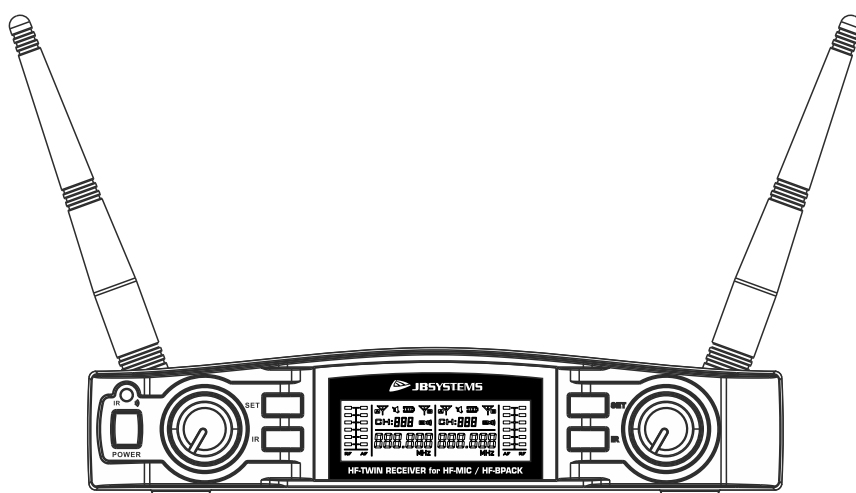


HF-TWIN RECEIVER

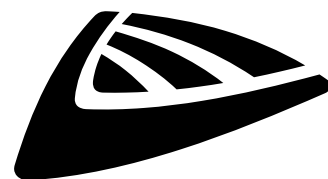


ENGLISH Operation Manual

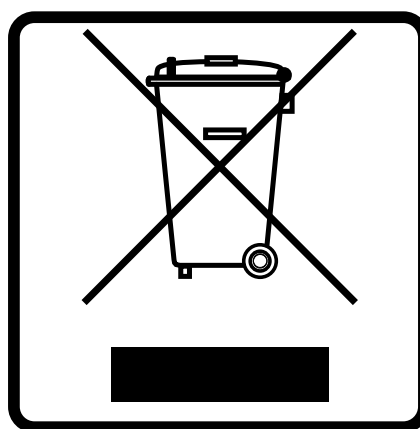
Other languages can be downloaded from:
WWW.JB-SYSTEMS.EU



Version: 1.0



JB SYSTEMS



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 unit is radio-interference suppressed. This appliance meets the requirements of the current European and national guidelines. Conformity has been established and the relevant statements and documents have been deposited by the manufacturer.

- Dual PLL/UHF wireless microphone receiver used in combination with:
 - HF-MIC: wireless hand microphone (order code : B08308)
 - HF-BPACK: belt-pack and lavalier microphone (order code : B08309)
- Can be combined with the microphone combinations you need:
 - 2 x HF-MIC
 - 2 x HF-BPACK
 - 1 x HF-MIC + 1 x HF-BPACK
- The plastic case can hold one of the above combinations.
- LCD display for easy setup
- Easy channel setup via IR transmission.
- Belt-pack and hand microphone can both be used with rechargeable batteries!
- 16 selectable frequencies via PLL synthesizer:
 - Receiver 1 (left): channel 1 to 8
 - Receiver 2 (right): channel 9 to 16
- 2 separate balanced XLR outputs
- 1 x 6.3mm jack output with mixed signal from both channels
- Frequency range: 823-832MHz (free use in most European countries)

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
- 1x HF-TWIN RECEIVER
- 1x Plastic case
- 1x mains DC power adapter

SAFETY INSTRUCTIONS:

**CAUTION**

RISK OF ELECTRIC SHOCK
DO NOT OPEN



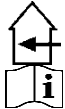
CAUTION: To reduce the risk of electric shock, do not remove the top cover. No user-serviceable parts inside. Refer servicing to qualified service personnel only.



The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user or 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



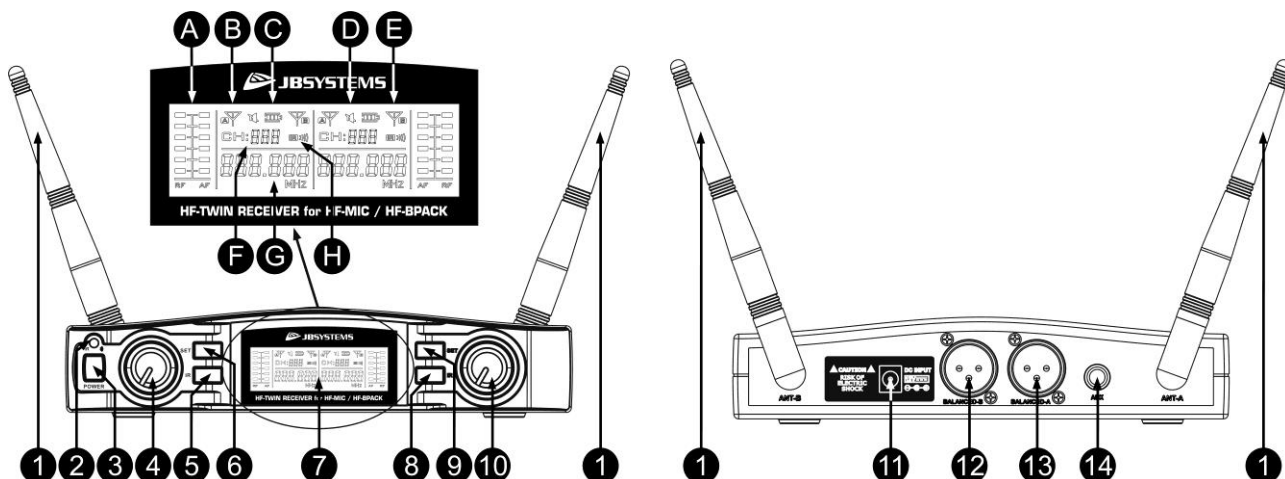
This symbol means: Read instructions



This symbol means: this amplifier is capable of producing very high sound pressure levels that may permanently damage your ears. Hearing experts strongly advise against permanent exposure to high sound levels!

- 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. Condense 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 save ambient temperature is 40°C. Don't use this unit at higher ambient temperatures.
- Minimum distances around the apparatus for sufficient ventilation is 10cm.
- 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.
- The socket inlet is used as the disconnect device, the disconnect device shall remain readily operable
- This appliance must be earthed to in order comply with safety regulations.
- In order to prevent electric shock, do not open the cover. 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.

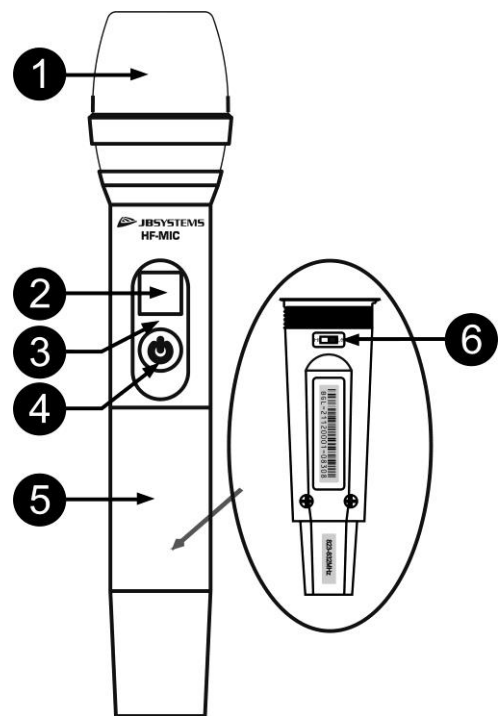
RECEIVER FUNCTIONS



1. **ANTENNAS:** Fixed-length UHF antennas permanently mounted on the back of the receiver. Put these in vertical position during use.
2. **IR INDICATOR:** used to send the selected channel to the microphone(s) to connect with.
3. **POWER switch:** used to turn on and off the receiver.
4. **VOLUME KNOB A:** used to adjust the audio output level of receiver A.
5. **“IR” KNOB A:** used to send the chosen channel information (Freq.) from receiver A to the microphone to work with.
6. **“SET” KNOB A:** used to set the desired channel (Freq.) for receiver A.
7. **DISPLAY:** shows the information (channel, frequency, battery and microphone status, RF and AF level) from both receivers (A and B).
 - A. RF-level / AF-level indicators
 - B. : antenna symbol. Shows the antenna that receives the RF-signal for receiver A.
 - C. : battery symbol. Shows the battery level of the connected microphone/beltpack for receiver A.
 - D. : microphone status symbol. Shows whether the connected microphone/beltpack is switched on or off.
 - E. : antenna symbol. Shows the antenna that receives the RF-signal for receiver B.
 - F. Channel number indicator. Shows the channel number (1-16) the connected microphone/beltpack is working on.
 - G. Frequency indicator. Shows the corresponding frequency of the channel.
 - H. : IR-signal indicator. Shows the sending of the IR-signal during setup.
8. **“IR” KNOB B:** used to send the chosen channel information (Freq.) from receiver B to the microphone to work with.
9. **“SET” KNOB B:** used to set the desired channel (Freq.) for receiver B.
10. **VOLUME KNOB B:** used to adjust the audio output level of receiver B.
11. **DC INPUT:** DC input connector for the supplied 12V AC/DC adapter.
12. **Balanced output B:** Balanced male XLR audio output connector from receiver B. Connect it with a balanced audio cable to your mixer or pre-amplifier.
13. **Balanced output A:** Balanced male XLR audio output connector from receiver A. Connect it with a balanced audio cable to your mixer or pre-amplifier.
14. **AUX:** 6.3mm jack connector. On this connector there is a mixed signal from both receivers (A and B).

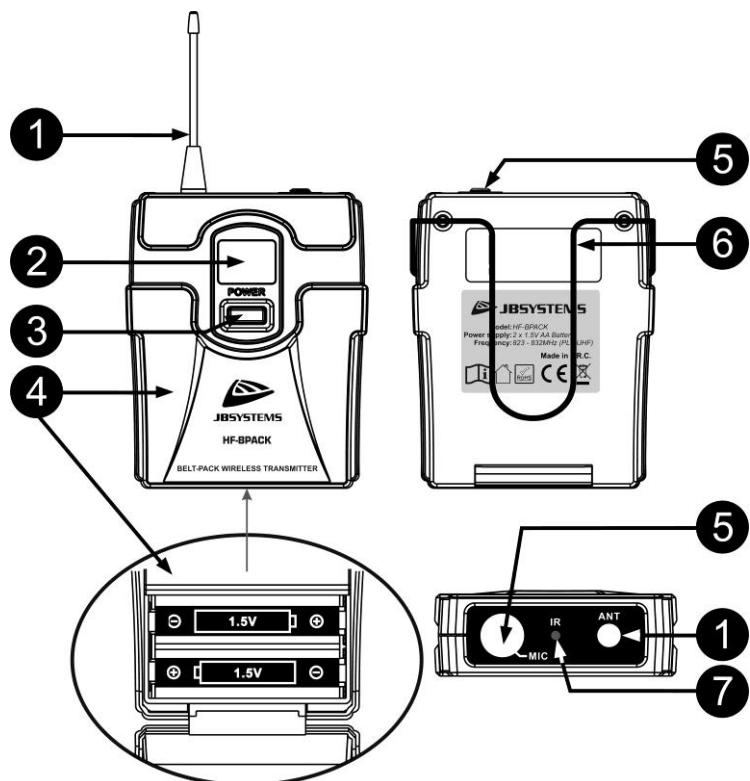
HF-MIC HANDHELD MICROPHONE FUNCTIONS

1. **GRILL:** Protects the unidirectional microphone capsule and helps reduce breath sounds and wind noises.
2. **DISPLAY:** shows the channel (1-16), the frequency and the battery status of the microphone.
3. **IR SENSOR:** receives the IR-signal from the HF-TWIN RECEIVER during setup of the chosen channel to work on.
4. **ON/OFF SWITCH:** to turn the HF-MIC on and off.
5. **BATTERY COMPARTMENT:** Insert two 1.5V AA rechargeable or dry (Alkaline) batteries into the compartment by unscrewing the battery cover gently and slide it down. Make sure that the polarity of the batteries is correct.
6. **LO-HI SELECTOR:** used to switch the power from the RF-signal from LO (5dBm -3,16mW) to HI (10dBm-10mW).



HF-BPACK BELT PACK FUNCTIONS

1. **ANTENNA:** Permanently connected helical antenna.
2. **DISPLAY:** shows the channel (1-16), the frequency and the battery status of the beltpack.
3. **POWER SWITCH:** to turn the HF-BPACK on and off.
4. **BATTERY COMPARTMENT:** Insert two 1.5V AA rechargeable or dry (Alkaline) batteries into the compartment by pressing gently at the sides of the cover and pulling it backwards. Make sure that the polarity of the batteries is correct.
5. Mini-jack with screw thread : The included electret lavalier microphone (or optional headset) is inserted into this connector.
6. **TIE CLIP:** used to clip the HF-BPACK on the belt of a person.
7. **IR SENSOR:** receives the IR-signal from the HF-TWIN RECEIVER during setup of the chosen channel to work on.



INSTALLATION GUIDELINES:

- Install the receiver in a 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.
- 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.
- Also check the extra notes in the chapter "SETUP and CONNECTIONS"

INSTALLING THE RECEIVER:

Put both antennas in vertical position and connect the receiver as described in the chapter "setup and connections".

SETUP AND CONNECTIONS

! Some important notes before we start !

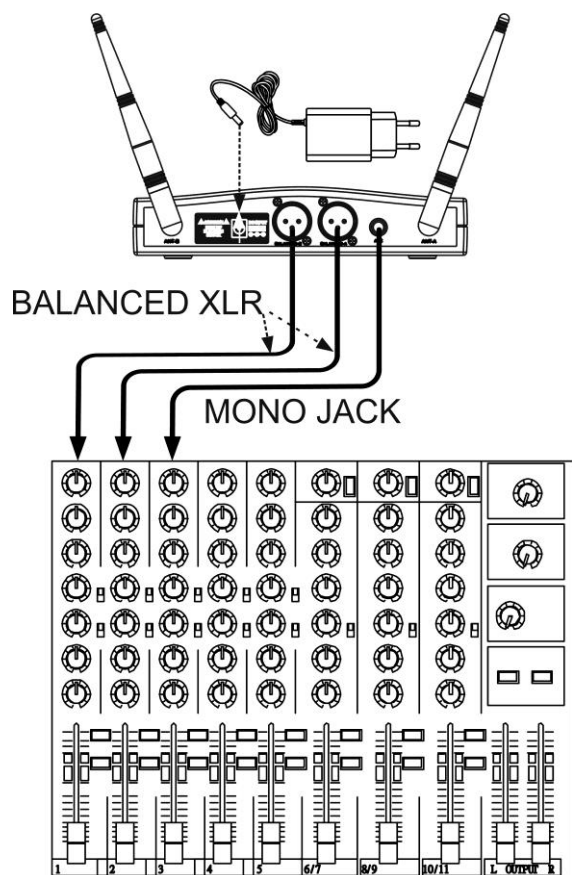
- The HF-TWIN RECEIVER can be used with two transmitters (handheld mic / belt pack) at the same time.
- Receiver and transmitter(s) should always use the same channel settings (frequency)!
- The maximum working distance between receiver and transmitter(s) is 40 meters. (depending on the ambient conditions)
- To minimize interferences install the receiver away from big metal surfaces/objects, TV and other wireless appliances as much as possible.
- Try to minimize the number of obstructions (thick concrete walls, big metal objects, ...) in the path between the transmitter and receiver.
- Depending on the chosen channels and ambient conditions, up to 4 transmitters (2 receivers) can be used simultaneously.

RECEIVER – AUDIO CONNECTIONS

First determine which audio inputs are available on your mixer, next decide how to connect the receiver:

- **To a balanced MIC-input of the audio mixer:** close the gain of the mixer input. Use an XLR/XLR cable to connect the receiver A "XLR-output (13)". Do the same for receiver B by using XLR-output (12) if you will use 2 microphones. Switch the transmitter(s) (hand mic/belt pack) on and bring the input gain(s) of the mixer slowly up.
- **To a balanced LINE-input of the audio mixer:** close the gain of the mixer input. Use an XLR/XLR cable to connect the receiver A "XLR-output (13)". Do the same for receiver B by using XLR-output (12) if you will use 2 microphones. Switch the transmitter(s) (hand mic/belt pack) on and bring the input gain(s) of the mixer slowly up.
- **To an unbalanced LINE-input of the audio mixer or hifi stereo set:** close the gain of the mixer input. Use a 6.3mm JACK/JACK cable to connect the "AUX" output (14)" to a line input of the mixer. Switch the transmitter (hand mic/belt pack) on and bring the input gain of the mixer slowly up. The signal on the "AUX" connector is a mix from the signals from receiver A and B.

NOTE: don't use the balanced and unbalanced outputs together, this will results in signal loss and increased noise.



HF-TWIN RECEIVER SETUP

Note: Even if the transmitters and receiver have 16 channels, you cannot use 16 wireless systems together: depending on the situation you will be able to use maximum 2 sets together.

While setting up more than one system, you should choose different channels for each set. It's important that you never choose consecutive channels. Instead try to divide the channels evenly over the 16 possibilities: First setup one system and leave it switched on.

Setup the second system and check if it interferes with the first one (unwanted buzz noises etc.). In case of interferences, select another channel for your 2nd set and try again until everything works well and leave the set switched on.

- Switch on the HF-TWIN RECEIVER by pressing the POWER switch (3).
- Select a channel (1-8) for receiver A or a channel (9-16) for receiver B.
 - To setup the channel for the left receiver (A), press the "SET" knob A (6) for about 2 seconds. The channel number indicator (F) will start blinking. While this indicator is blinking you can select the desired channel by pressing shortly the "SET" knob (6) until the right channel appears on the display.
 - Wait for about 3 seconds until the blinking stops.
 - The receiver (A) is on the desired channel (1-8) now.
 - Do the same for receiver B by using "SET" knob B (9) (channels 9-16) if you want to use 2 microphones simultaneously.
 - Channel Frequencies:

CH 1	825 MHz	CH 9	828,3 MHz
CH 2	825,7 MHz	CH 10	828,7 MHz
CH 3	827,3 MHz	CH 11	829,2 MHz
CH 4	831,2 MHz	CH 12	829,6 MHz
CH 5	824,5 MHz	CH 13	830 MHz
CH 6	826,1 MHz	CH 14	830,4 MHz
CH 7	826,6 MHz	CH 15	830,8 MHz
CH 8	827,7 MHz	CH 16	831,7 MHz

- Now send the channel information to the microphone (HF-MIC or HF-BPACK) you want to use on each receiver (A or B) by using the corresponding IR-knob. IR-knob A (5) for the left receiver (channels 1-8) or IR-knob B (8) for the right receiver (channels 9-16).
- Hold the microphone you want to synchronize with its IR-sensor in front of the IR-indicator (2) of the HF-TWIN RECEIVER and press the IR-knob for about 2 seconds. The IR-indicator symbol (H) will start blinking. When the blinking stops, the channel information has been send to the microphone or belt pack.
- The HF-TWIN RECEIVER is now ready to be used.
- Adjust the AF output from the left receiver (A) by turning it's volume knob (4) clockwise. Do the same for the right receiver (B) by using the volume knob (10).
- Switch off the HF-TWIN RECEIVER by pressing the POWER switch (3).

HF-MIC – SETUP

- First switch on the HF-TWIN RECEIVER and select a channel (1-8) for receiver A or a channel (9-16) for receiver B.
- Open the battery compartment (5) of the HF-MIC and insert two AA batteries (alkaline or rechargeable battery).
- Switch on the HF-MIC by pressing the ON/OFF switch (4) for a second. The display (2) will light up.
- Hold the IR-sensor (3) of the HF-MIC in front of the IR-indicator (2) of the HF-TWIN RECEIVER.
- Press the IR-KNOB A (6) or the IR-KNOB B (8) on the HF-TWIN RECEIVER for about 2 seconds. The IR-indicator symbol (H) will start blinking 3 times. When the blinking stops, the HF-MIC has received the channel information from the HF-TWIN RECEIVER and will now work with this part (A or B) from the receiver.
- Do the same for a second HF-MIC if you want to use 2 microphones.
- Speak through the mic: the AF indicator (A) will move to the rhythm of your voice.

- While checking the system, walk around to check if you encounter any dead spots (no reception): in these cases, try to change the position of the receiver.
- Switch off the HF-MIC by pressing the ON/OFF switch (4) for a second. The display (2) will shortly show "OFF" before shutting down the microphone.
- The power of the RF-signal can be changed with the LO-HI selector (6) from LO (5dBm -3,16mW) to HI (10dBm-10mW) to get a better reception of bigger distance range.

HF-BPACK – SETUP

- First switch on the HF-TWIN RECEIVER and select a channel (1-8) for receiver A or a channel (9-16) for receiver B.
- Open the battery compartment (4) of the HF-BPACK by pressing gently at the sides of the cover and pulling it backwards and insert two AA batteries (1.5V alkaline or rechargeable).
- Switch on the HF-BPACK by pressing the POWER switch (3) for a second. The display (2) will light up.
- Hold the IR-sensor (7) of the HF-BPACK in front of the IR-indicator (2) of the HF-TWIN RECEIVER.
- Press the IR-KNOB A (6) or the IR-KNOB B (8) on the HF-TWIN RECEIVER for about 2 seconds. The IR-indicator symbol (H) will start blinking 3 times. When the blinking stops, the HF-MIC has received the channel information from the HF-TWIN RECEIVER and will now work with this part (A or B) from the receiver.
- Do the same for a second HF-BPACK if you want to use 2 belt pack microphones.
- Connect the lavalier microphone or optional headset on the mini-jack connector (5) of the HF-BPACK.
- Speak through the mic: the AF indicator (A) will flash to the rhythm of your voice.
- While checking the system, walk around to check if you encounter any dead spots (no reception): in these cases, try to change the position of the receiver.
- Switch off the HF-BPACK by pressing the POWER switch (3) for a second. The display (2) will shortly show "OFF" before shutting down the belt pack.

TROUBLESHOOTING

<u>Problem</u>	<u>Solution</u>
No sound	<ul style="list-style-type: none"> • Check the power supply of the microphone and receiver. • Check if the transmitter and receiver are tuned to the same channel (frequency). • Check if the hi-fi appliance or audio mixer is switched on and the receiver output is connected to the desired audio input. Mixer: is the gain open? • Check if the transmitter is too far away from the receiver. • Check if the receiver is located near a large metal object or if there are large obstructions (ex. large metal object or thick wall) between transmitter and receiver.
Sound interference	<ul style="list-style-type: none"> • Check the antenna location. • When using 2 HF-TWIN RECEIVERS simultaneously, make sure that the selected channels don't interfere: select another channel pair on one of the receivers. • Check whether the interference comes from other wireless microphones, TV, radio, PC, etc.
Distortion	<ul style="list-style-type: none"> • Check if the receiver volume level is set too high or too low. • Check if the interference comes from other wireless microphones, TV, radio, PC, etc.

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.

SPECIFICATIONS

This unit is radio-interference suppressed. This appliance meets the requirements of the current European and national guidelines. Conformity has been established and the relevant statements and documents have been deposited by the manufacturer.

HF-TWIN RECEIVER

Carrier Frequency Range:	823-832MHz
Modulation Mode:	FM
Receiver type:	PLL synthesized, 16 channels selectable
S/N ratio:	90dB
AF Response:	40Hz to 17kHz
T.H.D.:	<1,0%
Power Supply:	DC 12V
Audio Output:	Balanced outputs A and B, mixed output (6.3mm jack)
Output impedance:	600 Ohm
Current consumption:	<300mA

HF-MIC

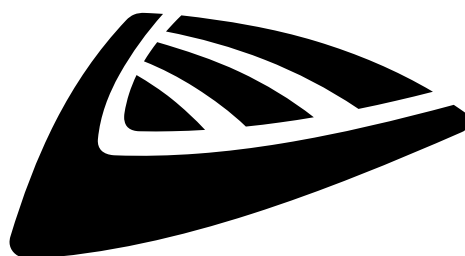
Carrier Frequency Range:	823-832MHz
RF Power Output:	LO (5dBm -3,16mW) - HI (10dBm-10mW)
Oscillation Mode:	PLL synthesized, 16 channels selectable
Frequency Stability:	±0,002%
Frequency Response:	40Hz – 17kHz
Microphone Capsule:	Dynamic
Battery:	DC 3V (2 x 1,5V AA size batteries)

HF-BPACK

Carrier Frequency Range:	823-832MHz
RF Power Output	10mW (10dBm)
Oscillation Mode:	PLL synthesized, 16 channels selectable
Frequency Stability:	±0,002%
Frequency Response :	40Hz – 16kHz
Microphone Capsule (Lavalier):	Condenser
Battery:	DC 3V (2 x 1,5V AA size batteries)

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



JB SYSTEMS

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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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