



Digital Audio Wireless System

User Manual

EP-598U

Please read this user manual in detail before use

IMPORTANT NOTE



WARNING

In order to ensure the equipment reliability and the personnel safety, please observe the following during installation, use and maintenance:

- If you find any of the following abnormal conditions during use, please turn off the power immediately, unplug it and quickly contact your sales manager. Please stop using the machine, because it may cause fire or electric shock.
 - If smoke or strange odor is emitted from it
 - If water or metal objects fall into it
 - If it is dropped or the housing is damaged
 - If the wire is damaged (wire core exposed, disconnected, etc.)
- The machine contains high-voltage parts inside. Do not open the cabinet without professionals in order to avoid fire or electric shock. Any questions, please notify sales manager.
- Do not place cups, bowls, vases or other liquid-filled objects on it. Accidental spillage of liquid may cause fire or electric shock.
- Do not expose it to rain or any place that is wet or prone to water, which may cause electric shock or fire.
- Do not put metal, flammable materials or coin through the vents on the cover plate, as this may cause fire or electric shock.
- Do not place heavy objects on it, as the machine may fall and cause personal injury or property damage.
- Make sure the volume is turned down to the lowest before turning on the power, since high volume may damage your hearing.
- Do not continue to use the machine when the sound is distorted. This means malfunctions, which may cause high temperature and fire inside.
- If there is long-term accumulation of dust, please notify your sales manager to clean the machine regularly to avoid damage or fire.
- When replacing the battery, it is required to replace with the product of the same specification and ensure the correct installation to avoid electrical damage and explosion hazard.
- It is a Class III device that must be connected to a power socket with a grounding device to ensure that it is adequately grounded.



- It is only suitable for safe use in areas with an altitude of 2000 meters and below.

Precautions

1. Installation environment

To ensure the normal heat dissipation of the host, please avoid poor ventilation, high temperature and direct sunlight during installation.

It is recommended for indoor use. Please place it in a cabinet or other place with good ventilation and heat dissipation. If you use the machine outdoors, please pay attention to waterproof, moisture and lightning protection measures.

Do not use it in places with wireless shielding equipment.

Do not install it in places subject to severe vibration, and do not place other devices on this machine.

2. Avoid electric shock and fire

Do not touch the machine and the power supply with wet hands.

Do not splash liquid on the machine, otherwise it may cause short circuit or fire inside.

Do not place other devices directly on top of the machine.

Non-professional personnel should not disassemble the machine by themselves to avoid damage and electric shock.

3. Transportation

The packaging has undergone shock-proof designs and experiments to ensure that the host will not be damaged accidentally during transportation. It is best to use the original packaging during transportation.

Do not move the host between over-cold and over-heated places to avoid condensation inside, otherwise it will affect the lifespan.

4. Please follow the warning instructions on the machine. These warning signs indicate:

	Only suitable for safe use at an altitude of 2000 meters and below
	Only suitable for safe use in non-tropical climates

5. Agreement

Please strictly follow the instructions in this manual. The software, hardware, and appearance will be constantly upgraded and updated. The above changes will not be notified. The manufacturer reserves the final interpretation right of this product manual.

Non-professional maintenance personnel do not disassemble the machine to avoid damage and electric shock.

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1.Product Description



It is a digital wireless microphone system with a new solution architecture. The system adopts unique digital U-band transmission technology, pi/4-DQPSK modulation mode, and uses ID code pilot technology to prevent cross-frequency interference, and frequency sweep to avoid interference, characterized by low bit error rate, stable transmission, and strong anti-interference ability. It can be widely used in conferences, training, public broadcasting and other places.

2.Product Features

1. With 8 balanced output interfaces and support connecting 8 microphones to achieve audio output function.
2. Adopt unique digital U-band transmission technology, pi/4-DQPSK modulation mode, strong anti-interference ability, low bit error rate and stable transmission.
3. Adopt a unique encryption method for audio transmission to protect the content of the meeting.
4. Adopt unique ID code pilot technology to prevent cross-frequency interference.
5. Support one-click frequency scanning to avoid interference; one-click infrared frequency matching, easy to operate.
6. Support reverb, high, middle and bass adjustments.
7. Support four balanced outputs and one unbalanced mixing output.
8. Adopt 2.2-inch TFT-LCD screen to display information more delicately.
9. The receiver panel is made with exquisite craftsmanship and is elegant and beautiful.
10. The transmitting power is adjustable, adjust the transmitting power as needed.

3.Function Introduction

3.1.Receiver front panel introduction



1. **Power button:** Long press the power button to turn the receiver on or off.
2. **LCD display:** Used to display the working status of the system.
3. **SET button:** Long press the SET button to lock and unlock the screen. Pressing other buttons while the screen is locked will prompt "Locked, please press and hold the SET button to unlock" prompt. When the screen is unlocked, short press the SET key, and a white cursor will appear under the relevant options that can be set. The cursor is divided into a static state and a flashing state. In the static state, the relevant options can be switched through the knob. At this time, short press the SET key equivalent to confirming option, when the cursor is flashing, you can adjust the current relevant parameters through the knob.
4. **SCAN frequency scan button:** After pressing the SCAN button, the current frequency can be automatically adjusted. The adjustment results will be allocated according to the current frequency with less interference.
5. **SYNC infrared pairing button:** After pressing the SYNC button, the infrared light of the receiver will flash. While the infrared light is flashing, you can move the infrared receiving port of the desktop microphone close to the infrared light to complete the frequency pairing operation.
6. **Infrared emission indicator light:** Used for frequency pairing with the desktop microphone.

3.2.Receiver rear panel introduction



1. **POWER:** DC 12V power input port.
2. **ANT:** Antenna terminal, used to connect the antenna.
3. **A(B\C\D\E\F\G\H) OUT:** Balanced output port, can be connected to the sound reinforcement equipment.
4. **A-D(E-H) OUT:** Unbalanced output port, can be connected to the sound reinforcement equipment.

4.Operating Instructions

4.1.Power On/Off

In the power off state, press and hold the switch to turn on the power, the display will display "POWER ON", and then it can work normally; in the power on state, press and hold the switch to turn off, the display will display "POWER OFF", and the screen will turn off after letting go. The specific effect is shown in Figure 4-1 and Figure 4-2 below:



Figure 4 -1 Receiver Power On Page



Figure 4 -2 Receiver Power Off Page

4.2.Homepage and Sub-page

The homepage displays: RF signal strength, AF voice signal size, mic on status, handheld microphone battery status, current frequency value, volume level, frequency scanning options, and setting options. The sub-page needs to be entered through the setting option, which mainly displays the reverberation parameter settings (scale, delay, level), equalization design, transmit power setting, auto mute setting, audio encryption setting, and return options. You can switch between the homepage and the sub-page by setting options and returning options. The specific effect is shown in Figure 4-3 and Figure 4-4 below:

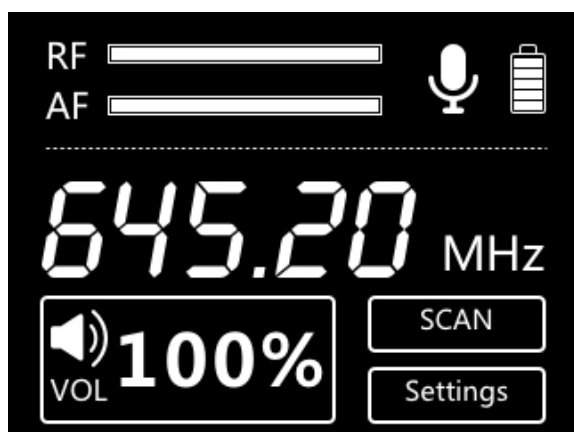


Figure 4-3 Homepage

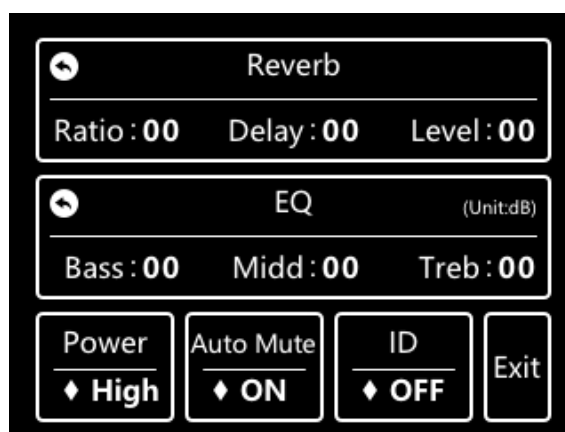


Figure 4-4 Sub-page

4.3.RF and AF

The RF and AF white bar signs above the receiver homepage indicate the real-time status of RF and AF. RF indicates the signal strength of the current direct communication between the transmitter and the receiver, and AF indicates the current volume level of the microphone input sound.

4.4.Frequency

The numerical mark on the homepage of the receiver indicates the frequency of the receiver, which is the frequency value of the current receiver. If the transmitter is not connected to the receiver, IR frequency pairing is required before connection. After the connection is completed, the frequency values of the transmitter and receiver will be displayed as the same, and the frequency range supports 540MHz-590MHz and 640MHz-690MHz.

4.5.Volume

The volume sign on the homepage of the receiver indicates the current volume of the receiver. The greater the volume, the greater the output volume. The volume can be adjusted manually, ranging from 0 to 100%.

4.6.Microphone and Battery Status

The microphone and battery logo on the home page of the receiver indicate the working status and battery power of the transmitter. The microphone logo lights up to indicate that the transmitter can be used normally, and the battery power logo shows the battery power of the transmitter currently connected to the receiver.

4.7.Frequency Scanning

Scan from the current frequency and automatically adjust to a clean frequency with less interference.

4.8.Setting

You can enter the sub-page by setting options.

4.9.Reverberation

Different sound effects can be achieved by adjusting the ratio, delay, and level.

4.10.Equalization

The low frequency, medium frequency and high frequency can be adjusted by $\pm 6\text{dB}$ respectively.

4.11.Transmit Power

The intensity of the transmission power can be adjusted.

4.12.Audio Encryption

You can turn the current audio encryption on or off. The encrypted audio will be more stable and have better anti-interference capabilities.

4.13.Paring Prompt

After adjusting the transmit power, auto mute, and audio encryption, you need to re-pair the frequency to make this function take effect. Every time you adjust the transmit power, auto mute, and audio encryption, the following prompt will be displayed. The configuration update prompt effect is shown in Figure 4-5 below:

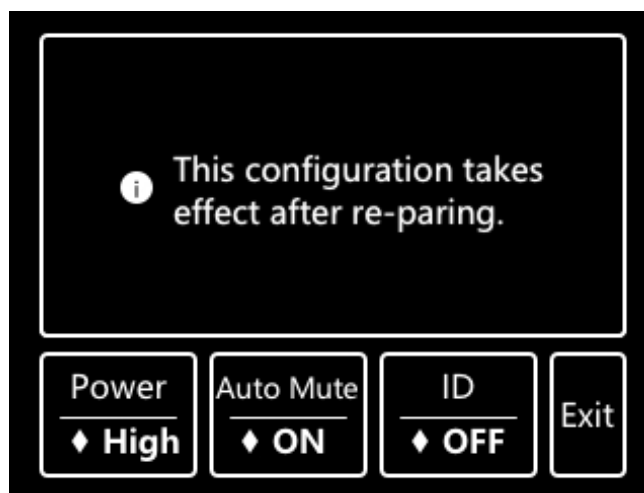


Figure 4-5 Configuration Update Prompt Page

5.Product Specifications

Model	EP-598U
Frequency Range	540MHz-590MHz, 640MHz-690MHz
Output Interface	8 balanced output interfaces
Modulation	pi/4-DQPSK
Frequency response	20Hz~20KHz (± 3 dB)
SNR	≥ 105 dB (XLR)
THD+N	$< 0.1\%$
Working distance	about 50m
Antenna interface	BNC/ $50\Omega \times 8$
Receive sensitivity	< -95 dBm
Maximum output	Balanced output 500mV, unbalanced output 1000mV
Power supply	DC 12V/3A
Working current	≤ 1.12 A
Power consumption	13.5W
Volume(W×D×H)	482.6×239.36×100.8mm
Weight	3.8kg

6.Precautions for Use

- 1.Two transmitters should not be used next to each other. Prevent microphones from interfering with each other and affecting signal transmission and reception.
- 2.The microphone cannot be pointed directly at the speaker, as this will cause positive feedback oscillation, commonly known as "howling".
- 3.The distance between the wireless microphone receiver and transmitter should be kept at least 5 meters to minimize intermodulation interference.
- 4.The reception range is related to many factors and varies greatly. Without large metal parts blocking the transmission direction, better transmission effects can be obtained.
- 5.When the battery symbol flashes during use of the transmitter, it indicates that the battery power is low and the battery needs to be replaced.
- 6.If the transmitter is not used for a long time, please remove the battery from the base to avoid battery leakage and damage to the microphone.

7.Troubleshooting common problems with microphone debugging

1. How to solve the problem when the desktop wireless microphone signal is not good?

- (1) Microphone power gear: Adjust HI high power, LO low power will affect distance reception;
- (2) Receiving host antenna: It is blocked, the antenna has fallen down and has not been erected, and the antenna is close to metal objects or wires, affecting the reception effect;
- (3) Placement of the receiving host: The receiving host should be placed at the top of the cabinet equipment, and the receiving host should be away from interference sources such as laptops and jukeboxes.

2. How to avoid interference as much as possible in a complex environment?

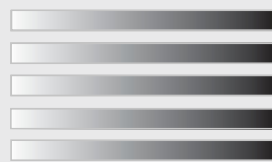
- (1) The host has an automatic frequency sweep function. In complex environments, it is recommended to use the frequency given by the automatic frequency sweep function first;
- (2) If you cannot adjust a clean channel without interference through the above operations, find the equipment with interference sources and stay away from it: such as video matrix, video transmission cabinet, network equipment, movie player, computer, jukebox, etc.

8.Management requirements for micropower radio transmitting equipment

Micro-power radio transmission equipment shall comply with the following provisions:

- 1.Comply with the specific terms and usage scenarios of the "Micropower Short-Distance Radio Transmitting Equipment Catalog and Technical Requirements", and usage methods such as control, adjustment and switching;
- 2.No unauthorised changes in the usage scenario, expansion of the range of transmitting frequencies, or increase in transmitting power (including the installation of additional radio frequency power amplifiers), No unauthorised external antenna or other transmitting antennas;
- 3.Do not cause harmful interference to other legal radio stations, nor claim protection from harmful interference;
- 4.Should withstand interference from industrial, scientific and medical (ISM) application equipment that radiates radio frequency energy or other legal radio stations (stations);
- 5.If harmful interference is caused to other legal radio stations, the use of the radio station should be stopped immediately and measures should be taken to eliminate the interference before continuing to use ;
- 6.The use of micropower equipment in aircraft and in airports, radio observatories, meteorological radar stations, satellite earth stations (including measurement, control, ranging, receiving and navigation stations) and other electromagnetic environmental protection areas designated in accordance with the regulations and standards should comply with the electromagnetic environmental protection and the provisions of the competent authorities of the relevant industries;
- 7.It is prohibited to use all types of model remote controls within a radius of 5,000 meters with the center point of the airport runway as the center;
- 8.Environmental conditions of temperature and voltage when micropower devices are used.

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