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ERTHPOT

Arche Series

Wireless Microphone System

Installation and Operations Manual

Contents

Introduction

We are delighted that you have chosen to use Erthpot Wireless Conference Systems. Our systems have been designed and developed in India with the highest quality to meet the needs of any audio conference. We are delighted that you have purchased this system, which places you in an exclusive club of satisfied customers, and we are glad to have you on board. Through our years of technical expertise and professional experience, we are able to design and build high-quality products such as Arche. We ensure our products quality, performance, and reliability to the owners of the systems.

01 Safety Operation and Notice

Please read instructions for safety operation carefully before installation and operation. Please save your safety operation guide for future reference.

1. Do not scratch, bend, twist, stretch or heat the power cord as this may cause damage to the power cord, resulting in a fire or electric shock.
2. Do not open the device shell, otherwise it may cause electric shock. If you need to repair, maintain or repair, please contact your local agent.
3. Do not touch the power plug with wet hands as this may cause a fire or electric shock.
4. Do not attempt to modify this device. Failure to do so may result in personal injury or product malfunction.
5. Do not use this equipment near water.
6. If the power cord is damaged (such as a broken wire or bare core), obtain replacement parts from your dealer. Continued use of the equipment with a damaged power cord may result in fire or electric shock.
7. To move the device he power, unplug the power cord, and unplug all connecting cables as this may damage the cable, resulting in a fire or electric shock.
8. Before cleaning the device, unplug the power cord and unplug all connecting cables. Please clean it with a dry soft cloth.
9. If the device is not in use for a long time, turn off the power, it is best to unplug the socket.
10. With the power plug and appliance coupler as the disconnecting device, it should be kept easy to operate.
11. For the safe use of the equipment and adequate ventilation, the minimum clearance around the equipment should be maintained at a distance of 5 cm or more.
12. DO NOT cover the Ventilation holes, such as: newspaper / fabric / curtains and other items.
13. Equipment should not be placed on a bare flame source, such as: lit candles.
14. Battery should not be exposed to sunshine, roasted or other high temperature overheating environment.
15. Do not throw the waste battery, please put in the designated bins.
16. Water protection rating: IPX0. This device is not waterproof.
17. The device can be used normally in tropical / temperate climates.
18. This product is only suitable for safe use at the altitude of 2000m and below.
19. This symbol " ϟ " indicates that dangerous voltage constituting a risk of electric shock is present within this unit.
20. Arche wireless products will be afforded two 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 System Overview

Arche Series of condensed the technology essence that Erthpot 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 UHF 521.25MHz~936.85MHz, 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.
- PLL(Phase Lock Loop frequency control) design ensures transmission reliability, "NoiseLock" squelch effectively blocks stray RF.
- Four frequency group in total, 40 channels, providing more than 400 adjustable frequency for the users.

- 134MHz full band transmitter allows pairing with the receiver irrespective of frequency band.
- The receivers bandwidth is 32 MHz and up to 10 systems can be used simultaneously up to 24
- The handheld microphone: OLED display screen, showing battery level, working channel and frequency. The body is made by durable alloy, effectively protecting the circuit element and battery rack, and with ergonomic grip.
- The diversity antenna reception circuit gives operating distance of up to 100m at clear line of sight.
- Precise low-power circuit design improves the battery life by up to 14 hours on 10mw RF power using two AA alkaline batteries.
- The capsule of handheld microphone can be removed and replaced in case of only failure.
- Using 6.3 mm unbalanced output and XLR balanced output synchronization output design, convenient to connect all kinds of audio processing equipment.
- Designed for use on professional tours, multi functional halls, meeting room, concert halls and houses of worship.

03 Receiver Installation Method

Installation:

- For better operation the receiver should be at least 3ft (1m). above the ground and at least 3ft (1m). away from a wall or metal surface to minimize reflections.
- Attached a pair of supplied UHF antennas to the antenna input jacks, the antenna is normally positioned in the shape of a “ V ” (both 45° from vertical) for best reception.
- Keep antennas away from noise sources such as computers, 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.

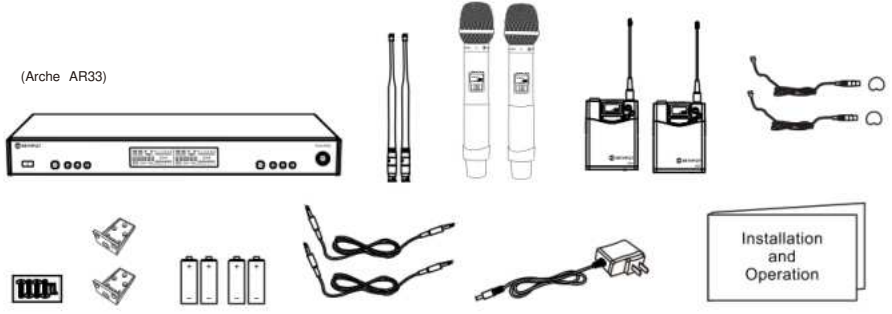
04 Packing List

Arche AR31/32:

- Wireless microphone receiver *1
- Wireless transmitter *1
- BNC Antenna *2
- External power adapter * 1
- 1 meter audio cable *1
- 1.5V AA battery *2
- Rack mount kit (screw) * 1 set
- Installation and operation guide * 1

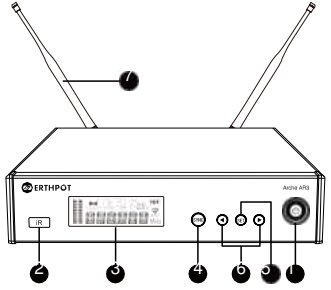
Arche AR331/332:

- Wireless microphone receiver *1
- Wireless transmitter *2
- BNC Antenna *2
- External power adapter * 1
- 1 meter audio cable *2
- 1.5V AA battery *4
- Rack mount kit (screw) * 1 set
- Installation and operation guide * 1

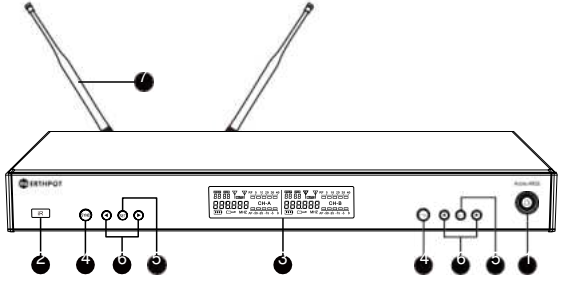


05 Receiver Front Panel Function Introduction

(Arche AR3)



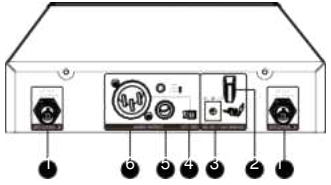
(Arche AR33)



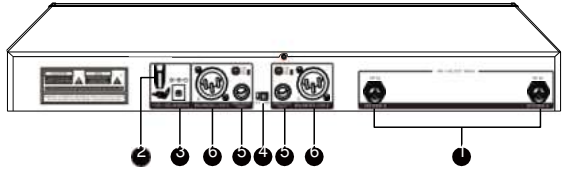
1. Power switch: Turn on the receiver of power supply, long press to turn off the receiver.
2. Infrared data transfer window (IR) : Transmit channel data from the receiver to the transmitter, so that they are in the same frequency, in order to realize the synchronization.
3. LCD display: Display working channel or frequency, RF/AF, diversity strengths, transmitter battery level, mute and operation menu, etc.
4. " SYNC " button: When the infrared frequency window of the receiver and transmitter is aligned, press the "SYNC" button, synchronization of transmitters via IR interface from receiver will be done.
5. " SET " button: Press to step through menus, choose operating frequency and select receiver function options.
6. " ◀ / ▶" allow control button: Press the allow button to edit the menu parameter values. Long press " ◀ /▶ " button to enter [AFS] auto- scan function and the receiver will auto- scan and lock on to an open, interference-free frequency.
7. 1/2 wavelength BNC antenna: Used to receive radio transmitter for transmission.

06 Receiver Rear Panel Function Introduction

(Arche AR3)



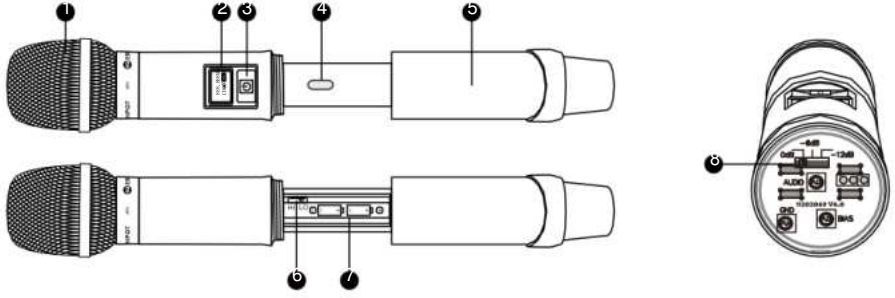
(Arche AR33)



1. RF antenna diversity BNC input connector: suitable for connection of antenna A and antenna B, and supports DC 8V/150mA power output.
2. Anti-pull device: used to fix the connecting cable of the external power adapter.
3. DC IN socket: connect to external power adapter.
4. LIFT/GND switch: control XLR pin 1 whether is contact GND.
5. Unbalanced audio output port (dual channel independent): The 6.3mm port can be connected to an aux- level input of a mixer or power amplifier.
6. Balanced audio output port (dual channel independent): The XLR port can be used to connect a standard 2 conductor shielded cable the receiver output to a balanced microphone level input on a mixer.

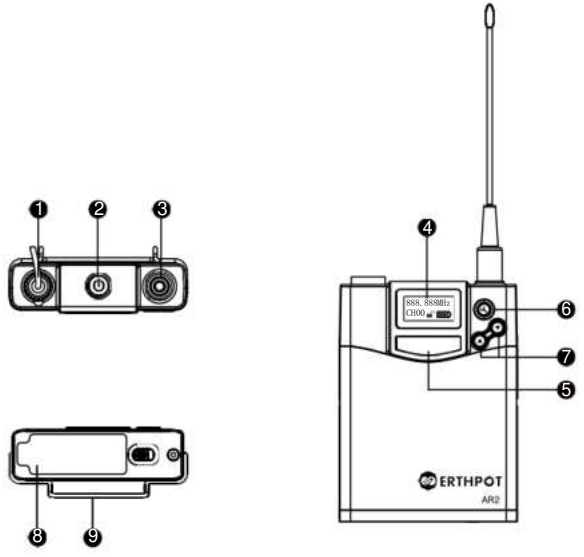
07 Transmitter Function Introduction

Handheld microphone (AR1)



1. Microphone Head: It is the important part to transfer sound into audio signal. The microphone head is separate to change the microphone head if needed.
2. OLED display: display the frequency, channel, lock and battery life. Battery indicator displays a maximum of 4 bar segments. When it leaves 1 bar segment, the batteries should be replaced immediately.
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): Synchronization of transmitters via IR interface from receiver.
5. Battery Cover: Unscrew it can reveal the battery compartment; When installing, replacing or setting the infrared frequency, the battery cover must be opened.
6. RF power switch: 40mw for HI & 10mw for Low.
7. Battery Compartment: Insert 2 fresh 1.5V AA batteries. (Alkaline type is recommended. Please remember to replace both batteries.)
   Warn: Observe correct polarity as marked inside the battery compartment to avoid damage to the internal electric parts.
8. The audio gain switch: 3 options (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).

Bodypack transmitter (AR2)



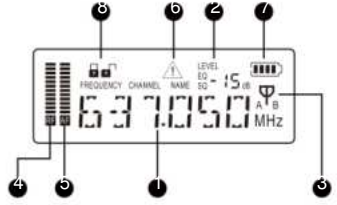
1. 3.5mm crimp type antenna: For transmitting a bodypack radio carrier.
2. Power Button/Mute Button: Press the power button to turn on the transmitter, press the power button 1.5 second enter the mute status, press one more time to close the mute function. Long press 3 seconds to turn off the transmitter.
3. TA4M/LEMO input jack: Connect to a microphone or instrument cable.
4. OLED display: display the frequency, channel, lock 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): Synchronization of transmitters via IR interface from receiver.
6. " " button: Press to enter the selection or confirmation menu.
7. " / " allow control button: Press the allow button to edit the menu parameter values.
8. Battery Compartment: Pull to open the battery door and insert 2 fresh 1.5V AA batteries. (Alkaline type is recommended. Please remember to replace both batteries.)
   Warn: Observe correct polarity as marked inside the battery compartment to avoid damage to the internal electric parts.
9. Belt clip: Fix the transmitter around the user's waist.

08 System Setup

Turn on the receiver:

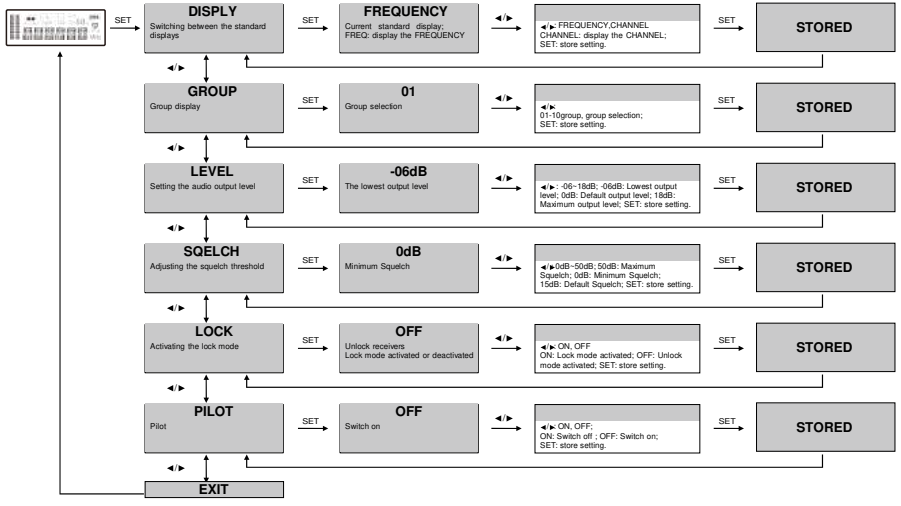
1. When turning on the receiver, you need to turn off the transmitter first, otherwise it will affect the frequency pairing.
2. Press the power switch button of the receiver: the LCD backlight lights up, and after 1-2 seconds, the LCD screen will display normally. If the display shows that more than two segments of signals have been received, it means that there is external frequency interference, please change another operating frequency.
3. Operating frequencies can be changed by manual setting or automatic scanning search:
   a: Manually set the operating frequency: According to each channel, press the " ◀ / ▶ " button to change the frequency, after the selected frequency flashes 4 times, the receiver will enter the selected frequency and display it on the LCD screen.
   b: AFS automatic frequency search: long press the " ◀ / ▶ " button for 3 seconds, the receiver will start scanning, and after searching for about 30 seconds, it will lock on an interference-free frequency.

Arche AR3 Single Channel Receiver Display

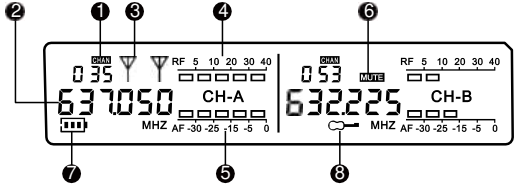


1. Display status: Display status according to the current setting (FREQUENCY, CHANNEL, NAME are optional).
2. Output indication status: Display the working level size according to the current Setting (LEVEL, SQ are optional).
3. Antenna signal.
   RF level display: displays the received RF signal strength.
4. AF level display: displays the strength of the audio signal.
5. Note sign: This icon is displayed when there is no received signal or when the audio signal is distorted.
6. Battery status: Display the real-time battery strength of the transmitter.
7. Lock status: Displays whether the menu function of the receiver is locked or not.

Arche AR3 Main Menu



Arche AR33 Dual Channel Receiver Display

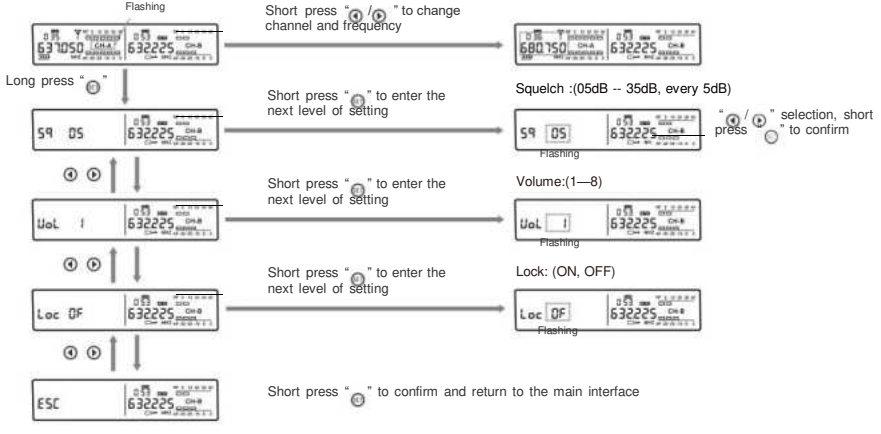


❶ Channel menu display: When CHAN lights up, it displays the current working channel.
❷ Frequency menu display: display the current working frequency.
❸ Antenna signal.
❹ 5-level RF level display: display the received RF signal strength.
❺ 5-level audio level display: display the strength of the audio signal.
❻ Mute display: when MUTE lights up, it means no RF signal is received.
❼ Battery status: Display the real-time battery strength of the transmitter.
❽ Lock status: Displays whether the menu function of the receiver is locked or not.

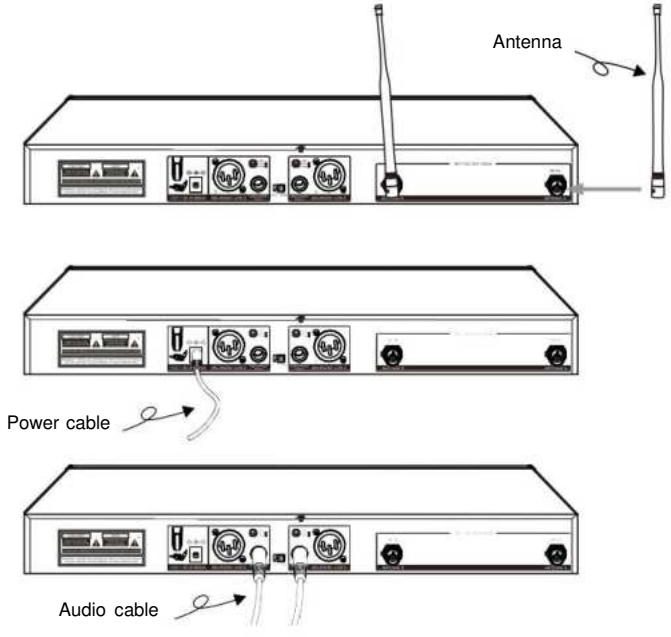
Arche AR33 Main Menu

Main menu operation settings:

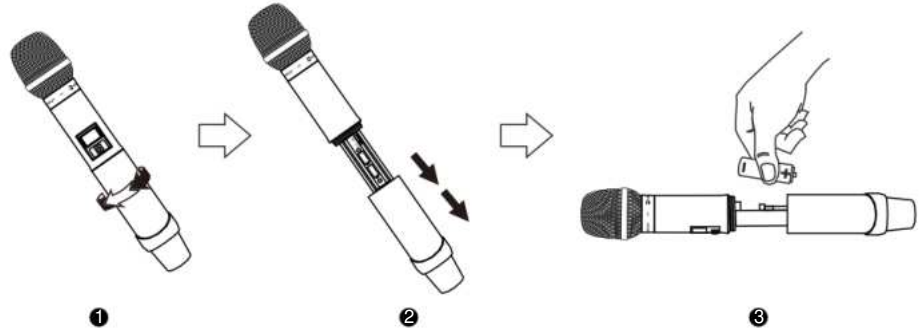
Short press the channel button to select the corresponding channel, when the CH-A or CH-B on the display is flashing, short press the " ◀ " or " ▶ " control button to select the channel and frequency; long press the " ● " button to enter the corresponding channel menu settings (as shown in the figure below).



(Arche AR33)

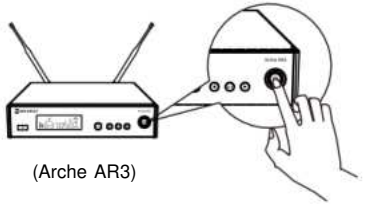


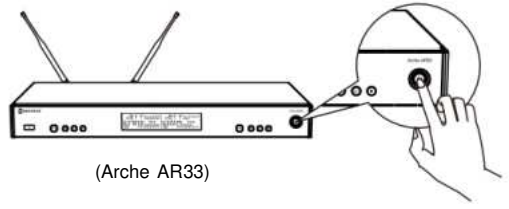
10 Transmitter Battery Installation



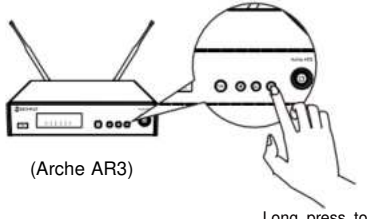
11 User-friendly Steps

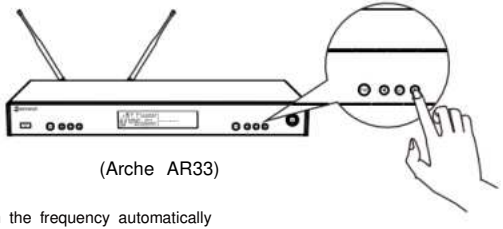
1. After connecting the antenna and the power cable, press the power button to turn on the receiver. When the display is lit, the power is turned on successfully. (As shown below)


(Arche AR3)


(Arche AR33)

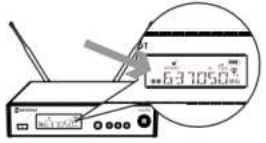
2. Long press " ⏻ " button on the receiver to enter Automatic Frequency Search (AFS) function. (As shown below)


(Arche AR3)

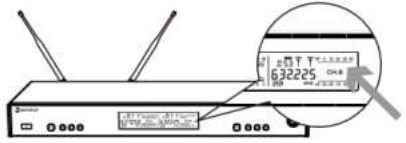

(Arche AR33)

Long press to search the frequency automatically

The searched channel automatically calculates the interference-free frequency. The “RF” light on the receiver display is 0 grid. If not, you can repeat this action until a clean channel is found. (As shown below)

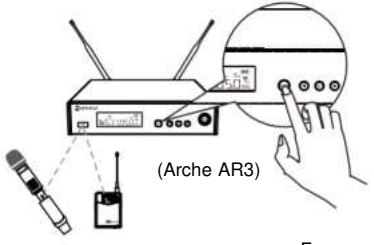


(Arche AR3)

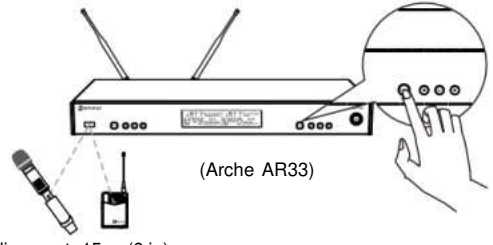


(Arche AR33)

3. The transmitter’s infrared window facing to the receiver IR port. Press the “SYNC” button. (As shown below)



(Arche AR3)



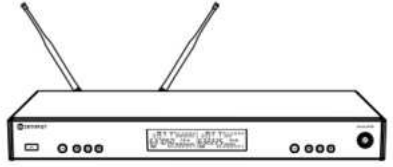
(Arche AR33)

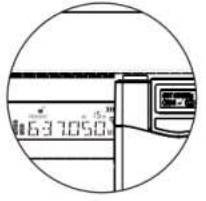
Frequency alignment<15cm(6 in)

The frequency of the transmitter and the receiver are synchronized. When talking with the microphone, the “AF” signal in the display jumps to indicate that there is an audio output. (As shown below)

(Arche AR3)

(Arche AR3)





Channel display (receiver and transmitter display the same frequency)

12 Technical Specifications

Arche AR3 Single Channel Receiver

Carrier Frequency Range	554MHz~936MHz
Frequency Bands	K: 522-554MHz, J: 554-586 MHz, I: 586-618MHz, K: 618-651MHz
Operating Bandwidth	32MHz
Oscillation	PLL synthesized
Diversity Principle	Antenna switching diversity via 1/2 wave antennae
Sensitivity	5dBμV, S/N>60dB at 25 deviation
Max Deviation Range	±45KHz
S/N Ratio	>105dB
T.H.D	<0.7%@1KHz
Frequency Response (audio)	45Hz-18KHz ±3dB
Operating Range	100M typical*
Power Supply	DC 12V/12W adapter
Dimension (mm)	205(W)x206(D)x43(H)
Weight	Approximately 1.0Kg
Output Connector	XLR balanced & 6.3φ phone jack unbalanced
Housing	Pressed steel powder coated enclosure
Temperature range	0°C - 40°C

Arche AR33 Dual Channel Receiver

Carrier Frequency Range	554MHz~936MHz
Frequency Bands	K: 522-554MHz, J: 554-586 MHz, I: 586-618MHz, E: 618-651MHz
Operating Bandwidth	32MHz
Oscillation	PLL synthesized
Diversity Principle	Antenna switching diversity via 1/2 wave antennae
Sensitivity	5dBμV, S/N>60dB at 25 deviation
Max Deviation Range	±45KHz
S/N Ratio	>105dB
T.H.D	<0.7%@1KHz
Frequency Response (audio)	45Hz-18KHz ±3dB
Operating Range	100M typical*
Power Supply	DC 12V/12W adapter
Dimension (mm)	410(W)x206(D)x43(H)
Weight	Approximately 1.9Kg
Output Connector	XLR balanced & 6.3φ phone jack unbalanced
Housing	Pressed steel powder coated enclosure
Temperature range	0°C - 40°C

AR1 Handheld Microphone

Carrier Frequency Range	522MHz~936MHZ
Oscillation	PLL Synthesized
Operating Bandwidth	134MHz
Max. Deviation Range	±45KHz
Microphone Element	Dynamic (removable mic head)
Polar Pattern	Cardioid
RF Output Power	10mW/40mW
Battery	AA x 2 (Alkaline)
Current Consumption	110mA(Typical)
Battery Current/ Life	Approximately 14 hours*
Microphone Lengths (mm)	52(Φ)x255(L)
Weight	Approximately 235g (w/o battery)
Housing	Die cast metal body

AR2 Bodypack Transmitter

Carrier Frequency Range	522MHz~936MHZ
Oscillation	PLL Synthesized
Harmonic Radiation	<45dBm
Bandwidth	134MHz
Max. Deviation Range	±45KHz
Input Connector	TA4M/LEMO connector
RF Output Power	10mW/40mW
Battery	AA x 2
Current Consumption	110mA(Typical)
Battery Current/ Life	Approximately 11 hours
Dimension (mm)	84(H) X66(W) X 23(D)
Weight	155g (w/o battery)
Housing	Die cast metal body
Supplied microphone	ALM-02 Lavalier/Collar microphone
Transducer type	Electret condenser
Polar Pattern	Cardioid
Sensitivity	-37dBV/Pa