senal AWS-24G Advanced Dual 2.4GHz Wireless Microphone System User Guide

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Thank you for choosing Senal.
The Senal AWS-24G Advanced Wireless Microphone System delivers accurate and high-quality 48 kHz audio for two-person shoots, interviews, and broadcasts. Two transmitters can be deployed with a single receiver to capture dialog and interviews from 300 feet away. The transmitters are designed for simple, trouble-free operation, so just turn them on and start recording. The transmitters' tiny dimensions make them easy to conceal, and they're equipped with built-in omnidirectional microphones that will capture sounds as faint as a whisper. This kit includes two omnidirectional lavalier microphones for an even closer sound. To ensure flawless audio and to protect against dropouts, the transmitters can record and store up to 8 GB of audio so you can download the WAV files to

your DAW and edit them individually.

The functionality of the receiver will benefit any shoot. Connect it to a camera, smartphone, or computer with the included 3.5 mm or USB cables, and bring home accurate sound that will add production value to any project. Use it to adjust mic gain, select recording mode, and monitor your audio via the headphone jack.

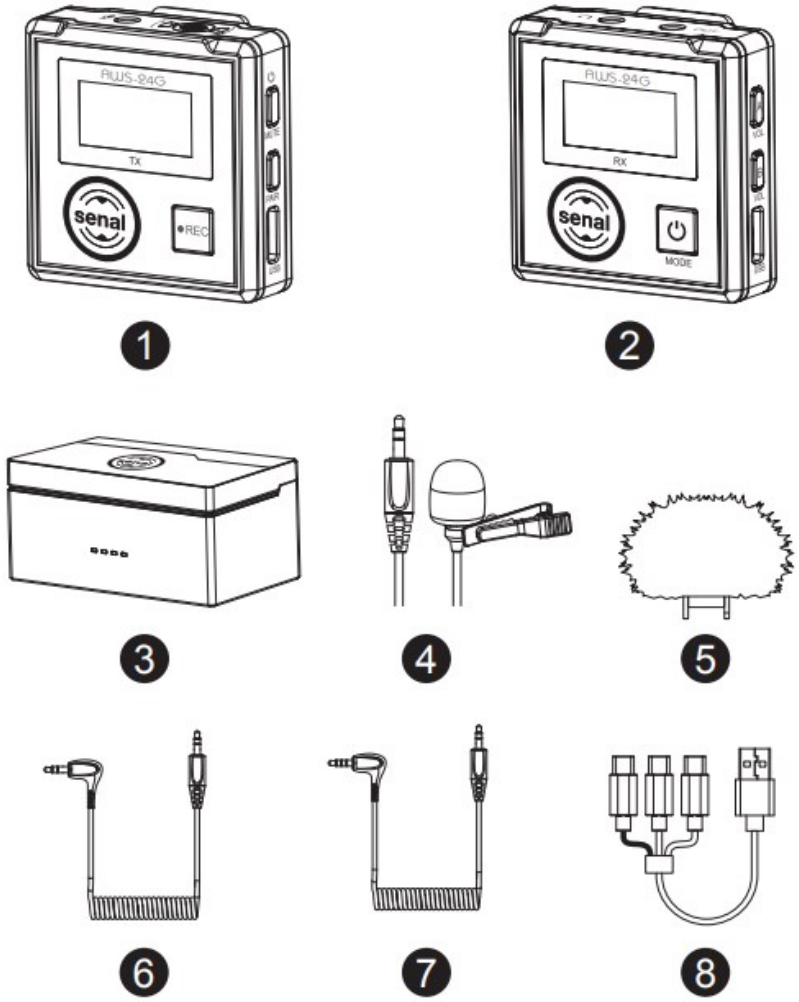
The kit comes with its own charging case that features a Li-ion battery to charge the devices while they're seated, and protect them from dust, moisture, and impacts during travel.

Contents

Precautions

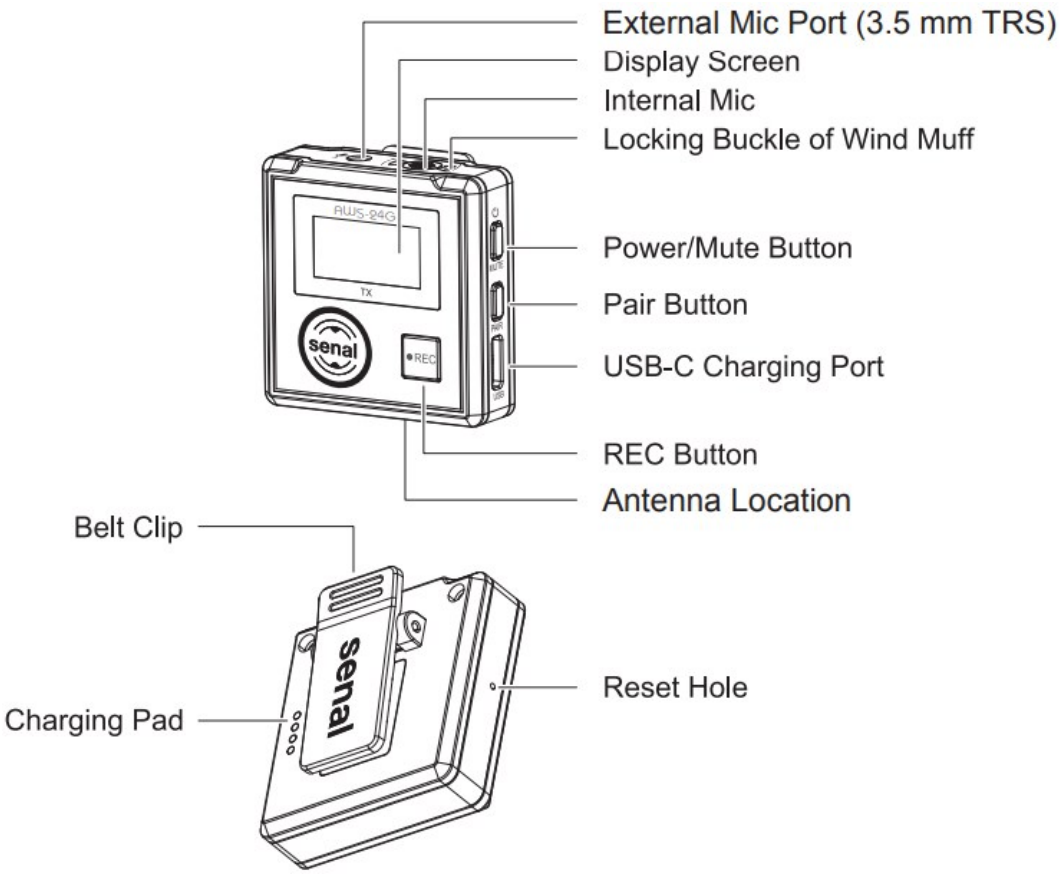
- Please read and follow these instructions, and keep this manual in a safe place.
- Do not block the antenna position to avoid signal interference or loss.
- Handle this product with care to prevent damage from impacts.
- Avoid sources of interference such as heaters, radiators, ovens, intercoms, and other wireless devices.
- Use the equipment in a dry environment. Avoid rainy or damp conditions.
- Keep this unit away from any flammable gases or liquids.
- Use only the correct, recommended voltage.
- Do not attempt to disassemble or repair the equipment—doing so will void the warranty, and Senal will not be responsible for any damage.
- Clean the units with only a soft, dry cloth.
- Use only parts, accessories, and attachments provided by the manufacturer.
- Make sure that this product is intact and that there are no missing parts.
- Exposure to high sound levels can cause permanent hearing loss. Avoid listening at high volumes for extended periods of time.
- All images are for illustrative purposes only

Overview

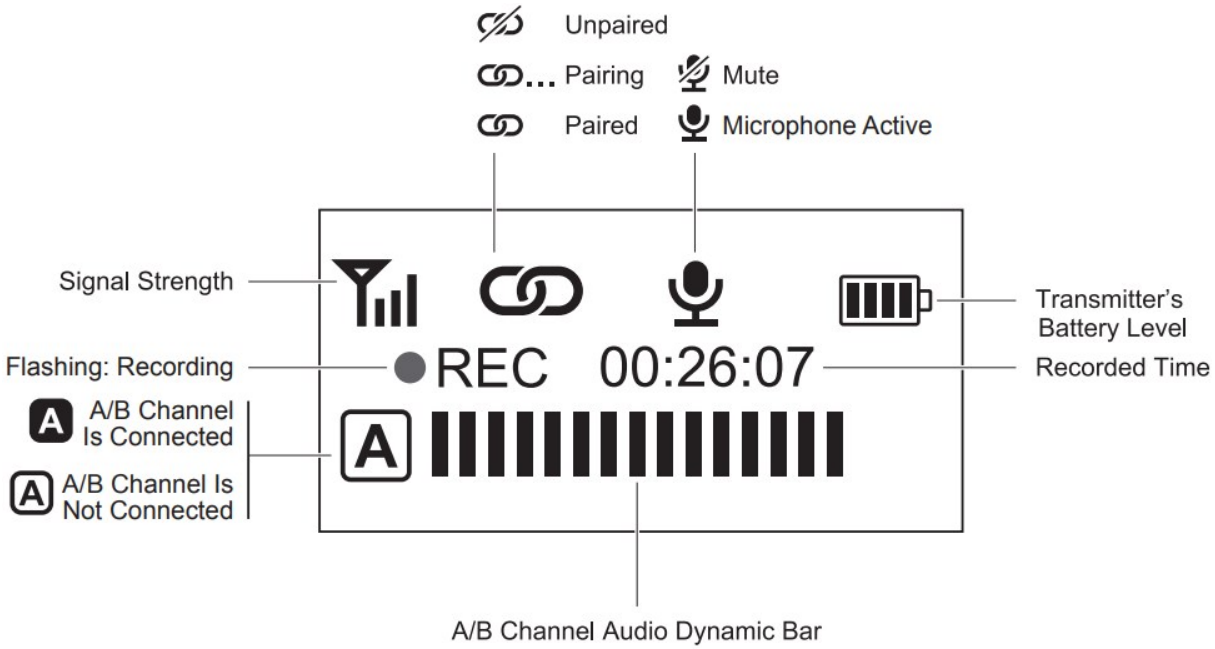


1. Transmitter (×2)
2. Receiver
3. Charging Case
4. Lavalier Microphones with Removeable Tie Clips (×2)
5. Fuzzy Wind Muffs (×2)
6. 3.5 mm TRS-TRS Audio Cable
7. 3.5 mm TRS-TRRS Audio Cable
8. 3-in-1 Charging/Audio Output Cable

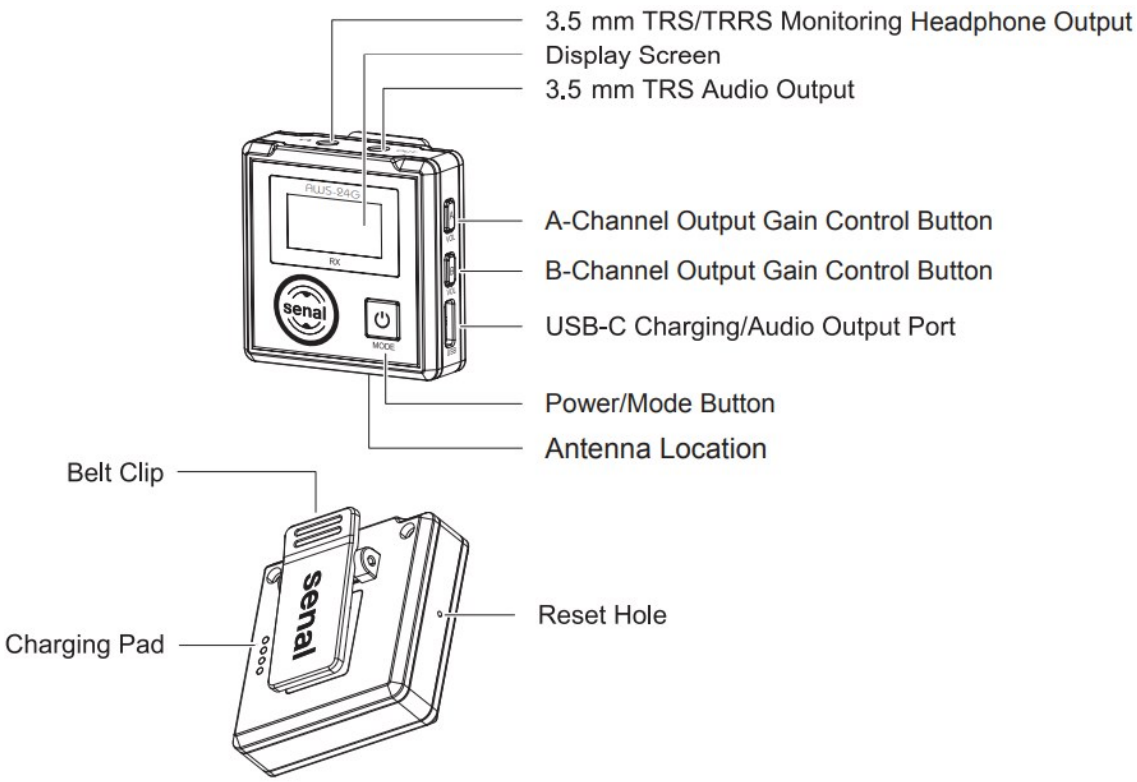
Overview – Transmitter (TX)



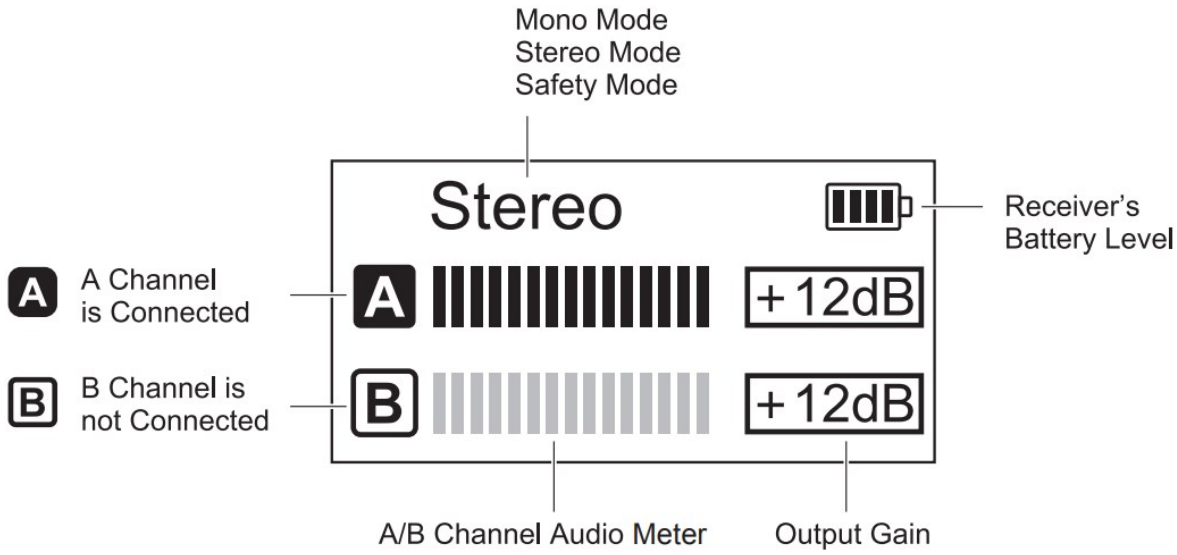
Screen Display – Transmitter (TX)



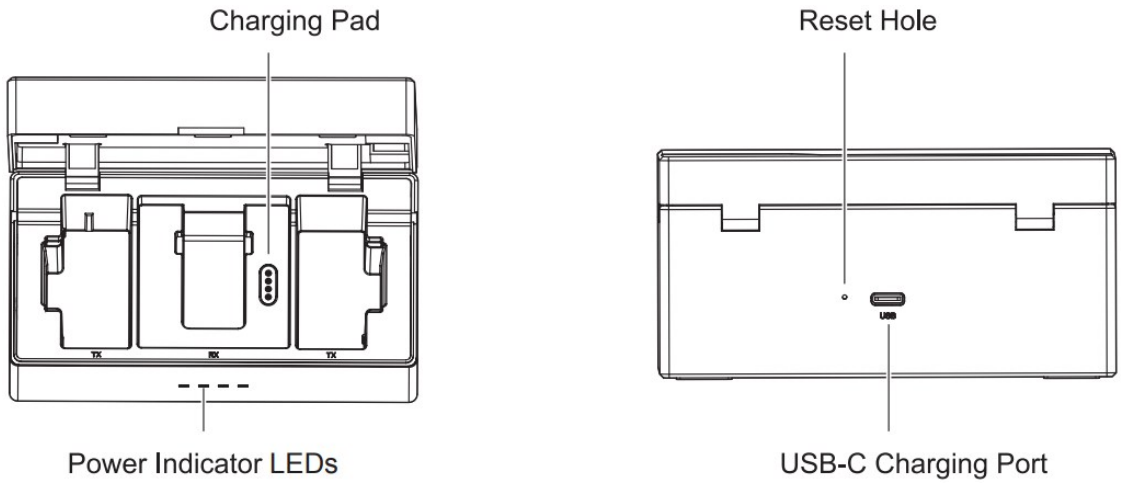
Overview – Receiver (RX)



Screen Display – Receiver (RX)



Charging



Charging Case

1. Place the receiver into the RX charging slot, and the transmitters into the TX charging slots.
2. Use the 3-in-1 cable to connect the charging case's USB-C port to a USB-A power source.
3. The power indicator lights will blink sequentially to indicate the units are charging.

Power options include a powered computer port, USB charging hub, or an AC adapter.

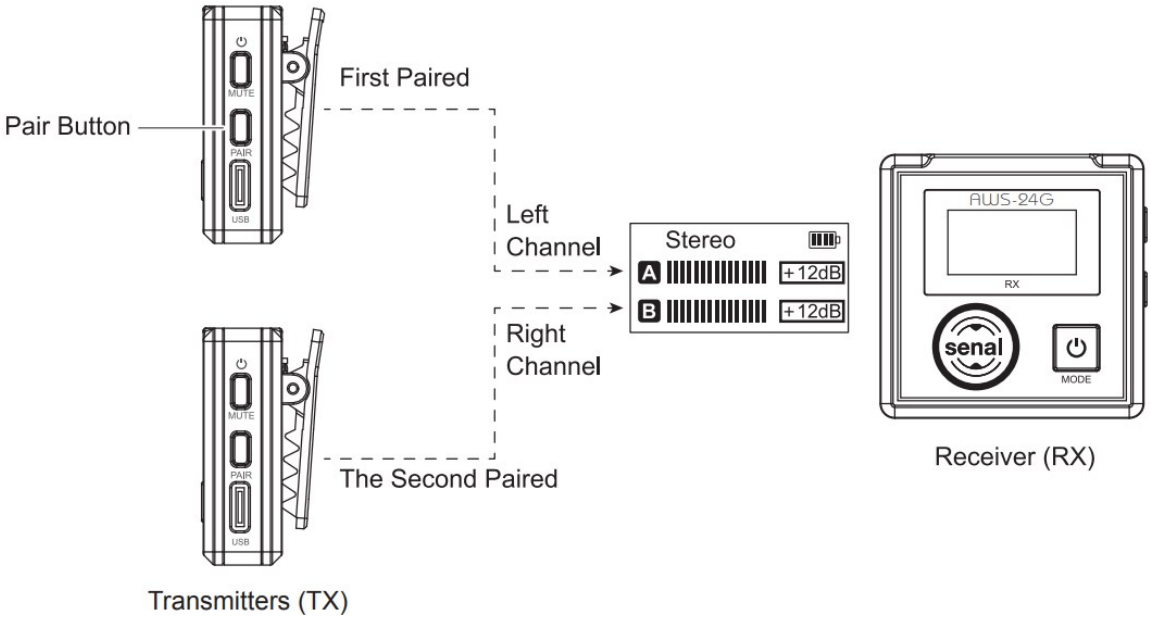
When the case is open during charging, the receiver displays the charging level of each device. Each bar indicates approximately 25% of the unit's power.

If the device cannot be charged, reset the device by inserting the included pin into the reset hole.

Charging Devices Individually
Each device displays the battery level on the screen when they're powered on. Use the 3-in-1 cable to connect each device's USB-C port to a USB-A power source, like a charging hub or AC adapter

Pairing the Transmitters and Receiver

The transmitters and receiver are paired by default. When the receiver is powered on, the first transmitter to be powered will send its signal to channel A. The second transmitter will send its signal to channel B.

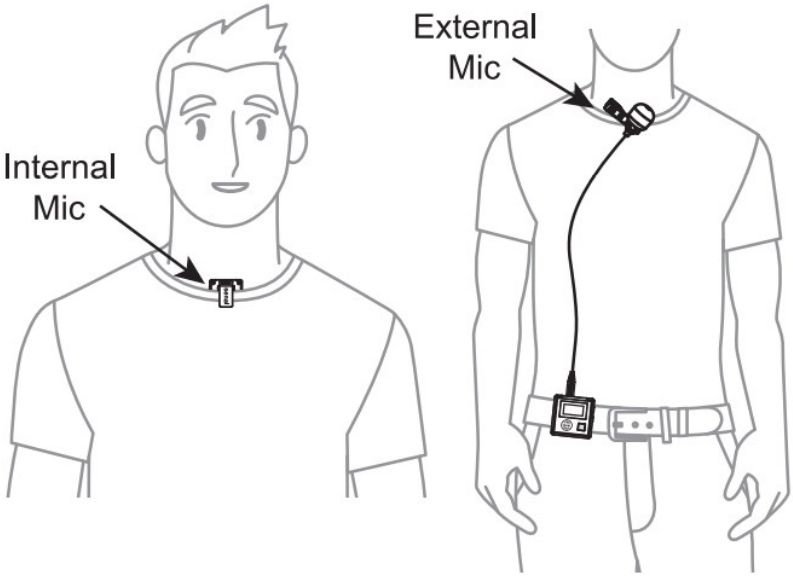


If the transmitter is disconnected, re-pair it to the receiver by pressing and holding the Pair button.

Operating the Transmitter (TX)

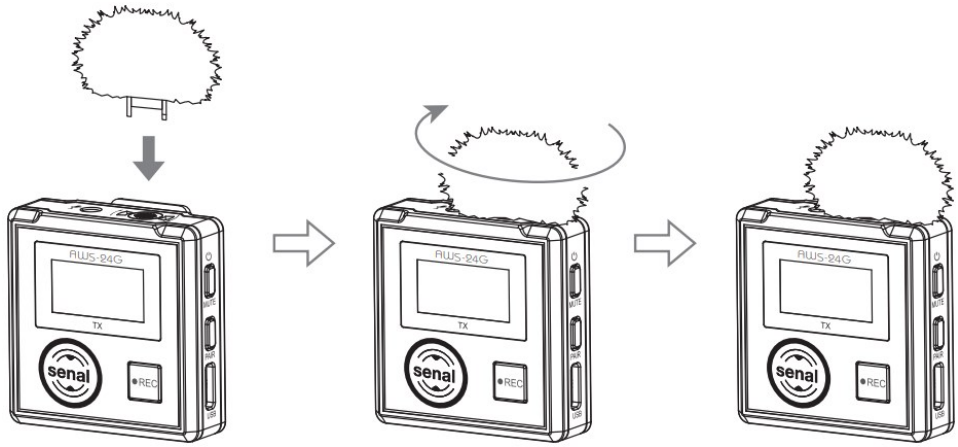
The transmitters have a line-of-sight operating range of 300 feet.
By default, the internal microphone is active when the transmitter is powered on.
Plug a lavalier microphone into the external mic port to activate it and mute the internal microphone.
To mute the internal or external microphone, press the Mute button. The mute icon will appear on the transmitter's screen. Press the Mute button again to unmute.

Mic Placement
When the internal mic is active, place the transmitter near the sound source, like a shirt collar or jacket lapel.
When an external lavalier is active, use the clip to keep the transmitter concealed and out of the way.
Due to 2.4 GHz wireless characteristics, it's best to keep the transmitters and receiver in line-of-sight contact. If there's any obstruction to the antenna or line of sight between the transmitters and receiver, the operating range will decrease.



Wind Muff
When recording outdoors in a light breeze, the wind muffs will minimize wind noise for a cleaner recording.

1. Insert the wind muff's tabs into the transmitter's locking buckle.
2. Turn the wind muff clockwise to lock it into place.



Recording
The recording feature on the transmitters allows you to record your vocals or speech, and download it via the USB-C port to a computer or other device.

The transmitter saves a 48 kHz / 16-bit WAV file up to 8 GB.

For continuous recording, the transmitter will create a new WAV file every two hours. Total recording time is 24 hours. When the 8 GB of memory is full, the transmitter will begin to overwrite, starting with the oldest file.

To record on the transmitter, follow these steps:

1. Press and hold the Record button until the record icon blinks, and the clock begins timing the recording.
2. Press and hold the Record button again to end the recording.

Downloading Audio Files to a Computer
Use the white data cable of the 3-in-one output cable to connect the transmitter to a computer, tablet, or smartphone. The transmitter's icon will appear as one of the connected devices. The audio files are in the REC folder. Download the files to your device. Once they're copied, you can clear the transmitter's memory by dragging the transmitter's audio files to the trash or recycle bin, and emptying the trash.

Operating the Receiver (RX)

Operating Modes

Mono: Sums the signal of receiver channels A and B, and outputs the combined signal to your recording device.
Stereo: Separates the signals on channels A and B, outputs discretely to separate channels on your recording device.
Safety: Outputs two mono tracks. One is at the selected gain setting. The other is reduced by 6 dB. Recording in safety mode is useful for audio with wide volume changes. If you hear clipping in the original audio, the reduced output of the safety recording will give you clean audio.

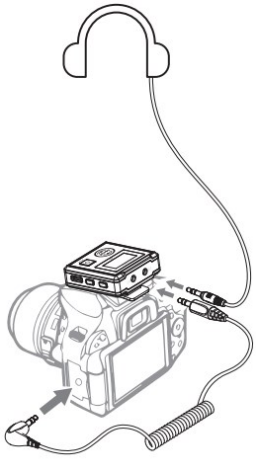
Adjusting the Input Signal Gain

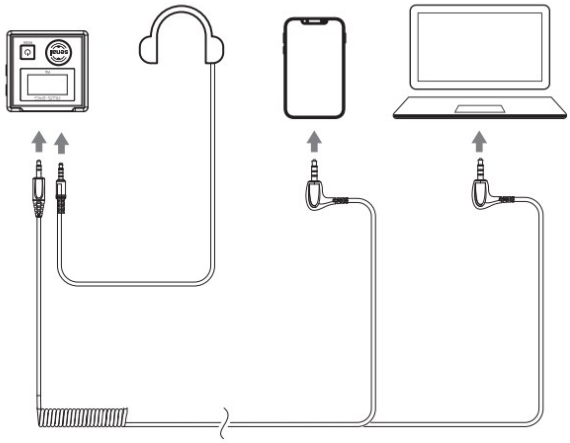
The Output Gain Control buttons adjust the receiver's output level from -12 to +12 dB.

Mono Mode: The Up/Down buttons change the gain on both channels.
Stereo Mode: Each button controls the gain level for its channel. Press the channel's button repeatedly to cycle through the gain level from -12 to +12 dB.
Safety Mode: As you adjust the gain on channel A, the B channel automatically sets its gain to 6 dB less than channel A.

Analog Audio Output

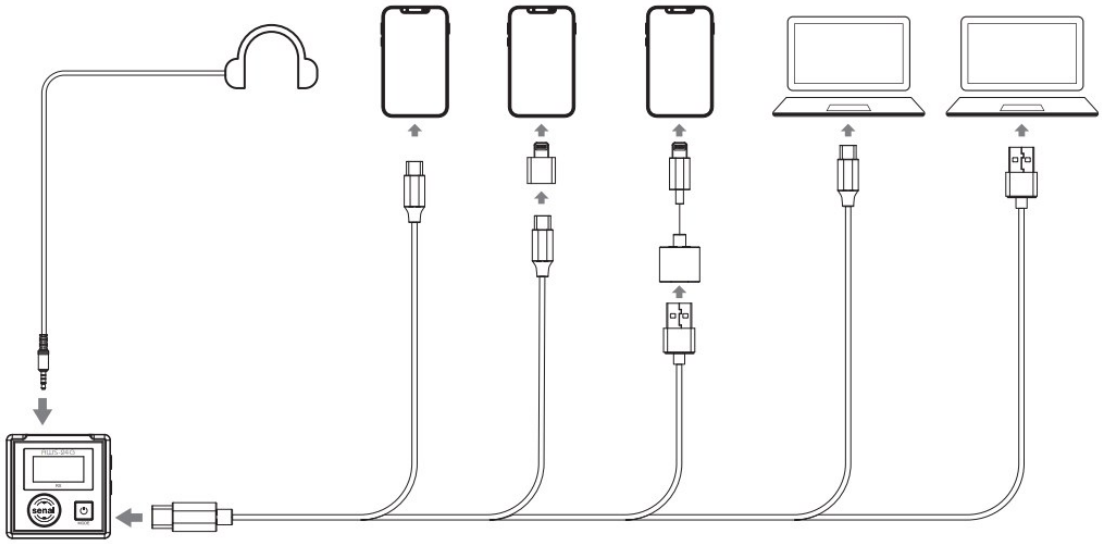
Use the 3.5 mm TRS to TRS cable to connect the receiver's output jack to a camera.
Use the 3.5 mm TRS to TRRS cable to connect the receiver's output jack to a smartphone or a computer.
Plug headphones into the headphone jack to monitor the audio.





Digital Audio Output

Use the 3-in-1 audio cable, plus the necessary plug adapters (not included), to connect the receiver to a smartphone, tablet, or computer, and record your audio



Specifications

System	
Wireless Technology	Wireless 2.4 GHz
Included Transmitters	Bodypack with microphone (×2)
Max Operating Range	300 ft. (91.4 m) line of sight
Built-In Recorder	Yes (8 GB ×2)
Timecode Support	No
Latency	<20 ms

Charging Case	
Charging Port	USB Type-C
Battery	Built-in Li-ion 3000 mAh / 3.7 V
Dimensions	4.9 × 2.4 × 2.4 in. (12.4 × 6 × 6 cm)
Working Temperature	32°F to 122°F (0°C to 50°C)
Storage Temperature	-4°F to 140°F (-20°C to 60°C)
Weight(with components)	11.4 oz. (323 g)

Microphone	
Microphone Type	Lavalier
Sound Field	Mono
Operating Principle	Pressure Operated
Polar Pattern	Omnidirectional
Frequency Range	80 Hz to 20 kHz
Output Impedance	2.2 kΩ
S/N	74 dB
Equivalent Noise Level	20 dB
Maximum SPL	110 dB
Sensitivity	30 dB ±2 dB
Dynamic Range	90 dB
Working Voltage	1.1 VDC ~ 5 VDC
Working Current	450 μA Max

Receiver	
Receiver Type	Beltpack
Wireless Frequency	2400 to 2483 MHz
Transmitting Power	+10 dBm
Sensitivity	-86 dBm
S/N	>70 dB
Latency	<20 ms
Mounting Options	Belt clip
Antenna	PCB internal
Number of Audio Channels	2
Audio I/O	1/8 in. (3.5 mm) TRS female unbalanced mic output
Gain Range	-12 to +12 dB (2 dB increments)
USB/Lightning Connectivity	USB Type-C (charging, audio)
Power Requirements	Battery or bus power (USB-C)
Battery Type	Built-in Li-ion 330 mAh / 3.7 V
Approx Battery Life	6 hr.
Display and Indicators	LCD (Operating mode, battery level, audio level metering, output gain, tr ansmitters battery level, active channel)
Dimensions	1.8 × 1.8 × 0.9 in. (4.5 × 4.5 × 2.2 mm)
Weight	1 oz. (28 g)

Transmitter	
Transmitter Type	Bodypack with microphone
Wireless Frequency	2400 to 2483 MHz
Sensitivity	-86 dBm
S/N	>70 dB
Frequency Response	80 Hz to 20 kHz
RF Output Power	10 mW
Audio I/O	USB Type-C
Muting	On/off switch
Recorder Sample Rate	48 kHz
Recorder Bit Depth	16 bit
Audio File Formats	WAV
Gain Range	-12 to +12 dB
Signal Processing	None
Sync Method	Proprietary
Antenna	PCB internal
Power Requirements	Battery or bus power
Battery Type	Built-in rechargeable
Approx Battery Life	5 Hours (Normal Recording Mode)3.5 Hours (On-board R ecording Mode)
Recording Time	24 hr.
USB/Lightning I/O	USB Type-C (data, charging)
Analog I/O	1/8 in. (3.5 mm) unbalanced mic input
Display and Indicators	LCD (RF signal strength, pairing, mute, battery level, reco rding status, recorded time, channel indicator, audio meter)
Dimensions	1.8 × 1.8 × 0.9 in. (4.5 × 4.5 × 2.2 mm)

Troubleshooting

Problem	Solution
The receiver is not receiving an audio signal.	• Make sure the receiver and transmitters are charged and powered on. • Make sure the transmitters are paired with the receiver.
The transmitters are not recordi ng on separate channels.	• Change the receiver's operating mode to Stereo.
My app is not recording sound fr om the receiver.	• Make sure the AWS-24G is selected as the microphone in the app's setti ngs.
The audio quality is not good an d has dropouts.	• Make sure the transmitters and receiver have line-of-sight contact. • Make sure there's nothing obstructing the transmitters' antennas.

IC: 27232-IRAYDW20
FCC ID: 2AZSQ-IRAY-DW20
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

One-Year Limited Warranty

This Senal product is warranted to the original purchaser to be free from defects in materials and workmanship under normal consumer use for a period of one (1) year from the original purchase date or thirty (30) days after replacement, whichever occurs later. The warranty provider's responsibility with respect to this limited warranty shall be limited solely to repair or replacement, at the provider's discretion, of any product that fails during normal use of this product in its intended manner and in its intended environment. Inoperability of the product or part(s) shall be determined by the warranty provider. If the product has been discontinued, the warranty provider reserves the right to replace it with a model of equivalent quality and function.
This warranty does not cover damage or defect caused by misuse, neglect, accident, alteration, abuse, improper installation or maintenance. EXCEPT AS PROVIDED HEREIN, THE WARRANTY PROVIDER MAKES NEITHER ANY EXPRESS WARRANTIES NOR ANY IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. This warranty provides you with specific legal rights, and you may also have additional rights that vary from state to state.
To obtain warranty coverage, contact the Senal Customer Service Department to obtain a return merchandise authorization ("RMA") number, and return the defective product to Senal along with the RMA number and proof of purchase. Shipment of the defective product is at the purchaser's own risk and expense.
For more information or to arrange service, visit www.senalsound.com or call Customer Service at 212-594-2353

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Documents / Resources

	senal AWS-24G Advanced Dual 2.4GHz Wireless Microphone System [pdf] User Guide AWS-24G, AWS-24G Dual Wireless Microphone System, Dual Wireless Microphone System, Wireless Microphone System, Microphone System, AWS-24G Advanced Dual 2.4GHz Wireless Microphone System, Advanced Dual 2.4GHz Wireless Microphone System

References

- Gradus | Gradus Group
- Senal | Precision Engineered Microphones and Monitoring

Manuals+,