

# Cover Page

TUI TUI, Hear the love

Dion TWS

User guide

Please read this manual carefully before use and keep it for future use

Hear the love

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# Welcome page

Thank you for choosing Shenzhen Eartech Company Limited. to develop the behind-the-ear hearing aid — Dion TWS.

Please read the User Guide carefully to ensure that you understand and get the best out of hearing aids to avoid damage to your hearing aid due to improper operation. From now on, we will be deeply concerned about your hearing condition, you will enjoy the wonderful experience of a hearing aid brought to you, letting you hear every character with real ears. This User Guide applies to: Dion TWS series hearing aids.

Suggestions:

A favourable audiologist is an essential part of a healthy life. When hearing loss occurs, you need to go to a special testing center or hospital for a hearing test and evaluation. If necessary, please share your expectations with the surveyor or doctor.

Consistent and scientific use of hearing AIDS will help you to listen better.

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## About hearing AIDS

Hearing aid models:

Dion TWS

Battery Size:

Lithium-ion rechargeable battery

Charging

☒Allow    ☐NOT Allow

Serial number (left side):

Serial number (right side):

Product shelf life: 5 years

Date of purchase:

## Cautions

Certain users should only use their hearing aids and not others.

Hearing aid earplugs can be cleaned daily with a soft dry cloth to remove cerumen, if necessary, they can be removed, sterilized with alcohol.

Exposure to high temperatures, high humidity, strong magnetic fields (0.1t), X-rays, CT scans, and mechanical stress can damage your hearing aids. So please do not wear hearing aids in these places. If the device is disturbed, please stop using it immediately. But for alarms, radio equipment, mobile phones and other low radiation places, it

generally does not affect hearing aids. Still, it also does not rule out affecting the sound quality or interference of the hearing aids.

Hearing aids should be tested before professional examination and hearing test, and under the guidance of a doctor or a professional hearing aid tester. Hearing aids do not cure hearing loss, or prevent or improve hearing loss caused by organic lesions. Please follow the instructions of your doctor or hearing health care professional to use hearing aids. Do not take it privately if any parts are left in the ear canal after removing the hearing aid. To avoid ear canal injury, allergy or cerumen embolism, seek medical attention immediately to prevent ear canal injury, allergy or cerumen embolism, seek medical attention immediately.

Custom hearing aids should be cleaned at least twice a week, and oily ears should be cleaned once a day. Wipe the hearing aid clean with a cotton ball or soft cotton paper, and then use a matching soft brush to remove earwax or another blockage from acoustic holes or cerumen baffle. Hearing aid cases can be sterilized using cotton balls containing 75% alcohol.

Be especially careful when wearing custom hearing aids with an output greater than 132 decibels, as high-intensity sound output signals may cause residual hearing damage. Please ask hearing healthcare professionals to advise the use of hearing aids or carefully adjust the volume to ensure that the hearing aids maximize the hearing loss appropriate for your specific situation.

Your hearing aid is suitable for operation in the frequency range of 2.4 to 2.8GHz. Disable the wireless function of your hearing aid when flying.

Do not use hearing aids in mines, oil fields or explosive environments.

Hearing aid charging precautions:

1. The hearing aid built-in lithium battery, which is rechargeable and cannot be removed or modified.
2. Ensure the hearing aid is charged at a temperature between zero and forty degrees Celsius.
3. Please ensure that the humidity of the charging box is between 0% and 85% during operation (no condensation).
4. Please ensure that the hearing aid is kept dry and dry before charging; otherwise, it should ensure charging reliability.
5. Do not cover the whole charging box with cloth and other articles when charging.
6. The USB port of the charger is used only for the purpose described.
7. Please use a power adapter that matches this charging box, with an output voltage of 5V and a minimum current of 500 mA.
8. It could be dangerous to touch the power adapter with a wet hand while charging a hearing aid.

9. When the hearing aid is turned off , it needs to be charged, do not use the hearing aid while charging.
10. Please put the hearing aid in the charging case when not using the hearing aid.
11. Do not connect the hearing aid wires to any external audio source, such as radio, which could cause physical injury (electrocution).
12. Hearing aids should not be discarded at the end of their lives to avoid environmental pollution, they should dispose of electronic devices professionally following relevant regulations to avoid ecological damage.

Hearing aids should be regularly sent to the testing center for maintenance and inspection, to ensure that the hearing aid is in good condition.

Use earplugs with caution if the patient has a perforated eardrum, exposed middle ear cavity, or has had ear canal surgery. Hearing aids are not suitable for patients with acute external auditory canal, otitis, chronic suppurative otitis media, acute suppurative otitis media, and those allergic to this material.

Special reminder for children with hearing loss: hearing loss can cause problems in children's language development and educational and social growth.

To avoid drool, please handle your hearing aid with care and prevent it from falling onto the parrot to avoid a strong impact on the hearing aid. Hearing aids are composed of sophisticated acoustic components, especially the receiver is easily damaged by vibration, which will shorten the Product shelf life if the original according to the damage, and severe vibration will cause damage to the hearing aid.

Hearing aids are strictly prohibited from entering the water. Do not immerse the hearing aid in any liquid. It would be best to take off the hearing aids when swimming, bathing and washing hair. After swimming or taking a shower, wait until the ear canal is dry before wearing a hearing aid. Whenever the hearing aid is removed, it should be placed in a desiccant box, away from light, high temperature and high humidity environment, to avoid collision.

The function and control switch should be used correctly, and the lights should be turn on and off as much as possible to avoid excessive force.

## Descriptions

Device model: Dion TWS

Product Component Description for Dion TWS

1. Earplug

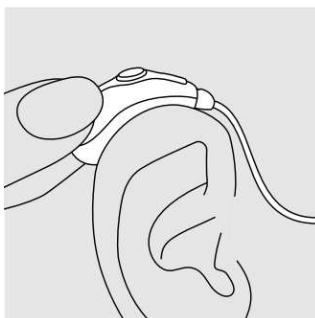
2. Tube:
3. Microphone
4. Multi-function button
5. Speaker dummy



## Using guide

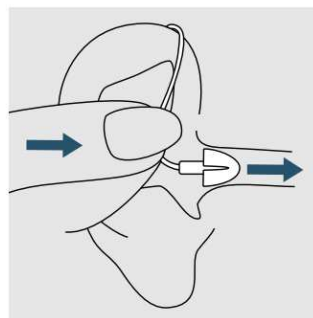
### Step 1: Wearing hearing aid

1. Place the principal machine of the hearing aid behind your ear.
2. Insert the earplugs into your ear canal.
3. Press and hold the silver button on the back of the hearing aid for 3 seconds before you hear the prompt "power on"



1

Hang the hearing  
aid behind your ear



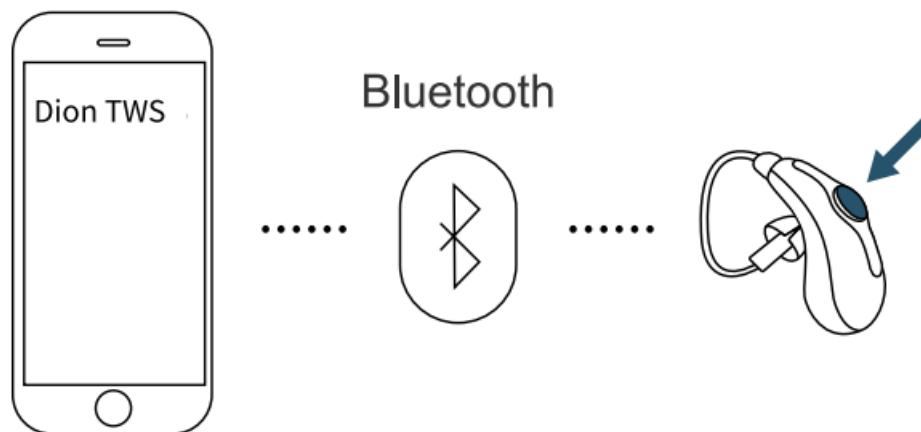
2

Put the earplugs  
into the ear canal

### Step 2: Bluetooth pairing (e.g.: Dion TWS)

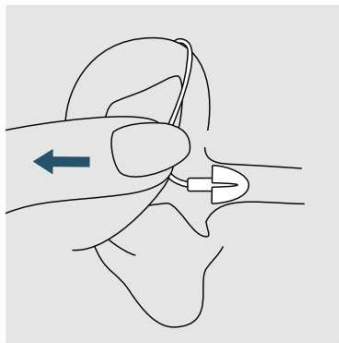
Turn on the Bluetooth function in the mobile phone settings, long-press the button to turn on the hearing aid, wait for the hearing aid to turn on, press and hold the button until the sound is on. At this time, the hearing aid enters the Bluetooth pairing mode, and the user

can search the device named "Dion TWS R/L" in the Bluetooth Settings of the mobile phone, and then the connection is completed.



### Step 3 Removing hearing aid

Grasp the hearing aid tube and carefully remove the hearing aid from the ear.



## Care and maintenance

If a hearing aid has a buildup of earwax, dirt, and bacteria; it can lead to ear infections; dirt, earwax plugs the hearing aid holes, and the hearing aid is silent, so please do the followings:

1. Do not wear hearing aids when spraying hairspray to avoid stuffing into the sound hole;
2. Do not bring hearing aids into the therapy room if you do microwave therapy in the hospital;
3. Sweat should be prevented from entering the hearing aid in summer;
4. Do not push sharp objects into sound holes or sound holes;
5. Do not wash the hearing aid with water or other solvents that may cause danger;
6. Hearing aids must be kept dry, especially in the season of rain and humidity, to avoid the rain.
7. Hearing aids are kept in an airtight desiccant container to prevent moisture absorption. The desiccant will have Arthur changes, and it needs to be used after drying or replaced in time.

# Troubleshooting

Problem	Causes	What to do
NO SOUND	NOT boot(no boot prompt tone)	Long press the button
	Low battery	Put the hearing aid into charging box
	Speaker blockage	Cleaning speaker
LOW VOICE	Improper wearing of earplugs	Wearing earplugs correctly
	The ear fill dirty	Clean ear plugs
	Speaker dirty	Clean speaker
	Too many cerumen in ear canal	Clean ear canal and seek medical advice if necessary
	Hearing loss	Consult a surveyor
SQUEAL	Improper wearing of earplugs	Wearing correctly
	Too many cerumen in ear canal	Clean ear canal and seek medical advice if necessary
	Improper setting of hearing aids	Consult a surveyor
	Low battery	Install sufficient batteries and fill the battery compartment
DISTORTION OF SOUND	Wearing wrong earplugs	Consult a surveyor
	Improper setting of hearing aids	Consult a surveyor
	Hearing aid failure	Consult a surveyor

\*If the above solution does not solve your problem, please consult your technician. If you need to repair the circuit or component, please send it to the manufacturer for repair.

## Service and warranty

### Local warranty

Please check the hearing care professional from which you purchased your hearing aids for the local warranty terms.

### International warranty

Eartech hearing aid offers a one-year limited international warranty, effective from the date of purchase. This limited warranty covers manufacturing and material defects in the hearing aid itself, but excludes accessories such as batteries, tubes, earpieces, external receivers. Warranty is only valid on presentation of proof of purchase. The international warranty does not affect any legal rights you might have under applicable national legislation on the sale of consumer goods.

### Warranty limitation

This warranty does not cover damage from improper handling or care, exposure to chemicals or undue stress. Damage caused by third parties or non-authorized service centers renders the warranty null and void. This warranty does not include any services

performed by a hearing care professional in their office.

## Compliance information

Product structure and composition:

The rechargeable behind-the-ear hearing aid consists of a shell, a microphone, a signal processor, a receiver and an earplug.

Operating principle:

Hearing aids are essentially sound amplifiers; the sound is amplified in some way, and it is some way that people with hearing loss can effectively use themselves to participate in the hearing.

The microphone receives the external sound of the hearing aid, and the analog-to-digital (ADC) converter converts it into a digital signal. The multi-channel digital signal processor(DSP) processes the digital input signal and outputs a direct digital drive (DDD), which drives the receiver sound. Through the programming interface, use the special testing and debugging software to set according to the user's empathy for the hearing aid, save the setting value in the memory, and save some parameters and program segments that control the working mode of the DSO.

Product intended use:

After the test, it is provided to the patients with hearing loss compensation.

Contraindication:

Dion series products are not recommended for people with acute otitis externa, tympanitis, chronic suppurative otitis media, and acute suppurative otitis media.

Voltage range:

DC 3.7 V (+0.1/ -0.1 V) Apply to Dion TWS

	Neighbor compatibility At the following field strength, IRIL=55dB The field strength is expressed in terms of V/m(*)	
	0.8-0.96	1.4-2.0
GHz		
Microphone mode	3V/m	2V/m

Electromagnetic compatibility Specification:

In accordance with GB/T 25102.13-2010 "electroacoustic hearing aids - Part 13: Electromagnetic Compatibility (EMC)" adjacent compatibility requirements.

\*Note: The test field strengths given are unmodulated carrier values.



#### Transportation and storage

Ambient temperature range:  $-10^{\circ}\text{C}\sim 40^{\circ}\text{C}$

Relative temperature range:  $\leq 80\%$

Atmospheric pressure:  $86\text{kPa} \sim 106\text{kPa}$

#### Normal operating conditions:

Environment temperature:  $-10^{\circ}\text{C}\sim 40^{\circ}\text{C}$

Relative humidity:  $\leq 80\%$

Atmospheric pressure:  $86\text{kPa} \sim 106\text{kPa}$

nominal voltage: DC 3.7 V (+0.1/ -0.1 V)

#### A special note on howlers:

One of the most common problems that new users of hearing AIDS encounter for the first time is "squealing", which is hearing aids emit loud noises, especially when the volume is turned on higher. The noise comes from the earplugs that are not completely plugged, and the ear canal cannot be closed. The hearing aid amplifies the leakage sound, which is then amplified by the hearing aid to generate noise.

#### Technical description:

##### 1. Classification of hearing aids:

- a) According to the type of shock: Internal power equipment;
- b) According to the degree of shock: Type B application equipment;
- c) According to the degree of protection of harmful liquid: IPX0, conventional device ;
- d) According to the degree of safety in the presence of flammable anesthetic gas mixed with air or with oxygen or nitrogen oxide: Equipment not to be used in the presence of a flammable mixture of anesthetic gas and air or a mixture of oxygen or nitrogen oxide
- e) According to the operation mode: continuous operation

##### 2. External link device

If the mains power the external equipment connected to the product, it must comply with **GB9706.1-2007** or equivalent safety standards.

#### Technical specification:

Model	OSPL90		Equivalent input noise (dB)	Total harmonic distortion	
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	Maximum saturated soundpressure level (dB)	High frequency mean (dB)	Full range sound gain(mean athigh frequ ency )		500Hz	800Hz	1600Hz	Frequency response range (Hz)
Dion TWS	≤120+3	118±4	52±5	≤32±3	≤4+3	≤4+3	≤4+3	200~6200
Dion TWS 3								
Dion TWS 3 Pro								
Dion TWS 5	≤128+3	128±4	57±5					
Dion TWS 5 Pro								
Dion TWS X								

#### Software Version Description:

Model	Software version number	Software Release
Dion TWS	4.2.0	4
Dion TWS 3		
Dion TWS 3 Pro		
Dion TWS 5	6.4.0	6
Dion TWS 5 Pro		
Dion TWS X		

#### FCC statement

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.

#### FCC Caution:

Any Changes or modifications not expressly approved by the part 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."

#### RF Radiation Exposure

This equipment complies with FCC exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located operating in conjunction with any other antenna or transmitter.

FCC ID:2A5WV-DIONTWS

Operating frequency range:2400-2483.5MHz

Maximum RF Output power: 0dBm

## Network Security Instructions

JRE: DSP Chip


Security software: No security software is available


Data domain device interface:

TCP: Bluetooth

Dion TWS series: Bluetooth transmission data modify hearing aid gain parameters, data storage format is binary, hearing aid can also accept music, call and other voice data for real-time playback, without storage.

## Information and description of symbols

 This symbol indicates the pending European conformity approval of relevant regulations and directives. The numbers after the CE symbol correspond to the code of certified institutions that were consulted under the above-mentioned regulation and directive.

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Indicates the medical device manufacturer, as defined in the Medical Device Regulation (EU) 2017/745



Indicates the date when the medical device was manufactured



Indicates the manufacturer's serial number so that a specific medical device can be identified.



This symbol indicates that it is important for the user to read and consider the relevant information in this user guide.



This symbol indicates that it is important for the user to pay attention to the relevant warning notices in these user guides.



The symbol with the crossed-out garbage bin is to remind you that this CROS device and the charger may not be disposed of as regular household waste. Please dispose of old or unused hearing aids and chargers, at waste disposal sites intended for electronic waste, or give your hearing aid and charger to your hearing care professional for disposal. Proper disposal protects the environment and health.



The temperature during transportation and storage:  $-20^{\circ}$  to  $+60^{\circ}$  Celsius ( $-10^{\circ}$  to  $+40^{\circ}$  centigrade).



Humidity during transportation: Up to 80% (non condensing). Humidity during storage: 0% to 80%, if not in use.



Atmospheric pressure during transportation and storage: 86kPa to 106kPa



Keep dry during transport.



This symbol indicates that the products described in these user instructions comply

with the requirements of the Category B application part of EN 60601-1. Hearing aid surfaces are designated as Class B Applied Parts.

## Packing list

Title	Amount
Hearing aid	1
User guide	1
Certification	1
Warranty card	1
Earplug	4
Storage charging box (including charging USB cable)	1
USB cable	1

## Registration information

Name of registrant/manufacturer: Shenzhen Eartech Company Limited.

Domicile of registered person/manufacturer: 516, Building 4, Tusincere Science Park, Longcheng Street, Longgang District, Shenzhen, Guangdong, China

Contact information of the registrant/manufacturer:

F-mail: [sz@eartech.cn](mailto:sz@eartech.cn)

Tel: +86(0755)28709006

Postcode: 518116

URL: [www.eartech.cn](http://www.eartech.cn)

Product shelf life: 5 years

Date of manufacture: See the certificate of approval

Production address: Shenzhen Eartech Company Limited.

Compilation/Revision date: