ClearOne®

Dialog Aero Wireless Microphone System

User Manual

Please read this manual carefully before using the product

Notification

⚠ 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 uses a power plug or appliance input socket as a disconnection device from the mains power supply. For safety, it must be disconnected when necessary.
-  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.

Content

1.Product Description

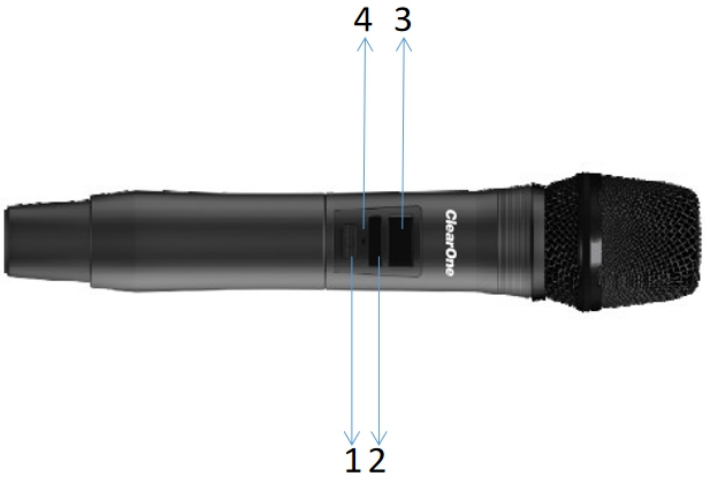
This product is a digital wireless microphone with a new solution architecture. It adopts unique digital U-band transmission technology and pi/4-DQPSK modulation method. It has low bit error rate and stable transmission. Compared with most U-band analog modulation in the industry, the product has the advantages of strong anti-interference ability, ID code pilot technology to prevent same-channel crosstalk, and frequency scanning to avoid interference. It also supports Type-c charging, charging base charging and 3 different types of battery power supply. It can be widely used in KTV, singing, cabaret, ballroom and other venues.

2.Product Features

1. Handheld microphone double-click to mute and prevent accidental contact, with igh practicality.
2. Handheld microphone transmitting power adjustable. Adjust the transmitting power as needed.
3. Handheld mike automatically mutes after 5 seconds of resting and turns off automatically after 8 minutes.
4. Handheld microphone supports 3 types of battery power supply, to meet a variety of scenarios.
5. Handheld microphone adopts low-power consumption design, with a maximum continuous speaking time of more than 10 hours.
6. When the handheld microphone drops or is thrown, it will automatically mute in milliseconds to avoid impact sound.
7. Handheld microphone supports Type-C interface charging and charging base charging, more convenient and environmentally friendly.
8. Handheld microphone adopts an ergonomic design, with a rounded shape that fits the curve of the hand and a comfortable grip.
9. Adopting unique digital U-band transmission technology and pi/4-DQPSK modulation method, it has strong anti-interference ability, low bit error rate and stable transmission.
10. Support audio encryption function. After turning it on, the microphone and receiver use unique ID code pilot encryption technology to achieve the effect of no cross-frequency of the equipment.

3.Functional Introduction of Each Part

3.1.Handheld microphone



1. **Button:** Long press to switch on/off; Short press twice to enter the Mute mode when the device is powered on, and a short press can wake up the screen when the screen is off.

2. **Infrared frequency pairing window:** Used for infrared frequency pairing operation with the receiver infrared emission indicator.

3. **OLED display:** Used to display the current status information of the handheld microphone.

4. **Microphone indicator:** The indicator status is used to display the current working status of the microphone.

4.Operating Instructions

4.1.Startup and shutdown

Long press the power button to switch on and off; The home page is displayed after "POWER ON" is displayed when the device is powered on, and "POWER OFF" is displayed when the device is powered off. The specific effects of switching on and off are shown in Fig. 4-1-1.1 and Fig. 4-1-1.2 below:

Figure 4-1-1.1 Bodypack transmitter power on page

Fig. 4-2-1.1 Handheld microphone shutdown page

4.2.Main page

The main page of handheld microphone mainly displays the transmit power intensity, audio encryption status, battery power, frequency value, smart mute status, mute sign. The handheld microphone main page and the main page function signs are respectively shown in Fig. 4-1-2.1 and Fig. 4-1-2.2 respectively:

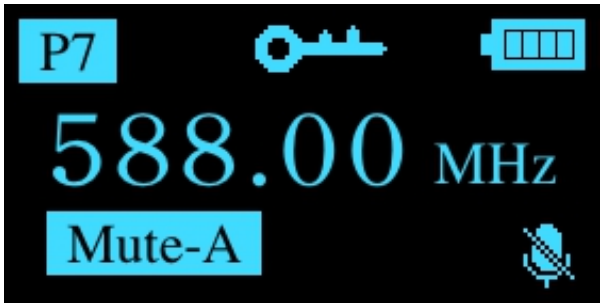


Figure 4-1-2.1 Bodypack transmitter main page

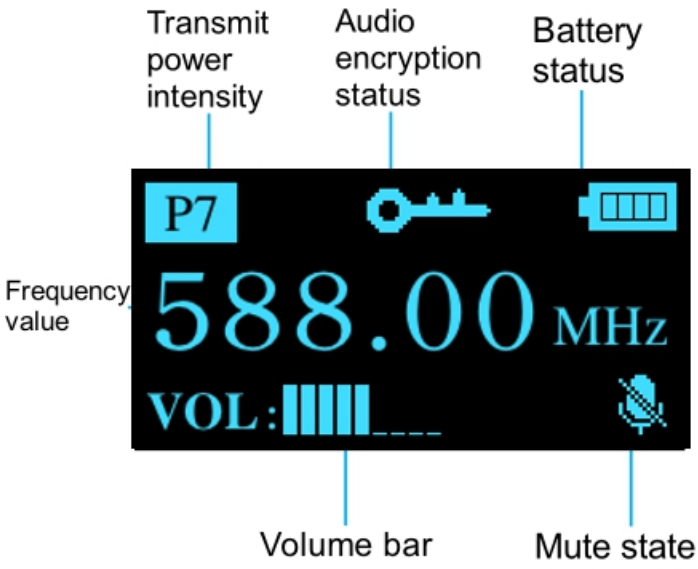


Fig. 4-1-2.2 Handheld microphone main page function signs

4.3.Transmit power intensity

The transmit power intensity needs to be adjusted on the receiver. After adjustment, an IR frequency re-pairing is required for the handheld mic to make this operation take effect. When the upper left corner of the handheld microphone homepage displays "P7", it indicates high transmit power state. The transmit power of P7-P1 decreases sequentially, and the range of adjustment gears is P7-P1.

4.4.Audio encryption status

The current audio encryption can be turned on or off. After turning it on, the handheld microphone and the receiver will only be able to communicate one-to-one (the receiver can only receive the last handheld microphone that was paired with the frequency, but not any other handheld microphone signals on the same frequency). Frequency re-pairing is required after each adjustment for it to take effect. The "  " symbol displayed at the top of the handheld microphone homepage is an indication that audio encryption is on.

4.5.Battery power

The battery sign in the upper right corner of the handheld microphone indicates the current battery status. In case of low battery, the battery sign starts to flash.

4.6.Frequency value

The middle value on the homepage of the handheld microphone indicates the current frequency value. The frequency value needs to be adjusted on the receiver. After adjustment, an IR frequency re-pairing is required for the handheld mic to make this operation take effect.

4.7.Smart Mute mode

" Mute–A " in the lower left corner of the homepage of the handheld microphone is the Smart Mute sign. When there is this sign on the homepage, it means that the Smart Mute state is On. Smart Mute needs to be adjusted on the receiver. After adjustment, an IR frequency re-pairing is required for the handheld mic to make this operation take effect. When Smart Mute is turned on, it will automatically mute after 5 seconds of sitting or in the event of accidents such as dropping or throwing.

4.8.Mute sign

"  " sign in the lower right corner of the homepage of the handheld microphone is the Mute sign. When this sign is displayed, it means entering the Mute state. The Mute state can be entered through Smart Mute or by manually short pressing the key twice.

5.Product Specifications

System indicators	
Frequency range	500MHz-608MHz
Modulation	pi/4-DQPSK
Frequency response	20Hz~20KHz (±3dB)
Signal-to-Noise Ratio	≥90dB(XLR)
THD+N	＜0.1%
Working distance	Sight distance 80m
Transmitter specifications	
Microphone cartridge	Dynamic microphone (single handheld microphone)
Display screen	OLED display screen
Output power	≥10dBm
Working current	≤200mA
Battery	2×1.2V(AA)、2×1.5V(AA)、2×3.7V(AA)
Battery life	>10H
Size (including microphone head)	248.9mm×49.6mm
Weight	368.2g (battery included)

6.Precautions for Use

1. Your hand should be in the middle of the microphone. Do not hold the microphone head, which will disrupt the frequency response, nor hold the end of the microphone, which will affect the signal transmission.

2. Do not use two transmitters side by side to prevent interference between the microphones and affect signal transmission and reception.

3. The microphone cannot be pointed directly at the speaker, which will cause positive feedback oscillation commonly known as "howling".

4. The distance between the wireless microphone receiver and the transmitter should be kept at more than 5 meters to minimize intermodulation interference.

5. The receiving range is related to many factors and varies greatly. If there is no large metal part blocking the transmission direction, better transmission effect can be obtained.

6. When the battery icon flashes during the use of the transmitter, it means that the battery is low and needs to be replaced.

7. If the transmitter is not used for a long time, please remove the battery from the base to prevent battery leakage and damage to the microphone.

7.Troubleshooting common microphone debugging problems

1. How to solve the problem when the signal of wireless microphone is poor?

(1) Handheld microphone power level: adjust to level 7 for transmission power. Low power level will affect the distance reception.

(2) Receiving host antenna: when the antenna is blocked, or falls down and is not erected, the antenna is close to metal objects or wires, which affects the reception effect;

(3) Receiving host placement: 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 complex environments?

(1) The controller has an automatic frequency scanning function. In complex environments, it is recommended to use the frequency given by the automatic frequency scanning function first;

(2) If the above operations cannot adjust to a clean and non-interfering channel, find the device with interference source and stay away from it: such as video matrix, video transmission box, network equipment, movie player, computer, jukebox, etc.

8.Management requirements for micropower radio transmitting equipment

Micropower radio transmitting equipment shall comply with the following regulations:

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 unauthorized changes of use scenes, expansion of transmission frequency range, increase of transmission power (including additional installation of radio frequency power amplifiers), no unauthorized external antenna or change to other transmission antennas;

3. Shall not cause harmful interference to other lawful radio stations or propose any protection from harmful interference;

4. Shall be subject to interference from equipment for industrial, scientific and medical (ISM) applications radiating radio frequency energy or from other lawful radio stations.

5. If it causes harmful interference to other lawful radio stations, discontinue use immediately and take measures to eliminate the interference before further use;

6. For the use of micropower equipment in aircraft and in electromagnetic environmental protection areas such as airports, radio observatories, meteorological radar stations, satellite earth stations (including measurement and control, ranging, receiving and navigation stations), which are designated in accordance with laws, regulations and standards, the regulations of electromagnetic environmental protection and the competent authorities of the relevant industries shall be complied with;

7. It is prohibited to use any kinds of model remote controllers in an area with a radius of 5,000 meters around the center point of the airport runway;

8. Environmental conditions of temperature and voltage when micropower devices are used.

Dialog Aero Wireless Microphone System

ISED Statement

English:This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1)This device may not cause interference.

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

The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).

French: Cet appareil contient des émetteurs/récepteurs exempts de licence qui sont conformes aux RSS exemptés de licence d'Innovation, Sciences et Développement économique Canada. L'exploitation est soumise aux deux conditions suivantes :

(1)Cet appareil ne doit pas provoquer d'interférences.

(2)Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

l'appareil numérique du ciem conforme canadien peut - 3 (b) / nmb - 3 (b).

This device meets the exemption from the routine evaluation limits in section 6.3 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance. cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 6.3 du cnr - 102 et conformité avec rss 102 de l'exposition aux rf, les utilisateurs peuvent obtenir des données canadiennes sur l'exposition aux champs rf et la conformité.

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme aux limites d'exposition aux rayonnements du Canada établies pour un environnement non contrôlé.

The device has been evaluated to meet general RF exposure requirement. This equipment should be installed and operated with minimum distance 0mm between the radiator & your body.

L'appareil a été évalué pour répondre aux exigences générales d'exposition aux RF.

Cet équipement doit être installé et utilisé avec une distance minimale de 0 mm entre le radiateur et votre corps.

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed with the maximum permissible gain indicated. Antenna types not included in this list, having again greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio a étéapprouvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

FCC Caution:

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.

NOTE: 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.

This radio transmitter [1970A-DALGAEROHH] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types(Spring Antenna) listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain(0.72dBi) indicated for any type listed are strictly prohibited for use with this device.

ClearOne®