

BOYA

2.4 GHz Wireless Microphone System

BY-V

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

Cautions

1. Non-professional teardown is strictly prohibited.
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 device with only a soft, dry cloth.
5. When using and storing, please keep away from the dust and moisture.
6. For the best pick-up pattern, do not hold your hand against the microphone capsule cover.

General Introduction

BY-V, a lightweight and easy-to-use 2.4 G wireless microphone system, renders ease of operation and remarkable flexibility for high-quality recording. The microphone system supports connecting a receiver with 2 transmitters for 2-person recording, ideal for content creation, live streaming, vlogging, mobile journalism, and more.

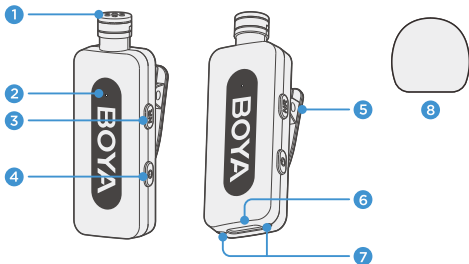
The transmitter features an in-built microphone, and a belt clip that pivots 360 degrees for flexible positioning of the transmitter on clothes. The BY-V offers multiple configurations with three kinds of receiver options that support USB-C, Lightning, and 3.5 mm TRS outputs, making it widely compatible with smartphones, computers, cameras. All these three receivers allow users to play audio directly without unplugging the receiver. Additionally, when using the BY-V-RXU or BY-V-RXD receiver with a smartphone, the receiver's USB-C port can be connected to a charging cable for charging the phone. The BY-V-RX receiver supports mono and stereo recording modes, providing flexibility for different recording scenarios. Each transmitter delivers 9 hours of recording time on a single charge. Additionally, the charging case allows you to charge transmitters while on the go.

Features

- TX weighs 10.5 g only
- Transmission range up to 100 m
- Camera version: 45 h battery life powered by charging case
USB-C/Lightning version: 36 h battery life powered by charging case;
- Rotatable clip and omnidirectional polar pattern
- Noise cancellation with foam cover and algorithm

Product Structure

BY-V-TX Transmitter



1 Built-in Microphone

2 Indicator

Status	Indicator
Unpaired	Blinking blue and red alternately
Paired successfully	Static blue
Microphone Muted	Blinking blue slowly
Noise reduction enabled	Static green
Low battery	Blinking red
Charging (in shutdown mode)	Static red

Note:

- Please charge the transmitter when the indicator indicates low battery status, or it will automatically shut off within 10 minutes.

③ NR Button

Press to enable or disable the noise reduction.

- The noise reduction feature cannot be enabled or disabled when the microphone is muted.
- Noise reduction cannot be activated when the transmitter is unpaired with the receiver.

④ Power Button

- Press and hold for 2 seconds to power on or off.
- Press to mute or unmute the microphone.

Note:

- When not paired, the transmitter will automatically shut down after 10 minutes.
- The mute feature is unavailable when the transmitter and receiver are unpaired.

⑤ Belt Clip

It can rotate 360 degrees.

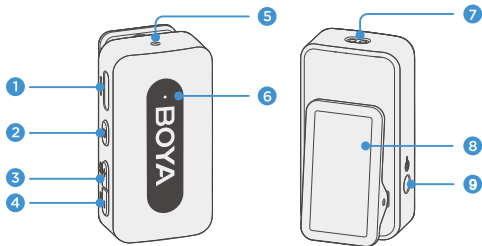
⑥ USB-C Charging Port

For charging the transmitter.

⑦ Charging Contacts

⑧ Foam Windscreen

BY-V-RX Receiver



① USB-C Data Port

For charging the receiver. It also supports connecting to a phone to transmit the audio recorded by the transmitter to the phone.

② Power Button

Press and hold for 2 seconds to power on or off.

③ Volume Up Button / Phone's Speaker Switch

- Press this button to raise the volume.
- When the receiver is connected to your phone, you can press and hold this button for 3 seconds to playback your recordings without the need to unplug the receiver. Note that this function is only supported when the receiver is connected to a phone via its USB-C data port. If the receiver is connected to a camera via its 3.5 mm TRS output jack, this function is not supported.

④ Volume Down Button / Mode Switching Button

- Press this button to lower the volume.
- The receiver supports two recording modes: Mono and Stereo. You can switch between them by pressing and holding this button for 3 seconds.

5 Function Indicator

Function	Indicator
Mono mode	Static blue
Stereo mode	Static green
Raise or lower the volume	Blinking once quickly (Gain level 1)
	Blinking twice quickly (Gain level 2)
	Blinking 3 times quickly (Gain level 3)

6 Status Indicator

Status	Indicator
Unpaired	Blinking blue and red alternately
Paired successfully	Static blue
Phone's speaker enabled	Blinking blue 3 times
Low battery	Blinking red (every 5 seconds)
Charging in shutdown mode	Static red
Fully charged	Red light off

7 Charging Contacts

Charging will begin when the charging contacts of the receiver connect to the charging contacts of the charging case.

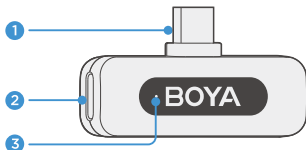
8 Belt Clip

For mounting the receiver on a camera.

9 3.5 mm TRS output

Connect the receiver to a camera using the included 3.5 mm TRS to TRS audio cable, and the audio recorded by the transmitter will be transmitted to the camera.

BY-V-RXU Receiver



❶ USB-C Connector

It can be connected to a device featuring a USB-C port.

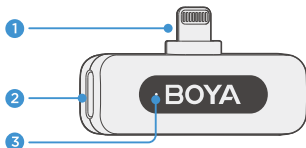
❷ USB-C Port

It can be connected to a charging cable to charge your smartphone when the receiver is connected to the phone.

❸ Indicator

Status	Indicator
Unpaired	Blinks blue
Paired successfully	Static blue

BY-V-RXD Receiver



❶ MFi Certified Lightning Connector

It can be connected to a device featuring a Lightning port.

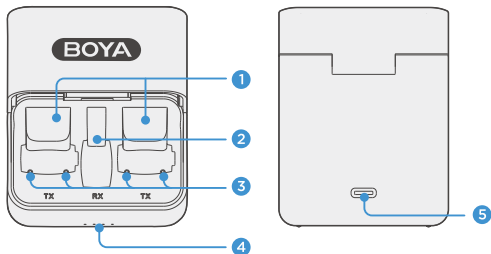
❷ USB-C Port

It can be connected to a charging cable to charge your smartphone when the receiver is connected to the phone.

❸ Indicator

Status	Indicator
Unpaired	Blinks blue
Paired successfully	Static blue

BY-V-CC Charging Case



❶ Slot for Transmitters

❷ Slot for Receiver

❸ Charging Contacts

For charging transmitters.

❹ Indicators

- When the charging case is connected to power, these indicators display as follows:

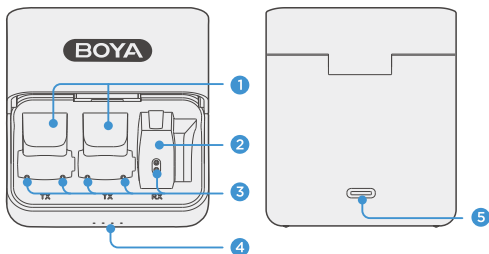
Battery level (case)	Indicator
25% or lower	● ● ● ●
26% - 50%	● ● ● ●
51%~75%	● ● ● ●
76%~99%	● ● ● ●
100%	● ● ● ●

- When the charging case is not connected to power and the transmitter(s) is placed into it, these four indicators will display the case's current battery level. Four indicators can show the case's battery level with 4 scales, 25%, 50%, 75%, 100%. Each indicator represents 25%.

⑤ USB-C Charging Port

For charging the case.

BY-V-CCC Charging Case



① Slot for Transmitters




② Slot for Receiver

③ Charging Contacts

For charging transmitters and receiver.

④ Indicators

- When the charging case is connected to power, these indicators display as follows:

Battery level (case)	Indicator
25% or lower	   
26% - 50%	   
51%~75%	   
76%~99%	   
100%	   

- When the charging case is not connected to power and the transmitter(s) and receiver are placed into it, these four indicators will display the case's current battery level. Four indicators can show the case's battery level with 4 scales, 25%, 50%, 75%, 100%. Each indicator represents 25%.

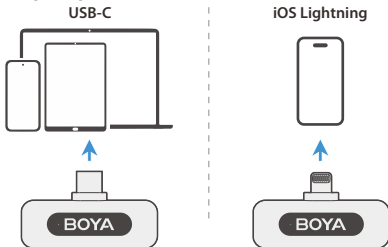
5 USB-C Charging Port

For charging the case.

How to Use

For BY-V3 combo, BY-V30, BY-V3, BY-V20, BY-V2, BY-V10, BY-V1 package

1. The transmitter(s) will power on automatically once removed from the charging case. The transmitter(s) can be attached to clothes through its belt clip.
2. Plug the BY-V-RXU receiver into a USB-C device or the BY-V-RXD receiver into a Lightning device.



3. The transmitter(s) and receiver are pre-paired before leaving the factory. Therefore, they will be paired once the transmitter(s) are powered on and the receiver are plugged into your device. Their indicators will glow static blue if paired successfully.
4. Launch a video or audio recording app on your device.
5. Some phones may default to using its built-in microphone, so you need to switch to the external microphone (BY-V).
6. You are ready to record.

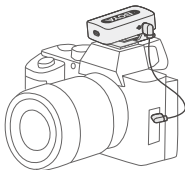
For BY-V35 package

1. The transmitter(s) and BY-V-RX receiver will automatically power on once removed from the charging case.
2. The transmitter(s) and receiver are pre-paired before leaving the factory. Therefore, they will automatically pair with each other once powered

- on. Their indicators will glow static blue if paired successfully.
3. Place the transmitter(s) on clothes through its belt clip.
 4. Using the receiver

- Using with a camera

Connect the 3.5 mm TRS output on the receiver to the microphone port of a camera using the 3.5 mm TRS to TRS audio cable provided. Refer to the camera's accompanying user manual to start recording, then the audio captured by the transmitter(s) will be transferred to the camera.



- Using with a phone

The receiver can also be connected to a phone via its USB-C data port using a correct data cable (not included), then the transmitter's audio to be transmitted to the phone. Start a video or audio recording application on your phone to begin recording. Some phones may default to using its built-in microphone, so you may need to switch to the external microphone (BY-V).

Tips:

1. It is recommended to record a sample and play it back to check if the audio level is acceptable before recording.
2. To improve the recording effect in a noisy environment, it is recommended to press the NR button on the transmitter(s) to enable noise reduction.

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.

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.

The unit fails to pair

Make sure to pair the transmitter(s) with one receiver. If paired with more than one receiver, which receiver will be paired with the transmitter(s) cannot be specified.

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.
- Make sure the transmitter(s) is not muted. If its indicator blinks blue slowly, users need to press the power button once to unmute the transmitter(s).

The operation 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 unit shuts off automatically

When not paired, the transmitter(s) will automatically shut down after 10 minutes.

The unit fails to be powered on

Make sure the unit has enough battery to be powered on. Try plugging in a charging cable to activate the circuit.

The charging case fails to charge the unit

- Make sure the charging case's battery is not depleted. Try charging the case.
- Wipe the charging contacts of the unit and charging pins of the charging case with a clean cloth and to make sure no dust is covering them.

- Try to push down the unit placed in the charging case until the charging contacts are fully connected . After that, if the unit still fails to be charged, the magnetic force may be aging. Please contact our customer service.

Specifications

BY-V-TX Transmitter

Transmission Type	2.4 GHz
Modulation	GFSK
Polar Pattern	Omnidirectional
Antenna	PCB
Operating Range	100 m (without obstacles)
Distortion	≤0.1%
Frequency Response	20 Hz - 16 kHz
Sensitivity	-42 dB
RF Output Power	≤10 dBm
Sampling Rate	48 kHz
Signal-to-Noise Ratio	80 dB
Audio Input	Built-in capsule
Battery Voltage/ Capacity	3.7 V / 95 mAh
Power Supply	Built-in Li-ion battery
Battery Life	Approx. 9 hours
Charging Time	Approx. 2 hours
Weight	Approx. 10.5 g
Dimensions	53.1 × 18.3 × 10.2 mm
Operating Temperature	0°C to +50°C
Storage Temperature	-20°C to +55°C

BY-V-RX Receiver

Transmission Type	2.4 GHz
Polar Pattern	Omnidirectional
Antenna	FPC
Operating Range	100 m (without obstacles)
Frequency Response	20 Hz - 16 kHz
Sampling Rate	48 kHz
Bit Rate	16 bit
Signal-to-Noise Ratio	80 dB
Audio Output	3.5 mm TRS; USB-C data port
Charging Port	USB-C data port; charging contacts
Power Supply	In-built lithium-ion battery
In-built Battery Capacity	130 mAh
In-built Battery Life	Approx. 9 hours
Charging Time	Approx. 2 hours
Weight	Approx. 14 g
Dimensions	45 × 23.8 × 12.5 mm
Operating Temperature	0°C to +50°C
Storage Temperature	-20°C to +55°C

BY-V-RXU Receiver / BY-V-RXD Receiver

Transmission Type	2.4 GHz
Modulation	GFSK
Polar Pattern	Omnidirectional
Antenna	PCB
Operating Range	100 m (without obstacles)
Signal-to-Noise Ratio	80 dB
RF Output Power	≤ 10 dBm
Distortion	≤ 0.1%
Frequency Response	20 Hz - 16 kHz
Power Supply	Powered by an external device
Audio Output	RXU: USB-C
	RXD: Lightning
Weight	RXU: Approx.5.5 g
	RXD : Approx.6 g
Dimensions	RXU: 43.9 x 15.5 x 10 mm
	RXD: 43.9 x 15.5 x 10 mm
Operating Temperature	0°C to +50°C
Storage Temperature	-20°C to +55°C

BY-V-CC / CCC Charging Case

Battery Type	Built-in Li-ion battery
Battery Capacity	CC: 3.7 V / 400 mAh
	CCC: 3.7 V / 850 mAh
Charging Time	Approx. 2 hours
Power Supply	USB-C (DC 5 V / 1 A)
Charge Cycle Times	CC: Approx. once (2*TX)
	CCC: Approx. once (2*TX+1*RX)
Weight	CC: Approx. 86.5 g
	CCC: Approx. 95 g
Dimensions	CC: 62 × 38.5 × 79.8 mm
	CCC: 70 × 38.5 × 79.8 mm
Operating Temperature	0°C to +50°C
Storage Temperature	-20°C to +55°C

Packing List

BY-V3 combo (USB-C & Lightning)

Transmitter × 2

RXU Receiver × 1

RXD Receiver × 1

CC Charging Case × 1

Foam Windscreen × 2

USB-A to USB-C Charging Cable × 1

Carrying Bag × 1

BY-V30 (USB-C)

Transmitter × 2
RXU Receiver × 1
CC Charging Case × 1
Foam Windscreen × 2
USB-A to USB-C Charging Cable × 1
Carrying Bag × 1

BY-V3 (Lightning)

Transmitter × 2
RXD Receiver × 1
CC Charging Case × 1
Foam Windscreen × 2
USB-A to USB-C Charging Cable × 1
Carrying Bag × 1

BY-V20 (USB-C)

Transmitter × 2
RXU Receiver × 1
Foam Windscreen × 2
USB-A to USB-C Charging Cable × 2
Carrying Bag × 1

BY-V2 (Lightning)

Transmitter × 2
RXD Receiver × 1
Foam Windscreen × 2
USB-A to USB-C Charging Cable × 2
Carrying Bag × 1

BY-V10 (USB-C)

Transmitter × 1
RXU Receiver × 1
Foam Windscreen × 1
USB-A to USB-C Charging Cable × 1
Carrying Bag × 1

BY-V1 (Lightning)

Transmitter × 1
RXD Receiver × 1
Foam Windscreen × 1
USB-A to USB-C Charging Cable × 1
Carrying Bag × 1

BY-V35 (For Camera)

Transmitter × 2
RX Receiver × 1
CCC Charging Case × 1
Foam Windscreen × 2
USB-C to USB-A Charging Cable × 1
3.5 mm TRS to TRS Audio Cable × 1
Carrying Bag × 1

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