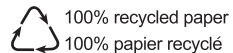




UR-220S / 220D Series

Professional UHF Wireless Microphones



Installation and Operation

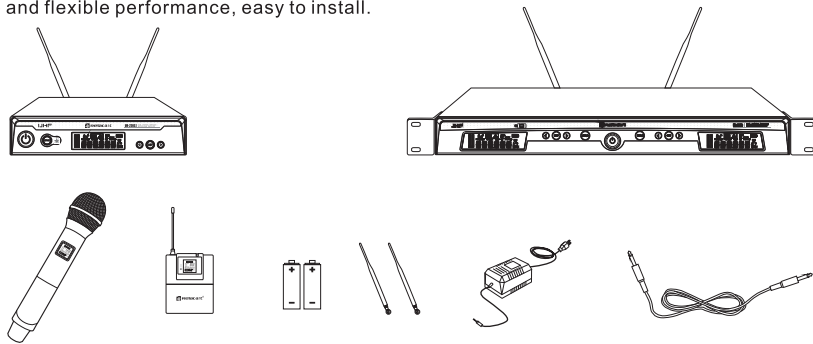
Contents

Introduction.....	P3
Receiver Installation and Connections.....	P4
• Installation.....	P4
• Connections.....	P4
Receiver Controls and Functions.....	P5
UR-220S Front panel.....	P5
UR-220S Rear panel.....	P6
UR-220D Front panel.....	P7
UR-220D Rear panel.....	P9
Transmitter Controls and Functions.....	P10
• Handheld Microphone.....	P10
• Bodypack Transmitter.....	P11
Transmitter Battery Installation.....	P12
System Setup.....	P14
• Receiver Setup.....	P14
• Transmitter Setup.....	P15
Specifications.....	P17

Thank you for choosing a RELACART professional wireless microphone system. You have joined thousands of other satisfied customers. Our years of professional experience of design and manufacturing to ensure our products' quality, performance and reliability.

01 Introduction

- ① EIA-standard metal 1/2 - rack receiver chassis, antenna diversity.
- ② The Handheld Transmitter offers durable, ergonomic metal bodies, soft-touch controls.
- ③ Bright and easy-to-read LCD display shows RF/AF, diversity strengths; transmitter battery level; meanwhile, can set up selective channel, frequency, mute and other working status.
- ④ Press the "AFS" (Auto Frequency Selection) button 3S and the receiver will auto-scan and lock on to an open, interference-free frequency
- ⑤ Press [IR] button to upload automatically the receiver frequency to the transmitter.
- ⑥ PLL (Phase Lock Loop frequency control) design ensures transmission reliability, "NoiseLock" squelch effectively blocks stray RF.
- ⑦ Each channel 32 selectable frequencies, dual-channel total 768 selectable frequencies.
- ⑧ Battery life is up to 15 hours.
- ⑨ Designed for use on professional tours, concert halls and houses of worship. Stable functions, reliable and flexible performance, easy to install.



02 Receiver Installation and Connections

Installation:

- ① 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.
- ② Attached a pair of UHF antennas to the antenna input jacks, the antenna are normally positioned in the shape of a "V" (both 45° from vertical) for best reception.
- ③ Keep antennas away from noise sources such as computer, digital equipment, motors, automobiles and neon lights, as well as away from large metal objects.
- ④ Keep open space between the receiver and transmitter for better reception.
- ⑤ The transmitter should be at least 3ft. from the receiver.

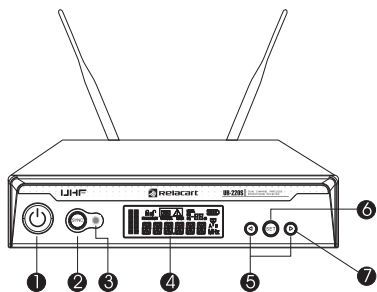
Connections:

- ① The switching power supply is designed to operate properly from any AC power source 100-240V, 50/60Hz without user adjustment. Simply connect the receiver to a standard AC power outlet, using only an IEC-type input cordset approved for the country use. Power to the unit is controlled by the front panel power switch.
- ② There are two audio outputs on the rear panel: an XLR microphone output and a 1/4" (6.3mm) phone jack instrument output. The two isolated audio outputs permit simultaneous feeds to two different inputs. Use the appropriate shielded audio cable for connections between the receiver and the input(s) of the mixer or other equipment.

3, Receiver Controls and Functions

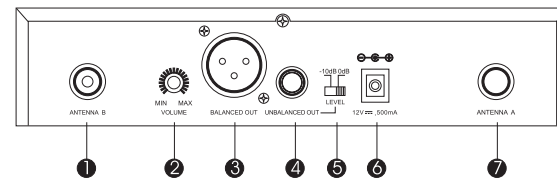
03 Receiver Controls and Functions

Figure A: UR-220S Receiver Front Panel



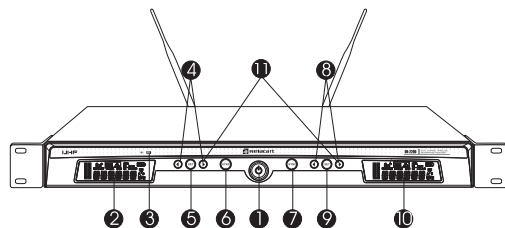
- ① Power Switch: Press power switch in 3 seconds and the receiver readouts will light.
- ② Infrared Data Transfer Button (SYNC): Press this button to transmit the channel data from receiver to transmitter.
- ③ Infrared Data Transfer Window (iR): Transmit channel data from the receiver to the transmitter, so that they are in the same frequency.
- ④ LCD Window: Liquid Crystal Display indicates control setting and operational readings. See “System setup” on page X for details.
- ⑤ UP / DOWN Buttons:
A, Press Up or Down arrow button, in conjunction with the Set button, to step through menus, select operating frequency and edit receiver function choices.
B, Press Up or Down arrow button 3 seconds and the receiver will auto-scan and lock on to an open, interference-free frequency.
- ⑥ SET Button: Use in conjunction with the Up / Down arrow buttons to step through menus, choose operating frequency and select receiver function options.

Figure B: UR-220S Receiver Rear Panel



- ① Antenna Input Jack: BNC type antenna connector for tuner “ B ” , attached the antenna directly.
- ② Volume Button: To adjust the volume.
- ③ Balanced Output Jack: XLR type connector. A standard 2 conductor shielded cable can be used to connect the receiver output to a balanced microphone level input on a mixer or integrated amplifier.
- ④ Unbalanced Mixed Output Jack: Unbalanced Mixed Output Jack: 1/4” (6.3mm) phone jack. Can be connected to an aux-level input of a mixer, guitar amp or tape recorder.
- ⑤ Unbalanced Mixed Output Attenuator: Two-position switch adjusts audio output level, with attenuation of 0dB, -10dB.
- ⑥ DC Power Output Jack: 12V / 700mA.
- ⑦ Antenna Input Jack: BNC type antenna connector for tuner “ A ” , attached the antenna directly.

Figure C: UR-220D Receiver Front Panel

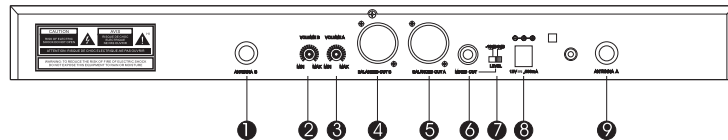


- ① Power Switch: Press power switch in 3 seconds and the receiver readouts will light.
- ② A Channel LCD Window: Liquid Crystal Display indicates control setting and operational readings. See “System setup” on page X for details.
- ③ Infrared Data Transfer Window (iR): For both A and B channel. Transmit channel data from the receiver to the transmitter, so that they are in the same frequency.
- ④ A Channel UP / DOWN Buttons:
- A, Press Up or Down arrow button, in conjunction with the Set button, to step through menus, select operating frequency and edit receiver function choices.
- B, Press Up or Down arrow button 3 seconds and the receiver will auto-scan and lock on to an open, interference-free frequency.

- ⑤ A Channel SET Button: Use in conjunction with the Up / Down arrow buttons to step through menus, choose operating frequency and select receiver function options.
- ⑥ A Channel Infrared Data Transfer Button (SYNC): Press this button to transmit A channel data from receiver to transmitter.
- ⑦ B Channel Infrared Data Transfer Button (SYNC): Press this button to transmit B channel data from receiver to transmitter.
- ⑧ B Channel UP / DOWN Buttons:
- A, Press Up or Down arrow button, in conjunction with the Set button, to step through menus, select operating frequency and edit receiver function choices.
- B, Press Up or Down arrow button 3 seconds and the receiver will auto-scan and lock on to an open, interference-free frequency.
- ⑨ B Channel LCD Window: Liquid Crystal Display indicates control setting and operational readings. See “System setup” on page X for details.

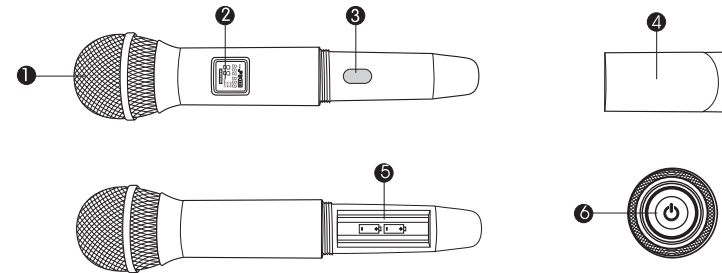
04 Transmitter Controls and Functions

Figure D: UR-220D Receiver Rear Panel



- ① Antenna Input Jack: BNC type antenna connector for tuner "B", attached the antenna directly.
- ② B Channel Volume Button: To adjust the volume.
- ③ A Channel Volume Button: To adjust the volume.
- ④ B Channel Balanced Output Jack: XLR type connector. A standard 2 conductor shielded cable can be used to connect the receiver output to a balanced microphone level input on a mixer or integrated amplifier.
- ⑤ A Channel Balanced Output Jack: XLR type connector. A standard 2 conductor shielded cable can be used to connect the receiver output to a balanced microphone level input on a mixer or integrated amplifier.
- ⑥ Unbalanced Mixed Output Jack: Unbalanced Mixed Output Jack: 1/4" (6.3mm) phone jack for both A and B channel. Can be connected to an aux-level input of a mixer, guitar amp or tape recorder.
- ⑦ Unbalanced Mixed Output Attenuator: Two-position switch adjusts audio output level, with attenuation of 0dB, -10dB.
- ⑧ DC Power Output Jack: 12V / 700mA.
- ⑨ Antenna Input Jack: BNC type antenna connector for tuner "A", attached the antenna directly.

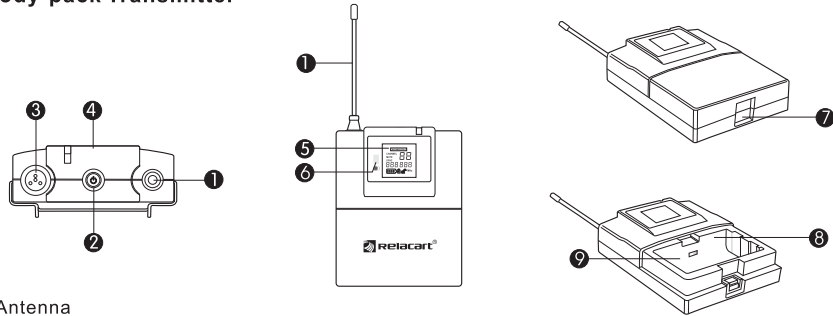
Handheld Microphone



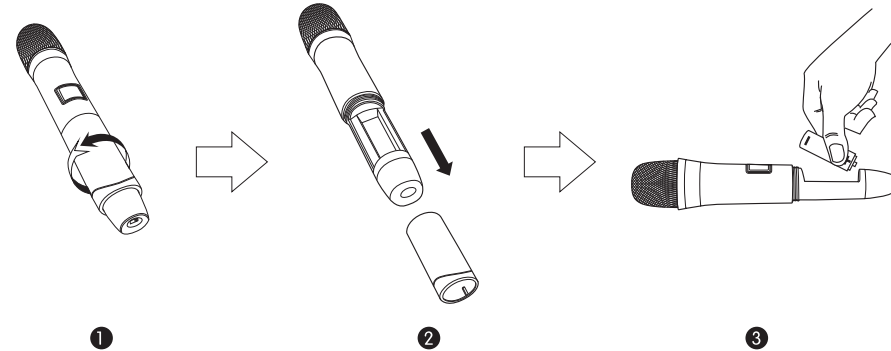
- ① Microphone Head: The microphone head is separate to change other microphone head if needed.
- ② LCD Window: Liquid crystal display indicates operational frequency and battery condition. The transmitter's "fuel gauge" battery indicator displays a maximum of 4 bar segments. When it leaves 1 bar segment, the batteries should be replaced immediately to ensure continued operation.
- ③ Infrared Data Receiving Window (iR): Use to receive the channel data from the receiver.
- ④ Battery Cover: Unscrew it can reveal the battery compartment.
- ⑤ Battery Compartment: Insert 2 fresh 1.5V AA batteries. (Alkaline type is recommended, always replace both batteries.) Observe correct polarity as marked inside the battery compartment.
- ⑥ Power Button.

05 Transmitter Battery Installation:

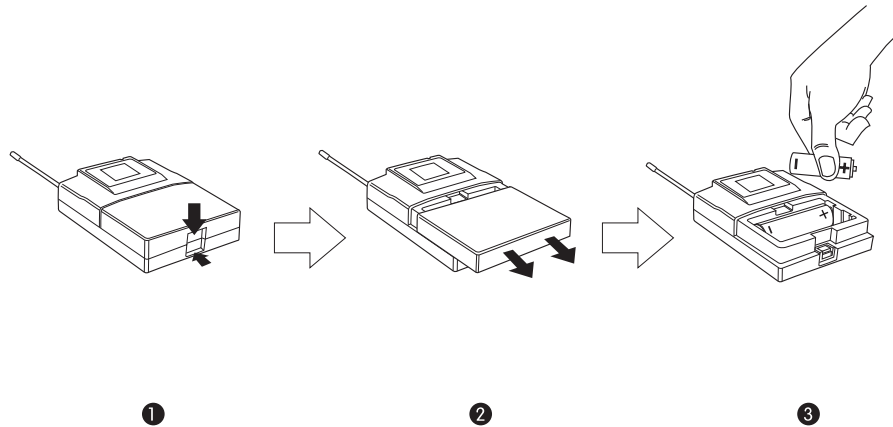
Body-pack Transmitter



- ① Antenna
- ② Power Button
- ③ Mute Button: When the transmitter is muted, it produces RF with no audio signal modulation; when the transmitter is un-muted, it produces both RF and audio.
- ④ Audio Input Jack: To connect 4-pin mini-XLR connector.
- ⑤ LCD Window: Liquid crystal display indicates operational frequency, channel and battery condition. The transmitter's "fuel gauge" battery indicator displays a maximum of 4 bar segments. When it leaves 1 bar segment, the batteries should be replaced immediately to ensure continued operation.
- ⑥ Infrared Data Receiving Window (iR): Use to receive the channel data from the receiver.
- ⑦ Battery Door Switch: Open the battery door by sliding the switch.
- ⑧ Battery Compartment: Insert 2 fresh 1.5V AA batteries. (Alkaline type is recommended, always replace both batteries.) Observe correct polarity as marked inside the battery compartment.
- ⑨ AF / GT Audio Input Switch: Connect an audio input device (microphone or guitar cable) to the audio input jack on the top of the body-pack transmitter. Choose AF for microphone input, then GT for guitar cable to connect with guitar or other instruments.



06 System Setup



Receiver Setup

- ① Turn down the AF level of the associated mixer or amplifier, and make sure that any UR transmitters are turned off.
- ② Turn on the receiver, the LCD displays the preset data.
 - a, Touch ◀ / ▶ button once to select a new frequency.
 - b, Press and hold ◀ / ▶ button 3 seconds and the receiver will auto-scan and lock on to an open, interference-free frequency.
- ④ To enter the menu mode: Press and hold the Set button 3 seconds to enter the edit mode, touch ◀ / ▶ button once to select and set SQELCH, DISPLAY or LOCK.

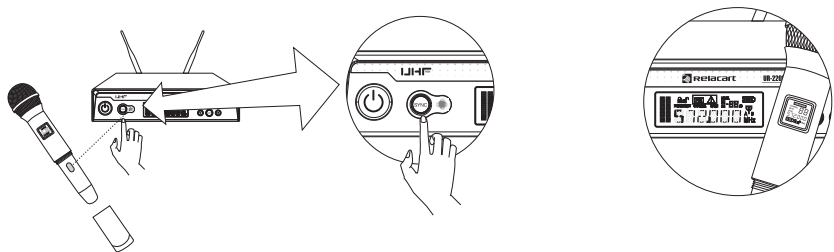
A, SQELCH: Selecting "SQELCH", then touch SET Button to enter edit mode, the small data flashes to indicate edit, touch ◀ / ▶ button to scroll through the available choice for the function. The squelch level is adjustable in ten 5dB steps, providing a 50dB range. Press SET Button to confirm the desired choice, then LCD return to its previously displayed contents. (If interference is a problem, first consider trying a different frequency, either manually or scanning.)

B, DISPLAY: Selecting "DISPLAY", then touch SET Button to enter edit mode, touch ◀ arrow button, "FREQUENCY" flashes, if stopping on "FREQUENCY", the LCD will display the operational frequency; touch ▶ arrow button, "CHANNEL" flashes, if stopping on "CHANNEL", the LCD will display the operational channel. Press SET Button to confirm the desired choice, then LCD return to its previously displayed contents.

C, LOCK: Selecting "LOCK", then touch SET Button to enter edit mode, touch ◀ arrow button, it displays "ON", if stopping on "ON", the system enters lock mode, the user can not use any button for any control; touch ▶ arrow button, it displays "OFF", if stopping on "OFF", the user can do any control by any button. Press SET Button to confirm the desired choice, then LCD return to its previously displayed contents.

Transmitter Setup

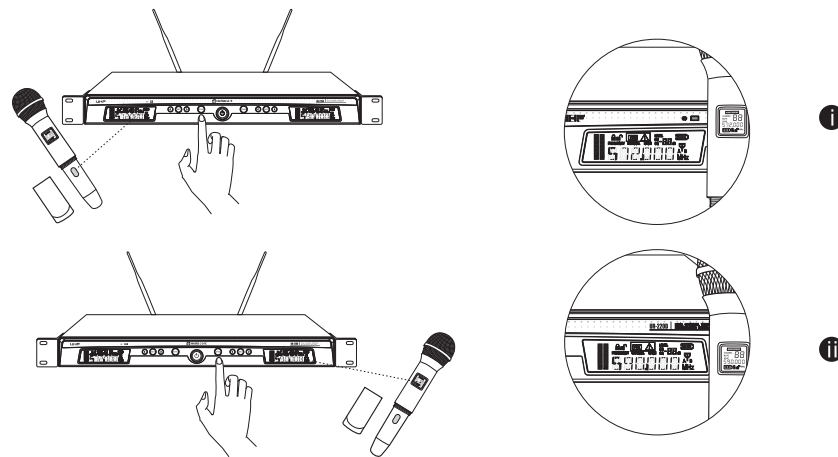
- ① Press and hold power button 3 seconds, the LCD window comes on.
- ② Frequency setup: To let the transmitter IR receiving window face to the receiver IR data transfer window, then press "SYNC" button, the transmitter will receive the frequency / channel data from the receiver, simultaneously the LCD displays the same frequency / channel as the receiver (Figure E).



(Figure E)

A, Turn on one transmitter, to let the transmitter IR receiving window face to the receiver IR data transfer window, then press A Channel's "SYNC" button, the transmitter will receive the frequency / channel data from A Channel, simultaneously the LCD displays the same frequency / channel as the receive A Channel.

B, Turn on the other transmitter, to let the transmitter IR receiving window face to the receiver IR data transfer window, then press B Channel's "SYNC" button, the transmitter will receive the frequency / channel data from B Channel, simultaneously the LCD displays the same frequency / channel as the receive B Channel.



07 Specifications

UR-220S / UR-220D Receiver

Main Frame Size: EIA STANDARD 1/2 U (UR-220S) / EIA STANDARD 1U (UR-220D)
Channels: Single Channel (UR-220S) / Dual Channel (UR-220D)
Frequency Stability: $\pm 0.005\%$, Phase Lock Loop frequency control
Carrier Frequency Range: UHF 554MHz~936 MHz
Digital Equalizer: Preset Microphone Capsule Modeling
Modulation Mode: FM
Operating Range: 60M typical (in open space)
Oscillation: PLL synthesized
Sensitivity: 5dB μ V, S/N>60dB at 25 deviation
Band Width: 16MHz (UR-220S); 32MHz (UR-220D)
Max.Deviation Range: ± 45 KHz
S/N: >105dB
T.H.D.: <0.7%@1KHz
Frequency response: 45Hz-18KHz ± 3 dB
Power Supply: DC 12V / 1A
Weight: 1.0KG(UR-220S),2.2KG(UR-220D)
Dimension: 205(W)X43(H)X206(D)-UR-220S,410(W)X43(H)X206(D)-UR-220D
Output Connector: XLR balanced & 6.3 ϕ phone jack unbalanced

UH-200 Handheld Microphone

Carrier Frequency Range: UHF 554MHz~936 MHz
Oscillation: PLL synthesized
Harmonic radiation: <-50dBm
Bandwidth: 134MHz
Max.Deviation Range: ± 45 KHz
Microphone Element: Cardioid Dynamic / Cardioid Condenser
RF Power Output: 15mW/30mW
Battery: AA X 2
Current Consumption: 110mA, typical
Battery Current / Life: Approximately 8 hours
Dimension: 52mm(Φ)x255mm(L)
Weight: 285G (w/o battery)

UT-200 Body-pack Transmitter

Carrier Frequency Range: UHF 554MHz~936 MHz
Oscillation: PLL synthesized
Harmonic radiation: <-50dBm
Bandwidth: 134MHz
Max.Deviation Range: ± 45 KHz
Input Connector: 4-pin mini-XLR connector
RF Power Output: 15mW
Battery: AA X 2
Current Consumption: 100mA, typical
Battery Current / Life: Approximately 10 hours
Dimension: 84(H) X 66(W) X 23(D)
Weight: 116G (w/o battery)