For user

For optimum performance from this product.please read this manual and the supplied Safety Information Booklet carefully before use.

Do not use this radio or charge the battery in an explosive environment, such as gas, dust, smoke, etc.Do not leave the radio in a dusty or wet environment. It is very important for the user to understand all instructions before using the radio

ATTENTION

Please read the following brief instructions, non-compliance with these instructions may cause danger or be unlawful.

1.Obey the government regulation before using this radio, improper operation may violate the law.

2.Do not use in explosive areas.

3.Do not charge or change the battery inexplosive areas.

4.Do not use the radio with a damaged antenna,touching a damaged antenna will cause heat injury.

5.Do not attempt to open the radio: the maintenance work must be done by technical experts only.

6.To avoid troubles caused by electromagnetic interference or electromagnetic compatibility, please turn off the radio in places where signed: Using radio equipment close to electronic equipment can cause it to malfunction.

7.In a car with a safety airbag, do not put the radio within the scope of the airbag.

8.Do not place   the radio under the direct sunlight or very hot locations.

9.When transmittingkeep antenna away from internal body parts.

10. If you smell burning, please switch off radio's power immediately and contact your local supplier.

UNPACKING AND DEVICE CHECKING

Thank you for purchasing the TeKK digital handheld transceiver.

Before using:

1.Please check whether the packing box is damaged..

2.Please unpack packing box carefully,and confirm the following list of items are in the box.If any items are missing or have been damaged during shipment,please contact radio supplier   immediately.

Supplied Accessories

ITEM	QTY
Antenna	1
Li-ion Battery	1
Power Adapter	1
Charger	1
Belt Clip	1
Strap	1
Manual	1

Antenna   Li-ion battery   power adapter

Charger   Belt clip   Strap

Note：
The pictures above are for reference only.

BATTERY INFORMATION

Charging Li-ion Battery

Please charge the battery before using.Charge-discharge cycle two times can make the battery capacity achieve better performance.When the battery power is low,please recharge the battery or replace with a spare battery.
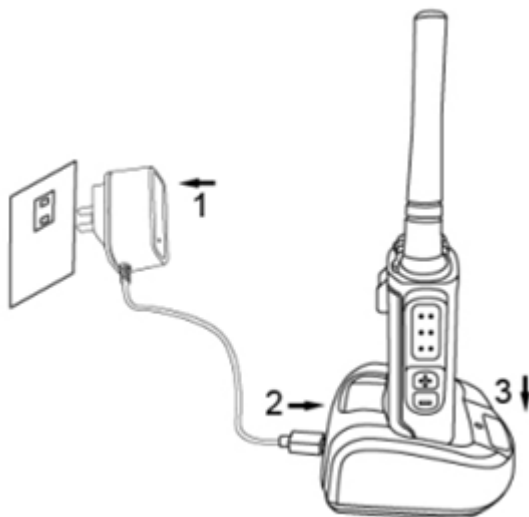
Applicable Battery Type

Please use Liberty designated battery as any other battery may cause explosion.

The procedure of charging:

Use only the designated charger and battery,the LED on charger can indicate the charging stage.

◆ Charge Diagram

◆ Procedures

1.Connect the power adapter to AC socket,"1".

2.Plug the power adapter into the rear jack of the charger,"2".

3.Place the radio with the battery attached,into the charger,"3"

LED Indicator	Status
Red	Charging
Green	Fully charged

Warning:

For safety the lithium battery is not chargedbefore shipment.

①When charging, it is better to turn off the radio..

②Charge battery by desktop charger or USB plug.

③While charging,the indicator light will turn red.

④It needs at least4 to 5 hours to charge the battery fully.Whencharging

is completed,the indicator light will turn green.

◆   If charging the battery for a long time, it will shorten the service life of the
     lithium battery. When the battery is full, please stop charging.
◆   the charger is only for this model radio.
◆   The battery should be placed in a cool, dry place after full charge. Do not expose
     to heat source or exposure to the sun.
◆   You can not transmit while charging.
◆   The battery will heat upwhile charging,this is a normalphenomenon.

CARE AND CLEANING

To guarantee optimal performance as well as a long service life of

the product.please follow the tips below.

Product Care

◆ Do not pierce of scrape the product with any sharp instruments.
◆ Keep the product far away from substances that can corrode the circuit.
◆ Do not hold the product by its antenna or earpiece cable directly.
◆ Attach the accessory jack cover when the product is not in use.

Product Cleaning

◆ Clean up the radio and charger with a clean and dry lint-free cloth.
◆ Use neutral cleanser and a non-woven fabric to clean the keys,control,knobs and front case after long-time use. Do not use chemicals such as stain removers, alcohol,sprays or oil preparations, to avoid surface case damage.Make sure the product is completely dry before use.
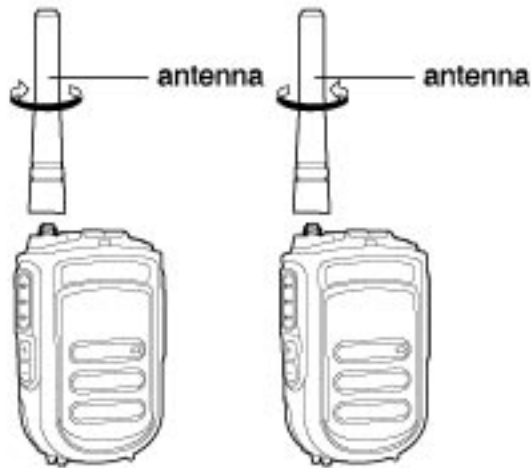
⚠**Caution:** Power off and remove the battery before cleaning.
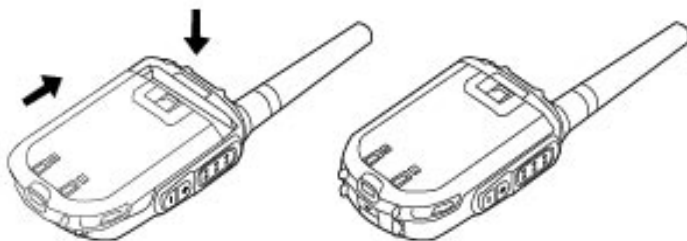
PREPARATION BEFORE USING

Assembling the antenna

Turn the antenna clockwise to fasten it.

Assembling the battery

1.Slide the battery into the radio`s slot.

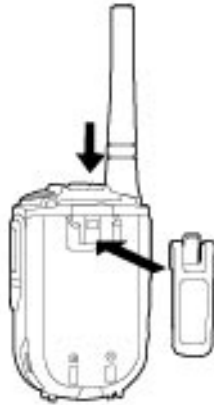2.To remove the battery,turn off the radio.Press release button and slide

the battery latch upward to release the battery.

Install belt clip

Slide the belt clip into the slot until it clicks.

Be familiar with the radio

Schematic diagram of the whole radio

Belt Clip Installation Slot

Charging Contact

USB charger Jack

Channel +

SMA

Power button

Channel Toggle Switch

Channel -

PTT key

Side Key 1(Volume +)

Side Key 2(Volume -)

MIC/SP

Accessory Jack
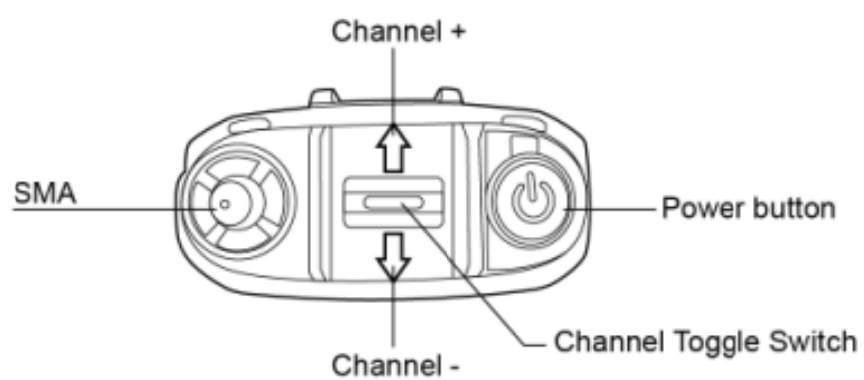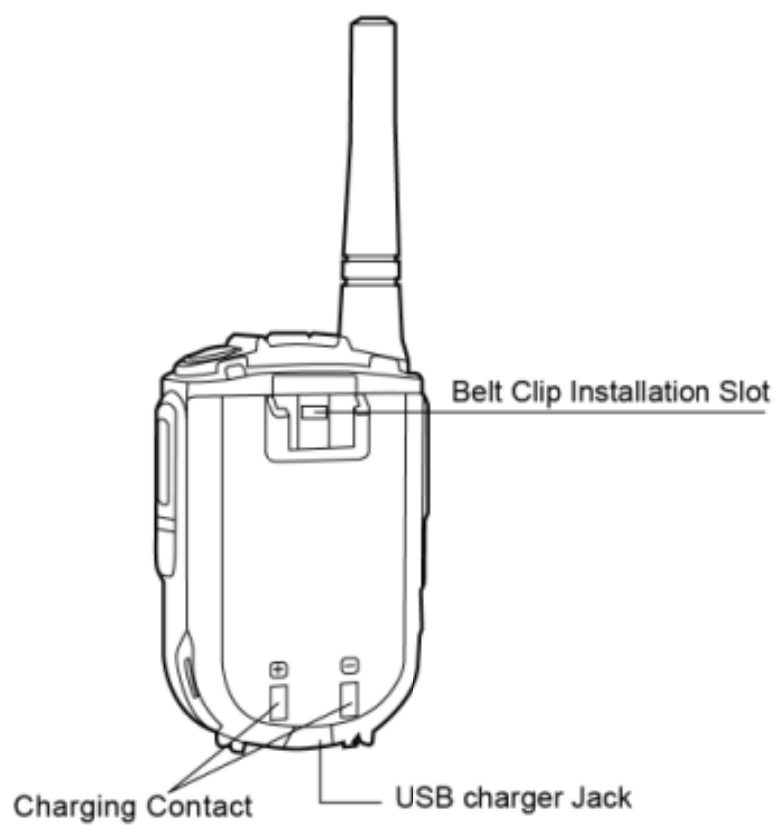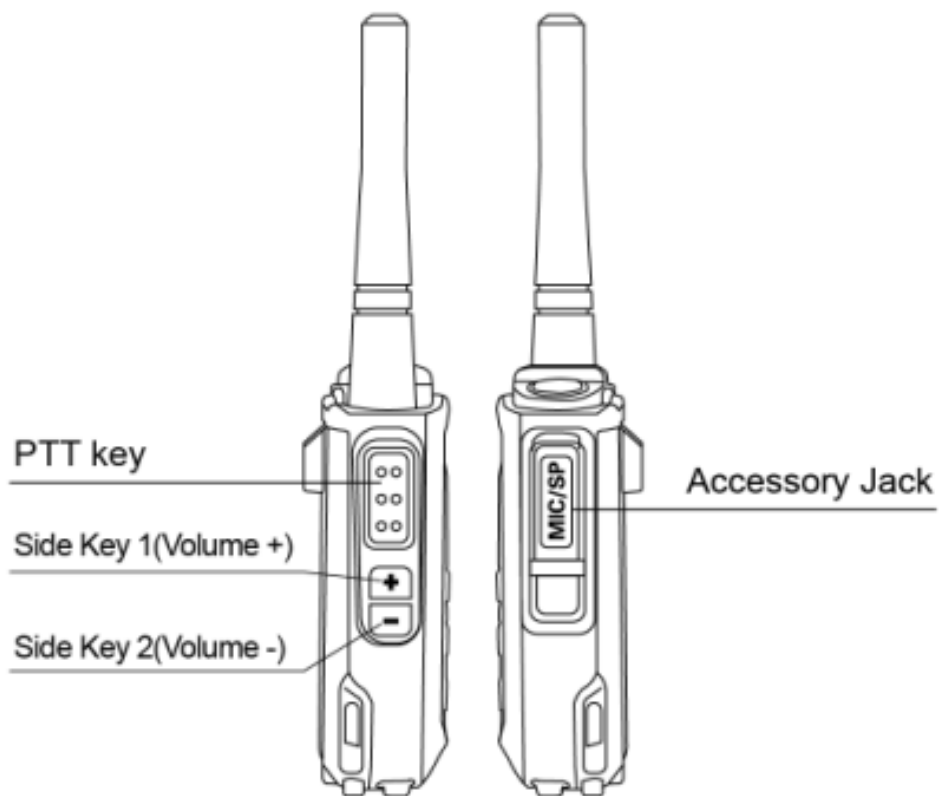
Side key function:

No set ; Volume + ; Volume - ; Analog monitor ; Scan ; VOX ; Repeater/Talkaround ; High/Low power ; Turn on/off screen display.

VOX status

DCS status

Narrow band mode

Digital mode

CTCSS status — CT DCS VOX N DMR SCAN — Scan mode

Channel icon — CH — Battery icon

Volume icon — VOL — Keypad lock

Receiving status icon — BUSY — Numeric display area Channel/ Volume/Battery capacity

1.Receiving status: RSSI
2.Standby/Transmitting status:High and low power switch indicator

ICON DESCRIPTION

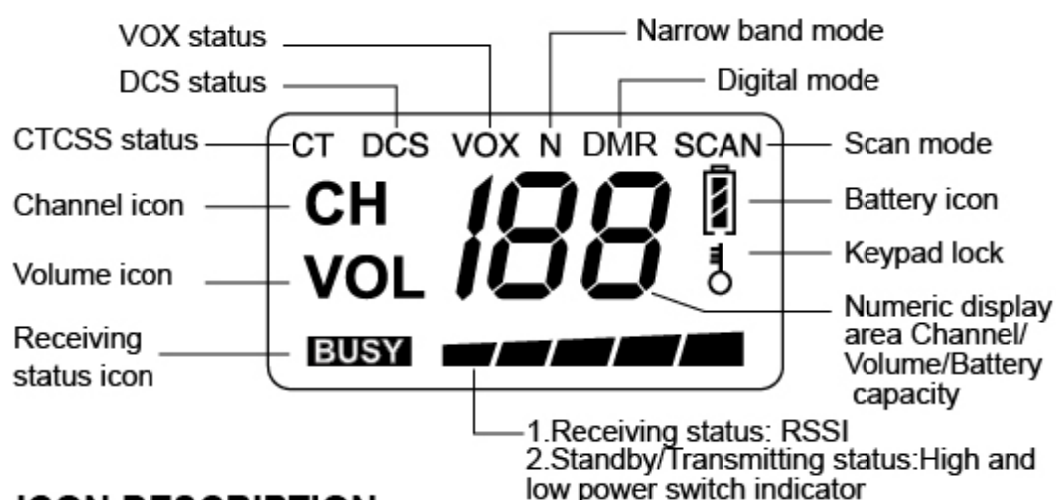| No	ICON	FUNCTION DESCRIPTION
1	CT	CTCSS status
2	DCS	DCS status
3	VOX	To make the radio transmit automatically when you speak.
4	N	Narrow band mode
5	FM	Radio mode
6	SCAN	To listen to communication activities on other channels.
7	CH	Channel
8	VOL	Volume indication
9	188	Channel number
10	BUSY	Busy channel lockout
11	🔋	Battery indication
12	⊸○	Keyboard lock
13	▰▰▰▰▰	Receiving status: Received signal strength Transmitting status:High/Low power indication

BASIC OPERATIONS

Turning the radio on/off

In the shut down status, long press the red power button until a click is heard to turn the radio on/off.

Adjusting thevolume

After the radio is powered on, press [side key 1] to increase the volume, press [side key 2] to decrease the volume, a total of 10 levels to choose,level 0 is turn off the communication voice.

Transmitting / Receiving

To transmit audio signals,press and hold down the [PTT] button,and speak into the microphone.During transmission,the LED glows red.

To receive,just release the [PTT] button.When any audio signal is received,the LED glows green.

Note:

1.To ensure optimal volume of the receiving radio,hold the radio approximately 2.5 to 5 centimeters away from your mouth.
2.Communication range may get affected in rainy days or forest locations.

Monitor(Analog)

This feature allows you to lower the conditions for incoming signal match.

Long press [side key 1] 2 seconds,and than you can monitor the current channel signal, the status of the light is green. It will exit the monitor status after released the [side key 1] .

Selecting a channel

Push up[channel selection key]to choose more lower channel,and push down to choose more higher channel.Or long press down to choose the channel rapidly.

Note:

When the radio is currently on a blank channel,it will sound beep tones continuously.

Keyboard lock

Long press[channel selection key]2 seconds, the device prompts the beep sound and keyboard will be locked, the screen will display " ". At the same time, the device can not switch the channel and adjust the volume. Then press [channel selection key] 2 seconds to unlock keyboard lock.

Scan

This feature allows you to listen to communication activities on other channels so that you can keep a close track of your team members.The scan list can be set by your dealer.

1.In boot status, press [side key 2] 2 seconds to enter channel scan mode, screen displays [SCAN] and voice prompt "scan". While in scanning mode, the device will detect the received signals of each channel, and it will stop scan until the signal is found.

2.When the device is scanned into an active signal, the device will remain on the current channel until the signal disappears.The scan status will be

recovered after signal disappeared 5 seconds.

3.In scan status,press [side key 2] 2 seconds again to exit the scan mode, screen display [SCAN] will disappearwhile voice prompts "scan off".

Note: You can not enter the scan mode until at least 2 active channels have been stored.

Low batteryalert

This features allows you to know the low battery status.When battery power lower than 25 ± 5,the LED will flash red,and the tone "Please charge the battery"will sound periodically.In this case,please replace or charge the battery.

1.When the battery voltage is 0, the device will shutdownautomatically to protect the radio . And limit the user to boot.please replace the new battery or charge the battery.

2.When the operating voltage of the device is higher than 4.5V, the machine will automatically shutdown to protect the radio , and limit the user to boot. Please pay attention to the normal operating voltage range of the equipment: 3.5V ~ 4.2V.

Battery strength indicator

This features allows you to know the current battery strength.

Double press the red power button,it will display the percentage of battery strength.

FUNCTION SETTING(by programming software)

Squelch level settings

This radio provide 0-9 grade level to select, Users need to make reasonable settings according to the actual operation environment.The higher the grade is, the higher the strength of the communication signal need.Please do not set arbitrarily , so as not to affect the effective communication distance.

Note:

0 level is equal to close the squelch level setting, device will always open the receiving channel.The factory setting is level 5.

Transmit power level settings

Equipment provide high/low power for user to choose, please select and set according to the actual using environment.

Voice reporting number settings

This radio provide Chinese/English and no number reporting,please select and set according to the actual using environment.

Time-outtimer (TOT)

The purpose of TOT is to prevent any user from occupying a channel for an extended period.This function will limit the transmit time,when it exceed setting time,radio will stop transmit and keep beeping.To stop beeping,You can Press [PTT] again to resume the transmit status.This radio provide 15-600 seconds for user reference in analog channel.And

provide 30-270 seconds in digital channel.

Programming procedure:

"Channel"→"More"→"TX Setting "→"Time-out timer(s)"

Transmit authority settings

When the current channel is in a receive state, if the launch permission

function is set, the device will limit the transmitting operation according

to the set trigger condition,mean while if user press [PTT] key,radio will

prompt a alarm then back to receive state.

Programming procedure:

"Channel"→"More"→"TX Setting "→"Tx authority"→"Admit

criteria/Channel free"

Note:

In digital channel,"In call criteria" settings will determine whether to activate emission limits.

Battery save

In standby mode,when no signal is received/transmitted or no operation

(key press) is performed for 10 seconds(can programming by

software),the radio will automatically enter battery save mode to reduce

power consumption.The radio may exit the battery save mode and get

activated as soon as any key is pressed or any signal is received.

Users can turn on/off the battery save function by software. Specific

start up time and power saving mode, please select according to the

specific use environment.

Suggestion: it is recommended to turn on the power-saving function,

and the power-saving mode is best within the "1:2"! If you set up too higher will resulting in delay the call, but can reduce the standby power consumption. Please select according to the specific use environment.

VOX settings

This feature allows you to transmit your voice with no need to press the [PTT].However,you must employ a dedicated earpiece to realize the function.

1.User can turn on/off the VOX function by program software.User also can set the side key function into " VOX",then you can turn on the VOX by press side key.After turn on this function,the screen will display "VOX".

2.It has 9 levels for users to choose,among them, level 1 is the highest sensitivity, level 9 is the lowest.If you turn on VOX function,please turn off the launch end prompt if without use external headset.

Screen display and settings

Display function can be turned on/off by program software.The screen display time can be set by program software.User also can set the side key function into "Display",then you can turn on/off the screen display by press side key.After exceed the setting time, the screen display will turn off automatically.

Read/Write frequency password settings

The device has read and write frequency encryption settings. When the option is opened, please keep the password in mind Otherwise, if you forget the password, you will not be able to communicate with the device by programming software!

The initial password for the software is: 000000. Users can change into any valid password which are containing 6 digits.

Digital relay function settings

This setting will valid when the digital channel`s TX/RX frequency is different.

Users can set the frequency of repeater by press "Channel"→"More",then making tick at "relay" to turn on relay function.You can also customize the side key function for quick operation.

After turn on the relay function,can set the number of repeated transmissions when the device is accessing the relay by press "Basic Setting"→"Setting"→"Relay Retransmission".The recommended value is not less than 5 times, and the user can adjust the settings according to the use environment.

Note:This device supports digital channel which is not require access to the repeater then can be realized in one channel with different frequency under the condition of direct call. If the user is in different state,if not open "relay" function, the equipment will continue to maintain a

normal digital communication mode.

Digital communication function settings

1.Contacts

The device provides 64 digital contact to setting.

When adding a contact person, the software will configure an ID to the user by default. The user can also define the ID number of the current contact person within the range of 0-16776415. The ID number of this contact corresponds to the ID number of the device you want to call, and the machine ID number is set in "Basic Setting"→"Setting"→"Serial No."→"Machine number".

The "call type" determines the call mode of the current contact, and the device provides three options: "group call", "single call" and "all call". The user can set according to the specific situation. In "all call" mode, the ID will be set by the device, the user does not need to define their own.

In the digital channel,Press"more"→"Contacts No.",can set the corresponding call. If you set the "contacts No." to: "none", the device will not be able to transmit signal.

2.RX Group Lists

The device supports up to 32 contact lists, and the user can uses the right mouse button to click the "RX Group Lists" menu for editing.

3.Digital channel communication encryption function

The device provides 10 groups with a length of 10 hexadecimal (0 ~ f)

password set. Do not set the password too close, at least to ensure that more than five characters are different.

In the digital channel,Press"more"→"Encryption"can select whether to activate, and the specific "Encryption Key No." In the case of activation, only the password is consistent, the device can receive the signal normally.

QT and DQT selective

This device provide QT*39 and DQT*83 for user reference.Please setting by program software.

QT code

1	62.5Hz	11	91.5Hz	21	127.3Hz	31	167.9Hz	41	199.5Hz	51	254.1Hz
2	67.0Hz	12	94.8Hz	22	131.8Hz	32	171.3Hz	42	203.5Hz		
3	69.3Hz	13	97.4Hz	23	136.5Hz	33	173.8Hz	43	206.5Hz		
4	71.9Hz	14	100.0Hz	24	141.3Hz	34	177.3Hz	44	210.7Hz		
5	74.4Hz	15	103.5Hz	25	146.2Hz	35	179.9Hz	45	218.1Hz		
6	77.0Hz	16	107.2Hz	26	151.4Hz	36	183.5Hz	46	225.7Hz		
7	79.7Hz	17	110.9Hz	27	156.7Hz	37	186.2Hz	47	229.1Hz		
8	82.5Hz	18	114.8Hz	28	159.8Hz	38	189.9Hz	48	233.6Hz		
9	85.4Hz	19	118.8Hz	29	162.2Hz	39	192.8Hz	49	241.8Hz		
10	88.5Hz	20	123.0Hz	30	165.5Hz	40	196.6Hz	50	250.3Hz		

DQT code

1	D023N	**17**	D116N	**33**	D243N	**49**	D365N	**65**	D546N	**81**	D734N
2	D025N	**18**	D125N	**34**	D244N	**50**	D371N	**66**	D565N	**82**	D743N
3	D026N	**19**	D131N	**35**	D245N	**51**	D411N	**67**	D606N	**83**	D754N
4	D031N	**20**	D132N	**36**	D251N	**52**	D412N	**68**	D612N		
5	D032N	**21**	D134N	**37**	D261N	**53**	D413N	**69**	D624N		
6	D043N	**22**	D143N	**38**	D263N	**54**	D423N	**70**	D627N		
7	D047N	**23**	D152N	**39**	D265N	**55**	D431N	**71**	D631N		
8	D051N	**24**	D155N	**40**	D271N	**56**	D432N	**72**	D632N		
9	D054N	**25**	D156N	**41**	D306N	**57**	D445N	**73**	D654N		
10	D065N	**26**	D162N	**42**	D311N	**58**	D464N	**74**	D662N		
11	D071N	**27**	D165N	**43**	D315N	**59**	D465N	**75**	D664N		
12	D072N	**28**	D172N	**44**	D331N	**60**	D466N	**76**	D703N		
13	D073N	**29**	D174N	**45**	D343N	**61**	D503N	**77**	D712N		
14	D074N	**30**	D205N	**46**	D346N	**62**	D506N	**78**	D723N		
15	D114N	**31**	D223N	**47**	D351N	**63**	D516N	**79**	D731N		
16	D115N	**32**	D226N	**48**	D364N	**64**	D532N	**80**	D732N		

Troubleshooting

Phenomena	Analysis	Solution
The radio can not be powered on.	The battery may be improperly installed.	Remove the battery and attach it again.
	The battery may suffer from poor contact caused by dirtied or damaged battery contacts.	Clean the battery contacts.If the problem can not be solved,contact your dealer or our authorized service center for inspection and repair.
	The battery may run out.	Recharge or replace the battery.
During receiving signals,the voice is weak,discontinuous or totally inactive.	The battery strength may too low.	Recharge or replace the battery.
	The volume may be set to a low lever.	Increase the volume by press the [+] button.
	The antenna may get loose or may be improperly installed.	Power off the radio,re-install the antenna and power on the radio again.
	The speaker may be blocked or damaged.	Clean surface of the speaker.If the problem can not be solved,contact your dealer or our authorized service center for inspection and repair.
You can not communicate with other members.	The frequency or signaling may be inconsistent with that of other members.	Set your TX/RX frequency and signaling to the same as that of other members.
	You may be too far away from the group members.	Move towards other members.And make sure that you are within the communication range.

Irrelevant communication activities or noises are heard on the channel.	You may be interrupted by radios using the same frequency.	Change the frequency,or adjust the squelch level.
	The radio may set with no signaling.	Set signaling for all member radios to avoid interference at the same frequency.
The noise is too loud.	You may be too far away from other members.	Move towards other members.And make sure that you are within the communication range.
	You may be at an unfavorable position.For example,your communication may be blocked by high buildings or frustrated in the underground areas.	Move to an open and flat area,and restart the radio.
	You may suffer from external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.

Note:

If the above solutions can not fix your problems,or you may have some

other queries,please contact us or your local dealer for more technical

support.

TECHNICAL SPECIFICATIONS

GENERAL

Frequency range	136-174 MHz
Channel capacity	128 channel (Share by digital and analog mode)
Working voltage	DC 3.7V
Antenna impedance	50Ω
Frequency Stability	±2.5ppm
Working current of whole machine	TX: ≤ 1.4A Low power：0.7A RX：≤ 0.7A Standby: ≤ 0.1A
Working mode	The same frequency simplex /Different frequency simplex
Battery Capacity	1500mAh
Working temperature	-30~+60℃
Weight	155g (not contain antenna&belt clip)
Dimension(L*W*H)	90mm*61mm*30mm (not contain antenna&belt clip)

Transmitter

Output power	Rated high power:2.0W Rated low power:0. 5W
Modulation mode	Digital:4FSK Analog :FM
Modulation error rate	≤ 5%
Modulation deviation	≤ 2.5KHz（N）
Spurious radiation	≤ 7.5uW
Adjacent channel power	≤ -60dB（N）

Receiver

Analog RF sensitivity(12dB SINAD)	≤ 0.25uV/12.5KHz
Digital RF sensitivity	0.22uV（BER 5%）
Audio distortion	≤ 10%
Audio power	1W
Clutter suppression	≥ 65dB

Note:The above parameters are subject to change without prior notice!

Guarantee

Model Number:

Serial Number:

Purchase Date:

Dealer: Telephone:

User`s Name: Telephone:

Address: Post Code:

Remarks:

1.This guarantee card to be kept by user,we will not re offer if lost.

2.This guarantee card should be filled by dealer,otherwise it`s invalid.

3.Do not alter the guarantee card,please confirm that the serial number on the guarantee card is the same with radio.

4.One-year guarantee for radio,half a year guarantee for accessory.

5.Users can get maintenance service from following ways:

- Go to the shop where you bought the radio

- Find our local maintenance agent

- Send back to our company

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

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.

RF Exposure Compliance and Control Guidelines and Operating Instructions

To control your exposure and ensure compliance with the occupational/controlled environment exposure limits always adhere to the following procedures.

Guidelines:

Do not remove the RF Exposure Label from the device.

User awareness instructions should accompany device when transferred to other users.

Do not use this device if the operational requirements described herein are not met.

To control your exposure to RF and comply with the maximum exposure limits for occupational/controlled environments, follow these guidelines:

■ Do not talk (transmit) on the radio more than the rated transmit duty cycle. This is important because the radio radiates more energy when it is transmitting than when it is receiving.

■ When listening and talking on the radio, hold it upright in front of your face so that it is at least one inch (2.5 cm) away from any part of your face. Keeping the radio at the recommended distance is important because exposure to RF decreases rapidly the further away the antenna is from your body.

■ If you wear your radio, you must always put it in a carrying accessory carry accessory that has been specifically approved by Tait for this radio. Using non-approved body-worn accessories may mean you expose yourself to higher levels of RF than recommended by the FCC's occupational/controlled environment RF exposure limits.

■ Ensure you only use TEKK-approved antennas, batteries,and accessories.

This radio complies with the IEEE and ICNIRP exposure limits for occupational/ controlled RF exposure environments at operating duty factors of up to 50% talk to 50% listen.