

CW200 INSTRUCTION MANUAL

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Product Guarantee

Thank you for purchasing a Clockaudio product. We are confident that this product will give you many years of trouble free operation and is backed up with a 2 year guarantee.

Important: Guided Tour systems, Mixers and RF products must have the guarantee activated by completing the registration details on Clockaudio web site. Look for the warranty tab under the Technical Library. Clockaudio will retain the details on their database for future reference.

This product is guaranteed for 24 months from the date of purchase. Any defect that arises due to faulty materials or workmanship will either be replaced, or repaired free of charge by the agent from whom you purchased the unit. Please note charges will be incurred on any products returned for service / repair not in warranty or has been subject to customer abuse or incorrect wiring.

The guarantee is subject to the following provisions:

- The guarantee does not cover accidental damage, misuse, cabinet parts, knobs, batteries or consumable items. Any product returned to Clockaudio failing to meet the terms listed will incur a repair and postage charge.
- The product must be correctly installed and operated in accordance with the instructions supplied with the product.
- Unauthorised modifications and alterations to the original specifications will render the guarantee void
- The product must be used for the sole purpose that it was designed for.
- The guarantee given is strictly with the original owner and becomes invalid if the product is resold or becomes damaged by inexperienced repair.
- Product purchased outside of the countries served by Clockaudio designated / approved Agents are not covered by the warranty.
- Specifications / improvements are subject to change without notice.
- Clockaudio disclaims any liability for incidental or consequential damages.
- The guarantee is in addition to and does not diminish your statutory legal rights.

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CW200 Introduction

The CW200 radio microphone system has the following features:

- Dual receiver covering UHF frequencies 602 – 634 MHz subject to local enforcement laws for licence free transmission.
- EIA-standard metal 1U - rack mount receiver.
- Bright and easy-to-read multi function LCD display shows RF/AF, diversity strengths; transmitter battery level. The display will also show setup of selected channel, frequency, mute and other working status.
- Auto-scan and lock on to an open interference free frequency.
- Infrared upload of function changes from the receiver frequency to the transmitter.
- PLL (Phase Lock Loop frequency control) design ensures transmission reliability, "Noise Lock" squelch effectively blocks stray RF noises
- Each receiver has 32 selectable channels. Total 64 channels,
- The table top boundary layer transmitter microphone has a cardioid polar pattern ensuring good sound reproduction between 120 Degrees angle of acceptance. Superior offset noise rejection outside of the angle of acceptance.
- Transmitter continuous battery life using good quality alkaline batteries approx 10 hours.
- Heavy die-cast case and non-slip silicon foam bottom pads minimize coupling of surface and vibration pickup.

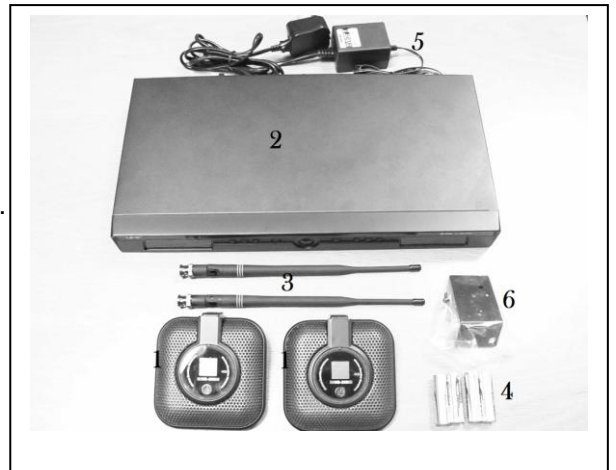
Notes on Installation:

- For better operation the receiver should be at least 3ft. (1m) above the ground and at least 3ft. away from a wall or metal surface to minimize reflections.
- UHF antennas connected to the receiver should be positioned in the shape of a "V" (both 45° from vertical) for best reception.
- Keep antennas away from electrical noise sources such as computer, digital equipment, motors, automobiles and neon lights, as well as away from large metal objects.
- Keep open space between the receiver and transmitter for better reception. Any large metal objects will cause a reduction or loss of signal.

Packed contents

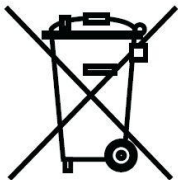
In the box you will find:

1. 2 x CW200T transmitters.
2. 1 x CW200R receiver.
3. 2 x RF antenna's 4 x AA batteries for transmitters.
4. 1 x AC adaptor.
5. Rack mount fixing kit.



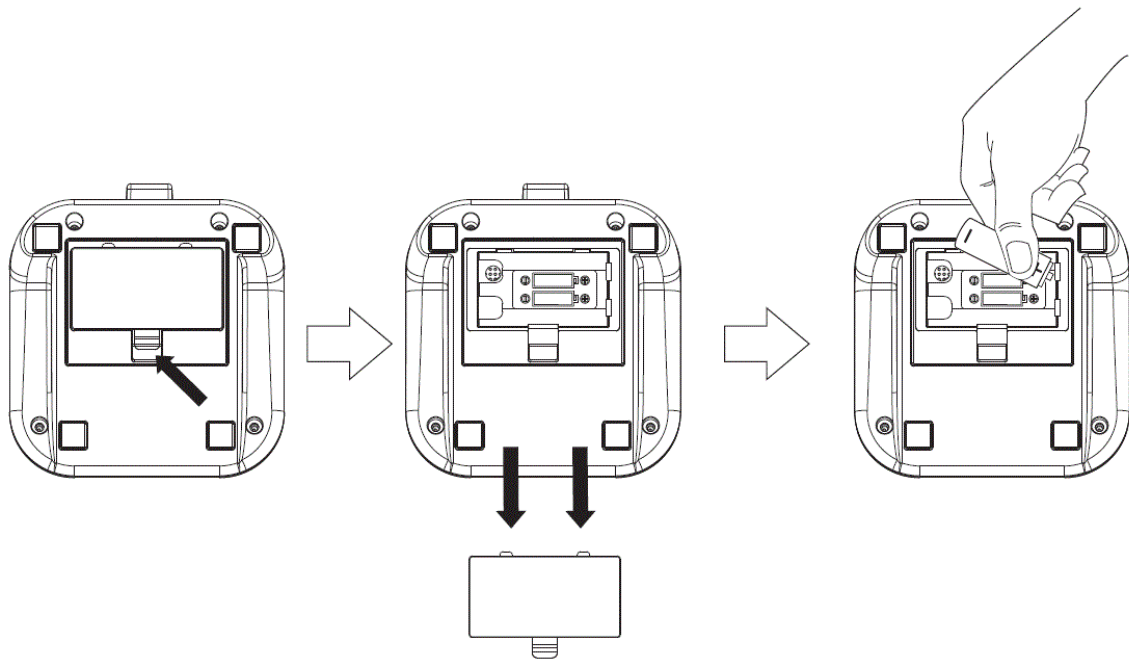
Important Information: Whilst the CW200 system covers UHF frequencies from 602 – 634 MHz. The systems operating frequency will be tailored / reduced to coincide with your local / countries enforcement laws for licensed free transmitters. It is both dangerous and illegal to operate licensed free radio transmitters outside of the specified frequency allocation quoted for each country.

At the end of the product life please dispose of carefully according to your local authority's regulations



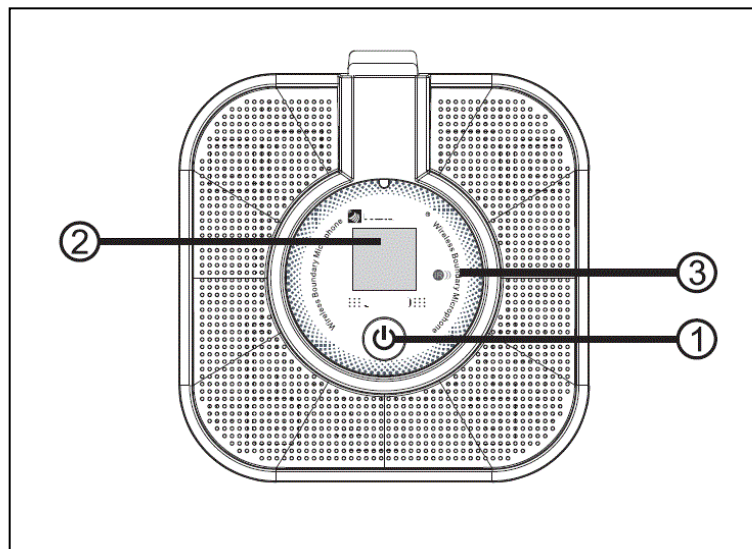
Cleaning the unit: Disconnect the unit from its power supply. Cleaning using a soft cloth moistened with plain soapy water.

Transmitter Battery Installation :



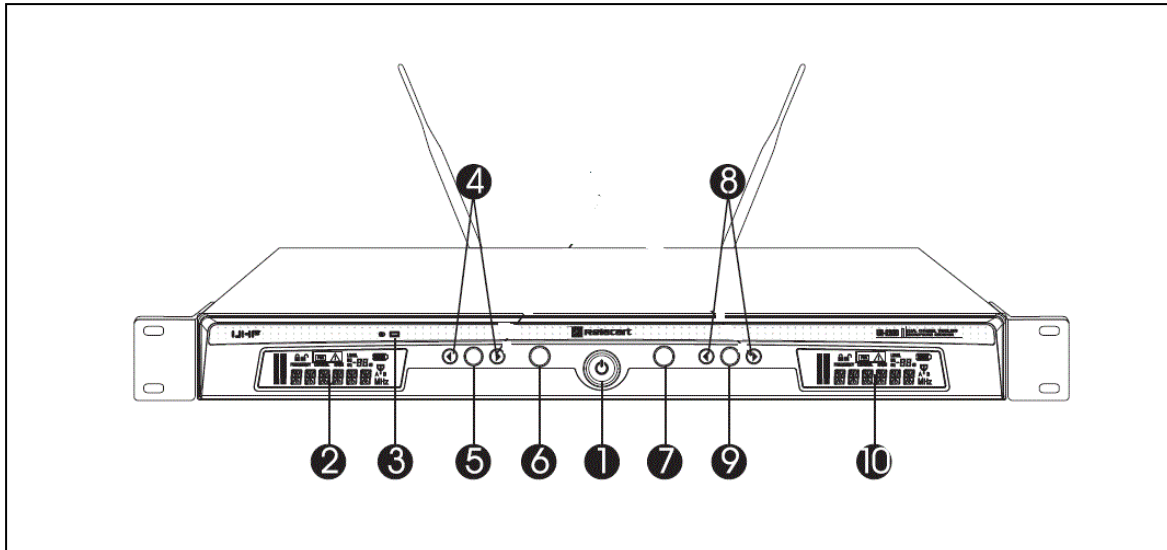
Remove battery cover and insert 2 x AA batteries ensuring correct polarity (both batteries face the same way).

Controls



1. Power button. Press to power up the transmitter. Press and hold for 3 seconds to power down the transmitter. This button is also used to mute / unmute the microphone audio.
2. Illuminated LCD display shows frequency / channel / mute and battery 4 segment level indicator. When only one bar shows it's time to change the battery.
3. IR sensor window. Make sure this is facing the receiver IR sensor window when transferring data changes from the receiver

Controls and functions

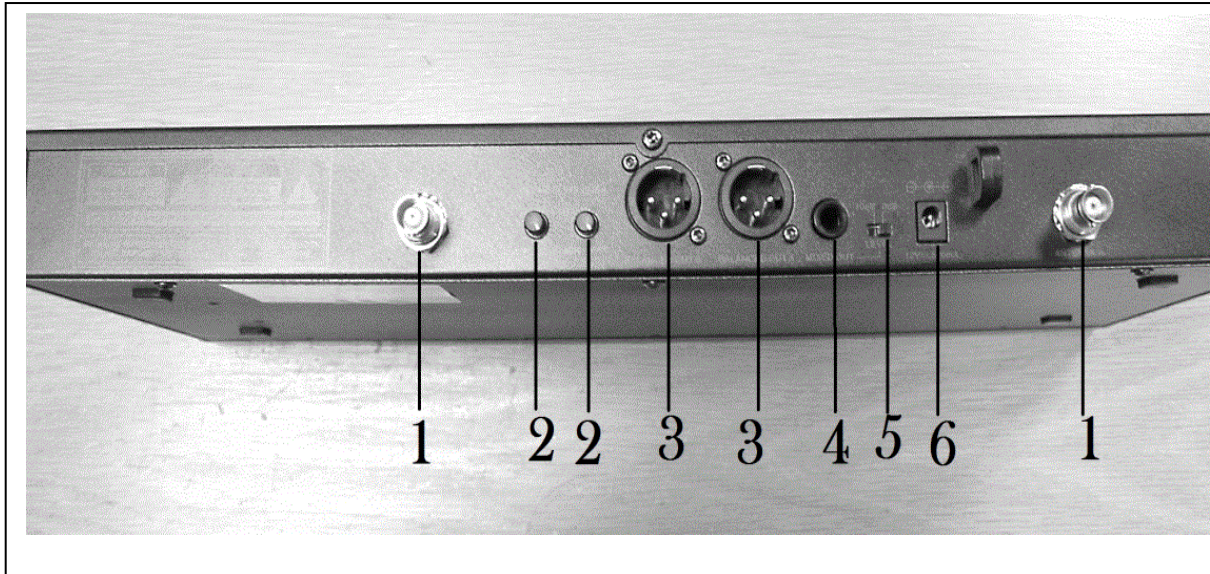


1. Power button. Press to power up. Press and hold for 4 seconds to power off.
2. Channel A multifunction display.
3. IR sensor window. Used to transfer frequency and settings to the transmitters.
4. Channel A < / > Use these buttons to navigate / change settings.
5. Channel A Set button. Used to change Functions and to confirm settings. Also used to quickly show Channel or Frequency when briefly pressed.
6. Channel A Synch button. Used to send commands to a transmitter such as change of frequency and showing frequency or channel number.

The function buttons for Receiver B are duplicated and have same operation to that shown above for channel A receiver.

7. Channel B Synch button.
8. Channel B </> buttons.
9. Channel B Set button.
10. Channel B multifunction display.

Rear Panel connections



1. BNC Antenna connections to A / B receiver.
2. Audio output volume controls for A and B channels.
3. XLR balanced outputs A / B receiver.
4. Mixed audio output (mono). Output can be connected to an external amplifier / mixer / guitar amp or recorder.
5. 2 stage preset attenuation 0dB / 10dB. Used to limit audio out from the mixed audio out socket.
6. 12 Volt DC input socket. Connect the supplied AC adaptor to this socket.

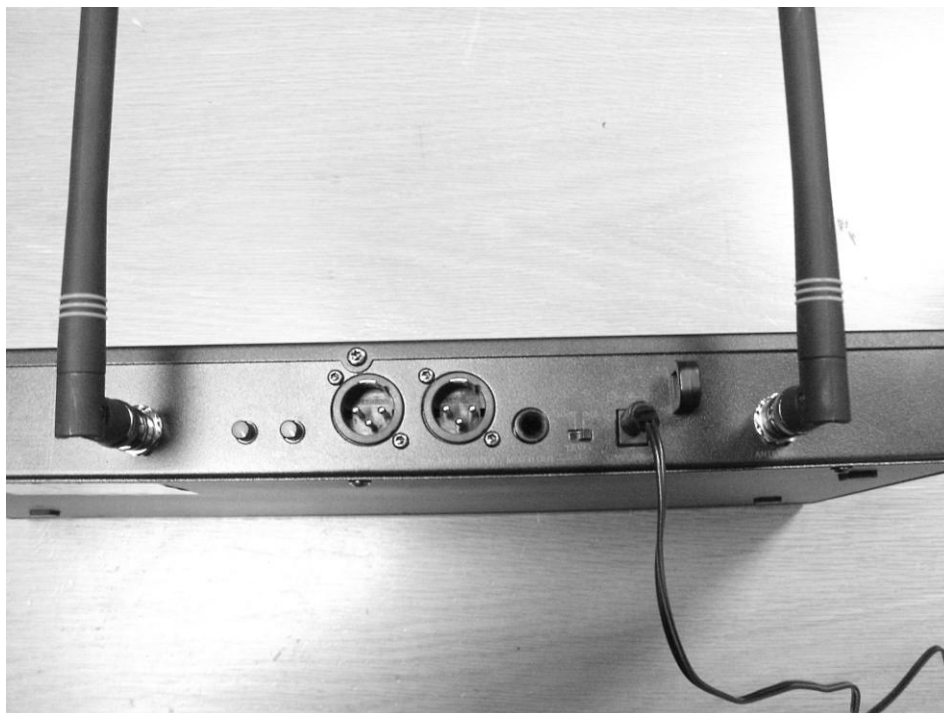
Connecting the AC adaptor to the receiver.

The mains adaptor can be used on mains Voltages from 110 – 230VAC.

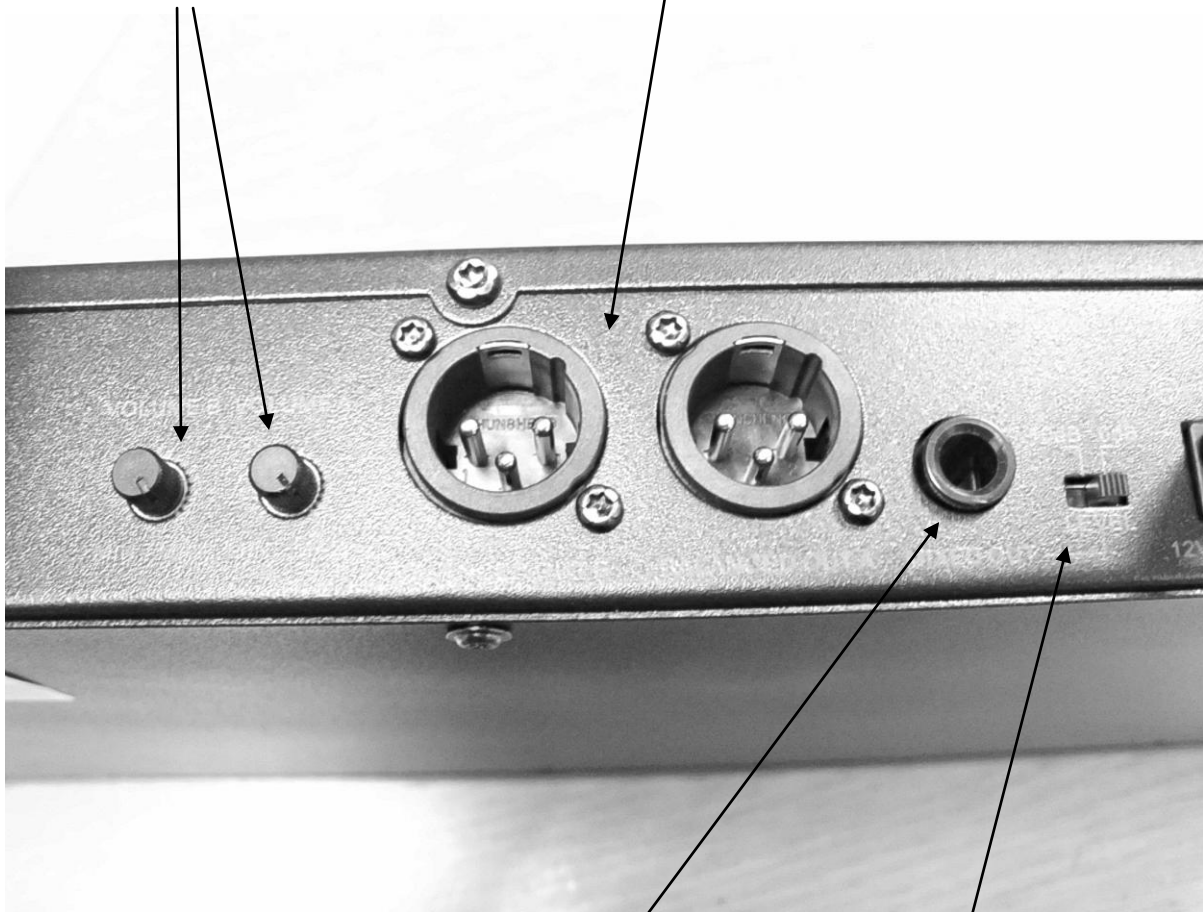
Insert the DC plug into the DC socket located at rear of unit. Connect the adaptor to your mains supply / socket.



Connect the antennas as shown



1. Connections to your mixer are made via the XLR Balanced A and Balanced B output sockets. Connect your XLR cables (not supplied) to these sockets and your mixer input sockets. Mixed audio output can be made using the 6.3mm socket (mono).
2. The audio Volume / attenuation levels of channels A and B can be adjusted by rotating the 2 volume controls.



Fixed step attenuation 0 – 10dB audio level out switch for use with the mixed audio output socket.

Mixed output via 6.3mm jack socket. Connect to an external amplifier or recorder.

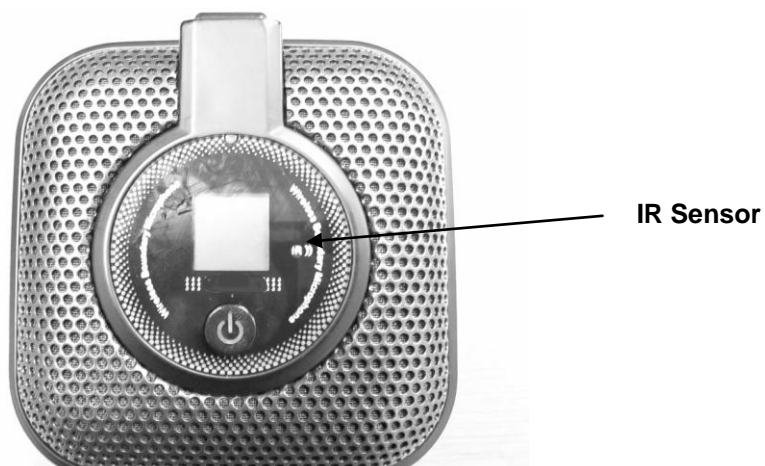
Powering up

1. Make sure your external equipment is connected and powered up
2. Press the power button on the CW200 Receiver. The two receiver displays will light up and show the receiving frequencies.
3. Briefly press the power button on the transmitters. The display will light up and the frequency will show in the display it should be the same as one of the receivers frequency display.
4. The transmitters and receivers are factory set to CH 04 and CH 46. The transmitters are factory set to latching. Speak into the transmitter and audio should be heard. Briefly press the power button on the transmitter to mute the audio, press the power button again to restore the audio. Press and hold the power button for 3 – 4 seconds to turn of the transmitter.

Changing the transmitter frequency

The transmitter frequencies can only be adjusted by the receiver. The frequency is set on the receiver then sent by Infrared Frequency to the transmitter.

Note: When transferring a new frequency to the transmitter make sure that the transmitter is switched on and is placed in front of the left side of receiver as shown below.



To change the transmitter frequency.

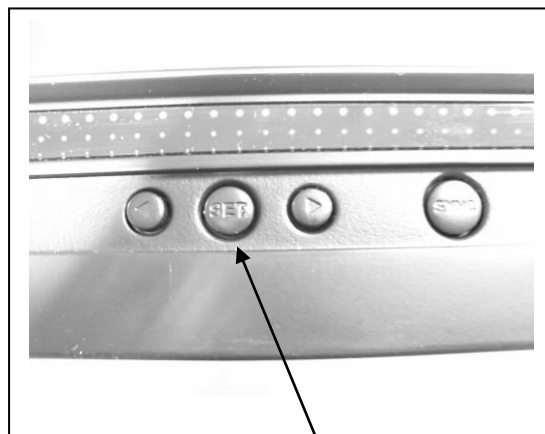
Important: Each receiver (A and B) has its own independent setup buttons for changing frequency and other parameters on each of the transmitters. Make sure you use the correct setup buttons for setting up each respective transmitter. As the transmitters do not carry any identification and look identical, It may be useful to mark or apply an ID to each of the transmitters A and B to ensure that the correct transmitter / receiver is being operated, this will be especially be useful if several systems are in operation.

a, Press the required CH A or CH B < / > button once on the receiver front panel to select a new frequency. The display will flash and after short time will remain stable.

b. Position the transmitter (powered up) as shown above and press the Synch button on the front panel and SYNCH >>> will show indicating that the new frequency is being transmitted to the transmitter. After a few seconds the display will return to normal and the receiver and transmitter old frequency will have been changed to the new frequency. If >>>> continuous more then 20 seconds then make sure the transmitter is powered up and its IR sensor is facing the receiver sensor as shown above.

In cases where there are other transmitters being used and causing interference Press and hold < / > button on the receiver for 3 seconds and the receiver will auto-scan and lock on to an open, interference-free frequency. Now press the SYNCH button to transfer this new frequency to the transmitter.

Menu options



1. To enter the menu mode: Press and hold the Set button (CH A or CH B) on the receiver for 3 seconds until DISPLY shows, press < / > each time the < / > button is pressed the options shown will change, LOCK or SQUELCH, DISPLAY modes.

2. DISPLAY option. This will allow the display to show either frequency or the Channel number. Enter the menu mode as described in point 1 above. With DISPLY showing press the < button to select Frequency or > button to select the Channel number, Frequency or Channel will show flashing in the display. Press the SET button to confirm your choice. The display will then apply the changes and return to its normal operation. To transfer the new change to the transmitter, place the transmitter (powered up) in front of the receiver as shown in fig 1 under **Changing the transmitter frequency** then press the SYNCH button. >>> will show whilst the new data / changes are being sent to the transmitter.
3. SQUELCH. To prevent unwanted noises occurring the receiver has 0 – 50dB squelch settings in 5dB steps (default is 0dB). To change the squelch level enter MENU mode as detailed in point 1 above and press > or < button until SQUELCH shows. Press SET button and a flashing dB level will show, press the < or > button until the desired new squelch setting shows. Press the SET button to confirm the changes.
4. LOCK. To prevent accidental powering off the receiver or changes of settings on the receiver. Select LOCK in the menu. Enter MENU mode as detailed in point 1 above and press > or < button until LOCK shows. Press SET button then press < or > buttons to change LOCK status to On or OFF. Press SET button to confirm the new changes. The display will return to normal operation. To power of the receiver LOCK must be OFF so it will be necessary to enter the MENU mode as described in point 1 above then follow above instructions to place LOCK OFF mode.

Troubleshooting Guide

No audio	<ul style="list-style-type: none">• Is Transmitter powered up• Check transmitter frequency shows in the receiver• Replace transmitter batteries• Is the receiver connections to external equipment correct• Is the external equipment powered up• Out of range / bring transmitter closer to the receiver•
Noisy audio / poor reception / Distorted audio	<ul style="list-style-type: none">• Replace transmitter batteries• Check that transmitter / receiver Frequencies are the same.• Co channel interference / external interference try changing transmitter frequency.• Receiver antennas close to electrical interference. Move away from electrical items such as laptops, digital equipment, neon lights and motors.• If using Mixed out socket try adjusting the volume controls or the 2 step attenuator on the back of the receiver.

Specifications

Main frame size: EIA STANDARD 1U
Dual channel receiver
Frequency stability $\pm 0.005\%$, Phase Lock Loop frequency control
Carrier frequency range UHF 602-634 MHz (subject to local authorities enforcement laws)
Digital equalizer preset microphone capsule modelling
Modulation mode FM
Operating range 60 Metres typical (in open space)
Oscillation PLL synthesized
Sensitivity $5\text{dB}\mu\text{V}$, S/N>60dB at 25 deviation
Band width 32MHz
Max deviation Range $\pm 45\text{KHz}$
Frequency response 80Hz~18KHz $\pm 3\text{dB}$
Power Supply switched mode ac adaptor 100-240V AC50/60 Hz, 10W
Weight 4KG
Dimension 421(W) X 43(H) X 206(D)
Output connector XLR balanced & 6.3 ϕ phone jack unbalanced

Transmitter

Element: 2 x Fixed-charge back plate, permanently polarized condenser microphones.
Polar pattern: Half-cardioid (cardioid in hemisphere above mounting surface)
Carrier Frequency Range: 602MHz~634 MHz (subject to local authorities enforcement laws)
Modulation mode: FM
Frequency Response: 50-17,000 Hz
Max deviation range : $\pm 45\text{KHz}$
Operating range: 60 Metres typical (in open space)
Current consumption: 90mA, typical
RF power output: 30mW
Dynamic range (Typical):> 90 dB,1kHz at Max SPL
Battery: AA X 2 Alkaline (each transmitter)
Battery life: Approximately 10 hours

Specifications / improvements are subject to change without notice.