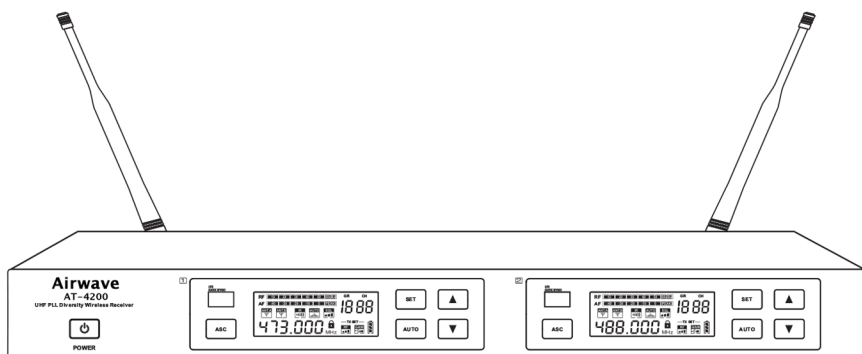


AIRWAVE TECHNOLOGIES

AT-4200

Wireless Microphone System User Guide



AIRWAVE TECHNOLOGIES

Thank you for purchasing the Airwave Technologies AT-4200 wireless systems. The AT-4000 Series can be used in a variety of ways including live performances, public speaking, entertainment venues, and the recording arts requiring systems of 16 channels or less.

Warranty Information & Technical Support

At Airwave Technologies, we believe in and stand behind all of our quality products. Any reasonable warranty claim will be honored within a one year period. If anything is defective, simply call 305-891-7399 for an RA#, write it on the out side of a shipping box, and send us the defective piece or system, and we will gladly repair or replace it for you. Please contact an Airwave Technologies dealer near you for parts and accessories for your wireless system.

Service Phone Number - 305-891-7399
Service email - Service@AirwaveTechnologies.com

Airwave Technologies, Inc.
ATTN: Service Department / RA#_____
2901 Simms Street, Suite F
Hollywood, FL 33020

FCC Statement

FCC ID: 2AINTAT-4200 - This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential 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 different circuit
- Consult the dealer or an experienced radio/TV technician for help

This equipment has been verified to comply with the limits for a class B computing device, pursuant to FCC Rules. In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

System Components

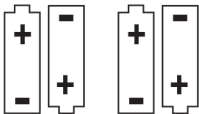
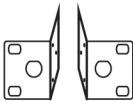
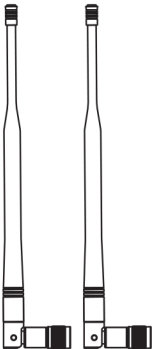
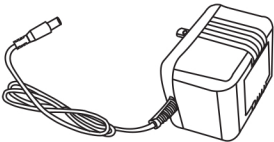
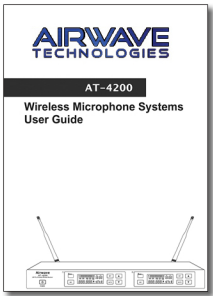
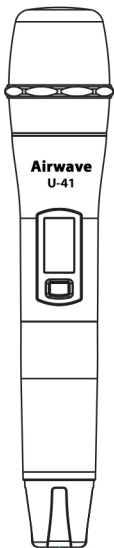


AT-4200 System

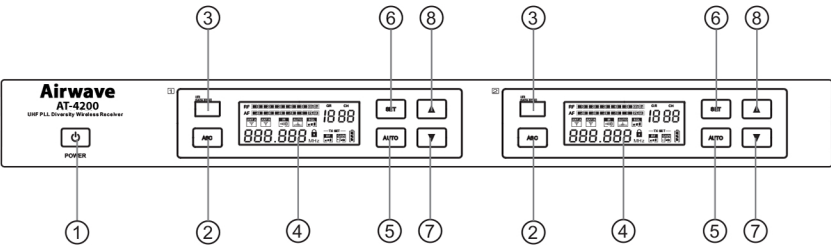
- AT-4200 Receiver
- Power Adapter
- Rack Panel
- Two Antenna
- One 1/4" Audio Cable
- Four 1.5V "AA" Batteries
- User Manual

AT-U42 Bodypack Transmitter

AT-U41 Handheld Transmitter

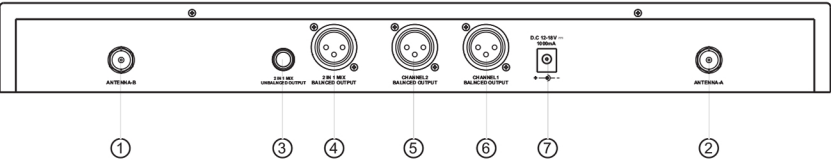


AT-4200 Receiver Front Panel Features



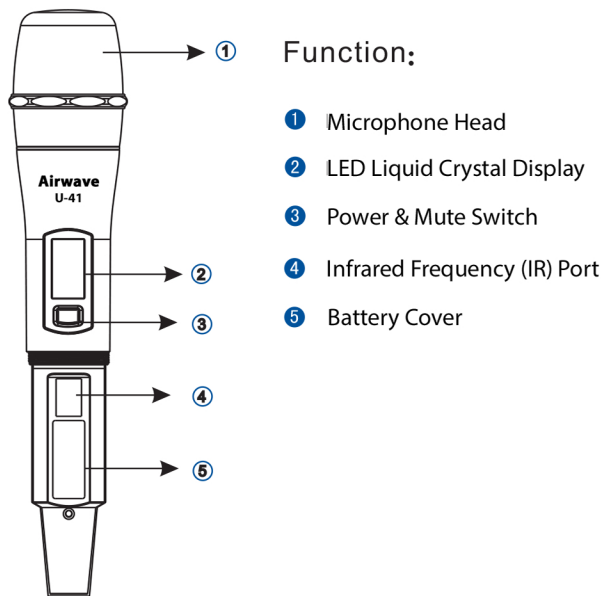
- 1 Power Button - Press for 2 seconds to turn on, hold longer to turn off.
- 2 “ASC” Infrared Frequency Button - Press this button to establish infrared connection between the receiver and the transmitter.
- 3 Infrared Frequency “IR” Window
- 4 LED Display
- 5 Auto Button for Fast Frequency Sweep
- 6 Set Button - To set all functions showing on the screen.
- 7 8 Quick Up and Down Channel Setting Buttons

AT-4200 Receiver Rear Panel Features



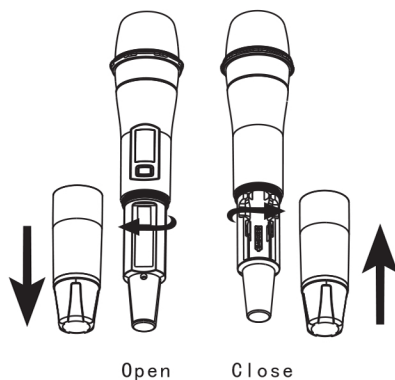
- 1 Antenna Jack B 50 ohm
- 2 Antenna Jack A 50 OHM
- 3 1/4" Mix Output Socket
- 4 XLR Mix Output Socket
- 5 XLR Output Socket Channel 2
- 6 XLR Output Socket Channel 1
- 7 DC Power Adapter Socket

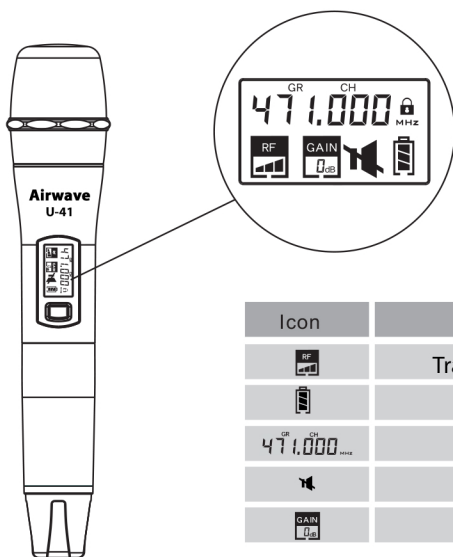
U-41 Handheld Transmitter Features



Changing Batteries:

Two Alkaline batteries should provide power for approximately 10 hours. When the power indicator on the display is flashing, batteries should be replaced immediately as shown below.





Icon	Function
	Transmitter Intensity Indicator
	Battery Power Indicator
GR CH 471.000	Frequency Setting
	Mute Icon
	Microphone Gain Value

Mute: Tap the power button to mute handheld transmitter, the icon will be displayed. Tap the power button again to clear mute.

- (1) Microphone Gain Adjustment Display



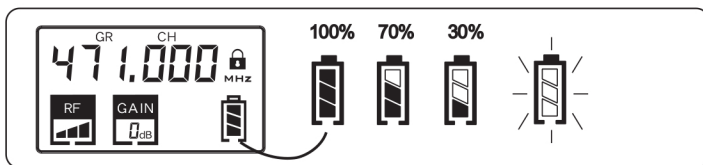
- (2) Transmitting Power Level Display



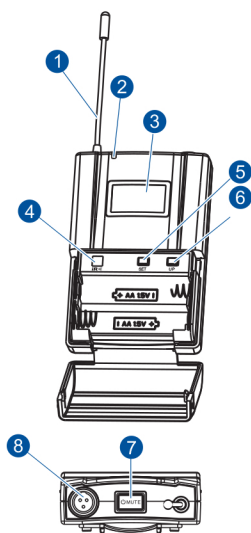
- (3) Frequency Setting Display



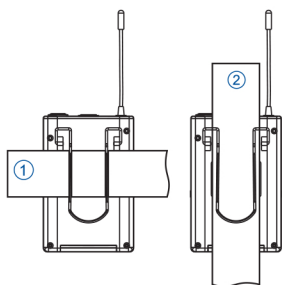
- (4) Low Power Tip: If the battery icon shows less than 30%, replace batteries immediately. Battery icon will Flash prior to shutting off.



U-42 Backpack Transmitter Features

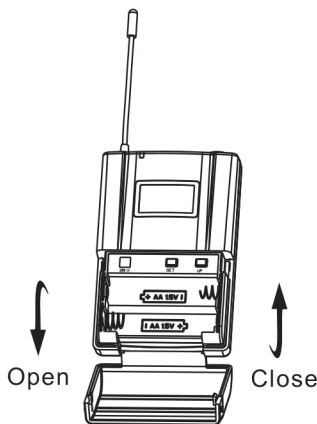


- 1 Antenna
- 2 Power Indicator Light
- 3 LED Screen
- 4 Infrared Frequency (IR) Window
- 5 SET Button
- 6 UP Button
- 7 Power / Mute Button
- 8 3-Pin Microphone Input



Wearing the Backpack Transmitter

- 1 - Transmitter Clamped to a Belt
- 2 - Transmitter Clamped to Guitar Strap



Changing Batteries

Two Alkaline batteries should provide power for approximately 10 hours. When the power indicator on the display is flashing, batteries should be replaced immediately as shown below.



Frequency Selection Guide

Radio frequencies used for wireless communication in most countries including the United States are under strict control and regulations. These regulations specify which devices can be used at what frequency and tend to limit interference within the frequency bands.

To ensure constant reliable frequency availability and to minimize the interference that might occur the user can choose frequency bands between 470 and 489 MHz or 514 and 542 MHz.

For the user's convenience, preset frequency groups have been created to minimize intermodulation distortion. When using multiple receivers and transmitters each system must use a separate and different channel. Grouping the receivers and then using separate channels on the transmitters will provide the best frequency use and distribution.

When using up to 3 units (max of 6 channels) in the same frequency range, the wireless microphone system does not require an antenna combiner under normal conditions. If using 4 to 7 units (8 to 14 channels) the use of an approved antenna combiner is highly recommended.

For assistance in selecting the best operating frequency range in your zipcode, you may call Airwave Support at 305-891-7399

Navigating The Menu On The Receiver (AT-4200)

1. Hold **SET** button for 3 seconds to unlock display.
2. Press **SET** button again and you will scroll through the different settings on the display. Volume (default), **GR** Group, **CH** Channel, **SQL** Squelch, **RF** (Radio Frequency) Range, & **Gain**.
3. Selected setting will flash.
4. Press up and down buttons to change selection values.
5. System saves settings and auto locks when idle for 10 seconds.

Syncing Transmitters (U-41 Handheld or U-42 Body Pack)

1. Turn **ON** transmitter and lower or remove its battery cover. Locate its IR transmission window.
2. Press the **ASC** button on receiver to sync its setting to the transmitter. Receiver will transmit selected group, channel, and gain adjustments for approximately 25 seconds.
3. Hold up the IR window of the transmitter to the IR window of the receiver about 3-6" apart during the 25 second IR transmission cycle. NOTE*** On units manufactured after 2021, the ASC button acts as an ON / OFF toggle. Long pressing the button will not activate the syncing sequence. Lightly press the ASC button and the IR Window Icon will flash during IR transmission.
4. Verify matching channels and settings between the transmitter and receiver. The RF meter of the receiver should have full bars across the screen with matching frequency. The AF meter should display bars when you speak into the transmitter.

Selecting A Clear Channel

1. Turn **ON** the receiver and keep the transmitter **OFF**.
2. On the top of the display you will see 2 metered bars, **RF (Radio Frequency Indicator)** and **AF (Audio Frequency)**. Goal is to select a channel without RF and AF activity during selection process.
3. Groups and channels can be selected manually following the instructions above.
4. You can use **AUTO** function to select best available frequency within the selected group. Press the **AUTO** button after unlocking the system (no icons flashing). **AUTO** scan can take up to 30 seconds.
5. Turn on transmitter and sync it to the receiver. See instructions for "Syncing Transmitters".
6. For multiple systems, repeat step 3-5 for each transmitter. Turn on one transmitter at a time to make sure there's no interference on any of the other receivers.

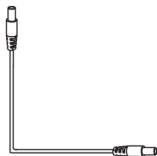
Tips For Best Performance

1. If experiencing interference or signal dropouts, search and change to another channel using instructions above.
2. If signal dropouts persist, you may increase the transmitter signal strength in settings which should give the system longer range, at a slightly greater risk of experiencing interference.
3. If Interference is the persistent, try increasing the SQL (Squelch) settings. Increasing the Squelch will help ignore audible artifacts / interference at the slight cost of transmission range. Experiment with adjusting the squelch and transmission signal strength for optimal performance.
4. If issues persist, please contact the Airwave Technologies support number or email so we may assist with troubleshooting and frequency selections.

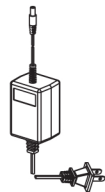
Audio Rack Connection Diagram



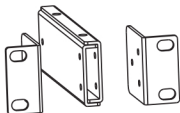
1 TNT/BNC dualhead connecting line (Optional Accessory)



2 Power connecting line



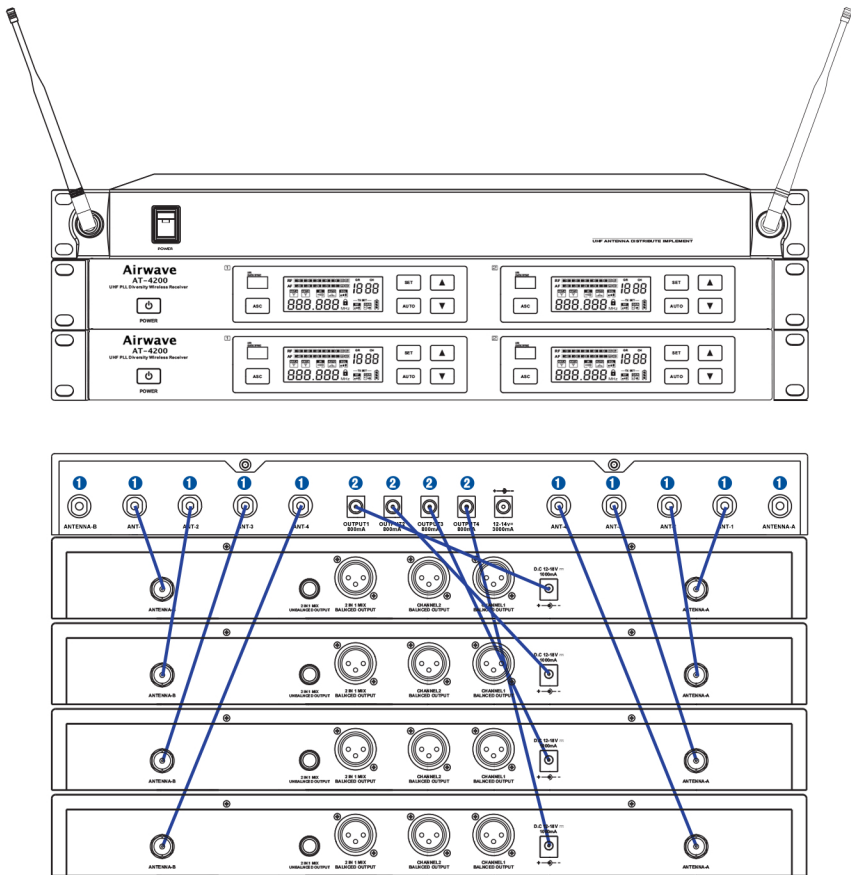
3 Direct power adapter socket



4 Airwave Rack Mount System (Optional Accessory)



5 Antenna Combiner & Amplifier (Optional Accessory)



Important Safety Instructions

- Transmitter and antenna should remain in line of sight for best signal reception.
- Do not place the receiver in close proximity to a metal surface or near any digital device.
- Receiver should be placed 3' off the ground and have space surrounding to ventilate.
- Ventilation holes should not be covered.
- Two-way radios can interfere with any audio transmission. Insure the transmitter and receiver are far from these devices to eliminate potential sources of interference.
- Receiver should not be placed in direct sunlight and should be kept away from any water sources or open flame.
- Nominal operating temperature is -5° C ~ +50° C (23° F ~ 122° F)

Troubleshooting Guide

Problem	Indicator (lamp) state	solution
No sound or faint sound	Transmitter Power Light Off	Confirm main power is on Confirm batteries are inserted correctly +/- Confirm batteries in transmitter are charged
	Receiver Power Indicator Off	Confirm AC power is connected to receiver via power jack. Confirm AC power supply is normal Confirm Voltage on power supply is normal
	Receiver RF Indicator illuminated	Adjust high receiver volume control Adjust high transmitter gain switch setting Check receiver / amplifier / mixer connections
	Receiver Power Indicator Off Receiver RF Indicator illuminated	Ensure receiver is away from metal surfaces. Ensure space between transmitter and receiver is free of obstacles. Verify transmitter and receiver are using the same frequency.
	Low-voltage light on transmitter	Replace Batteries in Transmitter
Distortion or excess noise	RF Signal illuminated on receiver	Ensure that no potential sources of interference are nearby. (CD players, computers, digital devices, ear monitoring systems). Set receiver and receiver to a different frequency. Reduce the transmitter. signal Replace batteries. If using multiple systems - increase frequency interval between the systems.
Distortion level gradually increased	Low Battery Indicator flashing	Replace Batteries in Transmitter
Output has feedback and / or distortion.		Adjust the transmitter and receiver volume to appropriate levels.

AT-4200 DUAL CHANNEL WIRELESS RECEIVER SPECIFICATIONS

Frequency Range: 470~489MHz / 514~542 MHz

Modulation : FM

Working Range: 328'

Optional Frequency: 192

Frequency Response: 50Hz ~ 15KHz (± 3 dB)

Dynamic Range: > 105dB

THD: < 0.5%

S/N Ratio: > 102dB(A)

RF Sensitivity: < -95dBm

Image Rejection: > 60dB

Output Connectors: XLR $\times$ 1/ 1/4-inch connector $\times$ 1

Audio Output Level: XLR: +10dBV / 1/4-inch connector: +8dBV

Impedance: XLR: 3K Ω / 1/4-inch connector: 3K Ω

Pilot Tone: 32.768KHz

Display: LCD

Power Requirements: 12V/0.5A DC

Operating Temperature Range: 32°F - 122°F

Dimensions: 6.299" (W) x 16.142" (L) x 1.732" (H)

Weight: 3.858 lb.

AT-U41 HANDHELD MICROPHONE TRANSMITTER SPECIFICATIONS

Capsule Frequency Response: 50Hz ~ 16KHz

Capsule Sensitivity: -50dB $\pm$ 2dB V/PA@1KHz

Capsule Directivity: Single Point

Gain Adjustment Range: 0/3/6dB

Input Impedance: 5K Ω $\pm$ 30% @ 1KHz

Output Impedance: 400 Ω $\pm$ 30% @ 1KHz

Output Power: 2mW / 10mW / 30mW

Spurious: >dB

Pilot Tone: 32.768KHz

Display: LCD

Power Requirements: 1.5V x 2(AA)

Battery Life: >10H/1300mAH

Dimensions: 9.84" x 1.97"

Weight: 12.7oz

AT-U42 BODYPACK TRANSMITTER SPECIFICATIONS

Gain Adjustment Range: 0/3/6dB

Input Impedance: 5K Ω

Output Power: 2mW / 10mW / 30mW

Harmonic Rejection: > 50dB

Pilot Tone: 32.768KHz

Display: LCD

Power Requirements: 1.5V x 2(AA)

Battery Life: >10H/1300mAH

Dimensions: 6.5" x 2.56" x .91"

Weight: 4.59oz

www.AirwaveTechnologies.com