

Q-SERIES

Q-AMP - Q-DI - Q-PRE

OPERATING MANUAL
ENGLISH



clever audio solutions.



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 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.

FOREWORD

Dear Customer,

Thank you very much for expressing your confidence in SM Pro Audio products by purchasing this unit. The Q-Series have been designed to be used as standard tools for home/pro studios, P.A. rental companies, Schools and in many other situations where audio products would be used. 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 series 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 ProAudio

INSTALLATION

Your SM ProAudio Q-Series unit 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.

RACK MOUNTING

The SM ProAudio Q-Series unit fits into HALF a standard 19" rack unit of space. Be sure that there is enough air space around the unit for cooling. As to avoid overheating, please do not place the units on high temperature devices such as power amplifiers.

MAINS VOLTAGE

The units come with a 17V AC power supply adaptor. Before you connect your unit to the mains, please make sure that your local voltage matches the voltage required by the unit!

1. THE DESIGN CONCEPT

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. Q-AMP MAIN FEATURES

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

- Four totally independent stereo high-power amplifiers in Half 1 RU package
- High quality audio even at extremely high volume levels
- Two independent stereo input sections
- 1/4" (6.5mm) and 1/8" (3.5mm) stereo headphone outputs per channel
- Output level control for each channel
- Independent selection of input for each output
- High-quality components and rugged construction

3. INTRODUCTION

In purchasing the new SM Q-Amp, 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 Q-Amp 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. Apart from its extremely powerful amplifiers the unit also offers an ingenious line distribution system. The SM HP4Value finds widespread application throughout the world, in home/pro studios, sound reinforcement systems and in many other audio fields.

The SM Q-Amp features a variety of monitoring and distribution options: each of the four stereo amplifiers can accept signal from any of the two stereo inputs on the rear of the unit. This allows two completely independent monitor signals to each set of headphones connected to the Q-Amp! 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 Q-Amp.

4. Q-AMP FRONT PANEL

The Q-Amp has four independent headphone amplifiers or line distribution channels. The unit provides 2 rotary controls and 2 stereo jacks per channel. An output is provided for both 1/8" and 1/4" connections.

4.1 Input signal selector switch

Each channel features a selector switch which allows for selection of any of the 2 x stereo input source signals connected to the rear of the Q-Amp to be routed to the selected channels headphone amplifier output. Simply choose the source signal desired for that channel.

4.2 Rotary volume pot controls

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

4.3 1/4" headphone output

4.4 1/8" headphone output

4.1 Input signal selector switch 4.2 Rotary volume pot controls



4.3 1/4" headphone output 4.4 1/8" headphone output

5. Q-AMP BACK PANEL

The back panel has 2 stereo inputs. If you like to listen to a mono signal, you should connect it to the left input jack.

2 Stereo Line Level 1/4" Jack inputs



6. APPLICATION

6.1 Using the Q-Amp as a headphone amplifier

Connect a stereo (L&R) program source (2 x 1/4" Inch Jacks) to the rear of the Q-Amp using one of the available 2 x stereo input pairs on the rear panel. You can also connect a Mono signal to the input channel and split the signal into both sides of the headphone. Connect a set of headphones using a stereo 1/4 Inch cable to any of the headphone outputs on the front of the Q-Amp. Select the source signal from the selector switch for the channel in use. Set to an appropriate level for monitoring. Owing to the four independent channels of the Q-Amp, four individual mixes for four 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 Q-Amp. This enables each musician to receive a specific configuration of instruments of their choice in their headphones. Note: If four headphone outputs are not enough, you can interface and link any number of Q-Amp's for additional outputs.

6.2 Chaining multiple Q-Amp's together for additional headphone/line distribution requirements.

It is very easy to chain multiple Q-Amp's together. Use appropriate stereo 1/4 Inch jack > to Y (2 x mono) cables and make connections from one of the outputs to the stereo (L&R) audio inputs on the rear of your second Q-Amp. This effectively allows an addition 3 x headphone outputs. You can continue to chain as many units as you want using this procedure.

7. SPECIFICATIONS

AUDIO INPUTS:

Connectors 1/4" jack
Type unbalanced
Impedance 47k Ohms
Peak input level +25dB
Gain control range 40dB

HEADPHONE POWER AMPLIFIER OUTPUTS:

1/4" and 1/8" stereo 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 >72dB@1kHz;-20dBinput

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 6.5VA

Fuse 100-120 V AC: 630 mA (slow-blow)

200-240 V AC: 315 mA (slow-blow)

Mains connection Using External Power Supply 16Vac

PHYSICAL:

Dimension 1 3/4" (44.5 mm) * 19" (482.6 mm) * 8 1/2" (217 mm)

Net weight approx. 3.15 kg

8. Q-DI MAIN FEATURES

Professional, multi-purpose DI 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

9. INTRODUCTION

In purchasing the new Q-DI, 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 Q-DI 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 Q-DI finds widespread application throughout the world, in home/pro studios, sound reinforcement systems and in many other audio fields.

The Q-DI 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 Q-DI also functions as multi-channel stereo line mixer. This is an ingenious feature which will 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.

10. Q-DI FRONT PANEL

The Q-DI 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).

10.1 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.

10.2 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

10.3 Four independent 20 dB/40 dB PAD switches

Use these switches to PAD each input channel signal level by 20dB or 40dB. Use this only if you have an extremely high input signal strength.

10.4 Four independent earth lift switches

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

10.5 Unbalanced (TS) audio input jack

Connect your unbalanced line signals here.

10.6 Master volume control

This sets the overall output volume of the stereo mixer and the headphone amp.

10.1 Rotary volume controls 10.2 Rotary pan controls 10.3 20 dB/40 dB PAD switches



10.4 Earth lift switches 10.5 Unbalanced audio input 10.6 Master volume control

11. Q-DI BACK PANEL

11.1 Balanced XLR outputs

Balanced signal output to connect to a mixer, stage box, etc.

11.2 Unbalanced RCA MIX output

Your own independent mix for monitoring.

11.1 Balanced XLR outputs 11.2 Unbalanced RCA MIX output



12. APPLICATION

12.1 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.

12.2 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.

13. 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 RCAPhono
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

14. Q-PRE MAIN FEATURES

Professional, multi-purpose multi-channel pre-amplifier system for studio applications

- Four totally independent pre-amplifiers in half 19" rack package
- High quality audio
- 4 x balanced inputs
- 4 x unbalanced outputs
- Phantom On/Off per 2 channels
- 4 x peak Light indicators
- Individual gain control on each channel

15. INTRODUCTION

In purchasing the new Q-Pre, you have acquired a multi-channel pre-amplifier of high class that meets many of the demands of the home/pro studio.

The market size for digital audio interfaces and computer based digital editing has increased in a massive way. With systems available at very low prices, more and more users are utilizing this technology. One of the main problems with many of these systems is the input stage only consisting of unbalanced line inputs or very low (or no mic pre) gain structure for the balanced input stage and the unavailability of Phantom power.

The Q-Pre comes to the rescue with 4 channels of balanced input, with a full range of gain control from -20dB to +40dB and Phantom power for every channel. This half rack unit can now solve many of the connectivity issues which are raised in a large range of situations, whether in the Studio, home, club installation or other live sound applications.

16. Q-PRE FRONT PANEL

The Q-Pre has four independent pre-amplifiers channels. The unit provides variable rotary gain controls, phantom power and peak indicator lights per channel.

The front panel rotary gain controls

Each channel features a rotary gain control for variable adjustment of the desired pre-amplifier level.

Rotary gain controls



17. Q-PRE BACK PANEL

17.1 The Back panel phantom power switches

Each channel features a phantom power supply for enabling the supply of 48V through the XLR input connector to power condenser microphones. Each Switch controls 2 channels.

17.2 Balanced output connectors

Balanced signal outputs to connect to a mixer, stage box, etc.

17.1 The Back panel phantom power switches 17.2 Balanced output connectors



18. APPLICATION

Using the Q-Pre

It could not be simpler to use and operate the Q-Pre. Each of the four pre-amplifier channels has its own input and output and variable gain control. Three steps:

1. Simply connect a signal for processing to one of the XLR balanced inputs on the front of the Q-Pre.
2. Make a connection from the corresponding channel output on the front of the Q-Pre to your desired destination (Mixer, recorder, etc).
3. Adjust the variable gain control to the desired pre-amplified level. To ensure sure you do not over pre-amplify your signal a peak clip indicator light has been provided on the front panel of the Q-Pre for each channel. When illuminated, this light indicates that the preamplifier is overloaded and that distortion will occur. Please turn down the variable gain control for the currently selected channel until the peak clip light is no longer illuminated. Always trust your ears, the Peak LED is after the gain control so you could actually distort the input with a very high level.

19. SPECIFICATIONS

AUDIO INPUTS & PRE AMPS:

Connectors XLR
Type balanced
Impedance 2k Ohms
Min Sensitivity -40dB
Peak input level +5dB
Gain control range 50dB
Peak amplification 74dB
Phantom power +48V, switchable

AUDIO OUTPUTS:

Connectors 1/4" jack
Type TRS balanced
Impedance -10dB 47K
Peak output level +18.5dB

DIST, FREQ, S/N RATIO & CROSSTALK:

Frequency response 20Hz~20kHz, 0dB~-2B

Distortion 0.02%

S/N Ratio better than 80dB

Crosstalk rejection >70dB@1kHz;-20dBinput

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 8.5VA

Fuse 100-120 V AC: 630 mA (slow-blow)

200-240 V AC: 315 mA (slow-blow)

Mains connection External power supply connector

PHYSICAL:

Dimension 1 3/4" (44.5 mm) * 19" (482.6 mm) * 8 1/2" (217 mm)

Net weight approx. 3.4 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 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 post-mark) will void any extended warranty claims.

7.1 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.

7.2 RETURN AUTHORIZATION NUMBER

1. To obtain warranty service, the buyer must call SM Pro Audio during normal business hours BEFORE returning the product. Please use the following telephone numbers:

Australia and Asia: Tel.: +61 3 9555 8081

North America: Tel.: 1 800 343 0353

Europe: Tel.: +49 2504 888 878 0

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

2. The product must be returned in its original shipping carton, together with the return authorization number, to the following addresses:

Australia and Asia:

SM Pro Audio
Service Department
W25, 26-28 Roberna St
Moorabbin
Australia

North America:

Kaysound
5 Coton Lane, Champlain,
New York, 12919
USA

Europe:

SM Pro Audio Europe / tt audio GmbH
Alfred-Krupp-Str. 5
48291 Telgte
Germany

7.3 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 in the best possible manner.

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.

7.4 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.

7.5 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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