

SM Pro Audio

Operating Manual - SM PR8E

Manual Version 1.1 Dec 2005



SAFETY INSTRUCTIONS

CAUTION: To reduce the risk of electrical shock, do not remove the cover or rear panel of this unit. No user serviceable parts inside. Please refer servicing to qualified personnel only.

WARNING: To reduce the risk of fire or electrical shock do not expose this appliance to rain or moisture.

DETAILED SAFETY INSTRUCTIONS:

All safety and operation instructions of this manual should be read and adhered to before operation.

Retain Instructions:

Please retain all safety and operating instructions for future reference.

Follow instructions:

All operation and user instructions should be followed.

Water, liquid and Moisture:

The appliance should not be used near water, rain or other liquids. Make sure that no liquid can leak, spill or otherwise seep into the appliance.

Ventilation:

Please place the appliance so no obstacles interfere or impede the flow of air through the ventilation openings.

Heat:

The appliance should be situated away from other heat sources such as heaters, radiators, ovens, or other appliances that produce heat.

Power Source:

Make sure your appliance is set to the correct voltage for the country in which it will be used.

Grounding and Polarization:

Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

Power-Cord Protection:

Power supply cords should be routed so that they are not likely to be walked on, pinched, damaged, worn, or rubbed by any other device or obstacle.

Cleaning:

The appliance should be cleaned only with a light soft cloth. Do not use any damaging or corrosive products on the unit.

Periods of inactivity:

The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

Damage Requiring Service:

The appliance should be serviced by qualified service personnel when:

- The power supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped, or the enclosure damaged.

Servicing:

The user should not attempt to service the appliance beyond that is described in the Operating Instructions.

All other servicing should be referred to qualified service personnel.

SM PR8E Main Features

Professional, multi-purpose multi-channel pre-amplifier system for studio applications

- Eight totally independent pre-amplifiers in 1 RU package
- High quality audio
- 8 x combo connectors inputs (XLR/TRS)
- 8 x TRS balanced outputs
- Phantom On/Off per channel
- Phase reversal switch per channel
- 8 x phantom Light indicators
- 8 x peak Light indicators
- Individual gain control on each channel
- High-quality components and rugged construction
- External power supply

FOREWORD

Dear Customer,

Thank you very much for expressing your confidence in SM Pro Audio products by purchasing this unit. The SM PR8E has been designed to be used as a standard tool for home/pro studios. With much experience in the audio industry over a long period of time, and along with valuable suggestions from our customers, our engineers have developed a product we know you will be satisfied with. We guarantee you uncompromising quality as well as excellent technical and audio properties at an extremely affordable price.

Regards,

SM Pro Audio

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1. INTRODUCTION

In purchasing the new SM PR8E, you have acquired a multi-channel pre-amplifier of high class that meets many of the demands of the home/pro studio.

The market size for digital audio interfaces and computer based digital editing has increased in a massive way. With systems available at very low prices, more and more users are utilizing this technology. One of the main problems with many of these systems is the input stage only consisting of unbalanced line inputs or very low (or no mic pre) gain structure for the balanced input stage and the unavailability of Phantom power.

The PR8E comes to the rescue with 8 x channels of balanced input, with a full range of gain control from -20dB to +40dB, Phantom power and phase reversal switches for every channel. This single rack unit can now solve many of the connectivity issues whether in the Studio, home, club installation or other live sound applications.

2. THE DESIGN CONCEPT

2.1 High quality components and design

The philosophy behind SM Pro Audio products guarantees a no-compromise circuit design and employs the best choice of components. The operational amplifiers NJM4558D which are used in the SM PR8E, are exceptional. They boast extreme linearity and very low distortion characteristics.

2.2 Inputs and outputs

All inputs and outputs are secured firmly to the exterior chassis housing. The quality connectors ensure confidence and reliable operation under all conditions.

3. INSTALLATION

Your SM Pro Audio SM PR8E was carefully packed in the factory and the packaging was designed to protect the unit from rough handling. Nevertheless, we recommend that you carefully examine the packaging and its contents for any signs of physical damage, which may have occurred in transit.

+ If the unit is damaged, please do not return it to us, but notify your dealer and the shipping company immediately, otherwise claims for damage or replacement may not be granted. Shipping claims must be made by the consignee.

3.1 Rack Mounting

The SM Pro Audio SM PR8E fits into one standard 19" rack unit of space (1 3/4"). Be sure that there is enough air space around the unit for cooling. As to avoid overheating, please do not place the SM PR8E on high temperature devices such as power amplifiers.

3.2 Mains voltage

The SM PR8E uses the supplied 17v 1000mA external power adaptor for connection to mains power. The connection socket for the adaptor is labeled clearly on the rear panel of the PR8E.

3.3 Audio connections

Analog inputs - On the front of the SM PR8E there are 8 x combo audio connectors. This provides both balanced XLR and 1/4" TRS connection possibilities on the one socket. A -20dB pad is built in to the 1/4" (6.5mm) TRS line-in jack sockets.

Analog outputs - On the rear of the SM PR8E there are 8 x TRS balanced output jacks.

4. FRONT PANEL CONTROLS & INDICATORS

SM PR8E front panel

The SM PR8E has eight independent pre-amplifiers channels. The unit provides variable rotary gain controls, phantom power and peak indicator lights per channel.

4.1 The front panel rotary gain controls

Each channel features a rotary gain control for variable adjustment of the desired pre-amplifier level.

4.2 The front panel phantom power switches

Each channel features a phantom power switch for enabling and disabling the supply of 48v through the XLR input connector. This is required to power many types of condenser microphones.

4.3 Independent (8 x) phantom power indicators

Each channels phantom power indicator will illuminate when the phantom power has been activated. Use the Phantom power switch to toggle the phantom power state on or off independently for each channel.

4.4 Independent (8 x) peak light indicators

Each channel features a peak light indicator. This momentarily indicates when the input signal strength has reached optimum input level. If the the indicator is illuminated all the time you have surpassed optimum input level and distortion will occur.



5. REAR PANEL CONTROLS

SM PR8E rear panel

The SM PR8E has eight independent output channels. The unit provides phase reversal switches for each channel.

5.1 The rear panel phase reverse switches

To change the phase of the output signal you can toggle the phase reverse switch for each channel independently.

Phase reverse switches help avoid audio phase cancellation issues when using two identical microphones in close proximity. Phase cancellation occurs when two identical frequencies are out of phase which each other. This can result in either a cut or boost of the overall combined signal level.



6. APPLICATION

6.1 Using the SM PR8E

It could not be simpler to use and operate the SM PR8E. Each of the eight pre-amplifier channels has its own input, output and variable gain control.

Four simple steps:

1. Simply connect a signal for processing to one of the combo connector inputs on the front of the SM PR8E. You can use XLR or TRS jack connectors.
2. Make a connection from the corresponding channel output on the rear of the SM PR8E to your desired destination (Mixer, recorder, etc).
3. Adjust the variable gain control for your chosen channel on the front panel to the desired pre-amplified level.

To ensure sure you do not over pre-amplify your signal a peak clip indicator light has been provided on the front panel of the SM PR8E for each channel. When illuminated, this light indicates that the pre-amplifier is overloaded and that distortion will occur. Please turn down the variable gain control for the currently selected channel until the peak clip light is no longer illuminated.

4. Phase reversal? In some situations it is handy to be able to reverse the phase of the outgoing audio signal. If you think you may need to reverse the phase, simply toggle the channels phase reverse switch on the rear panel.

Congratulations, now you know how simple it is to get great results from your new microphone pre amplifier.

Simple connectivity - Simple operation - great results.

7. SPECIFICATIONS

AUDIO INPUTS & PRE AMPS

Mic Input:

Connector:	XLR COMBO connector
Type:	Balanced
Impedance:	4K7 Ohms
Min sensitivity:	-60 dB
Peak input level:	+9.5 dB
Phantom Power:	+48V, switchable

Line Input:

Type:	Balanced 1/4" on combo
Impedance:	47K
Min sensitivity	-35dB
Peak input level:	+32 dB

AUDIO OUTPUTS

Connector:	1/4 jack (balanced TRS)
Type:	Balanced
Impedance:	600 Ohms
Peak output level	+23dB
Frequency response:	20Hz- 20KHz 0dB- -0.5dB
Distortion:	0.005%
S/N:	> 105dB
Crosstalk rejection:	>120dB @1KHz; -20dB input
Max Gain:	58dB

POWER SUPPLY

External	17V 1000mA external adaptor (Supplied)
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PHYSICAL

Dimension	1 3/4" (44.5 mm) * 19" (482.6 mm) * 8 1/2" (217 mm)
Net weight	approx. 4 kg

SM ProAudio is constantly striving to maintain the highest professional standards. As a result of these efforts, modifications may be made from time to time to existing products without prior notice. Specifications and appearance may differ from those listed or shown.

8. WARRANTY

1 WARRANTY CARD

To be protected by this warranty, the buyer must complete and return the enclosed warranty card (signed/stamped by retail dealer) within 14 days of the date of purchase to SM ProAudio (see address below 3). Failure to return the card in due time (date as per postmark) will void any extended warranty claims.

2 WARRANTY

1. SM ProAudio warrants the mechanical and electronic components of this product to be free of defects in material and workmanship for a period of one (3) years from the original date of purchase, in accordance with the warranty regulations described below. If any defects occur within the specified warranty period that are not caused by normal wear or inappropriate use, SM ProAudio shall, at its sole discretion, either repair or replace the product.

2. If the warranty claim proves to be justified, the product will be returned freight prepaid by SM ProAudio within Australia. Outside of Australia, the product will be returned at the buyer's expense.

3. Warranty claims other than those indicated above are expressly excluded.

3 RETURN AUTHORIZATION NUMBER

1. To obtain warranty service, the buyer must call SM ProAudio during normal business hours BEFORE returning the product (Tel.: +61 3 9555 8081). All inquiries must be accompanied by a description of the problem. SM ProAudio will then issue a return authorization number.

2. The product must be returned in its original shipping carton, together with the return authorization number, to the following address:

SM Pro Audio
Service Department
W25, 26-28 Roberna St
Moorabbin
Melbourne, Victoria
Australia 3189

4 WARRANTY REGULATIONS

1. Warranty services will be furnished only if the product is accompanied by an original retail dealer's invoice. Any product deemed eligible for repair or replacement by SM ProAudio under the terms of this warranty will be repaired or replaced within 30 days of receipt of the product at SM ProAudio.

2. If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship.

The warranty does not cover any such modification/adaptation, irrespective of whether it was carried out properly or not. Under the terms of this warranty, SM ProAudio shall not be held responsible for any cost resulting from such a modification/adaptation.

3. Free inspections, maintenance/repair work and replacement of parts are expressly excluded from this warranty, in particular if caused by inappropriate use. Likewise, the warranty does not cover defects of expendable parts caused by normal wear of the product. Expendable parts are typically pots, potentiometers, switches and similar components.

4. Damages/defects caused by the following conditions are not covered by this warranty:

- Misuse, neglect or failure to operate the unit in compliance with the instructions given in the user or service manuals.
- Connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used.
- Damages/defects that are caused by any other condition beyond the control of SM ProAudio.

5. Any repair carried out by unauthorized personnel will void the warranty.

6. Products which do not meet the terms of this warranty will be repaired exclusively at the buyer's expense. SM ProAudio will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 4 weeks after notification, SM ProAudio will return the unit C.O.D. with a separate invoice for freight and packing. Such cost will also be invoiced separately when the buyer has sent in a written repair order.

5 WARRANTY TRANSFERABILITY

This warranty is extended exclusively to the original buyer (customer of retail dealer) and is not transferable to anyone who may subsequently purchase this product. No other person (retail dealer, etc.) shall be entitled to give any warranty promise on behalf of SM ProAudio.

6 CLAIM FOR DAMAGES

Failure of SM ProAudio to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of SM ProAudio exceed the invoiced value of the product.

7 OTHER WARRANTY RIGHTS

This warranty does not exclude or limit the buyer's statutory rights provided by national law, in particular, any such rights against the seller that arise from a legally effective purchase contract.

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