User's Guide

RME

INTELLIGENT AUDIO SOLUTIONS

QuadMic

Portable Professional Mic Preamp
4-channel Microphone / Line Preamp with Line Outputs
Wide Range Power Supply Input

Important Safety Instructions

To reduce the risk of fire or electric shock do not expose this device to rain or moisture. Prevent moisture and water from entering the device. Never leave a pot with liquid on top of the device. Do not use this product near water, i. e. swimming pool, bathtub or wet basement. Danger of condensation inside – don't turn on before the device has reached room temperature.

Installation

Surface may become hot during operation – ensure sufficient ventilation. Avoid direct sun light and do not place it near other sources of heat, like radiators or stoves. When mounting in a rack, leave some space between this device and others for ventilation.

Unauthorized servicing/repair voids warranty. Only use accessories specified by the manufacturer.

Read the manual completely. It includes all information necessary to use and operate this device.

Contents

1. Introduction

Thank you for choosing the QuadMic. This unique microphone preamp allows to connect any kind of microphone to any line level input. Thanks to the option of battery-powered operation, the QuadMic makes an ideal companion to RME's computer interfaces in mobile recording situations. An excellent signal to noise ratio, lowest harmonic distortions and wide gain range make the QuadMic your first choice even for studio use!

2. Package Contents

Please check that your QuadMic's package contains each of the following:

- QuadMic
- Manual
- 12 V car cable
- Battery cable
- Power supply 12 V / 2 A and power cord

3. Brief Description and Characteristics

- 4 separate microphone inputs with That® hi-end mic preamp
- Phantom power 48V, low cut and phase switchable per channel
- 48V, Clip and Signal LED per channel
- Gain XLR in: +6 dB up to +60 dB
- Gain TRS in: +0 dB up to +54 dB
- Phantom power free TRS input
- Servo balanced inputs and outputs
- Wide frequency response with special RF input filters
- Wide operating voltage range
- 100% hum-free via internal switching regulators
- Lockable power connector
- Rack mount compatible (RM19)

4. Technical Specifications

- Inputs: XLR or 1/4" TRS (stereo) jack, electronically balanced
- Input impedance: XLR 2 kOhm, TRS 4 kOhm
- Signal to Noise ratio (SNR): 129 dB EIN @150 Ohm
- THD: < 0.0005 % @ 30 dB Gain
- Crosstalk: > 110 dB
- Frequency response –0.5 dB: 5 Hz - 200 kHz
- Line Out: 1/4" TRS (stereo) jack, servo balanced
- Maximum output level: +21 dBu
- Output impedance: 75 Ohm

- Dimensions including front handles (WxHxD): 215 x 44 x 155 mm (8.46" x 1.73" x 6.1")
- Dimensions without handles (WxHxD): 215 x 44 x 132 mm (8.46" x 1.73" x 5.2")
- Weight: 1.1 kg (2.4 lbs)
- Temperature range: +5° up to +50° Celsius (41° F up to 122°F)
- Relative humidity: < 75%, non condensing

5. Power Supply

- Typical current drawn at 12 Volt operating voltage: 380 mA (4.6 Watts)
- Accepted power supply voltage DC 9 V – 18, + center pin
- Connector 5.5 mmm x 2.0 mmm

In order to make operating the QuadMic as flexible as possible, it contains a switching regulator of the latest technology, which not only has a high efficiency (> 90%), but also prevents internal hum noise, as it operates at 100 kHz. Another advantage: the QuadMic accepts any power supply with voltages between 9 and 18 V DC.

The supplied high-quality switching power supply, 12 V / 2 A, not only accepts any mains voltage between 100 V and 240 V (usable world-wide), but is also fully regulated against voltage fluctuations. Additionally it only weighs 150 g in spite of its high power of 24 Watts. This power supply can operate up to four QuadMic when used with a special split adapter cable.
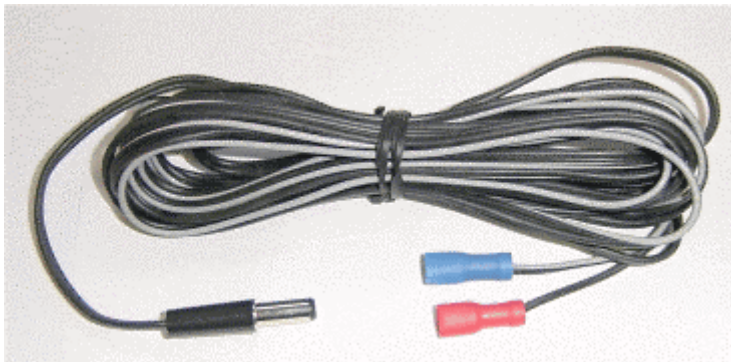
The large voltage range of the QuadMic also allows for the use of a rechargeable lead-battery instead of a power supply, for completely independent mobile operation. A matching connection cable (power jack to terminals 6.3 mm, see picture) is part of the supplied contents.

Connecting the QuadMic to a Car's battery is easy as well. The supplied car cable is plugged in to the standard lighter connector.

We tested a Panasonic LC-R122R2PG battery, 12 V 2.2 Ah, which can operate the QuadMic for 4 hours. Measuring the voltage while discharging shows that the QuadMic remains completely in working order even shortly before the battery voltage collapses (7 Volts.)

Special power banks in the range of 10,000 mAh and up can be found equipped with a 12 V output. These offer a perfect solution for mobility as well as ground isolated operation, for small money. More information here:

https://forum.rme-audio.de/viewtopic.php?id=25745

6. Operation and Usage

6.1 Controls

The front of the QuadMic has the gain knobs, switches for low cut, phantom power and phase, and several status LEDs:

+48V (LED) lights up when phantom power is active. Phantom power should only be activated when using condensor microphones which require such a power supply.

The **CLIP** LED lights up 3 dB before the input is overloaded. Referenced to the output level it lights up at around +18 dBu.

SIG (Signal) indicates the presence of an input signal. The threshold of −27 dBFS is rather high compared to other equipment. With this, SIG also indicates a useful output level, which is maintained by a correctly done GAIN adjustment.

The **GAIN** knob allows for a step-less and precise adjustment of the amplification between +6 dB and +60 dB.
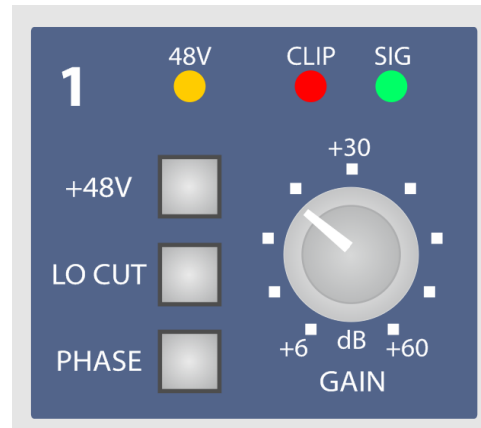
+48V (switch) activates phantom power. Phantom power should only be activated when using condensor microphones which require such a power supply, and only on the specific channel. Another important rule: plug-in the microphone first, then switch on the phantom power. The QuadMic will apply the voltage smoothly (soft start). In case the microphone is plugged in while phantom power is already switched on, a current peak (spike) is generated that can destroy the sensitive microphone input stages.

LO CUT activates a hi-pass at 80 Hz, 18 dB per octave. This filter can remove rumble and other low frequency noise.

PHASE changes the polarity. Phase cancellations and sound changes can be caused by using multiple microphones at different places, or wrongly soldered cables. In such cases PHASE can eliminate the error by adding an additional phase inversion.

The back of the QuadMic has the 4 analog inputs and outputs and the power supply connector.

MICROPHONE / LINE INPUTS: 4 Neutrik XLR / TRS combo jacks. Thanks to the servo balanced designs and a high maximum input level, the inputs can be used balanced or unbalanced, with XLR or TRS jack, with microphone as well as line levels.

LINE LEVEL OUTPUTS: 4 TRS (stereo) jacks. The electronic output stage is built in a servo balanced design which handles monaural (unbalanced) and stereo jacks (balanced) correctly.

Power: Connect power supply, lead-battery or battery. See chapter 5, Power Supply.

6.2 Mic/Line Inputs

The QuadMic provides 4 balanced Mic and Line inputs via 1/4" TRS (stereo) and XLR jacks. The electronic input stage is built in a servo balanced design which handles monaural and stereo jacks correctly. When used unbalanced it automatically corrects the gain by 6 dB.

! *When using unbalanced cables with stereo TRS jacks, the 'ring' contact of the cable's jack should be connected to pin 1 (ground). Otherwise noise may occur, caused by the unconnected negative input of the balanced input.*

The pinout follows international standards. XLR pin 2 + or hot, pin 3 – or cold, pin 1 ground. TRS tip + or hot, ring – or cold.

6.3 Line Outputs

The four short circuit protected, low impedance and servo balanced line outputs are available as (stereo) 1/4" TRS jacks. The electronic output stage is built in a servo balanced design which handles monaural and stereo jacks correctly. When used unbalanced it automatically corrects the gain by 6 dB.

The QuadMic can generate a maximum level of +21 dBu without distortion. The **CLIP** LED lights up 3 dB before the input is overloaded. Referenced to the output level it lights up at around +18 dBu.

The pinout follows international standards. TRS tip + or hot, ring – or cold.

7. Accessories

Part number	Description
RM19-X	19" Rack Adapter, mounted on the sides of the QuadMic
Unirack	Universal rackmount adapter (tub for two 9.5" devices)
NT-RME-2 (lockable)	Power supply for QuadMic. Robust and light-weight switching power supply, 100 V-240 V AC, 12 V 2 A DC. Lockable DC connector.

8. Warranty

Each individual QuadMic undergoes comprehensive quality control and a complete test at IMM before shipping. The usage of high grade components should guarantee a long and trouble-free operation of the unit.

If you suspect that your product is faulty, please contact your local retailer.

Audio AG grants a limited manufacturer warranty of 6 months from the day of invoice showing the date of sale. The length of the warranty period is different per country. Please contact your local distributor for extended warranty information and service. Note that each country may have regional specific warranty implications.

In any case warranty does not cover damage caused by improper installation or maltreatment - replacement or repair in such cases can only be carried out at the owner's expense.

No warranty service is provided when the product is not returned to the local distributor in the region where the product had been originally shipped.

Audio AG does not accept claims for damages of any kind, especially consequential damage. Liability is limited to the value of the QuadMic. The general terms of business drawn up by Audio AG apply at all times.

9. Appendix

RME news, driver updates and further product information are available on RME's website:

https://www.rme-audio.com

Worldwide distribution: Audio AG, Am Pfanderling 60, D-85778 Haimhausen, Tel.: (49) 08133 / 918170

Support via e-mail: support@rme-audio.com

List of international supporters: https://www.rme-audio.de/support.html

RME user forum: https://forum.rme-audio.de

Manufacturer: IMM electronics GmbH, Leipziger Strasse 32, D-09648 Mittweida

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10. Block Diagram QuadMic
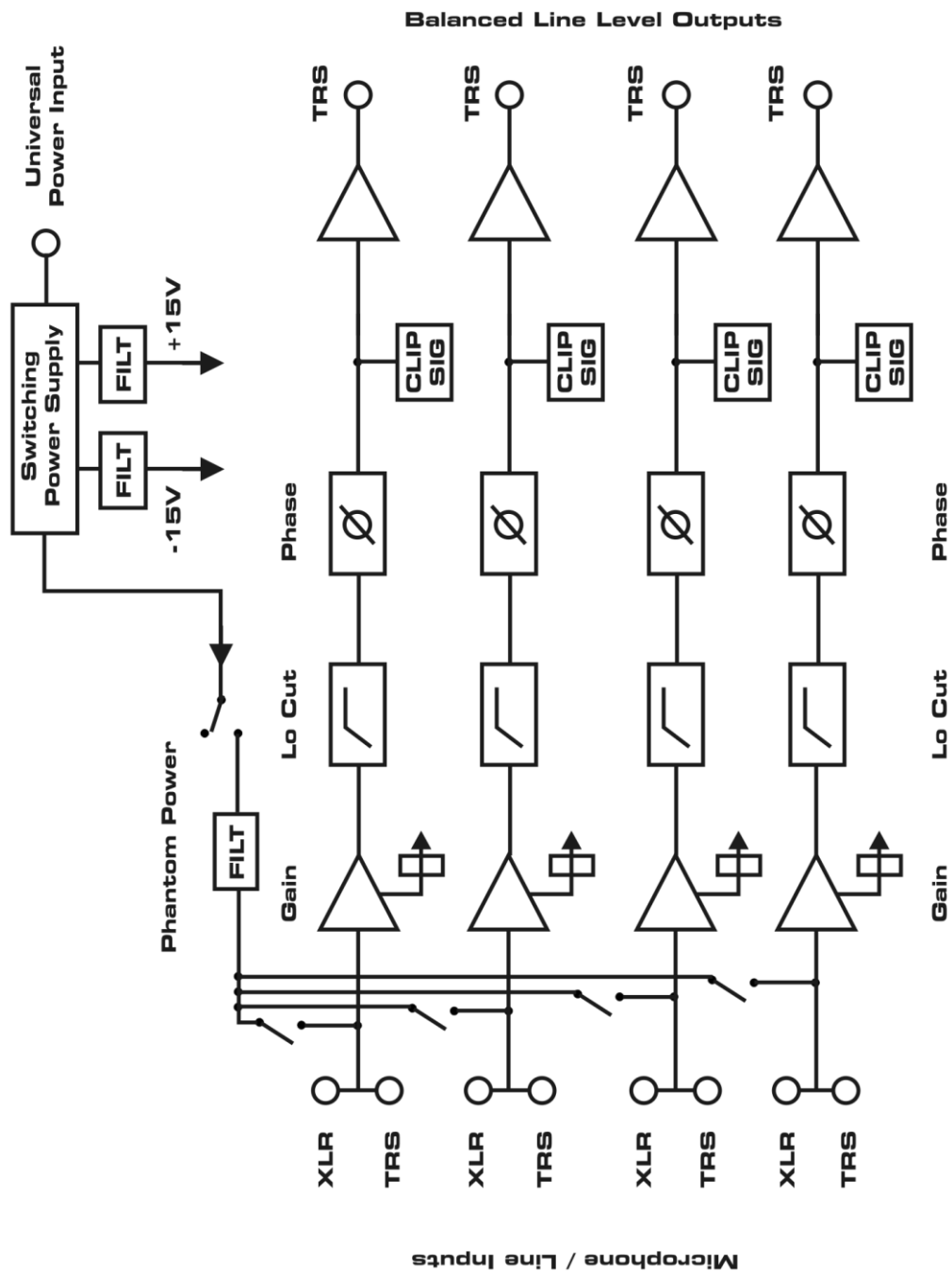
11. CE / FCC Compliance Statements

CE
This device has been tested and found to comply with the limits of the European Council Directive on the approximation of the laws of the member states relating to electromagnetic compatibility according to RL2014/30/EU.

FCC
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

> Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Responsible Party in USA:
Synthax United States, 6600 NW 16th Street, Suite 10, Ft Lauderdale, FL 33313
T.:754.206.4220

Trade Name: RME, Model Number: QuadMic

RoHS
This product has been soldered lead-free and fulfils the requirements of the RoHS directive.

Note on Disposal

According to the guide line RL2002/96/EG (WEEE – Directive on Waste Electrical and Electronic Equipment), valid for all european countries, this product has to be recycled at the end of its lifetime.

In case a disposal of electronic waste is not possible, the recycling can also be done by IMM electronics GmbH, the manufacturer of the Quad-Mic.

For this the device has to be sent **free to the door** to:

IMM electronics GmbH
Leipziger Straße 32
D-09648 Mittweida
Germany

Shipments not prepaid will be rejected and returned on the original sender's costs.