

# SM Pro Audio

## Operating Manual - SM IN5

Version 1.0 Nov 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 IN5 Main Features**

The new IN5 from SM Pro Audio covers a huge range of applications for use in the home/project studio.

It is suitable for mixing various analog audio signals to a high quality recording output channel in either high quality low noise analog or pristine 24-bit 96 kHz S/PDIF Digital format (with optional USBMOD Digital board). In addition to this, the unit will operate as an quality ADDA format converter with the optional digital board, and a versatile monitor mixer providing facilities for up to 12 channels of monitored signal!

- 2 x Mic Pre amp (JRC4558D)
- 2 x Insert points
- 2 x Phantom power
- 2 x XLR Bal I/O
- 4 x Mono, 2 x Stereo line inputs
- 2 x Turn-Table, CD or Phono inputs with switchable RIAA EQ and level controls
- 2 x Headphone monitoring amplifiers
- 24-bit 44.1kHz-96kHz S/PDIF I/O (USBMOD optional)

## **FOREWORD**

Dear Customer,

Thank you very much for expressing your confidence in SM ProAudio products by purchasing this unit. The SM IN5 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 (manufactured under ISO9000 certified management system) as well as excellent technical and audio properties at an extremely affordable price.

Regards,

SM ProAudio

# TABLE OF CONTENTS

## **1. INTRODUCTION**

## **2. THE DESIGN CONCEPT**

2.1 High quality components and design

2.2 Inputs and outputs

## **3. INSTALLATION**

3.1 Rack mounting

3.2 Mains voltage

## **4. REAR PANEL CONNECTIONS**

4.1 GND - Ground pin connector

4.2 Ground Lift Switch

4.3 L&R Stereo Unbalanced & Balanced Audio Outputs

4.4 L&R Stereo RCA Record Input and outputs

## **5. FRONT PANEL CONNECTIONS & CONTROL KNOBS/SWITCHES**

5.1 XLR Mic Input controls ~ Independent (2 x) rotary gain controls, switchable Phantom power, peak lights, and a record/monitor enable switch

5.2 Stereo line Input controls ~ Independent (2 x) rotary volume controls, -20dB pad, and a record/monitor enable switch

5.3 Phono Input controls ~ Independent (2 x) rotary volume controls, line/phono switch, and a record/monitor enable switch

5.4 Stereo headphone amplifiers ~ Independent (2 x) rotary monitor volume controls

5.5 Master volume section

5.6 Power switch ~ Power on/off switch

## **6. APPLICATION GUIDE**

6.1 The Purpose of the SM IN5

6.2 The SM IN5 as a recording interface unit

6.3 The SM IN5 as a standard mixer

6.4 The SM IN5 as a converter for digital recorders (with optional USBMOD digital module)

## **7. FUTURE POSSIBLE OPTIONS**

7.1 Information about the USBMOD S/PDIF Option board

## **8. SPECIFICATIONS**

## **9. WARRANTY**

## 1. INTRODUCTION

Functionality - Versatility - Mix - Record - Monitor - Convert - Inject and Digitize!!!

The new IN5 from SM Pro Audio covers a huge range of applications for use in the home/project studio.

It is suitable for mixing various analog audio signals to a high quality recording output channel in either high quality low noise analog or pristine 24-bit 96 kHz S/PDIF Digital format (optional USB-MOD S/PDIF module). In addition to this, with the USBMOD digital module, the unit will operate as an quality ADDA format converter, and versatile monitor mixer providing facilities for up to 12 channels of monitored signal! (1 x stereo digital).

Many users will be glad to see the options provided for connectivity. 2 x Bal mic inputs with switchable phantom power, peak lights, and gain control can be found on the front of th unit (2 x inserts available on these channels). An additional 4 x mono (2 x stereo) line level inputs, 2 x stereo Turn-table , CD or Phono inputs with RIAA EQ and level controls are also present. This is great news for DJ's home audiophile users wanting to digitize their vinyl and transfer to the PC!

## 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 IN5 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 IN5 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 IN5 on high temperature devices such as power amplifiers.

#### 3.2 Mains voltage

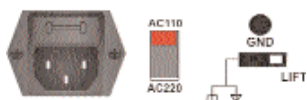
The SM IN5 has a professional internal power supply thus eliminating the use of external power adaptors. Before you connect your SM IN5 to the mains, please make sure that your local voltage matches the voltage required by the unit!

### 4. REAR PANEL CONNECTIONS

Please note the following connections and their functions

#### 4.1 GND Ground Pin Connector

The ground pin connector allows for connection of your turntable grounding wire.



Please refer to your turntable manual for information regarding ground connections.

#### 4.2 Ground Lift Switch

In certain situations where you have audible humm or buzz in your system, you can use the Ground Lift Switch to eliminate this problem. Place the switch in the "Lift" position to lift the ground.

### 4.3 L & R Stereo Unbalanced & Balanced Audio Outputs

The IN5 provides two types of analog output connections for you to connect to your monitoring device, unbalanced & balanced.



These are to connect to your active monitor speakers, amplifier, or additional mixer device for you to listen to the output from the IN5.

This output signal carries the source signal from any/all of the inputs on the front of the IN5, or a mixed signal including the inputs on the front of the IN5 and a source from the the REC inputs on the rear panel.

### 4.4 L & R Stereo RCA Record Input and outputs

Use standard stereo RCA cables to connect the REC inputs and outputs to your recording device of choice.



This could be a DAT, MD recorder, Sound card, etc. The REC outputs (L&R) connect to the inputs of your chosen recording device, while the REC inputs are used for the return signal from your recording devices outputs.

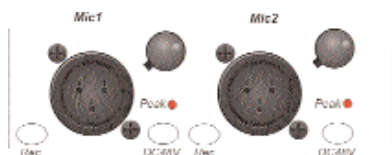
## 5. FRONT PANEL CONNECTIONS & CONTROL KNOBS/SWITCHES

### SM IN5 front panel

The SM IN5 has a multitude of audio connections and controls on the front panel. Please read the following information to understand these connections.

#### 5.1 XLR Mic Input controls (2 x)

Independent (2 x) rotary gain controls, switchable Phantom power, peak lights, and a record/monitor enable switch.



This is where you can connect up to two microphones, control their input gain, and choose either to monitor the signal directly to your main outputs for monitoring, or to send the source to the REC outputs and subsequently to your recording device.

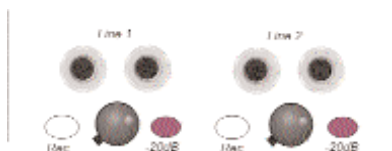
Connect a microphone using a standard XLR type microphone cable and turn up the volume knob to an acceptable level. If your microphone is a condenser microphone that requires phantom power, depress the CD48V switch to enable power to your mic.

The REC switch directs the microphone source signal to the REC output on the rear panel when in the depressed position. When in the non-depressed position the signal is routed directly to the main outputs on the rear panel.

The peak light illuminates to indicate when the mic pre-amp is over-driven with excessive input signal. If illuminated, reduce the volume to avoid distortion of your microphone signal.

#### 5.2 Stereo line Input controls (2 x)

Independent (2 x) rotary volume controls, -20dB pad, and a record/monitor enable switch.



This is where you can connect up to two stereo (L&R) line level devices (keyboards, modules etc), control their input gain, and choose either to monitor the signal directly to your main outputs for monitoring, or to send the source to the REC outputs and subsequently to your recording device.

Connect your stereo (L&R) line level device with a standard 1/4" audio cables and turn up the volume knob to an acceptable level.

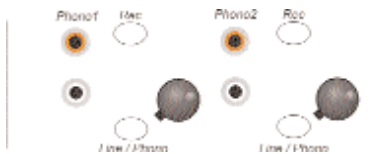
A -20dB PAD switch is provided to reduce the input gain on very high input signals. If your signal is distorting, depress the -20dB switch to adjust to a more suitable level.

The REC switch directs the line level source signal to the REC output on the rear panel when in the depressed position. When in the non-depressed position the signal is routed directly to the main outputs on the rear panel.



### 5.3 Phono Input controls

Independent (2 x) rotary volume controls, line/phono switch, and a record/monitor enable switch



This is where you can connect up to two stereo phono/line level devices, control their input gain, and choose either to monitor the signal directly to your main outputs for monitoring, or to send the source to the REC outputs and subsequently to your recording device.

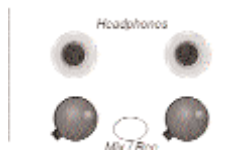
Connect your stereo (L&R) phone/line level device with a standard RCA audio cables and turn up the volume knob to an acceptable level.

A line/phono switch is provided for each stereo pair of inputs which toggles the use of the inputs as either a fully operational RIAA phono pre-amp or as standard RCA line level inputs.

The REC switch directs the phono/line level source signal to the REC output on the rear panel when in the depressed position. When in the non-depressed position the signal is routed directly to the main outputs on the rear panel.

### 5.4 Stereo headphone amplifiers (2 x)

Independent (2 x) rotary monitor volume controls, and MIX/REC switch.



This is where you can connect up to two stereo headphones, control their volume, and choose either to monitor the full mix of your signals from both the front panel inputs and the REC inputs together, or just the REC input signal from the rear panel.

The MIX/REC switch toggles the monitor mode of the headphone amplifiers.

### 5.5 Master Volume

The master volume controls the main output level to the Main outputs on the rear panel. (It does not effect the REC output volume).

The REC IN switch enables a mixed signal of both the input signals on the front panel with the REC IN input on the rear panel.

### 5.6 Power switch

Power on/off switch. This is where you enable the unit for use.

## 6. APPLICATION GUIDE

### 6.1 The Purpose of the SM IN5

Nowadays, the computer is the hub of the home recording studio. There are many reasons for this including ease of editing, clarity, digital transfer to CD etc. Traditionally, most computer audio interface units (standard sound card) been limited to only 2ch inputs that do not offer professional connectivity for microphones, turn-tables and the like. Some type of mixer device is required to provide these features. In the case of the turn-tables, a seperate phono pre-amp is also required to record your analog vinyl records to your PC for CD transfer. The SM IN5 has been designed to cator for many of these needs.

The SM IN5 provides a solution for users needing to connect a multitude of different devices including condenser microphones which require phantom power, turn-tables, keyboards, modules, and even 2 sets of headphones for monitoring to any 2ch recording device. This includes the computer, DAT recorders, MD recorders, etc.

### 6.2 The SM IN5 as a recording interface unit

In this example we will record an input from a microphone to the computer.

#### Step 1

Ensure you have the REC inputs & outputs connected correctly to your recording device (computer audiocard, DAT, minidisc, etc) as outlined in section 4.4 of this manual.

#### Step 2

Connect your microphone to one of the microphone connections on the front of the IN5 and increase the gain control to an acceptable level. See section 5.1 of this manual.

#### Step 3

Depress the REC switch on the front panel of the IN5 for the microphone channel you are using to direct the signal to your REC outputs. This will send the signal from the microphone directly to your recording device.

Adjust the gain control on the microphone to the correct level desired. You should take note of the level meter indicators on your recording device while setting the gain. For example, if you are recording to your computer, check the input level meters of your recording software are registering an acceptable value.

#### Step 4

Engage recording on your recoring device, and capture the signal from your microphone.

NOTE: For monitoring your signal, simply listen to your monitor speakers (ensure they are connected correctly as described in section 4.3) or headphones connected to the front panel of the IN5 (as described in section 5.4).

### **6.3 The SM IN5 as a standard mixer**

The IN5 is extremely simple to operate as a standard mixer.

#### **Step 1**

Simply connect all your input devices to the appropriate connections on the front panel.

#### **Step 2**

Adjust the gain controls on the desired input signals to your desired level.

#### **Step 3**

Monitor the results from your speakers or headphones

## **7. FUTURE POSSIBLE OPTIONS (Under Development Feasibility)**

We are investigating the possible development of a range of accessories, and options for the IN5.

### **7.1 USBMOD S/PDIF DIGITAL OPTION MODULE**

#### **Information about the USBMOD S/PDIF Option board**

The USBMOD is a 24-bit 96kHz digital option board for the SM IN5. It enables the IN5 to act as a high quality analog to digital and digital to analog converter unit. This is an extremely valuable tool for many applications in today's studio.

This option board will offer excellent full duplex AD/DA conversion. In the world of digital recordings, it is extremely useful to have a level of connectivity that allows for high quality digital transfer of audio signals between devices.

With the USBMOD option board, users can obtain full functionality of the IN5 with the added bonus of full digital connectivity. A great example of the benefits of the USBMOD is when connecting directly to your computer sound cards digital I/O. This is far more desirable than using the AD/DA converters within your computers case. You can eliminate many of problems of electrical noise by removing the analog to digital conversion process from the intense environment of your PC case.

Of course there are many other benefits of having a stand alone digital converter at hand. Need to sample your voice directly to your sampler? Simply connect the digital out to your samplers digital in! Quick, easy, and pristine 24bit quality. The options are endless.

We hope to have news of our development progress listed on our website. Please check [www.smproaudio.com](http://www.smproaudio.com) for details.

## 8. SPECIFICATIONS

### AUDIO INPUTS

Connectors	1/4" jack TRS Balanced, XLR Balanced RCA Unbalanced
Impedance	47k Ohms / 600Ohm
Min Sensitivity	-20dB
Peak input level	+16dB

### HEADPHONE OUTPUTS

Connectors	1/4" jack
Type	Stereo, 1V RMS @ 32 Ohm

### STEREO LINE MIXER OUTPUTS

Connectors	1/4" Jack Unbalanced
Impedance	47K / -10dB
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	0.008%
S/N Ratio	better than 74dB
Crosstalk rejection	>80dB@1kHz;-20dB input

### FUNCTION CONTROLS

Volume per channel	variable
Volume 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) * 19" (482.6 mm) * 8 1/2" (217 mm)
Net weight	approx. 3.25 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.

## **9. 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 (1) year 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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