UBB1002

EURORACK

User's Manual GB

Version 1.3   August 2006

EURORACK UBB1002   PROFESSIONAL BATTERY POWERED MIC / LINE MIXER

www.behringer.com

BEHRINGER®

JUST LISTEN.

EURORACK UBB1002

IMPORTANT SAFETY INSTRUCTIONS

CAUTION
RISK OF ELECTRIC SHOCK!
DO NOT OPEN!

ATTENTION
RISQUE DE CHOC ELECTRIQUE!
NE PAS OUVRIR!

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.

WARNING: 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 and no objects filled with liquids, such as vases, shall be placed on the apparatus.

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.

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.

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) Only use 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) 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 unless you are qualified to do so.

16) The mains plug and socket should remain readily operable (due to that the mains plug is used to disconnect device).

EURORACK

Ultra Low-Noise Design 10-Input 2-Bus Mic/Line Mixer with Optional Battery Operation

▲ Ultra low-noise ULN design, highest possible headroom, ultra-transparent audio

▲ 2 new state-of-the-art, studio-grade IMP "Invisible" Mic Preamps with:

- 130 dB dynamic range for 24-bit, 192 kHz sampling rate inputs
- Ultra-wide 60 dB gain range
- Lowest possible distortion 0.0007% (20 Hz - 20 kHz)

▲ Effective, extremely musical 3-band EQ

▲ 10 balanced high-headroom line inputs

▲ State-of-the-art 4580 operational amplifiers provide lowest noise and distortion—better than 4560 op amps

▲ 1 post fader FX send and 1 pre fader MON send per channel for external FX devices and monitor applications

▲ Clip LEDs on all channels and dedicated inserts on all mono channels

▲ Main mix outputs plus separate headphones and stereo tape outputs

▲ Tape inputs assignable to main mix or phones output

▲ Switchable phantom power for condenser microphones

▲ Long-wearing 60-mm logarithmic-taper master fader and sealed rotary controls

▲ External power supply for noise-free audio and superior transient response

▲ High-quality components and exceptionally rugged construction ensure long life

▲ Conceived and designed by BEHRINGER Germany

UBB1002

EURORACK UBB1002

FOREWORD

Dear Customer,

I'm sure you're one of those people who have devoted themselves body and soul to your chosen area and no doubt this has transformed you into an expert in your field!

Well, for over 30 years, my passion has been music and electronics. This not only led me to establish BEHRINGER, but also enabled me to convey and share my enthusiasm with my employees.

During all the years I've been involved with studio technology and end users, Ihave developed a feel for the things that really count, such as sound quality, reliability and ease of use. What's more, I have always had the desire to push the boundaries of technical possibilities to the extreme.

It was precisely this motivation that prompted me to start work on a new series of mixing consoles. Since our EURORACKs had already set new standards world-wide, I knew the development objectives behind the products bearing my initials had to be especially ambitious.

Thus, the concept and design of the new UB mixing consoles bear my signature. The design work, the entire circuit diagram and PCB development, and even the mechanical concepts are my own work. I carefully selected each individual component— with the aim of pushing the mixing consoles' analog and digital technologies to their limits.

My vision was to enable you, the user, to give free rein to your true potential and creativity. The result is incredibly powerful mixing consoles that offer intuitive operation. They cannot fail to impress with their extremely flexible routing possibilities plus fantastic wealth of functions.

Your new UB mixing console is of high quality yet is simple to use; you'll soon appreciate that I, both personally and in my capacity as musician and sound engineer, put you, the end user, first and that these products were only possible because of the passion and the attention to detail that went into them.

Thank you for the confidence you have placed in us by purchasing the UB mixing console. I should also like to thank all those who, with their personal commitment and passion, have helped me realize this impressive series of mixing consoles.

Kindest regards,

Uli Behringer

TABLE OF CONTENTS

1. INTRODUCTION

Congratulations! With the UBB1002 you have purchased a state-of-the-art 10-channel mixing console that sets new standards. Our prime goal when developing the UBB1002 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 UBB1002 both from the mains and from batteries.

In combination with its comprehensive range of features and pro-level connections, the UBB1002 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 UBB1002 was carefully packed at the assembly plant to assure secure transport. Should the condition of the cardboard box suggest that damage may have taken place, please inspect the unit immediately and look for physical indications of damage.

☞ **Damaged equipment should NEVER be sent directly to us. Please inform the dealer from whom you acquired the unit immediately as well as the transportation company from which you took delivery. Otherwise, all claims for replacement/ repair may be rendered invalid.**

☞ **Please always use the original packaging to avoid damage due to storage or shipping.**

☞ **Never let unsupervised children play with the UBB1002 or with its packaging.**

☞ **Please dispose of all packaging materials in an environmentally friendly fashion.**

Be sure that there is enough space around the unit for cooling and please do not place the UBB1002 on high-temperature devices such as radiators, etc. to avoid overheating.

1.1.1 Online registration

Please do remember to register your new BEHRINGER equipment right after your purchase by visiting www.behringer.com (alternatively www.behringer.de) and kindly read the terms and conditions of our warranty carefully.

Should your BEHRINGER product malfunction, our goal is to have it repaired as quickly as possible. To arrange for warranty service, please contact the 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 (www.behringer.com/ support).

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

Thank you for your cooperation!

1.2 Power supply

There are two options for operating the UBB1002: 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 UBB1002 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 UBB1002 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 UBB1002 (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 <u>either</u> the RCA <u>or</u> 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 UBB1002 that can be used to drive, e.g. a power amplifier.

9 The *MON SEND* connector provides the monitor signal of your UBB1002, 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 UBB1002 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 -oo to avoid any feedback problems.**

EURORACK UBB1002

1.3.2 Front panel

The **mono channels 1 and 2** of your UBB1002 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 UBB1002 comes with a 3-band equalizer: the *HI* 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 UBB1002, 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 UBB1002. 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 UBB1002.

[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 UBB1002, which is indicated by the LED below the LEVEL DISPLAY [19].

The POWER switch should always be in the "Off" position when you are about to connect your unit to the mains.

To disconnect the unit from the mains, pull out the mains cord plug. When installing the product, ensure that the plug is easily accessible. If mounting in a rack, ensure that the mains can be easily disconnected by a plug or by an all-pole disconnect switch on or near the rack.

☞   **Attention: The POWER switch does not fully disconnect the unit from the mains. Unplug the power cord completely when the unit is not used for prolonged periods of time.**
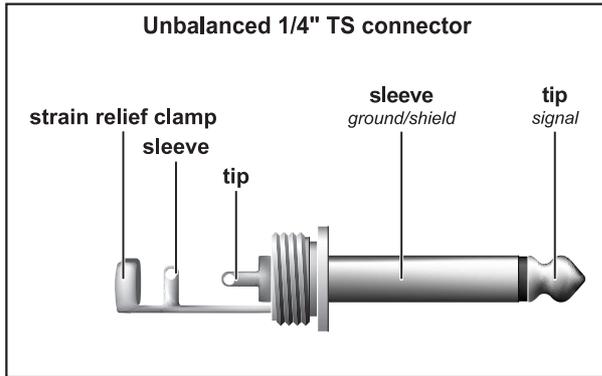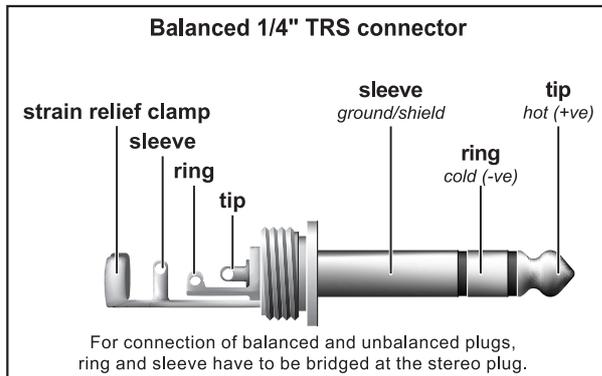
[27]   *SERIAL NUMBER*.

EURORACK UBB1002

2. WIRING

Unbalanced 1/4" TS connector

strain relief clamp
sleeve
tip

sleeve
ground/shield
tip
signal

Fig. 2.1: 1/4" mono plug

Balanced 1/4" TRS connector

strain relief clamp
sleeve
ring
tip

sleeve
ground/shield
ring
cold (-ve)
tip
hot (+ve)

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

Fig. 2.2: 1/4" stereo plug

Balanced XLR connectors

input   output

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

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

Fig. 2.3: XLR connections

Insert send return 1/4" TRS connector

strain relief clamp
sleeve
ring
tip

sleeve
ground/shield
ring
return (in)
tip
send (out)

Connect the insert send with the input and the
insert return with the output of the effects device.
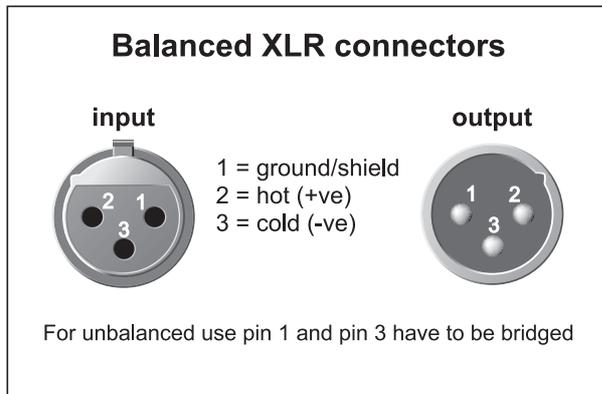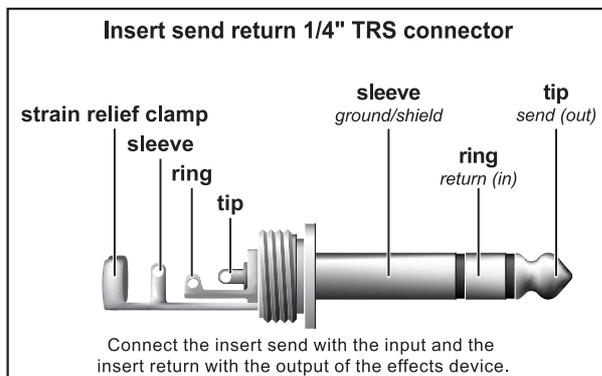
Fig. 2.4: Insert send/return stereo plug

1/4" TRS headphones connector

strain relief clamp
sleeve
ring
tip

sleeve
ground/shield
ring
right signal
tip
left signal
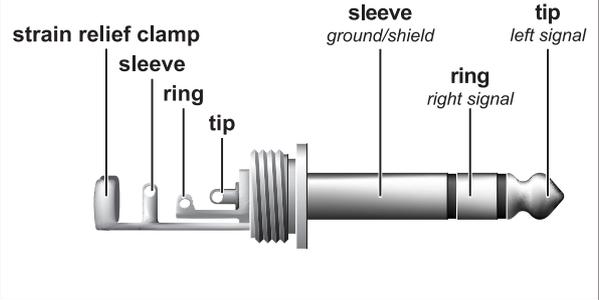
Fig. 2.5: Stereo plug for headphones connection

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 inputel	ectronically 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: -∞ 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 120 V~, 60 Hz, Power Supply MXUL4
	U.K./Australia 240 V~, 50 Hz, Power Supply MXUK4
	China/Korea 220 V~, 50 Hz, Power Supply MXCHN4
	Europe 230 V~, 50 Hz, Power Supply MXEU4
	Japan 100 V~, 50 - 60 Hz, Power Supply MXJP4
Battery life	approx. 4 h (with Duracell* Alkaline Type MN1604 / 580 mAh)

PHYSICAL

Dimensions (H x W x D)	approx. 1 9/16" (40 mm) / 2 7/8" (73 mm) x 11 3/4" (298 mm) x 8 1/2" (216 mm)
Weight	approx. 2.5 kg (5 1/2 lbs), 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 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.

§ 2 ONLINE REGISTRATION

Please do remember to register your new BEHRINGER equipment right after your purchase by visiting www.behringer.com (alternatively www.behringer.de) and kindly read the terms and conditions of our warranty carefully.

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

Thank you for your cooperation!

§ 3 WARRANTY

1. BEHRINGER (BEHRINGER International 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 excluded from this warranty as described under § 5, BEHRINGER shall, at its discretion, either replace or repair the product using suitable new or reconditioned parts. In the case that other parts are used which constitute an improvement, BEHRINGER may, at its discretion, charge the customer for the additional cost of these parts.

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.

§ 4 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.

§ 5 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 under the terms of this warranty will be repaired or replaced.

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, crossfaders, potentiometers, keys/buttons, tubes, guitar strings, illuminants and similar parts.

4. Damages/defects caused by the following conditions are not covered by this warranty:

▲ improper handling, 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.

§ 6 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.

§ 7 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.

* Customers in the European Union please contact BEHRINGER Germany Support for further details.