

Hytera

QUICK REFERENCE GUIDE

快速操作手册

TRUNKING DUPLEX MOBILE RADIO

集群双工车载终端

Hytera

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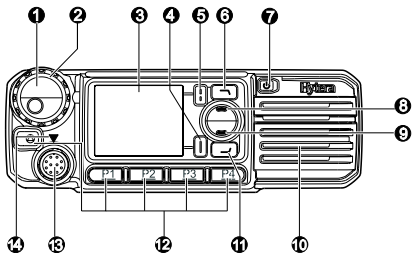


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本手册帮助您快速掌握MD780/MD780G 数字集群双工车载终端的基本操作。


熟悉本产品

■ 前面板

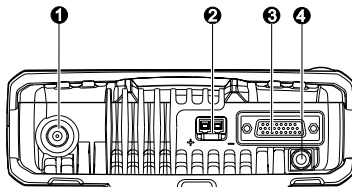


序号	部件名称	序号	部件名称
1	音量控制/组呼选择旋钮	8	上移键
2	LED指示灯	9	下移键
3	LCD显示屏	10	扬声器
4	确认/菜单键	11	接听键/重拨键/发起呼叫键
5	返回键/组呼管理键	12	可编程键
6	回拨键/挂机键/返回待机界面键	13	麦克风接口
7	开/关机键	14	麦克风安装标识

■ 可编程键

为了提升操作便利性，本机有5个可编程键【P1】、【P2】、【P3】、【P4】和 ，可由您的经销商编程为功能快捷键，详细信息请参见说明书。

■ 后面板



序号	部件名称	序号	部件名称
1	射频天线座	3	附件接口
2	电源接口	4	GPS天线座



备注：GPS天线座仅为MD780G所有。

状态指示

■ LCD图标

图标名称	图标显示	本产品状态
工作模式标识	TM	集群模式：本产品与其他终端通过集群系统的调度进行通信
呼叫模式标识		当前呼叫模式为全双工呼叫。

信号强度标识		无信号
		信号条数越多，信号越强
消息标识		接收到短消息，或者有未读短消息
		收件箱的存储空间已满
扫描标识		扫描状态（背景扫描、回望扫描、越区切换不显示该图标）
漫游标识		漫游状态
发射功率标识		当前发射功率为低功率
		当前发射功率为高功率
旋钮操作模式标识		旋钮处于组呼选择模式
		旋钮处于音量调节模式
扬声器标识		已开启扬声器
声控标识		已开启声控
附件标识		已连接附件
GPS标识		已开启GPS功能，且收到有效GPS数据
		已开启GPS功能，但未收到有效GPS数据
音质音量优化器标识		已开启音质音量优化器

■ LED指示灯

LED指示灯让您轻松掌握本产品当前的操作状态。

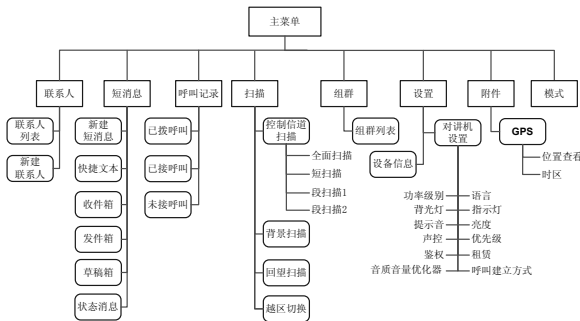
指示灯状态	本产品状态
绿灯快闪	正在开机
绿灯慢闪	正常待机
绿灯长亮	正在接收
红灯长亮	正在发射
红灯闪烁	正在建立呼叫（主叫方显示）
橙灯快闪	正在建立FOACSU个呼（被叫方显示）
橙灯慢闪	正在扫描
橙灯长亮	呼叫建立成功后，业务信道上无语音发射和接收，此时您可以按住【PTT】键通话

菜单导航

本产品菜单结构如下图所示，展现的是本产品的所有菜单项，您可通过经销商配置是否显示各菜单项。

您需要先按【菜单】键进入主菜单，再通过【上移】键/【下移】键定位到您需要的子菜单或选项后按【确认】键进行确认，以完成您的设置。本文档介绍菜单操作时，仅介绍菜单项的顺序，例如，进入联系人列表的路径为“联系人 -> 联系人列表”。

本产品菜单具有自动复位功能，如您在预编程时间（由经销商配置）内没有对菜单进行任何操作，本产品将自动返回待机界面。您可以通过经销商修改自动复位时间、取消自动复位。



基本操作

■ 开机与关机

如需开机，请长按前面板的【开/关机】键。开机过程中，LED指示灯闪烁绿灯，LCD显示开机动画，本产品发出开机提示音。

如需关机，请短按前面板的【开/关机】键。

■ 调节音量

当【音量控制/组呼选择】旋钮处于音量调节模式时，LCD的左上角显示 图标。您可以通过旋转【音量控制/组呼选择】旋钮，调节输出音量的大小。

■ 选择组群

您可以将不同的组呼联系人放入同一个组群中，以便对现有组呼联系人进行有效管理。本机支持32个组群，每个组群最多包含16个组呼联系人。

您可以通过以下两种方式选择组群：

● 通过菜单

通过【菜单】键进入“组群”菜单后，按【上移】/【下移】

键选择所需组群。进入所选组群后，选择“设置为默认”，然后按【确认】键切换至所选组群。

● 通过快捷键

在待机界面通过【组呼管理键】键直接进入“组群”菜单，按【上移】/【下移】键选择所需组群。进入所选组群后，选择“设置为默认”，然后按【确认】键切换至所选组群。



备注：本机中只有1个组群列表，该组群列表中可包含32个组群。

■ 选择组呼联系人

开机登记成功后，您可以通过以下三种方式选择组呼联系人：

● 通过旋钮

在待机界面按【音量控制/组呼选择】旋钮，进入组呼选择模式，此时LCD的左上角显示 图标。通过旋转【音量控制/组呼选择】旋钮，选择所需要的组呼联系人。



备注：如果车载终端处于登记过程中，此时无法通过【音量控制/组呼选择】旋钮进入组呼选择模式。

● 通过菜单

通过【菜单】键进入“组群”菜单后，按【上移】/【下移】键来选择所需组群。进入所选组群后，选择“成员”，然后按【确认】键进入所选组群对应的组呼列表，通过【上移】/【下移】键选择所需组呼联系人。

● 通过快捷键

若经销商为您设置了【当前组群联系人】快捷键，则您可以通过按此快捷键进入当前组群对应的组呼列表菜单，然后按【上移】/【下移】键选择所需组呼联系人。

呼叫

为了保证接收方最佳接收音量，发射时请保持电话听筒的麦克风距离嘴大约2.5~5厘米。



备注：

- 本产品未登记或【音量控制/组呼选择】旋钮选择“空组”时，不能发起呼叫。
- 使用电话听筒时，请确保电话听筒处于摘机状态。

■ 个呼

本产品有两种个呼呼叫方式：半双工和全双工。

- 半双工个呼的呼叫类型有两种：完全停播呼叫建立（FOACSU）和停播呼叫建立（OACSU），该呼叫类型由集群系统设置。系统默认半双工的个呼类型为OACSU。
 - » FOACSU：建立呼叫时，主叫方有铃声提示，被叫方需要手动接听建立呼叫。
 - » OACSU：建立呼叫时，主叫方无铃声提示，被叫方接收到呼叫后自动建立呼叫。
- 全双工个呼类型只有FOACSU个呼。

发起呼叫

个呼发起时，LCD显示 图标（全双工呼叫显示 图标）。在等待被叫应答时，本机将发出铃声提示。您可以通过以下方式发起个呼。

通过“联系人列表”或“呼叫记录”发起呼叫

1. 选择“主菜单->设置->对讲机设置->呼叫建立方式”，设置个呼的呼叫方式为“半双工”或者“全双工”。

若经销商为您设置了【切换呼叫建立方式】快捷键，您可以通过按此快捷键快速切换呼叫方式。

2. 进入联系人列表，菜单路径“联系人->联系人列表”，或已拨/已接/未接呼叫列表，菜单路径“呼叫记录”。
3. 通过【上移】/【下移】键选择您想要呼叫的个呼联系人。
4. 按 或者电话听筒的【PTT】键，对该联系人发起半双工或全双工个呼。

通过手动拨号发起呼叫

1. 设置个呼的呼叫方式，参考如上方法。
2. 在待机界面下，通过电话听筒的数字键盘输入个呼号码。个呼号码的取值范围详见本产品说明书“功能与操作”章节的“手动拨号”。
3. 通过按 键、电话听筒的【PTT】键或者 键，对该联系人发起半双工或全双工个呼。

接听呼叫

- FOACSU个呼


接收到个呼后，本产品有来电铃声提示，同时LCD显示 图标（全双工呼叫显示 图标）。如果您在预设时间内按 键或电话听筒的【PTT】键，将建立呼叫。呼叫建立成功后，LCD显示 图标，同时本产品将发出提示音。如未进行接听，则显示 以提醒用户。

- OACSU个呼

呼叫自动建立。呼叫建立成功后，LCD显示 图标。

语音通信


- 如果您的呼叫方式为半双工呼叫，则个呼建立后，主叫和被叫都可以在PTT空闲时（LCD提示“PTT允许！”）按住【PTT】键进行讲话。主叫的LCD显示 图标；接收语音时，被叫的LCD显示 图标。

- 如果您的呼叫方式为全双工呼叫，则个呼建立后，主叫和被叫双方无需再按任何按键，可同时讲话。主叫和被叫的LCD显示  图标。


■ 组呼

组呼分为普通组呼和广播组呼。普通组呼中，主被叫均可以发射语音，而广播组呼中，仅主叫可以发射语音，被叫只能接收语音。经销商为您开启广播组呼权限时，您才能发起广播组呼。此处仅介绍普通组呼。


发起呼叫

组呼发起时，LCD显示  图标。您可以通过以下方式发起组呼。

通过“组呼联系人”发起呼叫

1. 按【菜单】键，进入主菜单，选择“组群”；或者按【组群】键，进入“组群”菜单。
2. 选择“组群->成员”。
3. 通过【上移】/【下移】键选择您想要呼叫的组呼联系人。
4. 按  键或者电话听筒的【PTT】键，发起普通组呼。





备注：您也可以选择“呼叫类型”为“普通组呼”，再按【确认】键、 键或者电话听筒的【PTT】键发起呼叫。


手动拨号通过手动拨号发起呼叫

1. 在待机界面下，通过电话听筒的数字键盘输入您想要呼叫的组呼号码。组呼号码的取值范围详见本产品说明书“功能与操作”章节的“手动拨号”。
 - » 普通组呼：组呼号码




» 广播组呼：CPS-P、CPS-P3拨号方案时输入*11*+组呼号码

2. 通过按  键、电话听筒的【PTT】键或者  键发起组呼。

接听呼叫

接收到组呼后，此时您无需按  键，本产品会自动建立呼叫。建立呼叫成功后，LCD显示  图标，同时发出提示音。

语音通信

- 普通组呼：组呼建立后，主叫和被叫都可以在PTT空闲时（LCD提示“PTT允许！”）按住【PTT】键进行讲话。发送语音时，主叫的LCD显示  图标；接收语音时，被叫的LCD显示  图标。
- 广播组呼：组呼建立后，仅主叫可以按住【PTT】键进行讲话。发送语音时，主叫的LCD显示  图标。被叫仅能接收语音。

■ 紧急呼叫

遇到紧急情况时，您可通过此功能来向同伴或控制中心寻求帮助。紧急呼叫是一种优先级最高的呼叫，可打断当前正在进行的普通呼叫。

经销商为本产品开通紧急呼叫权限时，本产品才能发起紧急呼叫。

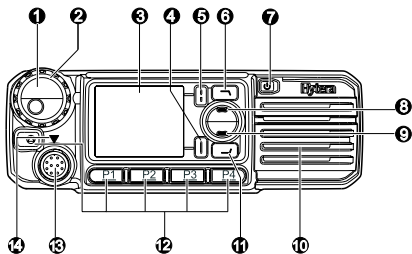
■ 超时禁发

此功能可避免用户一直占用PTT讲话。当您连续通话时间超过经销商编程预设的时间，本产品会终止通话并且发出警告音，松开电话听筒的【PTT】键可以停止警告音。如果您需要再次通话，请在间隔一段时间后再按下【PTT】键。

This guide is helpful for you to quickly know how to use the product.


Product Introduction

■ Front Panel

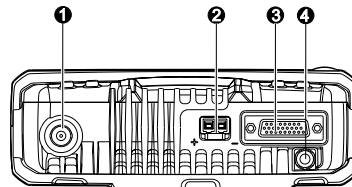


No.	Part Name	No.	Part Name
1	Volume Control/Group Call Selector Knob	8	Up Key
2	LED Indicator	9	Down Key
3	LCD Display	10	Speaker
4	OK/Menu Key	11	Answer/Redial/Call Key
5	Back/Group Call Management Key	12	Programmable Keys
6	Dial-back/End/Home Screen Key	13	Microphone Connector
7	Power On/Off Key	14	Microphone Installation Index

■ Programmable Keys

For enhanced convenience, you may request your dealer to program the five keys (P1, P2, P3, P4, and ) as shortcuts to the functions introduced in the Owner's Manual.

■ Rear Panel






No.	Part Name	No.	Part Name
1	RF Antenna Interface	3	Accessory Jack
2	Power Interface	4	GPS Antenna Interface

















Note: The GPS antenna interface is only available for MD78XG.

Status Indication

■ LCD Icon

Icon Name	Icon	Radio Status
Operation Mode Icon	TM	TMO Mode: In this mode, this product communicates with other radios or systems via the trunking system.
Call Setup Mode Icon		In this mode, the product makes full duplex calls.
RSSI Icon		No signal.
		More bars indicate better signal strength.

Message Icon		New message/unread message.
		InBox is full.
Hunt Icon		Hunt status (This icon does not indicate the background hunt, homestation hunt and multi-site handover.)
Roam Icon		The product is roaming.
TX Power Icon		Low TX power for the current channel
		High TX power for the current channel
Knob Operation Mode Icon		The knob operates in group call selection mode.
		The knob operates in volume adjustment mode.
Speaker Icon		The speaker is unmuted.
VOX Icon		VOX is active.
Accessory Icon		An accessory is connected.
GPS Icon		The GPS feature is active, and valid GPS data is received.
		The GPS feature is active, but no valid GPS data is received.
LQO Icon		LQO is active.

■ LED Indicator

The LED indicator of the product will help you easily identify the current product status.

LED Indication	Radio Status
The LED flashes green.	Powering on
The LED flashes green slowly.	Standby
The LED glows green	Receiving
The LED glows red.	Transmitting
The LED flashes red.	Making a call (the LED flashes on the calling radio).
The LED flashes orange rapidly.	Making a FOACSU private call (the LED flashes on the called radio).
The LED flashes orange slowly.	Hunting
The LED glows orange.	No voice is being transmitted or received on the channel after a call is established. Within such period, you can hold the PTT key to talk.

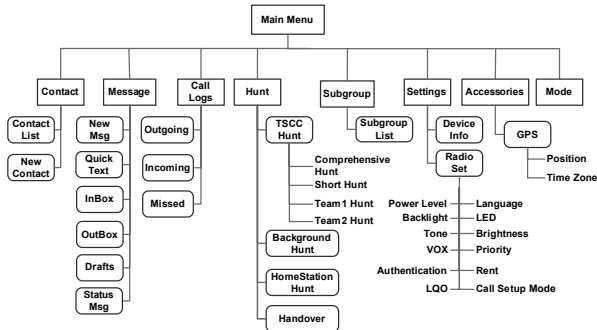
Menu Navigation

The following menu list shows all the menus of the product. You can select your needed menus to be displayed in the product via your dealer.

To select and confirm the options shown in the menu, press the **Menu** key to enter the main menu, and then press the **Up/Down** key to select your wanted option, finally press the **OK** key. The

introductions of the menu operations mainly introduce the path to the menus.

The product supports menu reset function, that is, if you do not operate the menu for a predefined time period set by the dealer, the product will automatically return to the home screen. You can define the reset time or cancel the reset feature via your dealer.




Basic Operations

■ Powering On/Off

To turn on the product, long press (2s by default) the **Power On/Off** key, until the power-up screen appears and the LED flashes green, with the power-up alert tone.

To turn off the product, short press (1s by default) the **Power On/Off** key.

Adjusting the Volume

When the **Volume Control/Group Call Selector** knob operates in volume adjustment mode, the icon  will appear on top left

corner of the LCD. Rotate this knob clockwise to increase the call volume, or counter-clockwise to decrease it.

■ Selecting a Subgroup

You can include your desired group call contacts into a subgroup for efficient management. The product supports up to 32 subgroups, each with a maximum of 16 group call contacts.

You may select a subgroup through any of the following methods:

- Through menu selection

Go to the menu “Subgroup”, and use the **Up/Down** key to select your desired subgroup. Afterwards, select “Set Default” and press the **OK** key to switch to that subgroup.

- Through the shortcuts

In the home screen, directly press the **Group Call Management** key to enter the subgroup menu, and select the subgroup by pressing the **Up/Down** key. Afterwards, select “Set Default” and press the **OK** key to switch to that subgroup.




Note: This product supports only one subgroup list which can contain 32 subgroups at most.

■ Selecting a Group Contact

After the product is powered on and makes a registration successfully, you may select a group call contact through any of the following methods:

- Through the knob

In the home screen, first press the **Volume Control/Group**

Call Selector knob (the icon  will appear on top left corner of the LCD), and then rotate it to select the group call contact.



Note: You can not select the group call contact by the **Volume Control/Group Call Selector** knob when the product is making a registration.

- Through menu selection

Go to the menu “Subgroup -> Members -> Group Call”, and press the **Up /Down** key to select your desired group call contact.

- Through the shortcuts

You can press the programmed **Group Call List** key to access the group call list, and select the group call contact by pressing the **Up/Down** key.

Call

To ensure optimal volume of the receiving radio, hold the microphone of the telephone receiver approximately 2.5 to 5 centimeters away from your mouth.



Note:



- Before a registration is made or the group call contact is set for the **Volume Control/Group Call Selector** knob, the product cannot make a call.
- When using the telephone receiver, make sure it is hooked off.

■ Private Call

This product has two private call modes: half duplex and full duplex.


- There are two categories of the half duplex private call: FOACSU (Full Off Air Call Set-Up) and OACSU (Off Air Call Set-Up), configured by the trunking system. The default type is OACSU.
 - » FOACSU: During call setup, the calling radio rings. The called party answers the call manually.
 - » OACSU: During call setup, the calling radio does not ring. The called party answers the call automatically.
- As for the full duplex private call, only FOACSU is available.

Initiating a Call



When a private call is transmitted, the icon  appears on the LCD. When a full duplex private call is transmitted, the displayed icon will be . The ring indication will be given until the called party answers this call. You may transmit a private call through any of the following methods.

Through Contact List or Call Logs

1. Go to “Main Menu -> Settings -> Radio Set -> Call Setup Mode” and select “Half Duplex” or “Full Duplex” as the call setup mode.
You can also press the programmed **Call Setup Mode** key to switch the call setup mode if the dealer has defined it for you.
2. Enter the Contact List (path: “Main Menu -> Contact -> Contact List”) or Outgoing/Incoming/Missed (path: “Main Menu -> Call Logs”).
3. Use the **Up/Down** key to select the private call contact you want to call.






4. Press the  key or hold the **PTT** key on the telephone receiver to make a half duplex or full duplex call to the contact.

Through manual input


1. Set the call setup mode referring to the steps above.
2. In the home screen, input a private call number using the keypad on the telephone receiver. See “Manual Dial” in “Functions and Operations” chapter in the Owner’s Manual for the range of private call number.
3. Press the  key, hold the **PTT** key or press the  on the telephone receiver to make a half duplex or full duplex call to the contact.

Receiving a Call




● FOACSU Private Call

When a private call is received, a ring will be given, with the icon  displayed on the LCD as well (If it is a full duplex call, the displayed icon will be ). You may press the  or hold the **PTT** key within the preset time period to establish the call. When the call is established, the icon  will appear on the LCD. Ring alert will be given as well. If you don’t answer this call, the product will display the icon  to remind you.

● OACSU Private Call

The call is established automatically. The icon  will appear on the LCD when this call is established successfully.


Voice Communication

- If you select “Half Duplex” as the call setup mode, after a private call is established, either the calling party or the called party can transmit a voice call only if the **PTT** key is free with the LCD displaying “PTT Enabled!”. The calling party will display the icon  during transmission and the called party will display the icon  upon receipt.
- If you select the full duplex call as the call setup mode, after a private call is established, both the calling party and the called party can talk at the same time without pressing any key. The icon  will appear on the LCD of both parties.

■ Group Call


Group call includes general group call and broadcast group call. In a general group call, both the calling party and the called party can speak. However, in a broadcast call, only the calling party can speak, while the called party is able to listen to it only. The product cannot make a broadcast group call unless the dealer authorizes it. Here we only introduce the general group call.

Initiating a Call


When the product transmits a group call, the icon  will appear. You may transmit a group call through any of the following methods.

Transmitting a call through “Group Call Contact”



1. In the home screen, press the **Menu** key and then select the “Subgroup” menu, or directly press the **Subgroup** key to enter the “Subgroup” menu.

2. Go to “Subgroup -> Members” .
3. Use the **Up/Down** key to select the group call contact you want to call.
4. Press the  or hold the **PTT** key on the telephone receiver to make a general group call.




Note: You can also select the “General Group Call” as the “Call Type” , and press the OK key,  or hold the PTT key on the telephone receiver to make the call.

Through manual input



1. In the home screen, input a group call number using the keypad on the telephone receiver. See “Manual Dial” in “Functions and Operations” chapter in the Owner’ s Manual for the range of group call number.
 - » General group call: group call number
 - » Broadcast group call: In both CPS-P and CPS-P3 dialing schemes, input *11*+ group call number.
2. Press the  key or hold the **PTT** key or  to make a call.


Receiving a Call

You can receive the call without any operation and the icon  will appear on the LCD. Ring alert will be given as well.

Voice Communication

- General Group Call: After the call is established, either the calling party or the called party can transmit a voice call

only if the **PTT** key on the telephone receiver is free with “PTT Enabled!” displayed on the LCD. The calling party will display the icon  during transmission and the called party will display the icon  upon receipt.

- Broadcast Group Call: After the call is established, only the calling party can talk by holding the **PTT** key on the telephone receiver. When transmitting the voice, the calling party will display the icon  on the LCD. The called party can only receive the voice.

■ Emergency Call

In case of an emergency, you can use the feature to ask for help from your companion or control center. Emergency call is the highest-priority call which can disconnect any ongoing normal calls.

Only when the product is authorized to emergency call can it transmit such calls.

■ Time-out Timer (TOT)

TOT aims to prevent you from occupying a channel for an extended period, so that you will receive other calls in time. If the preset time expires, the product will automatically terminate the transmission and keep beeping. To stop beeping, please release the **PTT** key. You must wait for a certain time period (preset by your dealer) to initiate another transmission.