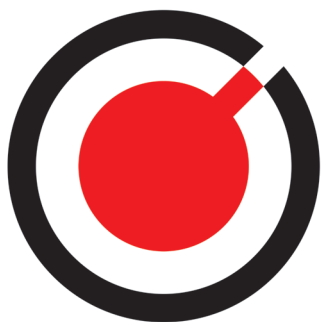# M-Patch 4M

Manual

September 2012

SMPRO

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 use before switching the device ON.

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 or in case a lightning storm occurs.

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.

FOREWARD

Dear Customer, Thank you very much for expressing your confidence in SM Pro Audio products by purchasing this unit. The M-Patch 4M was designed to be a comprehensive studio monitor controller for home, project and professional studios, sound equipment rental companies, repair centers, schools and fixed installations—in short, virtually any and all venues where audio products are used. Drawing on years of hands-on experience in the audio industry and valuable suggestions from our customers, our engineers have developed a product that we are certain will more than meet your expectations. As with all SM Pro Audio equipment, the M-Patch 4M was designed to provide you with superb performance, excellent technical specifications, and uncompromising audio quality at an extremely affordable price.

Regards, SM Pro Audio

IMPORTANT: High output volumes may damage your ears, your monitors, and/or your headphones. Turn down the LEVEL controls before you switch on the M-Patch 4M.

INSTALLATION

Your SM Pro Audio M-Patch 4M was carefully packed at 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 that 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.

PLACEMENT

The SM Pro Audio M-Patch 4M utilizes an electronic circuit. Be sure that there is enough air space around the unit for cooling. To avoid overheating, please do not place the unit on high temperature devices, such as power amplifiers, or near other units, such as wireless devices, that may transmit high frequencies.

MAINS VOLTAGE

The M-Patch 4M can be used with voltages ranging from 100V AC to 240V AC. Please make sure that you have selected the correct voltage range on the back of the unit, and that the required fuse setting is correct, before switching the unit ON. Any damage occurring as a result of incorrect voltage selection may not be covered under warranty.

M-PATCH 4M OVERVIEW

The M-Patch 4M is a multichannel passive analog attenuator designed to provide sonically transparent level control over a variety of stereo audio signals. It allows you to connect multiple input signals, route them to various destinations, and control their levels via a series of rotary volume attenuators. The Master Attenuator utilizes discrete 0.5% resisters with a switched mechanism—a design that offers superior accuracy over standard variable resistor designs, especially at critical low volume levels.

Multiple switches provide for mute, source selection, output assignment, and stereo/mono operation. A built-in talkback microphone, which automatically ducks the Control Room outputs -20dB when engaged, an on-board headphone amplifier, and configurable desktop or rackmount operation, make the M-Patch 4M an ideal centerpiece for monitor control in home, professional, and project studio applications.

M-PATCH 4M INPUT SECTION

Here you choose which input sources (balanced BL1/BL2 or unbalanced UB1/UB2) are routed to the outputs "Studio 1" and "Studio 2".
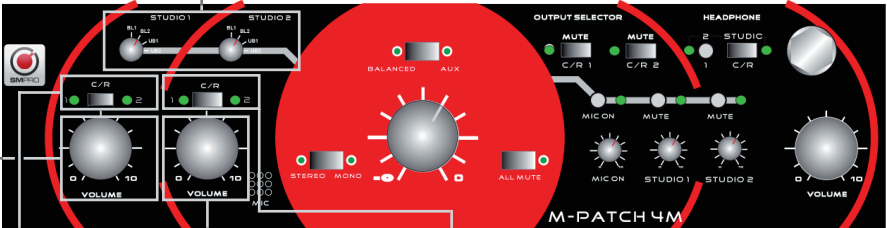
Here you decide, if the balanced inputs 1 or 2 are outputted to the control room outs 1 or 2.

Here you decide, if the unbalanced inputs 1 or 2 are outputted to the control room outs 1 or 2.

Here you adjust the volume of the balanced inputs which are outputted at the control room outputs 1 and 2.

Here you adjust the volume of the unbalanced inputs which are outputted at the control room outputs 1 and 2.

M-PATCH 4M MASTER SECTION
M-PATCH 4M OUTPUT SECTION

Balanced/Aux switch: Here you decide, if you want to hear the balanced or unbalanced inputs in the control room.
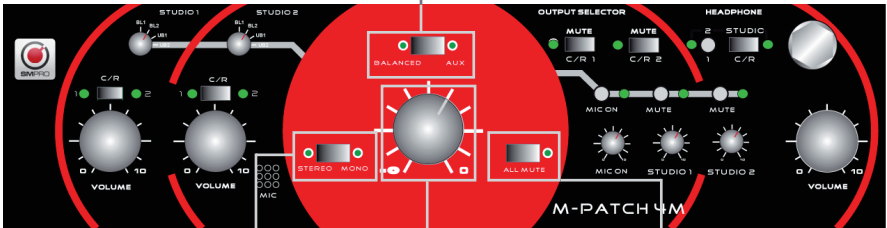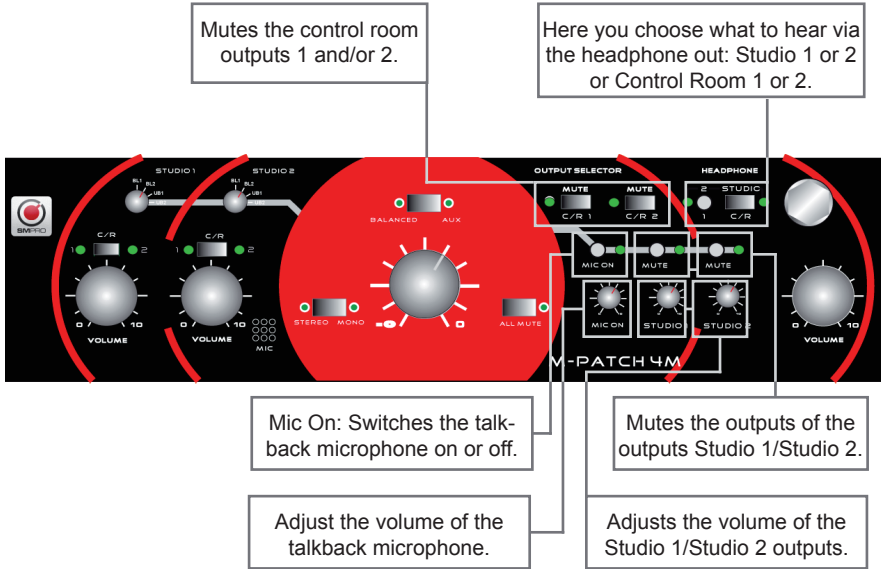

Switch between Stereo or Mono in the control room.

The Master Rotary Volume Attenuator adjusts the volume of all signals in the control room.

„All Mute" mutes all signals in the control room.

Mutes the control room outputs 1 and/or 2.

Here you choose what to hear via the headphone out: Studio 1 or 2 or Control Room 1 or 2.

Mic On: Switches the talk-back microphone on or off.

Mutes the outputs of the outputs Studio 1/Studio 2.

Adjust the volume of the talkback microphone.

Adjusts the volume of the Studio 1/Studio 2 outputs.

Your M-Patch 4M is designed to accommodate a wide variety of balanced and unbalanced audio connections, allowing for a great deal of flexibility in adapting the unit for use in almost any studio environment.

Inputs
- Dual L/R Combination Balanced XLR – 1/4" TRS
- Dual L/R Unbalanced RCA
- Dual 1/8" (3.5mm) TRS
- Balanced XLR Talkback Microphone (w/ Built-In Mic Preamplifier)
- TS Talkback Microphone Remote Activator (w/ INT/EXT Selector Switch)
- TS Mute Function Remote Activator

Outputs
- Dual L/R Balanced XLR Control Room Out
- L/R XLR Balanced Studio Out
- L/R 1/4" Unbalanced TS Studio Out
- L/R Unbalanced RCA Studio Out
- 1/8" (3.5mm) TRS Studio Out

INSTALLATION

The M-Patch 4M can sit comfortably on your desktop, with all controls within easy reach. Alternately, the included rack ears can be used for situating the unit in a standard 19" rackmount configuration.


AUDIO INPUT CONNECTIONS

The M-Patch 4M features four types of inputs, two of which are balanced and two of which are unbalanced. The Balanced Inputs feature combination XLR – 1/4" TRS connectors, while the AUX Inputs feature RCA and 1/8" TRS unbalanced connectors. All inputs are located on the M-Patch 4M's rear panel.

IMPORTANT! **The M-Patch 4M accepts mic or line level input signals only. Do not connect your power amplifier outputs to the M-Patch 4M's inputs—this will damage the internal circuitry, and will NOT be covered under warranty.**
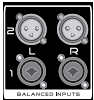
Balanced Inputs
The main Balanced Inputs 1 and 2 are ideally suited for connecting to your audio interface(s) and/or mixer. Simply connect the outputs of your interface to the inputs of the M-Patch 4M, and use the rotary volume controls under the Studio 1 and Studio 2 Input Selectors to attenuate the signals as needed. (Note: Set the attenuators fully clockwise if no attenuation is necessary.)
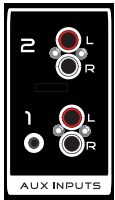

AUX Inputs
The Aux input channels features two different connector types, ideally suited for signals from unbalanced devices such as CD players (RCA) and MP3 players or computer soundcards (1/8" TRS).

NOTE: You can connect up to six different devices to the physical connectors simultaneously. Use the front panel Studio 1 & 2 and Master Balanced / Aux selector switches to choose the signal(s) you wish to monitor.

## AUDIO OUTPUT CONNECTIONS
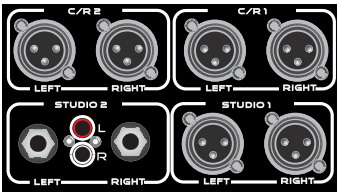
Control Room Outputs
The M-Patch 4M has two sets of Control Room (C/R) outputs, each of which will carry the input signals chosen by the front-panel Control Room 1 and 2 input selector switches. Use these outputs to route input signals to your monitor speakers. The levels appearing at the Control Room 1 & 2 outputs can be attenuated using the front-panel Master rotary volume control. The C/R signal path is totally passive.

Studio Outputs

The M-Patch 4M has two sets of Studio outputs (balanced and unbalanced), each of which will carry the input signals chosen by the front-panel Studio 1 and 2 input selector switches. Use these outputs to route your input signals to headphone systems, to monitoring systems in the recording room, or to any device at which you want the talkback signal to appear.
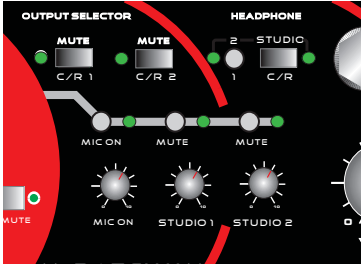
OUTPUT SELECTOR SWITCHES

Each of the four outputs can be individually muted via their corresponding front-panel MUTE switches. In addition, the Studio 1 and Studio 2 output levels can be adjusted using the Studio 1 and Studio 2 rotary volume controls. These controls can also be used to balance the volume of the Studio 1 and 2 signals with the level of the talkback mic.

When talkback is engaged (MIC ON), all output signals are attenuated by -20dB, however the talkback mic signal only appears at the Studio 1 and 2 outputs.
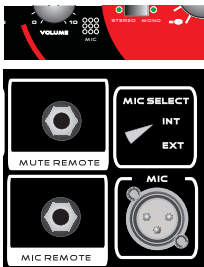
TALKBACK MICROPHONE

The M-Patch 4M features a built-in talkback system. An internal microphone is provided on the front panel, or you can plug your own microphone into the balanced XLR microphone input on the rear panel. The INT(ernal) / EXT(ernal) switch on the rear panel determines which microphone is used for talkback.

Pushing the front-panel MIC ON switch engages talkback. It can also be engaged via a switch plugged into the rear-panel Mic Remote input.

Talkback level is controlled by the rotary MIC ON volume control. When talkback is engaged, the signals appearing at the Control Room 1, Control Room 2, Studio 1, and Studio 2 outputs are attenuated by -20dB. Note, however, that the talkback mic signal only appears at the Studio 1 and 2 outputs.

USING THE M-PATCH 4M

You can use M-Patch 4M anywhere you want to trim the voltage of, i.e., reduce the volume of analog audio signals. Other than its primary use as a professional monitoring controller, you could, for example, use the M-Patch 4M to trim the output of a microphone preamplifier. With its high-quality potentiometers and precision film-resistor master attenuator, the M-Patch 4M passes signal more accurately and with far greater transparency than the built-in volume controls found on most audio equipment.

You can use the MPatch 4M...

• To A/B between different audio sources
• As a switcher for multiple monitor systems

- To trim the output level of a digital-to-analog converter, such as those found in high end pre-amplifiers
- As a local volume control for distributed audio systems
- To monitor directly from the outputs of your computer sound card or audio interfaces without using a mixer, and without degrading bit-resolution by reducing volume within your DAW

Simple Ideas for Studio Use

Typically you would connect the output of your computer soundcard or audio interface to the input of the M-Patch 4M via the RCA, TRS, or XLR jacks.
However, you can connect multiple devices as required. For example, your could connect the outputs of your audio interface to the balanced XLR inputs, and your soundcard's mini-jack output to the stereo 3.5mm AUX input. At the same time you could also connect your CD player or other line level device to the AUX RCA inputs, and the output of a mixer to the second set of balanced inputs.

Connect XLR cables from the outputs of the M-Patch 4M directly to your active monitors or the amplifier that powers the monitors. Since you have multiple outputs available simultaneously, you could easily route a second M-Patch 4M output to a subwoofer. In this sceario, simply connect the C/R 1 outputs to your left and right monitor speakers and the C/R 2 output output your subwoofer.

To avoid the bit-degradation that results from lowering the master volume output of your computer DAW, connect the output of your computer audio interface to an M-Patch 4M input, and an output of the M-Patch 4M to the input of your powered studio monitors (or amplifier driving passive monitors). Turn the volume of your monitors up all the way, set your DAW and audio interface software volume control panel to 0dB, and use the M-Patch 4M control your monitoring level.

The M-Patch 4M: Simple, effective, transparent!

SPECIFICATIONS

AUDIO INPUTS

Connectors	4 x Combination XLR – 1/4" TRS
	2 x stereo RCA pair (L&R)
	2 x stereo 3.5mm jack

AUDIO OUTPUTS

Output Connectors	3 x XLR L/R pairs
	1 x RCA L/R pair
	1 x 1/4" L/R pair

HEADPHONE OUTPUT

Output Connectors	1 x 14" TRS stereo
Frequency response	20Hz – 20Hz +/- 0.5dB
Maximum output level	320mW into 32Ù

POWER

External	DC12-16V adaptor

PHYSICAL

Dimensions (no rack ears)	37cm x 15.5cm x 8.5 cm
Net weight	approx. 5kg

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
2.1. 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.
2.2. 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.
2.3. Warranty claims other than those indicated above are expressly excluded.

3. Return Authorization Number
3.1. 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 or by email to service@smproaudio.com
3.2. 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
4.1. 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 in the best possible manner.
4.2. 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.

4.3. 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.

4.4. 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.

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

4.6. 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. 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.

6. 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 Pro Audio.