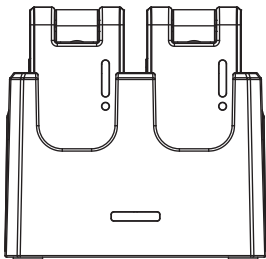


USER MANUAL

WS13

5.8GHz Wireless Audio Transmission System

5.8GHz 无线音频传输系统说明书



WS13 是一款高性能 5.8GHz 无线音频传输设备，专注于稳定、低延迟的多场景音频传输需求，核心优势如下：

多设备协同：支持“一发多收”功能，同一环境内可同时部署 4 组收发器，满足多人（如会议、教学）或多设备（如多台音响）同步接收音频的需求。

低延迟长距离：传输延时低至 3 毫秒（无明显音画不同步），空旷环境传输距离可达 30 米以上，适配家庭、办公、小型演出等场景。

智能省电设计：无音频输入时，设备将在 10 分钟后自动关机，有效延长续航；搭配专属充电仓，户外使用无需担忧供电问题。

便捷频点管理：配备蓝、黄、红、绿 4 种 LED 频点颜色指示，可快速识别当前频点，手动切换无干扰频点，提升抗干扰能力。

二、安全注意事项

为保障设备正常使用及人身安全，请严格遵守以下要求：

环境限制：请勿在高温（ $>40^{\circ}\text{C}$ ，如阳光直射的车顶）、潮湿（如浴室）或易燃环境（如靠近明火、酒精）中使用，避免设备故障或安全隐患。

物理防护：避免设备重摔（跌落高度 >1 米）或浸水，可能导致内部电路损坏，影响传输功能。

充电安全：充电时请远离儿童，确保充电环境通风良好，避免使用非标配电源适配器（尤其充电仓）。

收发器包含“发射器”和“接收器”两类设备，操作逻辑基本一致，核心功能（电量显示、频点切换、配对连接）说明如下：

1. 电量 LED 指示灯

显示逻辑：开机后稳定显示电量，采用 4 段式指示（每段代表 25% 电量）：

4 段全亮：电量 100%~76%

3 段亮：电量 75%~51%

2 段亮：电量 50%~26%

1 段亮：电量 25%~0%（需及时充电）

充电状态：设备接入充电仓时，LED 指示灯由上到下循环闪烁；充满电后，指示灯自动熄灭。

2. 频点与状态 LED 指示灯

指示灯同时显示“频点信息”和“设备状态”，无需额外操作即可识别：

频点识别：通过颜色区分 4 个频点，固定顺序为「蓝→黄→红→绿」循环。

状态识别：通过闪烁模式区分运行状态：

常亮：设备开机且状态稳定（如已连接、未进入配对模式）

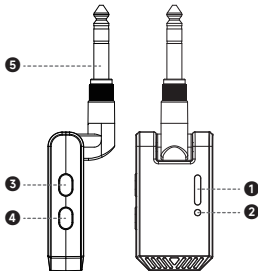
快闪：设备处于配对模式

慢闪：设备开机但未连接（接收器未配对时）

记忆功能：设备会自动记忆关机前的频点颜色，下次开机后直接显示该颜色，无需重新切换。

3. 开关机按键

操作逻辑：长按按键（直至 LED 指示灯亮起 / 熄灭），实现开机或关机。



自动重连：若上次使用时发射器与接收器已配对成功，下次开机后将自动连接（无需手动操作），连接成功后两者 LED 均保持常亮。

4. 配对按键操作（分发射器 / 接收器）

配对按键是设备连接的核心操作键，发射器与接收器的操作场景、效果不同，具体如下：

4.1 发射器配对键操作

操作方式	适用场景	效果反馈
长按	任何非配对状态（如开机后未进入配对）	进入配对模式，LED 指示灯变为快闪
短按	已处于配对模式中	退出配对模式，LED 指示灯恢复常亮
短按	与接收器正常连接时	切换至下一个“无干扰频点”，LED 颜色按「蓝→黄→红→绿」循环
短按	与接收器未连接时	同样可切换频点，LED 颜色循环顺序不变

4.2 接收器配对键操作

操作方式	适用场景	效果反馈
长按	任何非配对状态	进入配对模式，LED 指示灯变为快闪
短按	已处于配对模式中	退出配对模式，LED 指示灯转为慢闪
短按	与发射器已成功连接时	按键失效（无操作效果），接收器 LED 颜色跟随发射器同步变化

4.3 连接说明

（1）一发多收

当发射器已与一个接收器或多个接收器成功建立连接后，若需额外添加新接收器，操作如下：长按发射器与新接收器的配对按键，使两者同时进入配对模式，随后两者将自动完成连接。该连接过程不会对发射器与原有接收器的已建立连接造成任何影响。

(2) 自动重连功能

若上次使用时已成功配对，下次开机后：

发射器与接收器将会自动连接；

连接成功后，两者 LED 均保持常亮，无需重复操作。

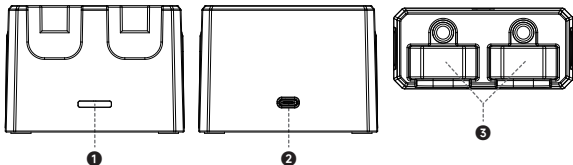
5. 6.35mm 单声道插头（接口适配）

基础规格：设备标配 6.35mm 单声道插头，适用于专业设备（如舞台音响、有线麦克风）。

适配操作：支持旋转拆卸 6.35mm 插头，拆卸后为 3.5mm 插头，适配消费级设备（如耳机、手机、家用音箱）。

四、充电仓使用说明

CN



充电仓用于为收发器提供便携供电，核心操作如下：

1. 电量 LED 指示灯

充电仓的 LED 指示灯分两种场景显示电量：

适用场景	显示逻辑	状态说明
为收发器充电时	4 段式显示（每段 25% 电量）	4 段全亮 = 满电，1 段亮 = 低电（需给充电仓充电）
自身充电时（USB 供电）	慢闪且显示电量；4 段全亮且常亮 = 充满	慢闪状态下同步展示当前电量进度，4 段全亮且常亮时代表充电仓已充满

2. 充电仓充电接口

接口类型：USB Type-C（支持正反插）。

电源要求：建议使用 5V/2A 电源适配器（如手机标配充电器），避免使用高于 5V/2A 的适配器，以防损坏充电仓电路。

3. 充电仓对收发器的供电插口

充电步骤：将收发器（无论开机 / 关机）插入充电仓的插口，设备将自动进入充电模式（收发器 LED 开始循环闪烁）。

充满提示：收发器充满电后，充电仓与收发器的 LED 指示灯将同时熄灭。

故障排查：若插入后无法充电，可能原因：

充电仓电量耗尽（LED 无显示），需先给充电仓充电；

收发器已充满电（LED 熄灭），无需继续充电；

收发器未插紧（重新插拔确认到位）。

1. 核心特点总结

特点	优势说明
低延时长距离	3 毫秒延时，30 米 + 传输距离，无音画不同步、卡顿问题
一发多收	1 个发射器可配对多个接收器，适配多设备同步接收场景
智能频点切换	短按发射器配对键即可切换无干扰频点，抗干扰能力强
智能关机	10 分钟无音频输入自动关机，延长收发器续航
多组协同	同一环境可同时用 4 组收发器，互不干扰

2. 关键使用提示

避免连接过多接收器：单个发射器配对过多接收器，可能导致断连、音质变差、传输距离缩短。

频点切换时机：若使用中出现卡顿、杂音，可短按发射器配对键切换频点（选择无干扰颜色），提升稳定性。

户外使用建议：户外环境（如广场、公园）建议携带充电仓，并提前充满电；同时避免在强电磁干扰区域（如变电站附近）使用，以防传输中断。

设备保养：长期不使用时，建议将收发器充满电后存放（每月补充 1 次电），避免电池亏电损坏。

采样率	24bit/48KHz无损数字传输音质
无线频段	5.8GHz
延时	3ms
信噪比	102dB
有效距离	30米户外传输距离
频率响应	20~20KHz, +1dB/-3dB
电池型号规格	充电仓: 763364, 接收器: 702535, 发射器: 702535
电池容量	充电仓: 2000mAh, 接收器: 600mAh, 发射器: 600mAh
电池标称电压	3.7V
工作电流	充电仓: 950mA, 接收器: 69mA, 发射器: 109mA
充电仓额定充电电压和电流	5V==2A
充电仓电源供给	内置锂电池供电, 同时可通过 USB (Type-C) 为内置锂电池充电
收发器电源供给	内置锂电池供电
充电座子机身尺寸(mm)	89.2L*40.2W*63H (mm)
发射接收机身尺寸(mm)	111.7L*32.6W*28H (mm)
整机尺寸(mm)	89.2L*40.2W*86H (mm)
单个重量	充电仓114g, 接收器35.5g, 发射器:35.5g
附带配件	USB 充电线x1
修订日期	2025-10-22

The WS13 is a high-performance 5.8GHz wireless audio transmission device designed for stable, low-latency audio transmission across multiple scenarios. Its core advantages are as follows:

Multi-Device Collaboration: Supports a "one-transmitter-to-multiple-receivers" function. Up to 4 sets of transceivers can operate simultaneously in the same environment, ideal for multiple listeners (e.g., meetings, teaching) or multiple output devices (e.g., multiple speakers) receiving audio synchronously.

Low Latency & Long Range: Features an ultra-low transmission latency of 3ms (no noticeable audio-visual delay) and a range of over 30 meters in open environments, suitable for home, office, and small performance scenarios.

Intelligent Power-Saving Design: Automatically powers off after 10 minutes of no audio input, effectively extending battery life. The included dedicated charging case ensures worry-free power for outdoor use.

Convenient Frequency Channel Management: Equipped with 4 LED frequency channel indicators (Blue, Yellow, Red, Green) for quick identification. Manually switch to interference-free channels to enhance anti-interference capability.

II. Safety Precautions

EN

To ensure safe operation and normal use of the device, please strictly adhere to the following requirements:

Environmental Restrictions: Do not use in high-temperature ($>40^{\circ}\text{C}$, e.g., rooftops under direct sunlight), humid (e.g., bathrooms), or flammable environments (e.g., near open flames or alcohol) to prevent equipment failure or safety hazards.

Physical Protection: Avoid severe impacts (drop height >1 meter) or immersion in water, as this may damage internal circuits and impair transmission functionality.

Charging Safety: Keep away from children during charging. Ensure the charging environment is well-ventilated and avoid using non-standard power adapters (especially for the charging case).

III. Transceiver Instructions

EN

Transceivers include both "Transmitters" and "Receivers." Their operational logic is similar. Explanations of core functions (battery level display, frequency channel switching, pairing) are as follows:

1. Battery Level LED Indicator

Display Logic: After powering on, the battery level is displayed with a 4-segment indicator (each segment represents 25% battery):

4 segments lit: 100% - 76%

3 segments lit: 75% - 51%

2 segments lit: 50% - 26%

1 segment lit: 25% - 0% (charge immediately)

Charging Status: When placed in the charging case, the LED indicator cycles flashing from top to bottom. The indicator turns off automatically once fully charged.

2. Frequency Channel & Status LED Indicator

The indicator simultaneously displays "frequency channel" and "device status":

Frequency Channel: 4 channels are distinguished by color, cycling in the fixed order [Blue → Yellow → Red → Green].

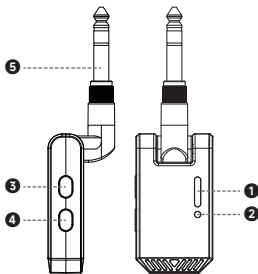
Status Indication:

Steady On: Device is powered on and in a stable state (e.g., connected, not in pairing mode).

Fast Flashing: Device is in pairing mode.

Slow Flashing: Device is powered on but not connected (receiver unpaired).

Memory Function: The device automatically remembers the last used frequency channel and will display it directly upon next power-on.



3. Power On/Off Button

Operation: Long-press the button (until the LED indicator lights up/turns off) to power the device on or off.

Auto-Reconnection: If the transmitter and receiver were successfully paired during the last use, they will automatically reconnect upon power-on. After a successful connection, both LEDs will remain steadily on.

4. Pairing Button Operations

Pairing buttons are the core controls for device connection. Operation scenarios differ for transmitters and receivers.

4.1 Transmitter Pairing Button

Operation	Scenario	Effect
Long Press	Any unpaired state	Enters pairing mode; LED starts fast flashing.
Short Press	Already in pairing mode	Exits pairing mode; LED returns to steady on.
Short Press	Normally connected to a receiver	Switches to the next interference-free frequency channel; LED color cycles [Blue→Yellow→Red→Green].
Short Press	Not connected to a receiver	Also switches frequency channels; LED color cycling order remains unchanged.

4.2 Receiver Pairing Button

Operation	Scenario	Effect
Long Press	Any unpaired state	Enters pairing mode; LED starts fast flashing.
Short Press	Already in pairing mode	Exits pairing mode; LED changes to slow flashing (unconnected state).
Short Press	Successfully connected to a transmitter	Button becomes inactive; receiver's LED color synchronizes with the transmitter's.

4.3 Connection Description

One-to-Many Connection: After a transmitter is connected to one or more receivers, to add a new receiver: Long-press the pairing buttons on both the transmitter and the new receiver simultaneously to enter pairing mode; they will connect automatically without affecting existing connections.

Auto-Reconnection: If devices were successfully paired in the last use, they will automatically reconnect upon power-on. The LEDs will remain steady on after connection, requiring no further operation.

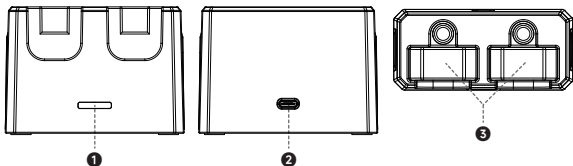
5. 6.35mm Mono Plug (Interface Adaptation)

Basic Specification: The device comes with a standard 6.35mm mono plug, suitable for professional equipment (e.g., stage audio, wired microphones).

Adaptation: The 6.35mm plug can be unscrewed and removed, revealing a standard 3.5mm plug suitable for consumer devices (e.g., headphones, mobile phones, home speakers).

IV. Charging Case Instructions

EN



The charging case provides portable power for the transceivers. Core operations are as follows:

1. Battery Level LED Indicator

The charging case's LED displays battery level in two scenarios:

Scenario	Display Logic	Status Description
Charging Transceivers	4-segment display	All 4 segments on = Full battery; 1 segment on = Low battery (charge the case).
Charging Itself (via USB)	Slow flashing while displaying level; All 4 segments steady on = Fully charged	Synchronously displays charging progress while flashing slowly. All segments steady on indicates full charge.

2. Charging Case Charging Port

Interface: USB Type-C (supports reversible insertion).

Power Requirement: Use a recommended 5V/2A power adapter (e.g., standard mobile phone charger). Avoid using adapters with specifications higher than 5V/2A to prevent circuit damage.

3. Charging Transceivers

Charging Steps: Insert the transceiver (whether on or off) into the case's port; the device will automatically enter charging mode (transceiver LED cycles flashing).

Full Charge Indication: When the transceiver is fully charged, both the charging case and transceiver LEDs will turn off.

Troubleshooting: If charging fails, check:

Charging case is out of power (LED shows no display) — charge the case first.

Transceiver is already fully charged (LED is off) — no need to charge.

Transceiver is not plugged in firmly — reinsert to ensure proper contact.

1. Core Features Summary

Feature	Advantage
Low Latency & Long Range	3ms latency, >30m range, no audio-visual delay or stuttering.
One-to-Many Transmission	One transmitter pairs with multiple receivers for multi-device sync.
Intelligent Channel Switching	Short-press transmitter button to switch to clear channels; strong anti-interference.
Intelligent Shutdown	Auto-shutdown after 10 minutes of no audio input extends battery life.
Multi-System Collaboration	4 sets can be used simultaneously in the same environment without interference.

2. Key Usage Tips

Limit Receivers: Connecting too many receivers to a single transmitter may cause disconnections, poor sound quality, and reduced range.

Channel Switching: If stuttering or noise occurs, short-press the transmitter's pairing button to switch to a clearer frequency channel.

Outdoor Use: For outdoor environments (e.g., squares, parks), fully charge the charging case in advance. Avoid areas with strong electromagnetic interference (e.g., near substations).

Device Maintenance: For long-term storage, fully charge the transceivers and recharge them once a month to avoid battery damage from complete discharge.

Sampling Rate	24bit/48KHz, lossless digital transmission sound quality
Wireless Frequency Band	5.8GHz
Latency	3ms
Signal-to-Noise Ratio (SNR)	102dB
Effective Distance	30 meters (outdoor transmission distance)
Frequency Response	20 - 20kHz, +1dB/-3dB
Battery Model Specification	Charging case: 763364; Receiver/Transmitter: 702535
Battery Capacity	Charging case: 2000mAh; Receiver/Transmitter: 600mAh
Battery Nominal Voltage	3.7V
Operating Current	Charging case: 950mA; Receiver: 69mA; Transmitter: 109mA
Rated Charging Voltage and Current of Charging Case	5V---2A
Power Supply for Charging Case	Powered by built-in lithium battery; the built-in lithium battery can also be charged via USB (Type-C)
Power Supply for Transceiver	Powered by built-in lithium battery
Dimensions of Charging Dock (mm)	89.2mm x 40.2mm x 63mm
Dimensions of Transmitter/ Receiver Body (mm)	111.7mm x 32.6mm x 28mm
Overall Dimensions (mm)	89.2mm x 40.2mm x 86mm
Individual Weight	Charging case: 114g; Receiver: 35.5g; Transmitter: 35.5g
Included Accessories	USB Charging Cable x1

★ 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.

FCC Radiation Exposure Statement

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

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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.