

The Hytera logo is displayed in a light gray, sans-serif font within a dark gray rectangular box on the left side of the page.

## Preface

Thank you for purchasing Hytera MT680 TETRA digital mobile terminal. MT680 is equipped with a large transfective TFT color display and a built-in GPS module, and can operate in both TMO and DMO modes. The benefits that this terminal can deliver will dramatically improve your working efficiency.

To derive optimum performance from the terminal, please read the Safety Information Booklet and Owner's Manual carefully before use.

## Icon Information

The following icons are available through this manual:



Caution: indicates situations that could cause damage to your terminal.



Note: indicates tips that can help you make better use of your terminal.

## Term Explanation

### ■ Key Operation

Short press: to press a key and release it quickly.

Long press: to press and hold down a key for above 2.5 seconds.

Hold down: to press a key and remain holding it down.

### ■ Individual Call

Individual call is a simplex or duplex call initiated by a single user to another user, involving the calling party and the called party only.

### ■ Group Call

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

### ■ Telephone Call

Telephone call is usually a full duplex call initiated between the terminal and a PSTN subscriber (such as telephone user or mobile phone user).

To send or receive telephone calls, the mobile terminal must operate in TMO mode, and must be authorized to access public network through PSTN gateway. Telephone call is a network service. For more details and availability of the service, please contact your service provider.

### ■ Emergency Call

Emergency call has the highest priority, and is very helpful for the user to request help when emergency occurs. Generally, it is set to group call type. Emergency call can break off any non-emergency calls in progress.

### ■ DMO (Direct Mode Operation)

DMO mode allows the terminals to communicate directly with each other in simplex mode, without network restriction. But functions that require network access, such as telephone call and short message, will be disallowed.

### ■ TMO (Trunked Mode Operation)

TMO mode allows the terminals to communicate with each other via the TETRA network, in half duplex or full duplex mode. Functions that require network access are supported.

To operate in TMO mode, the terminal must be granted authorization by your service provider, and must be within the network coverage.

#### ■ Full Duplex

Full duplex allows the ability to communicate in both directions simultaneously.

#### ■ Half Duplex

Half duplex, also known as simplex, allows the ability to communicate in only one direction, at a time. Two-way communication is possible, but not simultaneously.

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## **RF Energy Exposure Compliance**

- Your radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) regarding human exposure to radio frequency electromagnetic energy. This radio complies with the IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at operating duty factors of up to 50% transmitting and is authorized by the FCC for occupational use only. In terms of measuring RF energy for compliance with the FCC exposure guidelines, your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode.
- The device complies with SAR and/or RF field strength limits of RSS-102 requirement

### **Your radio complies with the following of RF energy exposure**

#### **standards and guidelines**

- 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

#### **Operational Instructions and Training Guidelines**

- To ensure optimal performance and compliance with the occupational/controlled environment RF energy exposure limits in the above standards and guidelines, users should transmit no more than 50% of the time and always adhere to the following procedures:
- Gain of antenna must not exceed 5.5dBi.
- Antenna Installation: Install the mobile antenna at least 108 cm away from your body, in accordance with the requirements of the antenna manufacturer/supplier.

#### **Transmit and Receive**

To transmit (talk), push the Push-To-Talk (PTT) key; to receive, release the PTT key.

## EU Regulatory Conformance

The equipment is in compliance with the essential requirements and other relevant provisions of the Directive 1999/5/EC.

CE 06780



Note: The above information is applicable to EU countries only.

## FCC Licensing Information

### Part 15 Compliance

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.

Note: "Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment."

### FCC Licensing Requirements

A license from Federal Communications Commission is required prior to use. Your dealer will program each radio with your authorized frequencies, signaling codes, etc., and will be there to meet your communications needs as your system expands. Contact your dealer for more information.

The radio is not intended for use by general population in an uncontrolled environment. It is only for occupational use and only applied to work-related conditions. The radio must be only used by users, who are fully aware of the hazards of the exposure and who are able to exercise control over their RF exposure to qualify for the higher exposure limits.

# Contents

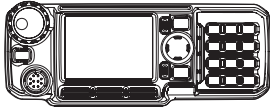
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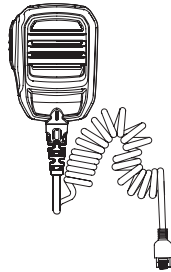
## Checking Items in the Package

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

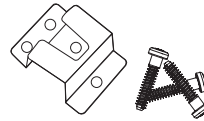
**1** Mobile Terminal



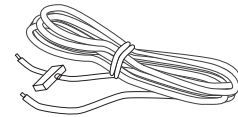
**2** Palm Microphone



**3** Microphone Hanger and Screws



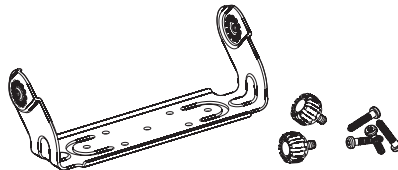
**4** Power Cord



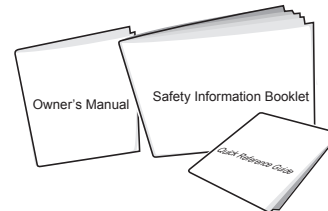
**5** Fuse



**6** Mounting Bracket Kit

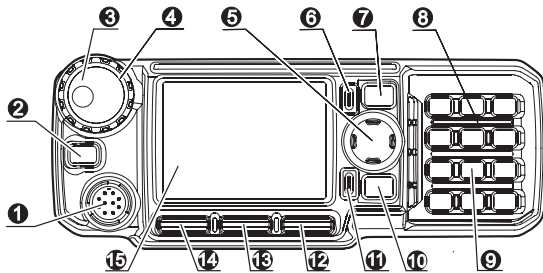


**7** Owner's Manual / Quick Reference Guide / Safety Information Booklet



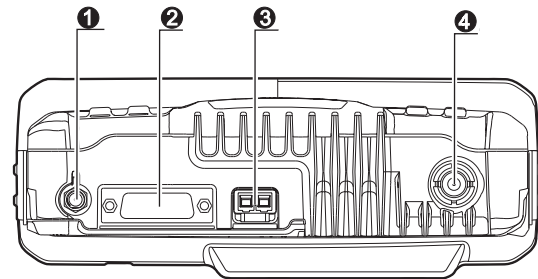
# Product Overview

## Front Panel



No.	Part Name	No.	Part Name
1	Microphone Jack	2	Emergency Key
3	Volume Control / Talk-group Selector Knob	4	LED Indicator
5	Navigation Key	6	Back Key
7	Power On-Off / Hang Up Key	8	Speaker
9	Numeric Keypad	10	Answer / Call Key
11	OK Key	12	Options Key
13	GPS Key	14	Function Key
15	LCD Display		

## Rear Panel



No.	Part Name	No.	Part Name
1	GPS Antenna Jack	2	Accessory Jack
3	Power Inlet	4	BNC Antenna Connector

## Shortcut Keys

Most of the keys, including the four Navigation Keys, Answer / Call Key, \* Key, # Key and numeric keys 1-9, can be set as shortcuts to access the menus and various functions (table below lists the default shortcut functions). Please refer to “Shortcuts” on Page 15 for the setting method.



## Product Overview

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Key	Shortcut Function
Up Key	Enter the PhoneBook
Down Key	Enter the Profiles
Left Key	Edit a message
Right Key	Enter the Inbox
Answer / Call Key	Enter the Dialed Calls list

# Installation

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## Installation Instructions

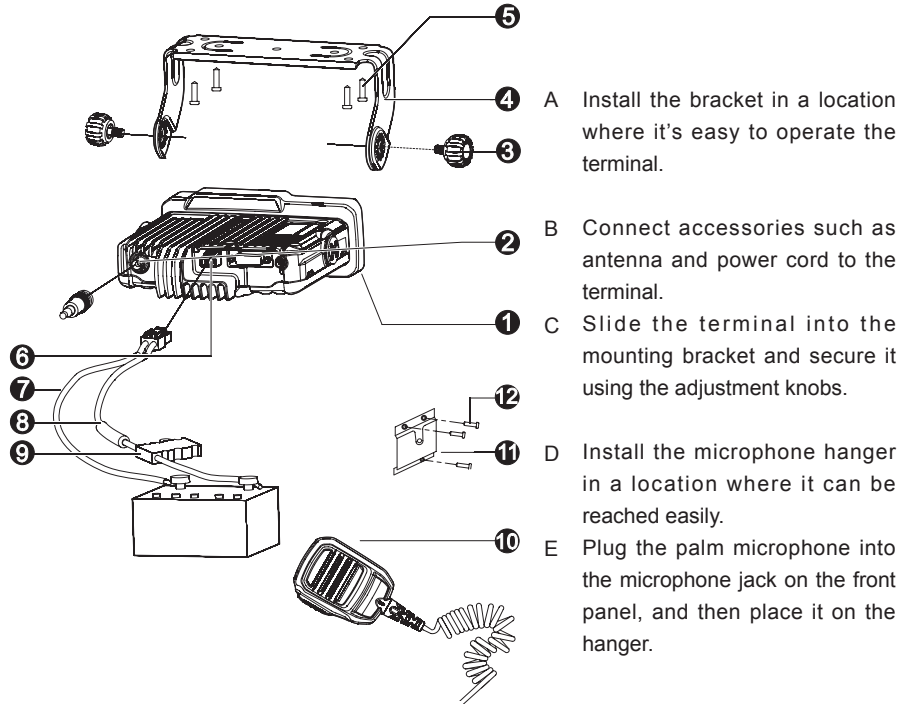
- This mobile terminal can be installed in 13.2V (10.8V-15.6V allowable) negative ground electrical systems only. Please check polarity and voltage of the vehicle power supply before you install the terminal.
- Please check the parts of screws which protrude from the bottom surface, before you install the terminal. Drill the mounting hole cautiously to avoid damage to the vehicle wiring and other parts.
- Please connect the supplied antenna and power cord to the terminal, before you install it in the bracket.
- Please fix the terminal firmly with specified bracket.
- Install the terminal in a location where it's easy to reach the front panel controls.
- Please make sure there's sufficient space at back of the terminal for wiring.
- When needed, replace the fuse for DC power cord with a new fuse with the same specifications.

## Installation Tools

- Electric drill
- Cross head screwdriver
- Hex socket sleeve (used for 4.8\*20mm self-tapping screws)

## Installation

### Assembly Diagram



A Install the bracket in a location where it's easy to operate the terminal.

B Connect accessories such as antenna and power cord to the terminal.

C Slide the terminal into the mounting bracket and secure it using the adjustment knobs.














D Install the microphone hanger in a location where it can be reached easily.

E Plug the palm microphone into the microphone jack on the front panel, and then place it on the hanger.

No.	Part Name
1	Mobile Terminal
2	BNC Connector
3	Locking Knobs
4	Mounting Bracket
5	4.8 × 20 mm Self-tapping Screws
6	Power Inlet
7	Black Power Cord
8	Red Power Cord
9	Fuse
10	Palm Microphone
11	Microphone Hanger
12	4 × 16 mm Self-tapping Screws

# Status Indicators






















## LCD Icons

Icon Name	Icon	Terminal Status
RSSI		No signal
		More bars indicate better signal strength
Message Icons		Unread message
		Inbox is full and all are unread messages
Operation Mode Icons		The terminal currently operates in TMO mode
		The terminal currently operates in DMO mode
Profile Icons		Silent
		Normal
Accessory Icon		An audio accessory is connected
GPS Icon		GPS is enabled
Call Icon		A call is in progress
Record Icon		Recording is in progress
Talkgroup Selection Icon		Selecting a talk group

## LED Indicator

Terminal Status	LED Indicator
Transmitting a call	LED solidly glows red.
Receiving a call	LED solidly glows green.

## Instruction Icons

Instruction	Icon	Instruction	Icon
Functions		Options	
OK		Operate	
View		Search	
Back		Save	
Restore		Stop	
Start		Pause	
Delete		Cancel	
Answer		Hang up	
Send		Ctype	
Modify		Unlock	
GPS			

## Basic Operations

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### ■ Turning the Terminal On/Off


To turn the terminal on, hold down the **Power On/Off** key until the terminal displays power-up screen.

To turn the terminal off, long press the **Power On/Off** key.


### ■ Adjusting the Volume

You may adjust the volume through the knob. Rotate the knob clockwise to increase the volume, or counter-clockwise to decrease the volume. Then press **OK** to save. If the volume is adjusted during a call, press **Back** and the volume will be saved.

### ■ Selecting a Talk Group

In the home screen, press the knob to switch to talk group selection mode (the terminal displays the icon  ). Then rotate the knob to select your desired talk group, and press **OK** to confirm. Name of the current talk group will appear on the home screen.

### ■ Switching Operation Mode

The terminal can operate in either TMO or DMO mode. To switch between these two modes, press  on the home screen to enter the Options menu, and select “TMO” or “DMO”.

# Call

## Individual Call

Both DMO and TMO support individual call.


### ■ Transmitting an Individual Call

#### Operations in DMO mode:



Input the target number through the keypad, or go to the menu PhoneBook or Call Log to select the contact you want to call. Then hold down the **PTT** and speak into the microphone, to transmit a simplex call.

#### Operations in TMO mode:

#### Transmitting a call through menu

Go to the menu PhoneBook or Call Log to select the contact you want to call. Then hold down the **PTT** to transmit a simplex call, or press  to transmit a duplex call.

#### Transmitting a call through Manual Dial

Input the number you want to call through the keypad, and press  to select "Private No.". Then hold down the **PTT** to transmit a simplex call, or press  to transmit a duplex call.



Note: Entry of private number must comply with the SSI&TSI dialing rules. See Appendix 2 SSI&TSI Dialing Rules on page 24 for more details.


### ■ Receiving and Responding to an Individual Call

#### Operations in DMO mode:

When the **PTT** is in released state, the terminal is always ready to receive calls. When the other party stops talking, you can hold down the **PTT** to call back.

#### Operations in TMO mode:


When a simplex call is received, you can listen to it without any operation, unless the LCD prompts you to press the **PTT** to receive it. When the other party stops talking, you can hold down the **PTT** and speak into the microphone to call back.

When a duplex call is received, you can press  to answer it. And both parties can speak simultaneously without any operation.

## Group Call

Both DMO and TMO support group call, and operations are the same in both modes.

### ■ Transmitting a Group Call

1. In the home screen, press the knob to switch it to talk group selection mode (the terminal displays the icon ).

## Call

2. Rotate the knob to select a talk group you want to call. The currently selected talk group will appear on the display.
3. Press the knob again or press **OK** to confirm.
4. Hold down the **PTT** to transmit a group call.

### ■ Receiving and Responding to a Group Call

When a group call is received, you can listen to it without any operation. When the other party stops talking, you can hold down the **PTT** and speak into the microphone to call back.




Available talk groups are preset by your dealer. DMO mode supports up to 1024 talk groups, and TMO mode supports up to 2048 talk groups.



### Telephone Call

Telephone call is available only when the terminal operates in TMO mode and is set with appropriate Gateway No. Please contact your network operator for more details.

### ■ Transmitting a Telephone Call


1. Input the number you want to call through the keypad, and select “PABX” or “PSTN”.
2. Press  to transmit a telephone call.

### ■ Answering a Telephone Call

When a telephone call is received, you can press  to answer the call. And both parties can speak simultaneously without any operation. To reject or to hang up a telephone call, press .

### Emergency Call

Both DMO and TMO support emergency call, and operations are the same in both modes.

Long press the top **Emergency** key to transmit an emergency call. To terminate the call, press .

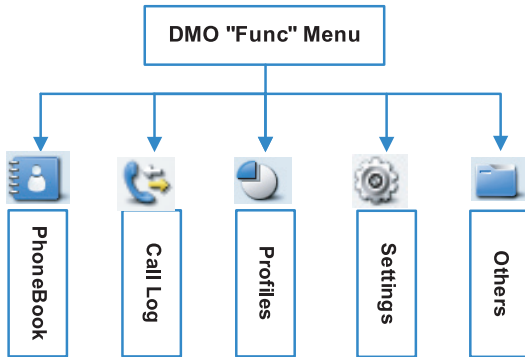
In DMO mode, emergency calls are transmitted to the default talk group. And in TMO mode, the target receiver is programmable through the programming software.



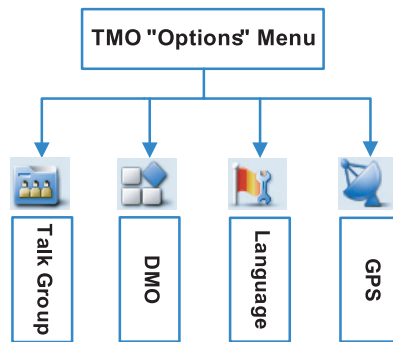
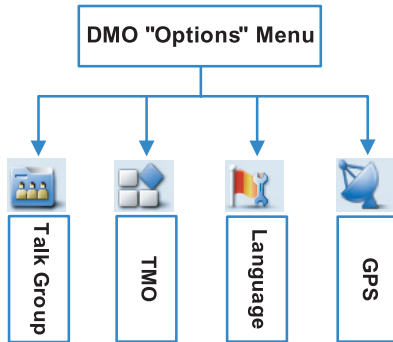
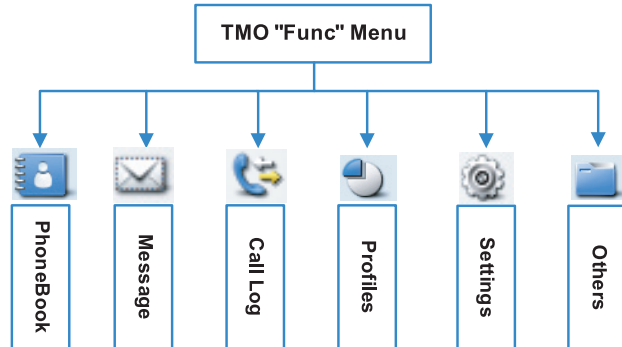
Note: Please speak into the duplex microphone when sending a duplex call, or the simplex microphone when sending a simplex call.

# Menu Navigation

## DMO Menus



## TMO Menus



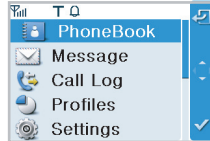


## Menu Navigation

The operations in TMO mode are the same as that in DMO mode. Here we are going to introduce all menu items based on TMO mode.

### PhoneBook

This menu is used to store your contact information. See the following figure for an overview of this menu:



Select a contact, and then you can perform these operations:

#### ■ Create new contact

To create a new contact. The phonebook can contain up to 512 entries.

#### ■ View a contact

To view contact information including contact name and number.

#### ■ Search a contact

To look for a contact by name.

#### ■ Modify a contact

To modify the name or number of a contact.

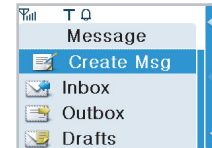
#### ■ Delete a contact

To delete a contact from the phonebook.

#### ■ View phonebook memory

To view the used space and free space of the phonebook memory.

### Message



#### ■ Create Message

##### (1) Status Message

Status Message is predefined by your dealer. You can choose to read and send them, but no editing is available.

##### (2) User Message

This option allows you to create a new text message with 140 bytes at most. The receiving party can either be an individual or a group.

## Menu Navigation

### ■ Inbox

All received messages are saved here. It can contain up to 50 entries. When the inbox is full, the new message will automatically overwrite the oldest read message. When the inbox is overflowed with unread messages, you will be unable to receive new messages. For any message, you can perform these operations: Reply, Edit, Delete, Forward, Extract No., and Call.

### ■ Outbox

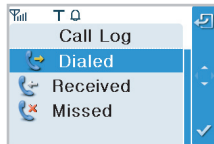
The outbox can save up to 20 sent messages. For any message, you can perform these operations: Edit, Delete, Forward, Extract No., and Call.

### ■ Drafts


You can save up to 10 drafted messages here. For any message, you can choose to delete, edit or send it.

### Call Log

You can view the records of recent calls here. See the following figure for an overview of this menu:



### ■ Dialed Calls

This option can save up to 20 entries. In the home screen, you may press  to quickly access the dialed calls list.

### ■ Received Calls

This option can save up to 20 entries.

### ■ Missed Calls

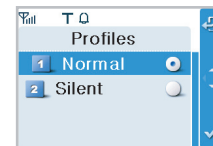
This option can save up to 20 entries. When there is a missed call, appropriate indications will be given on the display.



Note: After selecting an entry, these options are available: Call, View, Save, Delete, Delete All.

### Profiles

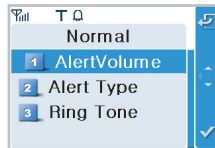
This menu allows you to customize alerts to an incoming call, message or key press. See the following figure for an overview of this menu:



## Menu Navigation

### ■ Normal

In this mode, the terminal will alert you to an incoming call or a new message by giving ring indication. To match your actual needs and preferences, you can customize the following parameters:



### ■ Silent

In this mode, all audible indications will be disabled.

## Settings

This menu allows you to customize terminal parameters, to derive maximum performance from the terminal. See the following figure for an overview of this menu:



### ■ Date&Time

Press **Left** or **Right** key to select the item to be set, and then input the right value through the keypad. When the current time is displayed in 12 Hour format, press **Up** or **Down** key to toggle it between AM and PM.

### ■ KP Lock

This option allows you to enable or disable the Auto Keypad Lock feature. The feature can prevent accidental keypad operation. If it is enabled, the keypad will be locked automatically after the programmed time (10 seconds by default) elapses. To unlock the keypad, press **OK** and then \*. In the home screen, you may press **OK** and then \* to lock the keypad.

### ■ DispSaver

This option allows you to enable or disable the screensaver. If enabled, it will be activated automatically after the programmed time (10 seconds by default) elapses.

### ■ Display

This option allows you to adjust display brightness and turn keypad light on or off.

## Menu Navigation

### ■ Speaker



Press **Up** or **Down** key to select a speaker, and then press **OK** to confirm.

### ■ Security



#### PIN Code

To set PIN code On or Off, you will be required to input the PIN code. The terminal will be locked when wrong PIN code is entered up to the predefined times. To unlock it, you need to enter the right PUK code. Entry of the correct PUK code will restore PIN code to the default value. However, when wrong PUK code is entered up to the predefined times, the terminal will be disabled temporarily and shows "Radio Disabled".



Note: the number of times that you are allowed to input wrong PIN or PUK code is programmable through the programming software. When the terminal is disabled, contact your dealer to activate it. The default PIN code is 1234, and the default PUK code is 12345678.

### Change PIN Code

This option allows you to change the PIN code. Before changing it, you need to enter the old PIN code correctly.

### ■ Reset All

This option allows you to restore all settings to default values. To perform this operation, you need to input the password (the default is 1234).



### Others

This menu allows you to view some information saved in your terminal. See the following figure for an overview of this menu:



### ■ My Info

This option allows you to view some basic information about the terminal, including MCC (Mobile Country Code),

## Menu Navigation

MNC (Mobile Network Code) and ISSI (Individual Short Subscriber Identity).

### ■ Shortcuts

To enhance operation convenience, you can assign your desired function to a specific key as shortcut. Then you can press the key to access a function easily. Operations to create a shortcut:

1. Select Shortcuts to access the list of shortcut keys;
2. Select your desired key, and press **Modify** to access the list of assignable functions;
3. Select your desired function, and press **OK** to confirm.



Note: To not assign any function to a key, just select Empty.

### ■ Calendar

This option allows you to view calendar information.

### ■ Record

The terminal allows you to record voice messages. This menu includes two options View and Tape, as shown in the figure below:



### View

To view record files already saved in your terminal. For any record, you can perform these operations: Play, Delete and View Detail.

### Tape

This option allows you to record surrounding audio. Operations:

1. Select the Record option, and then press **OK** to start recording;
2. During the recording process, you may press **OK** to pause.
3. You may at any time press **Back** to save record and exit.

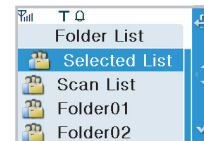


Note: You may at any time press the **Hang Up** key to exit without saving the record.




### Talk Group

This menu allows you to customize talk group settings. See the following figure for an overview of this menu:



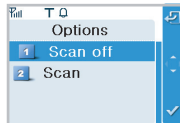
## Menu Navigation

### ■ Selected List

You may transmit calls to any member included in the Selected List. To transmit a call to a talk group, you need to select this group through knob or menu, and then hold down the **PTT** and speak into the microphone. The selected default group will be marked with .

### ■ Scan List

To receive calls from a specific talk group, you must include it in the Scan List, and set Scan on. See the following figure for an overview of the menu:



Scan Off: to disable scan.

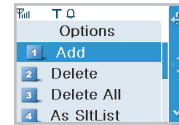
Scan: to activate scanning.



Note: Scan List is available for TMO mode only. You can receive calls from any member included in the Scan List, but cannot transmit calls to such member. To transmit calls to a specific talk group, you need to include it in the Selected List.

### ■ Static Folder

Static folder contains available talk groups, and is predefined by your dealer. Your terminal supports up to 20 static folders, each with up to 20 talk groups. Talk groups contained in static folders could be identical or different. After accessing any of the folders, you can perform the following operations:



**Add:** to include a talk group into the current folder;

**Delete:** to remove a talk group from the current folder;

**Delete All:** to remove all talk groups from the current folder;

**As SitList:** to add all talk groups in the current folder to Selected List;

**As Scan List:** to add all talk groups in the current folder to Scan List;



**DMO**

In DMO mode, this option shall be TMO. You can use this option to make your terminal work in DMO mode.

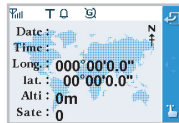
## Menu Navigation

### Language

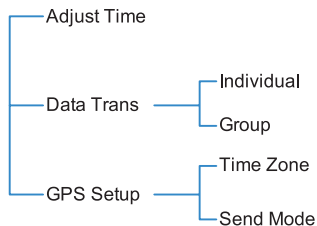
This option allows you to select your favorable language. Currently, this terminal only supports English and Simplified Chinese.

### GPS

The terminal supports GPS positioning capability. See the following figure for an overview of this menu:



Select "Options->GPS", and then you can customize the following options:



### ■ Adjust Time

This option allows you to calibrate the time currently displayed on your terminal with GPS time.

### ■ Data Transmit

You may choose to transmit GPS information to an individual user, a group or the control center. Please be noted that to implement this function, the terminal must operate in TMO mode, and the GPS receiver must be able to receive data from 3 or more satellites to ensure accuracy.

### ■ GPS Setup

You may set the time zone and select a method to transmit GPS information.

Manual Send: to manually transmit GPS information to an individual user, a group or the control center.

Auto Send: to automatically transmit GPS information to a predefined receiver, at predefined time.

## Troubleshooting

Phenomena	Analysis	Solution
The terminal cannot be powered on.	The power cord is connected improperly.	Connect the power cord correctly.
	The terminal unit and the front panel are connected improperly (for split-type terminal only).	Connect the terminal unit and front panel correctly.
	The terminal unit and the front panel are connected with a damaged cable (for split-type terminal only).	Replace the cable with a new one and connect the terminal unit and front panel correctly.
	An abnormal voltage is output from the vehicle battery.	Check the battery strength.
The called party cannot hear clearly.	The power cord is damaged.	Replace the power cord with a new one.
	The palm microphone and the terminal are connected improperly.	Connect the microphone to the terminal correctly.
Network registration fails or network cannot be found.	The palm microphone is damaged.	Replace the microphone and connect them correctly.
	Your terminal is operating in DMO mode.	Switch to TMO mode.
Calls cannot be initiated in TMO mode.	Your terminal is not within the network coverage.	Check the signal strength. Make sure the terminal is within the network coverage. Contact the network operator. Make sure the terminal is authorized.
	The terminal is not granted network access.	Check the signal strength. Make sure all the terminals are within the network coverage. Make sure the called party switches to TMO mode.
Calls cannot be initiated in DMO mode.	The terminals are not within the network coverage.	Make sure all terminals are within the communication range.
	The called party is operating in DMO mode.	Make sure the called party switches to DMO mode.



## Troubleshooting

Phenomena	Analysis	Solution
Group calls cannot be sent or received.	Your terminal is not within valid coverage of the target group.	Make sure the terminal is within the group coverage.
	Your terminal is not authorized to access the target group.	Contact the network operator to obtain access rights.
Half duplex calls are terminated.	The transmission timer expires.	Make sure the transmission duration is within the predetermined value.
	The channel is occupied by another terminal with higher priority.	Initiate another call when the channel becomes available.
	The network resources are allocated to other services due to overloaded network.	Initiate another call when the network becomes available.
Normal calls are interrupted.	The channel is assigned to emergency calls or other calls with higher priority.	Initiate another call when the channel becomes available.
As for the same status message, the content displayed at the sending party and at the receiving party varies.	The parties have associated the same status message ID with different contents.	Make sure the status message ID is associated with the same content.
Abnormal disconnection occurs during a call.	Your terminal gets out of the network coverage (in TMO mode).	Check the signal strength. Make sure the terminal is within the network coverage.
	You are at an unfavorable position where communication may be blocked by high buildings or frustrated in the underground areas (in DMO mode).	Move to an open and flat area, and restart the terminal.

If the above solutions cannot fix your problems, or you may have some other queries, please contact us or your local dealer for more technical support.

## Care and Cleaning

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To guarantee optimal performance as well as a long service life of your mobile terminal, please follow the tips below.



Caution: Be sure to power off the terminal before cleaning.

### Terminal Care

- Do not pierce or scrape the terminal with any edged instruments or hard objects.
- Keep the terminal at a place of good ventilation and heat dissipation to facilitate normal work.
- Do not place irrelevant articles on top of the terminal to ensure optimal heat dissipation.
- Do not place the terminal in corrosive agents, solutions or water.

### Terminal Cleaning

- Clean up the dust and fine particles on the terminal parts with a clean and dry lint-free cloth or a brush regularly.
- Use a non-woven cloth with neutral cleanser to clean the keys, control knobs, LCD and jacks after long-time use. Do not use chemical preparations such as stain removers, alcohol, sprays or oil preparations. Make sure the terminal is completely dry before use.

## Optional Accessories





The following items are the main optional accessories for the terminal, and please consult your local dealer for more other accessories.

Desktop Microphone SM10A1	External Speaker SM09D1	Programming Cable (USB Port) PC35	Data Cable PC39
			
Keypad Microphone SM19A1	Power Supply (320W, backup power applicable) PS22002	Antenna	GPS Antenna
			







Note: Use the accessories specified by Hytera only. If not, Hytera shall not be liable for any losses or damages arising out of use of unauthorized accessories.


## Appendix 1 Input Method

You can enter aliases, numbers or messages using the keypad. This terminal supports three input methods: Simplified Chinese Pinyin (  ), English (  /  ) and Number (  ).

Use the following keys as instructed:





Key	Function
Left/Right	To highlight the pinyin combination or Chinese character.
Up/Down	To move to next page when selecting Chinese characters.
	To enter "*" (short press) or a space (long press) under English and Number input methods.
	To switch among the input methods.
OK	To select and confirm.
Delete	To delete the entered character one by one (short press), or to delete all entered characters at a time (long press).
	To enter "0" under English and Number input methods.
	To enter punctuations under Simplified Chinese Pinyin and English input methods; and To enter "1" in Number input method.

### Switch of Input Method


In input interface, press  to switch to your desired input method. The input mode is indicated by a symbol located on top right corner of the display.

### Simplified Chinese Pinyin

Enter the pinyin through alphanumeric keys; then a list of possible combinations and corresponding characters will appear. For example, to input the Chinese character “间”:

1. Press  ,  ,  and  in order;
2. Press OK to move the cursor from Pinyin area to Chinese character area;
3. Use Right to scroll to the target character “间”;
4. Press OK.



Note: To enter a space in Simplified Chinese Pinyin input method, press  to trigger an interface filled with punctuations, and then select the space.

### English

The 26 letters are distributed among the alphanumeric keys 2~9. Press the key which bears your desired letter repeatedly until the letter appears. If the next letter is also located on the present key, wait until the cursor moves to the next entry position, and then input the letter. For

## Appendix 1 Input Method

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example, to input the English word “come”:

1. Press  $\overset{2}{\text{ABC}}$  repeatedly until “c” appears;
2. Press  $\overset{6}{\text{WQO}}$  repeatedly until “o” appears;
3. Wait until the cursor moves to the next entry position, press  $\overset{6}{\text{WQO}}$  again repeatedly until “m” appears;
4. Press  $\overset{3}{\text{DEF}}$  repeatedly until “e” appears.

### ■ Number

When the input method is switched to Number, press appropriate key to enter your desired number. For example, to input the number “130”, you just need to press

$\overset{1}{\text{1<}}$ 、 $\overset{3}{\text{DEF}}$  and  $\overset{0}{\text{0_}}$  orderly.

## Appendix 2 SSI&TSI Dialing Rules

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This terminal supports these dialing methods: SSI&TSI, PABX and PSTN. Each method shall follow a specific dialing rule. Currently, this terminal is only capable of checking SSI&TSI dialing rule:

- For target number less than 8 digits, input it directly; For example, when MCC = default value, MNC = default value and ISSI = 504, you just need to input 504 to make the call;
- For target number with 9-13 digits, input MNC+ISSI, where ISSI must be 8 digits long. Add 0 before the first digit to supplement the balance when it is less than the said length. For MNC, input it as it is. For example, when MCC=default value, MNC=20 and ISSI=504, you need to input 2000000504 to make the call;
- For target number over 13 digits, input MCC+MNC+ISSI, where ISSI must be 8 digits long, MNC must be 4 or 5 digits long and MCC must be 3 digits long. Add 0 before the first digit to supplement the balance when any of them is less than the said length. For example, when MCC = 460, MNC = 20 and ISSI = 504, you need to input 4600002000000504 or to make the call.



Note: MCC stands for Mobile Country Code, MNC stands for Mobile Network Code and ISSI stands for Individual Short Subscriber Identity.