

SM Pro Audio

Operating Manual - SM HP6

6 Channel Headphone Amplifier
Manual Version 1.2 Jan 2006



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 HP6 Main Features

Professional, multi-purpose headphone amplifier system for stage and studio applications

- Six totally independent stereo high-power amplifiers in 1 RU package
- High quality audio even at extremely high volume levels
- Four independent stereo input sections
- Output level control for each channel
- Independent selection of input for each output
- High-quality components and rugged construction
- Internal power supply

FOREWORD

Dear Customer,

Thank you very much for expressing your confidence in SM Pro Audio products by purchasing this unit. The SM HP6 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 Pro Audio

+ It should be pointed out, that extreme output volumes may damage your ears and/or your headphone units. Turn down the LEVEL controls before you switch on the unit.

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1. INTRODUCTION

In purchasing the new SM HP6, you have acquired a headphone amplifier of high class that meets all the demands and requirements of studio and live work. Due to its extensive functions the SM HP6 is an extremely efficient and universal headphone amplifier. It has been designed above all as a reference unit for musicians in the studio. The unit features switching possibilities and a sound quality few headphone amplifiers can offer. The SM HP6 finds widespread application throughout the world, in home/pro studios, sound reinforcement systems and in many other audio fields.

The SM HP6 features a variety of monitoring options: Each of the six stereo amplifiers can accept signal from any of the four stereo inputs on the rear of the unit. This allows FOUR completely independent monitor signals to each set of headphones connected to the SM HP6! Ever had the drummer wanting a different mix feed from the keyboard player? I bet you have, and now it is finally possible using the SM HP6.

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 NJM4580 which are used in the SM HP6, are exceptional. They boast extreme linearity and very low distortion characteristics. To complement this design the choice of components includes high tolerance resistors and capacitors, and several other stringently selected elements.

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 Pro Audio SM HP6 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 HP6 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 HP6 on high temperature devices such as power amplifiers.

3.2 Mains voltage

The SM HP6 has a professional internal power supply thus eliminating the use of external power adaptors found in many lower end headphone amplifier systems. Before you connect your SM HP6 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 rear of the SM HP6 there are 8 (4 x stereo pair) 1/4 inch line level audio jacks which will accept 4 x stereo (L&R) input signals.

Stereo headphone outputs - On the front of the SM HP6 there are 6 x stereo 1/4 Inch output jacks for connection of 6 x stereo headphone sets.



4. CONTROLS

SM HP6 front panel

The SM HP6 has six independent headphone amplifiers. The unit provides 2 rotary controls and 2 stereo jacks per channel.

4.1 The front panel rotary signal selector switches

Each channel features a rotary selector switch which allows for selection of any of the 4 x stereo input source signals connected to the rear of the SM HP6 to be routed to the selected channels headphone amplifier. Simply choose the source signal desired for that channel.

You will notice that there is a 5th (not marked) position on the rotary control selector. This is for the off/bypass function of each headphone amplifier.

4.1 The front panel rotary volume pot controls

Each channel features a rotary volume pot for variable adjustment of the desired output level.



5. APPLICATION

5.1 Using the SM HP6 as a headphone amplifier

Connect a stereo (L&R) program source (2 x 1/4" inch Jacks) to the rear of the SM HP6 using one of the available 4 x stereo input pairs on the rear panel.

Connect a set of headphones using a stereo 1/4" cable to any of the headphone outputs on the front of the SM HP6.

Select the source signal from the rotary selector switch for the channel in use.

Set to an appropriate level for monitoring.

*Owing to the six independent channels of the SM HP6, four individual mixes for six musicians can be achieved with a single unit. In the application of studio recording, you can configure sub-groups, aux sends or single outputs of your audio mixer to feed signal independently to the SM HP6. This enables musicians to receive a specific configuration of instruments of their choice in their headphones.

6. SPECIFICATIONS

AUDIO INPUTS

Connectors	1/4" jack
Type	unbalanced
Impedance	47k Ohms
Peak input level	+25dB
Gain control range	35dB

HEADPHONE POWER AMPLIFIER OUTPUTS

Max. output level	300mW@32 Ohms (max 1W@32 Ohms)
Output impedance	22 Ohms
Max. gain	+20 dB

DIST, FREQ, S/N RATIO & CROSSTALK

Frequency response	20Hz~20kHz, 0dB~-2B
Distortion	0.02%
S/N Ratio	better than 80dB
Crosstalk rejection	>68dB@1kHz;-20dBinput

FUNCTION CONTROLS

Volume per channel	variable
Signal selectors	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) 200-240 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. 3.15 kg

SM Pro Audio 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 Pro Audio (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 Pro Audio 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 Pro Audio 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 Pro Audio 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 Pro Audio 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 Pro Audio 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

PH: +61 3 9555 8081
FAX: +61 3 9555 8083

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 Pro Audio under the terms of this warranty will be repaired or replaced within 30 days of receipt of the product at SM Pro Audio.

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 Pro Audio 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 Pro Audio.

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 Pro Audio will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 4 weeks after notification, SM Pro Audio 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 Pro Audio.

6 CLAIM FOR DAMAGES

Failure of SM Pro Audio to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of SM Pro Audio 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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