



**PD715 Ex**  
**Digital Portable Radio**  
**OWNERS MANUAL**

Hytera 海能达





### **Preface**

Thanks for your favor in our product. This manual is helpful for you to quickly know how to use the product. For detailed features and operations, please refer to the Feature Description and Operation Manual along with the product.

To avoid body injury or property loss caused by misoperation, please read the Safety Information Booklet carefully before use.

This manual is applicable to the following product:

PD71X Ex Digital Portable Radio (X may represent 2, 5, 6 or 8)

## Icon Conventions



Indicates functions that are available on digital channel only.



Indicates functions that are available on analog channel only.

Functions marked with no icon are available on both analog and digital channels.

## Disclaimer

Hytera Communications Corporation Limited (the Company) endeavors to achieve the accuracy and completeness of this manual, but no warranty of accuracy or reliability is given. All the specifications and designs are subject to change without notice due to continuous technology development. No part of this manual may be copied, modified, translated, or distributed in any manner without the express written permission of us.

We do not guarantee, for any particular purpose, the accuracy, validity, timeliness, legitimacy or completeness of the Third Party products and contents involved in this manual.

If you have any suggestions or would like to learn more details, please visit our website at: <http://www.hytera.com>.

## RF Radiation Information

This product must be restricted to operations in an occupational/controlled RF exposure environment. Users must be fully aware of the hazards of the exposure and able to exercise control over their RF exposure to qualify for the higher exposure limits.

### RF Radiation Profile

Radio Frequency (RF) is a frequency of electromagnetic radiation in the range at which radio signals are transmitted. RF technology is widely used in communication, medicine, food processing and other fields. It may generate radiation during use.

### RF Radiation Safety

In order to ensure user health, experts from relevant industries including science, engineering, medicine

and health work with international organizations to develop standards for safe exposure to RF radiation. These standards consist of:

- 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;
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998;

## FCC Regulations

Federal Communication Commission (FCC) requires that all radio communication products should meet the requirements set forth in the above standards before they can be marketed in the U.S, and the manufacturer shall post a RF label on the product to inform users of operational instructions, so as to enhance their occupational health against exposure to RF energy.

### 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 not more than 50% of the time and always adhere to the following procedures:

- RF energy will be generated only when the radio is transmitting.
- The radio must be at least 2.5 centimeters away from human body when transmitting.

## EU Regulatory Conformance

As certified by the qualified laboratory, the product is in compliance with the essential requirements and other relevant provisions of the Directive 1999/5/EC. Please note that the above information is applicable to EU countries only.

## Intrinsically Safe Radio Information

### Equipment Marking

#### FM/CAN

Class I, Zone 1 AEx/Ex ib IIC T4 Gb  
Class II, III Div 1, Group E, F, G T120°C

#### ATEX

II 2G Ex ib IIC T4  
II 2D Ex ib IIIC T120°C IP5X  
I M2 Ex ib

#### IECEx

Ex ib IIC T4  
Ex ib IIIC T120°C IP5X  
Ex ib I

#### Certificate Number

FM13ATEX0023X  
FMG 13.0010X

### No Misoperations

Stop operating this product and leave the explosive atmosphere immediately when the safety or integrity of the product is endangered, and deliver it to your local dealer for examination.

These items may endanger the product's safety or integrity:

- The radio is stored improperly;
- The radio is faulty;
- The radio works with overload;
- The radio's operational error or threshold value is out of allowed range.
- The radio is damaged during transportation;
- The radio's housing is obviously damaged or cracked;
- The radio logo or model is hard to be recognized;

### Safety Instructions



**Caution:** To protect you against any property loss, bodily injury or even death, be sure to observe the following safety instructions:

- Use only the Ex-battery BL1807-Ex specified by the Company. The use of other batteries may result in Ex-protection (intrinsic safety) failure.
- Charge the battery in a non-hazardous area only with the designated charger.
- Do not remove the battery from the radio in a hazardous area.
- Do not carry any standby battery into a hazardous area.
- Use the accessories specified by the Company only. Do not replace the accessories in a hazardous area.
- Do not use a damaged antenna. If a damaged antenna comes into contact with your skin, a minor burn may result.
- Do not expose the radio to direct sunlight for a long time, nor place it close to a heating source.
- Hold the radio upright and keep its microphone 2.5 to 5 centimeters away from your mouth during use.
- If you wear a radio on your body, ensure its antenna is at least 2.5 centimeters away from your body during transmission.
- Do not carry the radio into Zone 0 and 20. Please do not use the radio out of the operating temperature range specification of this product.
- Do not attempt to repair and service the radio, batteries and its accessories. Please contact your dealer for repair and servicing.
- Do not disassemble or redo the radio. Unauthorized modification of the radio may result in termination of Ex-protection (intrinsic safety) of the radio.
- Improper usage of the product other than it is intended to be used for will impair safety of the product, yourself and surrounding environment.

## Specifications

Item	Specifications
Rated Operating Voltage	DC 7.4V
Max. Operating Voltage	DC 8.4V
Max. Operating Current	1.5A
Weight (with standard antenna & battery)	About 498g
Sensitivity	0.3 $\mu$ V
RF Power Output	1W
Rated Audio Power Output	0.5W
Audio Distortion	3%
Ambient Temperature	-20 $^{\circ}$ C to +50 $^{\circ}$ C
Storage Temperature	-30 $^{\circ}$ C to +60 $^{\circ}$ C
Charging Temperature	0 $^{\circ}$ C to +40 $^{\circ}$ C
Battery	Ex-battery BL1807-Ex (1800mAh)
Battery Life	About 14 hours (5-5-90 duty cycle)
Charging Time	About 4 hours

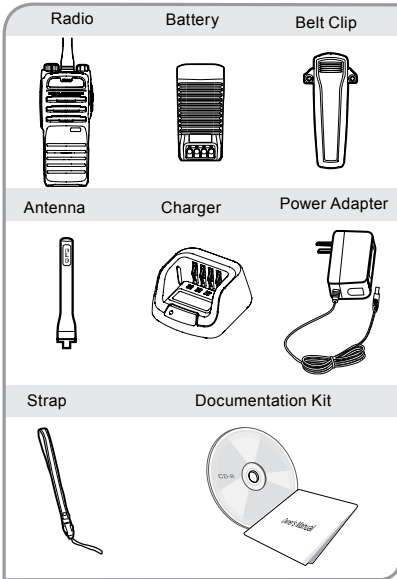
## Compliance Standards

Standard	Issue Date
<b>FM</b>	
FM Class 3600	2011
FM Class 3611	2004
FM Class 3810	2005
ANSI/IEC-60529(Ed. 4.0)	2004
ANSI/ISA-60079-0(12.00.01)	2009
ANSI/ISA-60079-11(12.02.01)	2012
ANSI/ISA-60079-31(12.10.03)	2009
ANSI/ISA-61010-1(82.02.01)	2004
<b>CAN</b>	
CAN/CSA-C22.2 No.0-M91	2006
CAN/CSA-C22.2 No.142-M1987	2009

Standard	Issue Date
CAN/CSA-C22.2 No.213-M1987	2008
CAN/CSA-C22.2 No.60079-0 (Ed. 5.0)	2011
CAN/CSA-C22.2 No.60079-11 (Ed. 5.0)	2011
CAN/CSA-C22.2 No.60079-31 (Ed.1.0)	2012
CAN/CSA-C22.2 No.60529 (Ed. 5.0)	2005
CAN/CSA-C22.2 No.61010-1 (Ed. 2.0)	2009
<b>ATEX</b>	
EN 60079-0 (Ed. 5.0)	2009
EN 60079-11 (Ed. 6.0)	2012
EN 60079-31 (Ed. 1.0)	2009
EN 60529+A1 (Ed. 2.0)	1992
<b>IECEx</b>	
IEC-60079-0 (Ed. 6.0)	2011
IEC-60079-11 (Ed. 6.0)	2011
IEC-60079-31 (Ed. 1.0)	2008

## Items in the Package

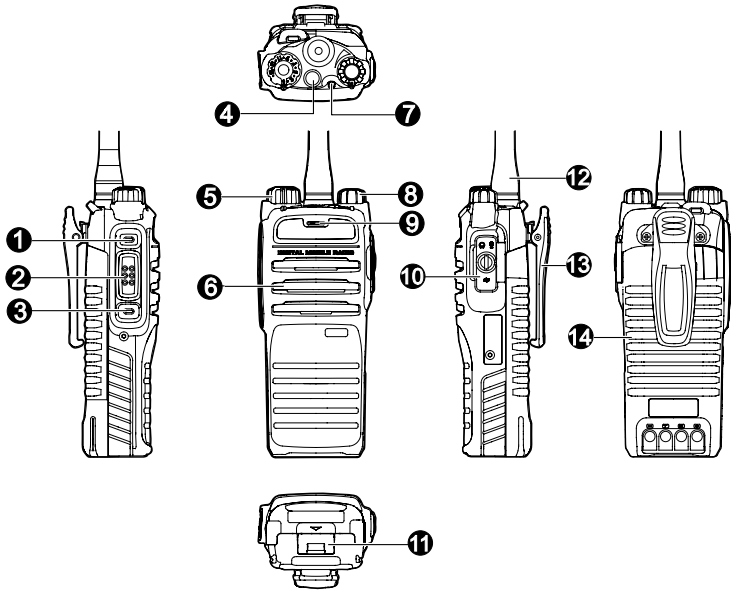
Please unpack carefully and check if all items listed below are received. If any item is missing or damaged, please contact your dealer.



**Note:** The frequency band is marked on the label of antenna; if not, please refer to the label on the radio for frequency band information.


## Product Overview

### Product Controls



No.	Part Name	No.	Part Name
1	SK1 (Side Key 1)	8	Power On-Off/Volume Control Knob
2	PTT (Push-to-Talk) Key	9	Microphone
3	SK2 (Side Key 2)	10	Accessory Connector
4	TK (Top Key)	11	Battery Latch
5	Channel Selector Knob	12	Antenna
6	Speaker	13	Belt Clip
7	LED Indicator	14	Battery

## Programmable Keys

For enhanced convenience, you may request your dealer to program the **SK1**, **SK2**, and **TK** (  ) as shortcuts to certain functions. Please refer to the Feature Description and Operation Manual along with the product for more details.



**Caution:** The **TK** key is programmed with emergency feature by default (short press: Emergency On; long press: Emergency Off). It is programmable by your dealer.

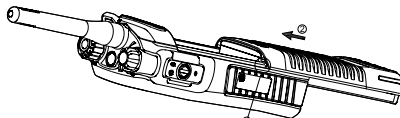
## LED Indicator

LED Indication	Radio Status
The LED indicator flashes green.	Powering on
The LED indicator glows green.	Receiving
The LED indicator glows red.	Transmitting
The LED indicator flashes orange slowly.	Scanning or Roaming
The LED indicator flashes orange rapidly.	Emergency
The LED indicator glows orange.	Call hang time. No voice is being transmitted or received on the traffic channel during a call. Within such period, you can hold down the <b>PTT</b> key to talk to the other party.

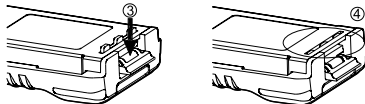
## Before Use

### Attaching the Battery

1. Align the battery slots with the guide rails on the radio as ① shows, and push the battery as ② shows.



2. Open the battery latch and hold it down until the metal lock goes into the battery housing completely as ③ shows.



3. Push the battery until it is fully fitted into the slot, and then release the battery latch as ④ shows.



**Note:** To remove the battery, please power off the radio first. Then open the battery latch, and slide the battery out while holding down the battery latch.

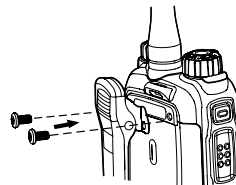
### Attaching the Antenna



**Caution:** Do not hold the radio by its antenna, otherwise the performance and lifespan of the antenna will be reduced.

### Attaching the Belt Clip

1. Remove the screws.
2. Align the screw holes on the belt clip with those on the radio's back, and then tighten the screws.



### Attaching the Accessories

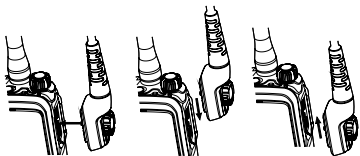
1. Open the accessory connector cover as shown below.



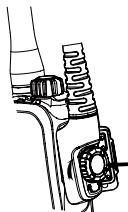
2. Align the accessory (such as an audio accessory, or a programming cable) plug with the accessory connector.



**Caution:** Do not scrape the silicone rubber surrounding the accessory connector screw hole, in order to ensure the waterproof performance of the radio.



3. Tighten the screw on the plug.



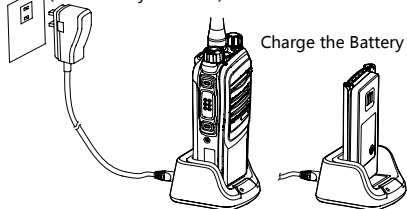
## Charging the Battery



### Caution:

- Use the charger specified by the Company to charge the battery.
- Make sure the radio is powered off before charging. Read the Safety Information Booklet in advance to get necessary safety information.
- Charge a new battery for at least 5 hours before initial use for best performance.

Charge the Radio  
(with battery attached)



Charge the Battery

## Charging Status Indication (on charger):

LED Indication	Charging Status
The LED Indicator flashes red slowly.	Standby (no load)
The LED Indicator glows red.	Charging
The LED indicator glows orange.	90% charged
The LED indicator glows green.	Fully charged
The LED Indicator flashes red rapidly.	Charging failed

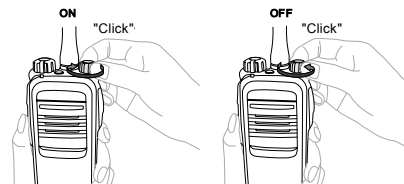
## Checking the Battery Power

You can check the current battery power by holding down the programmed Battery Power Indicator key preset by your dealer. And release the key to exit. Battery power indications and alert tone are listed below:

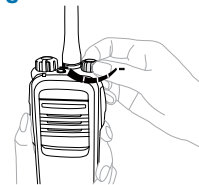
LED Indication/Tone	Battery Power
The LED Indicator glows green.	High
The LED Indicator glows orange.	Medium
The LED Indicator glows red.	Low
The LED Indicator glows red and an alert tone sounds.	The battery runs low. Please recharge or replace the battery for proper radio operation

## Basic Operations

### Turning the Radio On/Off



### Adjusting the Volume



### Selecting a Zone

A zone is a group of channels with the same property, which can facilitate convenient management over the channels. The radio supports 3 zones, each of which consists of up to 16 channels. Your dealer can program the zone for your specific needs. You can switch to the appropriate zone by pressing the programmed **Zone Up** or **Zone Down** key preset by your dealer.

### Selecting a Channel







**Note:** If the Channel Notify feature is enabled by your dealer, the radio will announce the channel number upon channel switching.

## Call Services

After the radio is powered on, you can make and receive calls. To ensure optimal volume of the receiving radio, keep the microphone about 2.5 to 5 centimeters away from your mouth when transmitting.



### Private Call

#### Initiating a Private Call

In the standby mode, hold down the **PTT** key to initiate a private call to the private contact preset for the current channel.

You may request your dealer to preset a regular private call contact for each digital channel.

#### Receiving and Responding to a Private Call

When you receive a private call, you can listen to it without any operation and hold down the **PTT** key to call back within the preset time.

### Group Call

#### Initiating a Group Call

In the standby mode, hold down the **PTT** key to initiate a group call to the group contact preset for the current channel.

#### Receiving and Responding to a Group Call

When you receive a group call, you can listen to it without any operation and hold down the **PTT** key to call back within the preset time.

### Call on Analog Channel (No Signaling)

To transmit on an analog channel, hold down the **PTT** and speak into the microphone. To receive, release the **PTT** key.

Please refer to the Feature Description and Operation Manual along with the product for operation description on how to make and receive calls on the analog channel with signaling.

### Emergency Call

In case of emergency, you can use Emergency Call to ask for help from your companion or the control center. Emergency Call needs to be configured and enabled by your dealer. Please refer to the Feature Description and Operation Manual along with the product for details.

## Available Features

Available features of this radio are listed below. Please refer to the Feature Description and Operation Manual for detailed feature descriptions.

Feature Type	Detailed Feature
Basic Setting	<ul style="list-style-type: none"> <li>● Indication: LED, Tone, Vibration</li> <li>● Audio: Mic AGC, Treble Boost, LQO, Audio Feedback Suppression</li> <li>● Scanning: Scan On, Scan Off, Scan List</li> <li>● Other Features: Power Level, VOX, One Touch Call, Renting, Programming, Covert Mode</li> </ul>
Digital Features	<ul style="list-style-type: none"> <li>● Voice Services: Group Call, Private Call, All Call,</li> <li>● Control Services: Alert Call, Radio Check, Remote Monitor, Radio Enable, Radio Disable, Priority Interrupt, Time-out Timer (TOT)</li> <li>● Personal Security Services: Emergency Alarm, Man Down, Lone Worker</li> <li>● Encrypt</li> <li>● Network: Talk Around, Roam</li> <li>● Other Features: Pseudo Trunking</li> </ul>
Analog Features	<ul style="list-style-type: none"> <li>● Voice Services: Call without Signaling, Call with Signaling,</li> <li>● Control Services: Compandor, Time-out Timer (TOT), Monitor, Squelch Off, Squelch Level Adjustment, CTCSS/CDCSS</li> <li>● Personal Security Services: Emergency Alarm, Man Down, Lone Worker</li> <li>● Scrambler</li> <li>● Talk Around</li> </ul>
Accessory-related Features	<ul style="list-style-type: none"> <li>● BT</li> </ul>
API Features	<ul style="list-style-type: none"> <li>● GPS Report</li> <li>● Radio Registration Service</li> <li>● Telemetry</li> </ul>

## Troubleshooting

Phenomena	Analysis	Solution
The radio cannot be powered on.	The battery may be improperly installed.	Remove the battery and then reattach it.
	The battery power may run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirtied or damaged battery contacts.	Clean the battery contacts.
During receiving, the voice is weak, discontinuous or totally inactive.	The battery voltage may be low.	Recharge or replace the battery.
	The volume level may be low.	Increase the volume by rotating the <b>Volume Control Knob</b> .
	The antenna may get loose or may be improperly installed.	Turn off the radio and reattach the antenna.
You cannot communicate with other members.	The speaker may be blocked or damaged.	Clean the surface of the speaker.
	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.
	The channel type (digital and analog) may be set inconsistently.	Make sure all members are on the same digital or analog channel.
	You may be too far away from the group members.	Move towards other members.
Irrelevant communication or noise is 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 be 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.
	You may locate in 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 to try again.
	You may suffer from external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.

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

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

### Product Care

- Do not pierce or scrape the product.
- 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 connector cover when the accessory is not in use.

### Product Cleaning



**Caution:** Turn off the product and remove the battery before cleaning.

- Clean up the dust and fine particles on the product surface and charging piece with a clean and dry lint-free cloth or a brush regularly.
- Use neutral cleanser and a non-woven fabric to clean the keys, control knobs and front case after long-time use. Do not use chemical preparations such as stain removers, alcohol, sprays or oil preparations, so as to avoid surface case damage.
- Make sure the product is completely dry before use.

## Optional Accessories

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



**Caution:** Use the accessories specified by the Company only. If not, the Company shall not be liable for any loss or damage arising out of use of unauthorized accessories.

Type	Model	Name
Power Supply	CH10A06	Dual Pocket MCU Charger Kit (for Li-ion/Ni-MH Batteries)
	MCA05	Battery Optimizing System
	MCA08	MCU Multi-unit Rapid-rate Charger (for thick battery)
	POA38	Li-ion/Ni-MH Battery Adapter
	POA59	Multi-unit charger battery adapter
Audio Accessories	EBN10-Ex	Intrinsically Safe Bone Conduction Headset (IP57)
	EBN11-Ex	Intrinsically Safe Bone Conduction Headset (IP57)
	EBN12-Ex	Intrinsically Safe Bone Conduction Headset (IP57)
	ECN20-Ex	Intrinsically Safe Noise-cancelling Headset (IP57)
	ECN21-Ex	Intrinsically Safe Noise-cancelling Headset (IP57)
	ECN22-Ex	Intrinsically Safe Noise-cancelling Headset (IP57)
	ELN09-Ex	Intrinsically Safe Throat-vibrating Earpiece (IP57)
	ELN10-Ex	Intrinsically Safe Throat-vibrating Earpiece (IP57)
	ELN11-Ex	Intrinsically Safe Throat-vibrating Earpiece (IP57)
	SM18N4-Ex	Intrinsically Safe Remote Speaker Microphone (IP57)
	SM24N1-Ex	Ex Multi-functional Remote Speaker Microphone (IP57)
	SM24N2-Ex	Ex Multi-functional Remote Speaker Microphone (IP57)
	POA63-Ex	Ex Large PTT (IP57)
Cable	PC38	Programming Cable (USB port)
Carrying Accessories	LCY005	Carrying Case with Leather (swivel)

Hytera

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