

# **BOYA**



**Upgraded Super Mini Wireless Microphone  
with AI Noise Cancellation**

**BOYA mini 2**

User Manual

## Statement

Please read this manual carefully before using, and strictly operate and store it in accordance with the instructions. Please save the manual for future reference. If you need further assistance than the user manual, please consult your retailer for help or email us at: [support@boya-mic.com](mailto:support@boya-mic.com)

## Cautions

1. Non-professionals are strictly prohibited from disassembling this unit on their own.
2. Please keep it away from heat sources such as radiators or spotlights.
3. Do not remove the battery without professionals' help.
4. Please clean the unit with only a soft, dry cloth.
5. When using and storing, please keep away from dust and moisture.
6. For the best pick-up pattern, do not hold your hand against the microphone capsule cover.

## General Introduction

The BOYA mini 2, an upgraded super mini wireless microphone system, features upgraded AI noise cancellation technology, 80 dB SNR, and 120 dB max SPL, with support for 24-bit audio recording. Despite its enhanced performance, it remains lightweight and portable, designed for compatibility with smartphones, tablets, and other devices to deliver clear and professional-quality audio.

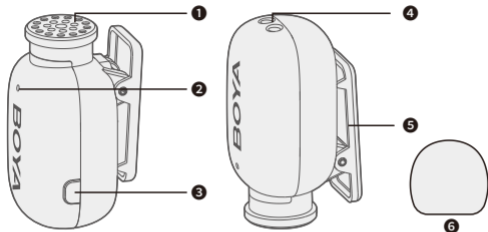
The BOYA mini 2 also adds parameter control via the BOYA Central App, allowing users to adjust gain and apply EQ control for different recording needs. Each transmitter provides up to 6 hours of use on a single charge, and the charging case extends total operating time to 30 hours. It is ideal for content creation, live streaming, vlogging, and mobile journalism.

## Features

- 5 g thumb-sized mic for discreet wear
- Upgraded AI noise cancellation, up to -40 dB
- 48 kHz / 24-bit audio, 80 dB SNR, 120 dB max SPL
- Limiter & safety track for distortion-free audio
- BOYA Central App for gain and EQ control
- 6 hrs battery per mic, up to 30 hrs with case

## Product Structure

### Transmitter (BOYA mini 2-TX)



**1 In-built Condenser Microphone**

**2 Indicator**

Status	Indicator
Unpaired	Blinks blue slowly
Pairing	Blinks blue quickly (For 5 minutes)
Paired successfully	Solid blue
Noise reduction enabled	Solid green
Mute on	Blinks red slowly
Low battery	Blinks red quickly
Charging	Solid red
Firmware updating	Blinks red and green alternately

**Note:**

- When in pairing mode, the indicator on the transmitter will blink blue quickly for 5 minutes while waiting to pair with the receiver. After the timeout, the transmitter will exit pairing mode, and its indicator will blink blue slowly.
- Please charge the transmitter when its indicator blinks red quickly, or it will automatically power off after 10 minutes.
- The transmitter(s) will power off automatically after 10 minutes if not paired. This function is enabled by default and can be disabled via the BOYA Central App if required.

**③ Power Button**

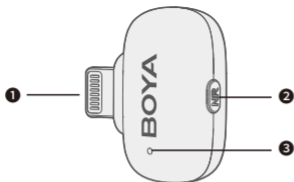
- Press and hold for 2 seconds to power on or off.
- Press and hold for 5 seconds while powered off to enter pairing mode.
- Press once to enable or disable noise reduction.
- Press twice to start or stop video recording when the receiver is connected to a smartphone and paired with the transmitter. This feature is supported only on smartphones where the volume button functions as a camera shutter.

**Note:**

- The transmitter(s) will automatically power on once removed from the charging case, and automatically power off once placed back.
- Noise reduction is disabled by default. This function cannot be enabled or disabled when the transmitter(s) is/are not paired with the receiver.

**④ Charging Contacts****⑤ Belt Clip****⑥ Foam Windscreen**

## Lightning Receiver (BOYA mini 2-RXD)



### ❶ Lightning Connector

It can be connected to an iOS device with a Lightning port.

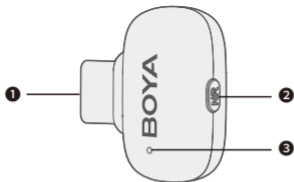
### ❷ Noise Reduction Button

- Press and hold for 5 seconds to enter pairing mode.
- Press once to enable or disable noise reduction.
- Press twice to mute or unmute the microphone.

### ❸ Indicator

Status	Indicator
Unpaired	Blinks blue slowly
Pairing	Blinks blue quickly (For 5 minutes)
Paired successfully	Solid blue
Noise reduction enabled	Solid green
Mute on	Blinks red slowly
Firmware updating	Blinks red and green alternately

## USB-C Receiver (BOYA mini 2-RXU)



### 1 USB-C Connector

It can be connected to iPhone 15 or newer, Android smartphones, tablets, computers and other USB-C devices.

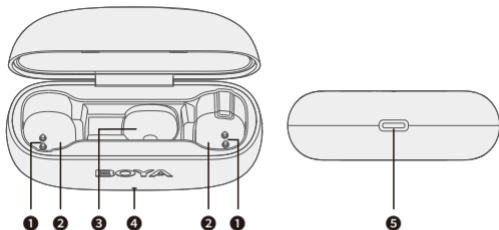
### 2 Noise Reduction Button

- Press and hold for 5 seconds to enter pairing mode.
- Press once to enable or disable noise reduction.
- Press twice to mute or unmute the microphone.

### 3 Indicator

Status	Indicator
Unpaired	Blinks blue slowly
Pairing	Blinks blue quickly (For 5 minutes)
Paired successfully	Solid blue
Noise reduction enabled	Solid green
Mute on	Blinks red slowly
Firmware updating	Blinks red and green alternately

## CC Charging Case (BOYA mini 2-CC)



### ❶ Charging Contacts

For charging transmitters.

### ❷ Slot for Transmitters

### ❸ Slot for Receiver

### ❹ Charging/Remaining Battery Level Indicator

When the charging case is connected to power, this indicator will display the case's charging status.

Status	Battery level (case)	Indicator
Low battery	30% or lower	Blinks red
Charging	31%~99%	Blinks green
Fully charged	100%	Solid green

When the charging case is NOT connected to power and the transmitter(s) is placed into it for charging, this indicator will display the case's remaining battery level.

Battery level (case)	Indicator
5% or lower	Blinks red
6%~30%	Solid red
31%~100%	Solid green

**Note:**

- Please charge the charging case as soon as possible when its indicator flashes red.
- When the charging case is out of power, the transmitter(s) does not turn off automatically once placed in.
- It takes about 2 hours for the charging case to charge the transmitter from 0% to 100%.

**5 USB-C Charging Port**

For charging the charging case.

## Magnetic Charging Cable

Simply hold the charger near the charging contacts of the transmitter, where magnets cause it to snap into place automatically.



## How to Use

- 1. The transmitter(s) will power on automatically as soon as it is taken out of the charging case. The transmitter(s) can be attached to clothes through its belt clip.**
- 2. Plug the Lightning connector into an iOS device or the USB-C connector into a USB-C device.**
- 3. The transmitter(s) and receiver are pre-paired before leaving the factory. Therefore, they will be paired once they are powered on. Their indicators will glow solid blue if paired successfully.**

If they are disconnected, please follow the below steps:

### **Pairing the Transmitter(s) with a Receiver**

- ① Connect the receiver to the corresponding device, then press and hold the noise reduction button for 5 seconds. The indicator will blink blue quickly to enter pairing mode.**
  - ② With the transmitter powered off, press and hold the power button for 5 seconds. Its indicator will blink blue quickly to enter pairing mode.**
  - ③ When pairing is successful, the indicators on both the transmitter and receiver will glow solid blue.**
- 4. Launch a video or audio recording app.**
  - 5. Some phones may default to using its built-in microphone, so you may need to switch to the external microphone (BOYA mini 2) on the recording app.**
  - 6. You are ready to record.**

### **Tips:**

- 1. It is recommended to record a sample and play it back to check if the audio level is acceptable before recording.**
- 2. In order to improve the recording effect in a noisy environment, it is recommended to press either the power button on a transmitter or the noise reduction button on the receiver once to enable noise reduction.**

Noise reduction will be enabled or disabled on both transmitters simultaneously. You can also select an optimal noise reduction level via the BOYA Central App.

3. Put the unit back into the charging case for charging after recording.

**Note:**

Due to the 2.4 GHz wireless frequency, signals can be easily attenuated. Please try to avoid obstacles, such as walls and buildings, and avoid close proximity to devices with 2.4 GHz signals, such as high-power Wi-Fi antennas, radios, etc.

## **App Information**

Download the BOYA Central app by scanning the QR code or searching “BOYA Central” in your app store. Once the BOYA mini 2 is connected to your smartphone via the Lightning receiver or USB-C receiver, you can use the app to check battery and input levels, adjust microphone gain, noise cancellation, and recording mode, and perform firmware upgrades—all to enhance your recording experience.



Note: Requires iOS 15.6 or later, Android 7.0 or later.

## Troubleshooting

If you encounter problems when using the unit, please refer to the following checklist first. If the problem cannot be solved, please contact the dealer's after-sales service department.

- **If there is no sound from the unit or no sound when connected to an external device**

Make sure the connector on the receiver is well connected to your device.

- **The operating range of the unit is limited and the sound is frequently intermittent**

Make sure there is no interference between the transmitter(s) and receiver. If the intermittent sound still occurs frequently, please contact our customer service.

- **The charging case fails to charge the unit**

- ① Make sure charging contacts are in full contact. Wipe charging contacts with a clean cloth and try again.
- ② If you want to check whether the magnetic force is aging or whether charging contacts are not in sufficient contact, push down the unit placed in the charging case until charging contacts are in full contact to see if it is charged. If the unit still fails to be charged, please contact our customer service.

# Specifications

## Transmitter

Transmission Type	2.4 GHz digital frequency (2402 -2480 MHz)
Modulation	GFSK
Polar Pattern	Omnidirectional
Antenna	FPC
Operating Range	Up to 100 m (without obstacles)
RF Output Power	< 10 dBm
Distortion	≤0.1%
Frequency Response	20 Hz-20 kHz
Sensitivity	-32 dB
Max SPL	120 dB
Sampling Rate	48 kHz
Bit Rate	24-bit
Signal-to-Noise Ratio	≥ 80 dB
Audio Input	In-built condenser microphone capsule
Battery Capacity	65 mAh
Power Requirements	In-built lithium-ion battery (5 V / 0.1 A)
In-built Battery Life	Approx. 6 hours (with noise reduction disabled)
	Approx. 4.5 hours (with noise reduction enabled)
Charging Time	Approx. 2 hours
Weight	5 g
Dimensions	31 x 15 x 16.4 mm
Operating Temperature	5°C to 45°C
Storage Temperature	-20°C to 55°C

## Lightning Receiver/USB-C Receiver

Transmission Type	2.4 GHz digital frequency (2402 -2480 MHZ)
Modulation	GFSK
Antenna	Ceramic Antenna
Operating Range	Up to 100 m (without obstacle)
RF Output Power	< 10 dBm
Distortion	≤0.1%
Frequency Response	20 Hz-20 kHz
Sampling Rate	48 kHz
Bit Rate	24-bit
Signal-to-Noise Ratio	>80 dB
Audio Output	Lightning or USB-C digital output
Power Requirements	Powered by an external device
Weight	USB-C receiver: 2.5 g
	Lightning receiver: 3 g
Dimensions	USB-C receiver: 23.2 x 22.4 x 10.1 mm
	Lightning receiver: 23.2 x 22.6 x 10.1 mm
Operating Temperature	5°C to 45°C
Storage Temperature	-20°C to 55°C

## CC Charging Case

Battery Capacity	260 mAh
Charging Time	Approx. 2 hours (5 V / 1 A)
Charging Port	USB-C port
Charging Cycles	More than once (2*transmitters)
Weight	29 g
Dimensions	67.4 x 48.4 x 22.5 mm
Operating Temperature	5°C to 45°C
Storage Temperature	-20°C to 55°C

## Packing List

### BOYA mini 2-01

Transmitter ×2  
USB-C Receiver ×1  
Lightning Receiver ×1  
Charging Case ×1  
USB-C to USB-A Data Cable ×1

### BOYA mini 2-01, Space Gray

Transmitter ×2  
USB-C Receiver ×1  
Lightning Receiver ×1  
Charging Case ×1  
USB-C to USB-A Data Cable ×1

### BOYA mini 2-02

Transmitter ×2  
USB-C Receiver ×1  
Charging Case ×1  
USB-C to USB-A Data Cable ×1

### BOYA mini 2-02, Space Gray

Transmitter ×2  
USB-C Receiver ×1  
Charging Case ×1  
USB-C to USB-A Data Cable ×1

### **BOYA mini 2-03**

Transmitter ×2  
Lightning Receiver ×1  
Charging Case ×1  
USB-C to USB-A Data Cable ×1

### **BOYA mini 2-04**

Transmitter ×2  
USB-C Receiver ×1  
Carrying Pouch ×1  
Magnetic Charging Cable ×2

### **BOYA mini 2-05**

Transmitter ×1  
USB-C Receiver ×1  
Charging Case ×1  
USB-C to USB-A Data Cable ×1

### **BOYA mini 2-05, Space Gray**

Transmitter ×1  
USB-C Receiver ×1  
Charging Case ×1  
USB-C to USB-A Data Cable ×1

### **BOYA mini 2-06**

Transmitter ×1  
USB-C Receiver ×1  
Carrying Pouch ×1  
Magnetic Charging Cable ×1

### **BOYA mini 2-07**

Transmitter ×1  
Lightning Receiver ×1  
Carrying Pouch ×1  
Magnetic Charging Cable ×1

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