Relacart®

UR-220D / UB-200 Series

Professional UHF Wireless Boundary Microphones

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Installation and Operation

Contents

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.

FCC warning statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 74 of the FCC Rules. These limits are designed to provide reasonable protection againstharmful interference in a installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

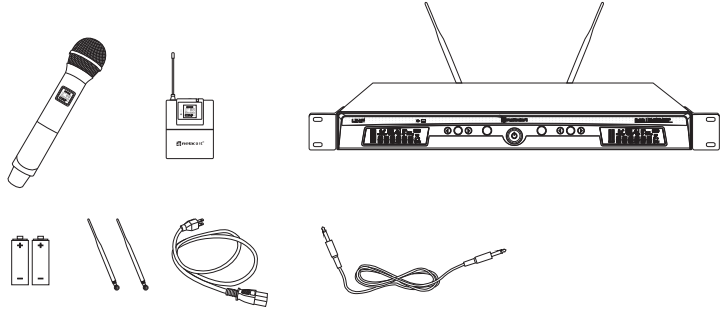
Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 74 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

01 Introduction

①EIA-standard metal 1U - rack receiver chassis, antenna diversity.
②Bright 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.
③Press the "AFS"(Auto Frequency Selection) button 3S and the receiver will auto-scan and lock on to an open, interference-free frequency
④Press [IR] button to upload automatically the receiver frequency to the transmitter.
⑤PLL (Phase Lock Loop frequency control) design ensures transmission reliability, "NoiseLock" squelch effectively blocks stray RF.
⑥Each channel 32 selectable frequencies, dual- channel total 768 selectable frequencies



02 Receiver Installation and Connections

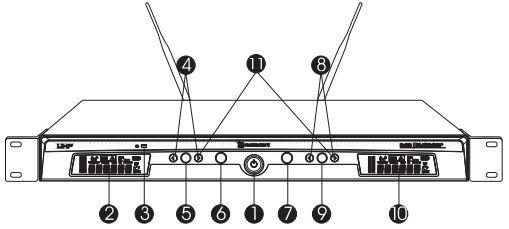
Installation:

①For 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.
②Attached 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.
③Keep antennas away from noise sources such as computer, digital equipment, motors, automobiles and neon lights, as well as away from large metal objects.
④Keep open space between the receiver and transmitter for better reception.
⑤The transmitter should be at least 3ft. from the receiver.

Connections:

①The 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.
②There 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

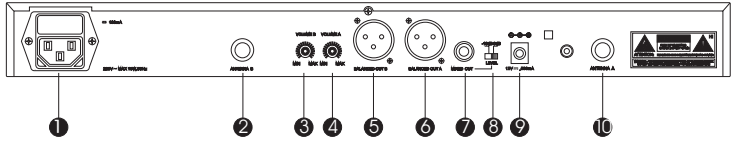
Figure A: **UR-220D Receiver Front Panel**



①Power Switch：Press power switch in 3 seconds and the receiver readouts will light.
②A Channel LCD Window: Liquid Crystal Display indicates control setting and operational readings.
③Infrared 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.
④A 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.

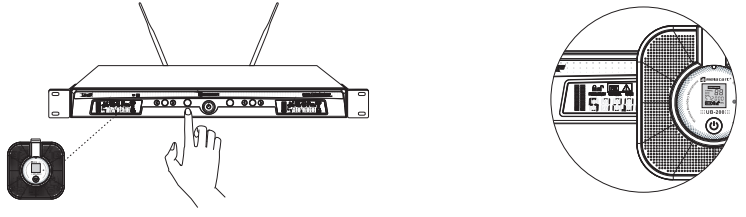
⑤A Channel SET Button: Use in conjunction with the Up / Down arrow buttons to step through menus, choose operating frequency and select receiver function options.
⑥A Channel Infrared Data Transfer Button (SYNC): Press this button to transmit A channel data from receiver to transmitter.
⑦B Channel Infrared Data Transfer Button (SYNC): Press this button to transmit B channel data from receiver to transmitter.
⑧B 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.
⑨B Channel LCD Window: Liquid Crystal Display indicates control setting and operational readings.

Figure B: UR-220D Receiver Rear Panel



①AC Power Input: IEC type connector for 100-240V, 50/60Hz without user adjustment.
②Antenna Input Jack: BNC type antenna connector for tuner "B", attached the antenna directly.
③B Channel Volume Button: To adjust the volume.
④A Channel Volume Button: To adjust the volume.
⑤B 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.
⑥A 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.
⑦Unbalanced 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.
⑧Unbalanced Mixed Output Attenuator: Two-position switch adjusts audio output level, with attenuation of 0dB, -10dB.
⑨DC Power Output Jack: 12V / 700mA.
⑩Antenna Input Jack: BNC type antenna connector for tuner "A", attached the antenna directly.

①Turn down the AF level of the associated mixer or amplifier, and make sure that any transmitters are turned off.
②Turn on the receiver, the LCD displays the preset data.
③To change the frequency by manual or "AFS" (Auto Frequency Scan).
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.
NOTE: After selecting a new frequency, 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 dada from the receiver, simultaneously the LCD displays the same frequency / channel as the receiver (Figure C).



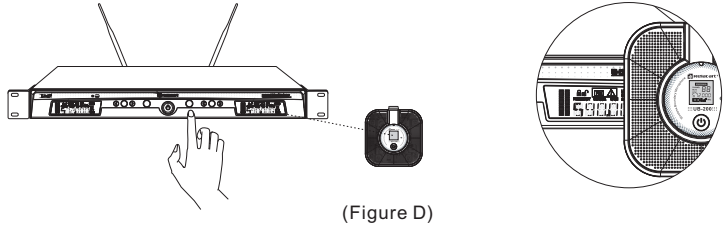
(Figure C)

④To enter the menu mode: Press and hold the Set button 3 seconds to enter the edit mode, touch < / > button once to select and set DISPLAY, MODE, LOCK or SQELCH (note: only DISPLAY and MODE can cooperate with UB-200).

A, 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, “CHANNLE” 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.

B, MODE: Selecting “MODE”, then touch SET Button to enter edit mode, touch < / > button to select three operating modes: “ON/OFF” (touch on / touch off), “PTT” (press-to-talk) or “PTM” (press-to-mute). Press SET Button to confirm the desired choice, then LCD return to its previously displayed contents.

NOTE: After selecting the mode, let the UB-200 IR receiving window face to the receiver IR data transfer window, then press “SYNC” button, the transmitter will receive the data from the receiver, simultaneously function accordingly. (Figure D)



(Figure D)

05 Specifications

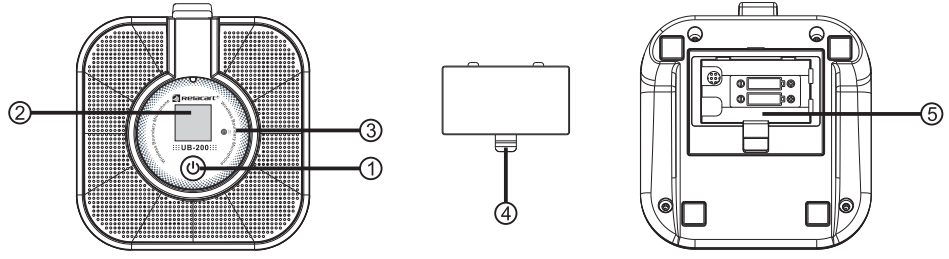
UR-220D Receiver

Main Frame Size: EIA STANDARD 1U
Channels: Dual Channel
Frequency Stability: ±0.005%, Phase Lock Loop frequency control
Carrier Frequency Range: UHF 618-936 MHz
Digital Equalizer: Preset Microphone Capsule Modeling
Modulation Mode: FM
Operating Range: 60M typical (in open space)
Oscillation: PLL synthesized
Sensitivity: 5dBμV, S/N>60dB at 25 deviation
Band Width: 32MHz
Max.Deviation Range: ±45KHz
S/N: >105dB
T.H.D.: <0.4%@1KHz
Frequency response: 80Hz~18KHz±3dB
Power Supply: 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

06 UB-200 Semi-cardioid Condenser Wireless Boundary Microphone

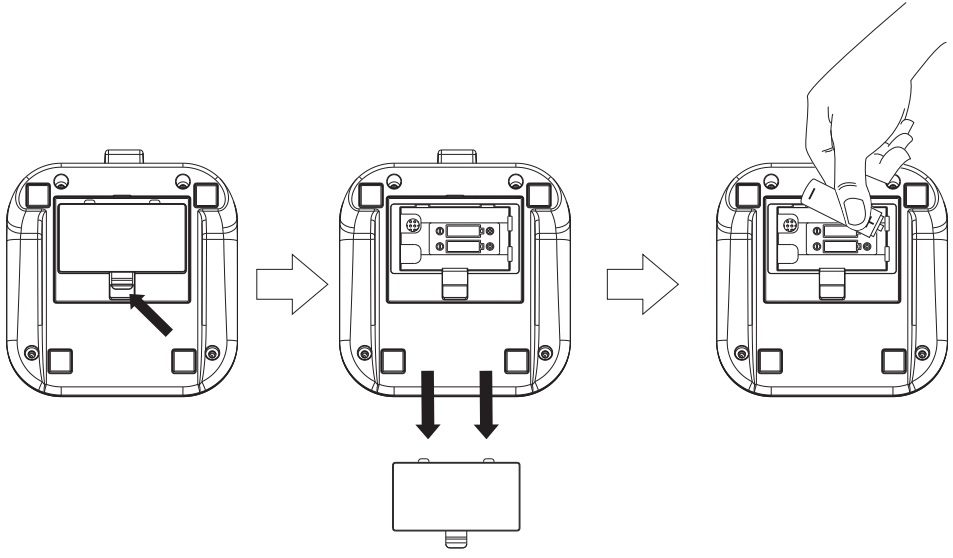
Product Features:

·UHF band 490 – 860MHz wireless boundary microphone.
·Bright and easy-to-read LCD display shows operating channel / frequency, battery level, mute and other working status.
·Semi-cardioid polar pattern.
·Ultra-quiet electronic switch can be set to any of three operating modes: "touch on / touch off", "touch-to-talk" and "touch-to-mute" (only cooperates with wireless receiver UR-220D & UR-220S).
·RFI-shielding technology offers rejection of radio frequency interference (RFI).
·Permit angle of acceptance 120°.
·The microphone switch can control or be controlled by external automatic central control system or other devices.
·Superior off-axis rejection for maximum gain before feedback.
·Heavy die-cast case and non-slip silicon foam bottom pads minimize coupling of surface vibration to the microphone.
·Battery operation of max. 10 hours.
·Designed for surface-mount applications such as high-quality sound reinforcement, professional recording, television, conferencing and other demanding sound pickup situations.
·UB-200 can cooperate with RELACART digital and wireless automatic mixer WAM-400, wireless receiver UR-220D or UR-220S.



①Power Button
a)Power Supply Button: Press power button in 3 seconds to turn on power and the indicator light turns into green, 3 seconds to turn off the power.
b)Mute Button: Once the power is ON, press this button 1 second, it will be mute, and LCD screen display “MUTE”, you will also find the indicator light turns into orange. Press 1 second more to eliminate “Mute” function, letter “MUTE” disappear on the LCD screen, indicator light is back to green.
②LCD Window: Liquid crystal display indicates operational frequency / channel, mute, lock status 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.
③Infrared Data Receiving Window (iR): Use to receive the data signal from the receiver.
④Battery Door Switch: Open the battery door by sliding the switch.
⑤Battery Compartment: Insert 2 fresh 1.5V AA batteries. (Alkaline type is recommended, always replace both batteries.)
Warn: Observe correct polarity as marked inside the battery compartment to avoid damage to the internal electric parts.

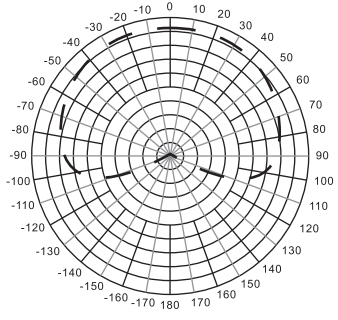
Transmitter Battery Installation:



UB-200 Semi-cardioid Condenser Wireless Boundary Microphone

Element:Fixed-charge back plate, permanently polarized condenser
Polar Pattern:Half-cardioid (cardioid in hemisphere above mounting surface)
Carrier Frequency Range:490MHz~860 MHz
Modulation Mode:FM
Frequency Response:50-17,000 Hz
Max.Deviation Range :±45 KHz
Operating Range:60M 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
Battery Current / Life:Approximately 10 hours

POLLAR PATTERN



STANDARD