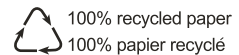




UR-222S/ 222D Series

UR-222S SINGLE-CHANNEL WIRELESS MICRPHONE

UR-222D DUAL-CHANNEL WIRELESS MICRPHONE



Installation and Operation

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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.

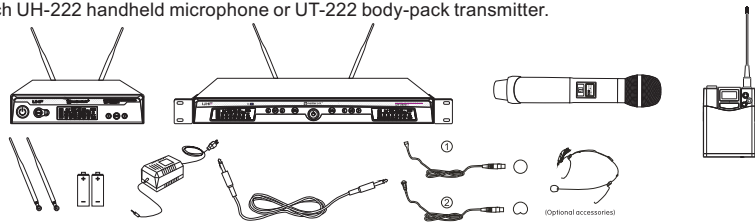
01 Safety Operation and Notice

- 1、 Please read instructions for safety operation carefully before installation and operation.
- 2、 Please keep this manual.
- 3、 Please cut off power , pull out the power plug and all connection cables before moving the device, otherwise it may damage the cables and lead to fire or electroshock.
- 4、 Please cut off power , pull out the power plug and all connection cables before cleaning the device. Clean only with dry cloth.
- 5、 If power cord is damaged (such as cut off or the core is bare),please contact agent to get the replacement. Continue using damaged power cord may lead to fire or electroshock.
- 6、 If the device is not used for a long time, please cut off the power, it is better to pull out the power plug.
- 7、 Equipment in a tropical / temperate climate conditions can be normal use.
- 8、 Do not scratch、 bend、 twist 、 stretch or heat the power cord, otherwise the power cord may be damaged and a fire or electroshock could happen.
- 9、 Do not open the case, otherwise it could lead to electroshock. For maintenance or repair, please contact our local agent.
- 10、 Do not touch the plug with wet hand, otherwise a fire or electroshock could happen.
- 11、 Do not attempt to modify this product. Doing so could result in personal injury and/or product failure.
- 12、 Do not use this apparatus near water.
- 13、 DO NOT block any ventilation openings. Allow sufficient distances for adequate ventilation and install in accordance with the manufacturer's instructions.
- 14、 DO NOT cover the Ventilation holes, such as: newspaper / fabric / curtains and other items.
- 15、 DO NOT install near any heat sources such as open flames, radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Do not place any open flame sources on the product.
- 16、 Do not throw the waste battery, please put in the designated bins.
- 17、 DO NOT expose the apparatus to dripping and splashing. DO NOT put objects filled with liquids, such as vases, on the apparatus.
- 18、 This symbol " ⚡ " indicates that dangerous voltage constituting a risk of electric shock is present within this unit.
- 19、 All Relacart products will be afforded one year free maintenance except for man-made damage, such as:
 - the device is damaged by man-made factors.
 - the device is damaged by improper operation.
 - some components are damaged or loss after the self-disassembly.

02 Introduction

UR Series of condensed the technology essence that Relacart accumulated over a long period. With advanced technology, sophisticated design, stable performance, with beautiful appearance, convenient operation and attractive price, with superior professional quality to win the market competition. This series is suitable for the nightclub of high requirements, multi-functional hall, hotel, conference room and small to medium performance. Key Features:

- ◆ International EIA STANDARD 1/2U, 1U metal chassis, combined with new-style compact and elegance LCD display.
- ◆ Bright and easy-to-read LCD display shows working frequency or channel, RF/AF, diversity strengths; transmitter battery level, mute and built-in electronic volume.
- ◆ Super wide frequency range UHF554MHz~936 MHz, automatic frequency selection, CPU intelligent antenna diversity receiving.
- ◆ " AFS " Automatic frequency selection function, Press the "AFS"(Auto Frequency Selection) button 3S and the receiver will auto-scan and lock on to an open, interference-free frequency.
- ◆ Press [IR] button to upload automatically the receiver frequency to the transmitter.
- ◆ Stable PLL (Phase Lock Loop frequency control) circuit, combining "IP address" and "NOISE DETECTION" mute control function, can effectively separate the RF interference from computer equipment, song machine and DVD in the working environment.
- ◆ Four frequency group in total, 40 channels, providing more than 400 adjustable frequency for the users.
- ◆ 134MHz wide bandwidth transmitter, four different frequency groups (400 mics) can be exchangeable, greatly convenient for debugging and management
- ◆ The handheld microphone: novel design, OLED display screen, showing battery level, working channel and frequency. The tube is made by durable alloy, effectively protecting the circuit element and battery rack, and with ergonomic grip.
- ◆ The new optimized circuit design, good sound quality, transmission distance is longer and more stable
- ◆ Precise low-power circuit design, use two AA alkaline battery, battery life is one time longer as common.
- ◆ Can match UH-222 handheld microphone or UT-222 body-pack transmitter.



03 Receiver Installation and Connections

Installation:

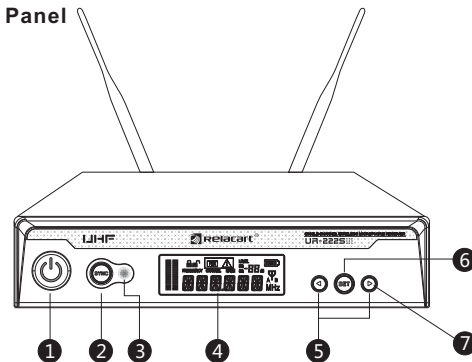
1. For better operation the receiver should be at least 3ft. (1m) above the ground and at least 3ft. away from a wall or metal surface to minimize reflections.
2. Attached a pair of UHF antennas to the antenna input jacks, the antenna are normally positioned in the shape of a "V" (both 45° from vertical) 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.

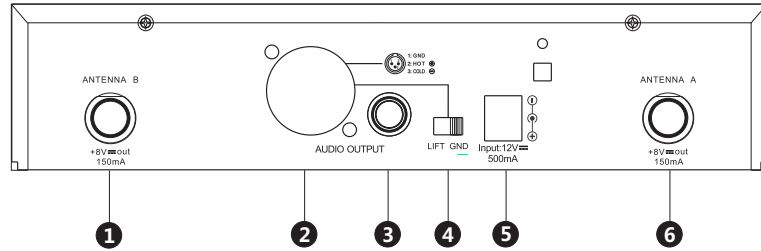
04 Receiver Controls and functions

UR-222S 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 screen shows working channel or frequency, RF/AF, diversity strengths; transmitter battery level, mute and operation menu.
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.

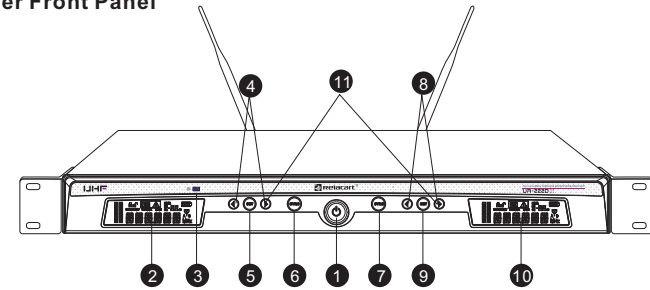
UR-222S Receiver Rear Panel



1. Antenna Input Jack: BNC type antenna connector for tuner "B", attached the antenna directly.
2. 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.
3. 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.
4. Ground connection switch: LIFT means disconnecting with ground, GND means connecting with ground.
5. DC Power Output Jack: 12V / 700mA.
6. Antenna Input Jack: BNC type antenna connector for tuner "A", attached the antenna directly.

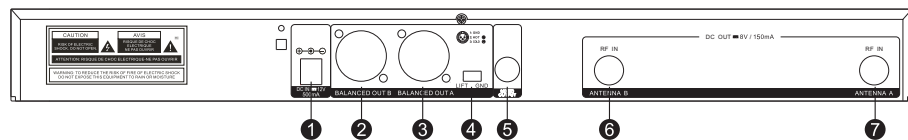
Receiver Controls and functions

UR-222D Receiver Front Panel



1. Power Switch: Press power switch for 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 screen shows working channel or frequency, RF/AF, diversity strengths; transmitter battery level, mute and operation menu.
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.

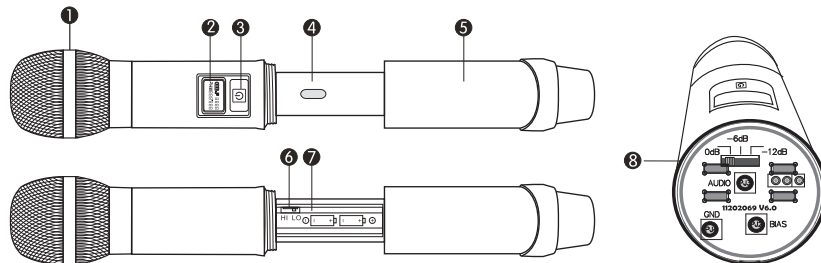
UR-222D Receiver Rear Panel



- 1、 DC Power Output Jack: 12V / 700mA.
- 2、 B Channel Balanced Output Jack: XLR type connector. A standard 2 core shielded cable can be used to connect the receiver output to a balanced microphone level input on a mixer or integrated amplifier.
- 3、 A Channel Balanced Output Jack: XLR type connector. A standard 2 core shielded cable can be used to connect the receiver output to a balanced microphone level input on a mixer or integrated amplifier.
- 4、 Ground connection switch: LIFT means disconnecting with ground, GND means connecting with ground.
- 5、 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.
- 6、 Antenna B Input Jack: BNC type antenna connector, can connect the antenna directly.
- 7、 Antenna A Input Jack: BNC type antenna connector, can connect the antenna directly.

05 Transmitter Controls and Functions

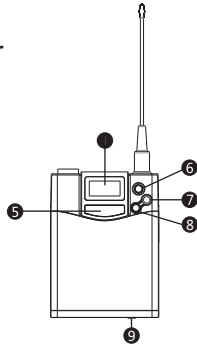
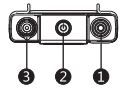
UH-222 Handheld Microphone



1. Microphone Head: It's the main components that converting sound into audio signals.
2. OLED 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. Power Button/Mute Button: Press the power button to turn on the transmitter, press the power button 1.5 second enter the mute status, press one more time to close the mute function. Long press 3 seconds to turn off the transmitter.
4. Infrared Data Receiving Window (iR): Use to receive the channel data from the receiver.
5. Battery Cover: Unscrew it can reveal the battery compartment.
6. RF power switch; HI is 50 mW, LO is 30 mW.
7. batteries. (Alkaline type is recommended, always replace both batteries.) Observe correct polarity as marked inside the battery compartment.
8. The audio gain switch: 3 optional (0dB, -6dB, -12dB), the factory default setting is 0dB (no attenuation); when the volume is too large, can according to the actual situation adjusted the gain (-6dB or -12dB).

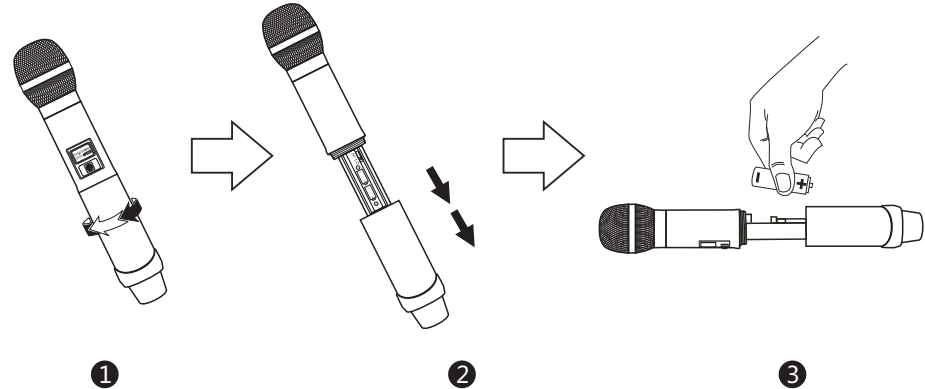
06 Transmitter Battery Installation:

UT-222 Body-pack Transmitter



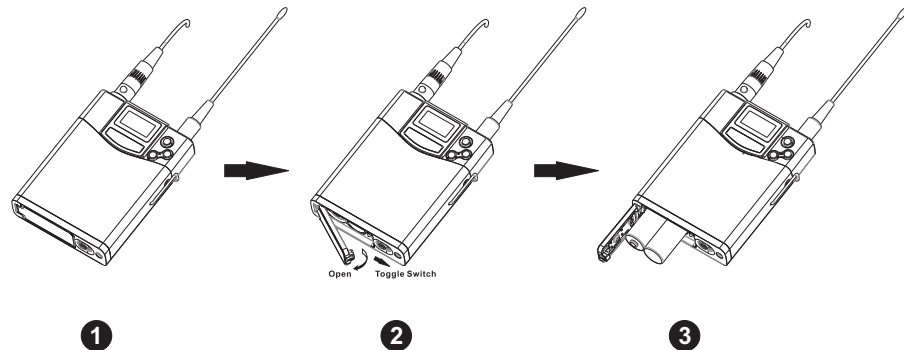
1. Antenna.
2. Power Button/Mute Button: Press the power button to turn on the transmitter, press the power button 1.5 second enter the mute status, press one more time to close the mute function. Long press 3 seconds to turn off the transmitter.
3. Audio Input Jack: 4-pin mini-XLR connector.
4. OLED display: display the frequency, group, channel and battery life. Battery indicator displays a maximum of 4 bar segments. When it leaves 1 bar segment, the batteries should be replaced immediately.
5. Infrared Data Receiving Window (iR): Use to receive the channel data from the receiver.
6. Function button (SET button menu/enter); long press "SET" key 3 seconds, entering function setting menu (RF/LEVEL/LOCK) .
7. Function button(UP selection button): enter the function setting menu, press UP button to select function.
8. Function button(DOWN selection button): enter the function setting menu, press DOWN button to select function.
9. Battery Compartment Switch: slide the switch to open the battery cover, insert 2 pcs of fresh 1.5V AA batteries. (Alkaline type is recommended, always replace both batteries.) Observe correct polarity as marked inside the battery.

Handheld Microphone Battery Installation:



07 System Setup

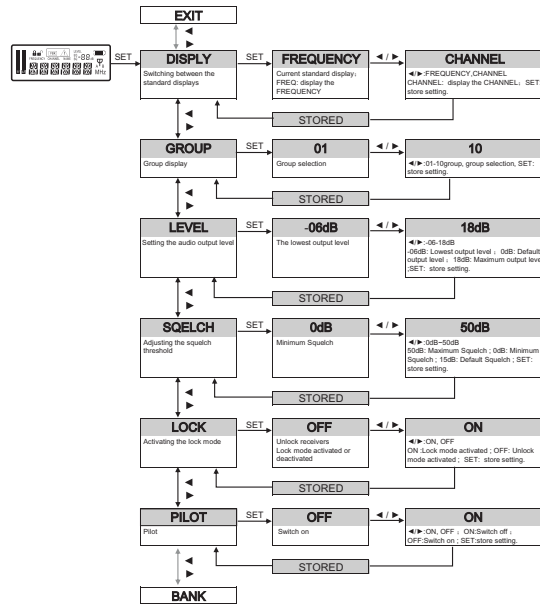
Body-pack Transmitter Battery Installation:



Receiver Setup:

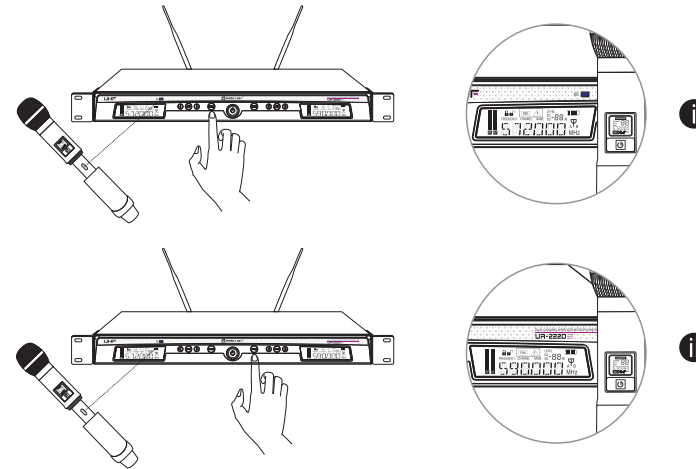
1. Make sure the transmitter is off before turning on the receiver.
2. Press the power switch on the receiver, LCD backlight will turn bright, and the normal display will be in 1-2 seconds. If the screen shows more than two signals, which means that there is a frequency interference from outside, please change the other operating frequency.
3. Change the operating frequency by manual or by auto-scan mold
 - a) set the operating frequency by manual: press ◀/▶ to change the frequency, after the selected frequency flashes 4 times, the receiver will enter the selected frequency and show it on the LCD screen.
 - b) AFS Auto Frequency Scanning: long press ◀/▶ or 3 seconds, the receiver will auto scan about 30 seconds and lock on to an interference-free frequency.
4. Enter the main menu: long press SET button 3 seconds to enter the main menu. Press ◀/▶ button to select the following menu: DISPLAY (frequency or channel display), GROUP (frequency group from 01-10), LEVEL (electronic volume adjustment: -06 ~ 18dB), SQUELCH (squellch level control), LOCK (lock operation) and PILOT (pilot switch).
 - (1) **DISPLY (frequency or channel 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 RF 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. Finally press "SET" to confirm.
 - (2) **GROUP (group display 01-10)**: select GROUP, then press SET to enter the edit mode, press ◀/▶ button to select any group of 01-10, Finally press SET to confirm.
 - (3) **LEVEL (electrical level adjustment -06-18dB)**: select LEVEL, then press SET to enter the edit mode, press ◀/▶ button, the adjustable electronic volume (-06 ~ 18dB). Finally press SET to confirm.
 - (4) **SQUELCH (squellch level control)**: Selecting "SQUELCH", 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 squellch 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. Finally press "SET" to confirm.
(Receiver squellch threshold is factory preset. When the transmitter too far away from the reception range or receiver does not receive enough transmit power, you can adjust by yourself. Note that unless absolutely necessary, please do not adjust the squellch threshold, if adjusted too low will produce excessive noise, system operation will not stable.)
 - (5) **LOCK (lock operation)**: 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. Finally press "SET" to confirm.
(LOCK ON)status, long press SET button 3 seconds, press ◀/▶ button to select LOCK, then press ▶, the screen flashes OFF, finally press SET to confirm, the lock status is released.
 - (6) **PILOT (pilot switch)**: select PILOT, then press SET to enter edit mode, press ◀/▶ button, can select ON or OFF (on or off pilot). Finally press SET to confirm.

Operating menu of the Receiver



Transmitter Setup:

- ① Press and hold power button 3 seconds, the OLED 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 OLED displays the same frequency / channel as the receiver .



08 Specifications

UR-222S Receiver

Main Frame Size: 1/2 EIA standard 1U
Receiving Channel: Single channel
Frequency Reliability: $\pm 0.005\%$
Carrier Frequency Range: 554MHz~936 MHz
Modulation: FM
Oscillation: PLL
Receiving Sensitivity: 5dB μ V, S/N>60dB at 25 KHz deviation
Bandwidth: 32MHz
Max. Deviation Range: ± 45 KHz
S/N: >105dB
T.H.D.: <0.7% @1KHz
Frequency Response: 80Hz~18KHz ± 3 dB
Working Distance: 60M(in open space)
Power Supply: DC 12V / 12W
Dimension(mm): 205(W)x43(H)x206(D)
Weight: Approximately 1.0kg

UR-222D Receiver

Main Frame Size: EIA standard 1U
Receiving Channel: Dual Channel
Frequency Reliability: $\pm 0.005\%$
Carrier Frequency Range: 554MHz~936 MHz
Modulation: FM
Oscillation: PLL
Receiving Sensitivity: 5dB μ V, S/N>60dB at 25 KHz deviation
Bandwidth: 32MHz
Max. Deviation Range: ± 45 KHz
S/N: >105dB
T.H.D.: <0.7% @1KHz
Frequency Response: 80Hz~18KHz ± 3 dB
Working Distance: 80M(in open space)
Power Supply: DC 12V / 12W
Dimension(mm): 410(W)x43(H)x206(D)
Weight: Approximately 2.2kg

Specifications

UH-222 handheld Microphone

Carrier Frequency Range: 554MHz~936 MHz
Oscillation: PLL
Harmonic Radiation: <45dBm
Bandwidth:
Band HF: 139MHz (797 MHz~936 MHz)
Band AD: 134MHz (662 MHz~796 MHz)
Band EJ: 97MHz (554MHz~651 MHz)
Max. Deviation Range: ± 45 KHz
Capsule : Dynamic or condenser, cardioid
RF Output Power: 10MW/40MW
Battery: AAx2
Current Consumption: 110mA (Typical)
Battery Current/ Life: Approximately 11 hours
Dimension(mm): 52(ϕ)x255(L)
Weight: Approximately 235g(w/o battery)

UT-222 Bodypack Transmitter

Carrier Frequency Range: 554MHz~936 MHz
Oscillation: PLL
Harmonic Radiation: <45dBm
Bandwidth:
Band HF: 139MHz (797 MHz~936 MHz)
Band AD: 134MHz (662 MHz~796 MHz)
Band EJ: 97MHz (554MHz~651 MHz)
Max. Deviation Range: ± 45 KHz
Input Connetor: 4-pin mini-XLR connector
RF Output Power: 10MW/40MW
Battery: AAx2
Current Consumption: 110mA (Typical)
Battery Current/ Life: Approximately 11 hours
Dimension(mm): 84mm(H)x66mm(W)x23mm(D)
Weight: Approximately 155g(w/o battery)