

SHENZHEN SAMHOO SCI & TECH CO.,LTD.

**Samhoo**<sup>®</sup> 森虎科技

**SPH6000 SERIES  
OWNER'S MANUAL**

**Digital Portable Radio**

[www.samhoo-pmr.com](http://www.samhoo-pmr.com)



## **Preface**



Thanks for your favor in our product. To derive optimum performance from the product, please read this manual carefully before using it.

This manual applies to the following models of SPH6000 series:  
SPH6050,SPH6040,SPH6035,SPH6015 and other digital trunking portable products.

## Instructional Icon

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The following icons are available through this manual:

-  Caution: Indicates situations that could cause damage to your radio.
-  Note: Indicates tips that can help you make better use of your radio.
- \* Asterisk: Indicates the currently restricted function.

## Term Explanation

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### Key operation

Short press: To press the key and release it quickly;

Long press: To press the key and remain holding it down about a period of 1.5 seconds;

Hold down: To press the key and remain holding it down.

### Private call

Private call is initiated by a single user to another user, involving the calling party and the called party only.

### Group call

Group call is initiated by a single user to a group, involving the calling party and all the group members.

### Emergency call

Emergency call is the highest priority call. It is used to call for help to the companion or the control center in an emergency situation. The general set is group call form. If initiating an emergency call, any non emergency calls can be interrupted.

### Conventional mode

Under conventional mode, Simplex communication can be carried out directly between the terminals without network limitation. But user cannot use the functions that need network support.

### Trunking mode

Under trunking mode, terminals communicate through network. Users can use the functions that need network support. If need to operate under trunking mode, you must register in the network operator first to obtain permission from the service provider and the terminal must be in the range of network coverage.

## Copyright Information

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## Disclaimer

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# RF Energy Exposure Compliance

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## Safety of radio frequency radiation

In order to ensure the users' physical and mental health, the experts and related organization from science, engineering, medicine, health, and industry jointly make the standards and guidelines of radio frequency radiation. As follows:

- United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95.1-1992
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-1999 Edition
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998

## The supervision requirements of Federal Communications Commission

According to the supervision requirements of Federal Communications Commission, this product must comply with radio frequency radiation limits of the Federal Communications Commission, otherwise, it is not allowed to sell on American market. The Manufacturers are required to inform the user of the matters needing attention by the way of posting label on the product, in order to improve the awareness of radiation protection.

## Control and operation of radio frequency radiation

In order to derive the optimum performance of the radio and ensure the compliance with the standards of relevant traditional limit requirements, the sending time shall not exceed 50% of the rated factor, and it needs to comply with the following instructions:

- Generate the RF energy radiation only in transmitting (talk). Reception (listening) and standby both won't generate.
- The distance between the terminal and body must be maintained at least 2.5 centimeters when transmitting.

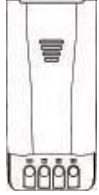



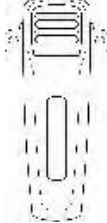




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# Checking Items in the Package


Please unpack carefully and check that all items listed below are received. If any item is missing or damaged, please contact your dealer.

		
<p>Battery(B00207400)</p>	<p>Charger(DC100000)</p>	<p>Power adapter(EN:AS100100)</p>
		
<p>Antenna 400-470MHZ:(ANT604004350100) 350-400MHZ:(ANT603503600100)</p>	<p>Belt clip(SBC00)</p>	<p>Strap(SR000)</p>
		
<p>Radio unit</p>	<p>Owner's manual</p>	<p>Quick reference guide</p>

 Note: The antenna may vary with different frequency bands. And the frequency band is marked on the label of antenna; if not, please refer to the label on the radio unit for frequency band information.

## Optional accessories

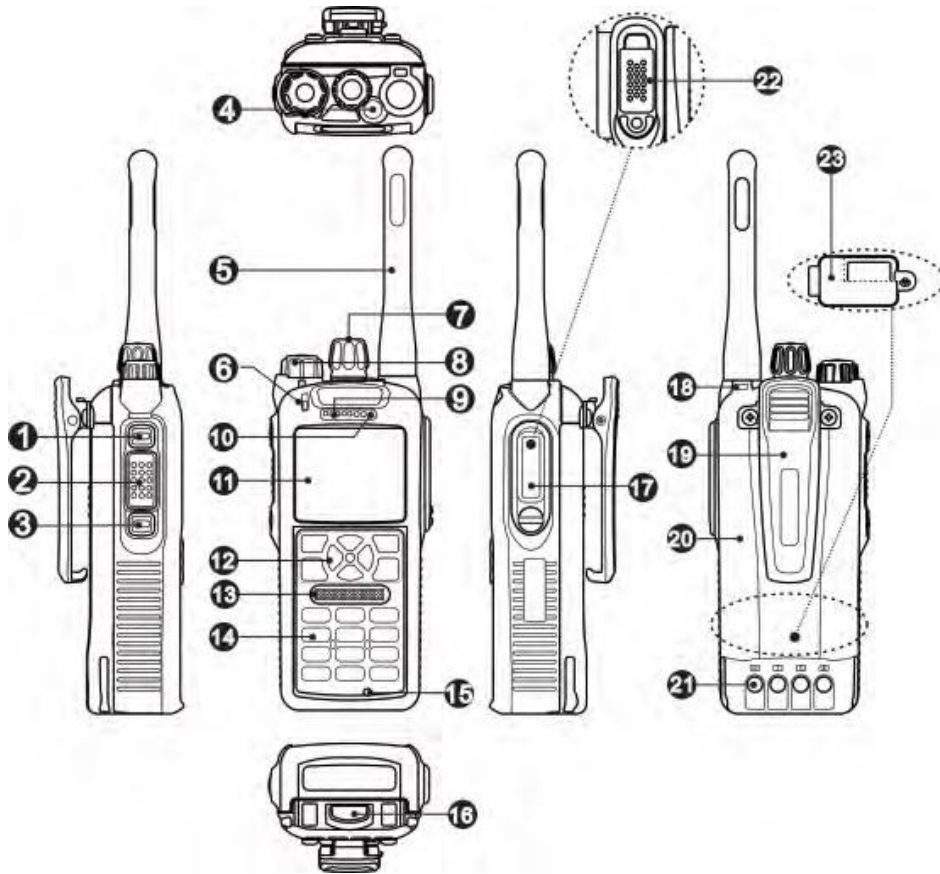
		
<p>Leather carrying(SLCB100)</p>	<p>Programming cable(SPC00)</p>	<p>Programming software kit(cable+disk) (SPC01)</p>
		
<p>C-Earset with on-mic PTT(EH0100)</p>	<p>Earpiece with on-mic PTT &amp; transparent acoustic tube ( EA0100 )</p>	<p>Earbud with on-mic PTT(ES0100)</p>

 Note: If you need to know more information about the optional accessories, please contact us.



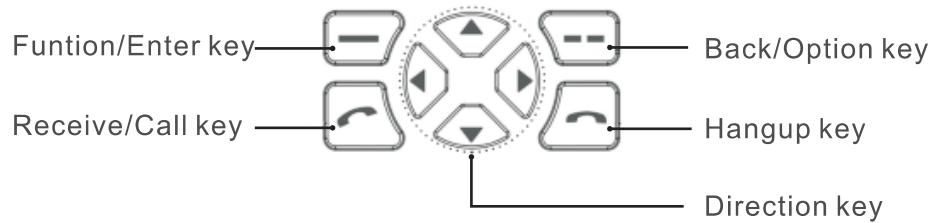
# Product Overview

## Product controls




NO.	Part Name	NO.	Part Name
1	P1 Key (hot key)	2	PTT Key(transmit key)
3	P2 Key (hot key)	4	Emergency Call Key
5	Antenna	6	LED Indicator
7	Channel Knob	8	Radio On-Off/Volume Knob
9	Earpiece	10	Simplex Microphone
11	LCD Display	12	Function Keypad
13	Speaker	14	Numeric Keypad
15	Duplex Microphone	16	Battery Latch
17	Accessory Jack Cover	18	Strap Hole
19	Belt Clip	20	Battery
21	Battery Pole Piece	22	Accessory Jack
23	Micro SD Encryption Card Cover		

## Function keypad



## Programmable keys

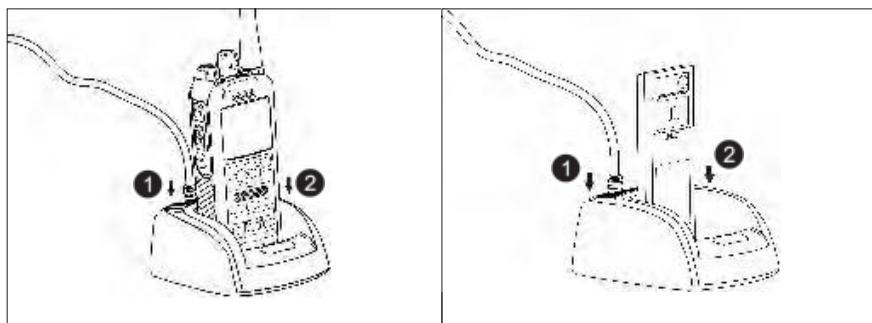
[P1] key, [P2] key, four direction keys,  key, can be set as function or menu shortcut keys by your dealer. The default state of [P1] and [P2] shortcuts are for high-low power switching. You only need to press the corresponding shortcut key to quickly access the needed menu or function.

# Before Use

## Charging the battery

### ■ Charging operation steps

Use only the charger and battery specified by Samhoo.  
Charger LED can indicate the charging progress.



- 1.As ❶ shown,Connect the power adapter to AC power socket and the jack at the back of the charger.
- 2.As ❷ shown,insert battery or radio with battery in the charger, and make sure the good contact between battery and charger terminals.
- 3.The charging process initiates when LED glows red.
- 4.LED turns green, indicating that charging is complete.

The standard 2000 mAh battery charging normally takes about 3 hours, for optimal battery performance, the first charging time should be up to 5 hours.

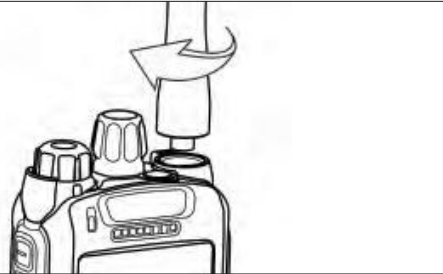
### ■ Charger LED indicator and charging status

LED indication	Charging status
LED flashes red slowly	Standby(no load)
LED glows red	Charging
LED glows orange	Fully charged $\geq$ 85%
LED glows green	Fully charged
LED flashes red rapidly	Error

# Assembly and Disassembly

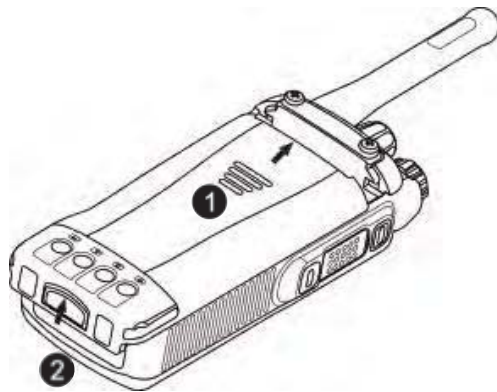
## Attaching the antenna


1. Turn the antenna clockwise to fasten it.  
Note: To remove the antenna, rotate it counter-clockwise.



## Attaching the battery

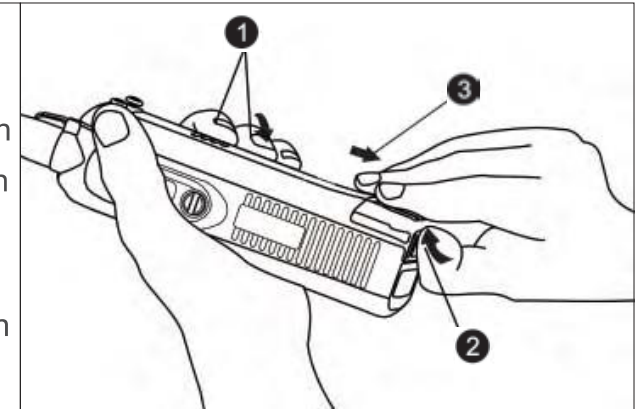
1. Flatwise put the battery into the radio, as ① shown, horizontally push to the top along the aluminum slot.  
2. As ② shown, push up the battery latch forward until a click is heard.



 Note: If the battery is not fastened and still loose, please remove the battery and reinstall.

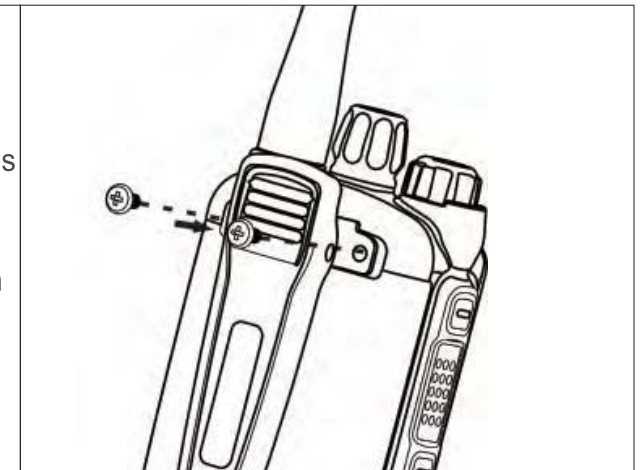
## Removing the battery

1. As ① shown, hold the radio like this.  
2. As ② shown, push up the battery latch with another hand.  
3. Yank the battery as ③ arrow direction shown.



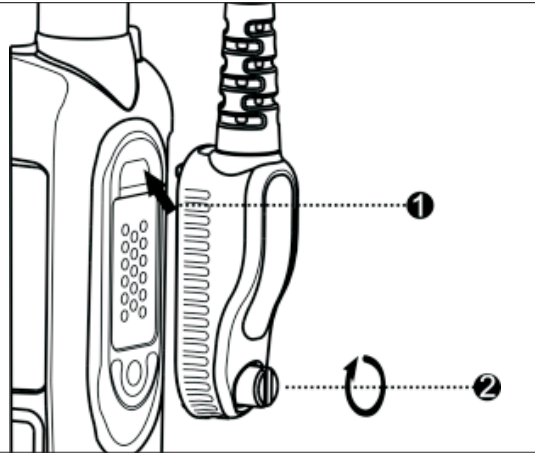
## Attaching the belt clip

1. Rotate the screws counter-clockwise to remove it;  
2. Align the screw holes on the belt clip with those on the radio's body, and then tighten the screws clockwise.  
Note: To remove the belt clip, loosen the screws.



## Attaching audio accessory/programming cable

1. Open the accessory jack cover. As ① shown, align the plug with the accessory jack, then latch on.
  2. As ② shown, tighten the screw clockwise on the plug.
- Note: To remove accessories, loosen the screw counter-clockwise.



## Status Indicators

### LCD icons

LCD screen can display radio status, text items and menu items. The following are the icons displayed in standby interface.

Icon name	Icon	Radio status
Battery strength icons		Low battery power
		More bars indicate more battery power
RSSI		No signal
		More bars indicate better signal strength
Message icons		New message/unread message
		Inbox is full
Operation mode icons		TMO mode
		DMO mode
		Analog mode
Power icons		Transmit with lower power
		Transmit with middle power
		Transmit with high power
Profiles icons		Silent
		Ring
		Vibrate
		Custom

# Basic Operations

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## Turning on/off the radio

Rotate the Radio On-Off/Volume knob clockwise / counter-clockwise until a click is heard to turn on/off the radio.





## Adjusting the volume

After turning the radio on, rotate the Radio On-Off / Volume knob clockwise to increase the volume or counter-clockwise to decrease the volume.

## Selecting a channel




Rotate the Channel Knob to select a desired channel.

## Locking/Unlocking the keypad

Quickly press  key and  key to lock, and quickly press  key and  key to unlock the keypad. When the keypad is locked, you can still answer or reply the call. After the call, keypad will be locked automatically.

## Mode switch

[Option] -> Radio Modo , select DMO mode & TMO mode.

Icon name	Icon	Radio status
Audio accessories icons		Audio accessory is connected
Call status icon		On the phone
Group selection icon		Select talk group

## LED indicator

The top LED indicator will help you easily identify current radio status.

Radio status	LED indicator
Transmitting the call	LED glows red
Receiving the call	LED glows green
Phone call	LED glows red on both sides
Channel is idle	LED flashes green slowly
Channel is busy	LED glows orange

# Call

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## Private call

### ■ Transmitting a private call

1. Input contact number using Numeric Keypad or enter menu “Phonebook” “call log” to select desired contact.
2. Hold down 【PTT】 key to transmit a simplex Call to the selected contact.


### ■ Receiving or replying a private call

1. When the 【PTT】 key is in the state of release, you can receive the call without any key operation.
2. After the speech of the other side, you can hold down 【PTT】 key to reply.

## Group call

Talk group can be set by dealer in advance the operation methods are the same under DMO mode and TMO mode.

### ■ Transmitting a group call

1. In standby interface, select the desired talk group through Channel Knob.
2. Press  key to decide the talk group.
3. Hold down 【PTT】 key to transmit a group call.



### ■ Receiving and replying a group call

You can receive the group call without any key operation. If reply is needed, please hold down 【PTT】 key after the speech of the other side and then speak to microphone.



## Phone call (only TMO mode)\*

This radio can be used to dial a telephone number. Detailed information and the availability, please contact your service provider.

### ■ Transmitting a phone call

1. In TMO mode, Press  key to enter “Phonebook”, choose the contact number. The contact number by the distributor through software written.
2. Select “Ctype” to select number type as “PABX” or “Phone” (displayed on the LCD screen).
3. Press  key to transmit a phone call.

### ■ Receiving a phone call


In TMO mode, pressing  key can receive a phone call. The call parties can speech at the same time without any key operation. To reject a call or hang up the phone, please press  key.


#### Note:


1. The gateway number must be set through CPS. The details please contact network operator.
2. “ \* ” Indicates the function is not supported temporarily.

## Emergency call

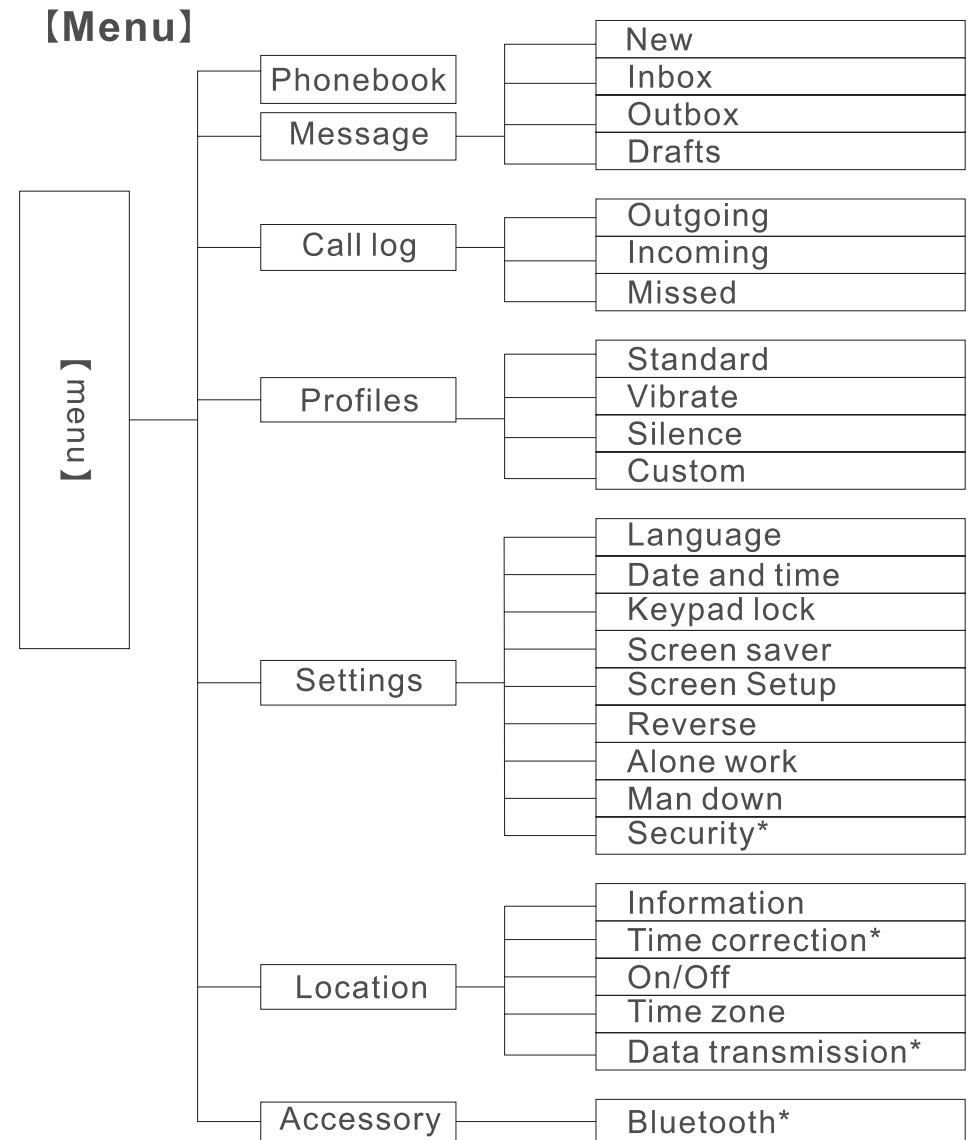
Both DMO mode and TMO mode can support emergency call and operate in the same way:

Long press **【Emergency call】** key to transmit a emergency call; To quit the emergency call, please press  key.

 Note: When transmitting a duplex call, please speak to the duplex microphone; when transmitting a simplex call, please speak to the simplex microphone.


 Note: In poweroff mode, you can long press emergency call to turn on the radio and initiate an emergency call.

## Menu Navigation





## Phonebook

The contact is used to save contact information, You can save up to 500 entries in the list. Each information includes the name and the corresponding number. In standby mode, press  “function-> phonebook” to enter contact list. Here you can perform the following operations:

- Add a contact
- View the contact information
- Modify the contact information
- Delete a contact information
- Delete all the contact information
- Check the capacity of telephone book
- Find a contact (by name)
- Call

You can transmit a simplex call to a contact in the phonebook:

1. Select a contact in contact list.
2. Hold down **[PTT]** key to transmit a simplex to the selected contact.

## Message

### ■ New




#### 1. Status message

“Status message” is set by dealer in advance, you can only send and read the message, but can not edit it.

#### 2. User message

When writing new message, each message length up to 110 bytes, The recipient can be individual or group.

### ■ Inbox

The Inbox can save up to 50 received messages. After receiving new messages, the  icon and the number of new SMS will be displayed on status bar. Select “Read” to view it immediately or press  button to view it later. If the unread message in inbox is full,  icon will be displayed on status bar. At this point you need to clean up inbox in time in order to continue to receive other messages. For each message, you can choose to perform any of these operations:

Reply: Reply to the sender.

Delete: Delete this message.

Delete all: Delete all the received messages.

Forward to the individual: Forward this message to other user.

Forward to group: Forward this message to a group.

Extract number: Extract the number contained in this message.

Call: Transmit a call to the sender.

### ■ Outbox

The outbox can save up to 20 sent messages. For each message, you can choose to perform any of these operations: delete, delete all, forward to individual, forward to group, edit, extract number, call.

## ■ Drafts

The draft box can save up to 10 draft messages. For each message, you can choose to perform any of these operations: delete, delete all, forward to individual, forward to group, edit.

## Call log

This radio can save up to 20 entries in the outgoing list, incoming list and missed list respectively. When there is a new missed call, corresponding tips will appear on the screen.

Selecting an entry, you can perform any of these operations: call, check, save, delete, delete all.

## Settings

### ■ Date and time

You can set the date, time through this option, the methods of operation are as follows:

Press left/right direction key to select the setting item and input desired number using numeric keypad.

### ■ Keypad lock



You can set whether to enable this function. When “ Enable ” is selected, after the setting time written by CPS, keypad will be locked automatically.

### ■ Screen saver

You can set whether to enable this function. When “Enable” is selected, after the setting time written by CPS the screen saver will start automatically(Notice:press any key will clear the screen saver timer.)

### ■ Screen setup

Brightness




To set the display brightness. You can increase or decrease it, using the  key or  key.

Backlight timeout

Turn on/off keypad light. You can set the turn-on time by CPS.

### ■ Inversion of the screen

When you enable this function, the content displayed on the screen can be rotated 180 degrees. It is more convenient for you to browse the information on the screen.

 Note: After inversion, the function of  key and  key interchange.

### ■ Language

You can switch between different languages through this option. At the moment, this radio only supports two languages: Simplified Chinese and English.

## ■ Man down

Enable this function, when the radio down, it will automatically send alarm information to the setting object and issue a shrill alarm sound. This function provides powerful personal security for the user. Tilt Angle can be set by CPS.

## ■ Alone work

Enable this function, when there are no any key operation within the setting time, it will issue a warning tone. If still no any key operation after several times of warning, it will automatically send alarm information to the setting object and issue a shrill alarm sound. This function provides powerful personal security for the user.

## ■ Security\*

### PIN code protection

To open or close this function must input PIN code. If the error times of PIN code input reaches preseted number, the radio will be locked. At this point, you need to select “Unlock” and input PUK code to unlock. After input correct PUK code, enter the new PIN input interface to set a new PIN or press “Back” key to return the PUK code to default values. If the error times of PUK code input reaches preseted number, the radio will be temporarily disabled

and will give the tips of “this radio is invalid” and then turn off automatically.

- 📌 Note: The error times of PIN code and PUK code can be set through CPS. If the radio is disabled, please contact dealer to activate it. The initial PIN code is 1234 and the default PUK code 12345678.

### PIN code modification

Change the PIN code through the menu, before updating PIN code, you need to input the old PIN for confirmation. The steps of inputting old PIN code, please refer to the operation of PIN code protection. After inputting correct old PIN code, only when the twice input of new PIN code is consistent the new PIN code become effective. Otherwise, you need to input a new PIN code.

## Location

### ■ Information

Location information includes the date, time, longitude, latitude, altitude and the number of satellites. The date and time display value are associated with time zone settings on the terminals.

## ■ Time correction\*

This function uses received effective GPS time to correct the time on the terminal. This function can be used with time zone options.

## ■ On/off

This function can be opened or closed GPS/BEIDOU.

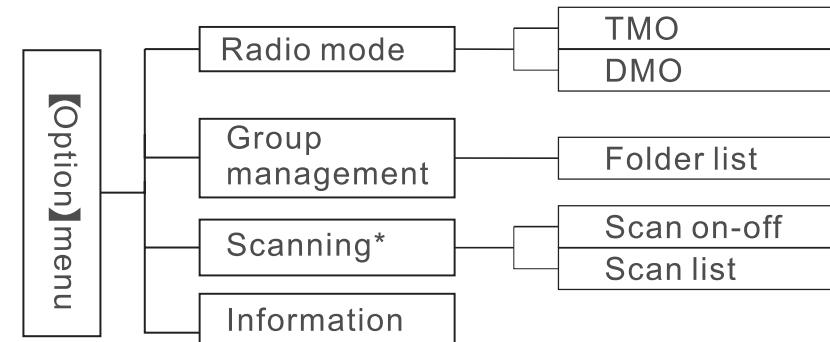
## ■ Time zone


This function can allow you to set GPS system time zone according to the location or user needs. There are a total of 25 time zone options for time correction.

## ■ Data transmission\*

This function is used to send GPS/BEIDOU information to other terminals or control center. There are two options: send to individual and send to a group.

## 【Option】



Press  key to enter option menu. taking the trunking mode as an example to present the using method of each menu items.

## Radio mode

You can switch among these modes DMO and TMO.

## Group management

In “Option” menu, select “group management” to enter group folder list, you can perform any of these operations.

- Add a channel/group
- Delete a channel/group
- View a channel/group