00179
Power Consumption	12 watts max
Weight	4.9 lbs/2.2kg
Dimensions	19" X 1.75" X 6"