

SM Pro Audio

VALUE SERIES

Operating Manual - SM DI4 V

Version 1.0 November 2002



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 DI4V Main Features

Professional, multi-purpose DI (direct injection) Box/Line mixer for stage and studio applications

- Four totally independent DI Box units in 1/2 RU package
- Independent 20dB PAD switch per channel
- Independent earth (Ground) lift switch per channel
- Independent rotary volume control per channel for line mixer output
- Independent rotary pan control per channel for line mixer output
- Master Volume
- Headphone output
- Stereo line output
- High-quality components and rugged construction

FOREWORD

Dear Customer,

Thank you very much for expressing your confidence in SM ProAudio products by purchasing this unit. The SM DI4V has been designed to be used as a standard tool for home/pro studios, P.A. rental companies etc. 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 (manufactured under ISO9000 certified management system) as well as excellent technical and audio properties at an extremely affordable price.

Regards,

SM ProAudio

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1. INTRODUCTION

In purchasing the new SM DI4V, you have acquired a multi-channel DI Box/line mixer of high class that meets all the demands and requirements of studio and live work. Due to its extensive functions the SM DI4V is an extremely efficient and universal piece of equipment. The unit features high quality multi-channel unbalanced to balanced line conversion, in addition to providing an extremely useful built in line mixer all in a single unit rack-mount chassis. The SM DI4V finds widespread application throughout the world, in home/pro studios, sound reinforcement systems and in many other audio fields.

The SM DI4V features 4 independent DI Boxes!! That's right! 4 independent DI (direct injection) unbalanced to balanced line converters. This is fantastic news for many uses in the studio or on the road in live PA applications.

In addition, the SM DI4V also functions as multi-channel stereo line mixer. This is an ingenious feature which many musicians will find incredibly useful in live situations. Just think! You can plug all your keyboards, samplers & modules into just one rack unit on stage and supply independent XLR balanced outputs to the stage box for the front of house engineer.. AND set your own independent mix for stage monitoring..cool! In Addition you have your own Headphone output on the unit.

2. THE DESIGN CONCEPT

2.1 High quality components and design

The philosophy behind SM ProAudio products guarantees a no-compromise circuit design and employs the best choice of components.

2.2 Inputs and outputs

All inputs and outputs are secured firmly to the exterior chassis housing. This ensures robust quality and confidence in performance under all conditions.

3. INSTALLATION

Your SM ProAudio SM DI4V 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 ProAudio SM DI4V fits into HALF a 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 DI4 on high temperature devices such as power amplifiers.

3.2 Mains voltage

The SM DI4V comes with a 16V AC power supply adaptor. Before you connect your SM DI4 to the mains, please make sure that your local voltage matches the voltage required by the unit!

3.3 Audio connections

Analog inputs - On the front panel of the SM DI4V there are 4 1/4 inch unbalanced audio input jack connectors (one per channel).

XLR balanced outputs - On the rear of the SM DI4V there are 4 x XLR balanced output connections (one per channel).

4. CONTROLS

SM DI4V front panel

The SM DI4V has 4 independent direct injection unbalanced to balanced line converters in addition to a built in 4 channel line mixer. The unit provides 2 rotary controls (Volume & Pan) and 2 switches per channel (Earth lift & 20dB PAD).

4.1 Independent (4 x) rotary volume controls for each channel to line mixer stereo output

Use these variable controls to set the level of each channel signal level sent to the stereo master output section

4.2 Independent (4 x) rotary pan controls for each channel to line mixer stereo output

Use these variable controls to set the pan of each channel signal level sent to the stereo master output section

4.3 Independent (4 x) 20 dB PAD switch

Use these switches to PAD each input channel signal level by 20dB. Use this only if you have an extremely high input signal strength.

4.4 Independent (4 x) earth lift switch

Use these switches to lift the earth in the input signal of the current channel.



5. APPLICATION

5.1 Using the SM DI4V as a DI Box (direct injection unit)

Connect the signal you would like to convert from unbalanced to balanced to the SM DI4V via a 1/4 inch unbalanced jack to one of the channel inputs on the front panel of the unit. Connect an XLR balanced cable to the corresponding channel output on the rear of the SM DI4V and connect to your chosen destination.

If the input signal strength is too "hot" (high) you can depress the 20dB PAD switch to adjust to a more appropriate level.

If there is an earth loop hum you can remove by depressing the earth lift switch.

5.2 Using the SM DI4V as a line mixer

You can mix volume & pan of all input signals to a single stereo pair of RCA connections on the rear of the SM DI4V. This enables use of the unit as a fully functional line mixer. This can be very handy for many applications both live and in the studio.

Just connect the RCA stereo master outputs on the rear to your chosen destination (eg. Monitor amplifier) and adjust the individual volume and pan controls for each individual channel on the front of the SM DI4V to suit your needs.

A master volume control is provided on the front panel in addition to the individual controls. Adjust this as necessary.

A Headphone output is also provided on the front of the unit.

6. SPECIFICATIONS

AUDIO INPUTS

Connectors	1/4" jack
Type	TRS balanced
Impedance	47k Ohms
Min Sensitivity	-20dB
Peak input level	+16dB

STEREO LINE MIXER OUTPUTS

Connectors	RCA Phono
Impedance	600Ohms
Max. output level	+2dB (peak level +18.5 dB)

XLR BALANCED OUTPUTS

Connectors	XLR
Type	balanced
Min. output impedance	600Ohms
Max. output level	0dB (peak level +18.5dB)

DIST, FREQ, S/N RATIO & CROSSTALK

Frequency response	20Hz~20kHz, 0dB~-2B
Distortion	0.02%
S/N Ratio	better than 74dB
Crosstalk rejection	>80dB@1kHz;-20dB input

FUNCTION CONTROLS

Volume per channel	variable
Pan per channel	variable

POWER SUPPLY

Mains voltages	USA/Canada ~ 120 V AC, 60 Hz U.K./Australia ~ 240 V AC, 50 Hz Europe ~ 230 V AC, 50 Hz General export model ~ 100-120 V AC, ~ 200-240 V AC, 50-60 Hz
Power consumption	11.5VA
Fuse	100-120 V AC: 630 mA (slow-blow) 200-220 V AC: 315 mA (slow-blow)
Mains connection	Standard IEC receptacle

PHYSICAL

Dimension	1 3/4" (44.5 mm) * 8" (230.6 mm) * 8 1/2" (217 mm)
Net weight	approx. 1.75 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.

7. 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.

The information contained in this manual is subject to change without notice. No part of this manual may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording of any kind, for any purpose, without the express written permission of SM ProAudio.

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