REDBACK C8860B UHF Band Auto Scan Wireless Microphone System Instruction Manual

REDBACK® C 8860B UHF Band Auto Scan Wireless Mic System

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UHF BAND AUTO SCAN WIRELESS MICROPHONE SYSTEM

Operating Instructions

Overview

The C 8860B features an Auto-Scan system allowing quick and easy selection of an interference-free operating frequency. This is particularly useful when there are many existing systems in use nearby. It incorporates diversity reception technology, thereby ensuring a consistent and clear microphone signal with minimal dropout and noise interference. The noise reduction system automatically compensates for high level sound inputs thus avoiding distortion. The flexibility and the professional performance of this UHF band radio microphone makes it specifically suited for stages, places of worship, and professional sound installations. The device boasts super high sensitivity and extremely low noise transmission and reception. The wireless microphone system with 16 selectable frequencies via Phase Locked Loop (PLL) circuitry makes it easy to find interference-free channels. The SMT assembled PCB module ensures quality and signal stability.

Features:

- Switching-Diversity technology and adjustable squelch ensures the reception quality.
- Auto-Scan function can locate the interference-free channel easily.
- Low noise mixer circuitry helps to reduce the noise from interference to a minimum.
- Clear status display including RF, AF and channel presence LED.
- Durable plastic chassis with 1/2 rack design.
- Balanced 3-pin XLR connector and unbalanced 1/4” jack audio outputs.
- Channel and volume settings are adjusted via the front panel.

Inside the Box:

- Wireless receiver unit with two antennas
- 12Vdc power pack
- Manual

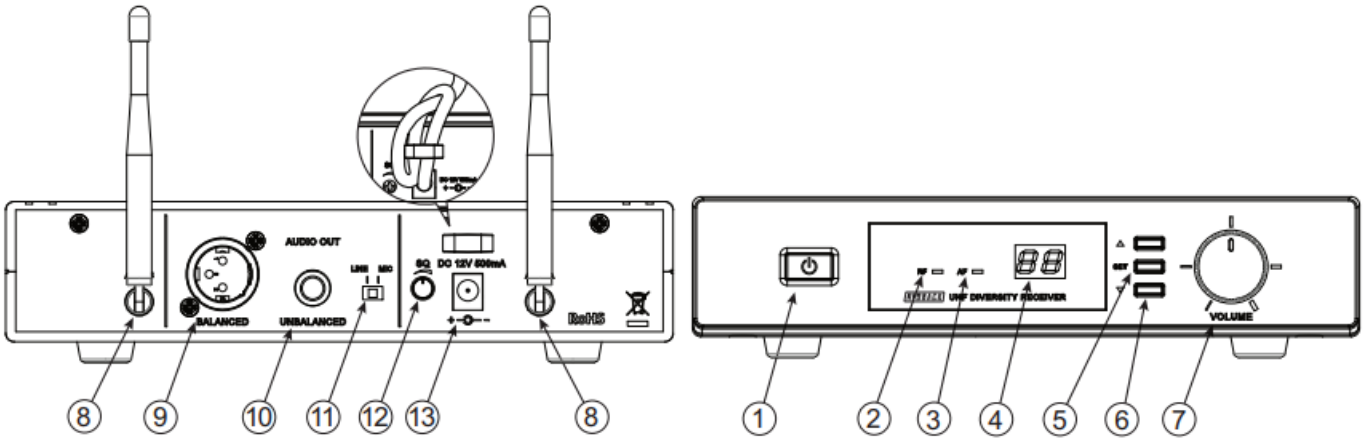
Receiver Specifications:

Carrier Frequency Range	UHF 520 – 550MHz
Oscillator	PLL Synthesized
Modulation	FM
Frequency Stability	±0.005%
S/N ratio	94dB, at 20kHz deviation and 60dBV antenna input
Image and Spurious Rejection	80 dB minimum
Receiving Sensitivity	At 10 uV over 80dB S/N ratio
Selectivity	50dB
AF Response	80Hz to 16kHz
T.H.D.	1% (at 1kHz)
IF Frequency	1st: 243.95MHz 2nd:10.7MHz
Dynamic Range	96dB
Tone Signal	32.768kHz
Audio Output	Balanced and unbalanced audio outputs
Power Supply	12V dc
Current Consumption	About 200mA

Note: Two or more wireless microphones (handheld and/or lavalier) which transmit at the same frequency cannot be used in the same location.

PLEASE NOTE: All transmitters are sold separately

Figure 1: Front and Rear panels of C 8860B



1. POWER SWITCH
2. RF INDICATOR
3. AF INDICATOR

4. LED CHANNEL DISPLAY
5. SET/SCAN BUTTON
6. CHANNEL SELECTOR BUTTONS UP/DOWN
7. LEVEL CONTROL KNOB
8. ANTENNAS
9. BALANCED OUTPUT 3-PIN XLR
10. UNBALANCED OUTPUT 6.35MM JACK
11. MIC/LINE SWITCH
12. SQUELCH ADJUSTMENT.
13. DC SOCKET

OPERATION (See Fig 1.)

Note: Do not operate transmitters nearby when setting frequency on the receiver. Ensure all transmitters are at least two metres away.

1. To turn power on, press and hold the power button for about three seconds until display illuminates.
2. Connect the cable, one end to the balanced or unbalanced output jack of the receiver, the other end to the mic mixing input of amplifier, audio mixer etc. See Figures 4 and 5 for connection information.
   Note: Never use the balanced and unbalanced audio outputs at the same time. This may cause signal loss or increased noise.
3. For best results set the output volume control at three quarter level (three o'clock position) and adjust mixer / amplifier level to suit.
4. The squelch level is adjustable by the squelch adjustment at the back of the unit. Adjust the squelch level to prevent external noise.
   Note: Setting the squelch high (towards max) will reduce the range of the system.
5. When the receiver is not in use disconnect from mains power.
6. A maximum number of six systems can be used in the one location at the same time.

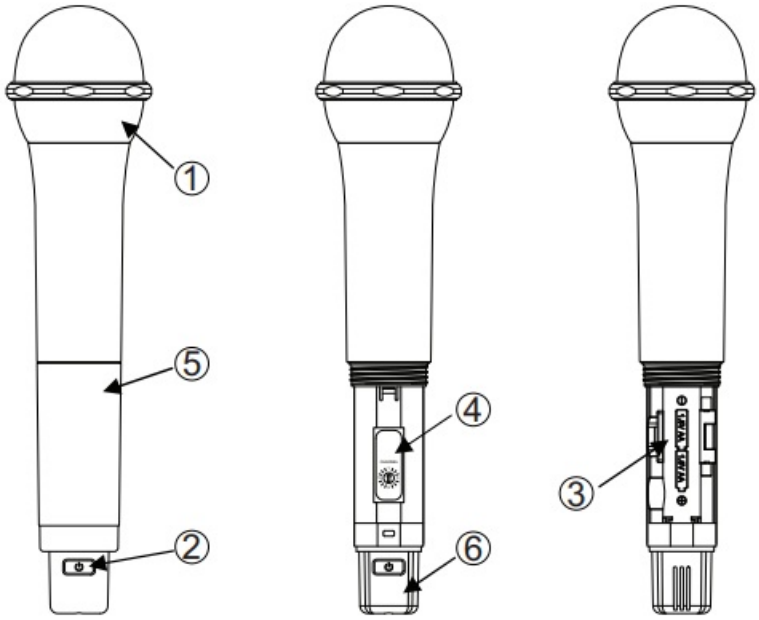
Manual Mode:

1. Press SET button for one second. Display will flash the current channel number set.
2. Press the channel selection up/down arrow buttons to change the channel as desired.
3. After channel is selected the display will flash five times before locking in your selection.

Auto Scan Mode:

1. Press "set/scan" button for three seconds to initiate auto scan mode. The system will lock in the next interference free channel it locates.
2. After receiver selects a channel it will flash the display five times before locking in the selection. If using multiple systems in the same area, ensure all systems (receivers and transmitters) are switched on so that the auto-scan function will ignore occupied channels.

Figure 2: C 8862B Handheld Microphone Transmitter



1. SCREEN HEAD
2. POWER: PRESS FOR TWO SECONDS
3. BATTERY COMPARTMENT
4. ROTARY CHANNEL SELECTOR
5. BATTERY COVER – UNSCREWS
6. ANTENNA

C 8862B Handheld Transmitter Features:

- High sensitivity cardioid capsule reduces unwanted handling noise to a minimum
- Special noise absorption parts, which eliminate switch shock and handling noise.
- PLL synthesized control circuitry.
- Easy-opening battery compartment for quick replacement. Requires 2 x AA batteries (not supplied).
- Low battery LED indicator.

Handheld / Bodypack Transmitter Specifications:

Carrier Frequency Range	UHF 520 – 550MHz
RF Power Output	10mW (max.)
Oscillation Mode	PLL synthesized
Frequency Stability	±0.005%
Maximum Deviation	20kHz with limiting compressor
Spurious Emission	50dB below carrier frequency
T.H.D.	<1% (at 1kHz)
Handheld Microphone capsule	Uni-directional electret condenser unit
Beltpack Microphone cartridge	Sold separately
Tone Signal	32.768kHz
Battery	DC3V (2 x 1.5V AA alkaline or rechargeables)
Current consumption	120mA +/- 10mA

C 8862B Handheld Microphone Transmitter
Operation: (See Fig 2.)

1. Unscrew the bottom half of the microphone, to access the battery compartment and channel selector.
2. Insert 2 x AA Size 1.5V batteries into the battery holder according to polarity (+) and (-) indicator marked on the battery housing.
3. Set the rotary channel selection switch to the same channel as your receiver.
4. Screw the battery cover back onto the microphone.
5. Press the power button to turn on. The LED indicator will illuminate and stay lit to indicate the unit is operational and battery power is good.
6. Press the power button again to turn off when mic is not in use. Remove the batteries from the unit if not to be used for a long time. This will prevent damage to the unit that a defective “leaking” battery may cause.
7. If the LED indicator is flashing continually, the battery needs to be replaced.

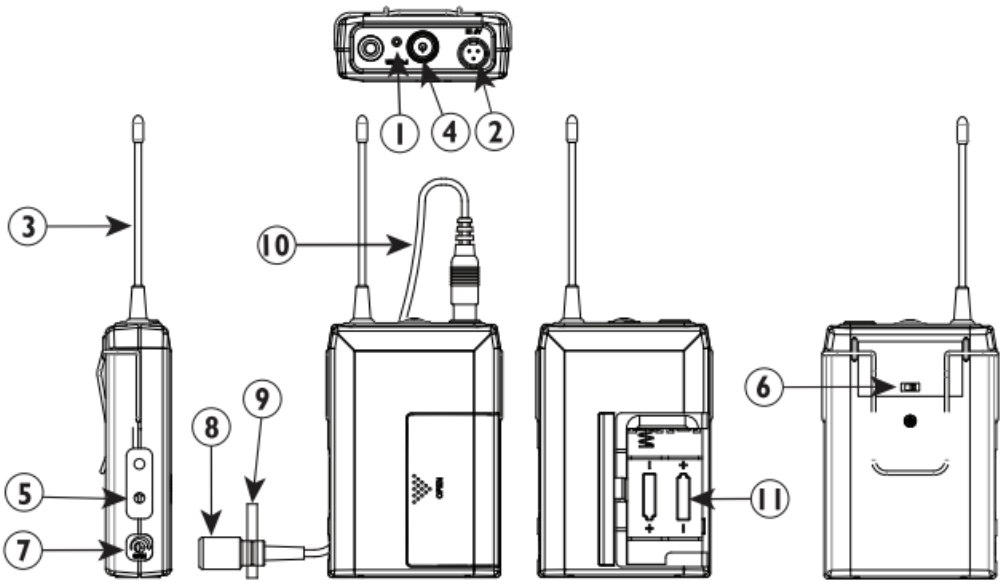


Figure 3: C 8864B Beltpack Microphone Transmitter

1. LOW BATTERY LED
2. MINI XLR CONNECTOR
3. ANTENNA
4. POWER
5. CHANNEL SELECTOR
6. MIC/LINE SELECTOR
7. GAIN 10dB RANGE
8. MIC UNIT
9. TIE CLIP
10. CABLE
11. BATTERY COMPARTMENT

Beltpack Microphone:
A range of microphones and pickups are available for the belt pack transmitter including tie clip mic, lecture type headset, aerobics type headset, and guitar pickup. The belt pack microphone is equipped with a line/mic switch.

C 8864B Beltpack Transmitter
Operation: (See Fig 3.)

1. Push to open the battery cover.
2. Insert 2 x AA Size 1.5V batteries into the battery holder according to polarity (+) and (-) indicator marked on the battery housing.
3. Set the rotary channel selection switch to the same channel as your receiver.
4. Replace Battery Cover.
5. Connect the microphone or guitar pickup to the unit.
6. Set the line / mic switch to match the sound source (line / mic). Line is for guitar input.
7. Press the power button to turn on. The LED indicator will illuminate and stay lit to indicate the unit is operational and battery power is good.
8. Press the power button again to turn off when mic is not in use. Remove the batteries from the unit if not to be used for a long time. This will prevent damage to the unit that a defective “leaking” battery may cause.
9. If the LED indicator is flashing continually, the battery needs to be replaced.
10. If the LED indicator does not light up at all when first switched on then check that the batteries are inserted correctly or not completely flat.

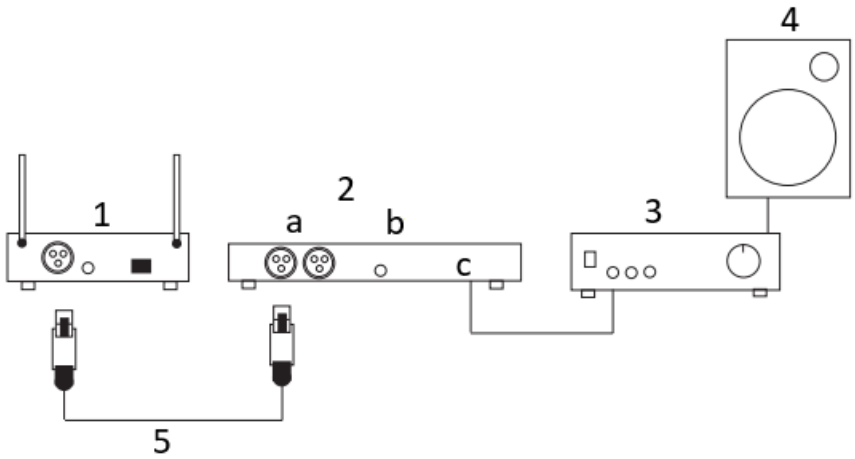
PRECAUTIONS:

- AVOID EXTREMELY DIRTY OR DUSTY ENVIRONMENTS.
- AVOID AREAS WHERE THERE IS EXTREMELY HIGH HUMIDITY.
- TWO OR MORE WIRELESS MICROPHONES (HANDHELD AND/OR LAVALIER) WHICH TRANSMIT AT THE SAME .. FREQUENCY CAN NOT BE USED IN THE SAME LOCATION AS THIS WILL CAUSE INTERFERENCE.

TROUBLESHOOTING

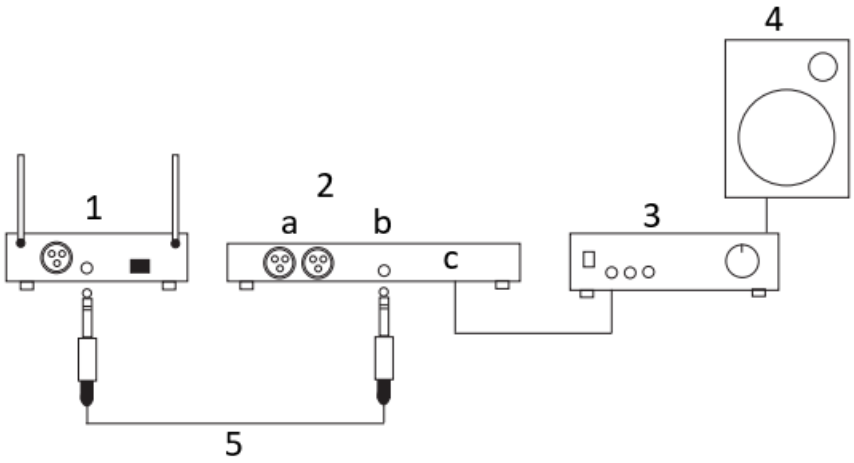
Problem	Solution
No Sound	• Check the power supply of the microphones and receiver. • Check the transmitter and receiver are tuned to the same frequency. • Check whether the audio amplifier is switched on and the receiver output is connected to it. • Check whether the transmitter is too far away from the receiver or if the Squelch control is set t oo high. • Check whether the receiver is located to close to a metal object or there are obstructions betw een the transmitter and receiver.
Sound Interfe rence	• Check the antenna location. • When using two or more microphone transmitters simultaneously, make sure that they are set to different frequencies. • Check whether interference is coming from other mics or TVs or radios nearby.
Distortion	• Check whether the receiver volume is set too high or too low. • Check whether interference is coming from other mics or TVs or radios nearby.

Fig 4. Wireless Receiver Connection Via Mic In



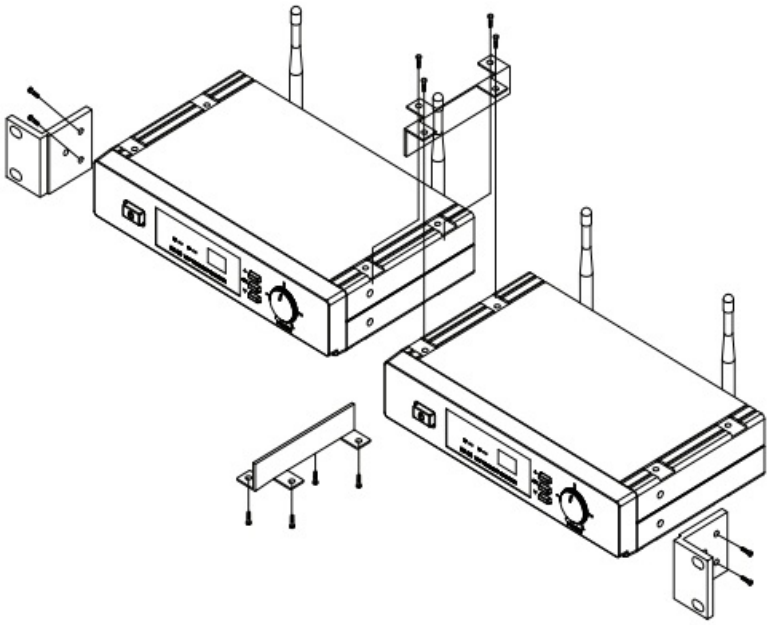
1. WIRELESS RECEIVER
2. AUDIO MIXER
3. AMPLIFIER
4. SPEAKER
5. 3 Pin XLR Lead
   a: Mic IN
   b: Line IN
   c: Line OUT

Fig 5. Wireless Receiver Connection Via Line In

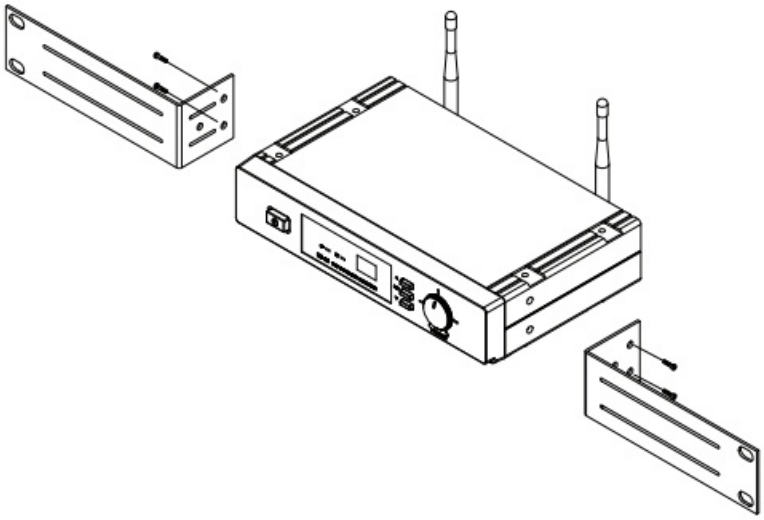


1. WIRELESS RECEIVER
2. AUDIO MIXER
3. AMPLIFIER
4. SPEAKER
5. 6.35mm Stereo jack Lead
   a: Mic IN
   b: Line IN
   c: Line OUT

Fig 6: Fitting the rack mounting brackets to the unit.



DUAL UNITS



SINGLE UNIT

NOT FIELD SERVICEABLE.
For repair or service please contact your place of purchase.

Documents / Resources

	**REDBACK C8860B UHF Band Auto Scan Wireless Microphone System** [pdf] Instruction Manual C8860B UHF Band Auto Scan Wireless Microphone System, C8860B, UHF Band Auto Scan Wireless Microphone System, Scan Wireless Microphone System, Wireless Microphone System, Microphone System

References

- **User Manual**