



DIGITAL PORTABLE RADIO

数字手持终端

OWNER'S MANUAL

使用说明书



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 Book along with the product

This manual is applicable to the following product:

PD60X Digital Portable Radio (X may represent 2, 5, 6 or 8)

DIGITAL PORTABLE RADIO



Instructional Icons



Indicates functions that are available on digital channel only.



Indicates functions that are available on analog channel only.

Functions marked with no function icons 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 Environments. 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 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.

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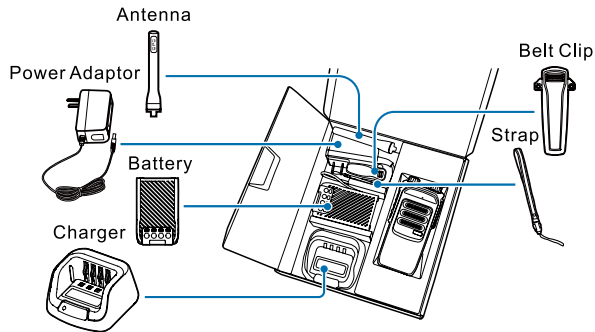
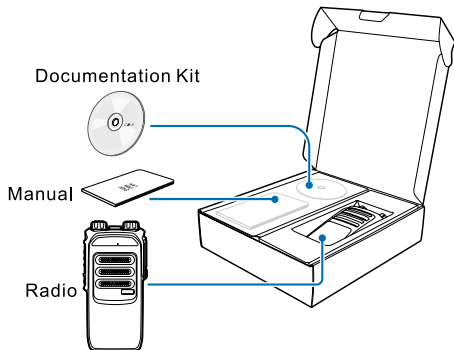
Items in the Package

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



Note

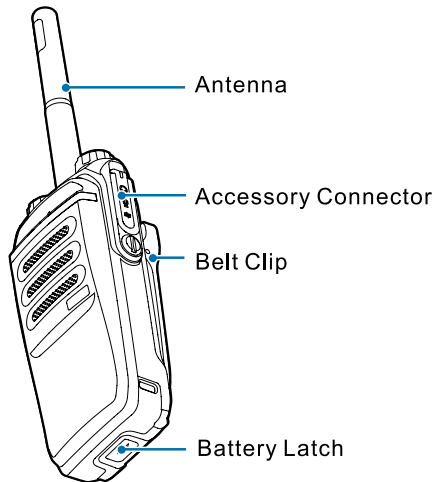
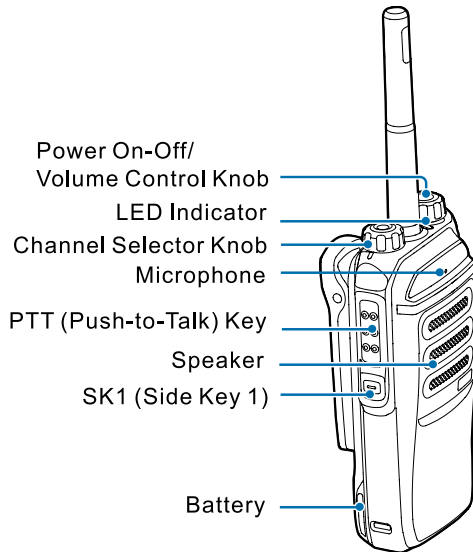
The frequency band is marked on the label of antenna; if not, please refer to the label on the radio for frequency band information.



Note

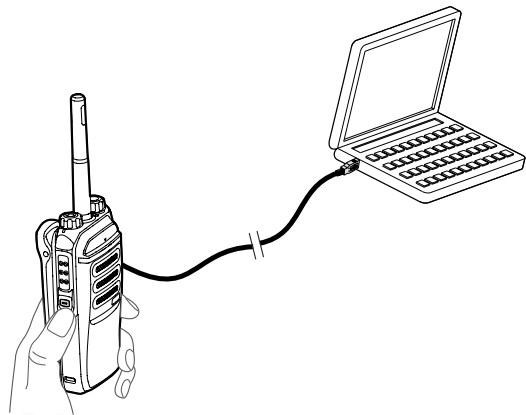
All pictures in this manual are for reference only.

Product Controls

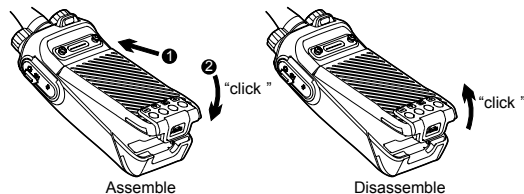


Programmable Keys

For enhanced convenience, you may request your dealer to program the **SK1** key as shortcut to certain feature. Please refer to the corresponding Feature Book for feature details.



Attaching the Battery



Note

- To remove the battery, please turn off the radio first.
- If not assembled with battery specified by Hytera, the radio will give an alarm tone to remind you when powering on. Afterwards, it will operate normally.

Attaching the Antenna



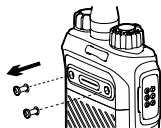
Before Use



Caution

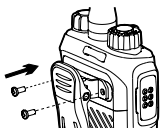
Do not hold the radio by its antenna, otherwise the performance and lifespan of the antenna will be reduced.

Attaching the Belt Clip



①

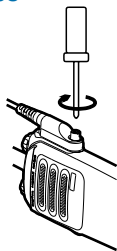
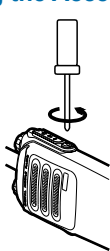
Remove the screws



②

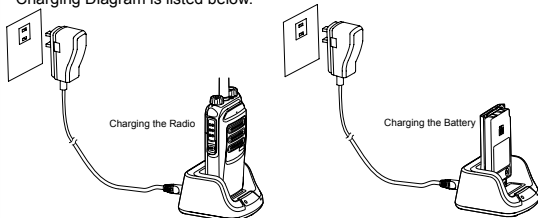
Assemble the Belt Clip

Attaching the Accessories



Charging the Battery

Please use the charger specified by the Company to charge the battery. Charging Diagram is listed below.



Charging Status Indication (on charger):

LED Indication	Current Status
The LED Indicator flashes orange slowly	Low current charging
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	100% Fully charged
The LED Indicator flashes red rapidly	Charging failure



Caution

- Make sure the radio is powered off before charging. Read the Safety Information Booklet in advance to get necessary safety information.
- To achieve optimal battery performance, please charge the battery for at least 5 hours before initial use.

Checking the Battery Power

You may check the current battery power by holding the programmed **Battery Power Indicator** key preset by your dealer. Release the key to exit.



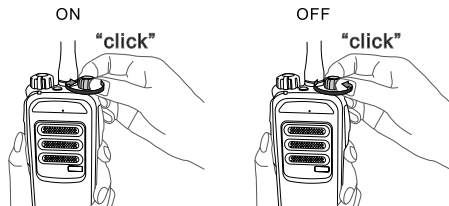
LED Indication	Battery Power
● The LED indicator glows green	■ High
● The LED indicator glows orange	■ Medium
● The LED indicator glows red	■ Low
● The LED Indicator glows red and low battery alert tone sounds.	■ Under the low battery threshold. Please recharge or replace the battery for proper radio operation.

LED Indicator

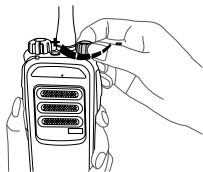


LED Indication	Product Status
● The LED indicator flashes green	Powering on
● The LED indicator glows green	Receiving
● The LED indicator glows red	Transmitting
● The LED indicator flashes orange slowly	Scanning or roaming
● The LED indicator flashes orange rapidly	Emergency
● The LED indicator glows orange	Call hung. During a call, you can hold down the PTT key to talk to the other party before the call hang time expires.

Powering On/Off

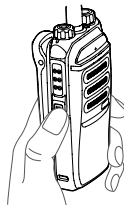


Adjusting the Volume

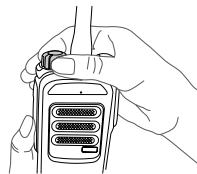


Selecting a Zone

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



Selecting a Zone



Selecting a Channel

Selecting a Channel

After the radio is powered on, you can rotate the **Channel Selector** knob to select an appropriate channel. You can also switch to the designated channel directly by pressing the programmed **Preset Channel** key preset by your dealer.

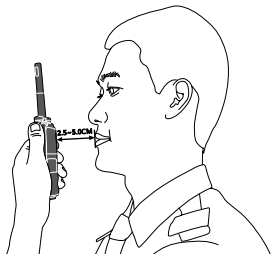
If the Channel Notify feature is enabled by your dealer, the radio will play the channel number upon channel switching.

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.

The types of calls you may initiate are listed below:

- Private call: A call made to a private contact.
- Group call: A call made to the group contacts.
- All call: A call made to all the contacts on the current channel.



Call on Digital Channel

You can initiate a private call, group call or all call (your radio must be programmed to allow you to use the all call service) through the same operations on digital channel. When calling back, the radio will make a call to the calling party in private call and all call (your radio must be

programmed to allow you to call back in an all call); but in group call, the radio will make a call to all parties involved when calling back.

Here we take the private call as example to illustrate the call process:

1. User A and B select the same digital channel for radios.
Users can request the dealer to preset a regular private call/group call/all call contact for each digital channel.
2. User A holds down the PTT key to initiate a call.
User A can talk to the microphone when the LED indicator on the radio glows red and release the PTT key to finish talking.
3. User B can receive the call without any operation. When receiving, the LED indicator glows green.
User B can hold down the PTT key to talk when the LED indicator on the radio glows orange.
4. User A can receive the call without any operation. When receiving, the LED indicator glows green.
User A can hold down the PTT key to talk when the LED indicator on the radio glows orange.



Note

The duration of LED indicator glowing orange (Call Hold Time) is preset by your dealer.

Call on Analog Channel (No Signaling)

On the analog channel without signaling, the calling operations are the same as on the digital channel. The difference is that the called parties are all the users on the channel, rather than the preset contact for the channel.

Please refer to the corresponding Feature Book for calling operations on the analog channel with signaling.

Emergency Call

In case of emergency, you can use this feature to ask for help from your companion or the control center. The Emergency Call has the highest priority which can terminate the ongoing calls with lower priorities on the current channel. You can make emergency operation even when your radio is transmitting or receiving.

This feature needs to be configured and enabled by your dealer. Please refer to the corresponding Feature Book for details.

Available features of this radio are listed below. Please refer to the corresponding Feature Book for details.

Feature Type	Detailed Feature
Radio Features	• Radio setting: Power Level, Covert Mode
	• Audio setting: Mic AGC, Always Treble Boost, LQO, Audio Feedback Suppression
	• Convenient functionality: Shortcuts, One Touch Call and VOX
	• Security: Man Down (Optional) and Lone Worker
Conventional Common Features	• Rent
	• Scan
	• Talk Around

Feature Description

Feature Type	Detailed Feature
Digital Features	<ul style="list-style-type: none">• Access management: Time-out-Timer (TOT) and Transmission Management• Basic voice services: Private Call and Group Call• Auxiliary voice service: All Call• Message (Preset)• Security: Emergency Call (Enabled via programmable keys) and Encrypt• Supplementary services• Patented features: Pseudo Trunking and Priority Interrupt• Mobility management: Roam
Analog Feature	<ul style="list-style-type: none">• Access management: Time-out-Timer (TOT), Transmission Management, Monitor, Squelch Off and Adjust Squelch Level• Call on Analog Channel (No Signaling)• Security: Emergency Alarm and Scrambler• Signaling: HDC1200, 5-Tone and 2-Tone
Features developed by Third Party	<ul style="list-style-type: none">• API: GPS Report (optional), Radio Registration Service, Telemetry

Troubleshooting

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

Phenomena	Analysis	Solution
Power-on Failure.	The battery may be improperly installed.	Remove the battery and reassemble it.
	The battery power may be used up.	Charge or replace the battery.
	The battery is poorly connected due to dirtied or damaged battery contacts.	Clean the battery contacts. If the problem cannot be solved, contact your dealer or authorized service center for inspection and repair.
During receiving, the voice is weak, discontinuous or totally inactive.	Low battery voltage.	Charge or replace the battery.
	Low volume level.	Increase the volume by rotating the Volume Control knob.
	The antenna may be loosened or improperly installed.	Reassemble the antenna after turning off the radio.
	The speaker may be blocked or damaged.	Clean the surface of the speaker. If the problem cannot be solved, contact your dealer or authorized service center for inspection and repair.
Unable to communicate with other members.	The frequency or signaling may be inconsistent with that of other members.	Set your TX/RX frequency and signaling to the same as that of other members.
	The channel type (digital/analog) may be set inconsistently.	Make sure all members are on the same digital/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.

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 directly.



Do not hold the product by its earpiece cable directly.



Attach the accessory connector cover when the accessory is not in use.

Product Cleaning



Turn off the product and remove the battery before **Caution** 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 radio. For more information of other accessories, please consult your local dealer.



Caution

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



Power Supply:

MCA08 MCU Multi-unit Rapid-rate Charger (for Li-Ion/Ni-MH batteries),
CH10A06 Dual-Pocket MCU Charger Kit (for Li-Ion/Ni-MH battery, including Dual-Pocket Charger and Switching Power),
PS7501 AC/DC Adapter,
MCA05 Battery Optimizing System,
BL2010 Li-ion battery(2000mAh)



Audio: X1 series Remote C-Earset,

X1 series 3-wire Surveillance Earpiece with Transparent Acoustic Tube (Beige),
X1 series Remote Earbud,
X1 series Remote Swivel Earset,
X1 series Remote Earpiece with Transparent Acoustic Tube,
SM26N1 Waterproof Remote Speaker Microphone(IP67),
SM26N2 Waterproof Remote Speaker Microphone(IP54),
ESW01-N2 Wireless Earset Kit



Cable: X1 series programming cable with USB port



Carry Accessories: NCN011 Nylon Carrying Case



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