

MIX800

MINIMIX

User's manual



Version 1.0 October 2005



www.behringer.com



JUST LISTEN.

IMPORTANT SAFETY INSTRUCTIONS

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.

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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.



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 tipping 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.

MINIMIX

Ultra-Compact Karaoke Machine with Voice Cancellor and FX

- ▲ Ultra-compact 9.5" karaoke machine for studio and stage applications
- ▲ Revolutionary Voice Cancellor—effectively eliminates vocals from any stereo source while retaining most music elements
- ▲ Integrated digital echo/reverb processor in 24-bit/40 kHz resolution for ultimate vocal enhancement
- ▲ 2 independent mic channels with Level controls and Clip indicators for perfect level adjustment
- ▲ Dedicated 2-band EQ for awesome vocal enhancement and sound shaping
- ▲ Accurate 6-digit LED output meter for precise level indication
- ▲ Stereo Line Inputs/Outputs for connecting your favorite CD, MP3, tape recorder, etc.
- ▲ High-quality potentiometers and illuminated switches for long-term reliability
- ▲ Ultra low-noise audio operational amplifiers offer outstanding sound performance
- ▲ All Mini Series models can be stacked on top of each other to create an ultra-compact signal processor solution
- ▲ High-quality components and exceptionally rugged construction ensure long life
- ▲ Conceived and designed by BEHRINGER Germany

FOREWORD

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Dear Customer,

welcome to the community of Mini Series users and thank you very much for expressing your confidence in BEHRINGER products by purchasing the MIX800. It is one of my most pleasant tasks to write this letter to you, because it is the culmination of many months of hard work delivered by our engineering team to reach a very ambitious goal: to design an outstanding device whose high level of functionality will give you maximum performance.

The task to design our new MINIMIX certainly meant a great deal of responsibility. You, the discerning user and musician, were the focus of our entire development efforts. It also meant a lot of work and night shifts to accomplish this goal. But it was fun, too. Developing a product usually brings a lot of people together, and what a great feeling it is when everybody who participated in such a project can be proud of what we've achieved.

It is our philosophy to share our joy with you, because you are the most important member of the BEHRINGER family. With your highly competent suggestions for new products you've greatly contributed to shaping our company and making it successful. In return, we guarantee you

uncompromising quality as well as excellent technical and audio properties at an extremely favorable price. All of this will enable you to fully unfold your creativity without being hampered by budget constraints.

We are often asked how we can make it to produce such high-grade devices at such unbelievably low prices. The answer is quite simple: it's you, our customers! Many satisfied customers means large sales volumes enabling us to get better conditions of purchase for components, etc. Isn't it only fair to pass this benefit back to you? Because we know that your success is our success, too!

I would like to thank all people whose help on "Project MINIMIX MIX800" has made it all possible. Everybody has made very personal contributions, starting from the designers of the unit via the many staff members in our company to you, the user of BEHRINGER products.

My friends, it's been worth the trouble!

Thank you very much,

Uli Behringer

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1. INTRODUCTION

Thank you for expressing your confidence in us by purchasing the MINIMIX MIX800.





Sing along with this powerful karaoke machine! Its revolutionary Voice Canceller effectively eliminates vocals from any stereo source while retaining most music elements. The integrated digital echo/reverb processor in 24-bit/40 kHz resolution assures ultimate vocal enhancement. We've included 2 independent mic channels with Level controls and Clip indicators for perfect level adjustment. A dedicated 2-band EQ provides for awesome vocal enhancement and sound shaping, and there is an accurate 6-digit LED output meter for precise level indication. Stereo Line Inputs/Outputs let you connect your favorite CD or MP3 player, tape recorder and similar equipment. Long-term reliability is guaranteed with the high-quality potentiometers and illuminated switches. Ultra low-noise audio operational amplifiers offer outstanding sound performance.

Karaoke has never been this easy and this much fun!

1.1 Before you get started


1.1.1 Shipment

Your MIX800 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 MIX800 or with its packaging.**
-  **Please dispose of all packaging materials in an environmentally friendly fashion.**

1.1.2 Initial operation

Be sure that there is enough space around the unit for cooling. To avoid overheating, do not place the MIX800 on top of power amps or near radiators, etc.

 To power the MIX800, use only the power supply unit that is delivered with your equipment.

1.1.3 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!

2. CONTROL ELEMENTS AND CONNECTIONS

 Please ensure that the unit is installed and operated only by people qualified to do so. During installation and operation the user must have sufficient electrical contact to earth. Electrostatic discharge may affect the operation of the unit.

2.1 The front

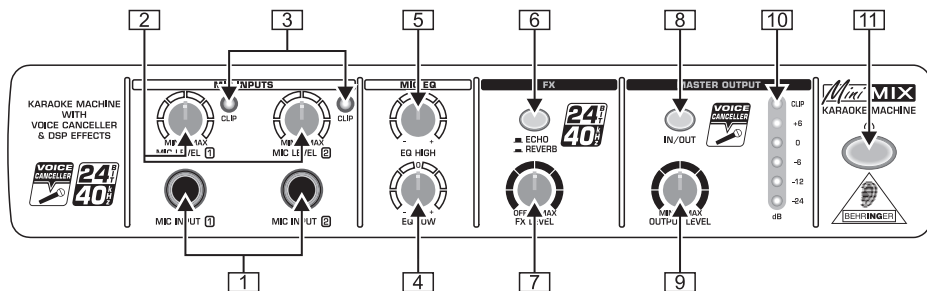




Fig. 2.1: Front panel control elements and connectors of the MIX800

- 1** MIC INPUT 1/2
1 or 2 microphones can be connected using these 1/4" jacks.
- 2** MIC LEVEL 1/2
The MIC LEVEL control adjusts the level of the microphone signal.

 After they pass the MIC LEVEL controls, the 2 microphone signals are combined into 1 mono signal.

- 3** *CLIP*
When the Clip LED lights up, distortion may occur in the microphone input of the MIX800. Reduce the microphone level with the MIC LEVEL control **2**.
- 4** *EQ LOW*
The EQ LOW control allows you to raise or lower the low-frequency content of the microphone signal.
- 5** *EQ HIGH*
With the EQ HIGH control, you can raise or lower the high-frequency content of the microphone signal.
- 6** *ECHO/REVERB*
The MIX800 allows you to add an effect to the microphone signal. When the ECHO/REVERB button is pressed in, you can add REVERB to the signal. When the button is pressed out, the ECHO effect is active.

 **1 of the 2 effects is always active! Use the FX LEVEL control **7** to switch off the effect or to adjust the effect intensity.**

- 7** *FX LEVEL*
The FX LEVEL control determines the amount of effect that is added to the master signal.

 **Turn this control fully to the left to switch off the active effect.**



- 8** *IN/OUT*
Press the IN/OUT button to activate the Voice Cancellor in the signal path. This filter circuit allows you to remove the vocals almost completely from a recording. The filter has been designed so that vocal frequencies will be processed without significantly affecting other music signals. What is more, the filter only works in the center of the stereo panorama, where vocals are usually positioned in a recording.

 **The Voice Cancellor can be used for stereo signals only!**

- 9** *OUTPUT LEVEL*
Set the volume of the output signal with the OUTPUT LEVEL control.

- 10** *LED display*
The LED display is for monitoring the input level. It comprises 6 LEDs. When the Clip LED lights up, distortion may occur in the MIX800 output. Reduce the output level with the OUTPUT LEVEL control **9**.

- 11**  *switch*
The  switch turns your MINIMIX MIX800 on and off.

 **Attention: The  switch does not fully disconnect the unit from the mains. To disconnect the unit from the mains, pull out the main cord plug or appliance coupler. When installing the product, ensure the plug or appliance coupler is readily operable. Unplug the power cord completely when the unit is not used for prolonged periods of time.**

2.2 The rear



Fig. 2.2: Rear panel connectors of the MIX800

- 12 Use the 9 V jack to connect the power supply delivered with the unit.
- 13 These connectors are the unbalanced cinch outputs of the MIX800.
- 14 These connectors are the unbalanced cinch inputs of the MIX800.
- 15 SERIAL NUMBER

3. APPLICATION EXAMPLE

The wiring example shown below gives you an idea of how to use the MIX800.

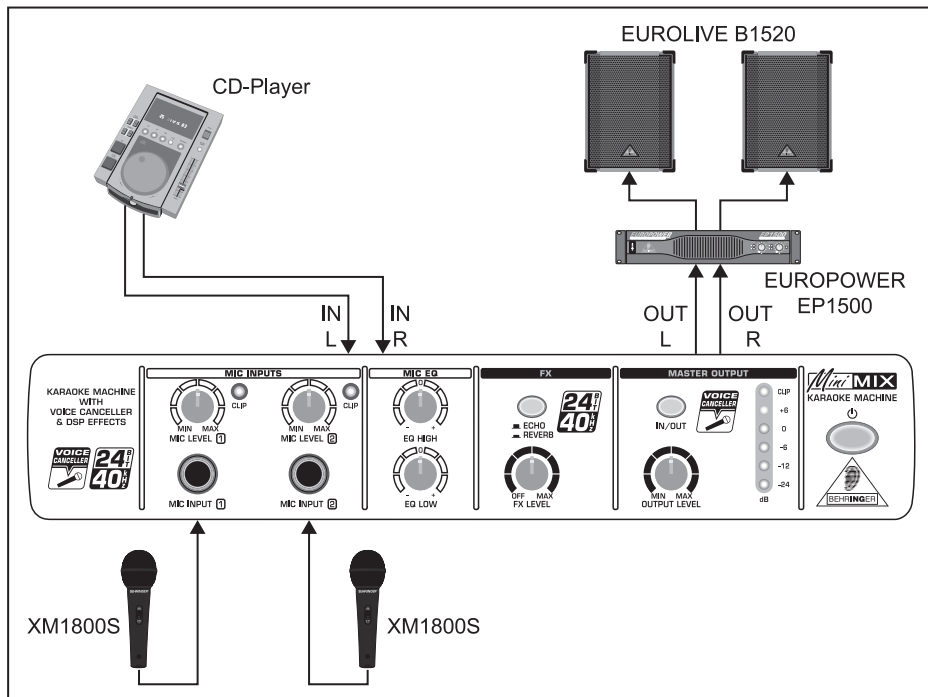


Fig. 3.1: Using the MIX800

4. SPECIFICATIONS

MIC INPUTS

Connectors	1/4" stereo jack, balanced
Input impedance	approx. 2 k Ω balanced
Max. input level	-20 dBu

AUDIO INPUT

Connectors	Cinch, unbalanced
Input impedance	approx. 20 k Ω
Max. input level	15 dBu

AUDIO OUTPUT

Type	RCA connectors, unbalanced
Impedance	approx. 150 Ω
Max. output level	15 dBu

SYSTEM DATA

Frequency response	10 Hz to 200 kHz, $\pm 0/-2$ dB
Dynamics	112 dB, 20 Hz to 20 kHz
THD	0.002 % typ. @ 4 dBu
Signal crosstalk	-75 dB @ 1 kHz
Signal-to-noise ratio	97 dBu @ 4 dBu, A-weighted

POWER SUPPLY

Mains connection	external power supply, 9 V~/750 mA
Mains voltage	
USA/Canada	120 V~, 60 Hz
U.K./Australia	240 V~, 50 Hz
China	220 V~, 50 Hz
Europe	230 V~, 50 Hz
Japan	100 V~, 50 - 60 Hz
Power consumption	6 W

DIMENSIONS/WEIGHT

Dimensions (H x W x D)	approx. 1 8/9" x 9 5/9" x 4 5/7" (approx. 47.9 mm x 242.6 mm x 120 mm)
Weight	approx. 0.69 lbs. (approx. 0.34 kg)

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5. OTHER MINI PRODUCTS

The MINIBEAT belongs to the MINI suite of BEHRINGER products, which can operate together and are introduced below:

MINIFEX FEX800

Ultra-compact 9.5" stereo multi-effects processor for studio and stage applications

- ▲ 16 awesome FX presets in 24-bit/48 kHz resolution including reverb, delay, chorus, flanger, phaser, rotary speaker, pitch shifter and multi-effects
- ▲ Intuitive FX Preset control with LED's indicating the selected program

MINIAMP AMP800

Ultra-compact 9.5" headphones amplifier system for studio and stage applications

- ▲ 4 totally independent stereo high-power amplifier sections
- ▲ Highest sonic quality with virtually all types of headphones even at maximum volume

MINICOM COM800

Ultra-compact 9.5" stereo modeling compressor for studio and stage applications

- ▲ 16 awesome preset models for the most typical compression applications (vocal, drums, guitar, keyboard, etc.)
- ▲ Dedicated Compressor Modeling control with LED's indicating the selected dynamics program

MINIMIC MIC800

Ultra-compact 9.5" microphone modeling preamp for studio and stage applications

- ▲ High-end preamplifier for all microphone, instrument and line-level sources. Perfectly complements studio-grade condenser mics
- ▲ Ultra-flexible Preamp Modeling allows you to quickly optimize your recordings

MINIMON MON800

Ultra-compact 9.5" monitor matrix mixer for studio and stage applications

- ▲ Dedicated input section with 4 selectable and mixable stereo inputs
- ▲ Accurate 6-digit LED main stereo output meters for precise level indication

MINIBEAT BEAT800

Ultra-compact 9.5" dual beat counter/phono preamp for studio and stage applications

- ▲ Intelligent dual BPM counters with Tempo Difference indicator
- ▲ Ultra-flexible Beat Assist and Sync Lock functions

MINIFBQ FBQ800

Ultra-compact 9.5" graphic equalizer for studio and stage applications

- ▲ Revolutionary FBQ Feedback Detection System instantly reveals critical frequencies and can also be used as Audio Analyzer
- ▲ Additional Low Cut filter removes unwanted frequencies, e. g. floor rumble

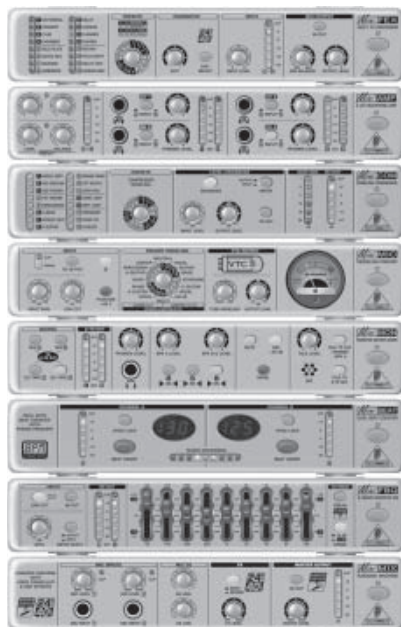


Fig. 5.1: MINI products stack on top of each other

6. 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.

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FEDERAL COMMUNICATIONS COMMISSION COMPLIANCE INFORMATION



Responsible party name: **MUSIC Group Services USA, Inc.**
Address: **18912 North Creek Parkway,
Suite 200 Bothell, WA 98011,
USA**
Phone/Fax No.: **Phone: +1 425 672 0816
Fax: +1 425 673 7647**

MINIMIX MIX800

complies with the FCC rules as mentioned in the following paragraph:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Important information:

Changes or modifications to the equipment not expressly approved by MUSIC Group can void the user's authority to use the equipment.