



***UHF BAND TRUE
DIVERSITY WIRELESS
MICROPHONE SYSTEM***

**OPERATING
INSTRUCTIONS**

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Congratulations on purchasing a REDBACK PLL Synthesized True Diversity Wireless Microphone System. The PLL synthesized true diversity wireless microphone system operates on UHF frequency band. 790~806MHz with 16 selectable channels. Please read this instruction manual completely before operating the system. These instructions cover the transmitters, plus receiver model C 8870C

System Features:

- Operates on UHF frequency band range 790-806MHz.
- PLL (Phase Locked Loop) synthesized wireless microphone system with 16 selectable frequencies making it easy to choose interference free channels.
- Excellent reception system ensures super high sensitivity.
- Units are supplied with SMT assembled PCB modules ensuring high reliability, and easy serviceability.
- High signal-noise ratio, high sensitivity & wide dynamic range.

Receiver Features:

- 12V-18V DC Power Supply (supplied)
- Easy rotary switch selection of frequencies all hidden from users view.
- 1/2 19" size case with power & RF indicators. Rack Ears available for mounting one or two systems into 19" rack equipment.
- Removable aerials making the unit suitable for portable or fixed installations. Aerials are fitted with TNC connectors.
- Includes in-built power supply for C 8842 antenna booster.

Receiver Specifications:

Carrier Frequency Range:	UHF band 790~806MHz
Frequency Stability:	±0.005% with PLL synthesized controlled
S/N Ratio:	at 8dB/μV over 80dB
Image and Spurious Rejection:	80 dB minimum.
Receiving Sensitivity:	8 dB/μV, at 80 dB S/N ratio.
Selectivity:	More than 50dB
Dynamic Range:	More than 96dB
Modulation Mode:	FM.
IF Frequency:	1ST : 56MHz 2ND: 10.7MHz
Service Area:	Over 50 metres
AF Response:	50Hz to 15KHz(±3dB)
T.H.D.:	Less than 1% (at 1KHz)
Receiver Audio Output:	Unbalanced: max. 100mV (0dB=1V) at 5KΩ Load. Balanced: max. 100mV at 660Ω Load.
Receiver Power Supply:	DC 12-18V Adapter

Note: TWO OR MORE WIRELESS MICROPHONES (HANDHELD AND/OR LAVALIER) WHICH TRANSMIT AT THE SAME FREQUENCY CAN NOT BE USED IN THE SAME LOCATION.

DESIGN AND SPECIFICATIONS SUBJECT TO BE CHANGED WITHOUT NOTICE.

PRECAUTIONS:

- * AVOID EXTREMELY DIRTY OR DUSTY ENVIRONMENTS.
- * AVOID AREAS WHERE THERE IS EXTREMELY HIGH HUMIDITY.

Fig 6. Wireless Receiver Connection Via Mic In

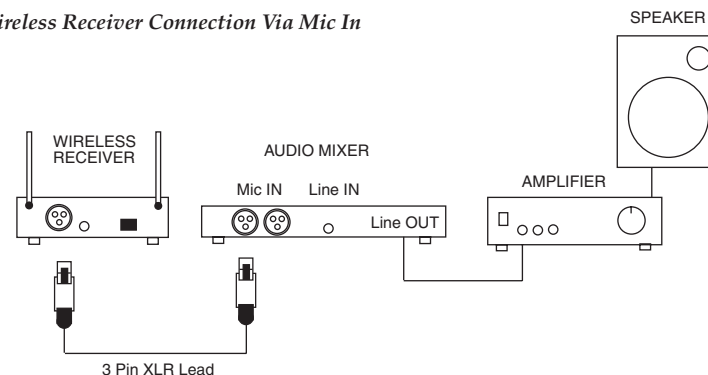


Fig 7. Wireless Receiver Connection Via Line In

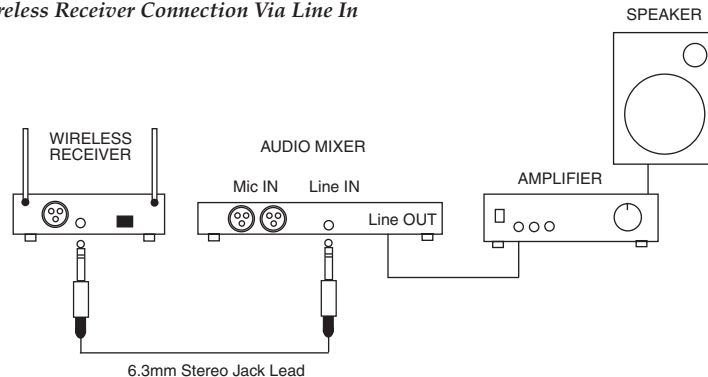


Fig 8: Connecting the transmitters to the charging circuit

IMPORTANT NOTE:
DO NOT CONNECT THE CHARGER CABLE WHEN USING NON-RECHARGEABLE (DRY CELL / ALKALINE) BATTERIES IN THE TRANSMITTER.

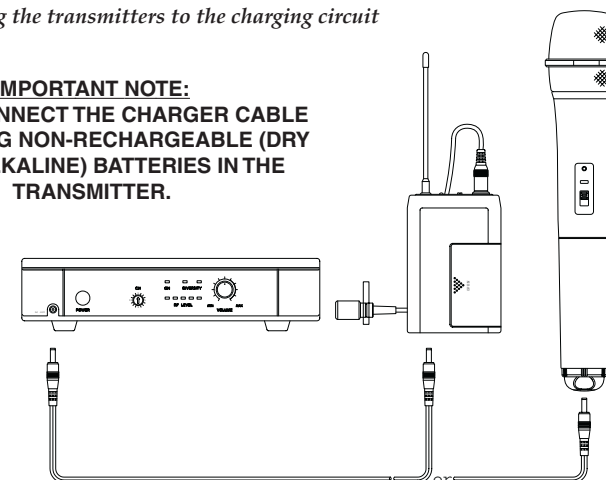


Fig 4: An antenna booster is highly recommended for long distance requirements such as in stadiums and auditoriums. The antenna booster (C 8842) can be wall or mic stand mounted to with an optional bracket (C 8843).

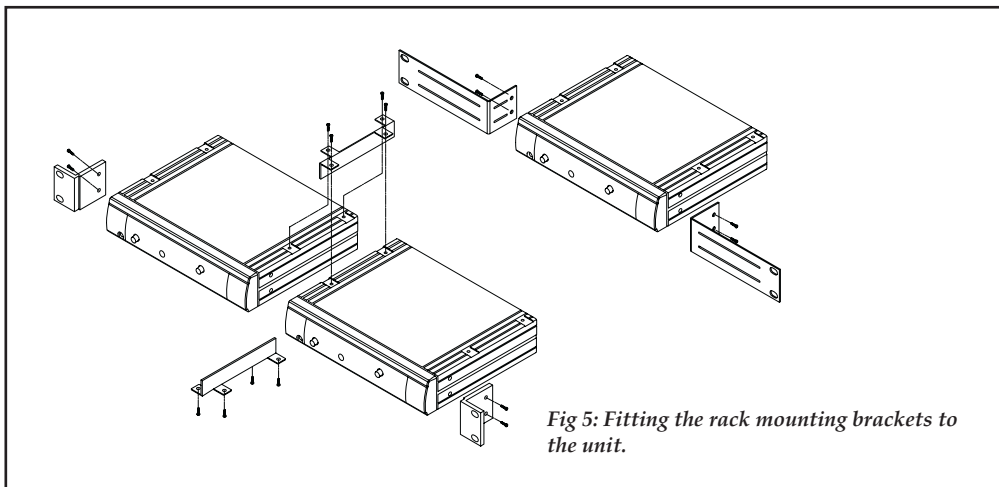
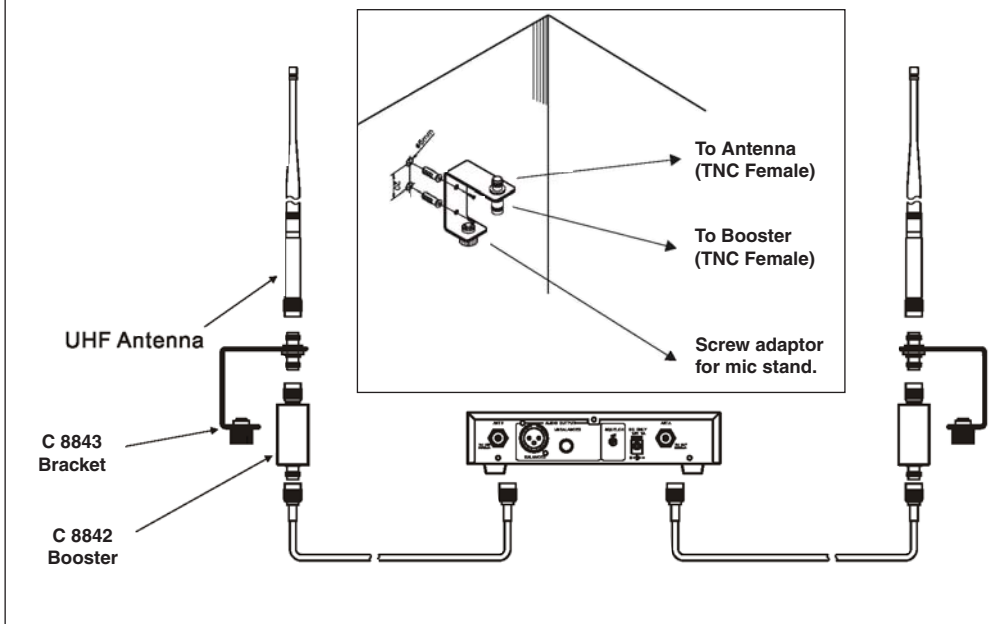
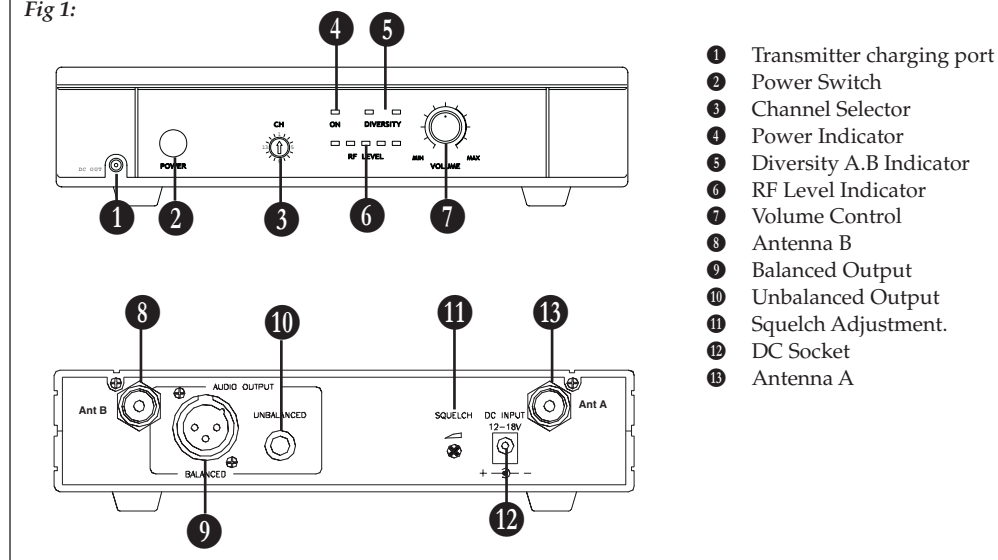


Fig 1:



Operation: (See Fig 1.)

1. 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.
2. Please set the same frequency (see Table 1 & 2) on the transmitter and receiver. If interference occurs from an outside source, change the frequency.
3. For best results set the output volume control at three quarter level (3 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.



PLEASE NOTE: There are 2 types of transmitters available, both are compatible with this unit. Series 1 transmitters have a DIP switch for frequency selection. Series 2 transmitters have a rotary switch for frequency selection. Please refer to table 1 "Frequency cross reference chart" for details.

A maximum number of 6 Redback systems can be used in the one location at the same time. To use the maximum number of frequencies in the one location at the same time the consult channel guide below.

Table 1 : Frequency Cross Reference Chart.

CH 1	CH 2	CH 3	CH 4
CH 5	CH 6	CH 7	CH 8
CH 9	CH 10	CH 11	CH 12
CH 13	CH 14	CH 15	CH 16

Series 1 Transmitters, DIP Switch

Ch1: 790.375	Ch9: 798.375
Ch2: 791.125	Ch10: 799.875
Ch3: 792.125	Ch11: 800.875
Ch4: 793.250	Ch12: 801.625
Ch5: 794.250	Ch13: 802.750
Ch6: 795.125	Ch14: 803.875
Ch7: 796.250	Ch15: 804.750
Ch8: 797.375	Ch16: 805.375

Series 2 Transmitters, Rotary Switch (MHz)

Use only these channels in the same location at the same time. Other channels used together will not provide interference free transmission.

- Channel 1
- Channel 5
- Channel 9
- Channel 10
- Channel 14
- Channel 15

PLEASE NOTE: ALL TRANSMITTERS ARE SOLD SEPARATELY

Handheld Transmitter Features:

- High sensitivity cardioid capsule reduces unwanted handling noise to a minimum
- Special noise absorption parts inside the barrel, which eliminate switch shock noise 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.

Specifications:

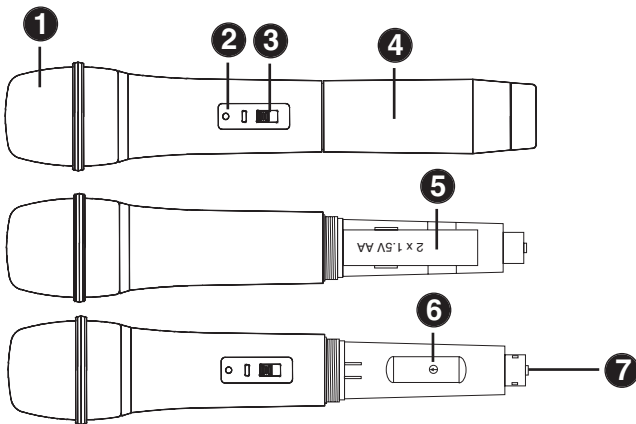
- Carrier Frequency Range:.....UHF band 790~806MHz
- RF Power Output: 2mW (max.)
- Spurious Emission: More than 45dB below carrier frequency.
- Frequency Stability:..... Within $\pm 0.005\%$ with PLL synthesized controlled
- AF Response: 40Hz to 15KHz (+/-3dB)
- Maximum Deviation: ± 15 KHz within limiting compressor.
- Signal to Noise Ratio: 60dB(A-Weighted).
- Microphone Capsule: Uni-directional condenser microphone
- Operating voltage:..... DC1.5Vx2 (UM-3 type)
- Current consumption:..... About 65mA (max.)
- LED Indicator: Power On-Off and low battery

Operation: (See Fig 3.)

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. Screw the battery cover back onto the microphone..
4. After setting the chosen frequency to the same frequency as the receiver, push the power switch to "ON". The LED indicator will flash once to indicate the unit is operational.
5. Push the power button to "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.
6. If the LED indicator is permanently illuminated, the battery needs to be replaced.

Fig 2:

1. Screen head
2. Low battery LED Indicator
3. ON/OFF switch
4. Battery cover
5. Battery housing
6. Frequency selector
7. 12V DC charging input



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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.

Operation: (See Fig 4.)

1. Push to open the battery cover.
2. Insert 2 x 1.5V batteries into the battery holder according to polarity (+) and (-) indication marked on the battery housing.
3. Replace Battery Cover.
4. Connect the microphone or guitar pickup to the unit.
5. Set the line / mic switch to match the sound source (line / mic). Line is for guitar input.
6. After setting the chosen frequency to the same frequency as the receiver, push the power switch to "ON". The LED indicator will flash to indicate the unit is operational.
7. Push the power button to "OFF" when mic is not used, and remove the battery in microphone if not used for a long time. This will prevent damage to the unit that a defective "leaking" battery may cause.
8. If the LED indicator is permanently illuminated, the battery needs to be replaced.
9. If the LED indicator does not flash at all when first switched on then check battery is inserted correctly and batteries are 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.

Fig 3:

1. On/Off switch
2. Low batt. LED
3. Line/mic switch
4. Cable
5. Antenna
6. Frequency select.
7. Gain control
8. Lavalier microphone
9. Tie clip
10. Battery compartment

