

- 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.

#### CE Requirements:

- (Simple EU declaration of conformity) Henan Eshow Electronic Commerce Co.,Ltd declares that the radio equipment type is in compliance with the essential requirements and other relevant provisions of RED Directive 2014/53/EU and the ROHS Directive 2011/65/EU and the WEEE Directive 2012/19/EU; the full text of the EU declaration of conformity is available at the following internet address: [www.retekess.com](http://www.retekess.com).
- Disposal  
The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that in the European Union, all electrical and electronic products, batteries, and accumulators (rechargeable batteries) must be taken to designated collection locations at the end of their working life. Do not dispose of these products as unsorted municipal waste. Dispose of them according to the laws in your area.

#### IC Requirements:

Licence-exempt radio apparatus

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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage;
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

#### RF Exposure Information

- DO NOT operate the radio without a proper antenna attached, as this may damage the radio and may also cause you to exceed RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio, and the antenna gain shall not exceed the specified gain by the manufacturer declared.
- DO NOT transmit for more than 50% of total radio use time, more than 50% of the time can cause RF exposure compliance requirements to be exceeded.
- During transmissions, your radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so.
- The device complies with RF specifications when the device used at 5mm from your body. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body-worn accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided.
- DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blasting sites.

#### Avoid Choking Hazard



Small Parts. Not for children under 3 years.

#### Protect your hearing:

- Use the lowest volume necessary to do your job.



- Turn up the volume only if you are in noisy surroundings.
- Turn down the volume before adding headset or earpiece.
- Limit the amount of time you use headsets or earpieces at high volume.
- When using the radio without a headset or earpiece, do not place the radio's speaker directly against your ear
- Use careful with the earphone maybe possible excessive sound pressure from earphones and headphones can cause hearing loss



Note: Exposure to loud noises from any source for extended periods of time may temporarily or permanently affect your hearing. The louder the radio's volume, the less time is required before your hearing could be affected. Hearing damage from loud noise is sometimes undetectable at first and can have a cumulative effect.

#### Avoid Burns



##### Antennas

- Do not use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with the skin when the radio is in use, a minor burn can result.

##### Batteries (If appropriate)

- When the conductive material such as jewelry, keys or chains touch exposed terminals of the batteries, may complete an electrical circuit (short circuit the battery) and become hot to cause bodily injury such as burns. Exercise care in handling any battery, particularly when placing it inside a pocket, purse or other container with metal objects

##### Long transmission

- When the transceiver is used for long transmissions, the radiator and chassis will become hot.

#### Safety Operation



##### Forbid

- Do not use charger outdoors or in moist environments, use only in dry locations/conditions.
- Do not disassemble the charger, that may result in risk of electrical shock or fire.
- Do not operate the charger if it has been broken or damaged in any way.
- Do not place a portable radio in the area over an air bag or in the air bag deployment area. The radio may be propelled with great force and cause serious injury to occupants of the vehicle when the air bag inflates.

##### To reduce risk

- Pull by the plug rather than the cord when disconnecting the charger.
- Unplug the charger from the AC outlet before attempting any maintenance or cleaning.
- Contact ReteKess for assistance regarding repairs and service.
- The adapter shall be installed near the equipment and shall be easily accessible
- Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
- Adapter shall be installed near the equipment and shall be easily accessible.
- The plug considered as disconnect device of adapter.
- The operating temperature of the EUT can't exceed the specified range.

#### Approved Accessories



- This radio meets the RF exposure guidelines when used with the ReteKess accessories supplied or designated for the product. Use of other accessories may not ensure compliance with the RF exposure guidelines and may violate regulations.
- For a list of ReteKess-approved accessories for your radio model, visit the following website: <http://www.Retekess.com>

# RETEKESS

## TD021

### Wireless Repeater User Manual

EU Importer

Name: Germany Retevis Technology GmbH  
Address: Uetzenacker 29,38176 wendenburg

**Henan Eshow Electronic Commerce Co., Ltd**

Add: 7/F, Sanjiang Building, No.170 Nanyang Road, Huiji District, Zhengzhou, Henan, China

## Abstract

A repeater is a wireless device for transmitting and receiving data. The transferred signal must meet the following two requirements:

1. Same received frequency as the repeater.
2. Matching the oscillation resistance of the receiving part of the repeater.

Currently supported signal mode is PT2240/1.8M.

This repeater can cascade three Repeaters if the distance is not reached. The repeater has a learning function and can store 100 transmitters, which helps transfer some signals alternatively, to avoid interference from other unrelated signals.

## Product Parameter

Operating frequency: 433.92MHz  
Operation voltage: DC12V  
Quiescent current: 30mA  
Operating current: <255mA  
Receiving sensitivity: -108dBm  
Transmitted power: 500mW (A launch range of about 1500m in the open field)

## Marking instruction



Turning the switch up means ON  
Turning the switch down means OFF  
■ The black part means the position of the handle

**POWER indicator light:** power light

**SEND indicator light:** Transit light. It will be on once it transits signals.

**8 bit dialing switch:** At the bottom of the shell, each dial code switch has two states of ON and OFF. There is a mark on the dial code switch. Please check the function of each dial code switch. As follows:

**The first switch:** In the ON position, the first one is represented when the repeater is cascaded.

**The second bit:** In the ON position, the second one is represented when the repeater is cascaded.

**The third bit:** In the ON position, the third one is represented when the repeater is cascaded.

**The fourth bit:** When both the fourth bit and the sixth bit of the repeater are in the ON position in the ON position, press the learned remote control. The light will flash three times to clear the remote control of this way. It is quite useful to clear one when it learned multiple remote controls.

**The fifth bit:** Control the transit interval, which is about 6 seconds when it is in OFF state. (Suitable for 4-6 repeater cascades)

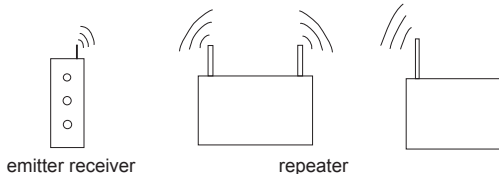
**The sixth bit:** In the ON position, only the learned emitter is transferred (this position needs to be in the ON state when there are more than two repeaters in the same place). When this position is in the OFF state, No learning is required to relay the matching transmission signal.

**The seventh bit:** When learning, this position should be in ON state. In normal operation, this position shall be placed in the OFF state.

**The eighth bit:** Test bits. When the ON state is set, the relay continuously transmits (PT2262 1.2m) signal. In normal operation, this position shall be placed in the OFF state.

## Operating instructions

1. Install the relay position: When relaying a signal, the relay should be placed between the signal being relayed and the receiver, and it shall be positioned according to the strength of the transferred signal. After the relay position is adjusted, the receiver position should be adjusted again.



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2. Set the relay signal cascade mode: Connecting to DC12V POWER supply, POWER indicator is on and the relay is in transit state. With only one repeater, all three dial switches are OFF when the transit speed is faster. If two or three Repeaters are needed, the no. 5 dial code switch is dialed to the OFF end. After pressing the same button to transfer, it shall come to effect after 6 seconds; If 4 to 6 Repeaters are needed, the no. 5 dial code switch is dialed to the ON end. After pressing the same button to transfer, it shall come to effect after 12 seconds. About the specific configuration, Refer to the chart below:

(note: Among 1 ~ 3 bit dial code switch, which repeater to be set is subject to the accumulated quantitative value. For example, The first is Dial 1 to the ON end, then the fifth is 2 and 3 to the ON end. The rest can be done in the same manner.)



When a repeater is in use, Code switch Settings are shown in the right figure



When cascade the fourth repeater, dial code switch Settings is shown in the right figure



When cascade the first repeater, dial code switch Settings is shown in the right figure



When cascade the fifth repeater, dial code switch Settings is shown in the right Figure



When cascade the second repeater, dial code switch Settings is shown in the right figure



When cascade the sixth repeater, dial code switch Settings is shown in the right figure



When cascade the third repeater, dial code switch Settings is shown in the right figure

3. Learn about the relayed transmitter: Turn the code switch 6 and 7 to ON, then trigger the emitter, SEND light flashing twice to show success. If continue to learn, press the emitter that need to learn. The light flashes to indicate success of learning. After learning, turn the 7 th dial code switch to OFF state, at this time The repeater can only relay learned transmitters.

4. Delete all learned emitters: Before power on or within 15 seconds after the restart, dial code switches 7 and 8 to ON and SEND light blinked three times, indicating that all learned emitters have been removed.

5. Delete a single learned emitter: Dial the code switch 4 and 6 to the ON end and Click on the learned remote control. The light flashes three times to indicate clear success. Click the remote control to clear it if you want to continue. When the clearance is completed, dial the code switch 4 to the OFF end.

## Announcement

1. When installing the repeater, the antenna should be kept up and away from metal objects and walls.
2. This product is not waterproof, it should be placed indoors or do waterproof treatment when installing.
3. If the receiver cannot receive the signal, we need to confirm whether the relay can receive the transmitter's signal. If no signal is received, the relay needs to be moved closer to the transmitter, until the relay can receive the transmitter signal. Adjust the receiver position again and move the receiver close to the relay.
4. Power supply requirement: DC12V output, output curren>300mA
5. Do not set the dial code switch 7 and 8 ON at the same time before plugging in, otherwise it will delete all the learned emitter before.

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## Warnings



ATTENTION!

Before using this radio, read this guide which contains important operating instructions for safe usage and RF energy awareness and control for compliance with applicable standards and regulations.

This radio uses electromagnetic energy in the radio frequency (RF) spectrum to provide communications between two or more users over a distance. RF energy, which when used improperly, can cause biological damage.

All Reteless radios are designed, manufactured, and tested to ensure they meet government-established RF exposure levels. In addition, manufacturers also recommend specific operating instructions to users of the radios. These instructions are important because they inform users about RF energy exposure and provide simple procedures on how to control it.

Please refer to the following websites for more information on what RF energy exposure is and how to control your exposure to assure compliance with established RF exposure limits: <http://www.who.int/en/>

## Local Government Regulations

When radios are used as a consequence of employment, the Local Government Regulations requires users to be fully aware of and able to control their exposure to meet occupational requirements. Exposure awareness can be facilitated by the use of a product label directing users to specific user awareness information. Your Reteless radio has a RF Exposure Product Label. Also, your Reteless user manual, or separate safety booklet includes information and operating instructions required to control your RF exposure and to satisfy compliance requirements.

## Radio License (if appropriate)

Governments keep the radios in classification, business radios operate on radio frequencies that are regulated by the local radio management departments (FCC, ISED, OFCOM, ANFR, BFTK, Bundesnetzagentur...). To transmit on these frequencies, you are required to have a license issued by them. The detailed classification and the use of your radios, please contact the local government radio management departments. Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.

## Unauthorized modification and adjustment

Changes or modifications not expressly approved by the party responsible for compliance may void the user's authority granted by the local government radio management departments to operate this radio and should not be made. To comply with the corresponding requirements, transmitter adjustments should be made only by or under the supervision of a person certified as technically qualified to perform transmitter maintenance and repairs in the private land mobile and fixed services as certified by an organization representative of the user of those services. Replacement of any transmitter component (crystal, semiconductor, etc.) not authorized by the local government radio management departments equipment authorization for this radio could violate the rules.

## FCC Requirements:

- 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.
- 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

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