

MINIBEAT BEAT800

User's manual

GB

Version 1.0 October 2005



www.behringer.com



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.

MINIBEAT

Ultra-Compact Dual Beat Counter with Integrated Phono Preamps

- ▲ 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
- ▲ 2 state-of-the-art phono preamps with line inputs to accommodate turntables, CD players, etc.
- ▲ Accurate 6-digit LED input meters for precise level indication
- ▲ 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

A small black rectangular button with the letters "GB" in white, positioned to the right of the main text area.

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 BEAT 800. 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 MINIBEAT 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 MINIBEAT BEAT800" 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 MINIBEAT BEAT800.





You can always depend on this ultra-compact, dual beat counter/phono preamp. It packs 2 intelligent BPM counters with a Tempo Difference indicator, plus it features the Beat Assist and Sync Lock functions. In addition, we've included 2 state-of-the-art phono preamps to accommodate turntables, an accurate 6-digit LED input meter for precise level indication and illuminated switches. Ultra low-noise audio operational amplifiers offer outstanding sound performance.

Never miss a beat with the BEHRINGER MINI BEAT!

1.1 Before you get started


1.1.1 Shipment

Your BEAT800 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 BEAT800 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 BEAT800 on top of power amps or near radiators, etc.

 To power the BEAT800, 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

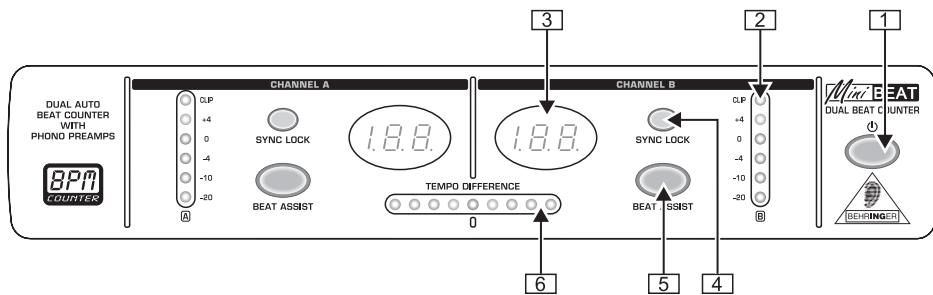





Fig. 2.1: Front panel control elements of the BEAT800

 **1**  switch
The  switch turns your MINIBEAT BEAT800 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 **LED display**
The LED display is for monitoring the input level. Six LEDs are available per channel. If the Clip LED lights up, BEAT800 input might be distorted. In this case, reduce the input level.
 - 3 **Display**
The 3-digit display of the BEAT800 shows the tempos of the incoming signals, expressed in BPM (Beats Per Minute). The left display shows the signal that enters CHANNEL A. The tempo of the CHANNEL B signal is shown in the right display.
 - 4 **SYNC LOCK**
Several tempo changes in a single track would produce a constant display of various BPM values. That's why each channel of the BEAT800 has a SYNC LOCK button that you can use to limit the range of possible tempo values. This makes sense if the counter has already calculated a realistic value.
 - 5 **BEAT ASSIST**
When you push the BEAT ASSIST button at least three times in sync with the song's tempo, the calculated tempo will appear in the display.
-  **Push the BEAT ASSIST button more than 2 times in succession to automatically activate the SYNC LOCK function.**
- 6 **TEMPO DIFFERENCE**
This LED display shows whether or not there is a tempo difference between the two channels of the BEAT800. The light always moves to the side of the fastest signal. When both signals are in sync, the green LED in the middle of the display lights up.



2.2 The rear

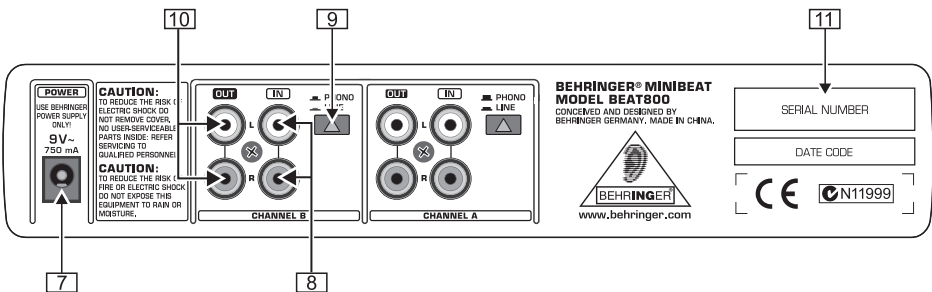


Fig. 2.2: Rear panel control elements and connectors of the BEAT800

- 7 Use the 9 V jack to connect the power supply that is delivered with the unit.
- 8 These connectors are the unbalanced cinch inputs of the BEAT800.
- 9 **PHONO LINE**
You can connect both line and phono signals to the MINIBEAT. The PHONO LINE switch allows you to toggle between these two types of signals.
- 10 These connectors are the unbalanced cinch outputs of the BEAT800.
- 11 **SERIAL NUMBER**

3. APPLICATION EXAMPLE

The wiring example shown below gives you an idea of how to use the BEAT800.

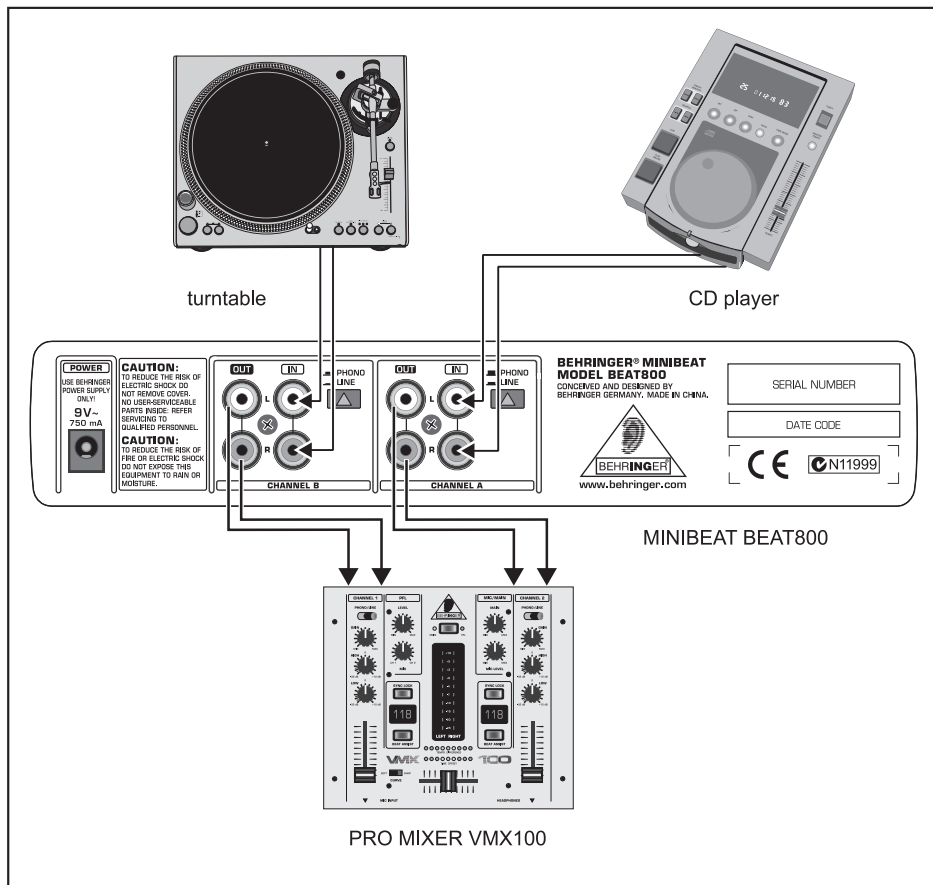


Fig. 3.1: Using the BEAT800 as part of a DJ set-up

4. SPECIFICATIONS

INPUTS

Type	RCA connectors
Impedance	approx. 47 k Ω
Max. input level	
Line	16 dBu
Max. input voltage	
Phono	150 mV _{pp} @ 1 kHz

OUTPUTS

Type	RCA connectors
Impedance	approx. 100 Ω
Max. output level	16 dBu

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SYSTEM SPECIFICATIONS

Line

Frequency response	<10 Hz to 200 kHz, -3 dB
Dynamic range	122 dB, 10 Hz to 20 kHz
Distortion	0,001 % typ. @ 0dBu
Gain	0 dB
Crosstalk	-106 dB @ 1 kHz
Signal-to-noise ratio	106 dBu @ 0 dBu, a-weighted

Phono

Frequency response	RIAA
Distortion	0,07 % typ. @ -40dBu/1kHz
Gain	40 dB
Crosstalk	-65 dB @ 1 kHz
Signal-to-noise ratio	66 dBu @ 0 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	10 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)

BEHRINGER is constantly striving to maintain the highest professional standards. As a result of these efforts, modifications may be made from time to time to existing products without prior notice. Specifications and appearance may differ from those listed or illustrated.

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

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

MINIMIX MIX800

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

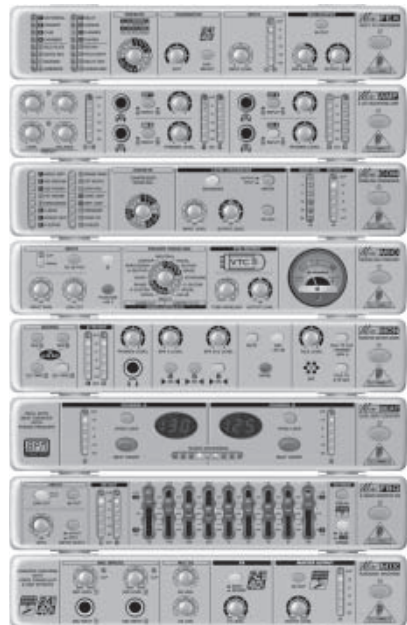


Fig. 5.1: MINI products stack on top of each other

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!

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§ 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.

MINIBEAT BEAT800

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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