

EUROTRACK®

MXB1002

User's Manual

Version 1.0 September 2000

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 ventilation. 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.

EURORACK®

Professional 10-channel mixing console with optional battery operation and monitor plus effects paths

- ▲ 10-channel mixing console with two mono channels, three stereo channels and a separate stereo tape channel
- ▲ Optional mains or battery operation (with alkaline batteries)
- ▲ Separate gain controls for mic and line inputs on all stereo channels
- ▲ Gold-plated XLR mic connectors on all mono and stereo channels
- ▲ Ultra low-noise, discrete mic preamplifiers on all microphone inputs
- ▲ Dedicated inserts on all mono channels
- ▲ Balanced 1/4" stereo jacks and balance controls on all stereo channels
- ▲ Separate stereo tape channel with 1/4" and RCA jacks
- ▲ Stereo output for recording applications
- ▲ Ultra-musical, active 3-band EQ on all ten channels
- ▲ Monitor and effects paths as well as separate gain controls on all channels
- ▲ High-grade-sealed faders and potentiometers made by ALPS
- ▲ Clip-LED's on all input channels
- ▲ Insert option for external effects devices
- ▲ Mon Send and FX Send controls in the main section for optimal level adjustment
- ▲ Headphones output with dedicated volume control
- ▲ Built-in phantom power for condenser mics
- ▲ 19" rack-mounting kit included
- ▲ Extremely rugged construction ensures long life even under the most demanding conditions
- ▲ Manufactured under ISO9000 certified management system

1. INTRODUCTION

Congratulations! With the MXB1002 you have purchased a state-of-the-art 10-channel mixing console that sets new standards. Our prime goal when developing the MXB1002 was to design a console that can be used for a great variety of applications. And to give you maximum flexibility, you can operate the MXB1002 both from the mains and from batteries.

In combination with its comprehensive range of features and pro-level connections, the MXB1002 will be your perfect tool for any kind of application: broadcasting, video dubbing or giving the sound of your band its finishing touch.

1.1 Before you begin

Your EURORACK MXB1002 was carefully packed in the factory and the packaging is 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 during transit.

 **If the unit is damaged, please do not return it to BEHRINGER, 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.**

Be sure that there is enough space around the unit for cooling and please do not place the MXB1002 on high-temperature devices such as radiators, etc. to avoid overheating.

1.2 Power supply

There are two options for operating the MXB1002: When using **mains power**, make sure the console is switched off before you connect it to the power supply. Then, connect it to the mains and switch the MXB1002 on, using switch [26](#) on the rear. Please note that the console and its power supply will get warm during operation, which is completely normal. For **battery operation**, you'll only need two commercial 9-V batteries of the 6LR61 type. Insert the batteries in the battery compartment on the bottom side of the unit. To use the phantom power supply, please insert another battery in the separate phantom power section of the battery compartment. **Your MXB1002 operates about 4 hours from high-grade alkaline batteries (see chapter 3).**

 **When the unit is not in use or operates from mains power, please remove the batteries!**

1.3 Control elements

1.3.1 Interface panel

[1](#) Use this balanced *XLR* jack to connect a microphone to the MXB 1002 (applies to channels 1 through 7/8).

 **The phantom power required for condenser mics can be activated with switch [20](#). Please note that in battery-operated mode the phantom power provided is only +18 V!**

[2](#) Channels 1 and 2 feature an additional *LINE* input on a balanced 1/4" jack.

[3](#) The *INSERT* jack allows you to insert, for example, a compressor or equalizer in the mono channels.

[4](#) These are the two balanced *LINE* inputs on 1/4" jacks for the left and right sides of the stereo channels, which can be used in parallel to the microphone inputs.

[5](#) Use the *TAPE OUT* jacks to connect, for example, a tape deck for recording applications.

[6](#) The *TAPE IN* jacks (on stereo RCA and 1/4" jacks) allow for the connection of play-back devices such as CD players, etc. Use either the RCA or the 1/4" jacks.

[7](#) Use the *PHONES* jack to connect a commercially available pair of headphones.

[8](#) These are the balanced 1/4" jack *MAIN OUTPUTS* of your MXB1002 that can be used to drive, e.g. a power amplifier.

[9](#) The *MON SEND* connector provides the monitor signal of your MXB1002, for example, to control a monitor amplifier or active monitor speaker.

- [10] Connect the *FX SEND* connector to the input of an external effects device.

 **The MXB1002 has no dedicated FX Return connectors. However, you can connect the outputs of an external effects device to the 1/4" jack inputs of the stereo channels or channels 9/10. In this case, the stereo channel's FX control must be set to -∞ to avoid any feedback problems.**

1.3.2 Front panel

The **mono channels 1 and 2** of your MXB1002 feature the same control elements. Therefore, the following description of channel 1 also applies to channel 2.

- [11] The *GAIN MIC* control determines the channel's input gain, both for a microphone connected via the XLR jack and for other signal sources connected to the 1/4" jack. Adjust the signal gain so that the Clip LED below the control lights up during peak signal only, but never permanently. **In battery-operated mode the Clip LED is switched off.**
- [12] Use the *PAN* control to adjust the signal's position on the stereo basis.
- [13] Your MXB1002 comes with a 3-band equalizer: the *HIGH* control governs the high frequency range, the *MID* control can be used to boost/cut the midrange frequencies, and the *LOW* control allows you to raise or lower the gain of the bass range.
- [14] The *CHANNEL* fader adjusts the volume of the corresponding channel.
- [15] Use the *MON* control to determine the channel volume sent to the monitor mix bus. When set fully to the left, the channel volume in the monitor mix is zero.
- [16] The *FX* control adjusts the effects volume for the corresponding channel.

The **stereo channels 3/4, 5/6, and 7/8** differ from channels 1 and 2 – not only with regard to the connectors provided. They also have two GAIN controls, **i.e. you can connect a microphone and a stereo line signal at the same time!**

 **When you connect a microphone to a stereo channel on the MXB1002, the input gain is governed by the GAIN MIC control!**

- [17] The *GAIN LINE* control is used to adjust the line input gain. Here, too, the signal can be monitored visually with the Clip LED.
- [18] The *BAL* control performs two functions: When you connect a microphone via the XLR connector, or another signal source via the L/MONO jack, the BAL control determines the signal position on the stereo basis. When both 1/4" jack inputs (L & R) are used, the BAL control adjusts the volume balance of the two sources connected.

Except for the GAIN MIC control and a different set of connectors, the **channels 9/10** feature the same control elements as the stereo channels. See [5] & [6] and [13] through [18].

1.3.3 Main section

- [19] The *LEVEL DISPLAY* reads the output level of your MXB1002. Make sure that the two Clip LED's won't light up.
- [20] Use this switch to activate the phantom power required for condenser microphones. In battery-operated mode the phantom power provided is only +18 V!
- [21] The *MON SEND* control adjusts the volume level of the monitor signal provided at connector [9].
- [22] Use the *MASTER* fader to set the overall volume level of your MXB1002.
- [23] The *FX SEND* control allows you to adjust the level that is sent to an external effects device via connector [10]. Thus, you can drive all types of effects devices without any risk of distortion.
- [24] The *PHONES* control governs the headphones volume.
- [25] Connect the enclosed power supply to the *AC POWER IN* jack.
- [26] Use the *POWER ON* switch to switch on your MXB1002, which is indicated by the LED below the LEVEL DISPLAY [19].
- [27] **SERIAL NUMBER.** Please take the time to have the warranty card filled out completely, and return it within 14 days after the date of purchase, so as to be entitled to benefit from our extended warranty. Or use our online registration option available on the World Wide Web at www.behringer.com).

2. WIRING

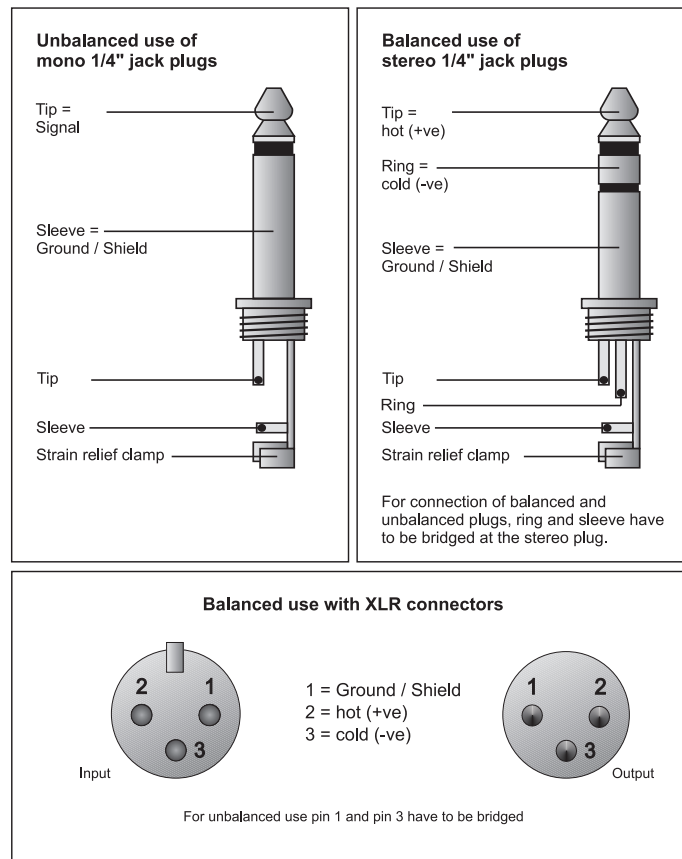


Fig. 2.1: Various connector types

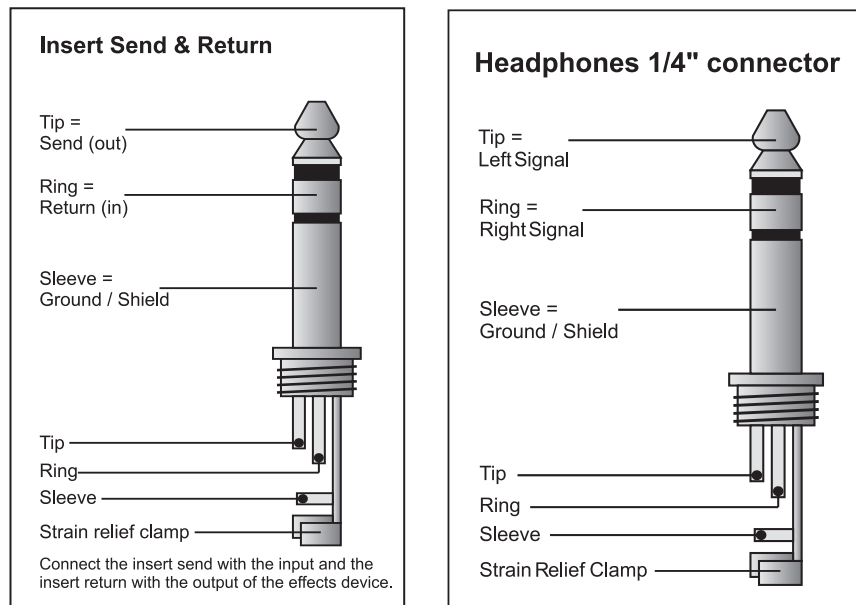


Fig. 2.2: Wiring diagram of insert cable and headphones plug

3. SPECIFICATIONS

INPUT CHANNELS 1 & 2

Mic input	electronically balanced, discrete input configuration
Frequency response	10 Hz to 200 kHz
Gain range	+14 dB to +60 dB
SNR	120 dB E.I.N.
Line input	electronically balanced
Frequency response	10 Hz to 130 kHz
Gain range	-6 dB to +38 dB
SNR	95 dB E.I.N.

STEREO CHANNELS 3/4 - 7/8 & 9/10

Frequency response	10 Hz to 70 kHz
Gain range	Line: $-\infty$ to +15 dB / Mic: +13 to +60 dB
SNR	Line: 96 dB / Mic: 104 dB E.I.N.

EQUALIZATION

LOW	50 Hz, +/- 15 dB
MID	700 Hz, +/- 15 dB
HI	10 kHz, +/- 15 dB

MAIN MIX

Main Outputs	+28 dBu balanced / +22 dBu unbalanced
Mon Send	+22 dBu unbalanced
FX Send	+22 dBu unbalanced
Tape Out	+22 dBu unbalanced
Phones Output	+15 dBu / 150 Ω

POWER SUPPLY

Mains voltage	USA/Canada	115 V ~, 60 Hz, Power Supply MXUL4
	U.K./Australia	240 V ~, 50 Hz, Power Supply MXUK4
	Europe	230 V ~, 50 Hz, Power Supply MXEU4
	Japan	100 V ~, 60 Hz, Power Supply MXJP4
Battery life	app. 4 h (with Duracell* Alkaline Type MN1604 / 580 mAh)	

PHYSICAL

Dimensions (H * W * D)	app. 1.6" (40 mm) / 2.9" (73 mm) * 11.7" (298 mm) * 8.5" (216 mm)
Weight	app. 2.5 kg (PSU not included)

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 further notice. Specifications and appearance may differ from those listed or shown.

4. WARRANTY

§ 1 WARRANTY CARD/ONLINE REGISTRATION

To be protected by the extended warranty, the buyer must complete and return the enclosed warranty card within 14 days of the date of purchase to BEHRINGER Spezielle Studiotechnik GmbH, in accordance with the conditions stipulated in § 3. Failure to return the card in due time (date as per postmark) will void any extended warranty claims.

Based on the conditions herein, the buyer may also choose to use the online registration option via the Internet (www.behringer.com or www.behringer.de).

§ 2 WARRANTY

1. BEHRINGER (BEHRINGER Spezielle Studiotechnik GmbH including all BEHRINGER subsidiaries listed on the enclosed page, except BEHRINGER Japan) 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 the product shows any defects within the specified warranty period that are not due to normal wear and tear and/or improper handling by the user, BEHRINGER 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 to the user freight prepaid.

3. Warranty claims other than those indicated above are expressly excluded.

§ 3 RETURN AUTHORIZATION NUMBER

1. To obtain warranty service, the buyer (or his authorized dealer) must call BEHRINGER (see enclosed list) during normal business hours **BEFORE** returning the product. All inquiries must be accompanied by a description of the problem. BEHRINGER will then issue a return authorization number.

2. Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by BEHRINGER.

3. Shipments without freight prepaid will not be accepted.

§ 4 WARRANTY REGULATIONS

1. Warranty services will be furnished only if the product is accompanied by a copy of the original retail dealer's invoice. Any product deemed eligible for repair or replacement by BEHRINGER under the terms of this warranty will be repaired or replaced within 30 days of receipt of the product at BEHRINGER.

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, BEHRINGER shall not be held responsible for any cost resulting from such a modification/adaptation.

3. Free inspections and maintenance/repair work are expressly excluded from this warranty, in particular, if caused by improper handling of the product by the user.

This also applies to defects caused by normal wear and tear, in particular, of faders, potentiometers, keys/buttons and similar parts.

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 BEHRINGER 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 caused by force majeure or any other condition that is beyond the control of BEHRINGER.

5. Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the warranty.

6. If an inspection of the product by BEHRINGER shows that the defect in question is not covered by the warranty, the inspection costs are payable by the customer.

7. Products which do not meet the terms of this warranty will be repaired exclusively at the buyer's expense. BEHRINGER will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, BEHRINGER will return the unit C.O.D. with a separate invoice for freight and packing. Such costs 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 BEHRINGER.

§ 6 CLAIM FOR DAMAGES

Failure of BEHRINGER to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of BEHRINGER exceed the invoiced value of the product.

§ 7 OTHER WARRANTY RIGHTS AND NATIONAL LAW

1. 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.

2. The warranty regulations mentioned herein are applicable unless they constitute an infringement of national warranty law.

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