BOYA

AI-Powered Transformable Wireless Microphone

BOYA Magic

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

BOYA Magic is a transformable 2.4 GHz wireless microphone system, designed for flexible use across multiple scenarios. The lightweight and compact transmitter ensures portability, while the charging case not only stores the transmitters and receiver but also functions as a handheld microphone. When used with the BOYA desktop stand (sold separately), it can also serve as a desktop microphone. With its ease of operation, the BOYA Magic is ideal for content creation, live streaming, vlogging, mobile journalism, and much more.

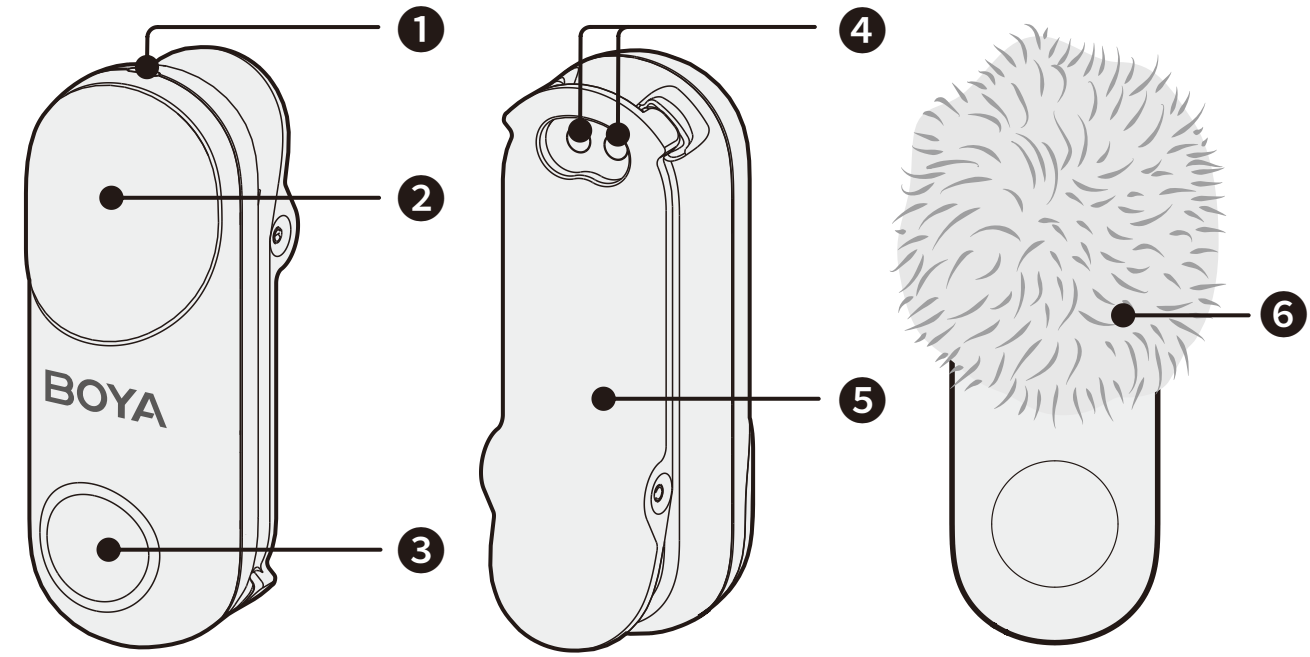
BOYA Magic includes USB-C receiver. It is highly compatible with smartphones, tablets, computers. The receiver features a USB-C charging port that supports simultaneous recording and charging of the mobile device. Each transmitter provides up to 6 hours of continuous use, and the charging case extends the total battery life up to 30 hours. It also allows you to recharge the transmitter anywhere, making the BOYA Magic highly portable and convenient for on-the-go use.

Features

- True AI noise cancellation suppresses up to 40 dB
- Only 7 g and 13 mm thin for discreet wear
- 48 kHz / 24-bit, 20 Hz – 20 kHz pristine audio
- Limiter and safety track prevent clipping
- 6 hrs of battery life per mic, 30 hrs in total

Product Structure

Transmitter (BOYA Magic-TX)



❶ Status Indicator

Status	Indicator
Unpaired	Blinks blue slowly
Pairing	Blinks blue quickly
Successfully paired	Solid blue
Mute on	Blinks red slowly
Noise cancellation enabled	Solid green
Low battery	Blinks red quickly
Charging	Solid red
Firmware updating	Blinks red and green alternately

NOTE:

- In pairing status, the status 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 status, and its indicator will blink blue slowly.

- Please charge the transmitter when its status indicator blinks red quickly, or it will automatically shut down after 10 minutes.

❷ Built-in Microphone

❸ Power Button
- Press and hold for 2 seconds to power on or off.
- Press and hold for 5 seconds to enter pairing status in shutdown mode.
- Press once to enable or disable noise cancellation.
- Press twice to start or stop recording a video when the receiver is connected to a smartphone and paired with the transmitter. Note that this feature is only supported on smartphones where the volume button functions as a camera shutter.

❹ Charging Contacts

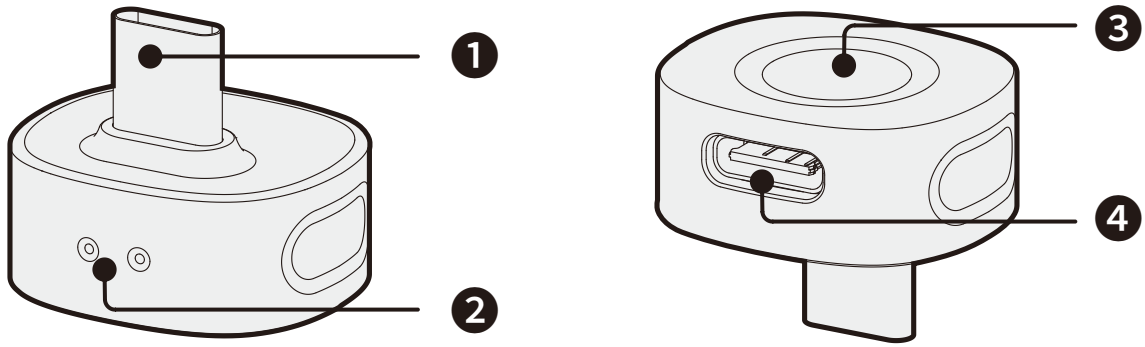
Charging will begin when the charging contacts of the transmitter connect to the charging pins of the charging case.

❺ Magnetic Clip

The transmitter can be securely attached to clothing using either the magnetic clip or the magnet for easy placement.

❻ Fur Windshield

USB-C Receiver (BOYA Magic-RXU)



❶ USB-C Connector

It can be connected to a smartphone, tablet, computer, or other mobile device featuring a USB-C port.

❷ TX1 & TX2 Status Indicators

Status	Indicator
Unpaired	Blinks blue slowly
Pairing	Blinks blue quickly
Successfully paired	Solid blue
Mute on	Blinks red slowly
Noise cancellation enabled	Solid green
Firmware updating	Blinks red and green alternately

NOTE:

- The two indicators correspond to transmitter 1 (TX1) and transmitter 2 (TX2), respectively. If the receiver is connected to only one transmitter, only the corresponding indicator will glow.
- In pairing status, the status indicators on the receiver will blink blue quickly for 5 minutes while waiting to pair with the transmitter(s). After the timeout, the receiver will exit pairing status, and its indicator will blink blue slowly.

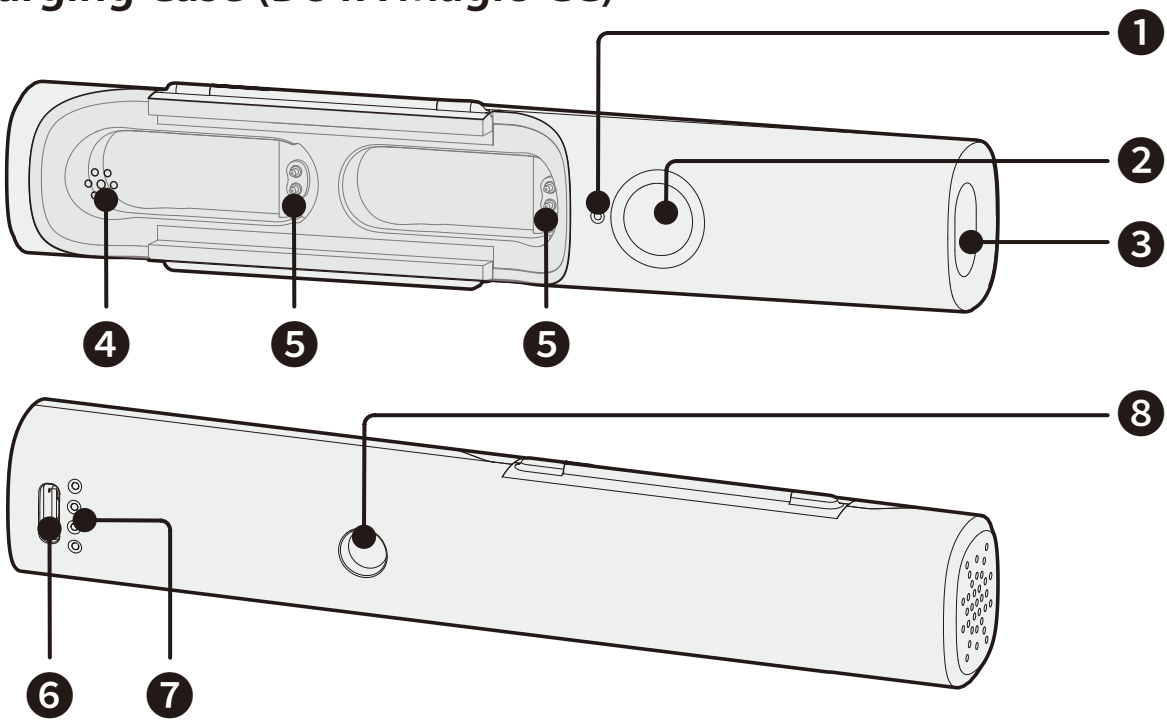
❸ Power Button

- Press and hold for 5 seconds to enter pairing status in shutdown mode.
- Press once to mute or unmute the microphone.
  NOTE:
  The USB-C receiver will power on automatically when connected to a mobile device. If the transmitter does not pair with the receiver, press and hold the power button on the receiver for 2 seconds to power it off, then press and hold the power button for 5 seconds to enter pairing status.

❹ USB-C Charging Port

When the receiver is connected to a mobile device, this port can charge the mobile device via a USB-C to USB-A data cable.

Charging Case (BOYA Magic-CC)



❶ TX1 Status Indicator

Status	Indicator
Unpaired	Blinks blue slowly
Successfully paired	Solid blue
Noise cancellation enabled	Solid green

Note: When using the charging case as a handheld microphone or desktop microphone, a transmitter must be placed in the first slot; otherwise, audio will not be captured. If no transmitter is placed in the first slot, press and hold the charging case's power button for 2 seconds— the TX1 status indicator will blink three times and then turn off.

❷ Power Button

- Press and hold the power button on the charging case for 2 seconds to power TX1 on or off.
- Press power button once to enable or disable the noise cancellation on TX1.
- Press power button twice to start or stop recording a video when either receiver is connected to a smartphone and paired with the TX1. Note

that this feature is only supported on smartphones where the volume button functions as a camera shutter.

❸ Slot for USB-C Receiver

Used to store the USB-C receiver.

❹ Microphone Holes

When the charging case is used as a handheld microphone or a desktop microphone, this port captures external sound.

❺ Charging Pins

❻ USB-C Charging Port

For charging the receiver via the USB-C to USB-A data cable.

❼ Power Indicator

☼ means blinking white light ○ means solid white light

● means the white light is off

- When the charging case is not connected to power (not in charging mode), opening the case or placing the transmitters into it for charging, this indicator will display the case's current battery level.

Battery level (case)	Indicator
0 to 10%	☼ ● ● ●
<25%	○ ● ● ●
25% to 49%	○ ○ ● ●
50% to 74%	○ ○ ○ ●
75% to 100%	○ ○ ○ ○

NOTE:

When the charging case is at low or below 10%, it can not charge the transmitter(s).

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

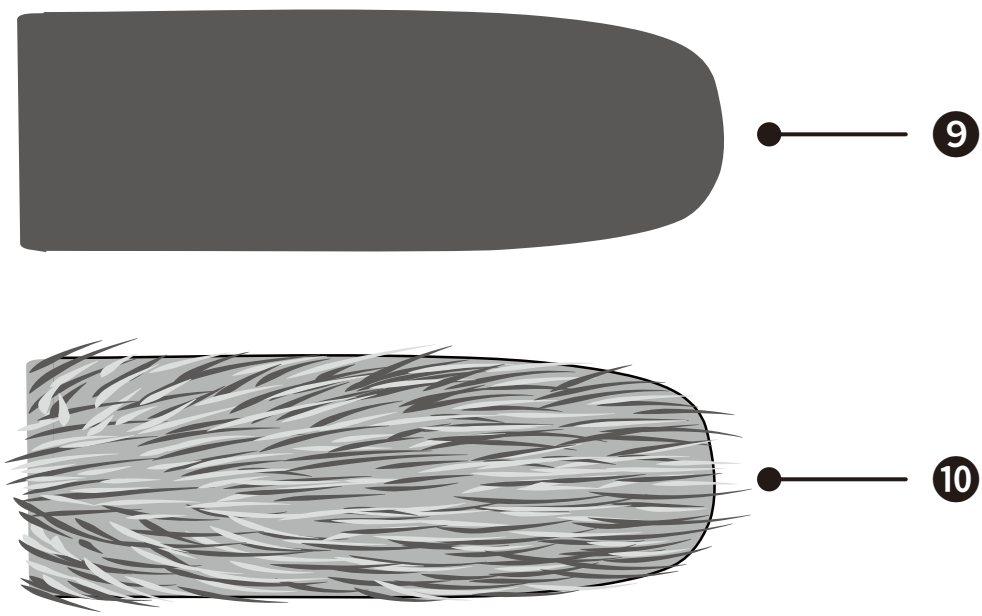
Battery level (case)	Indicator
<25%	☼ ● ● ●
25% to 49%	○ ☼ ● ●
50% to 74%	○ ○ ☼ ●
75% to 99%	○ ○ ○ ☼
Fully charged	○ ○ ○ ○

❽ 1/4" Threaded Hole

The charging case can be connected to the BOYA desktop stand and used as a desktop microphone.

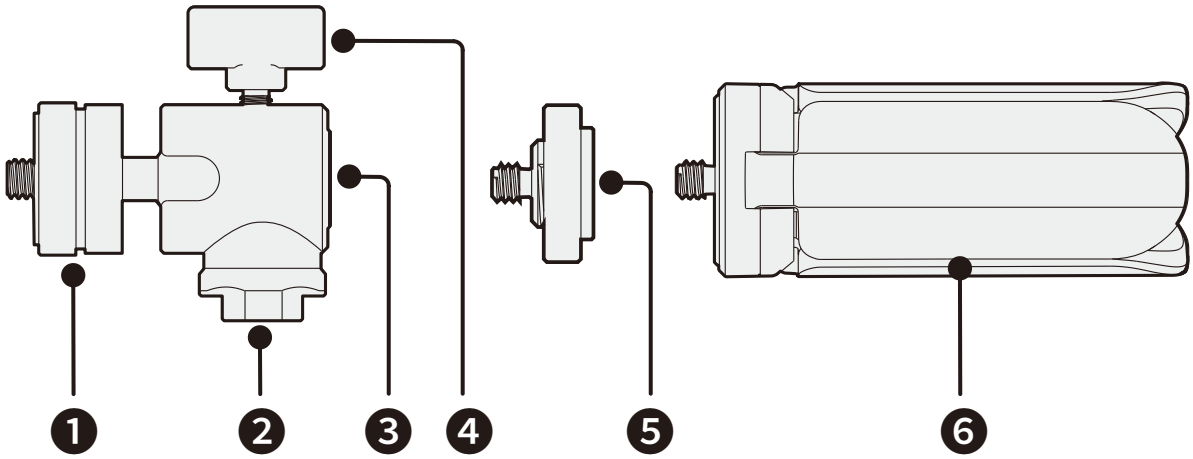
❾ Foam Windscreen

❿ Fur Windshield



BOYA Desktop Stand

NOTE: The BOYA Desktop Stand is sold separately.



❶ Top 1/4" Threaded Hole & Bottom Cold Shoe Mount
Can be flipped for use according to actual needs.

❷ Rotatable Cold Shoe Mount
The RX belt clip can be inserted into the cold shoe mount.

❸ 3/8" Threaded Hole
Compatible with 3/8" threaded adapters or boom arms.

❹ Adjustable Angle Screw Handle
Rotate upward or downward to adjust the angle of the gimbal.

❺ 1/4" Cold Shoe Mount
Can be mounted on a camera cold shoe or tripod. Rotate the rubber cushion above to secure it.

❻ Tripod

Magnetic Charging Cable

If the purchased combo does not include a charging case, the transmitter can be charged using the magnetic charging cable. When the charging contacts on the transmitter are near the charging pins, the magnetic force will automatically attract it and start charging.

Operation Guide

Pairing the Transmitters and Receiver

1. The transmitter(s) will power on automatically when removed from the charging case.
2. Plug the USB-C into the corresponding port on your mobile device.
3. The transmitter(s) and receiver are pre-paired before leaving the factory. They will automatically pair once powered on. Their indicators will glow solid blue when the pairing is successful.

- If they are disconnected, please follow the steps below:

❶ Press and hold the power button on the transmitter(s) for 5 seconds in shutdown mode until its indicator blinks blue quickly to enter pairing status.

❷ Press and hold the power button on the receiver for 5 seconds in shutdown mode until its indicator blinks blue quickly to enter pairing status.

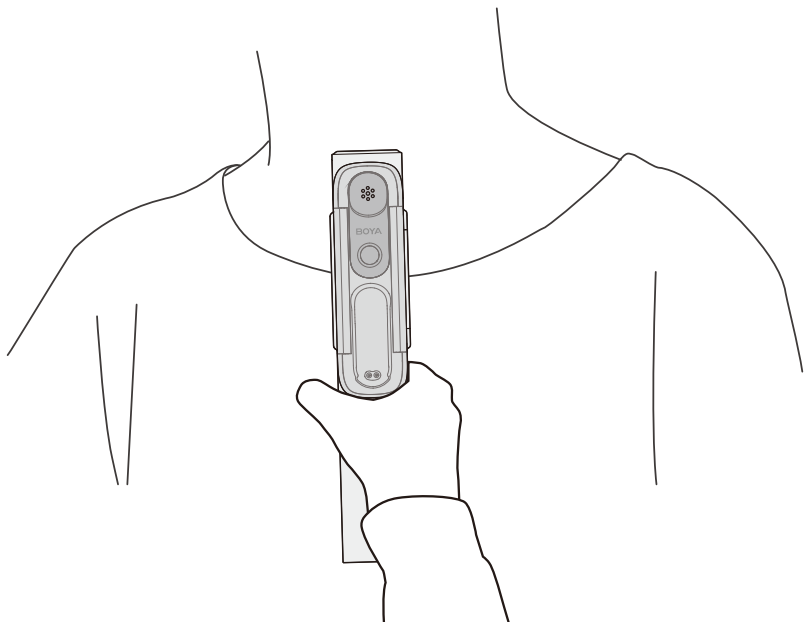
❸ The transmitter(s) and receiver are successfully paired when their indicators turn solid blue.

Pairing the Charging Case and Receiver

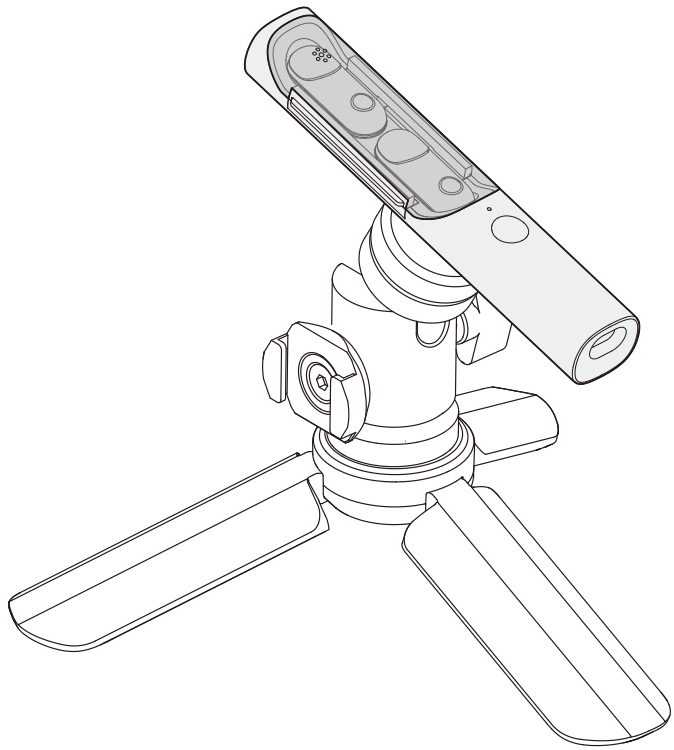
1. Press and hold the power button on the charging case for 2 seconds to power the transmitter in the first slot on. Then plug the USB-C receiver into your mobile device to begin use.
2. The transmitter and receiver are pre-paired before leaving the factory. They will automatically pair once powered on. The TX1 status indicator on the charging case and the TX1 indicator on the receiver will glow solid blue when the pairing is successful.
   If they are disconnected, you can remove the transmitter from the first slot and follow the pairing steps above (Refer to Pairing the

Transmitters and Receiver for details). After successful pairing, place the TX1 back into the charging case. The charging case can then be used as a handheld microphone or, when combined with the BOYA desktop stand (sold separately), as a desktop microphone.

Use Charging Case as a handheld microphone



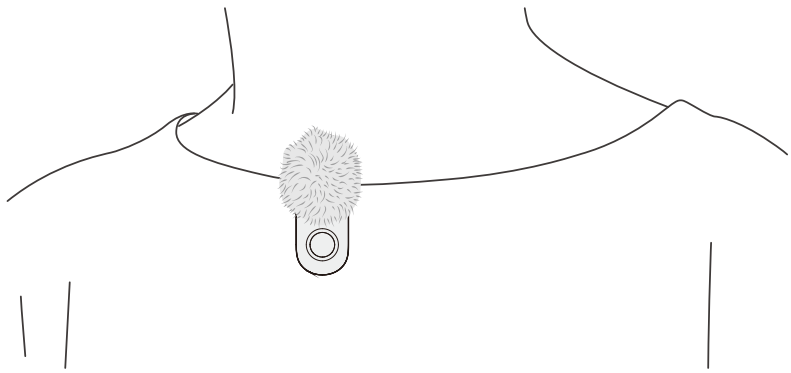
Use Charging Case as a desktop microphone

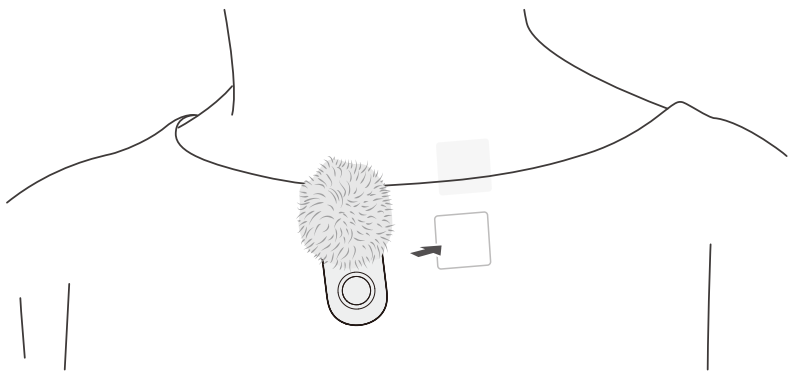


Placing Transmitter

1. Attach the fur windshield to the transmitter(s), or attach the foam windscreen or fur windshield to the charging case when using the products outdoors or in a windy environment.

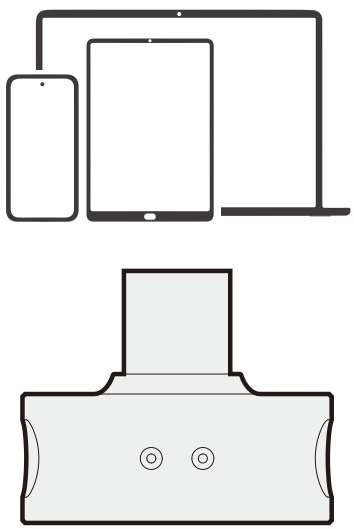
2. The transmitter can be directly attached to clothing via its magnetic clip, or using with the magnet, offering users greater flexibility when wearing the transmitter.





Using with a Mobile Device

- Plug the USB-C receiver into the corresponding port on your smartphone, tablet or other mobile device.
- Launch the BOYA Central app or another recording app to start recording. If the app is compatible, please select the external microphone(BOYA Magic).



USB-C

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 the power button on the transmitter(s) or charging case to enable noise cancellation (this function will be enabled or disabled simultaneously on both transmitters).
3. After recording, put the transmitter(s) and receiver back into the case for charging and storing.

NOTE:
Due to 2.4 GHz wireless frequency, signal can be easily attenuated. Please try to avoid obstacles, such as walls and buildings, and avoid close proximity to devices with 2.4 GHz signal, 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 transmitter(s) can not pair with the receiver**
  Turn off the transmitter(s) and the receiver. Press and hold their power buttons for 5 seconds until their status indicators blink blue quickly to pair again.
- **The charging case can not pair with the receiver**
  When using the charging case as a handheld or desktop microphone, ensure the microphone is placed in the first slot.
  If the microphone is already in the first slot but cannot connect to the receiver, remove it and re-pair it following the steps about "Pairing the Transmitter(s) and Receiver".
- **Operating range is limited, sound changes, or noise appears**

① Make sure there is no interference from high-power wireless routers or devices in your recording environment. If the recording environment can't be changed, you need to find the optimal distance and angle for recording.
② Due to 2.4 GHz wireless frequency, signal can be easily attenuated. Please try to avoid obstacles, such as walls and buildings, and avoid close proximity to devices with 2.4 GHz signal, such as high-power Wi-Fi antennas, radios, etc.
③ Make sure the receiver is well connected to your device properly.

- **The transmitter(s) or the receiver doesn't power on**
  If the battery is completely depleted because the transmitter(s) or the receiver has not been used for a long time, charge it.
- **Charging case can't charge the transmitter(s)**

① If the remaining charge of the charging case is too low, please recharge the case and try again.
② Wipe the charging contacts on the transmitter(s), and charging pins in the case with a clean cloth. Make sure there is no dirt covering them.
③ If the charging contacts and pins are not firmly connected due to insufficient magnetic force, please contact BOYA after-sales support.

Specifications

Transmitter (BOYA Magic-TX)

Transmission Type	2.4 GHz
Transmission Range	Up to 100 m (without obstacles); 10 m(with obstacles)
Modulation	GFSK
Microphone Directions	Omnidirectional
Antenna	LDS
Distortion	≤0.1%
Max SPL	≥115 dB
Frequency Response	20 Hz to 20 kHz
Sensitivity	-33.5 dB
Reference Audio Input Level	-20 to -42 dBu (MIC input, 0 dB Gain)
Audio Input	Built-in condenser microphone capsule
Power Supply	Built-in Li-ion battery
Sampling Rate	48 kHz
Bit Rate	24 bit
Signal-to-noise Ratio	≥80 dB
Battery Capacity	90 mAh
Battery Life	≥6 hours
Charging Time	≤2 hours
Weight	7 g
Dimensions	34.99 × 15.24 × 12.96 mm
Charging Temperature	0°C to 45°C
Operating Temperature	0°C to 45°C
Storage Temperature	-20°C to 55°C

USB-C Receiver (BOYA Magic-RXU)

Transmission Type	2.4 GHz
Transmission Range	Up to 100 m (without obstacles); 10 m(with obstacles)
Modulation	GFSK
Antenna	Chip Antenna
Distortion	≤0.1%
Frequency Response	20 Hz to 20 kHz
Signal-to-noise Ratio	≥80 dB
Power Supply	Powered by an external device
Weight	5 g
Dimensions	19.55 × 24 × 21 mm
Operating Temperature	0°C to 45°C
Storage Temperature	-20°C to 55°C

Charging Case (BOYA Magic-CC)

Battery Type	Built-in Li-ion battery
Battery Capacity	500 mAh
Power Supply	USB-C port
Charging Time	Approx. 2 hours (5 V / 2 A)
Charging Cycles	More than 1.5 times (2*TX)
Weight	62.5 g
Dimensions	141.3 × 26.5 × 21 mm
Charging Temperature	0°C to 45°C
Operating Temperature	0°C to 45°C
Storage Temperature	-20°C to 55°C

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.

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.