BOYA

Wired/Wireless Dual-Function Microphone

有线/无线双功能麦克风

BY-PM500W

User Manual
用户手册

General Introduction

Thanks for choosing BOYA!

BOYA BY-PM500W is a dual-function microphone, offering wired or wireless operation for gamers, streamers, podcasters in a variety of applications.

The microphone features selectable cardioid and omnidirectional pickup patterns, allowing you to customize your audio, and supporting 24bit/48 kHz resolution. Built-in 3.5mm headphone jack allows you to monitor and ensure the audio intelligibility during recording.

The headphone volume/gain/mute multi-function control allows you to adjust the volume according to your needs.

The M/S switch on the wireless receiver allows you to select mono or stereo output mode.

Package Contents

• BY-PM500W Microphone×1
• Wireless Receiver×1
• USB-C Female to USB-A Male Adapter×1
• 3.9'(1.2m) USB-A to USB-C Cable×1
• 3.9'(1.2m) USB-C to USB-C Cable×1

Product Structure

TX

1. Metal mesh windscreen
2. Headphone volume/
   gain/mute control
3. Polar pattern indicators
4. Polar pattern switch
5. Locking knobs
6. Desk stand
7. Battery level indicator
8. Power/pair button
9. USB-C port
10. 3.5mm headphone jack
11. 3/8" threaded hole
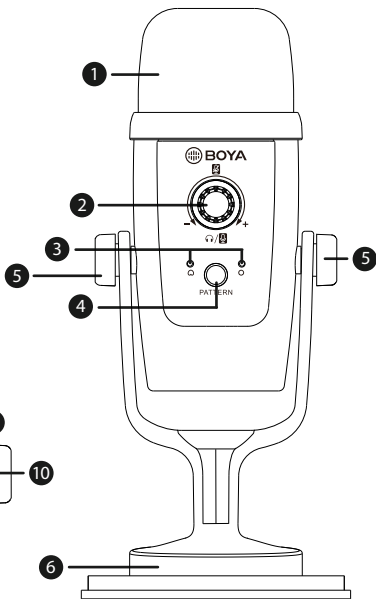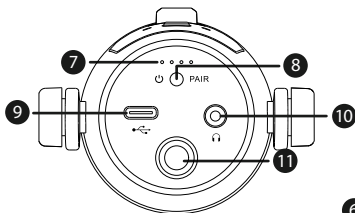
RX

1. Status indicator
2. USB-C connector
3. 3.5mm headphone jack
4. Volume control(+/-) / Pair button
5. Mono/stereo switch
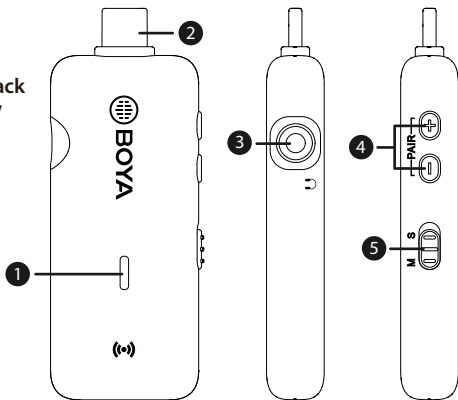
Accessories
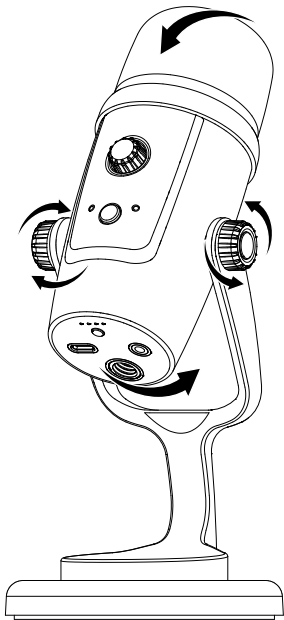
USB-C to USB-C cable

USB-A to USB-C cable

USB-C female to USB-A male adapter

Functions

Angle Adjustment

Loosen the knobs of both sides anticlockwise. Adjust the microphone at your desired angle, then tighten the knobs.

Headphone Volume/Gain/Mute Control

Mode	Indicator	Operation
Headphone volume control		Default setting: headphone volume control
Gain control		Short press the knob to mute the microphone. Long press the knob to switch between gain control and headphone volume control.
Mute ON		Turn the knob to adjust mic gain/ headphone volume.

Polar Pattern Switching

PATTERN

⚠️
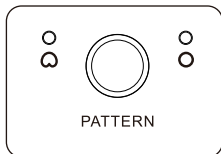
Press the button to switch between Cardioid and Omnidirectional polar pattern.

Cardioid
Maximizes the rejection of sound coming from the sides and rear of the mic and can be used as a directional microphone to capture full, rich, natural-sounding audio for podcast, speech, dialog, instrument, etc.

Omnidirectional
Pick up sound equally from all directions, capturing a natural blend of voice and ambiance with low sensitivity to wind and handling noise, as well as to vocal plosives.

Factory Reset

For optimum sound, please press and hold the headphone volume/gain/mute control knob and the polar pattern switch simultaneously to restore factory setting. The indicator will blink red three times.
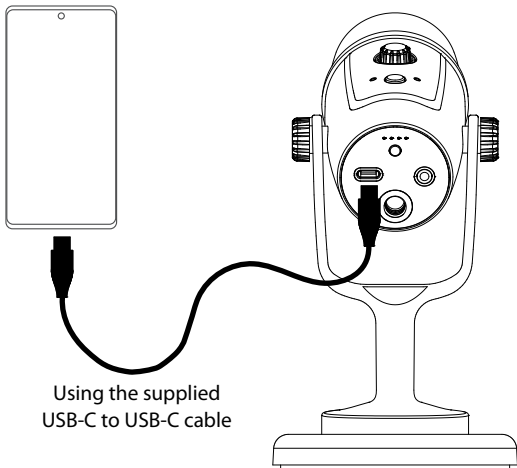
⚠

Press and hold simultaneously
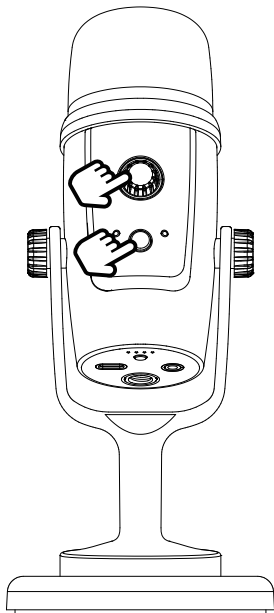
Operation Guide

Wired Operation

1. Connect the microphone to your smartphone/computer.
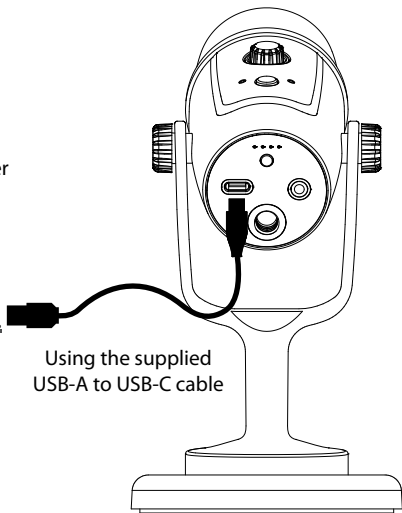
A USB-C devices
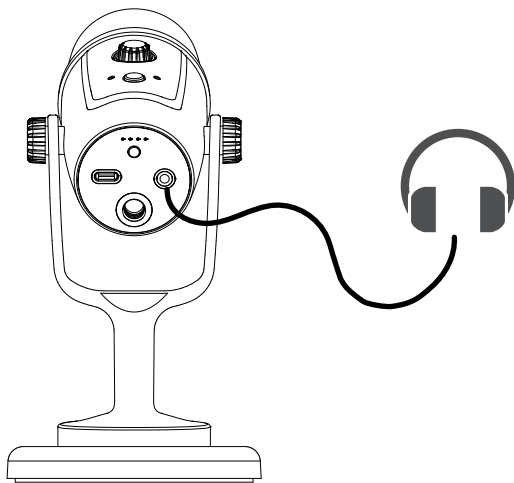
Using the supplied
USB-C to USB-C cable

B

Mac/Windows Computer

Using the supplied
USB-A to USB-C cable

2. Connect headphones for audio monitoring.

3. Adjust the headphone volume/gain/mute control knob
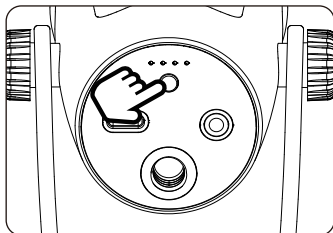   according to your needs.
4. You are ready to record.

Wireless Operation

1. Turn on the transmitter

⚠️

Press and hold the power button

⚠️
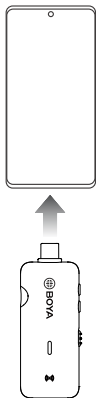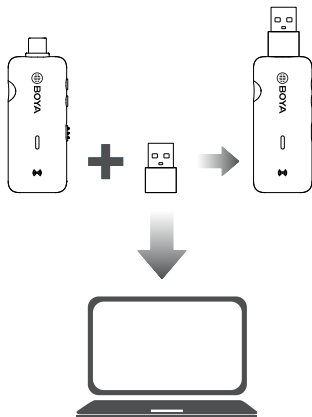
Note:
When using wired function, short press the power button to enable wireless function simultaneously. Double-click the power button to enter pairing mode. Press again to disable wireless function.

2. Connect the Receiver to an external device

Connect to a USB-C device

Connect to a USB-A device
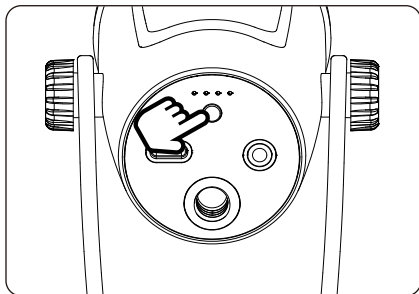
3. TX & RX Pairing

Before leaving factory, the transmitter and the receiver is pre-paired. Therefore, the connection will be established once they are powered on. If they are disconnected, please follow below steps:

⚠

① Double-click the TX's pair button to enter pairing mode.

② Press the RX's pair(+ and -) button to enter pairing mode.

⚠️

Press + and - buttons
simultaneously
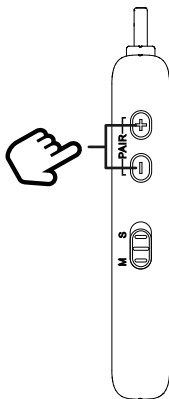
4. The transmitter and the receiver will be successfully paired within 10 seconds.

Mode	Indicators (of both TX and RX)
Unpaired	Slowly flashing blue light
Pairing	Quickly flashing blue light
Paired Successfully	Solid blue light

5. Connect headphones for audio monitoring.

6. You are ready to record.

⚠

Note:
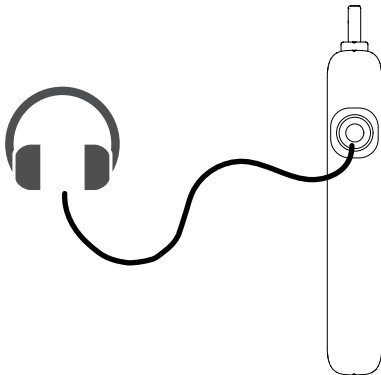Due to 2.4GHz wireless frequency, signal can be easily attenuated. Please try to avoid obstacles, such as walls and buildings, and avoid close proximity to devices with 2.4GHz signal, such as high-power wifi antennas, smartphones with wifi in use, radios, etc.

Features

- Ideal for gaming, streaming, podcasting and more
- Compatible with Android devices, Windows/Mac computers
- Supports wired or wireless operation
- Selectable cardioid and omnidirectional polar patterns
- All-in-one knob for gain & volume control & muting function
- 3.5mm headphone monitoring jack
- Rugged integrated microphone desktop stand

Specifications

Wired Operation

| Mic Capsule	14mm Condenser Capsule
Polar Pattern	Cardioid /Omnidirectional
Frequency Response	20Hz-20kHz
Sensitivity	-36dB（0dB=1V/Pa，1kHz 1Pa）
Signal-to-Noise Ratio	80dB
Maximum SPL	110dB
Sampling Rate	48kHz
Bit Rate	24bit
Mic Gain	0~54dB
Working Voltage	5V/100mA
Audio Output Connector	3.5mm Headphone Jack
	USB-C Port
Operating Temperature	0℃ to 50℃
Storage Temperature	−20℃ to +55℃

Wireless Operation

Mic Capsule	14mm Condenser Capsule
Polar Pattern	Cardioid /Omnidirectional
Frequency Response	35Hz-18kHz
Sensitivity	-36dB（0dB=1V/Pa，1kHz 1Pa）
Signal-to-Noise Ratio	80dB
Maximum SPL	110dB
Transmission Type	2.4GHz
Modulation	GFSK
Antenna	Dipole Antenna
Operating Range	10m (Indoors with obstacles)
RF Output Power	<10mW
Distortion	＜0.05%
Battery Life	8 Hours
Charging Time	1.5 Hours
Battery Capacity	800mAh
Dimensions	TX：226.7×100×100mm
	RX：71.6×27.1×10.55mm
Weight	TX：660g
	RX：12.5g

Polar Pattern

Cardioid Polar Pattern

Omnidirectional

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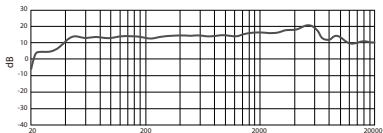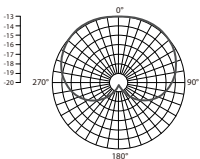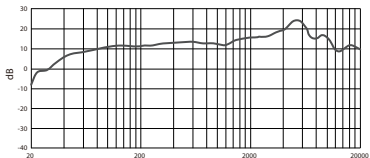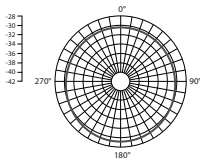
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following

measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and **receiver.**

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

FCC RF exposure statement:

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.