AIRWAVE TECHNOLOGIES

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IEM-2200

In-Ear Monitoring System
User Guide

AIRWAVE TECHNOLOGIES

Thank you for purchasing the Airwave Technologies IEM-2200 In-Ear Monitoring System. The IEM-2200 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: - 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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 0cm between the radiator and your body.

Important Safety Instructions

Receiver and transmitter antenna should remain in line of sight for best signal reception.

Do not place the transmitter in close proximity to a metal surface or near any digital device.

Transmitter 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.

Transmitter should not be placed in direct sunlight and should be kept away from any water sources or open flame.

Nominal operating temperature is 23° F ~ 122° F

Troubleshooting Guide

Problem	Indicator (lamp) state	solution
No sound or faint sound	Receiver Power Light Off	Confirm main power is on Confirm batteries are inserted correctly +/- Confirm batteries in receiver are charged
	Transmitter Power Indicator Off	Confirm AC power is connected to transmitter via power jack. Confirm AC power supply is normal Confirm Voltage on power supply is normal
	Transmitter RF Indicator illuminated	Adjust high transmitter volume control Adjust high receiver gain switch setting Check receiver / amplifier / mixer connections
	Receiver Power Indicator Off Receiver RF Indicator illuminated	Ensure transmitter 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 receiver	Replace batteries in receiver
Distortion or excess noise	RF Signal illuminated on transmitter	Ensure that no potential sources of interference are nearby. (CD players, computers, digital devices, ear monitoring systems). 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 receiver
Output has feedback and / or distortion.		Adjust the transmitter and receiver volume to appropriate levels.

System Components

IEM-2200 Wireless Rackmount Transmitter
2 IEM-100 Receivers
2 IEM-BUD Stereo Earbuds
2 Antennas
Combo Rack Mount / Antenna Front Mount Kit
with Mounting Screws, Cables, BNC Connectors
Power Adapter
Four 1.5V AA Batteries

IEM-2200 Transmitter 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
6. Set Button - To set all functions showing on the screen.
7. 8. Up and Down Setting Buttons

IEM-2200 Transmitter Rear Panel Features

1. Antenna Jack B 50 ohm
2. Antenna Jack A 50 OHM
3. DC Power Adapter Socket
4. XLR / 1/4" Combo Socket - Left AF 2
5. XLR / 1/4" Combo Socket - Right AF 2
6. XLR / 1/4" Combo Socket - Left AF 1
7. XLR / 1/4" Combo Socket - Right AF 1

IEM-2200 IN-EAR MONITOR TRANSMITTER SPECIFICATIONS

Frequency Range: 490~510MHz
Infrared Data Synchronization
Band Width: 20MHz
Working Range: 150'
Frequency Response: 20Hz~20KHz (±3dB)
Maximum Frequency Offset: >+/-50KHz
Dynamic Range: >102dB
Audio Inputs: 4 x XLR-1/4" Combo
Impedance: XLR: 3KΩ / 1/4-inch connector: 3KΩ
Antenna Connectors: 2 BNC 50Ω
Display: LCD
Power Requirements: 12V/0.5A DC
Power Consumption: 6W
Operating Temperature Range: 28°F - 122°F
Dimensions: 6.3" (W) x 16.14" (L) x 1.73" (H)
Weight: 3.86 lb.

IEM-100 BODYPACK RECEIVER SPECIFICATIONS

Frequency Range: 490~510MHz
Infrared Data Synchronization
Frequency Response: 20Hz~20KHz (±3db)
Signal to Noise Ratio: >100dB
THD: <1% to 1KHz
Gain Adjustment Range: 0 / -3/ -6 / -9 dB
Audio Output: 1/8"
Display: LCD
Power Requirements: 1.5V x 2(AA)
Power Consumption .66W
Battery Life: >10H/1300mAH
Dimensions: 3.66" x 2.52" x 1.10"
Weight: 3.07 oz

IEM-BUD STEREO EARBUD SPECIFICATIONS

Frequency Response: 20Hz~20KHz (±3db)
Cable Length: 47"
Audio Jack: 1/8"

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.

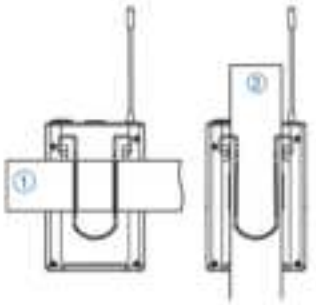
To ensure consistant reliable frequency availability and to minimize the interference that might occur the user can choose frequency bands between 490 and 510 MHZ.

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

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

IEM-2200 Bodypack Receiver Features

1. Antenna
2. Power Indicator Light
3. Power / Volume
4. Infrared Frequency (IR) Window
5. SET Button
6. UP & Down Buttons
7. Battery Compartment
8. 1/8" Earbuds Jack



Wearing the Bodypack Receiver

1 - Receiver Clamped to a Belt

2 - Receiver 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.

Wireless Monitor System Quick Start Guide

1. To power on, turn the volume knob on top of Receiver Bodypack past the click.
2. To unlock adjustment parameters. Press and hold **SET** button for 3 seconds until the lock icon is gone.
3. Press and hold **SET** button again for a .5 seconds until "**PARAMETERS**" flash.
   Press ▲ or ▼ to begin the scan of your area.
   Once a compatable frequency is found, it's time to match the frequency to the Rackmount Transmitter.
4. On the Rackmount Transmitter, hold **SET** button for 3 seconds to unlock button functionality.
   Hold **SET** button for an additonal .5 seconds "**GROUP**" will flash.
   Press ▲ or ▼ to select the corresponding group chosen by the **AUTO** scan of the bodypack.
   Press **SET** again "**CHANNEL**" will flash. Use ▲ or ▼ to select the corresponding channel chosen by the **AUTO** scan of the bodypack.
5. You have now connected your bodypack receiver to the rackmount transmitter.
6. An additional bodypack receiver can be added to each channel for up to 4 bodypack receivers per rack mount transmitter.

FOC / FADE OF CHANNEL MODE

(Using up to 4 mixes on 2 channels)

1. Make sure the rack mounted transmitter is set to stereo mode
   (refer to *Rackmount Transmitter Navigation / Programming*)
2. Press and hold **SET** button on the bodypack receiver to unlock.
   Press **SET** again until "**FOC**" flashes. Press ▲ to select on.
3. On this channel, the inputs on the left and right now become two seperate mono signals. These two signals can be blended in a single mix.
4. Left and right dB adjust: Press ▲ or ▼ to adjust left and right audio track balancing.

Bodypack Receiver Navigation / Programming

1. SELECT A GROUP OR CHANNEL

Press and hold **SET** button "**GROUP**" will flash. Press ▲ or ▼ to select a suitable frequency group number. Press **SET** again, "**CHANNEL**" will flash. Press ▲ or ▼ to select a suitable channel.

2. EQUALIZATION SETUP

Press and hold **SET** button. Press **SET** again until "**EQ**" flashes Press ▲ or ▼ to select ON or OFF of the EQ: ON will boost mid frequencies, OFF will be normal (flat).

3. LIMITER SECTION

Press and hold **SET** button. Press **SET** again until "**LOCK ICON**" flashes.
Press ▲ or ▼ to select lock or unlock. Limiting is on or off.

4. FOC CALIBRATION

Press and hold **SET** button. Press **SET** again until "**FOC**" flashes. Press ▲ or ▼ to select ON or OFF. On is Fade of Channel mode, off is stereo mode.

5. LEFT AND RIGHT AUDIO TRACK dB ADJUST

Press ▲ or ▼ to adjust Left and Right audio track balancing.

Rackmount Transmitter Navigation / Programming

1. SELECT A GROUP OR CHANNEL

Hold **SET** button for 3 seconds to unlock button functionality.
Hold **SET** button for an addition .5 seconds. "**GROUP**" will flash.
Press ▲ and ▼ buttons to select a suitable frequency group number.
Press **SET** button again. "**CHANNEL**" will flash.
Press ▲ and ▼ buttons to select a suitable channel.

2. MODE SELECTION

Press and hold **SET** button. "**MODE SELECT**" will flash.
Press ▲ and ▼ buttons to select a Stereo or Mono.

3. LOCK SELECTION

Press and hold **SET** button. "**LOCK SELECT**" will flash.
Press ▲ and ▼ buttons to Lock or Unlock.

4. AUDIO INPUT LEVEL INDICATION

Displays left and right audio input level