

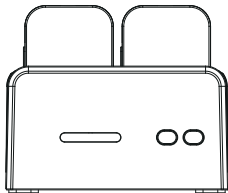
WS16

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USER MANUAL

5.8GHz

Wireless Audio In-Ear Monitor
Transmission System



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Product Overview

This product is a 5.8GHz Digital Wireless In-Ear Monitor (IEM) Transmission System. Its core positioning is that of a professional-grade monitoring solution, adaptable to various professional scenarios. Key features are as follows:

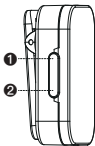
- **Compact and Lightweight:** Designed with a compact form factor. The receiver weighs approximately 16 grams and the transmitter approximately 59 grams, facilitating easy portability and use in mobile scenarios.
- **High-Fidelity Stereo Transmission:** Employs 24-bit/48kHz Hi-Fi sampling, supports stereo transmission, and features a frequency response of 20Hz-20kHz. Combined with a signal-to-noise ratio (SNR) of $\geq 103\text{dB}$, it delivers clear and full-bodied sound.
- **Low-Latency Experience:** Transmission latency is as low as 8.9ms, virtually imperceptible to the human ear, ensuring perfect monitoring synchronization.
- **One-to-Many Transmission:** Supports connecting multiple receivers to a single transmitter simultaneously, adapting to collaborative scenarios such as band performances and live shows.
- **Integrated Charging Case:** The transmitter features a built-in charging case that can directly charge the receivers, offering convenient and reliable battery management.
- **Strong Anti-Interference:** Equipped with 6 switchable frequency points to effectively avoid electromagnetic interference. The outdoor line-of-sight transmission range reaches up to 30 meters.
- **Auto Pairing and Memory:** The transmitter and receivers automatically connect upon powering on and revert to the last used frequency point, enabling simple operation without repetitive setup.
- **This system is widely applicable to professional scenarios** including stage performances, band rehearsals, studio recording monitoring, and live sound reinforcement, effectively balancing practicality and convenience.

Safety Precautions

- Please use the device in a normal temperature, dry environment. Avoid exposure to high temperatures, moisture, direct sunlight, and severe vibrations.
- Do not disassemble or modify the device yourself, to prevent battery damage or potential safety hazards.
- Use a compliant 5V USB power source for charging. Do not use unqualified chargers.
- Avoid prolonged monitoring at high volume to prevent hearing damage.
- Do not wear or use the device in situations requiring high concentration, such as driving or walking.
- Keep the device away from children to prevent accidental ingestion, entanglement, or other mishaps.

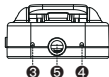
Buttons and Ports Description

■ Receiver/RX



1.Power / Volume Up Button: Press and hold to power on.After powering on, press briefly to increase the volume.Press and hold to power off.

2.Pairing / Volume Down Button: After powering on, press briefly to decrease the volume.Press and hold to enter pairing mode.During pairing, press briefly to exit pairing mode. Pairing mode will automatically exit after a successful connection with the transmitter is established.



3.Battery Indicator Light: Employs red, orange, blue, and green LEDs to indicate different battery level ranges.

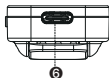
4.Pairing / Frequency Channel / Volume Alert

Indicator: Indicates the pairing status. It uses 6 distinct colors to correspond to and display the 6 different frequency channels. When the volume reaches its maximum or minimum level, the indicator will flash rapidly 3 times as an alert.

Receiver Battery Indicator Light	
Status	Function Description
Red Steady On	Battery Level 0% - 25%
Orange Steady On	Battery Level 26% ~ 50%
Blue Steady On	Battery Level 51% ~ 75%
Green Steady On	Battery Level 76% ~ 100%
Red, Orange, Blue, and Green Flashing in Sequence	Charging
Indicator Light Off	Power off after fully charged

Receiver Pairing / Frequency Channel / Volume Alert Indicator	
Status	Function Description
Steady On (Green, Blue, Orange, Purple, Cyan, Red)	Paired successfully with the transmitter. The steady color indicates the current operating frequency channel (same color as the transmitter's pairing indicator).

Receiver Pairing / Frequency Channel / Volume Alert Indicator	
Slow Continuous Blinking	Not paired, in standby mode.
Fast Continuous Blinking	Entered pairing mode, waiting to pair with a transmitter.
Fast Blinks 3 Times	Alert indicating volume has reached maximum or minimum level.



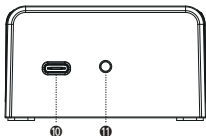
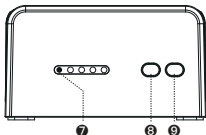
5. 3.5mm TRS Output Port: A stereo audio output port for connecting monitoring headphones.

6. USB Charging Port: Supports charging the receiver via the transmitter or an external power source.

■ Transmitter/TX

7. Pairing / Frequency Channel Indicator and Battery Indicators:

Comprises a total of 5 LEDs. The leftmost LED is the Pairing / Frequency Channel Indicator, which displays the pairing status and uses 6

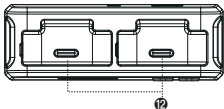


distinct colors to correspond to and indicate the 6 different frequency channels. The remaining 4 LEDs are the battery level indicators. Each LED, from right to left, represents approximately 25% of the battery capacity. They illuminate sequentially as the battery level increases and extinguish sequentially as it decreases.

Transmitter Pairing / Frequency Channel Indicator	
Status	Function Description
Steady On (Green, Blue, Orange, Purple, Cyan, Red)	The steady color indicates the current operating frequency channel. After a successful pairing, the transmitter's and receiver's pairing indicators will maintain the same color.
Slow Continuous Blinking	Entered pairing mode, waiting to pair with a receiver.
Off	Entered auto-shutdown mode. The transmitter will automatically power off after it has fully charged the receiver or after prolonged inactivity.

Transmitter Battery Indicator Light	
Status	Function Description
The 1st light from the right is on / off	Corresponds to 0% - 25% battery level / Depleted for this level range
The 2nd light from the right is on / off	Corresponds to 26% - 50% battery level / Depleted for this level range
The 3rd light from the right is on / off	Corresponds to 51% - 75% battery level / Depleted for this level range
The 4th light from the right is on / off	Corresponds to 76% - 100% battery level / Depleted for this level range
The LED corresponding to the current battery level range flashes. After that range is full, the LED stays steady, and the next LED in sequence starts flashing until its level is reached.	Charging
All 4 LEDs are steadily on (after fully charged)	Battery Fully Charged

Note: The transmitter remains fully functional during its own charging process and while charging the receiver, and wireless transmission between devices is unaffected.



8. Pairing Button: Press briefly to cycle through the 6 frequency channels.

Press and hold to enter pairing mode. While in pairing mode, press briefly to exit pairing.

After successful pairing with a receiver, the transmitter will remain in pairing mode. Press the button briefly again to manually exit. This facilitates pairing with multiple receivers separately.

9. Power Button:

When the device is off, press and hold to power on. The Pairing / Frequency Channel Indicator will illuminate. When the device is on, press and hold to enter auto-shutdown mode (the Pairing / Frequency Channel Indicator turns off). In this mode, the transmitter will automatically power off after it has fully charged the receiver or after a prolonged period of inactivity with no operation. Press and hold again to exit auto-shutdown mode. The Pairing / Frequency Channel Indicator will illuminate again.

10. USB Charging Port: Used to connect an external power source to charge the transmitter.

11. 3.5mm TRS Input Port: A stereo audio input port for receiving external audio signals.

12. Receiver Charging Bay: The transmitter has a built-in charging bay. Inserting a receiver will automatically initiate charging for it.

Friendly Reminder: When the device is not in use, please first enable the auto power-off mode on the transmitter, and then insert the receiver into the transmitter to charge. If the auto power-off mode is not enabled, the transmitter will not power off automatically even after the receiver is fully charged.

Technical specifications

Wireless Frequency Band	5.8GHz
Latency	8.9ms
Sampling Rate	24 bit/48KHz
Frequency Response	20Hz~20kHz, +1dB/-3dB
Signal-to-Noise Ratio	≥103dB
Transmission Distance	Outdoor line-of-sight: 30m
Transmitter USB Charging Rated Voltage/Current	5V DC 2A
Transmitter USB Single Port Output Rated Voltage/Current	5V DC 500mA
Transmitter USB Total Output Rated Voltage/Current	5V DC 1A
Receiver USB Charging Rated Voltage/Current	5V DC 290mA
Battery Model	Receiver: 402030, Transmitter: 102050

Technical specifications

Battery Capacity	Receiver: 200mAh 0.74Wh, Transmitter: 1000mAh 3.7Wh
Battery Nominal Voltage	3.7V
Charging Time	Receiver: 1 hour, Transmitter: 1.5 hours
Operating Current	Receiver: 23mA, Transmitter: 62mA
Transmission Endurance	Receiver: ~8 hours, Transmitter: ~16 hours
Transmitter Charging Receiver	A fully charged transmitter can charge a single receiver approximately 3 times.
USB Port Type	Type-C
Individual Weight	Receiver: Approx. 16g, Transmitter: Approx. 59g
Overall Dimensions	75.6mm (L) x 26.1mm (W) x 63.5mm (H)
Included Accessories	1x USB Charging Cable, 1x 3.5mm Audio Transmission Cable, 1x User Manual

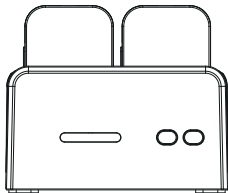
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使用说明

5.8GHz

无线音频耳返传输系统



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产品概述

本产品为 5.8GHz 数字无线音频耳返传输系统，核心定位为专业级监听设备，适配各类专业场景，具体特点如下：

- **小巧轻便：**机身设计紧凑，接收器约 16 克、发射器约 59 克，便于携带和使用，适配移动场景需求。
- **高保真立体声传输：**采用 24bit/48KHz 高保真采样，支持立体声传输，频率响应覆盖 20~20KHz，搭配 $\geq 103\text{dB}$ 信噪比，还原清晰饱满音质。
- **低延迟体验：**传输延时低至 8.9ms，人耳几乎无感知，保障监听同步性。
- **一发多收：**支持多接收器同时连接，适配多人协作场景，满足乐队、现场演出等专业需求。
- **集成充电仓：**发射器内置充电仓功能，可直接为接收器充电，续航便捷有保障。
- **抗干扰强：**内置 6 个可切换频点，有效避开电磁干扰，户外无遮挡传输距离可达 30 米。
- **自动记忆回连：**发射器与接收器开机后自动连接，并恢复上次使用频点，操作简便无需重复设置。

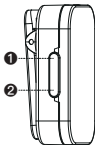
该系统可广泛应用于舞台演出、乐队排练、录音监听、现场扩声等专业场景，兼顾实用性与便捷性。

安全注意事项

- 请在常温干燥环境下使用，避免高温、潮湿、暴晒及剧烈震动。
- 请勿私自拆卸、改装设备，防止电池损坏或引发安全事故。
- 使用合规 5V USB 电源充电，勿用不合格充电器。
- 请勿长时间大音量监听，以免损伤听力。
- 驾车、行走等需专注场景，请勿佩戴使用。
- 设备远离儿童，防止误吞、缠绕等意外。

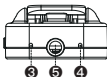
按键与接口说明

■ 接收器/RX



1.开关机 / 音量 + 按键：长按开机；开机后短按调大音量，长按关机。

2.配对 / 音量 - 按键：开机后短按调小音量；长按进入配对模式；配对时短按可退出配对，与发射器配对成功后会自动退出。



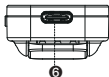
3.电量指示灯：采用红、橙、蓝、绿4色指示，分别对应不同电量区间。

4.配对 / 频点 / 音量提示指示灯：提示配对状态，以6种颜色对应显示6个不同频点；音量达到最大或最小值时，将快速闪烁3下提醒。

接收器的电量指示灯	
状态	功能说明
红色常亮	电量 0% ~ 25%
橙色常亮	电量 26% ~ 50%
蓝色常亮	电量 51% ~ 75%
绿色常亮	电量 76% ~ 100%
红、橙、蓝、绿依次循环闪烁	充电中
指示灯熄灭	充满电后关机

接收器的配对 / 频点 / 音量提示指示灯

状态	功能说明
常亮 (绿、蓝、橙、紫、青 蓝、红)	已与发射器配对成功，常亮颜色代表当前工作频点（与发射器的配对指示灯同色）
慢速持续闪烁	未配对，处于待机状态
快速持续闪烁	进入配对模式，等待与发射器配对
快速闪烁 3 次	音量达到最大值或最小值时的提醒

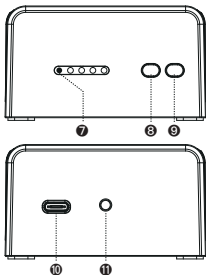


5.3.5mm TRS 输出接口：立体声音频输出接口，用于连接监听耳机。

6.USB 充电接口：支持通过发射器或外接电源为接收器充电。

■ 发射器/TX

7. 配对 / 频点指示灯和电量指示灯：共 5 颗灯珠。最左侧的为配对 / 频点指示灯，用于提示配对状态，并以 6 种颜色对应显示 6 个不同频点；剩余 4 颗为电量指示灯，从右往左每颗灯珠对应 25% 电量，电量升高时逐级点亮，电量降低时逐级熄灭。



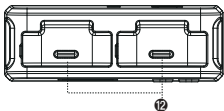
发射器的配对 / 频点 指示灯

状态	功能说明
常亮 (绿、蓝、橙、 紫、青蓝、红)	常亮颜色代表当前工作频点 (配对成功后, 发射器与接收器的配对指示灯将保持同色)
慢速持续闪烁	进入配对模式, 等待与接收器配对
熄灭	进入自动关机模式; 发射器为接收器充满电或长时间未使用, 将自动关机

发射器的电量指示灯

状态	功能说明
从右数第 1 颗灯亮 / 熄灭	对应电量 0% ~ 25% 区间 / 该区间电量耗尽
从右数第 2 颗灯亮 / 熄灭	对应电量 26% ~ 50% 区间 / 该区间电量耗尽
从右数第 3 颗灯亮 / 熄灭	对应电量 51% ~ 75% 区间 / 该区间电量耗尽
从右数第 4 颗灯亮 / 熄灭	对应电量 76% ~ 100% 区间 / 该区间电量耗尽
当前电量段对应灯珠闪烁, 充满后常亮, 再切换至下一颗灯珠闪烁至下一颗灯珠闪烁	充电中
4 颗灯珠全部常亮 (充满电后)	电量充满

提示: 发射器在自身充电或为接收器充电过程中, 均可正常工作, 不影响设备间的无线传输。



8.配对按键：短按可循环切换 6 个频点；长按进入配对模式，配对状态下短按可退出配对；与接收器配对成功后将保持在配对模式，需再次短按手动退出，便于分次配对多个接收器。

9.开关机按键：关机状态下长按执行开机，配对 / 频点指示灯亮起；开机状态下长按进入自动关机模式（配对 / 频点指示灯熄灭），该模式下发射器为接收器充满电或长时间闲置无操作将自动关机；再次长按可退出自动关机模式，配对 / 频点指示灯恢复亮起。

10.USB 充电接口：用于连接外接电源为发射器充电。

11.3.5mm TRS 输入接口：立体声音频输入接口，用于接收外部音频信号。

12.接收器充电仓：发射器内置充电仓，插入接收器后将自动为其充电。

温馨提示：不使用设备时，请先开启发射器自动关机模式，再将接收器插入发射器充电。若未开启发射器自动关机模式，接收器充满电后发射器不会自动关机。

技术参数

无线频段	5.8GHz
延时	8.9ms
采样率	24 bit/48KHz
频率响应	20~20KHz, +1dB/-3dB
信噪比	≥103dB
传输距离	户外无遮挡 30 米
发射器USB充电	5V DC 2A
额定电压电流	
发射器USB单口	5V DC 500mA
输出额定电压电流	
发射器USB总输出	5V DC 1A
额定电压电流	
接收器USB充电	5V DC 290mA
额定电压电流	
电池型号	接收器402030, 发射器102050
电池容量	接收器200mAh 0.74Wh, 发射器1000mAh 3.7Wh
电池标称电压	3.7V
充电时长	接收器1小时, 发射器1.5小时
工作电流	接收器23mA, 发射器62mA
传输续航能力	接收器约8小时, 发射器约16小时
发射器给接收器充电	发射器满电可给单个接收器充电约 3 次
USB接口类型	Type-C
单个重量	接收器约16g, 发射器约59g
整机尺寸	75.6mm (长) x 26.1mm (宽) x 63.5mm (高)
附带配件	USB充电线x1, 3.5mm音频传输线x1, 说明书x1
