

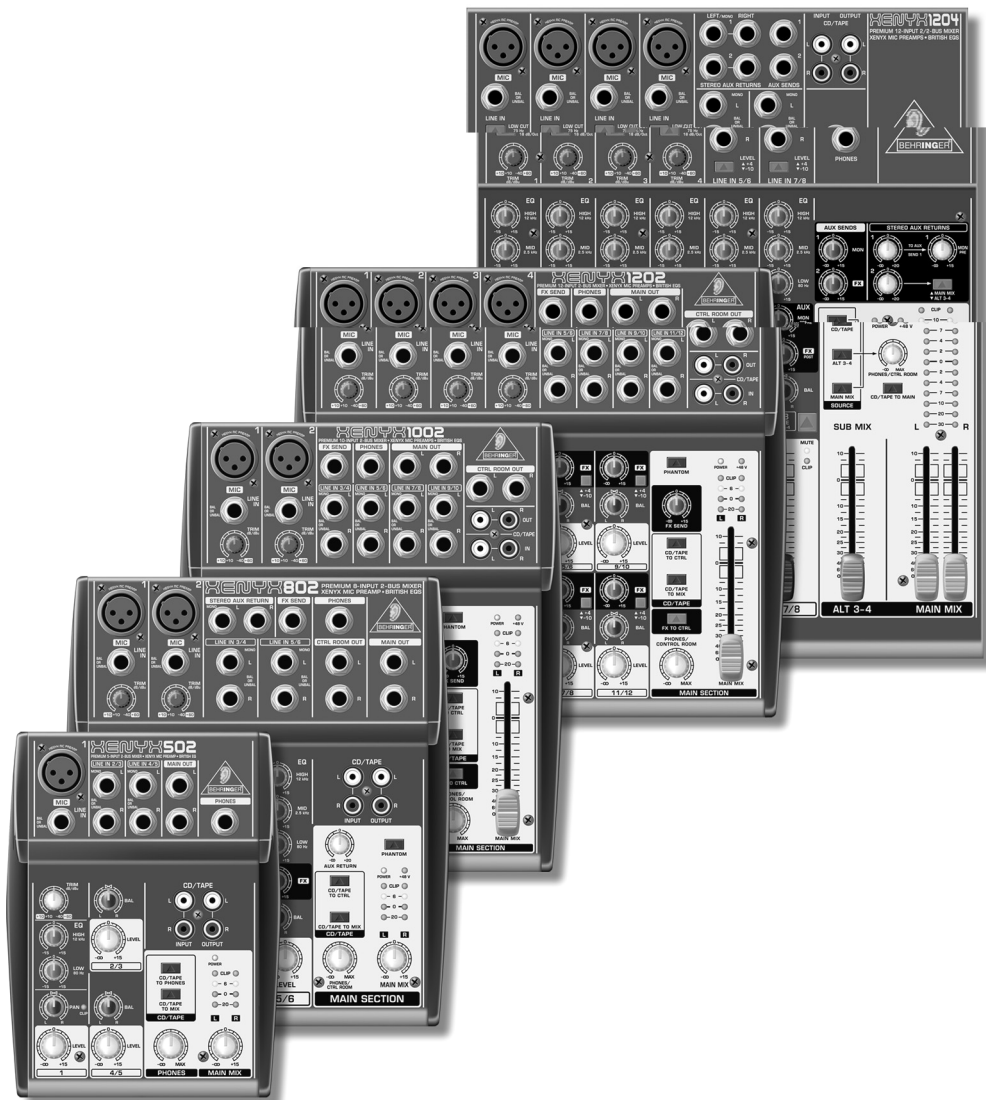
502/802/1002/1202/1204

XENYX

User's Manual



Version 1.0 January 2006



www.behringer.com



XENYX 502/802/1002/1202

IMPORTANT SAFETY INSTRUCTIONS



CAUTION: To reduce the risk of electric shock, do not remove the top cover (or the rear section). Never serviceable by the user; 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 liquid, such as a vase, shall be placed on the apparatus.



This symbol, here or elsewhere, alerts you to the presence of a significant danger of electric shock in the enclosure. It may be necessary to consult a qualified electrician.



This symbol, here or elsewhere, alerts you to an important operating and maintenance instruction in the accompanying literature. Please read the manual.

DETAILED SAFETY INSTRUCTIONS:

- 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.

TABLE OF CONTENTS

1. INTRODUCTION	4
1.1 General mixing console functions	4
1.2 The user's manual	5
1.3 Before you get started	5
1.3.1 Shipment	5
1.3.2 Initial operation	5
1.3.3 Online registration	5
2. CONTROL ELEMENTS AND CONNECTORS	5
2.1 Mono channels	5
2.1.1 Microphone and line inputs	5
2.1.2 Equalizer	6
2.1.3 FX sends, panorama and level adjustment	6
2.2 Stereo channels	6
2.2.1 Stereo line inputs	6
2.2.2 Equalizer stereo channels (802)	6
2.2.3 FX sends, balance and level adjustment	6
2.3 Connector panel and main section	7
2.3.1 Send/return effects path	7
2.3.2 Monitor and main mix	7
2.3.3 CD/Tape connectors	7
2.3.4 Signal assignment	8
2.3.5 Phantom power and LED displays	8
3. INSTALLATION	9
3.1 Mains connection	9
3.2 Audio connections	9
4. SPECIFICATIONS	10
5. WARRANTY	11

XENYX 502/802/1002/1202

FOREWORD



Dear Customer,

I'm sure you're one of those people who have devoted themselves to the audio world and who have made a name for themselves 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 share my enthusiasm with your employees. During all these years I have been involved in audio technology and, therefore, I have

developed a feel for the things that really count, such as quality, reliability and ease of use. What is more, I have always had the desire to be the boundary of high technical feasibility.

I am proud to have my passion prompted me to work on a new series of mixers. Since EURORACK had already set the standard worldwide, I knew the development objective behind the new generation of mixers had to be especially ambitious.

Thus, the concept and design of the new XENYX mixers bear my signature. The design work, the electrical circuit diagram and PCB development, and even the mechanical concept are my own work. I carefully selected each individual component

with the aim of making the mixers combining analog and digital technology to their limits.

My mission is to enable you, however, to give free rein to your creative potential and creativity. The result is mixers that combine incredible performance with intuitive operability. They cannot fail to impress you in their remarkable reliability and performance. In addition, the technology, such as the complete new XENYX Mic Preamp and the British EQ, guarantee optimum sound quality. And the extraordinarily high-quality components provide unrivaled reliability, even under extreme load.

Thank you for the quality and ease of use of your new XENYX mixers. I look forward to your appreciation, both personally and in my capacity as musician and engineer. Therefore, the end result, first and foremost, is the product itself, possible because of the passion and the attention to detail that we put into them.

Thank you for the confidence you have placed in my choice of the XENYX mixers. I would also like to thank all those who, in their personal commitments and passion, have helped me create this impressive series of mixers.

Kindest regards,

Uli Behringer

1. INTRODUCTION

Congratulations! In purchasing your XENYX 502/802/1002/1202 you have acquired a mixer console whose small size belie its incredible versatility and audio performance.

The XENYX Series represents a milestone in the development of mixer console technology. With the new Xen microphone preamp including phantom power as an option, balanced line inputs and a powerful effect section, the mixers in the XENYX Series are optimally equipped for live and studio applications. Offering a state-of-the-art circuitry for XENYX console production, a true analog sound has been realized. With the addition of the latest digital technology, the best-in-class console combines the advantages of both analog and digital technology.

The microphone channel features high-end XENYX Mic Preamp has compared with the high-class board preamp in terms of sound quality and dynamics and boasts the following features:

- ▲ 130 dB dynamic range for an incredible amount of headroom
- ▲ A bandwidth ranging from below 10 Hz to over 200 kHz for crystal-clear reproduction of even the finest nuances
- ▲ The extremely low-noise and distortion-free circuitry guarantees absolute natural and transparent signal reproduction
- ▲ The parameters perfectly matched to the conceivable microphone inputs provide 60 dB gain and +48 ohm phantom power supply
- ▲ The enable of the great extended dynamic range of your 24-bit/192-kHz HD recorder or the 11, hereb main aiming optimal audio quality

“British EQ”

The equalizer used for the XENYX Series are based on the legendary circuitry of top-notch consoles made in Britain, which are renowned throughout the world for their incredible warmth and musical sound character. Even in the extreme gain setting, the equalizer ensures outstanding audio properties.

CAUTION!

We should like to draw your attention to the fact that extreme volumes may damage your hearing and/or your headphones or loudspeakers. Turn the MAIN MIX control and PHONES control in the main section fully counter-clockwise before you switch on the unit. Always be careful to set appropriate volume levels.

1.1 General mixer console functions

A mixer console offers three main functions:

- ▲ **Signal processing:** Pre-amplification, level adjustment, mixing of effects, frequency equalization.
- ▲ **Signal distribution:** Summing of signals to the send for effect processing and monitoring, distribution to one or several recording racks, power amp(s), control room and 2-rack outputs.
- ▲ **Mix:** Setting the volume level, frequency distribution and positioning of the individual signals in the stereo field, level control of the overall mix to match the recording device / crossover/power amplifier(s). All other mixer functions can be included in this main function.

The interface of BEHRINGER mixers is optimized for the ease of enabling the overall rack of the signal path.

1.2 The user's manual

The user manual is designed to give you both an overview of the console, as well as detailed information on how to use them. In order to help you understand the link between the console, we have arranged them in groups according to their function. The illustrations at the beginning of each chapter show the console described in each respective chapter.

The block diagram supplied with the mixing console gives you an overview of the connections between the inputs and outputs, as well as the associated switches and controls.

For the moment, just read and race the signal path from the microphone input to the FX send connector. Don't be too off by the large range of possibilities; it's easier than you think! If you look at the overview of the console at the same time, you will be able to quickly familiarize yourself with the mixing console and you will soon be making the most of all its many possibilities.

If you need to know more about specific issues, please visit our website at <http://www.behringer.com>, where you will find the explanation of (for example) effect and dynamic application.

1.3 Before you get started

1.3.1 Shipment

Your mixing console is carefully packed in the factory to ensure safe transport. Nevertheless, we recommend that you carefully examine the packaging and inspect for any signs of physical damage, which may have occurred during transport.

If the unit is damaged, please do NOT return it to us, but notify your dealer and the shipping company immediately, otherwise claims for damage or replacement may not be granted.

1.3.2 Initial operation

Before you have here enough space around them for cooling purposes and to avoid overheating, please do not place your mixing console on high-temperature surfaces such as a radiator or power amp. The console is connected to the main power supply cable. The console meets the required safety standards. Blown fuses can only be replaced by fuses of the same type and rating.

Never connect the XENYX to the power supply unit when the latter is connected to the mains! First connect the power supply unit to the console, then connect the power supply unit to the mains.

Please note that all units must be properly grounded. For your own safety, you should never remove any ground connectors from electrical devices or power cables, or render them inoperative.

Please ensure that only qualified people install and operate the mixing console. During installation and operation, the user must have sufficient electrical contact to earth, otherwise electrostatic discharges might affect the operation of the unit.

1.3.3 Online registration

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

Should your BEHRINGER product malfunction, our goal is to have it repaired as quickly as possible. To arrange for arrangement, 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 you cannot be reached, please contact the distributor nearest you. A list of distributors can be found in the support area of our website (www.behringer.com).

Registering your purchase and equipment with help you process your repair claim quicker and more efficiently.

Thank you for your cooperation!

2. CONTROL ELEMENTS AND CONNECTORS

This chapter describes the various control elements of your mixing console. All control, switch and connector will be described in detail.

2.1 Mono channels

2.1.1 Microphone and line inputs



Fig. 2.1: Connectors and controls of mic/line inputs

MIC

Each mono input channel offers a balanced microphone input via the XLR connector and also features a detachable +48 V phantom power for condenser microphones. The XENYX preamp provides nondirectional and noise-free gain at a typical noise level from the console's board preamp.

Please mute your playback system before you activate the phantom power supply to prevent switch-on thumps being directed to your loudspeakers. Please also note the instructions in chapter 2.3.5 "Phantom power and LED displays".

LINE IN

Each mono input also features a balanced line input on a 1/4" connector. Unbalanced devices (mono jack) can also be connected to the input.

Please remember that you can only use either the microphone or the line input of a channel at any one time. You can never use both simultaneously!

TRIM

Use the TRIM control to adjust the input gain. This control should always be turned fully counterclockwise before connecting or disconnecting a signal source to one of the inputs.



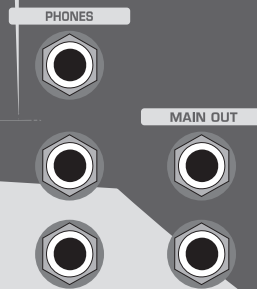


Fig. 2.9: Monitor/main mix connectors

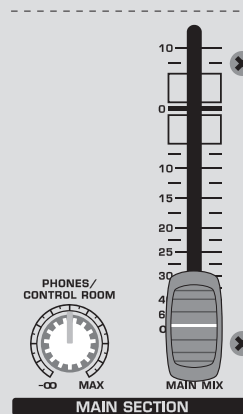


Fig. 2.10: Monitor control and main mix fader

PHONES/CONTROL ROOM

The stereo *PHONES* jack (at the top of the connector panel) is here to connect headphones. The unbalanced *CTRL ROOM OUT* jack carries the summed effect and main mix signal, a full balanced channel signal. The *PHONES/CONTROL ROOM* control adjusts the level of both headphone and main monitor outputs. The 502 is not equipped with control room outputs.

MAIN MIX

The *MAIN OUT* connectors are unbalanced mono jacks. The main mix signal appears here at a level of 0 dB. The *MAIN MIX* fader adjusts the volume of the outputs. The XENYX 802 and 502 mixing consoles feature a rotary control for high impedance.

2.3.3 CD/Tape connectors

CD/TAPE INPUT

The *CD/TAPE INPUT* are used to bring an external signal source (e.g. CD player, tape deck, etc.) into the console. They can also be used as a standard stereo line input, so the outputs of a second XENYX or BEHRINGER ULTRALINK PRO MX882 can be connected.

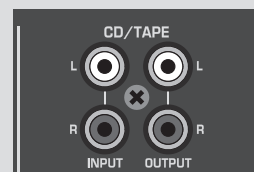


Fig. 2.11: CD/Tape input/output

Alternatively, the line or tape outputs of a hi-fi amplifier in the source location can also be hooked up here, allowing you to enjoy listening to additional sources.

XENYX 502/802/1002/1202

CD/TAPE OUTPUT

The connections are made in parallel with the MAIN OUT and carry the main mix signal (unbalanced). Connect the CD/TAPE OUTPUT to the input of your recording device. The signal level is adjusted via the high-precision MAIN MIX fader or monitor control (802).

2.3.4 Signal assignment



Fig. 2.12: Assignment switches of the main section

CD/TAPE TO MIX

When the TAPE TO MIX switch is depressed, the 2-rack input is assigned to the main mix providing an additional input for tape machine, MIDI input, or other signal source that do not require an processor.

CD/TAPE TO CTRL ROOM (502: CD/TAPE TO PHONES)

Press the CD/TAPE TO CTRL ROOM/PHONES switch if you want to monitor the 2-rack input via the CTRL ROOM OUT. This provides an external monitor signal coming back from tape or headphones when they are recording correctly.

⚠ If you are recording a signal via the CD/TAPE OUTPUT and wish to listen to this simultaneously via the CD/TAPE INPUT, do not use the CD/TAPE TO MIX switch. Doing this would create a feedback loop, since the signal would be routed, via the main mix, back to tape via the CD/TAPE OUTPUT. To monitor the CD/TAPE INPUT, use the CD/TAPE TO CTRL ROOM switch to assign the tape signal to the monitor(s) or headphones. This will avoid the tape signal being routed to the CD/TAPE OUTPUT.

FX TO CTRL ROOM

If you want to monitor only the FX send signal in your headphone or monitor speaker(s), press the FX TO CTRL switch. This routes the main mix signal following the FX SEND input to the monitor(s). The XENYX 802 and 502 do not feature this switch.

2.3.5 Phantom power and LED displays

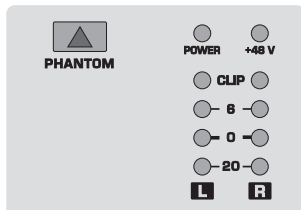


Fig. 2.13: Phantom power and control LEDs

+48 V (802/1002/1202 only)

The red +48 V LED lights up when phantom power is on. The PHANTOM switch activates the phantom power supply on the XLR connector of all mono channels.

⚠ Please do not connect microphones to the mixer (or the stagebox/wallbox) as long as the phantom power supply is switched on. Connect the microphones before you switch on the power supply. In addition, the monitor/PA loudspeakers should be muted before you activate the phantom power supply. After switching on, wait approx. one minute in order to allow system stabilization.

POWER

The blue POWER LED indicates that the console is powered on.

LEVEL INDICATOR

The high-precision 4-segment display allows the relative signal level.

LEVEL SETTING:

To correct the gain of the channel, first set the LEVEL control of the input channel to their center position (0 dB). Then use the TRIM control to increase the input amplification until the signal peaks at 0 dB on the level meter.

When recording on a digital recorder, the recorder peak meter should not go into overload. While analog recorder can be overloaded or overmodulated, creating only a certain amount of distortion (which is common and often desirable), digital recorder distortion is not only undesirable, but also renders your recording completely useless.

⚠ The peak meters of your XENYX display the level virtually independent of frequency. A recording level of 0 dB is recommended for all signal types.

5. WARRANTY

§ 1 OTHER WARRANTY RIGHTS AND NATIONAL LAW

1. This arrangement does not exclude or limit the buyer's or rights provided by national law, in particular, any rights again the seller arising from a legal effective purchase contract.

2. The arrangement regulations mentioned herein are applicable unless the contract is an infringement of national arrangement law.

§ 2 ONLINE REGISTRATION

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

Registering your purchase and equipment in our help process your repair claim 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) arranges the mechanical and electronic components of his 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 arrangement regulations described below. If the product has a defect within the specified arrangement period, there are no exceptions from this arrangement under § 5, BEHRINGER, clause 1, a decision, either to replace or repair the product in a suitable manner or reconditioned parts. In the case of a further purchase, which constitutes an improvement, BEHRINGER makes a decision, charge the customer for the additional cost of the parts.

2. If the arrangement claim proves to be justified, the product will be repaired or the buyer's freight prepaid.

3. Warranty claims otherwise than those indicated above are precluded.

§ 4 RETURN AUTHORIZATION NUMBER

1. To obtain arrangement services, 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 of 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. A product deemed eligible for repair or replacement under the terms of this arrangement 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 accordance with the contract for which the product was originally developed and manufactured, his modification/adaptation shall not be considered a defect in material or workmanship. The arrangement does not cover any such modification/adaptation, irrespective of whether it is carried out properly or not. Under the terms of his arrangement, BEHRINGER shall not be held responsible for any resulting from such a modification/adaptation.

3. Free inspection and maintenance/repair work are precluded except from this arrangement, 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 fader, cross fader, potentiometer, knob, button, gear ring, illuminator and similar parts.

4. Damage/defects caused by the following conditions are not covered by this arrangement:

▲ improper handling, neglect or failure to operate correctly in compliance with the instructions given in BEHRINGER user or service manual.

▲ connection or operation of the user in an unsafe manner does not comply with the technical or safety regulations applicable in the contract where the product is used.

▲ damage/defects caused by force majeure or other conditions have to be borne by the user of BEHRINGER.

5. An repair or opening of the user carried out by unauthorized personnel (user included) invalidates the arrangement.

6. If in the inspection of the product by BEHRINGER has been detected a defect in the user, the user's responsibility for the damage is not covered by the arrangement, the user's responsibility for the damage is not covered by the arrangement.

7. Products which do not meet the terms of his arrangement will be repaired or replaced at the user's expense. BEHRINGER will inform the user of any such circumstances. If the user fails to submit a return order within 6 weeks after notification, BEHRINGER will return the user's C.O.D. in a separate invoice for freight and packing. Such costs will also be incurred by the user when the user has not submitted a return order.

§ 6 WARRANTY TRANSFERABILITY

This arrangement is intended exclusively for the original user (customer of retail dealer) and is non-transferable to any other person (retail dealer, etc.) shall be entitled to give an arrangement promise on behalf of BEHRINGER.

§ 7 CLAIM FOR DAMAGES

Failure of BEHRINGER to provide proper arrangement services shall not entitle the user to claim (consequential) damage. In no event shall the liability of BEHRINGER exceed the intended value of the product.

* Customer in the European Union please contact BEHRINGER German Support for further details.

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