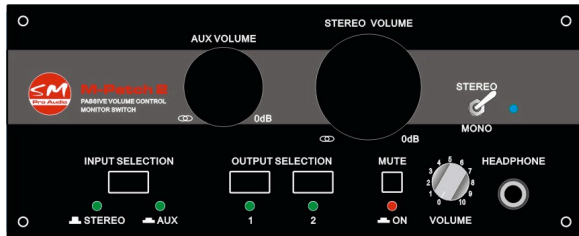


SM Pro Audio Operating Manual M-Patch 2

Version 1.0 Feb 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.

M-Patch 2 Main Features

Professional, multi-purpose passive volume attenuator with built in headphone amplifier.

- High quality 'passive volume' attenuator
- Great monitor switching device
- 2 x Input channels, 2 x Output channels
- Combo, RCA, & 3.5mm input connectors
- XLR Balanced outputs
- Mono/Stereo summing switch
- System mute function
- Built in headphone amplifier
- Quality components and rugged construction
- Desktop or Rack-mountable installation
- External 16Vac power supply (Supplied. Only required for operation of headphone amplifier)

FOREWORD

Dear Customer,

Thank you very much for expressing your confidence in SM Pro Audio products by purchasing this unit. The M-Patch 2 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

+ 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 M-Patch 2, you have acquired a passive volume control device of high class that meets the demands of the home/pro studio.

An affordable high-quality problem solver for mixer-less DAW and nonlinear video production environments, the M-Patch 2 provides an ideal desktop stereo level control solution for any monitoring or distributed sound application.

The M-Patch 2 is essentially a multi-channel stereo attenuator using passive circuitry designed for users wishing to work without outboard mixers or bit-degrading digital volume attenuators. The M-Patch 2 provides stereo level control solutions for any monitor or distributed sound application. Featuring two rotary controls for precise two x stereo channel level adjustments, and housed in a compact desktop or rack-mountable sized chassis, the M-Patch 2 passive volume control and patch control device is perfectly suited to serve in any common capacity in which more control over volume is desired. From desktop media suites, mixer-less DAW and MIDI systems, professional multi-channel installations, distributed sound systems, or any other audio and video post production environments, the M-Patch 2 adds high quality zone and/or channel control wherever it's needed.

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.

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.

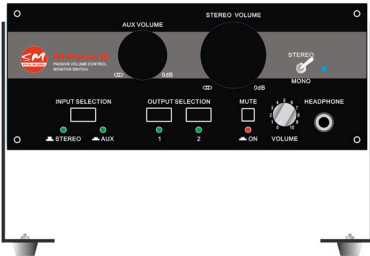
3. INSTALLATION

Your SM Pro Audio M-Patch 2 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 Desktop or Rack-mount installation

The SM Pro Audio M-Patch 2's compact size enables it to sit comfortably on your desktop. We also include a versatile pair of rack/stand mounting ears which enable both desktop stand mounting and standard 19" professional rack-mountable support options.

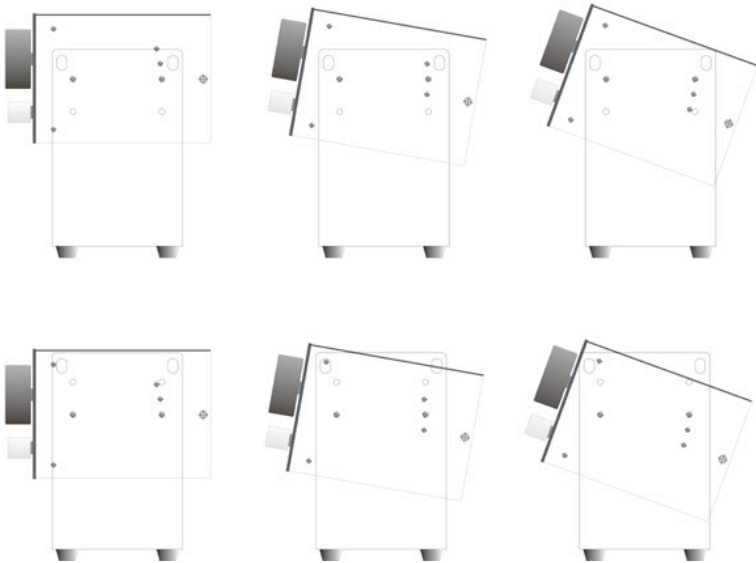


Desktop mount configuration



Rack-mount configuration

Desktop installation



For desktop angled mounting simply connect the included rack/stand mounting ears in an upright manner to each side of the M-Patch 2 using the included screws. Multiple screw positions are available on each side of the M-patch 2 which allow a user defined selection of up to six (6) different angled positions. Screw the included rubber feet/stoppers onto the bottom of the rack ears as to provide stability to the M-Patch 2 in addition to protecting your desktop.

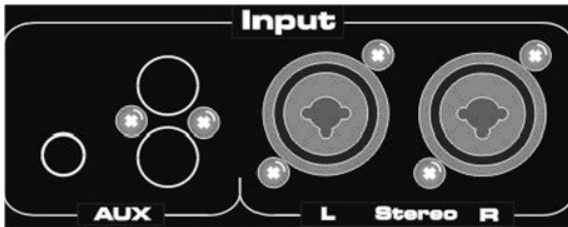
** Note: Please take into consideration your particular setup and cable arrangement when deciding on mounting your M-Patch with the highest degree of angle in relation to your desktop surface. You will need to ensure that you have enough space to connect your cables!.*

Rack-mount installation

If you would like to rack-mount the M-patch 2, simply connect the supplied rack/stand ears to each side of the M-Patch 2 using the included screws. This allows you to rack-mount the unit in a standard 19" professional rack.

3.2 Audio connections

Analog input connectors



Input section on rear panel of M-Patch 2

The M-Patch 2 features two (2) separate input channels named "Aux" & "Stereo". The connections are found on the rear panel.

(Input section on rear panel of M-Patch 2).

** Note: The M-Patch 2 accepts mic or line level input signals. Do not connect your power amplifier outputs to the M-Patch 2 inputs!*

Stereo

The Stereo main inputs feature XLR bal/unbalanced combo connectors for L&R input signal. This input is perfect for connection to your main audio interface device (example; MBox 2, etc). Simply connect your cables directly to the unit with either XLR or ¼" TS/TRS cables.

Aux

The Aux input channel features two different connection possibilities in the form of 2 x RCA (L&R) and a stereo 3.5mm mini-jack input. These connections are perfect for devices

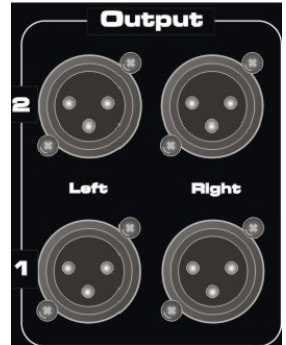
such as a CD players line output or a 3.5mm stereo mini-jack connection from your PC's standard soundcard.

** Note: You can connect up to three different devices to the three physical connector possibilities simultaneously. The input selector on the front panel allows selection of the desired input!*

Analog output connectors

The M-Patch 2 features two (2) pairs (L&R) of XLR balanced analog output connectors on the rear panel. These are labeled "1" & "2".

Connect these outputs to your destination device (active monitors, digital recorder, or wherever you need the attenuated output signal sent).



** Note: It is possible to activate or deactivate each desired output pair via the 'output selector switches' on the front panel. It is possible to have both 1&2 outputs active at the same time. This is very useful when connecting the outputs to a recording device and a monitoring device simultaneously!*

3.3 Power connection



Power to the M-Patch 2 is required only if you wish to use the headphone amplifier, or view the illuminated led indicator lamps.

The included power supply can be connected from mains power to the power connector socket located on the rear panel of the M-Patch 2.

The Blue led on the front panel (next to the mono/stereo control switch) will illuminate when the external power supply is connected and mains power is present.

** NOTE: All passive attenuation functions operate fully without the connection of the power supply. This enables full portable use of the M-Patch 2 without restriction.*



4. FRONT PANEL CONTROLS

4.1 Stereo/Aux input selection control



The input selection controls on the front panel of the M-Patch 2 allow selection of either 'Stereo' or 'Aux' input source material to be routed to the output pairs for immediate listening and attenuation control.

Select the "stereo" position to activate the main stereo input source connected to the XLR/combo inputs, or select "Aux"

position to activate the RCA and 3.5mm stereo mini-jack input source.

4.2 1&2 Output selector switch

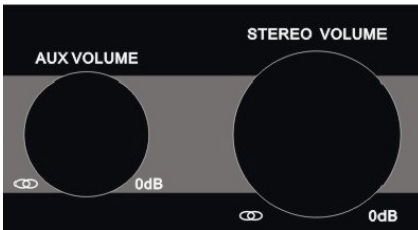
The 1/2 output switch on the front panel of the M-Patch 2 is for selecting which desired output pair (1 +/or 2) you would like to route the audio signal to.

Simply change the position of the switch to toggle between output destinations.



** Note: If you have more than one pair of monitor speakers you could create a perfect switching facility for toggling between near-field and larger format active room monitors.*

4.3 Input volume rotary attenuator controls



The Aux input volume rotary attenuator control on the front panel of the M-Patch 2 adjusts the level of monitored output signal for devices connected to the Aux inputs (either the RCA or 3.5mm stereo min-jack) of the M-Patch 2.

The stereo input volume attenuator switch on the front panel of the M-Patch 2 adjusts the level of monitored output signal for devices connected to the stereo inputs (XLR combo connectors) of the M-Patch 2.

4.4 On/Off Mute switch

The on/off mute switch on the front panel is for enabling and disabling the M-Patch 2's built in mute function. All audio signal output is disabled when the mute switch is in a depressed position.



The mute led will illuminate when the system is in a current muted state of operation.

4.5 Mono/Stereo summing switch



The mono/stereo summing switch on the front panel of the M-Patch 2 allows you to sum a stereo signal to a mono signal. This can be very handy when testing your audio for certain issues like phase cancellation, preparation for AM radio, etc.

Select the desired mode of operation by positioning the mono/stereo switch in the up or down position.

4.6 Headphone amplifier and output connector

A headphone amplifier is provided for monitoring the audio signal selected by the 'Input Selection' control switches.



Simply connect a pair of headphones to the ¼" TRS headphone connector socket and use the rotary headphone volume control knob to adjust the volume level to your desired setting.

** Note: Use of the headphone amplifier requires the connection of the external power supply.*

5. APPLICATION

5.1 Using the M-Patch 2

You can use M-Patch 2 anywhere you want to trim the amount of gain; ie, reduce the volume of analog audio signals. For example, you could use one to trim the output of a microphone pre-amplifier. With its high-quality potentiometer, the M-Patch 2 passes signal more accurately, and sounds better than most built-in volume controls. Another use might be to trim the levels of a 5.1 or greater multi-channel monitor system -- either one pair of channels, or two, or all of them. You can also use the M-Patch 2 to trim the output level of a Digital to Analog Converter like those found in high end pre-amplifiers. It is also useful as a local volume control for distributed audio systems. The possibilities are endless!

Handy applications...

The M-Patch 2 is great for those times when you prefer to monitor directly from the outs on your sound card or audio interfaces main outputs directly to your monitors. When your monitors are on they are normally extremely loud. As a result, you may become a bit frustrated as the volume is often simply too high to be comfortable. Your only choice is to hook up through an external mixer and attenuate the signal or to attenuate the signal in the computer outputs, thereby degrading your bit-levels. Neither solution is completely satisfying. Mixers add color to the signal and reducing the digital output in the computer will compromise the fidelity of your audio.

Simple steps for your home workstation...

1. Typically you should connect the output of your soundcard or audio interface to the input of the M-Patch 2 using RCA, TRS or XLR jacks. You could also connect multiple connections at the same time if required. For example, connect the outputs of your audio interface (eg. Digidesign MBox 2) to the balanced combo connectors, and your soundcards mini-jack output to the stereo 3.5mm AUX input on the M-Patch 2. You could also connect your CD or other line level device to the

AUX RCA inputs. This enables you to level balance two input sources by passive attenuation!

2. Connect XLR cables from the outputs of the M-Patch 2 to your active monitors or the amplifier that powers the monitors. Remember you have two (2) output destinations so if you have two different monitor pairs (near-field & far field (room speakers)) you can connect one pair to output 1 (L&R), and the other pair to output 2 (L&R).

3. Turn the volume all the way up on your monitors or amplifier, set your software & software volume control panel to Zero dB, and use the M-Patch 2 on your desktop to control your monitor level.

Simple, effective, transparent!

Controlling the M-Patch 2:

- Use the input selector switch on the front panel to select which input source you wish to listen to (Stereo or Aux inputs).
- Use the Mute switch when required. Great for powering down without pops or clicks, or muting without changing your level control and forgetting exactly where you last settings were!
- Use the Mono/Stereo switch if you want to sum the stereo signal to mono for testing.
- Use the Output selector to select output 1 or 2 for listening. Great to A/B listen between near-field and far-field monitors pairs.

6. SPECIFICATIONS

AUDIO INPUTS

Connectors	- 2 x XLR Combo connectors - 1 x stereo RCA pair (L&R) - 1 x stereo 3.5mm jack
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AUDIO OUTPUTS

Output Connectors (A-/L&R, B-/L&R)	- 2 x XLR Balanced output pairs
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HEADPHONE OUTPUT

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

POWER

External	DC12-16V adaptor
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(Note: Power is only required to operate the headphone amplifier and illuminate the units led indicators. All other functions of the M-Patch 2 will continue to function fully without the connection of the external power supply)

PHYSICAL

Dimensions	22cm x 12cm x 8.6 cm
Net weight	approx. 1 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 (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 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
Warehouse 25
Roberna Business Park
26-28 Roberna St
Moorabbin 3189
Melbourne, Victoria
Australia

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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