

BOYA BY-WFM12

BOYA BY-WFM12 VHF 12-Channel Wireless Lavalier Microphone System

User Instruction Manual

1. INTRODUCTION

The BOYA BY-WFM12 is a 12-channel VHF wireless microphone system designed to capture audio for smartphones, tablets, DSLR cameras, camcorders, audio recorders, and PCs. This system offers high-band VHF operation for superior sound quality and features such as real-time sound monitoring and card recording capabilities to prevent missing recordings.

2. WHAT'S IN THE BOX

- Transmitter Unit
- Receiver Unit
- Lavalier Microphone
- Cold Shoe Mount Adapter
- 3.5mm TRS to TRS Output Cable (for cameras)
- 3.5mm TRS to TRRS Output Cable (for smartphones)
- Belt Clips (pre-attached)
- Windscreen for Lavalier Microphone
- Warranty Card
- User Manual
- AA Batteries (may vary by package)

3. PRODUCT FEATURES

- **Compatibility:** Works with smartphones, tablets, DSLRs, camcorders, audio recorders, PCs, etc.
- **12 Switchable Channels:** Provides multiple frequency options to avoid interference.
- **High-Band VHF Operation:** Ensures superior sound quality.
- **Volume Control Wheel:** Allows precise audio level adjustment.

- **Detachable and Flexible Antenna:** Features 360° rotation for optimal signal reception.
- **Wireless Range:** Operates up to 40m (131 feet) away without obstacles.
- **Battery Powered:** Both receiver and transmitter use two AA size alkaline batteries.
- **Card Recording:** Transmitter supports MicroSD card recording (up to 32GB) to prevent missing recordings and allow direct editing without conversion.
- **Real-time Monitoring:** Receiver monitor jack allows real-time audio status check.
- **Infrared Sync Pairing:** Seamlessly docks wireless channels for quick setup.

4. SETUP GUIDE

4.1 Installing Batteries

Open the battery compartment on both the transmitter (TX) and receiver (RX) units. Insert two AA batteries into each unit, ensuring correct polarity. Close the battery compartments securely.



Transmitter

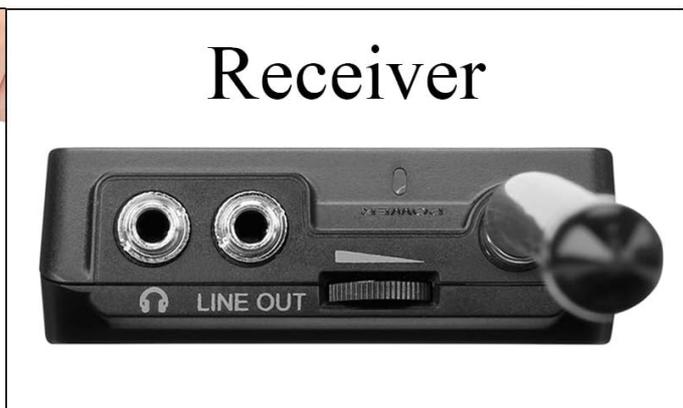


Figure 1: Transmitter and Receiver units with open battery compartments, showing where to insert AA batteries.

4.2 Attaching the Lavalier Microphone

Connect the 3.5mm plug of the lavalier microphone to the 'MIC IN' port on the transmitter unit. Secure the microphone to your clothing using the clip, positioning it approximately 6-8 inches from your mouth for optimal sound capture. Attach the foam windscreen to the lavalier microphone to reduce plosives and wind noise.

4.3 Connecting to Your Recording Device

- **For Cameras/Camcorders:** Use the supplied 3.5mm TRS to TRS output cable. Connect one end to the 'OUTPUT' port on the receiver and the other end to the microphone input jack of your camera.
- **For Smartphones/Tablets:** Use the supplied 3.5mm TRS to TRRS output cable. Connect one end to the 'OUTPUT' port on the receiver and the other end to the headphone/microphone jack of your smartphone/tablet.



Figure 2: The BY-WFM12 system connected to a smartphone for mobile recording.



Figure 3: The BY-WFM12 system connected to a DSLR camera for professional video recording.

5. OPERATING INSTRUCTIONS

5.1 Powering On/Off

Press and hold the power button on both the transmitter and receiver units until their respective screens light up. To power off, press and hold the power button again.

5.2 Channel Pairing (Infrared Sync)

Ensure both the transmitter and receiver are powered on. Align the infrared sensors on both units (usually located on the side). Press the 'SET' button on one unit to initiate pairing. The units will automatically scan and pair to an available channel. The screen will display the selected channel.



Figure 4: Close-up of the Transmitter and Receiver units, highlighting their displays and controls.

5.3 Adjusting Volume

Use the volume control wheel on the receiver unit to adjust the output audio level to your recording device. Monitor the audio levels on your camera or through headphones connected to the receiver's monitor jack to prevent clipping or low volume.

5.4 Real-time Audio Monitoring

Connect headphones to the 'MONITOR' jack on the receiver unit to listen to the audio being captured in real-time. This helps ensure clear audio and proper functioning during recording.

5.5 On-board Recording (Transmitter)

Insert a MicroSD card (up to 32GB) into the dedicated slot on the transmitter unit. Refer to the user manual for specific instructions on how to initiate and stop recording directly on the transmitter. This feature provides a backup recording in case of wireless interference or dropouts.

6. MAINTENANCE

- Keep the device dry. Do not expose it to water or moisture.

- Use a soft, dry cloth to clean the units. Avoid harsh chemicals or abrasive materials.
- Remove batteries if the device will not be used for an extended period to prevent leakage.
- Store the system in a cool, dry place, away from direct sunlight and extreme temperatures.

7. TROUBLESHOOTING

- **No Sound:** Check battery levels, ensure units are powered on and paired, verify cable connections, and adjust volume levels.
- **Interference/Noise:** Try switching to a different channel using the infrared sync function. Ensure the antenna is properly positioned.
- **Poor Range:** Ensure there are no major obstacles between the transmitter and receiver. Check battery levels.
- **Recording Issues:** Ensure MicroSD card is properly inserted and formatted. Check available storage space.

8. SPECIFICATIONS

Feature	Specification
Carrier Frequency Range	540MHz - 592MHz
Number of Channels	99
Frequency Response	60 - 17KHz
Effective Distance	About 150 meters (131 feet without obstacles)
Antenna	1/4 Conductor
Audio Interface	3.5mm TRS Interface
Signal to Noise Ratio	≥75dB
Total Harmonic Distortion	0.5%
Sound Delay	<1mS
Headphone Output Power	90mW
RF Output Power	30mW
Spurious Suppression	-60dB
Antenna	Soft antenna
Audio Input Interface	3.5mm TRS interface
Recording Sampling Rate	16bit 48K
Max. Support Storage	32G (MicroSD)
Power	Two AA batteries
Life Time	About 5H

Dimensions	195mm * 30mm * 65mm
Weight	RX 87g, TX 86g

9. WARRANTY AND SUPPORT

The BOYA BY-WFM12 comes with a One Year BOYA warranty. For support or warranty claims, please refer to the contact information provided in your product packaging or visit the official BOYA website.