

Saddle stitched booklet



Matte Printing

CAM-2W

CAMERA-MOUNTABLE VHF
WIRELESS
SYSTEM



POLSEN™

PRODUCT
MANUAL





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THANK YOU FOR CHOOSING POLSEN.

This two channel wireless microphone system is designed for hands-free mobility in a wide variety of applications including video production, electronic news gathering (ENG), electronic field production (EFP), and classroom and presentation applications. The portable receiver can be mounted on a standard shoe mount or attached with a belt clip. It is a reliable, easy-to-use solution for wireless sound transmission.

The CAM-2W includes an omnidirectional microphone (PL-2W) ideal for video applications. Omnidirectional microphones are less susceptible to wind and clothing noise than cardioid microphones. The PL-2W affords flexible placement options and allows for head movement without affecting the sound. It can be readily placed on a costume, collar, or necktie. A tie clip is included.

The CAM-2WC includes a cardioid microphone (PL-2WC), which is ideal for presentation applications since it reduces room noise, allowing for greater distance from the source—making the system less susceptible to feedback.

The CAM-2W/2WC system was designed with two switchable frequencies to avoid interference while operating at a range of up to 100 feet (300 feet in optimal conditions).

Included is a durable flexible antenna that can be positioned for the best possible reception. Audio can be monitored in real time with the included earphone.

Comander-Free System

The CAM-2 system is a comander-free system for delivering high-quality audio. The word comander is a combination of the terms *compressor* and *expander*. In most wireless systems the audio signal is compressed in the transmitter and then expanded in the receiver. Companding can cause undesirable artifacts such as the pumping and breathing associated with compression. Comander-free systems don't exhibit these artifacts, making them a favored solution among filmmakers around the world.



PRECAUTIONS

- Please read and follow these instructions and keep this manual in a safe place.
- Keep this product out of the reach of children.
- Be mindful of your surrounding environment when using this product. Do not use this product while driving an automobile, operating machinery, or performing other tasks that require your undivided attention.
- Keep this product away from pacemakers and similar implanted devices. This product's internal magnets may cause harmful interference.
- Exposure to high sound levels can cause permanent hearing loss. Avoid listening at high volumes for extended periods of time.
- This product is not water resistant. Keep it away from rain, snow, humidity, and general moisture. Do not use this product if it becomes wet.
- Do not use or store this product in flammable conditions (such as environments containing flammable gases or liquid chemicals). This can damage the headset, start a fire, or cause an electrical shock.
- Do not expose this product to open flames or dispose of it in a fire. Doing so can cause the internal battery to explode.
- Do not store or use this product at temperatures above 113°F (45°C).
- Clean this product with only a soft, dry cloth.
- In order to prolong the system's battery life, turn off the system after use.
- To avoid damaging the system, turn it off before extended periods of disuse, and charge the battery at least once every 12 months.
- All photos are for illustrative purposes only.



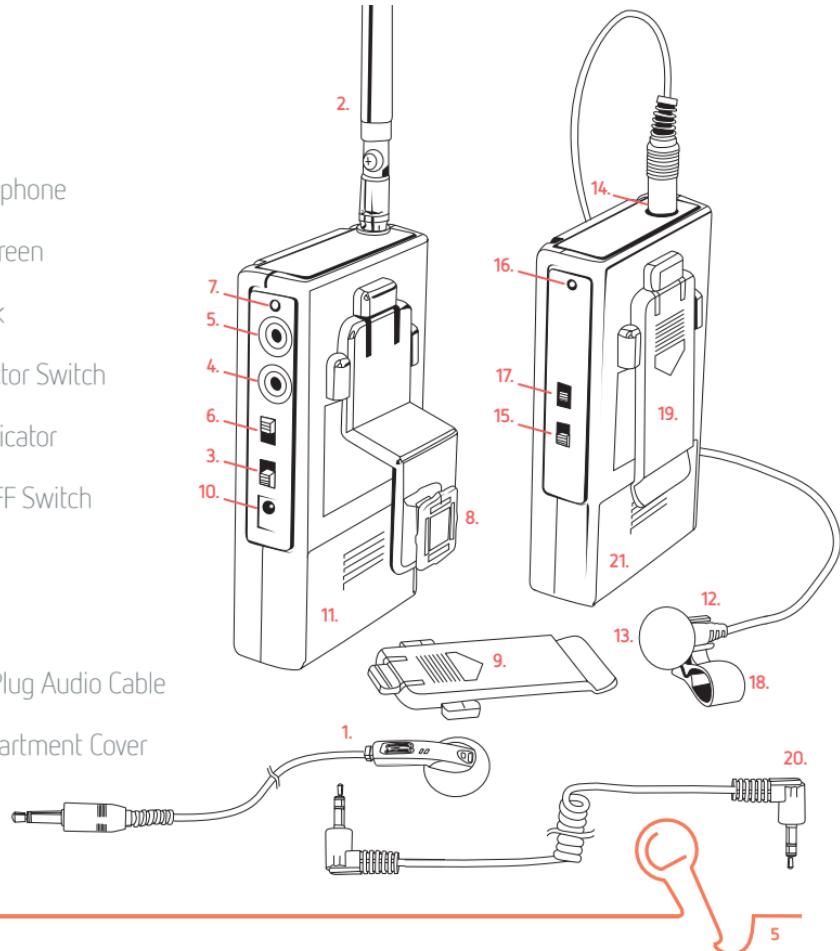
OVERVIEW

Receiver

1. Monitor Earphone
2. Flexible Adjustable Antenna
3. Channel Selector Switch
4. Mic Level Out Jack
5. Headphone Out Jack
6. Power ON/OFF Switch
7. Power ON Indicator
8. Shoe Mount Bracket
9. Belt Clip
10. 9 V DC Power Input Jack
11. Battery Compartment Cover

Transmitter

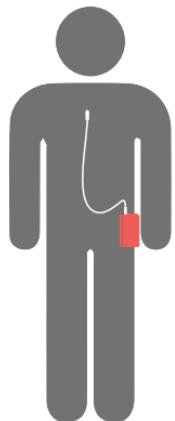
12. Lavalier Microphone
13. Foam Windscreen
14. Mic Input Jack
15. Channel Selector Switch
16. Power ON Indicator
17. Power ON/OFF Switch
18. Tie Clip
19. Belt Clip
20. 3.5mm Mini Plug Audio Cable
21. Battery Compartment Cover



QUICK START GUIDE

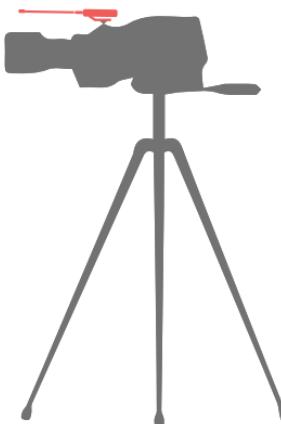
Transmitter

1. Insert Battery.
2. Switch the Channel Selector Switch to the desired channel (A or B).
3. Plug microphone into Mic input jack.
4. Attach belt clip and clip transmitter to your belt.
5. Attach microphone to clothing using tie clip.
6. Slide the power switch to the ON position.



Receiver

1. Insert Battery.
2. Switch the Channel Selector Switch to the same channel as the one selected on the transmitter (A or B).
3. Screw the antenna onto the receiver.
4. Slide the power ON/OFF switch to the ON position.
5. Attach the mounting bracket to receiver and mount on camera shoe with antenna facing the direction you are shooting.
6. Plug the earphone into phone out jack.
7. Connect the 3.5mm audio cable from the Mic Out jack on the receiver to the Mic In jack on the camera or audio device into which you are recording.

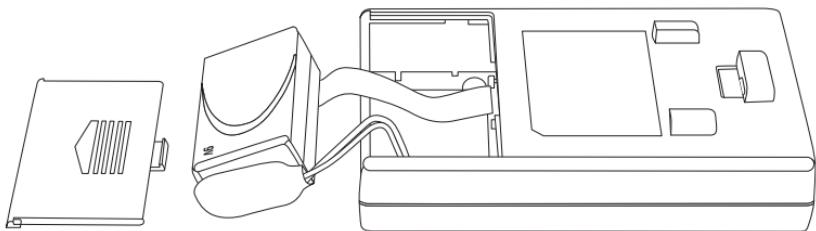


INSTALLING BATTERIES

The Transmitter and Receiver are each powered by a 9 V alkaline battery. Battery life is approximately 8 hours of operating time.

For installing batteries into the Transmitter and Receiver:

1. Remove the Battery Compartment Cover by pressing down and sliding the compartment in the direction of the arrow.
2. Place the cap snugly over the battery terminals.
3. Place the Ribbon on the bottom of the compartment with enough temporarily draped over the edge so it can be tugged to dislodge a spent battery later.
4. Place the battery and cap into the compartment making sure that it is fully seated.
5. Replace the Battery Compartment Cover. Make sure the cover slides into place easily.
6. **Note:** To avoid possible damage, batteries should be removed if the unit will not be used for a lengthy amount of time.
7. Alternatively, the receiver can be powered by a 9 V DC power supply (not included).

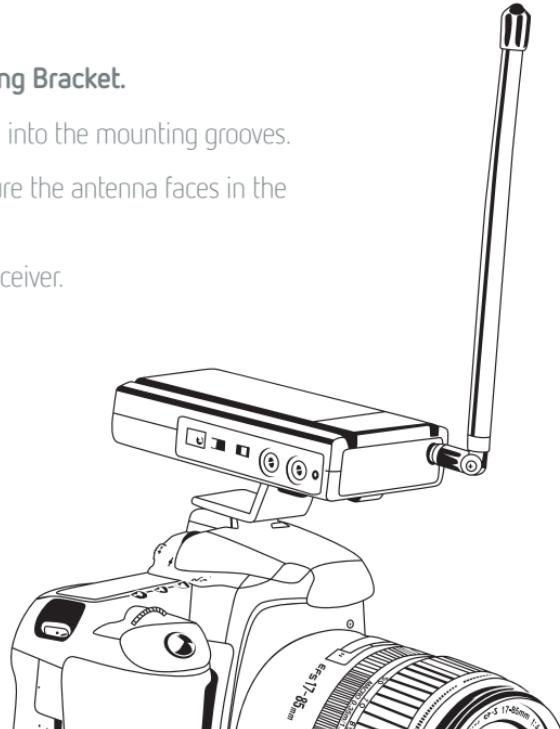


MOUNTING THE RECEIVER ON A CAMERA

The receiver can be mounted to a video camcorder with the Mounting Bracket.

1. Attach the Mounting Bracket to the receiver by sliding the pronged end into the mounting grooves.
2. Gently slide the foot of the Shoe mount Bracket into the shoe. Make sure the antenna faces in the direction you are shooting.

Note: Applying too much pressure can cause the bracket to slide off the receiver.



RECORDING TO HDSLR, VIDEO CAMERA, OR AUDIO DEVICE

Transmitter:

1. Switch the Channel Selector Switch to the desired channel (A or B).
2. The belt clip on the back of the unit clips the transmitter onto a belt. Alternatively, the transmitter can be put into a pocket.
3. Plug the Lavalier microphone into the Mic Input jack.
4. The microphone can be attached to a necktie, lapel or garment using the included tie clip.
5. Slide the Power switch to the ON position. The LED indicator will light up.

Receiver:

1. Switch the Channel Selector Switch to the same channel as the one selected on the transmitter (A or B).
2. Run the 3.5mm mini-plug audio cable from the Mic Out jack on the receiver to the external mic (Mic In) jack on the DSLR, video camera, or audio device.
3. Screw the antenna to the receiver.
4. Plug the monitor earphone into the Phone Out jack in order to listen to the signal.
5. Turn the Power switch to the ON position. The LED indicator will light up.



PRESENTATION APPLICATIONS

Transmitter:

Follow the instructions for recording to a HDSLR, Video Camera or Audio Device.

Receiver:

1. Switch the Channel Selector Switch to the same channel as the one selected on the transmitter (A or B).
2. Screw the antenna onto the receiver.
3. Turn the Power switch to the ON position (the LED indicator will light).
4. Connect the included XLR adapter from the Mic Out jack on the receiver to a Mic Input on the mixing console or a public address (PA) system.



MONITORING, STAGE DIRECTION, AND TALENT CUEING

The Polsen CAM-2W Lavalier System can be used as a one-way voice communication system for monitoring conversations, lectures, stage directions, and cueing. To monitor the signal from the microphone and transmitter, plug the included earphone into the receiver's headphone output.

Transmitter:

Follow the instructions for recording to a HDSLR, Video Camera or Audio Device.

Receiver:

1. Switch the Channel Selector Switch to the same channel as the one selected on the transmitter (A or B).
2. Screw the antenna onto the receiver.
3. Turn the Power switch to the ON position (the LED indicator will glow).
4. Attach the monitor earphone to the Phone Out jack to listen to the signal.



USING MULTIPLE PAIRS

If you plan to simultaneously use more than one CAM-2W transmitter/receiver pair in the same vicinity, make sure that you purchase sets that rely on slightly different frequencies. They're identified on the model sticker located on the back of the box as G1, G2, G3, or G4. (See Specifications for the two frequencies each version exploits.) Also, the frequencies available per the two channels on each transmitter and receiver are labeled on the back of each device. Assuming you're using correctly matched units, you can deploy up to four wireless pairs at once.

TROUBLESHOOTING

Radio Frequency (RF) Interference

Radio Frequency (RF) interference is not unusual when dealing with VHF wireless microphone systems. Since the Polsen CAM-2W and CAM-2WC use VHF frequencies to transmit the audio signal, there may be times when it is forced to share the "airspace" with devices transmitting on similar frequencies. This is a common problem; particularly in urban areas where power lines, cars or car radios, cell phones, computers, and even garage door openers operating nearby can interfere with frequencies. When experiencing RF interference, you may hear static, white noise bursts, a hum, or a radio signal. If this happens, your CAM-2 system is not malfunctioning. A few simple steps can be taken to eliminate RF interference.



Problem	Solution
The selected channel is noisy	<p>Switch the Channel Selector Switch to the other channel on <u>both</u> the transmitter and receiver.</p> <p>Adjust antenna to 45 degree angle for best reception.</p> <p>Try using fresh batteries.</p> <p>If transmission is lost within a room (indicated by noise on the earphone), try changing position.</p> <p>Overhead telephone lines, fluorescent lighting, or close proximity to metal fences can all cause interference. If this occurs try changing position.</p> <p>If outdoors, move your location indoors where there may be less interference.</p> <p>If indoors, change location to another part of the room or building making sure to keep some distance from computer equipment or low-hanging overhead lighting.</p> <p>Turn off all computers and cell phones.</p>



Other Troubleshooting Issues

Problem	Solution
No Audio	<p>Make sure the Power switch on the transmitter and receiver is set to ON and that the LED indicator is lit.</p> <p>If LED indicator is not lit, make sure batteries are properly installed (see Battery Installation instructions above).</p> <p>Make sure the proper connections have been made (see Recording to HDSLR, Video Camera, or Audio Device section).</p> <p>Make sure the Channel Selector Switch on the receiver and transmitter are set to the same channel.</p> <p>Make sure video camera, HDSLR camera, or audio device is in record mode and the record level is set.</p>
Too much ambience is being picked up	<p>When using an omnidirectional microphone (as provided with the CAM-2W system) the microphone may be picking up too much ambience.</p> <p>Make sure the microphone is as close to the subject as possible.</p> <p>If there is still too much ambience, try switching to a cardioid microphone (PL-2WC), as this will record less of the sound from the peripheral area.</p>



SPECIFICATIONS

Transmitter

OPERATING FREQUENCIES

G1 (169.445 and 170.245 MHz)

G2 (169.505 and 170.305 MHz)

G3 (171.045 and 171.845 MHz)

G4 (171.105 and 171.905 MHz)

MODULATION Frequency modulation (FM)

MODULATION SENSITIVITY 6 mV input for full deviation

BATTERY 9 V alkaline (not included)

CURRENT CONSUMPTION 50 mA

BATTERY LIFE Approximately 8 hours

DIMENSIONS 4.09" × 2.44" × 0.94" (104 × 62 × 24 mm)

WEIGHT 2.8 oz. (80 g) without battery

Receiver

OPERATING FREQUENCIES

G1 (169.445 and 170.245 MHz)

G2 (169.505 and 170.305 MHz)

G3 (171.045 and 171.845 MHz)

G4 (171.105 and 171.905 MHz)

RECEPTION SYSTEM FM super heterodyne

RECEPTION SENSITIVITY 2 µV for 30 dB S/N

OUTPUT CONNECTOR 1/8" (3.5 mm) TRS

DC INPUT 9 V DC (center positive)

BATTERY 9 V alkaline (not included)

CURRENT CONSUMPTION 50 mA

BATTERY LIFE Approximately 8 hours

DIMENSIONS 4.09" × 2.44" × 0.94" (104 × 62 × 24 mm)

WEIGHT 3.5 oz. (100 g) without battery



ONE-YEAR LIMITED WARRANTY

Polsen provides a limited warranty to the original purchaser that this product is 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. Polsen's responsibility with respect to this limited warranty shall be limited solely to repair or replacement, at Polsen's discretion, of any product that fails during normal consumer use. Inoperability of the product or part(s) shall be determined by Polsen. If the product has been discontinued, we reserve the right to replace it with a model of equivalent quality and function.

To obtain warranty coverage, contact Polsen to obtain a return merchandise authorization ("RMA") number, and return the defective product to Polsen, along with the RMA number and proof of purchase. Shipment of the defective product is at the purchaser's own risk.

This warranty does not cover damage or defect caused by misuse, neglect, accident, alteration, abuse, improper installation or maintenance. EXCEPT AS PROVIDED HEREIN, POLSEN 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.

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference. (THIS DEVICE COMPLIES WITH PART 90 OF THE FCC RULES. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.)

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices.)

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