

TUBE ULTRAGAIN MIC100

User's Manual

Version 1.0 December 2002

ENGLISH



www.behringer.com



SAFETY INSTRUCTIONS

CAUTION: To reduce the risk of electrical shock, do not remove the cover (or back). No user serviceable parts inside; refer servicing to qualified personnel.



WARNING: To reduce the risk of fire or electrical shock, do not expose this appliance to rain or moisture.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Read the manual.

DETAILED SAFETY INSTRUCTIONS:

All the safety and operation instructions should be read before the appliance is operated.

Retain Instructions:

The safety and operating instructions should be retained for future reference.

Heed Warnings:

All warnings on the appliance and in the operating instructions should be adhered to.

Follow instructions:

All operation and user instructions should be followed.

Water and Moisture:

The appliance should not be used near water (e.g. near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool etc.).

Ventilation:

The appliance should be situated so that its location or position does not interfere with its proper ventilator. For example, the appliance should not be situated on a bed, sofa rug, or similar surface that may block the ventilation openings; or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

Heat:

The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

Power Source:

The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

Grounding or 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 or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles and the point where they exit from the appliance.

Cleaning:

The appliance should be cleaned only as recommended by the manufacturer.

Non-use Periods:

The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

Object and Liquid Entry:

Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

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 which is described in the Operating Instructions. All other servicing should be referred to qualified service personnel.

Welcome to the BEHRINGER family!

Thank you for the confidence you have placed in us by purchasing the MIC100.

Your MIC100 is a professional mic preamp that can be used in a variety of applications. Due to its incredible functionality and the broad range of connection options, the MIC100 ensures outstanding performance. You will soon appreciate the MIC100's flexibility, be it live on stage or in the home/professional recording studio.

1. INTRODUCTION

With the MIC100, you have purchased an extremely musical mic preamp that is equipped with a 12AX7 vacuum tube. An integrated limiter, a phase reverse function, phantom power supply, a highly accurate LED meter and a switchable pad function complement this powerful device.

1.1 The design concept

The heart of the TUBE ULTRAGAIN is an extremely low-noise microphone preamp circuitry that uses discrete components and produces a highly transparent sound. In combination with our BEHRINGER tube technology, the operational amplifiers 4580 and a sophisticated circuit topology, the TUBE ULTRAGAIN yields excellent noise and distortion properties. The innovative UTC circuitry that has been developed by our engineering team offers an abundance of sound-shaping possibilities. Absolute musicality was our major goal when we designed the TUBE ULTRAGAIN. The result is a device that, thanks to our tube circuitry, lends an incredible punch to percussion instruments. On the other hand, instruments that are rich in upper harmonics will receive more transparency. The sound will be warm, detailed and brilliant.

Surely you know the recording problem that single instruments or vocals sometimes don't cut through. Thanks to the TUBE ULTRAGAIN, vocals gain in presence and volume without masking other instruments. As a result, your voice will be perfectly integrated in the mix.

2. CONTROL ELEMENTS

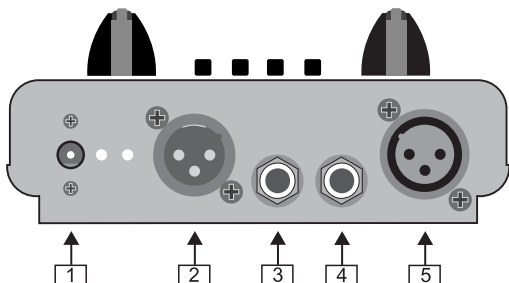




Fig. 2.1: Side panel of the MIC100

2.1 Connections (side panel)

- 1 Use the *POWER SUPPLY CONNECTOR* to hook up the enclosed power supply unit. Next to this connector you'll find the strain relief clamp, which prevents accidental release of the power supply.
 - 2 This is the balanced *XLR OUTPUT* of your MIC100. Use this connector to feed the XLR input of your mixing console, multitrack recorder or power amp.
 - 3 The balanced *1/4" TRS OUTPUT* of your MIC100 can also be connected to either mixer, recording system or power amp.
-  **Please note that you can use the XLR and TRS outputs of your MIC100 at the same time! Thus, it is possible to connect the MIC100's output signal to two different devices simultaneously.**
- 4 The balanced *1/4" TRS INPUT* of your MIC100 can be used to connect your electric guitar, for example. This input is wired parallelly to the XLR input.

- 5 Use the balanced *XLR INPUT* to connect your microphone.

 In contrast to its outputs, the MIC100's inputs should never be used simultaneously!

2.2 User interface

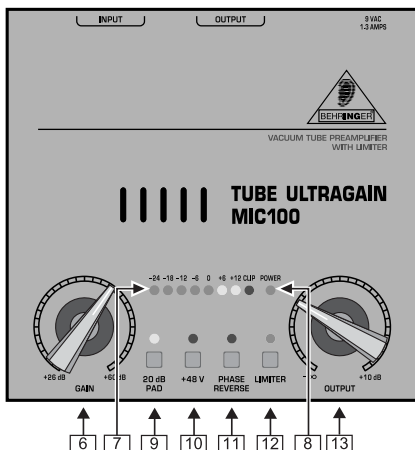


Fig. 2.2: User interface of the MIC100

- 6 The *GAIN control* allows applying gain from +26 to +60 dB to the input signal. This control should be set fully counterclockwise when (dis)connecting a sound source to the MIC100. When all connections are made, slowly start raising gain.
- 7 We recommend using the *LED meter* to adjust the input gain. The LED chain displays the input signal level in dB. Please make sure that the clip LED never lights up permanently. It should light up only at peak signals, but never all the time.

- 8 If your MIC100 is connected to the mains via the enclosed power supply unit, the *POWER* LED lights up to indicate that your MIC100 is running.
- 9 The *20 dB PAD* button reduces the input sensitivity by 20 dB. The appropriate setting depends on the equipment connected. No matter what your application is, the clip LED warns you to reduce the gain setting, so as to avoid distortion.
- 10 This *+48 V* switch activates the phantom power supply for the XLR input. Phantom power supply is required for operating condenser microphones.
- 11 With the *PHASE REVERSE* switch, the input signal is reversed by 180°. This function is available for both mic and line signals. Use this function in a multi-microphone setup if you detect phase cancellations in specific frequency bands.
- 12 Use the *LIMITER* switch to limit the signal and to prevent distortion.
- 13 The *OUTPUT* control governs the output level of the device within a range from $-\infty$ to +10 dB. If the control is set fully counter-clockwise, there is no output signal at all. The more the control is set clockwise, the higher the output level.

2.3 Serial number

The MIC100's serial number is located on the bottom cover. Please take time to fill in and return the warranty card within 14 days after the date of purchase, so as to benefit from our extended warranty. Or use our online registration option available on the World Wide Web at www.behringer.com.

3. WIRING EXAMPLES

You'll be surprised how flexibly you can set up your MIC100. The following chapter describes some typical wiring examples.

3.1 Enhancing vocals and instruments in live applications

Here, the MIC100 is wired before the mixer's channel input. Thus, the sound gains in warmth and transparency. Due to the integrated limiter, distortion is eliminated effectively.

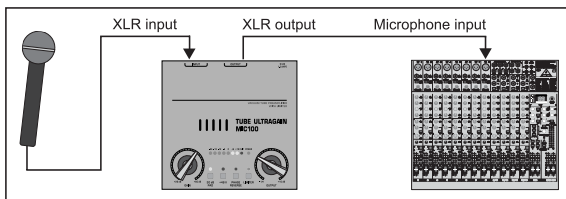


Fig. 3.1: Standard live application

3.2 “Direct to disk” application in studio or home recording environments

If you are looking for a device that considerably enhances the sound of your digital workstation, this is where the MIC100 comes in. Many hard disk recorders lack a certain “liveliness”. In addition, they are often equipped with “lousy” microphone preamps. Such problems can be solved perfectly with the MIC100.

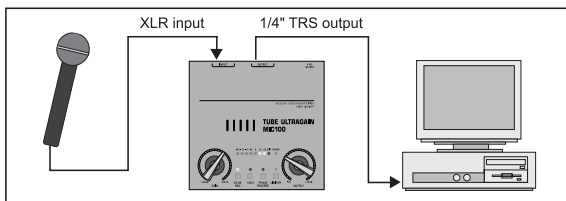


Fig. 3.2: Connection of the MIC100 and the soundcard of your PC

3.3 The MIC100 as DI-box

Your MIC100 is excellently suited for this application. For example, you can connect an unbalanced acoustic guitar signal to the MIC100 to prevent hum or interference noise. What you get is a balanced, noise-free signal.

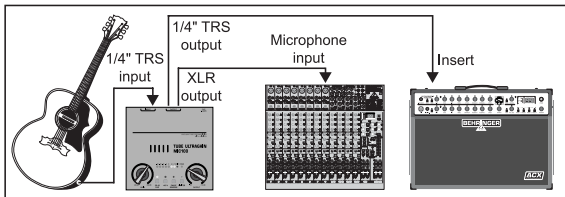


Fig. 3.3: The MIC100 as DI-box

4. AUDIO CONNECTIONS

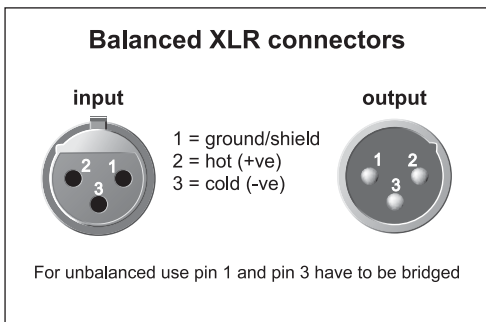


Fig. 4.1: XLR connectors

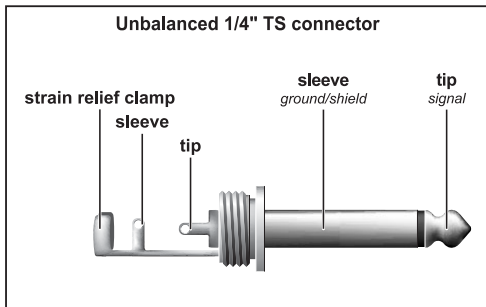


Fig. 4.2: 1/4" TS connector

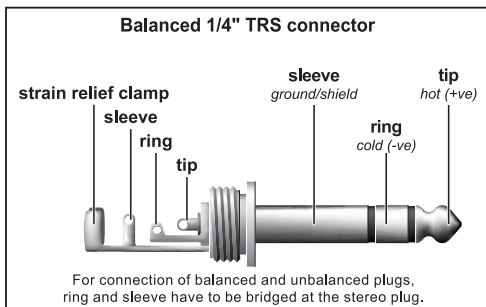


Fig. 4.3: 1/4" TRS connector

5. WARRANTY

For our current warranty terms, please refer to our website at <http://www.behringer.com>, or send us a request via e-mail at support@behringer.de, fax at +49 2154 920 665, or call +49 2154 920 666.

6. SPECIFICATIONS

XLR input

Connector	Balanced/unbalanced
Type	Transformerless, DC-decoupled input
Impedance	approx. 2 k Ω
Max. input level	+7 dBu / 20 dB with pad

1/4" TRS input

Connector	Balanced/unbalanced
Type	Transformerless, DC-decoupled input
Impedance	approx. 1 M Ω
Max. input level	+16 dBu / 20 dB with pad

Audio outputs

Connectors	XLR and 1/4" TRS connector balanced/unbalanced
Type	Transformerless, DC-decoupled output
Impedance	approx. 700 Ω balanced / approx. 350 Ω unbalanced
Max. output level	approx. +26 dBu @ 100 k Ω

System specifications

Frequency response	Mic input <10 Hz - 43 kHz (+/-3 dB) Line input <10 Hz - 40 kHz (+/-3 dB)
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Function controls

Gain	variable (+26 to +60 dB)
Output	variable (- ∞ to +10 dB)

Function switches

20 dB pad	Level attenuation (20 dB)
+48 V	Activates the phantom power
Phase reverse	Phase reverse (180°)
Limiter	Limits the output signal

Indicators

Input level	8-segment LED meter: -24, -18, -12, -6, 0, +6, +12, clip
Power-LED	Indicates operation

Power supply

Mains voltages	USA/Canada	120 V~, 60 Hz, PSU
	U.K./Australia	240 V~, 50 Hz, PSU
	Europe	230 V~, 50 Hz, PSU
	Japan	100 V~, 50 - 60 Hz, PSU

Physical

Dimensions (H x W x D)	approx. 2 1/2" (64 mm) x 5 1/4" (135 mm) x 5 1/4" (135 mm)
Weight (without power supply)	approx. 0.5 kg (1.1 lbs)

BEHRINGER 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 illustrated.

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