ACEMIC

X4 MAX

STAGE TRUE DIVERSITY WIRELESS MICROPHONE

USER GUIDE



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Feature Abstract

- ACEMIC X4 MAX is a high-quality, stable and reliable four-channel true diversity wireless microphone system, made for touring, live stage, conferences and fixed installations. AES67 or Dante network audio is available as an option.
- The wireless microphone of this system adopts the latest UHF high-fidelity audio wireless transmission technology to ensure the audio clarity and restoration of the microphone
- True diversity reception ensures no dead spots in long-distance transmission to the greatest extent, and the maximum reception distance reaches 200 meters, which is stable and reliable
- 4*20MHz bandwidth design, up to 1600 adjustable frequency points, allowing you to adjust frequency more accurately and improve frequency utilization
- It is easy to operate and has fast spectrum scanning and spectrum frequency selection functions. This function can avoid frequency interference from other wireless devices in the same place.
- Super anti-interference ability, supports 10 set systems working simultaneously without interference
- English and Chinese menu switch on receiver
- The receiver has a key lock function to prevent accidental changes to settings

Frequency Selection

ACEMIC can provide different frequency band options for the wireless system that comply with government regulations in different countries or regions. These regulations help limit the interference of radio frequency (RF) between different wireless devices, And it can prevent interference with local public communication channels such as television and emergency broadcasting.
The receiver and transmitters are labeled with the system's band and frequency range. For example, "610MHz-698MHz".
For information on the available bands in your region, please consult your local dealer or call us to check. You may also go to our officical website (www.acemic. com) for more details.

Group and Channel

To transmit audio signals through a wireless system, the transmitter and receiver must be set to an identical radio frequency or channel. Because each microphone must use a different channel.
A large channel selection range allows users to use more microphones simultaneously. It also provides a wider selection of available channels - these channels are away from interference from television broadcasts, electronic devices, or other wireless systems.
A group is a combination of a series of compatible channels. By setting channels in the same group, wireless microphones can achieve better performance.

Frequency Automatic Scanning

The following functions can scan the radio frequency environment to find the best group and channel settings for specific installations.
Channel scanning: Find the best available channel in the current selection group and set up it for the receiver.

Spectrum Analyzer

This feature can scan audio signals transmitted by multiple wireless systems in the same environment, and then stagger the channels between the system and other wireless devices , this can avoid channel interference issue.

Interface Lock

This feature can lock the transmitter and receiver, so user cannot change setup.

Front and rear panel of receiver



1. IR SYNC window
2. CH1 channel selection button
3. Return / cancel button (EXIT)
4. CH2 channel selection button
5. CH3 channel selection button
6. CH4 channel selection button
7. Menu knob: press to enter / confirm, turn to select
8. Power switch

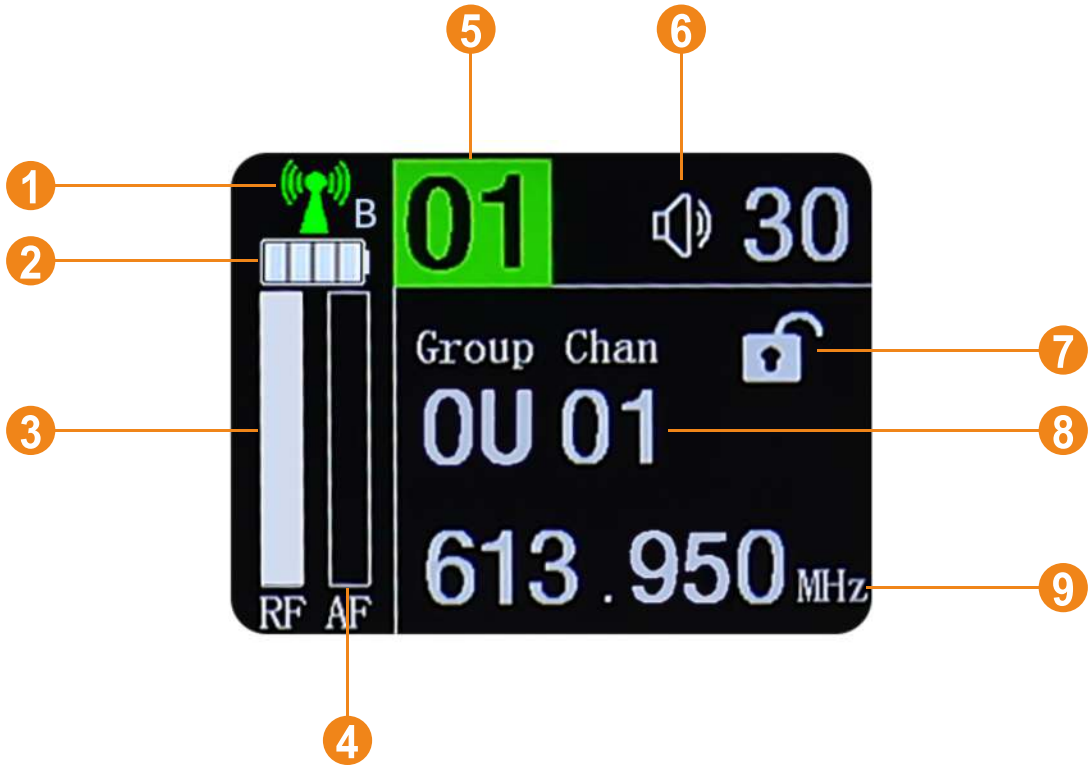


1. ANT B antenna input (BNC)
2. Network port RJ45 (AES67 / Dante option)
3. CH D balanced audio output (XLR)
4. CH C balanced audio output (XLR)
5. MIX balanced output, all channels (XLR)
6. MIX unbalanced output, all channels (6.35 mm)
7. CH B balanced audio output (XLR)
8. CH A balanced audio output (XLR)
9. ANT A antenna input (BNC)
10. Antenna power switch (ON / OFF)
11. DC IN 12 V / 1.5 A, use the original power adapter

Channels on the display (CH1–CH4) correspond to the rear outputs CH A–CH D.

In Sweden, use frequencies below 694 MHz.

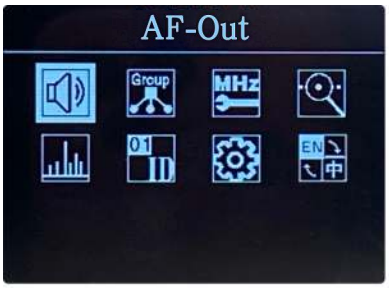
Interface of Receiver



1. Working status of transmitter
2. Power status of transmitter
3. CH1 channel receiver RF signal strength indication
4. CH1 channel audio signal strength indication
5. ID number corresponding to the transmitter, green is the currently operable channel
6. Mic Volume
7. Receiver Lock (press EXIT + menu button at the same time to start, the unlocking operation is the same)
8. Group is the group, Chan is the channel
9. Currently operating frequency

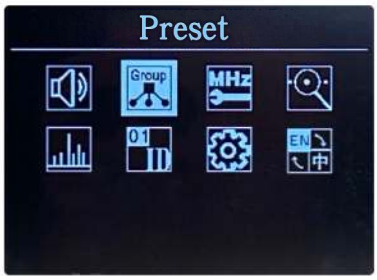
TFT display of receiver

Menu



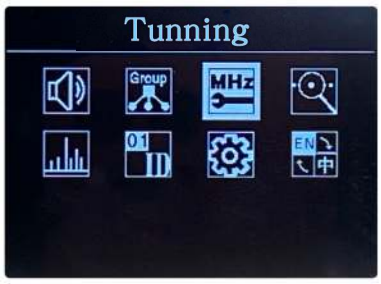


Audio output: Adjust the receiver output volume, 0~+30dB, 1dB adjustment per level



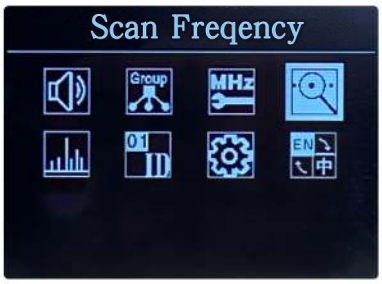


The frequency of each boot can be preset and recalled according to the actual usage environment



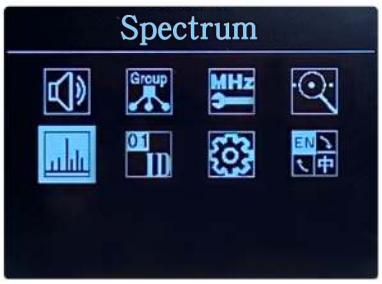


Manual frequency adjustment: Different frequencies can be adjusted and used manually





Automatic scanning: can automatically scan and set the optimal frequency for the current usage environment





Spectrum analyzer: It can scan out which frequencies are interfered with in the current usage environment. Manually adjust and use frequencies that are not interfered with to avoid interference

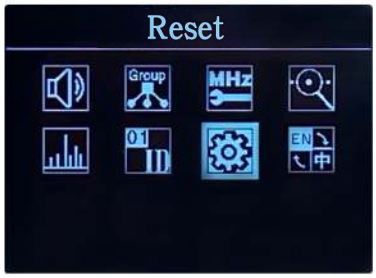
TFT display of receiver

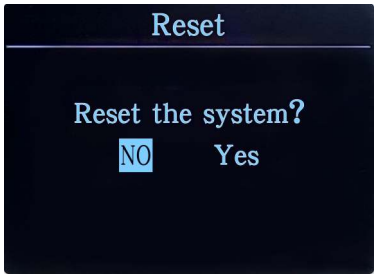
Menu



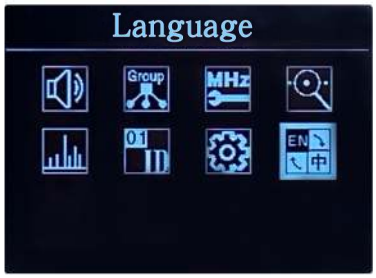


Number setting: 01~99. When multiple X4 MAX systems are used at the same time, the ID number corresponding to the transmitter can be set.





System reset: Restore factory settings





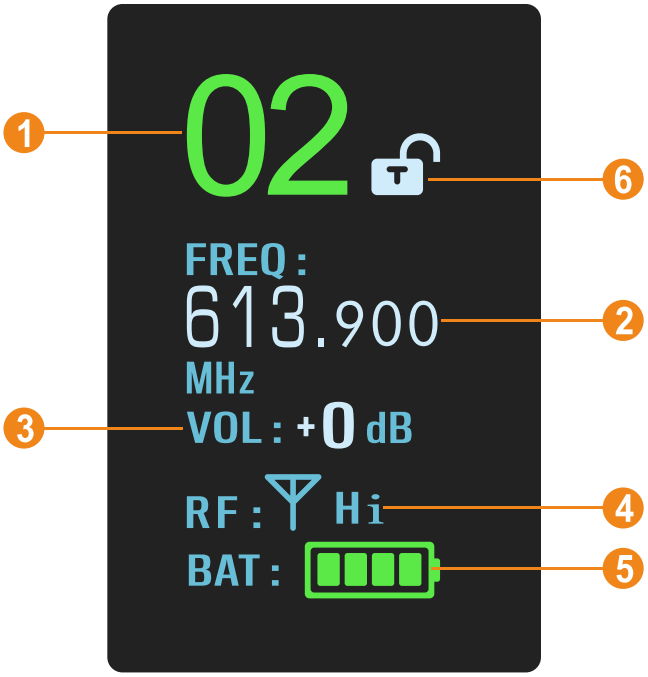
Language selection: The menu language can be switched between Chinese and English

Features of Bodypack Transmitter(BP-A)

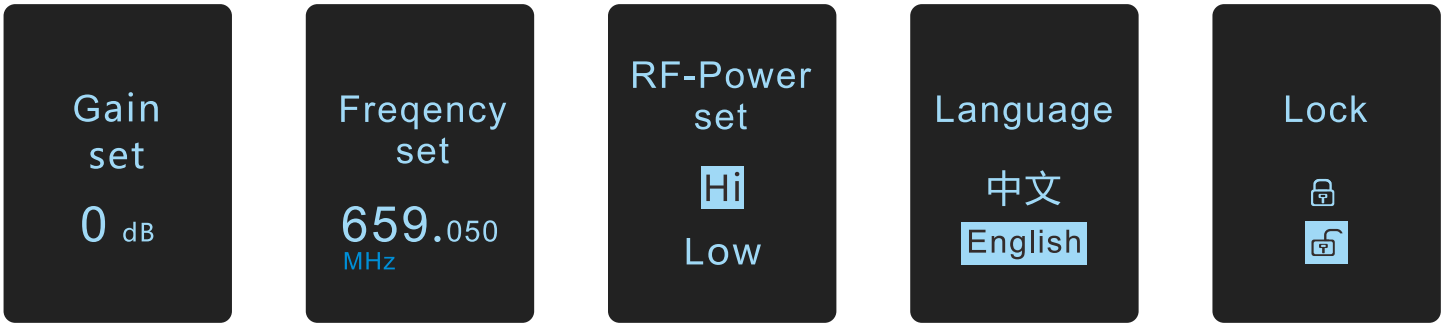


1. Antenna of Bodypack
2. Display of Transmitter
3. 4 pin XLR Port
4. Antenna Port
5. Infrared SYNC Port
6. Power Switch (Long Press)
7. Up Button
8. Feature Menu Button (Short Press)
9. Down Button
10. Battery Compartment

Interface of Bodypack Transmitter(BP-A)



1. Corresponding Code Between Transmitter and Receiver
2. Current working Frequency of Bodypack Transmitter
3. Gain (+4dB+6dB+10dB each step)
4. Bodypack Transmitter Power (Hi or Low)
5. Battery Indicator



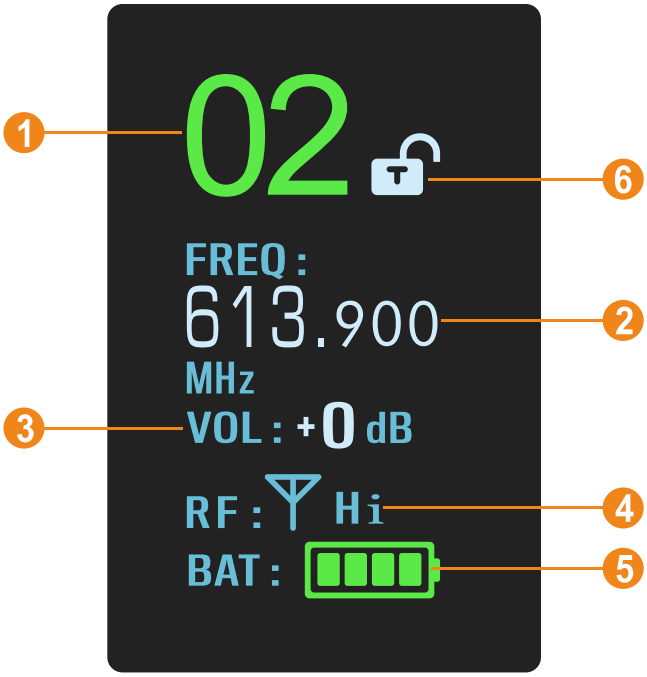
1. Gain setting: -10dB 0dB +10dB three options
2. Press the up and down to manually set the frequency
3. High: 30mW Low: 10mw
4. Chinese and English switching
5. Turn on the lock screen to avoid misoperation

Handheld Transmitter Function Description(MIC B)



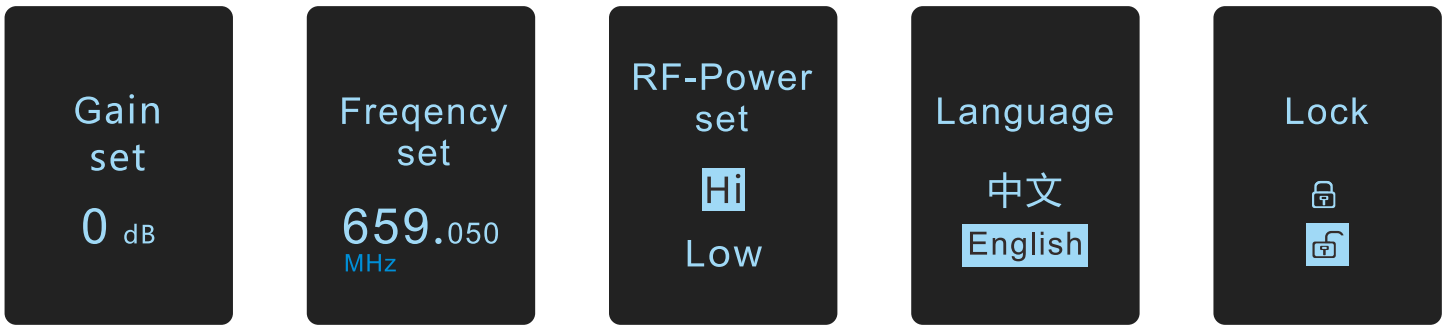
1. 4-pin XLR jack
2. Power (double-click quickly to turn on or off silent mode)
3. Antenna
4. Up
5. Set
6. Battery compartment

Handheld Transmitter Interface Description(MIC B)



1. The corresponding numbers of the transmitter and receiver
2. Operating frequency of the handheld transmitter
3. Gain (three modes to choose from: +10dB +0dB -10dB)
4. Handheld transmitter power (Hi or LOW)
5. Battery life display
6. Lock screen mode

   (need to enter the menu to turn on or unlock)



1. Gain setting: -10dB 0dB +10dB three options
2. Press the up and down to manually set the frequency
3. High: 30mW Low: 10mw
4. Chinese and English switching
5. Turn on the lock screen to avoid misoperation

TR-1 Plug-on Transmitter Function Description



1. Gold-plated XLR female jack
2. Rotate the icon to lock or unlock the wired microphone
3. A red light will be displayed when the microphone volume is overloaded
4. Power indicator
5. Down
6. Set
7. Up
8. Sync window
9. Power (double-click quickly to turn on or off mute mode)
10. Battery compartment lock button
11. Phantom power switch

(1) No need to turn on the switch when connecting a dynamic wired microphone

(2) The switch needs to be turned on when connecting a condenser wired microphone

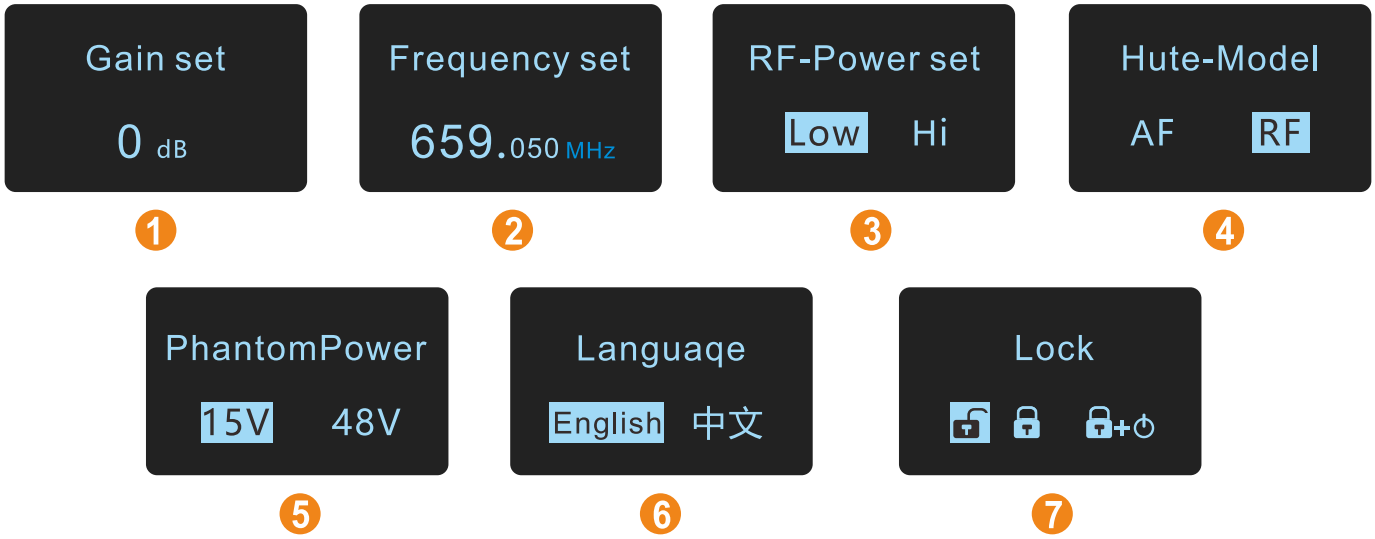
(the red light will light up when the switch is turned on)

12. TYPE-C charging port

Plug-on Transmitter Interface Description



1. The corresponding numbers of the transmitter and receiver
2. Volume gain setting
3. Operating frequency of the bodypack transmitter
4. Battery life display
(Lithium battery is displayed as Li, dry battery is displayed as AA)
5. Phantom power
6. Lock screen or unlock screen icon



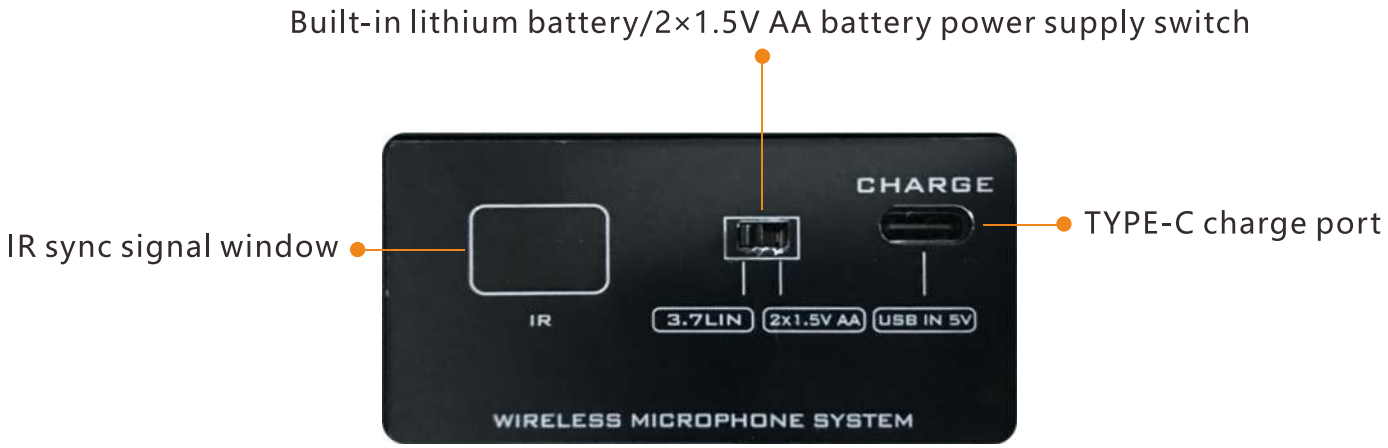
1. Volume setting: Gain has three modes to choose from: -10dB 0dB +10dB
2. Frequency setting: Press the up and down to set
3. Transmitting power: Low: 10mW, High: 20mW
4. Mute mode: Quickly double-click the power button to turn on or off the mute mode
Audio off: Transmitter signal is normal, microphone is muted
RF off: Transmitter signal is turned off, and microphone is muted at the same time (this mode will save more power)
5. Phantom power: 15V/48V phantom power can be manually selected
6. Language: Chinese and English
7. Lock button: The first one: unlock mode; The second one: turn on the lock screen mode, the transmitter can be shut down normally
The third one: turn on the lock screen mode, the transmitter cannot be shut down (need to be unlocked before shutting down)

Conference Mic transmitter function description

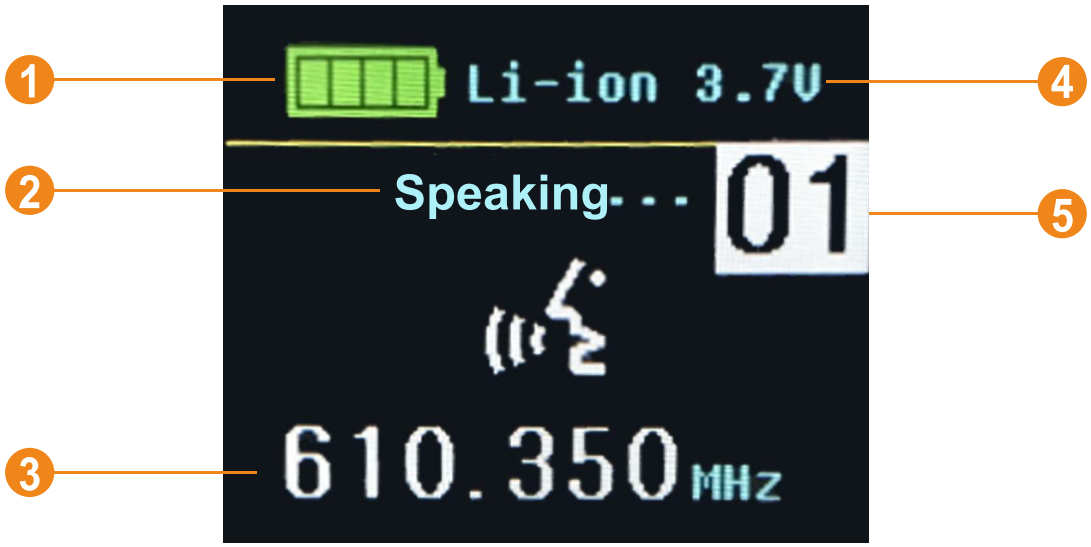


Long press to turn on or off / Short press to turn on or off the mute button

Conference Mic Transmitter Rear Panel



Conference Mic transmitter interface description



1. Battery level indicator

2. Normal speaking status/Turning on mute will be displayed as muted

3. Conference base transmitter frequency

4. Battery type detection display:

   Lithium battery display: Li-ion 3.7V , AA battery display: AA1.5VX2

5. ID numbers corresponding to the conference base transmitter and receiver

SYNC operating guide between transmitter and receiver



1. Long press the channel selection button, and a red light will flash in the IR infrared window of the receiver
2. Face directly the infrared IR port of handheld or bodypack transmitter to the receiver's IR interface
3. When the frequency of the transmitter is consistent with the frequency of the receiver, the MUTE on the receiver display will disappear, the status of the transmitter will be green and the transmitter power status will be displayed, indicating that the frequency has been adjusted.
4. X4 MAX is a four-channel receiver. To sync the CH1 channel, first press the CH1 channel selection button. When the CH1 display ID background is green, long press the CH1 channel selection button. The sync operation for other channels is the same.

Troubleshooting

Problems	Solutions....
No Audio	**Power supply, cable or radio frequency**
Small sound or distortion	Gain
Operating range is short, sudden noise or signal dropout	Radio frequency
Cannot change frequency setup or program the receiver	Lock interface

Power supply

Ensure transmitter and receiver are powered by proper voltage. Receiver should be powered by the original power adapter. Check the transmitter's battery indicator, change battery or charge in time if required.

Gain

Adjust transmitter's gain

Cable

Check if all cables and connectors work well

Feature

- Get transmitter SYNC or make sure transmitter and receiver are set in an identical group and channel
- Check frequency label on transmitte and receiver to ensure that they are working in an identical frequency range

Reduce interference

- Work in different channels or do auto scan for group or channel
- When multiple systems are working, user should check if all systems are set to the channels in an identical group (systems in different frequency ranges need to be set in an identical group)
- The transmitter and receiver antennas should maintain a straight relative position without obstacles
- Keep the receiver antennas away from metal objects or other radio frequency interference sources such as CD players, computers, digital effects devices, network switches, network cables, and personal stereo monitors (PSM)

Network audio (AES67 / Dante option)

Receivers ordered with the AES67 or Dante option have a network port (RJ45) on the rear panel.

The four channels are sent as digital audio over the network to a mixer, DSP or computer with the same protocol.

The standard version has no network audio. Use the XLR or 6.35 mm outputs.

Connection

- Connect the network port to a network switch with a Cat5e or Cat6 cable.
- Use a separate audio network or VLAN when possible, and avoid busy office networks.
- Dante version: find the receiver in Dante Controller and route its four channels to the mixer.
- AES67 version: set up the streams with the AES67 tools of your mixer or network device.

Tip

- Set group, channel and ID on the receiver first, then do the network routing.

Specification for RX and TX

X4 MAX receiver

Frequency Range	UHF 612–698 MHz (in Sweden: below 694 MHz)
Adjustable Channel Number	400 x 4
Frequency Stability	±10 ppm
Receive Sensitivity	-105 dBm (S/N = 12 dB)
Dynamic Range	>110 dB
S/N Ratio	≥118 dB
THD	<0.5 %
Third-Order Intermodulation Rejection	>75 dB
Adjacent Channel Rejection	>110 dB (±200 kHz)
Antenna Input	2 x BNC / 50 Ω
Antenna Output	2 x SMA / 50 Ω
Audio Output	4 x XLR balanced, MIX XLR balanced + 6.35 mm
Network (option)	AES67 or Dante, RJ45
Power Supply	12 V DC / 1.5 A
Size	19" rack, 1U

Bodypack

Frequency Range	612-698MHZ
Maximum Number of Channels	1600
Output Power	5mW/30mW
Spurious Rejection	>-70dBc
Bandwidth	86MHZ
Peak Deviation	±48kHZ
Frequency Response	60-18KHZ
S/N Ratio	>105dB
THD	<0.5%
Input Voltage Range	0.8V max
Power Supply	2 X1.5V(AA)
Operating Time	10h

Specification for RX and TX

Handheld

Frequency Range	612-698MHZ
Maximum Number of Channels	1600
Output Power	10mW /100mW
Spurious Rejection	>-70dBc
Bandwidth	86MHZ
Peak Deviation	±48kHZ
Frequency Response	60-15KHZ
S/N Ratio	>105dB
THD	<0.5%
Input Voltage Range	mic 1V max
Power Supply	2 X1.5V(AA)
Operating Time	10h/5h

Conference Mic Transmitter

Frequency Range	612-698MHZ
Maximum Number of Channels	1600
Output Power	30mW
Spurious Rejection	>-70dBc
Bandwidth	86MHZ
Peak Deviation	±48kHZ
Frequency Response	60-18KHZ
S/N Ratio	>105dB
THD	<0.5%
Input Voltage Range	0.8V max
Operating Time	8h
Power Supply	33.7V built-in lithium battery/2X1.5V(AA)

Plug-on Transmitter

Frequency range	610-698MHz
Bandwidth	88M
Maximum number of channels	8800
Transmit power	10/20mW
Maximum frequency deviation	65KHz
Phantom power supply for pins 2 and 3	15V/48V
Power requirements	1*14500 lithium battery or 1 AA alkaline battery
Battery life	Standard 14500 lithium battery 8-9 hours (high power mode) 10-11 hours (low power mode)