

# To customers

Thank you very much for using KANWEE two-way radios. This product has a newly developed function menu and humanism operation design, making it easy to use. It will meet your requirement by the compact size and reasonable price.

## Welcome to use KANWEE two-way radio

### Main functions:

Frequency range

VHF: 136.000-174.000MHz

UHF: 400.000-470.000MHz

16 channels

PC Programmable

VOX functions

CTCSS/DCS

Chinese and English voice prompt

Power saving function

High-low power selective

Scanning function

Scrambler

COMP function

Wide/narrow bandwidth selective

End tone elimination

Emergency alarm

Whispering function

### Frequency

VHF: 136.000-174.000MHz

UHF: 400.000-470.000MHz



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User's Manual

# Using tips

## Unpacking and checking equipment

## Installation of supplied accessories

Professional two-way radio

## Using tips

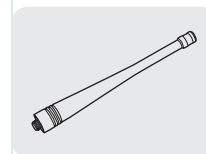
Please read the following brief instructions, non-compliance with these rules may cause danger or violate the law.

- Obey the local government regulation before using this radio, improper use may violate the law and be punished.
- Turn off the radio before entering flammable or explosive areas.
- Do not charge or change the battery in flammable or explosive areas.
- Turn off the radio before getting close to the blasting zone or detonator areas.
- Do not use radio whose antenna is damaged, touching of damaged antenna will cause heat injury.
- Do not attempt to open the radio; the maintenance work should be done by technical expert only.
- To avoid troubles caused by electromagnetic interference or electromagnetic compatibility, please turn off the radio in places where have the banner "Do not use wireless equipment", such as hospital and other healthcare places.
- In the car with an airbag, do not put the radio within the scope of the airbag deployment.
- Do not store the radio under the direct sunshine or in hot areas.
- When you transmit with the radio, do keep away from its antenna for 5cm at least.
- If the radio appears smelly or smoke, please shut off its power immediately and contact with your local dealer.
- Do not transmit too long, for the radio may heat and hurt the user.

## Unpacking and checking equipment

Welcome to use **KANWEE** TK-928 two-way radio. Carefully unpack the radio. We recommend you check the items listed in the following table before discarding the package. If any item is missing, please contact local dealer immediately.

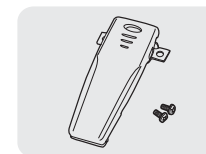
### Supplied Accessories



Antenna



Li-ion Battery



Belt Clip



Charge



Verification

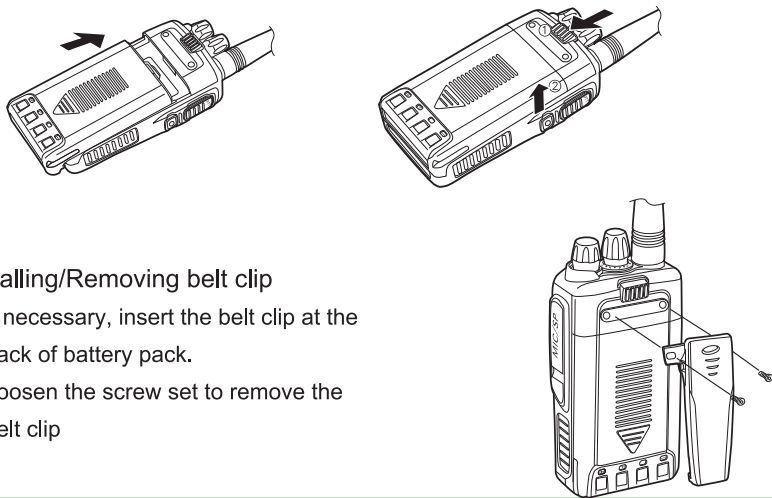


User's Manual

## Installation of supplied accessories

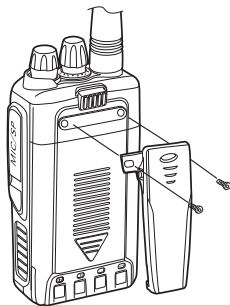
### Installing/Removing battery

1. To install the battery pack, fit the extensions at the bottom of the battery into the slots at the bottom of radio. Press the top part of the battery towards the radio until a "click" sound is heard.
2. To remove the battery pack, slide the battery latches in the middle of the battery, downwards. Pull the top of the battery away from the transceiver's body, and lift the battery from the transceivers body.



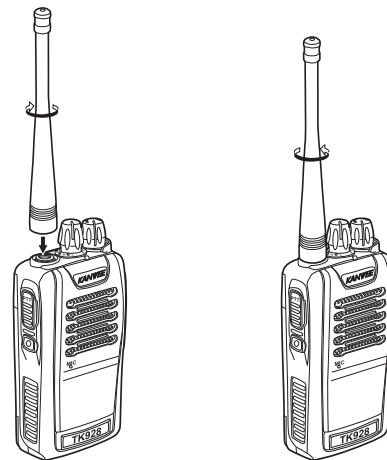
### Installing/Removing belt clip

1. If necessary, insert the belt clip at the back of battery pack.
2. Loosen the screw set to remove the belt clip



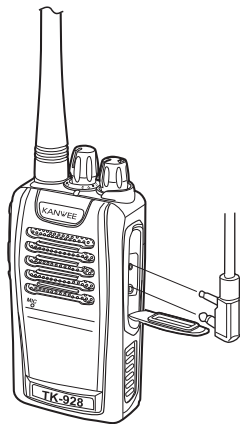
## Installing/Removing Antenna

1. Screw the antenna into the connector on the top of radio by holding the antenna at its base and turning it clockwise until secure.
2. Turn the antenna counter-clockwise until you can remove it.



## Installing external headset

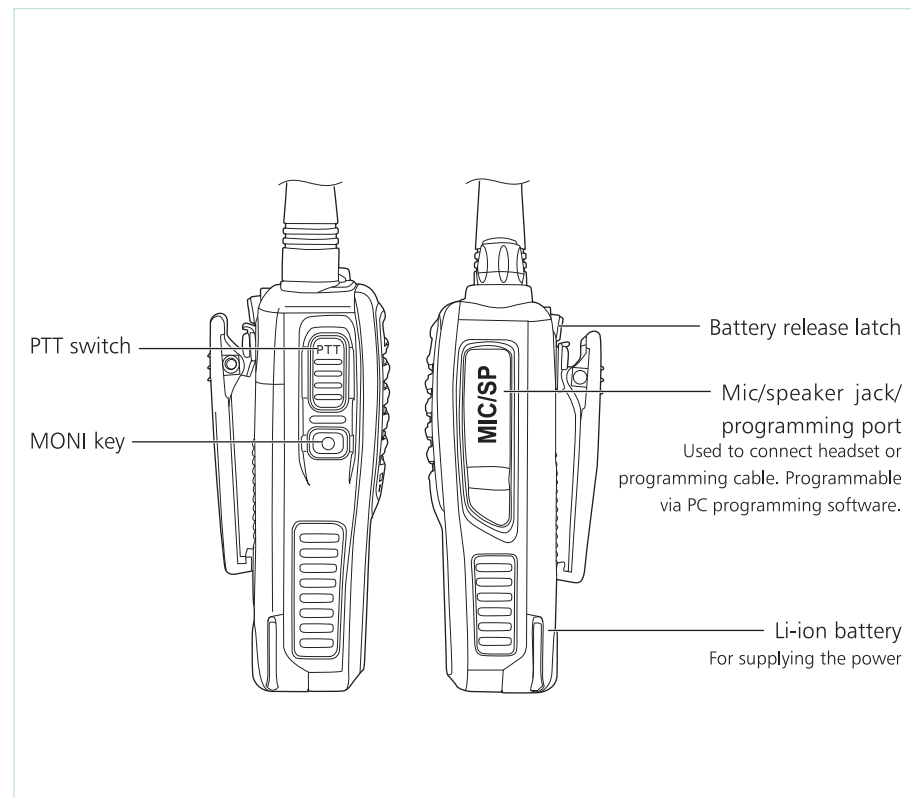
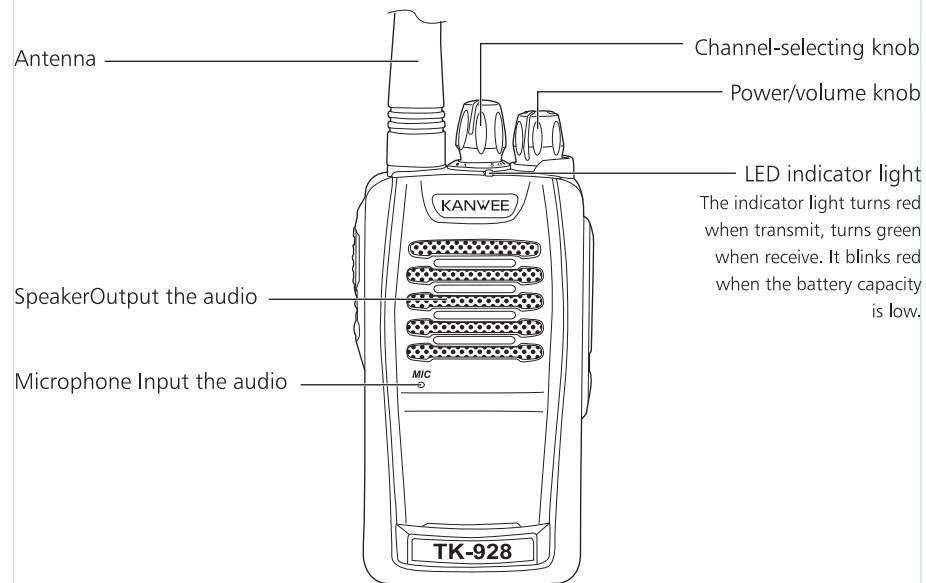
Reveal the mic/speaker jack cover; insert the headset into the mic/speaker jack.



# Getting familiar

Professional two-way radio

## Getting familiar



# Radio illustration

Professional two-way radio

## Radio illustration

### ***Led indicator***

It lights red when transmitting, and lights green when receiving.

### ***Channel-selecting knob***

Rotate it to select channel 1-16, clockwise rotation to increase, counter-clockwise rotation to decrease. An alert tone will sound when an empty channel is selected.

### ***Power/Volume knob***

Rotate it by clockwise to power on the radio. To turn off the radio, rotate it by counter-clockwise until a click sound is heard.

### ***PTT switch***

Press PTT switch and then talk to the microphone, the indicator light turns red, if the channel does not have transmitting frequency, a "Du Du" tone sounds, and indicator light turns red. Release PTT switch to receive. It lights green when there is signal.

### ***Side key assignment***

Side key functions can be assigned via TK928 program software, 5 modes are available.

**Note:** **a.** Off: Side key has no function.

**b.** Temporary monitor: Press the side key which is assigned by temporary monitor function, CTCSS/DCS will be turned off, background noise will be heard. Release it to exit.



- c. High/low power adjustable: Short press the side key, a "Di, Di" tone sounds to enter high power mode, or a "Di" tone sounds to enter low power mode. Long press the side key to enter temporary monitor function, release it to exit.
- d. Emergency alarm call: Press the side key and then release, it enters emergency alarm call mode, the alarm call sounds. Press it and then release again to exit, the alarm call stops. Press PTT switch to transmit emergency alarm, other radios will also sound alarm call when receiving the alarm signal. Long press the side key to enter temporary monitor mode, release it to exit.
- e. Continuous monitor: Define the side key as continuous monitor function, press hold the side key, and then press PTT switch, then release the side key and PTT switch, the radio enters continuous monitor mode. Press the side key again to exit.

### **Squelch level**

The squelch level will determine the signal strength to open the speaker of the radio. If the squelch level is lower, the background noise of opening the radio's speaker will be higher, and the corresponding communication range will be further, but the anti-interference capacity will be weaker.

The default setting of squelch level is 5, you can adjust it through the menu "Squelch level" of the "Optional features" in the software, level 0 to 9 can be selected. 0 is the lowest level.

### **Time out timer (TOT)**

The purpose of TOT is to prevent any radio from talking in one channel for too long, and to prevent the radio from being damaged due to continuous transmission. If the transmitting time exceeds the TOT pre-set time, the radio will stop transmission and an alert tone sounds. Release PTT switch to stop the alert tone, the radio resume to receiving mode.

### **Scan On/Off**

When the radio is set as scannable via software, rotate the channel-selecting knob to any channel, it will start scanning. It will scan all scannable channels from channel 1 to 15. When there is signal in the scanning channel, it stops in the channel for talk.

- Note:**
- a. The radio will stay in the channel which has signal, and 15 seconds after the signal disappears, it will continue scanning.
  - b. It can not scan when there is less than 2 scannable channels.
  - c. In channel 16, press and hold PTT switch and side key to power on the radio, if scanning is on, it will turn off, if scanning is off, it will turn on.

### **Voice prompt on/off**

- Note:**
- a. Voice prompt off, the radio will not announce.
  - b. Voice prompt on, it will prompt when the channel is changed. Chinese or English voice prompt can be selected.
  - c. In channel 10, press and hold PTT switch and side key, if voice prompt is on, it turns off, if voice prompt is off, it turns on.
  - d. In channel 15, press and hold PTT switch and side key, if voice prompt is Chinese, it changes into English, if voice prompt is English, it changes into Chinese.

## **VOX**

You can turn VOX on via program software, VOX level and speech volume can be set before VOX transmission.

**Note:** **a.** VOX function: It works when VOX on.

**b.** VOX level: When the speech volume higher than the pre-determined VOX level, VOX transmission starts. VOX level 1-9 can be selected. When the level is higher/lower, the VOX sensitivity will be higher/lower.

**c.** VOX stops when receiving: Tick it, when there is signal received, VOX transmission will not start even the speech volume is higher than VOX level.

**d.** In channel 1 to 5, press and hold PTT switch and side key to power on, if VOX is on, it will turn off, if VOX is off, it will turn on.

## **Battery save function**

The batter capacity will be saved when this function is turned on via program software.

**Note:** **a.** OFF: the radio does not save battery

**b.** 1:1: battery save ratio is 1:1

**c.** 1:2: battery save ratio is: 1:2

**d.** 1:3: battery save ratio is: 1:3

**e.** 1:4: battery save ratio is: 1:4

## **Beep tone**

**On:** When voice prompt function is on, a beep tone will sound when rotating the channel.

**Off:** When voice prompt function is off, a beep tone will not sound when rotating the channel.

## **Transmitting ban in high/low voltage**

**ON:** When the voltage is too high or too low, the radio can not transmit.

**OFF:** When the voltage is too high or too low, the radio can still transmit.

## **Receiving emergency alarm**

Rotate to channel 11, press and hold PTT switch and side key to power on, if receiving emergency alarm is on, it will turn off, if receiving emergency alarm is off, it turn on.

When receiving emergency alarm is turned off, the radio will not sound alarm tone even when it receives an alarm signal.

## **Battery voltage display**

**Note:** **a.** Voltage too high: If transmitting is prohibited when battery voltage is too high, the radio will not transmit when you press PTT switch or send VOX transmission or alarm call, and the indicator light blinks red. Release PTT switch or stop VOX transmission or alarm call, the indicator light will not blink.

**b.** Indicator light blinks when voltage is too low: When the voltage is lower than the pre-determined value, indicator light blinks red. Transmission is still valid.

**c.** Low voltage alert: When the voltage is lower than the pre-determined value, the indicator light blinks red and a "Di" tone will sound. Transmission is still valid.

- d.** Voltage too low: When the voltage is lower than the pre-determined value, the indicator light blinks red and a "Di" tone will sound. If transmitting is prohibited when battery voltage is too low, the radio will not transmit when you press PTT switch or send VOX transmission or alarm call, and the indicator light blinks orange and a "Di" tone sounds. Release PTT switch or stop VOX transmission or alarm call, the indicator light will not blink and the alert tone stops.

### ***Busy channel lockout (BCL)***

You can turn on/off the BCL function of every channel via program software

**Note:** **a.** If the current channel does not have QT or DQT, when receiving SQ, transmission is prohibited.

- b.** If the current channel has been set QT or DQT, when receiving SQ but no QT or DQT, transmission is not prohibited. When receiving both SQ and QT or DQT, transmission is prohibited.

### ***Scrambler***

You can turn on/off scrambler function in every channel via program software. Scrambler is one of message encryption; it transmits the changed frequency spectrum through cepstrum, and the signal will be restored after being received so as to achieve privacy of your talk.

### ***COMP function***

You can turn on/off COMP function in every channel via program software. Voice companding technique is to compress the transmitted signals, and then expand the signals when they are received, which greatly reduce environmental background noise and improve voice quality.

**OFF:** Do not use compander function; the signals are transmitted directly without compression and expansion.

**ON:** Compander function is used, the signals are transmitted by way of compression and expansion, so as to improve voice quality.

**Note:** This function is only workable when the radio has voice companding technique.

### ***End tone elimination***

It is a way to eliminate the end tone of transmitted signals which have CTCSS/DCS after they are transmitted. It works by reversing sub-audio signal waveforms by receiver after the sub-audio signal is transmitted and the carrier disappears. The specific reversal phase size can be selectable. It can be set via TK-928 program software.

**Note:** **a.** Off: End tone elimination is turned off.

**b.** Way 1: 180° reversal of CTCSS.

**c.** Way 2: 120° reversal of CTCSS.

### ***High/low power selective***

The default setting is high power, you can select "High/low power" through the menu "Power" in the software.

### **Wide/narrow bandwidth selective (25.0KHz/12.5KHz)**

The default setting is wide band, you can select "Wide/narrow" in the "Channel" in the software.

### **Auto whispering function**

Your partners can hear you clearly even when you speak in a low volume.

### **QT/DQT**

You can select the QT/DQT via program software. When a channel has QT/DQT, the speaker will be turned on when it receives the same QT/DQT. If there is transmitted signal with different QT/DQT in the same channel, the speaker will not open and indicator light turns green.

### **QT/DQT charts as follow:**

#### **39 CTCSS frequency cide(Hz)**

67.0	69.3	71.9	74.4	77.0	79.7	82.5	85.4	88.5	91.5
94.8	97.4	100.0	103.5	107.2	110.9	114.8	118.8	123.0	127.3
131.8	136.5	141.3	146.2	151.4	156.7	162.2	167.9	173.8	179.9
186.2	192.8	203.5	210.7	218.1	225.7	233.6	241.8	250.3	

### **83 DCS code 1**

D023N	D025N	D026N	D031N	D032N	D043N	D047N	D051N	D054N	D065N
D071N	D072N	D073N	D074N	D114N	D115N	D116N	D125N	D131N	D132N
D134N	D143N	D152N	D155N	D156N	D162N	D165N	D172N	D174N	D205N
D223N	D226N	D243N	D244N	D245N	D251N	D261N	D263N	D265N	D271N
D306N	D311N	D315N	D331N	D343N	D346N	D351N	D364N	D365N	D371N
D411N	D412N	D413N	D423N	D431N	D432N	D445N	D464N	D465N	D466N
D503N	D506N	D516N	D532N	D546N	D565N	D606N	D612N	D624N	D627N
D631N	D632N	D654N	D662N	D664N	D703N	D712N	D723N	D731N	D732N
D734N	D743N	D754N							

### **83 DCS code 2**

D023I	D025I	D026I	D031I	D032I	D043I	D047I	D051I	D054I	D065I
D071I	D072I	D073I	D074I	D114I	D115I	D116I	D125I	D131I	D132I
D134I	D143I	D152I	D155I	D156I	D162I	D165I	D172I	D174I	D205I
D223I	D226I	D243I	D244I	D245I	D251I	D261I	D263I	D265I	D271I
D306I	D311I	D315I	D331I	D343I	D346I	D351I	D364I	D365I	D371I
D411I	D412I	D413I	D423I	D431I	D432I	D445I	D464I	D465I	D466I
D503I	D506I	D516I	D532I	D546I	D565I	D606I	D612I	D624I	D627I
D631I	D632I	D654I	D662I	D664I	D703I	D712I	D723I	D731I	D732I
D734I	D743I	D754I							

# Optional accessories

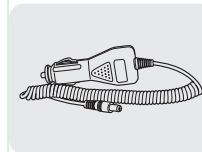
## Specification

## Trouble shooting guide

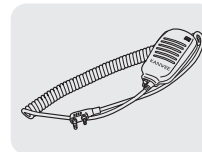
## Maintaining

Professional two-way radio

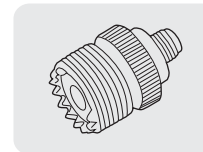
### Optional Accessories



Car Charger



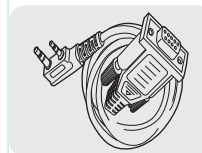
Mic/speaker



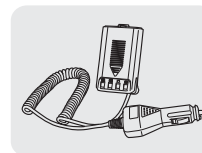
Antenna Adapter



Earphone



Program Cable



Eliminator



Program Software

## Specification

### General

Model	TK-928
Frequency range:	VHF: 136.000-174.000MHz UHF: 400.000-470.000MHz
Frequency stability	$\pm 2.5\text{ppm}$
Operating voltage	DC7.2V (Rechargeable Li-ion battery)
Channel No.	16
Antenna:	High gain antenna
Antenna Impedance	50 $\Omega$
Mode of operation	Simplex or semi-duplex
Dimensions (W x H x D)	120 x 54 x 32mm

### Transmitter

Output power	$\geq 4\text{W (H)} \geq 0.5\text{W (L)}$
Modulation Mode	F3E
Maximum deviation	$< 5\text{KHz}/< 2.5\text{KHz}$
Adjacent Ch Power	$\geq 65\text{dB}/\geq 60\text{dB}$
Spurious Radiation	$\leq 7.5\text{uW}$
Pre-emphasis characteristics	6dB
CTCSS/DCS deviation	$0.5\text{KHz} \pm 0.2\text{KHz}$
Intermediation sensitivity	8-12mV
Intermediation distortion	$< 6\%$

### Receiver

Receiving Sensitivity	-122dBm(12dB SINAD)
Audio power	$> 400\text{mW}$
IAudio Distortion	$\leq 6\%$
Blocking	$\geq 85$
Intermediation	$\geq 60\text{dB} \geq 55\text{dB}$
Selectivity	$\geq 65\text{dB} \geq 60\text{dB}$
Spurious Rejection	$\geq 65\text{dB}$

**Note:** Specification will be revised without notice due to technical improvement. Thank you.

## Trouble shooting guide

<i>Troubles</i>	<i>Solution</i>
No Electrical Source	<ul style="list-style-type: none"> <li>• The battery has been exhausted. Replace or recharge the battery.</li> <li>• The battery is installed incorrectly. Remove it and install again.</li> </ul>
The operating time becomes short, even the battery is fully charged.	<ul style="list-style-type: none"> <li>• Replace the battery.</li> </ul>
Not able to communicate with the transceivers of the same group.	<ul style="list-style-type: none"> <li>• Confirm the QT/DQT is the same.</li> <li>• The distance is outside of range.</li> </ul>
The voice of another group can be heard.	<ul style="list-style-type: none"> <li>• Change all QT/DQT of the group.</li> </ul>
Other radios can not receive the TX signals or receive signals in a low volume.	<ul style="list-style-type: none"> <li>• Switch the volume knob to the highest level</li> <li>• The microphone may be damaged, send it to the local dealer for check.</li> </ul>
Noise is always heard.	<ul style="list-style-type: none"> <li>• The distance is outside of range. Turn on the radio in nearer range and try again.</li> </ul>

## Frequency list

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

Serial No: \_\_\_\_\_

Frequency	TX frequency	TX CTCSS/DCS	RX frequency	RX CTCSS/DCS
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

# KANWEE

## Warranty card

### Note:

1. This warranty card is only applicable to two-way radio of the above-listed model and serial number.
2. The warranty card is an important document for the end-user to enjoy warranty service, please keep it well.
3. The warranty card shall be filled and chopped by the dealer, or it is invalid.

Customer's name: Gender:

Add and postal code:

Customer's Tel:

Model:

Serial number:

Purchasing date:

Invoice No.:

Dealer: Stamp:

Add and postal code of the dealer:

Contact Tel:

Handling people:

Thank you for buying KANWEE two-way radios, we will do our best to provide you with a stable, clear and efficient wireless communication services. In order for you to enjoy a better quality warranty service, please focus on the following information:

The products warranty period begins from the purchasing date, if product failure under normal use within warranty period occurs, according to the contents of this warranty, (the radio is guaranteed for 12 months, accessories 6 months), please carry the warranty card originals and purchase invoice to KANWEE designated authorized warranty repair station for warranty service.

The following situations occur during warranty period will be implemented in paid service:

- (1) Failure to produce the warranty card
- (2) The card has altered traces or inconsistent with the product
- (3) Defect or damage caused by abnormal or non-normal use
- (4) Defect or damage caused by misuse, accident, water or negligence
- (5) Defect or damage caused by improper testing, operation, maintenance, installation, disassembly or adjustment
- (6) Defect or damage caused by unauthorized repair or disassembly
- (7) Defect or damage caused by force majeure
- (8) Wear and tear under normal use

When you are in need of repair, please send the radio, warranty card and purchase invoice together by post or take directly to KANWEE designated authorized service stations, shipping costs should be borne by the user.

### Maintenance record

Carry-in date			
Completion date			
Fault description			
Maintenance staff numbers			
Maintenance personnel No.			
Signature			

This warranty card to be kept by the user, no replenishment if lost