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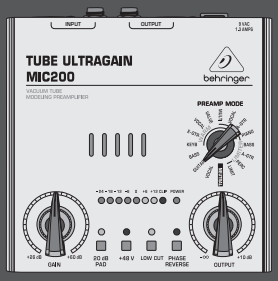

User Manual

TUBE ULTRAGAIN MIC200

Audiophile Vacuum Tube Preamplifier with Preamp Modeling Technology

behringer

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Table of Contents

Thank you

Thank you for the confidence you have placed in us by purchasing the MIC200. Your MIC200 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 MIC200 can even be used as a preamp for electric and bass guitars, keyboards and percussion instruments. No matter where you use your MIC200, you always get optimal performance, be it live or on the stage, in a professional recording studio or at home!

EN Important Safety Instructions

Terminals marked with this symbol carry electrical current of sufficient magnitude to constitute risk of electric shock. Use only high-quality professional speaker cables with ¼" TS or twist-locking plugs pre-installed. All other installation or modification should be performed only by qualified personnel.

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. Please read the manual.

Caution

To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.

Caution

To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture.
The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Caution

These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.

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7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11. Use only attachments/accessories specified by the manufacturer.

12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.

16. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

17. Correct disposal of this product: This symbol indicates that this product must not be disposed of with household waste, according to the WEEE Directive (2012/19/EU) and your national law. This product should be taken to a collection center licensed for the recycling of waste electrical and electronic equipment (EEE). The mishandling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the efficient use of natural resources. For more information about where you can take your waste equipment for recycling, please contact your local city office, or your household waste collection service.

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LIMITED WARRANTY

For the applicable warranty terms and conditions and additional information regarding MUSIC Group's Limited Warranty, please see complete details online at music-group.com/warranty.

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1. Introduction

With the MIC200, you have purchased an extremely musical mic preamp that is equipped with a 12AX7 vacuum tube. Thanks to BEHRINGER's preamp modeling, its main advantages are the number of preamp settings you can select. Additionally, features like an integrated limiter, phase reverse function, phantom power supply, highly accurate LED meter, switchable pad function and low cut filter make the MIC200 a very powerful piece of equipment.

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 trans-parent 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.

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1.2 Online registration

Please register your new BEHRINGER equipment right after your purchase by visiting behringer.com and read the terms and conditions of our warranty carefully.

Should your BEHRINGER product malfunction, it is our intention to have it repaired as quickly as possible. To arrange for warranty service, please contact the BEHRINGER retailer from whom the equipment was purchased. Should your BEHRINGER dealer not be located in your vicinity, you may directly contact one of our subsidiaries. Corresponding contact information is included in the original equipment packaging (Global Contact Information/European Contact Information). Should your country not be listed, please contact the distributor nearest you. A list of distributors can be found in the support area of our website (behringer.com).

Registering your purchase and equipment with us helps us process your repair claims more quickly and efficiently.

Thank you for your cooperation!

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2. Control Elements

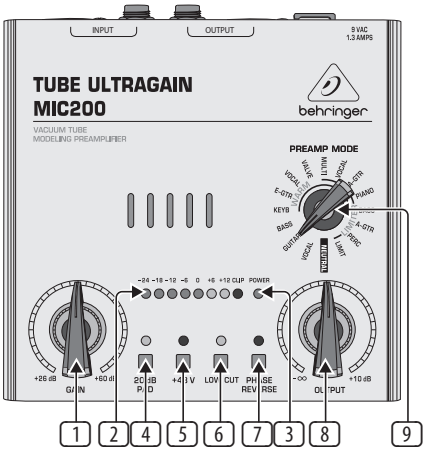

Fig. 2.1: User interface of the MIC200

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2.1 User interface

1 The **GAIN** control allows you to control the gain from +26 to +60 dB to the input signal. This control should be set all theway to the left when (dis) connecting a sound source from the MIC200. When all connections are made, slowly start raising the gain control.

2 We recommend using the **LED** meter to adjust gain. The LED chain displays the output signal level in dB. Please make sure that the clip LED never lights up permanently. It should light up only at peak signals, but it should never be on all the time.

3 If your MIC200 is connected to the mains via the enclosed power supply unit, the **POWER** LED lights up to indicate that your MIC200 is running.

4 The **20 dB PAD** switch reduces the input sensitivity by 20 dB (switch pressed). The appropriate setting depends on the equipment connected. Generally speaking, lowering the signal level in mic applications is not recommended. No matter what your application is, the clip LED warns you to reduce the gain setting to avoid distortion.

5 This **+48 V** switch activates the phantom power supply for the XLR input. Phantom power supply is required for operating condenser microphones. Dynamic microphones require no phantom power.

6 Press the **LOW CUT** switch to eliminate undesired subsonic noise, such as floor rumble.

7 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.

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8 The **OUTPUT** control governs the output level within a range from -∞ to +10 dB. If the control is turned all the way to the left, there is no output signal at all. The more the control is turned to the right, the higher the output level.

9 The **PREAMP MODE** rotary switch gives you a wide selection of preamp presets. The options available are: WARM, WARM/LIMITER, LIMITER and NEUTRAL:

WARM (moving clockwise, starting at 9 o'clock):

These settings make sense if you wish to add that typical warmth associated with analog signals.

- KEYB: For electronic keyboard instruments of all types
- E-GTR: Electric guitar
- VOCAL: Speech and vocals
- VALVE: Warm, analog tube sound

WARM + LIMITER (moving clockwise, starting at 12 o'clock):

Use these settings when working with high volumes or with sounds with frequent signal peaks, and if directly recording an instrument with a mic (e. g. drums) to insert additional warmth.

- MULTI: Various applications
- VOCAL: Speech and vocals
- A-GTR: Acoustic guitar
- PIANO: Piano/grand piano

LIMITER (moving clockwise, starting at 3 o'clock):

Select these settings if you wish to use the limiter function without adding tube warmth.

- BASS: Bass guitar
- A-GTR: Acoustic guitar
- PERC: Percussion and drums
- LIMIT: Neutral limiter setting

NEUTRAL (moving clockwise, starting at 6 o'clock):

These settings are ideal for neutral and natural sound reproduction without limiter and without tube sound.

- NEUTRAL: Neutral sound setting
- VOCAL: Optimized setting for speech and vocals
- GUITAR: Optimized setting for guitars and guitar amps
- BASS: Optimized setting for electric bass guitar

◊ **Since presets cannot cover all possible applications, experiment with different settings until you find those that work best for you. Think of presets as the starting points for your sound configuration.**

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2.2 Rear panel

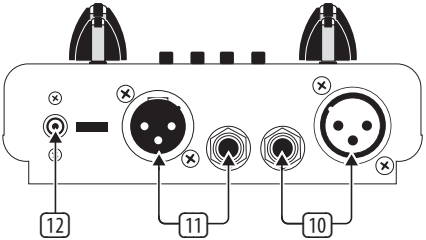

Fig. 2.2: The rear panel of your MIC200

10 The balanced **¼" TRS INPUT** of your MIC200 can be used to connect your electric guitar, for example. This input is wired parallelly to the XLR input.

Ideally, the balanced XLR INPUT should be used to connecta microphone.

◊ **In contrast to its outputs, the MIC200's inputs should never be used simultaneously!**

11 This is the balanced **XLR OUTPUT** of your MIC200. Use this connector to feed the XLR input of your mixing console, multitrack recorder or power amp.

The balanced **¼"** TRS OUTPUT of your MIC200 can also be connected to a mixer, recording system or power amp.

12 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.

The device's **SERIAL NUMBER** is found on the bottom side of the unit.

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3. Wiring Examples

You'll be surprised how flexibly you can set up your MIC200. The following chapter describes some typical wiring examples.

3.1 Enhancing vocals and instruments in live applications

Here, the MIC200 is wired before the mixer's channel input. Thus, the sound gains in warmth and transparency. Thanks to the limiter setting for vocals (VOCAL), distortion is eliminated effectively.

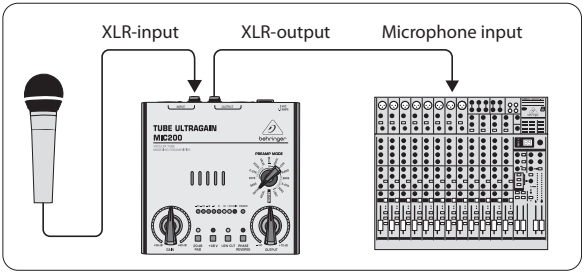

Fig. 3.1: Standard live application

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3.2 “Direct to Disk” application in studio or homerecording environments

If you are looking for a device that considerably enhances the sound of your digital workstation, this is where the MIC200 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 MIC200.

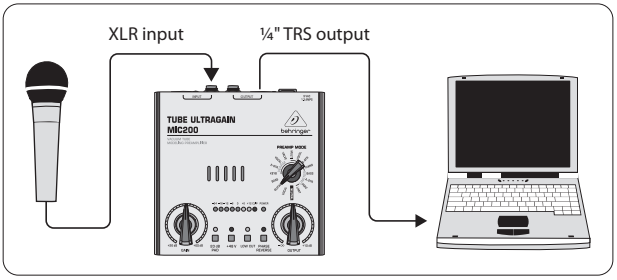

Fig. 3.2: Connection of the MIC200 and the soundcard of your PC

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3.3 The MIC200 as DI-box

Your MIC200 is excellently suited for this application. For example, you can connect an unbalanced acoustic guitar signal to the MIC200 to prevent hum or interference noise. What you get is a balanced, noise-free signal.

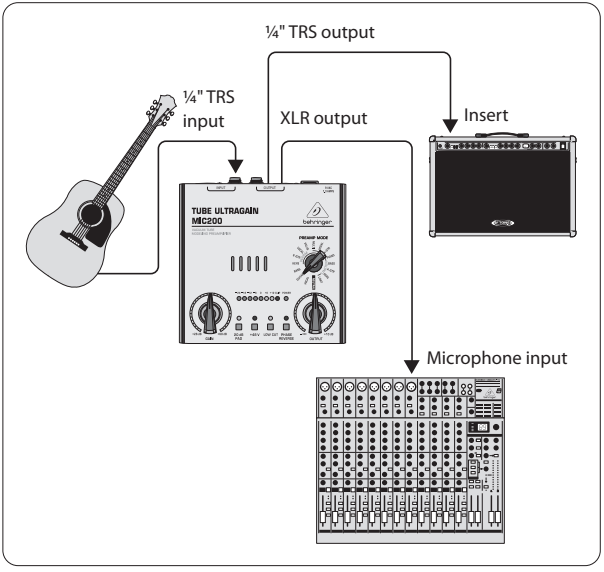

Fig. 3.3: The MIC200 as DI-box

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4. Audio Connectors

Balanced use with XLR connectors

input

1 = ground/shield
2 = hot (+ve)
3 = cold (-ve)

output

For unbalanced use, pin 1 and pin 3 have to be bridged

Fig. 4.1: XLR connectors

Unbalanced ¼" TS connector

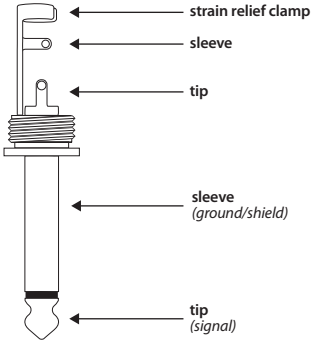

Fig. 4.2: ¼" TS connector

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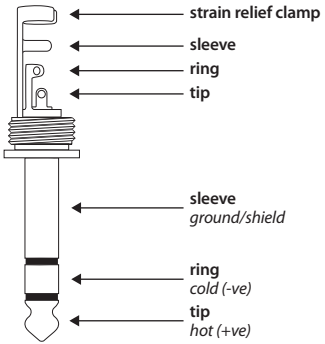
Balanced ¼" TRS connector



For connection of balanced and unbalanced plugs, ring and sleeve have to be bridged at the stereo plug.

Fig. 4.3: ¼" TRS connector

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5. Specifications

Audio Inputs

XLR Input	
Connector	balanced / unbalanced
Type	transformerless, DC-decoupled input
Impedance	approx. 2 kΩ
Max. input level	+7 dBu / -20 dB with pad
¼" TRS Input	
Connector	balanced / unbalanced
Type	transformerless, DC-decoupled input
Impedance	approx. 1 MΩ
Max. input level	+16 dBu / -20 dB with pad
E.I.N.[1] (20 Hz - 20 kHz)	
@ 0 Ω source resistance	-125.5 dBu / -128.5 dBu A-weighted
@ 150 Ω source resistance	-124 dBu / -126.8 dBu A-weighted
@ 600 Ω source resistance	-120 dBu / -122.7 dBu A-weighted

Audio Outputs

Connectors	XLR connector + ¼" TRS jack balanced / unbalanced
Type	transformerless, DC-decoupled output
Impedance	approx. 700 Ω balanced, approx. 350 Ω unbalanced
Max. output level	approx. +26 dBu @ 100 kΩ

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System Data

Signal-to-noise ratio	90 dB A-weighted @ -28 dBu input level
Frequency Response	
Mic input	<10 Hz to 47 kHz (±3 dB)
Line input	<10 Hz to 55 kHz (±3 dB)

Function Controls

GAIN	variable (+26 dB to +60 dB)
OUTPUT	variable (-∞ to +10 dB)
Preamp mode control	selection of various preamp settings for microphone and instruments

Function Switches

20 dB PAD	level attenuation (20 dB)
+48 V	activates the phantom power
LOW CUT	High pass filter (cut-off frequency 90 Hz)
PHASE REVERSE	Phase reverse (180°)

Indicators

Input Level	8-segment LED meter: -24, -18, -12, -6, 0, +6, +12, Clip
Power LED	indicates operation

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Power Supply

Mains Voltage

USA/Canada	120 V~, 60 Hz
Europe/U.K./Australia	230 V~, 50 Hz
China	220 V~, 50 Hz
Korea	220 V~, 60 Hz
Japan	100 V~, 50 / 60 Hz
Mains connector	external power supply 9 V~ / 1300 mA

Physical / Weight

Dimensions (H x W x D)	approx. 64 x 135 x 135 mm (2.5 x 5.3 x 5.3")
Weight (without power supply)	approx. 1.0 kg

[1] Equivalent Input Noise

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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