

# enh 2.3 Mk2

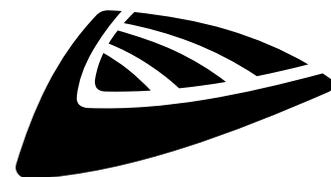


## ENGLISH Operation Manual

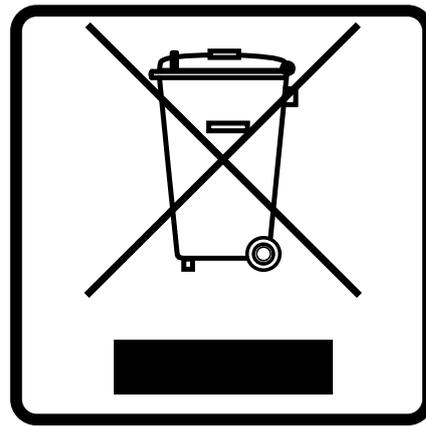
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[WWW.JB-SYSTEMS.EU](http://WWW.JB-SYSTEMS.EU)



*Version: 1.0*



**JBSYSTEMS**



### **EN - DISPOSAL OF THE DEVICE**

Dispose of the unit and used batteries in an environment friendly manner according to your country regulations.

### **FR - DÉCLASSER L'APPAREIL**

Débarrassez-vous de l'appareil et des piles usagées de manière écologique conformément aux dispositions légales de votre pays.

### **NL - VERWIJDEREN VAN HET APPARAAT**

Verwijder het toestel en de gebruikte batterijen op een milieuvriendelijke manier conform de in uw land geldende voorschriften.

### **DU - ENTSORGUNG DES GERÄTS**

Entsorgen Sie das Gerät und die Batterien auf umweltfreundliche Art und Weise gemäß den Vorschriften Ihres Landes.

### **ES - DESHACERSE DEL APARATO**

Reciclar el aparato y pilas usadas de forma ecologica conforme a las disposiciones legales de su país.

### **PT - COMO DESFAZER-SE DA UNIDADE**

Tente reciclar a unidade e as pilhas usadas respeitando o ambiente e em conformidade com as normas vigentes no seu país.

# ***OPERATION MANUAL***

Thank you for buying this JB Systems® product. To take full advantage of all possibilities, please read these operating instructions very carefully.

## **FEATURES**

- This multiband sound enhancer adds harmonics to the audio, which significantly improves the definition, warmth and transparency of the music.
- Soft or Tight bass processing: improves bass punch considerably!
- Enhancer/Exciter with multi-band tuning from 1kHz to 8kHz.
- Separate surround processor for a wider stereo experience.
- Separate mono subwoofer output with adjustable (80 → 250Hz) cutoff frequency.
- Subwoofer phase inverter switch.
- Balanced XLR inputs/outputs

## **BEFORE USE**

- Before you start using this unit, please check if there's no transportation damage. Should there be any, do not use the device and consult your dealer first.
- **Important:** This device left our factory in perfect condition and well packaged. It is absolutely necessary for the user to strictly follow the safety instructions and warnings in this user manual. Any damage caused by mishandling is not subject to warranty. The dealer will not accept responsibility for any resulting defects or problems caused by disregarding this user manual.
- Keep this booklet in a safe place for future consultation. If you sell the fixture, be sure to add this user manual.
- To protect the environment, please try to recycle the packing material as much as possible.

### **Check the contents:**

Check that the carton contains the following items:

- User manual
- ENH 2.3 Mk2 unit
- Power cable

## SAFETY INSTRUCTIONS:



**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



**CAUTION:** To reduce the risk of electric shock, do not remove the top cover. No user-serviceable parts inside. Refer servicing to qualified service personnel only.



The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within the equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying this appliance.



This symbol means: indoor use only



This symbol means: Read instructions

- This appliance is intended for use in moderate climates.
- To prevent fire or shock hazard, do not expose this appliance to rain or moisture.
- To avoid condensation to be formed inside, allow the unit to adapt to the surrounding temperatures when bringing it into a warm room after transport. Condensation sometimes prevents the unit from working at full performance or may even cause damages.
- This unit is for indoor use only.
- Don't place metal objects or spill liquid inside the unit. No objects filled with liquids, such as vases, shall be placed on this appliance. Electric shock or malfunction may result. If a foreign object enters the unit, immediately disconnect the mains power.
- No naked flame sources, such as lighted candles, should be placed on the appliance.
- Don't cover any ventilation openings as this may result in overheating.
- Prevent use in dusty environments and clean the unit regularly.
- Keep the unit away from children.
- Inexperienced persons should not operate this device.
- Maximum safe ambient temperature is 40°C. Don't use this unit at higher ambient temperatures.
- Minimum distances around the apparatus for sufficient ventilation is 5cm.
- Always unplug the unit when it is not used for a longer time or before you start servicing.
- The electrical installation should be carried out by qualified personal only, according to the regulations for electrical and mechanical safety in your country.
- Check that the available voltage is not higher than the one stated on the rear panel of the unit.
- The socket inlet shall remain operable for disconnection from the mains.
- The power cord should always be in perfect condition. Switch the unit immediately off when the power cord is squashed or damaged.
- Never let the power-cord come into contact with other cables !
- When the power switch is in OFF position, this unit is not completely disconnected from the mains!
- This CLASS I appliance must be connected to MAINS socket outlet with a protective earth connection in order comply with safety regulations.
- In order to prevent electric shock, do not open the cover. Apart from the mains fuse there are no user serviceable parts inside.
- **Never** repair a fuse or bypass the fuse holder. **Always** replace a damaged fuse with a fuse of the same type and electrical specifications!
- In the event of serious operating problems, stop using the appliance and contact your dealer immediately.
- Please use the original packing when the device is to be transported.
- Due to safety reasons it is prohibited to make unauthorized modifications to the unit.

### INSTALLATION GUIDELINES:

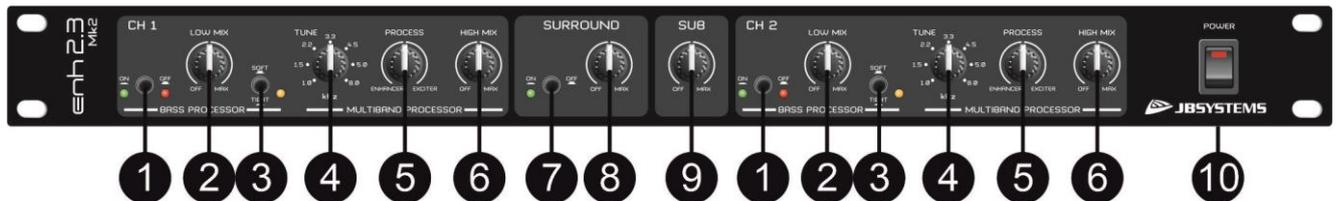
- Install the unit in a well-ventilated location where it will not be exposed to high temperatures or humidity.
- Placing and using the unit for long periods near heat-generating sources such as amplifiers, spotlights, etc. will affect its performance and may even damage the unit.
- The unit can be mounted in 19-inch racks. Attach the unit using the 4 screw holes on the front panel. Be sure to use screws of the appropriate size. (screws not provided) Take care to minimize shocks and vibrations during transport.

- When installed in a booth or flight case, please make sure to have good ventilation to improve heat evacuation of the unit.
- To avoid condensation to be formed inside, allow the unit to adapt to the surrounding temperatures when bringing it into a warm room after transport. Condense sometimes prevents the unit from working at full performance.

### **CLEANING THE APPLIANCE:**

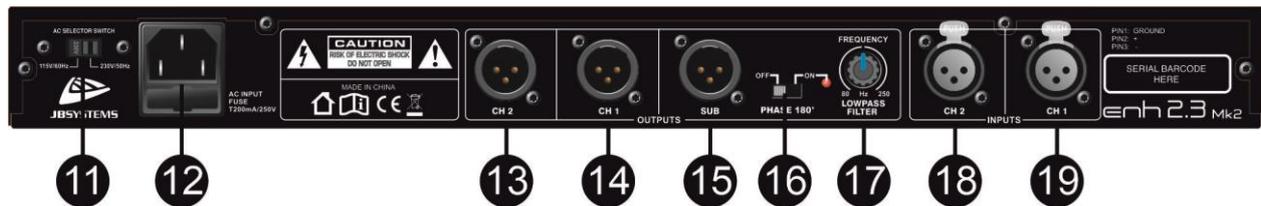
Clean by wiping with a polished cloth slightly dipped with water. Avoid getting water inside the unit. Do not use volatile liquids such as benzene or thinner which will damage the unit.

## **FUNCTIONS (FRONT)**



- 1. Channel ON/OFF switch:** This button switches the processor over between operation (green led is lit) and bypass (red led is lit).. You can use this switch to compare the sound with and without processing. This makes it easier to tune the sound using trial and error.
- 2. LOW MIX control:** Controls the amount of low band signal, produced by the bass processor, used for sound enhancement (from zero to maximum). The setting depends on the application and can be adapted to your own taste. When adjusting, use the channel ON/OFF switch (1) to compare between original and processed sound.  
*Important:* Note that the bass processor should be used with care to avoid possible speaker damage. Most small speakers or near-field monitors are not capable of handling the low frequencies produced by this unit.
- 3. SOFT/TIGHT switch:** used to select the type of bass processing.
  - SOFT = warm and full bass
  - TIGHT = dry and punchy bass (orange LED is lit)
- 4. TUNE control:** Sets the cutoff frequency of the high-pass filter. In a range from 1kHz to 8kHz you can select the frequencies that are routed to the high band processor.
- 5. PROCESSING control:** this knob controls the function of the device. When turned clockwise, the Exciter function is activated and the signal's transparency and sharpness will be increased. When the music already contains enough clarity and high frequencies (for example in classical music) it's better to use the enhancer setting (turned counterclockwise)
- 6. HIGH MIX control:** Controls the amount of signal, produced by the high band processor, used for sound enhancement (from zero to maximum). The setting depends on the application. It can be used to give a high-quality system the little "finishing touch" it needs or you can add some extra clarity to a relatively poor sound system. In any case it is up to you to adapt the sound to your own taste. Always start adjusting with the HIGH MIX control turned in counterclockwise position and use the channel ON/OFF switch (1) often to compare between original and processed sound.  
*Important:* Note that the high band processor should be used with care to avoid possible tweeter damage. Improper and excessive use of high band processor can cause overload to the tweeters of your speakers. Always start tuning the high band processor with the HIGH MIX control completely turned to the left.
- 7. Surround ON/OFF switch:** to switch the surround processor ON (green LED is lit) or OFF
- 8. Surround Level:** Use this knob to make the perceived stereo image wider. The more you turn the knob clockwise, the wider and more spacious the stereo image becomes.
- 9. SUB:** Controls the level of the separate subwoofer output (15)
- 10. POWER switch:** used to switch the unit ON/OFF

## FUNCTIONS (rear)



11. **AC VOLTAGE selector:** before plugging in the power cord, check to see if the unit is set for the voltage for your area: 115V(60Hz) or 230V(50Hz)
12. **MAINS input + FUSE holder:** first check if the voltage is set to the voltage for your area (11). Then you can use the supplied power cable to connect the unit to the mains.
13. **OUTPUT CH2:** XLR output of channel 2
14. **OUTPUT CH1:** XLR output of channel 1
15. **SUB OUTPUT:** you can use this balanced XLR output when you use a separate subwoofer. This mono output is driven by both input channels CH1 (19) & CH2 (18)
16. **PHASE 180°:** Sometimes the conductors of the subwoofer are inversed which results in poor sound quality with a lack of low frequencies: the opposite of what you expected! This can be corrected by inverting the (+) and (-) poles of the cabling to your subwoofer or ... by activating the PHASE INVERT switch! Use the phase invert switch and compare the results of both positions. The position with the most bass production is the right one!
17. **LOWPASS FILTER:** the subwoofer output has this filter to avoid that high tones are sent to the subwoofer, what would result in weird sound quality. This crossover frequency control adjusts the cutoff frequency of the subwoofer low pass filter. It can be set in a range of 100 to 250Hz. Once again it is up to you to adapt its position to your own taste. For most subwoofers 100Hz to 150Hz seems to be the best choice
18. **INPUT CH2:** balanced XLR input of channel 2
19. **INPUT CH1:** balanced XLR input of channel 1

## SPECIFICATIONS

This device carries the prescribed CE marking. It was tested for this purpose in a specialized CE lab and fully complies with all currently valid European and national standards. The corresponding CE conformity declarations can be found on the product page of this product on our website.

<b>Power Supply:</b>	AC 100-120V, 60Hz or AC 200-240V, 50Hz (switch)
<b>Power Consumption:</b>	8W
<b>Max. input level / impedance:</b>	+21dBu / +/- 12kΩ
<b>Max. output level / impedance:</b>	+21dBu / +/- 45Ω
<b>Common mode rejection (CMRR):</b>	>55dB@1KHz
<b>Frequency response:</b>	20-20.000Hz (+/-0.5dB)
<b>THD(A) + noise:</b>	0.008% +4dB
<b>IMD Intermodulation distortion:</b>	0.01% SMPTE
<b>S/N Ratio (IHF-A):</b>	>95dB (22-22.000Hz)
<b>Crosstalk:</b>	<-100dB, 22Hz to 22kHz
<b>Bass Processor:</b>	Dual Mode, Soft to Tight
<b>Multiband Processor:</b>	Enhancer to Exciter
<b>Fuse:</b>	0.5A/250V slow blow (5x20mm)
<b>Dimensions:</b>	483(W) x 44(H) x 164(D) mm
<b>Weight:</b>	2,25 Kgs

Every information is subject to change without prior notice

You can download the latest version of this user manual on our website: [www.jb-systems.eu](http://www.jb-systems.eu)





**JB SYSTEMS**

## **MAILING LIST**

**EN: Subscribe today to our mailing list for the latest product news!**

**FR: Inscrivez-vous à notre liste de distribution si vous souhaitez suivre l'actualité de nos produits!**

**NL: Abonneer je vandaag nog op onze mailinglijst en ontvang ons laatste product nieuws!**

**DE: Abonnieren Sie unseren Newsletter und erhalten Sie aktuelle Produktinformationen!**

**ES: Suscríbete hoy a nuestra lista de correo para recibir las últimas noticias!**

**PT: Inscreva-se hoje na nossa mailing list para estar a par das últimas notícias!**

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