BD612i Digital Portable Radio

User Manual

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Preface

Welcome to the world of Hytera and thank you for purchasing this product. This manual includes a description of the functions and step-by-step procedures for use. To avoid bodily injury or property loss caused by incorrect operation, please carefully read the *Safety Information Booklet* before use.

This manual is applicable to the following product:

BD61X Digital Portable Radio (X may represent 2, 5, 6, or 8)

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Documentation Information

This section describes the conventions and revision history of this document.

Documentation Conventions

Instruction Conventions

Icon	Description
TIP	Indicates information that can help you make better use of your product.
NOTE	Indicates references that can further describe the related topics.
CAUTION	Indicates situations that could cause data loss or equipment damage.
WARNING	Indicates situations that could cause minor personal injury.
DANGER	Indicates situations that could cause major personal injury or even death.

Notation Conventions

Item	Description	Example
Boldface	Denotes menus, tabs, parameter names, window names, dialogue names, and hardware buttons.	To save the configuration, click **Apply**.
		The **Log Level Settings** dialogue box appears.
		Press the **PTT** key.
" "	Denotes messages, directories, file names, folder names, and parameter values.	The screen displays "Invalid Battery!".
		Open "PDT_PSS.exe".
		Go to "D:/opt/local".
		In the **Port** text box, enter "22".
>	Directs you to access a multi-level menu.	Go to **File** > **New**.
Italic	Denotes document titles.	For details about using the DWS, refer to *Dispatch Workstation User Guide*.
`Courier New`	Denotes commands and their execution results.	To set the IP address, run the following command: `vos-cmd - m name IP`

Revision History

Version	Release Date	Description
R2.0	November 2018	Updated the version.
R1.0	September 2016	Initial release.

1. Packing List

Please unpack carefully and check that you have received the following items. If any item is missing or damaged, contact your dealer.

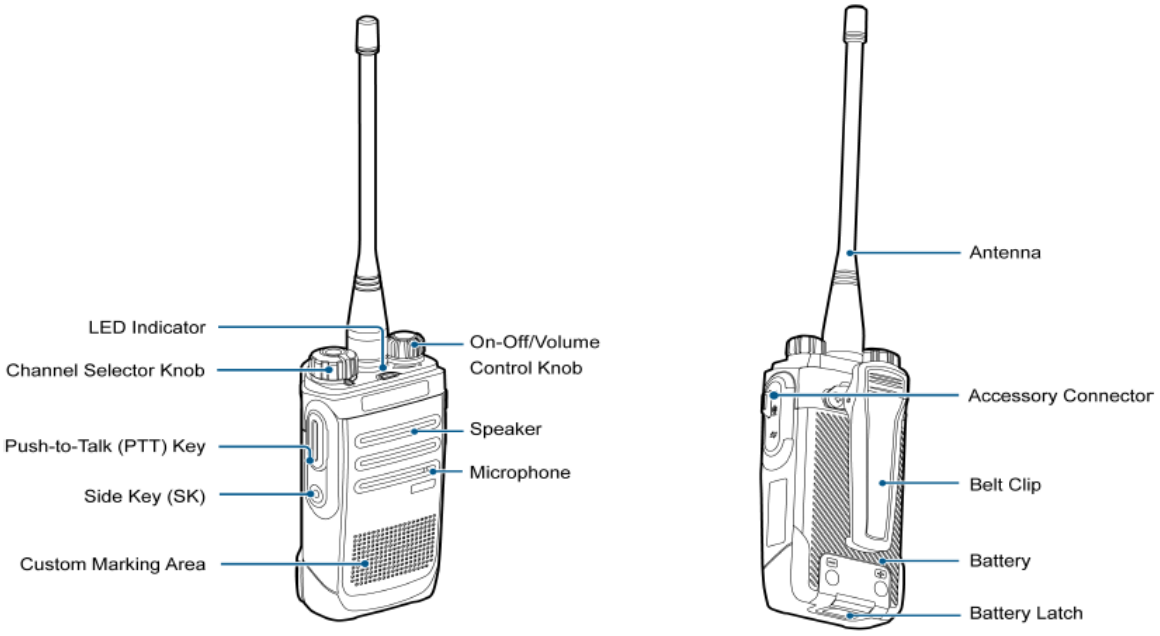
Item	Quantity (PCS)	Item	Quantity (PCS)
Radio	1	Antenna	1
Battery	1	Belt Clip	1
Charger	1	Strap	1
Power Adapter	1	Documentation Kit	1

NOTE

- Figures in this manual are only for reference.
- Check whether the frequency band marked on the antenna label matches that on the radio label. If not, contact your dealer.

2. Product Overview

2.1 Product Layout



2.2 Programmable Key

For enhanced convenience, you can request your dealer to program **SK** as a shortcut to a radio feature. Consult your dealer for assignable radio features.

2.3 LED Indicator

LED Indicator	Radio Status
Flashes green	The radio is being turned on.
Glows green	The radio is receiving.
Glows red	The radio is transmitting.
Flashes orange slowly	The radio is scanning.
Glows orange	Call hang time: No voice is being transmitted or received on the channel during a call. Within such a period, you can press and hold the **PTT** key and speak.

3. Before Use

3.1 Charging the Battery

CAUTION

- Read the *Safety Information Booklet* before charging.
- Use the approved charger to charge the battery.
- The remaining lithium-ion battery power is limited to 30% pursuant to the new lithium battery shipment regulation approved by International Air Transport Association (IATA).

Before initial use, charge the battery. You can charge either the standalone battery or the radio with battery attached. It is recommended to power off the radio during charging.

The LED indicator on the charger indicates the charging status. For details, see the following table.

LED Indicator	Charging Status
Glows red	The battery is being charged.
Glows orange	The battery is charged to 85% or more.
Glows green	No battery is placed on the charger, or the battery is fully charged.

3.2 Attaching the Battery

1. Push the battery latch to , and then remove the battery cover.
2. Inset the top of the battery into the slot, and then press the bottom of the battery toward the radio until the battery is securely inserted.
3. Put the battery cover back in place, and then push the battery latch to .

NOTE

To remove the battery, make sure that the radio is turned off, and then lift the battery latch.

3.3 Attaching the Antenna

⚠ CAUTION

Do not hold the radio by the antenna and swing it. This may affect the antenna performance and shorten the life span of the antenna.

1. Align the threaded end of the antenna with antenna connector.
2. Tighten the antenna clockwise.

3.4 Attaching the Belt Clip

1. Use a screwdriver to remove the screws on the back of the radio.
2. Align the screw holes on the belt clip with those on the back of the radio.
3. Put the screws back in place, and then use the screwdriver to tighten them.

3.5 Attaching the Audio Accessory

1. Rotate the screws on the accessory connector cover counterclockwise to open it.
2. Plug the accessory into the accessory connector.
3. Tighten the screw on the accessory plug clockwise.

3.6 Checking the Battery Power

To check the battery power, press and hold the preprogrammed **Battery Power Indicator** key. The following table lists the battery power indications.

LED Indicator	Alert Tone	Battery Power
Glows green	Three beeps	High
Glows orange	Two beeps	Medium
Glows red	One beep	Low
Glows red	Low battery tone	Under the low battery threshold. Recharge or replace the battery.

4. Basic Operations

4.1 Turning the Radio On or Off

To turn the radio on or off, rotate the **On-Off/Volume Control** knob clockwise or counterclockwise until a click is heard.

4.2 Adjusting the Volume

To increase or decrease the volume, rotate the **On-Off/Volume Control** knob clockwise or counterclockwise.

4.3 Selecting a Zone

A zone is a group of channels within the same operational area. The radio supports up to three zones, each of which contains up to 16 channels.

To select a zone, press the preprogrammed **Zone Up** or **Zone Down** key.

4.4 Selecting a Channel

To select a channel, rotate the **Channel Selector** knob.

If the Channel Notify feature is enabled, the radio automatically announces the current channel upon power-on and channel change.

5. Call Services

When you are speaking during a call, keep the microphone about 2.5 to 5 cm away from your mouth. This ensures optimal voice quality on the receiving radio.

5.1 Call on Digital Channel

You can initiate or receive the following types of calls on a digital channel:

- Private call: a call from an individual user to another individual user.
- Group call: a call from an individual user in a group to all the other members in the group.
- All call (enabled by your dealer): a call from an individual user to all other users on the current channel.

Initiating a Call

- On the home screen, rotate the **Channel Selector** knob to select the required channel, and then press and hold the **PTT** key to initiate a call to the private/group/all call contact preset on the channel.
- If the One Touch Call feature is configured by your dealer, press the preprogrammed **One Touch Call** key, and then press the **PTT** key to initiate a call to a private or group contact.

Receiving and Responding to a Call

You can listen to an incoming call without any operation.

To respond to a private or group call, press and hold the **PTT** key within the preset time.

Ending a Call

- A private/group call ends when the call hang time expires.
- An all call ends when the calling party releases the **PTT** key.

5.2 Call on Analog Channel (Without Signaling)

You can initiate a call to all other users on the current analog channel. The operations are the same as those on digital channel.

6. Supplementary Features

Feature	Description	Operation
Power Level	The feature allows you to set the TX power level of the radio to High or Low. High level strengthens the TX signal. Low level saves the battery power.	Press the preprogrammed **Power Level Adjust** key to adjust the power level.
Scan	The feature allows you to listen to activities on other channels, keeping track of your group members. With the feature enabled, the radio searches the scan list preset for the current channel. After detecting activities on a channel, the radio stays on it.	Press the preprogrammed **Scan** key to enable or disable the feature. If a channel is configured with Scan, the radio automatically scans when switching to the channel.
Emergency	The feature allows you to ask for help from your companion or the control center in case of emergency. With the highest priority, you can initiate an emergency call whenever your radio is transmitting or receiving.	Press the preprogrammed **Emergency On** key to initiate an emergency call to the preset contact. With the Alarm w/Call to Follow feature enabled, you can talk in an emergency call by speaking into the microphone without pressing the **PTT** key.
VOX	The feature allows you to transmit voice without pressing and holding the **PTT** key. The radio automatically transmits voice when the volume reaches the preset level. To set the desired sensitivity of the microphone transmission, consult your dealer to configure the VOX Gain Level.	You can use the feature with the earpiece with VOX. To enable the VOX feature, do as follows: 1. Toggle the **PTT/VOX** switch on the earpiece to **VOX**, and insert the earpiece into radio. 2. Press the preprogrammed **VOX** key on radio. If a channel is configured with VOX, the radio automatically enables the feature when switching to the channel. 3. To disable the VOX feature, toggle the switch to **PTT**.
Talk Around	The feature allows you to continue	Press the preprogrammed **Talk Around** key to

Feature	Description	Operation
	communication in DMO mode, when the repeater malfunctions or your radio is out of the repeater's coverage.	change between DMO and repeater mode.
Busy Channel Lockout	The feature prevents you from talking on a channel that is already in use. The radio keeps beeping if you press and hold the **PTT** key when the current channel is occupied by other radios.	The feature is enabled by default.
TOT	The feature allows the radio to automatically stop voice transmission and keep beeping when the preset period (60s by default) expires. To stop beeping, release the **PTT** key. You need to wait for a certain preset period to initiate a call again. In this way, the feature prevents a channel from being occupied for an extended period and avoids potential radio damage caused by overheating.	The feature is enabled by default.
Keypad Lock	The feature allows you to lock the keypad or knobs to avoid unintended operations, when they are not in use.	Press the preprogrammed **Keypad Lock** key to enable or disable the feature.
Battery Save	The feature allows the radio to automatically enter Battery Save mode if no carrier is detected or no transmission is made within a certain period.	The feature is enabled by default.
Adjust Squelch Level	The feature allows you to adjust the squelch threshold required for the radio to be unmuted. Generally, the higher squelch level requires stronger signal for the radio to be unmuted. The squelch level includes	Press the preprogrammed **Adjust Squelch Level** key to adjust the level.

Feature	Description	Operation
	Low, Normal, and Tight.	
Monitor	The feature allows the radio to receive more signals or weak signals, which helps you to recognize the weak voice in the speaker.	Press the preprogrammed **Monitor** key to enable or disable the feature.
Scrambler	The feature allows the radio to invert the frequency spectrum of transmitted audio signals. Only the receiving radio with the same scrambler setting can restore the audio signals. This prevents eavesdropping and ensures communication privacy.	Press the preprogrammed **Scrambler** key to enable or disable the feature. If a channel is configured with Scrambler, the radio automatically enables the feature when switching to the channel.
CTCSS/CDCSS	The feature allows the radio to play the voice only when the received CTCSS/CDCSS matches the transmitted CTCSS/CDCSS.	Consult your dealer to enable this feature.

7. Troubleshooting

Phenomena	Analysis	Solution
The radio cannot be turned on.	The battery may be installed incorrectly.	Remove and reattach the battery.
	The battery power may run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirty or damaged battery contacts.	Clean the battery contacts or replace the battery.
During reception, the voice is weak, intermittent, or totally inactive.	The battery voltage may be low.	Recharge or replace the battery.
	The volume level may be low.	Increase the volume.
	The antenna may be loose or may be installed incorrectly.	Turn off the radio, remove, and reattach the antenna.
	The speaker may be blocked.	Clean the surface of the speaker.
You cannot communicate with other group members.	The frequency or signal strength may be low in comparison to other members.	Verify that your TX/RX frequency and signal strength are correct.
	The channel type (digital or analog) may be set incorrectly.	Verify that you are on the correct digital or analog channel.
	You may be too far away from other members.	Stay close with other members.
Unknown voices 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.

Phenomena	Analysis	Solution
	The radio in analog mode may be set with no signaling.	Request your dealer to set signaling for all radios operating at the same frequency, and make sure that all members share the same signaling.
During reception, you hear too much noise and hiss.	You may be too far away from other members.	Move towards other members.
	You may be in an unfavorable position. For example, your communication may be blocked by high buildings or blocked in an undergound area.	Move to an open and flat area, restart the radio, and try again.
	It may be the result of external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.
The radio keeps transmitting.	You may toggle the **PTT/VOX** switch on the earpiece with VOX feature to **VOX**.	Reinsert the earpiece or switch to another channel.
You hear unclear voice.	The signal is poor.	Make sure that call participants are within the communication range.

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

8. Care and Cleaning

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

8.1 Product Care

- Do not pierce or scrape the product.
- Keep the product far away from substances that can corrode the circuitry.
- Do not hold the product by the antenna or earpiece cable.
- Close the accessory connector cover when no accessory is in use.

8.2 Product Cleaning

⚠ CAUTION

Turn the product off 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, 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 that the product is completely dry before use.

9. Optional Accessories

Contact your dealer for the optional accessories of the product.

⚠ CAUTION

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

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10. Abbreviations

Abbreviation	Full Name
LED	Light-emitting Diode
PTT	Push-to-Talk
SK	Side Key

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