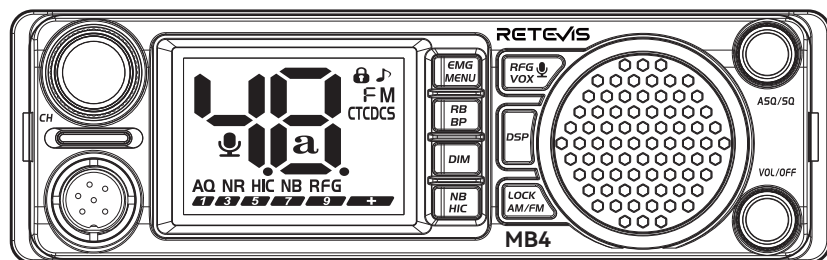


# RETEVIS



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**MB4**  
**User's Manual**

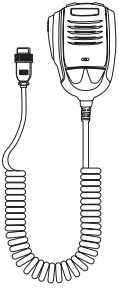


# Contents

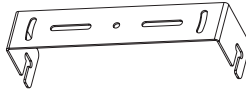
<b>Supplied Accessories</b>	-----01
<b>Optional Accessories</b>	-----01
<b>KNOW ABOUT THIS RADIO</b>	-----02
<b>LCD</b>	-----03
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<b>CTCSS TONE LIST</b>	-----07
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For downloading further resources:  
Brochures, Software/Firmware, Manual etc, Please contact  
your direct reseller first OR go to website [retevis.com](http://retevis.com) and  
check "support" in the each product link to download it.

## Supplied Accessories



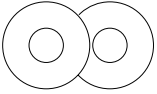
Microphone



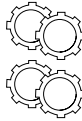
Mobile Bracket



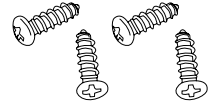
Microphone Hanger



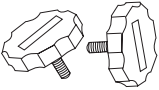
non-slip mat



Pads



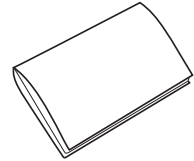
Tapping screws



Adjusting screws

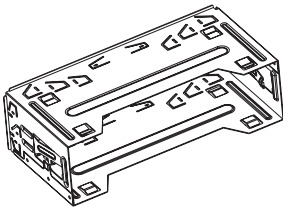


Spare Fuses  
5A 250V



User Manual

## Optional Accessories

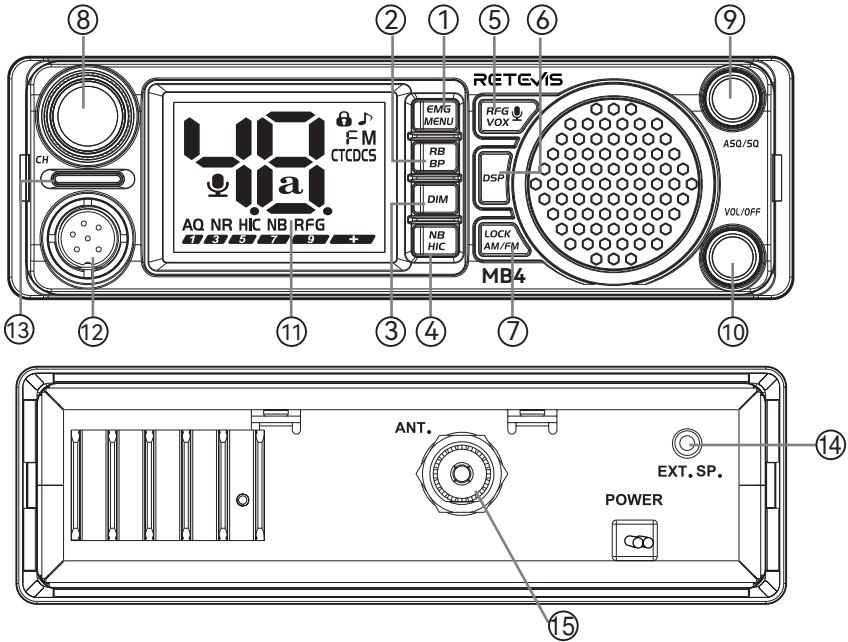


DIN Rack



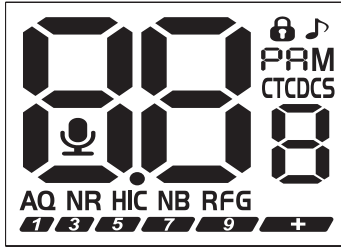
DIN Removal Keys

# KNOW ABOUT THIS RADIO




1	Modulation Mode Select : AM, FM and PA
2	Noise Reduction (NR) On/Off ~ Noise Blanker (NB) On/Off
3	CTCSS/DCS Enable ~ Backlight Brightness Setting
4	Scan On/Off ~ RF Gain Control
5	Enter into Memory Mode ~ Enter into Channel Storage Setting
6	Emergency Channel ~ Keypad Lock ~ VOX On/Off
7	Menu
8	Channel Knob ~ Configuration Select
9	ASQ (Automatic Squelch Control) ~ Squelch
10	Power On/Off ~ Volume Control
11	LCD Display
12	Microphone Plug
13	RX (Receive) / TX (Transmit) LED Indicator
14	External Optional Speaker Jack
15	Antenna Jack

## LCD



 Key Lock activated

 ROGER BEEP function activated

 VOX function activated

**AQ** ASQ function activated

**NR** NR function activated

**RFG** RF GAIN function activated

**00** Indicates the active channel

**1 3 5 7 9 +** TX or RX bargraph

**AM** AM mode selected


**FM** FM mode selected

**PA** PA mode selected

**NB** NB function activated

**HIC** HI-CUT filter activated

 SCAN function activated

 Memory channel indicator

## DIN rail installation and removal guide



### HOW TO USE THIS RADIO

#### 1. Power On/Off the Radio

Turn the VOL knob clockwise to power on the radio, the LCD displays the Norms and then displays channel number.

Turn the VOL knob anti-clockwise, until hear Ka Ta, the radio is powered off.

#### 2. Volume Control

Turn the VOL knob clockwise to increase the volume, turn it anti-clockwise to decrease the volume.

#### 3. ASQ ~ SQ Control

##### ●ASQ (Automatic Squelch Control)

Turn the **A/S** knob anti-clockwise to the leftmost position enables the **ASQ** function. "**AQ**" appears on the LCD. No repetitive manual adjustment and a permanent improvement between the sensitivity and the listening comfort when **ASQ** is active. This function can be disconnected by turning the switch clockwise. In this case the squelch adjustment becomes manual. "**AQ**" disappears from the LCD.

##### ●SQ (Manual Squelch Control)

Turn the **A/S** knob clockwise to the exact point where all background noises disappear. This adjustment should be done with precision as, if set to maximum (fully clockwise), only the strongest signals will be received.

#### 4. Rotary CH Knob

Turn rotary **CH** knob to change the channel. Clockwise to increase, and anti-clockwise to decrease the channel.

#### 5. UP / DN Buttons on Microphone

Short press **UP / DN** buttons on the microphone to change the channel. **UP** to increase, and **DN** to decrease the channel.

In MENU mode, the **UP** or **DN** buttons allows to select the menu to be set.

#### 6. AM/FM ~ PA

##### ●AM/FM (short press)

Short press  key to modify the modulation mode **AM** or **FM**. Corresponding mode is appears on the LCD.

##### ●PA (long press)


Long press  key to alternate between **CB** and **PA** mode.

When the **PA** mode is activated, the modulation of the microphone and the received signal are transmitted to the internal loudspeaker or external optional loudspeaker connected to jack EXT.SP. "**PA**" blinks alternate with the modulation mode (**AM** or **FM**).

Turn the VOL knob to adjust the PA volume


#### 7. NR ~ NB

##### ●NR (short press)

Short press  key to activate or deactivate the Noise Reduction if a **RX** or **TX NR** set value other than **OFF** has been stored ( consult the Menu Operations).

"**R**" is displayed when the function is active. If both **RX NR** and **TX NR** are set to **OFF**, the "**R**" icon blinks three times on the LCD and the device emits an error beep.


##### ●NB (long press)

Long press  key to activate or deactivate the Noise Blanker.

"**B**" is displayed when the function is active.

#### 8. TSQ ~ DIM

##### ●TSQ (short press)


Select a desired channel, short press  key to activate or deactivate the CTCSS/DCS function.

If a CTCSS/DCS code has been stored ( consult the Menu Operations), if becomes active, "**C**" or "**D**" icon appears on the LCD.

If no CTCSS/DCS code has been stored, the "**C**" icon blinks three times on the LCD and the device emits an error beep.


Note: Codes can only be used in FM.

##### ●DIMMER (long press)


Long press  key to adjust the brightness of the lighting.

#### 9. SCAN ~ RFG

##### ●Channels Scan (short press)

Short press  key to activate the 40 channels scan function. The dot between the two channel digits blinks to indicate that the function is active. The scanning stops as soon as there is a busy channel. In scanning mode, turn the rotary **CH** knob or press the **UP/DN** keys on the microphone to change scan direction. Press any key to exit **SCAN**.


##### ●RFG (long press)

Long press  key to enter the RF GAIN level control, "**G**" blinks and the present RF Gain level appears on the LCD. Turn the rotary **CH** knob or press the **UP/DN** keys on the microphone to change the level of attenuation. Press any key to exit RF Gain level control.

When RFG function is on, "**RFG**" icon appears on the LCD.

## 10. MEM ~ MEM Store

### ●MEM (short press)


Short press  key to enter into Memory Mode, the memorized channel number appears on the LCD. If no storage setting, the device emits an error beep.

Turn the rotary **CH** knob or press the **UP/DN** keys on the microphone to select the pre-stored channel (5 memories).


Short press  key again to exit Memory Mode.

### ●MEM Store (long press)

Select desired channel and modulation mode.

Long press  key to enter into channel storage setting, memorized channel number blinks on the LCD.


Turn the rotary **CH** knob or press the **UP/DN** keys on the microphone to select the storage memory 1~5.


Long press  key until the memorized channel number stop blinks. Storage finished and exit channel storage setting.

## 11. Emergency Channels ~ Key Lock ~ VOX


### ●Emergency Channels (short press)

Press the  key, the radio automatically tune to channel 9.

Press the  key again, the radio automatically tune to channel 19.

Press the  key third time to return to the previous channel.

### ●Key Lock (long press)

Long press  key to lock the keys, "🔒" appears on the LCD.

Long press  key again to unlock the keys, "🔒" disappears from the LCD.

### ●VOX (PTT + EMG)

Press and hold the PTT button.

Short press  key to activate or deactivate the VOX function, "🔒" appears on the LCD when the function is active.

## 12. Frequency Band Selection


Hold the  key to power on the radio, the icon corresponding to the current configuration is blinking.

Turn the rotary **CH** knob or press the **UP/DN** keys on the microphone to change the configuration. When the configuration is selected, switching off the radio and the switching it on again to confirm the selection.


## 13. Install External Speaker

Choose a 8Ω external optional speaker with 3.5 mm mono connector.


## 14. Menu Operations

Long press  key to enter the menu function setting.

Turn the rotary **CH** knob or press the **UP/DN** keys on the microphone to select the menu to set.

Short press  key to validate, the parameter blinks on the LCD.


Turn the rotary **CH** knob or press the **UP/DN** keys on the microphone to modify the value of the parameter.

Short press  key again to store the chosen value and return to the previous level to set another menu.


Press PTT button or long press  key or wait for 10 seconds to store and exit MENU.

NO.	LCD display	Function detail	Setting details
1		Beep sound	on: turn on beep sound oF: turn off beep sound Default : oF
2		Roger beep	oF (default), 01~06 oF: turn off RB sound function
3		ASQ level setting	01~09 Default : 04
4		CTCSS/DCS setting in reception (RX)	oF: no code (default) CTC: 01~38, Total 38 tones DCS: 01~104, Total 104 codes
5		CTCSS/DCS setting in transmission (TX)	
6		CTCSS/DCS setting in RX and TX	
7		Microphone gain control	01~09 Default : 05
8		Microphone type setting	EL: electric (default) o9: dynamic
9		VOX sensitivity level setting	01~09 Default : 03
10		VOX delay time setting	01~09 Default : 04
11		HI-CUT filter setting	oF: turn off HI-CUT filter (default) on: turn on HI-CUT filter
12		RX noise reduction level setting	oF, 01~05 Default : oF
13		TX noise reduction level setting	oF, 01~05 Default : oF
14		Time out timer	oF(default), 01~09 Min Default : 03



## 15. Resume Factory Default


Long press  key to enter the menu function setting.

Turn the rotary **CH** knob or press the **UP/DN** keys on the microphone to select the **r5** menu .

Short press  key to validate, the parameter blinks on the LCD.

Turn the rotary **CH** knob or press the **UP/DN** keys on the microphone to select a parameter to be reset :

 : memory reset  
 : reset all parameters

Long press  key until the chosen parameter stop blinks.

Release  key, the device automatically reseted.

## CTCSS TONE LIST

No.	Freq. (Hz)	No.	Freq. (Hz)	No.	Freq. (Hz)	No.	Freq. (Hz)
01	67.0	11	97.4	21	136.5	31	192.8
02	71.9	12	100.0	22	141.3	32	203.5
03	74.4	13	103.5	23	146.2	33	210.7
04	77.0	14	107.2	24	151.4	34	218.1
05	79.7	15	110.9	25	156.7	35	225.7
06	82.5	16	114.8	26	162.2	36	233.6
07	85.4	17	118.8	27	167.9	37	241.8
08	88.5	18	123.0	28	173.8	38	250.3
09	91.5	19	127.3	29	179.9		
10	94.8	20	131.8	30	186.2		

## DCS CODE LIST

Code No.	DCS (Octal)	Code No.	DCS (Octal)	Code No.	DCS (Octal)	Code No.	DCS (Octal)
1	023	27	152	53	311	79	466
2	025	28	155	54	315	80	503
3	026	29	156	55	325	81	506
4	031	30	162	56	331	82	516
5	032	31	165	57	332	83	523
6	036	32	172	58	343	84	526
7	043	33	174	59	346	85	532
8	047	34	205	60	351	86	546
9	051	35	212	61	356	87	565
10	053	36	223	62	364	88	606
11	054	37	225	63	365	89	612
12	065	38	226	64	371	90	624
13	071	39	243	65	411	91	627
14	072	40	244	66	412	92	631
15	073	41	245	67	413	93	632
16	074	42	246	68	423	94	654
17	114	43	251	69	431	95	662
18	115	44	252	70	432	96	664
19	116	45	255	71	445	97	703
20	122	46	261	72	446	98	712
21	125	47	263	73	452	99	723
22	131	48	265	74	454	100	731
23	132	49	266	75	455	101	732
24	134	50	271	76	462	102	734
25	143	51	274	77	464	103	743
26	145	52	306	78	465	104	754

## SPECIFICATION

<b>GENERAL</b>		
Modulation Mode	AM/FM	
Frequency Range	26.565-27.99125MHz	
Frequency Tolerance	±5.0ppm	
Input Voltage	12/24V	
Dimensions	145x188x58mm	
Weight	667g	
Operating Temperature Range	-20°C to +50°C	
Current Drain	Transmit	3A MAX
	Receiver	Squelched 0.3A
	VOL Max	0.7A
Antenna Connector	UHF, SO-239	
<b>TRANSMITTER</b>		
Power Output	4 Watts FM/AM	
Transmission interference	inferior to 4nW	
Frequency Response	300-3000Hz	
Modulated signal distortion	inferior to 5%	
Output Impedance	50ohms	
<b>RECEIVER</b>		
Sensitivity	Less than 1uV for 10dB(S+N)/N	
Image Rejection	70dB	
Adjacent Channel Rejection	60dB	
IF Frequencies	1st 10.695MHz	
	2nd 455KHz	
Automatic Gain Control(AGC)	Less than 10dB change in audio	
	Output for inputs from 10 to 50000uV	
Squelch	less than 1uV	
Audio Output Power	2Watts at 8Ω less than 10% distortion	
Frequency Response	300-3000Hz	

FREQUENCY LIST

CH.NO.	Freq.(MHz)	CH.NO.	Freq.(MHz)
1	26.965	21	27.215
2	26.975	22	27.225
3	26.985	23	27.255
4	27.005	24	27.235
5	27.015	25	27.245
6	27.025	26	27.265
7	27.035	27	27.275
8	27.055	28	27.285
9	27.065	29	27.295
10	27.075	30	27.305
11	27.085	31	27.315
12	27.105	32	27.325
13	27.115	33	27.335
14	27.125	34	27.345
15	27.135	35	27.355
16	27.155	36	27.365
17	27.165	37	27.375
18	27.175	38	27.385
19	27.185	39	27.395
20	27.205	40	27.405

## CAUTION

### 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.

### Radio License

Governments keep the radios in classification. Two-way radios are only operated on authorized radio frequencies that are regulated by the local radio management departments (such as FCC, ISED, OFCOM, ANFR, BFTK, Bundesnetzagentur, and so on.). The detailed classification and the use of your two-way 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.

### FCC Requirements

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference. (Licensed radios are applicable);

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(Other devices are applicable)

(1) This device may not cause harmful interference.

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

Note: This equipment has been tested and found to comply with the limits for a Class B digital device. 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.

### Disposal

The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that all electrical and electronic products, batteries, or accumulators 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 and rules in your area.



### RF Safety

This two-way 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. 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/>

Transmit no more than the rated duty factor 50% of the time. Transmitting necessary information or less, is important because the radio generates measurable RF energy exposure only when transmitting in terms of measuring for standards compliance. For users who wish to further reduce their

exposure, some effective measures to reduce RF exposure include:

- Reduce the amount of time spent using your wireless device.
- Increase the distance between wireless devices and your body.

This radio is designed for and classified as "General population/uncontrolled use". General population/uncontrolled environments are defined as locations where there is exposure of individuals who have no knowledge or control of RF exposure level.

### **RF Safety distance**

Speak directly into the microphone. During operation, the separation distance between the user and the antenna subject to actual regulations. This separation distance will ensure that there is sufficient distance from a properly installed externally-mounted antenna to satisfy the RF exposure requirements. Transmit only when people are the recommended minimum lateral distance away from a properly installed externally mounted antenna according to installation instructions.

### **Electromagnetic Interference/Compatibility**

Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed, or otherwise configured for electromagnetic compatibility. 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 such as hospitals or healthcare facilities.

Persons with pacemakers, implantable cardioverter defibrillators (ICDs) or other active implantable medical devices should:

- Consult with their physicians regarding the potential risk of interference from radio frequency transmitters, such as portable radios (poorly shielded medical devices may be more susceptible to interference).
  - Turn the radio OFF immediately if there is any reason to suspect that interference is taking place.
  - Do not carry the radio in a chest pocket or near the implantation site, and carry or use the radio on the opposite side of the body from the implantable device to minimize the potential for interference.
- Hearing Aids: Some digital wireless radios may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer to discuss alternatives.
- Other Medical Devices: If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

**WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.**



Turn off your radio in the following conditions:

- Turn off your radio prior to entering any area with a potentially hazardous or explosive atmosphere. Only radio types that are especially qualified should be used in such areas as "Intrinsically Safe".

Note: the areas with potentially explosive atmosphere referred to above include blasting caps, blasting areas, inflammable gas, dust particles, metallic powders, grain powders, fueling areas such as below decks on boats, fuel or chemical transfer or storage facilities, areas where the air contains chemicals or particles (such as grain, dust or metal powders) and any other area where you would normally be advised to turn off your vehicle engine. Areas with potentially explosive atmospheres are often—but not always—posted.

- Turn off your radio when taking on fuel or parked at gasoline service stations.
- Turn off your radio when on board an aircraft. Any use of a radio must be in accordance with applicable regulations per airline crew instructions.
- Do not use any radio that has a damaged antenna. If a damaged antenna comes into contact with the skin when the radio is in use, a burn can result.
- Turn off your radio before removing or installing accessories.
- When the transceiver is used for long transmissions, the radiator and chassis will become hot.

Use of Communication Devices While Driving

- Always check the laws and regulations on the use of radios in the areas where you drive. Use of Communication Devices, for example, mobile radio, may not be allowed.
- Give full attention to driving and to the road.



- Use hands-free operation,if available.
- Pull off the road and park before making or answering a call,if driving conditions or regulations so require.
- Do not place a portable radio in the area over an air bag or in the airbag deployment area.The radio may be propelled with great force and cause serious injury to occupants of the vehide when the airbag inflates.

**Protect your hearing**

- Use the lowest volume necessary to do your job.Turn up the volume only if you are in noisy surroundings.
- 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 carefully with the earphone maybe possible excessive sound pressure from earphones and headphones can cause hearing loss.



CAUTION: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

**WARNING:CHOKING HAZARD-Small Parts.Not suitable for children under 3 years old.**



RF Exposure Warning Statements:

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

This equipment shall be installed and operated with minimum distance 51.4cm between the radiator & body.

# Guarantee

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Purchasing Date: \_\_\_\_\_

Dealer: \_\_\_\_\_ Telephone: \_\_\_\_\_

User's Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Country: \_\_\_\_\_ Address: \_\_\_\_\_

Post Code: \_\_\_\_\_ Email: \_\_\_\_\_

## Remarks:

- 1.This guarantee card should be kept by the user, no replacement if lost.
- 2.Most new products carry a two-year manufacturer's warranty from the date of purchase. Further details, pls read <http://www.retevis.com/after-sale/>
- 3.The user can get warranty and after-sales service as below:
  - Contact the seller where you buy.
  - Products Repaired by Our Local Repair Center
- 4.For warranty service, you will need to provide a receipt proof of purchase from the actual seller for verification

## Exclusions from Warranty Coverage:

- 1.To any product damaged by accident.
- 2.In the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs.
- 3.If the serial number has been altered, defaced, or removed.





**FR** Cet appareil, ses accessoires et cordons se recyclent

À DÉPOSER EN MAGASIN

À DÉPOSER EN DÉCHÈTERIE

OU

**FR** EMBALLAGES A SEPARER ET A DEPOSER DANS LE BAC DE PRI

Points de collecte sur [www.quefairemesdechets.fr](http://www.quefairemesdechets.fr)  
Privilégiez la réparation ou le don de votre appareil!



**Shenzhen Retevis Technology Co.,Ltd.**

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6th Road, Jihua Street, Longgang District, Shenzhen, China

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E-mail:[info@retevis.com](mailto:info@retevis.com)  
Facebook:[@retevis.fans](https://www.facebook.com/retevis.fans)



Made in China

说明书印刷要求：

尺寸：120\*160mm

样式：胶装

印刷：黑色，质保卡为单独一页

纸张：封面157G铜版纸，内页双胶纸

此面不用印刷