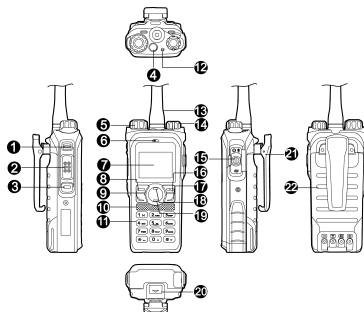




PD98X Digital Portable Radio
Quick Reference Guide

Product Overview

Product Layout



No.	Part Name	No.	Part Name
1	Side Key 1 (SK1)	12	LED Indicator
2	Push-to-Talk (PTT) key	13	Antenna
3	Side Key 2 (SK2)	14	On-Off/Volume Control Knob
4	Top Key (TK)	15	Accessory Connector
5	Channel/Group Selector Knob	16	Back/Subgroup Key
6	Microphone	17	P2/End Key
7	LCD Display	18	Up Key
8	OK/Menu Key	19	Down Key

No.	Part Name	No.	Part Name
9	P1/Answer Key	20	Battery Latch
10	Speaker	21	Belt Clip
11	Numeric Keypad	22	Battery

Programmable Keys

You can request your dealer to program the following keys as shortcuts to assignable radio features: **SK1**, **SK2**, **TK**, **P1/Answer** key, **P2/End** key, **Back/Subgroup** Key, **Up** key, and **Down** key. Consult your dealer for assignable radio features.

Basic Operation

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, make sure to charge the battery. You can charge either the standalone battery or the radio with battery attached. It is recommended that the radio remain powered off during charging.

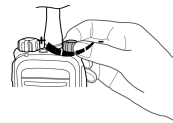
The LED indicator on the charger shows the charging status. For details, see the following table.

LED Indicator	Charging Status	LED Indicator	Charging Status
Glows red	The battery is being charged.	Glows orange	The battery is charged to 90% or more.
Glows green	The battery is fully charged.	Flashes red rapidly	The battery fails to be charged.
Flashes red slowly	No battery is placed on the charger.	/	/

Turning the Radio On or Off



Adjusting the Volume



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. More

bars indicate more battery power. The icon  indicates that the battery runs low. In this case, recharge or replace the battery.

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.

Locking or Unlocking the Keypad

When the keypad is not in use, you can lock it to avoid unintended operations.

● Auto Keypad Lock

To allow the keypad to be locked automatically, go to **Menu > Settings > Radio Set > Keypad Lock** to enable or disable the feature.

With this feature enabled, the keypad will be locked automatically if no operation is made or no call/message is received within the preset time period.

● Manual Keypad Lock

To lock or unlock the keypad manually, press the preprogrammed **Keypad Lock** key or press the key

combination of **OK/Menu** +  on the home screen.

● Keypad Lock Backup

If this feature is enabled by your dealer, the radio saves the last settings of keypad lock upon power-off.

NOTE

You can go to **Menu > Settings > Radio Set > Optional Key** to select more keys or knobs to be locked, including the programmable keys, **Channel/Group Selector** knob, **On-Off/Volume Control** knob, and the **PTT** key.

Using the Keypad

You can use the keypad to enter user aliases or IDs and edit messages.

- To switch the input method between alphabetic mode and numeric mode, press .
- To enter special characters, press  in alphabetic mode.
- To enter a space, press  in alphabetic mode.

Switching the Operation Mode

The radio can operate in conventional mode, or trunking mode if enabled by your dealer.

To manually switch the operation mode, do one of the following:

- Go to **Menu > Mode > Manual Switch**, select the required mode, and then press the **OK/Menu** key.
- Press the preprogrammed **Operation Mode Switch** key.

To allow the radio to automatically switch to a mode based on signal strength, do one of the following:

- Go to **Menu > Mode > Auto Switch**, and then select **Enable**.
- Press the preprogrammed **Mode Auto Switch** key.

With this feature enabled, the radio displays .

Selecting a Zone and Channel

Conventional Mode

In conventional mode, the radio receives and transmits data and voice on the selected channel. A zone is a group of channels within the same operational area. The radio supports up to 64 zones, each of which contains up to 256 channels. Before selecting a channel, make sure that the current zone contains the channel.

To select a zone, do one of the following:

- Go to **Menu > Zone**, press the **Up** or **Down** key to select the required zone.
- Press the preprogrammed **Zone Up** or **Zone Down** key.

To select a channel, do one of the following:

- Rotate the **Channel Selector** knob.
- Press the preprogrammed **Channel Up** or **Channel Down** key.
- Press the preprogrammed **Preset Channel** key to revert to the preset channel.

NOTE

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

Trunking Mode

In trunking mode, the radio hunts for available base stations automatically. After successful registration, the radio can receive and transmit data and voice.

During hunting, the LCD displays "Registering, Please wait!" and the icon , and the LED indicator flashes orange slowly with an alert tone.

To select a group contact or a private contact, do as the following:

- Rotate the **Group Selector** knob.
- Press **Back/Subgroup** key or access the **Subgroup** menu. Then press the **Up** or **Down** key to select the required subgroup in the subgroup list and then select the required group or private contact.
- Press the preprogrammed **Group/Private Contact Up** or **Group/Private Contact Down** key to select the required group or private contact.

A subgroup consists of multiple groups or private contacts.

To select a subgroup, do one of the following:

- Press the **Back/Subgroup** key or access the **Subgroup** menu. Then press the **Up** or **Down** key to select the required subgroup in the subgroup list.
- Press the preprogrammed **Subgroup Up** or **Subgroup Down** key.

Status Indications

LCD Icons

The following tables list icons that may appear on the radio's liquid-crystal display (LCD).

Operation Mode Icons

Icon	Radio Status
DM	Direct Mode: The radio transmits and receives directly.
TM-DW	Trunking Mode - Digital Wide: The radio operates under multiple interconnected BSs.
TM-DL	Trunking Mode - Digital Local: The radio operates under a single BS.
	The feature "Auto Switch" of work mode is enabled.
	The number of bars indicates the power left in the battery.
	There is no signal in conventional or TM-DW mode.
	The number of bars indicates the signal strength in conventional or TM-DW mode.
	There is no signal in TM-DL mode.
	The number of bars indicates the signal strength in TM-DL mode.
	The radio operates in low power mode.
	The radio operates in medium power mode.
	The radio operates in high power mode.
	The radio is scanning or hunting.

Icon	Radio Status
	The radio is in emergency mode.
	There is/are unread short message(s).
	The Inbox is full.
	A full-duplex call is in progress.
	A private call is in progress or a private contact is on the contact list.
	A group call is in progress or a group contact is on the contact list.

For more information about status icons, please refer to the *User Manual*.

LED Indications

LED Indicator	Radio Status
Flashes green	The radio is being turned on.
Flashes green slowly	The radio is standby in trunking mode.
Glow green	The radio is receiving.
Glow red	The radio is transmitting.
Flashes red	The calling radio is establishing a call in trunking mode.
Flashes orange slowly	The radio is scanning, roaming or hunting.
Flashes orange rapidly	● Conventional mode: The radio is working in emergency mode. ● Trunking mode: The called radio is establishing a Full Off Air Call Set-

LED Indicator	Radio Status
	Up (FOACSU) call.
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.
Flashes blue every 3 seconds	The BT feature is enabled, but no BT device is connected.
Flashes blue every 1.5 seconds	A BT device is connected.
Flashes blue every 0.5 seconds	The BT feature is being disabled.

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.



NOTE

In trunking mode, if the radio is not registered or attached, or an empty group is selected, you cannot initiate a call.

Call on Digital Channel

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

- Group call: a call from an individual user in a group to all the other members in the group.

- Private call: a call from an individual user to another individual user.

Initiating a Group Call

When you initiate a group call, the LCD displays the icon .

You may initial a group call through any of the following ways:

Through the Preset Contact

- Conventional mode: Rotate the **Channel Selector** knob to select a digital channel, and then press the **PTT** key to call the group contact preset on the channel.
- Trunking mode: Rotate the **Group Selector** knob to select the required group contact, and then press the **PTT** key.

Through the Contact List

- Conventional mode: Go to **Menu > Contact > Favorites/Contact List**, select the required group contact, and then press the **PTT** key.
- Trunking mode: Select a group contact under the **Subgroup** menu, and then press the **PTT** key.

Through the Manual Dial

- Conventional mode: Go to **Menu > Contact > Manual Dial**, then press  to enter the required group ID, and press the **PTT** key. Or go to **Menu > Settings > Radio Set > Keypad Mode > Enable**, then on the main menu press  to enter the required group ID, and press the **PTT** key.
- Trunking mode: Go to **Menu > Settings > Radio Set > Keypad Mode > Enable**, then on the home screen

press  to enter the required group ID, and then press the /PTT key.



NOTE

Keypad mode is enabled by the dealer. To input a number complying with the dialing rules, please consult your dealer for more details.

Receiving a Group Call

Conventional Mode

When receiving a group call, the radio displays . You can listen to an incoming group call without any operation.

Trunking Mode

When you receive a group call, the call is established automatically. After the call is established successfully, the radio displays .

Ending a Group Call

In conventional and trunking mode, a group call automatically ends when the call hang time expires.

In trunking mode, a group call also ends in any of the following cases:

- The calling party ends the call.
- The call duration exceeds the preset time.
- The base station signal is lost.
- The calling party selects an empty group with the **Group Selector** knob.
- A preemptive or emergency call interrupts the call.
- The calling party changes the contact with the Clear Down feature enabled.

Initiating a Private Call

You can set up a full duplex private call and a half duplex private call.

- Full duplex private call: The called party and the calling party can talk at the same time.
- Half duplex private call: The called party and the calling party cannot talk at the same time.

NOTE

Full duplex private call is available only for the duplex radio.

To select a call setup mode, press the preprogrammed **Call Setup Mode** key or go to **Menu > Settings > Radio Set > Call Setup Mode** to choose **Half Duplex** or **Full Duplex**.

When you initiate a private call, the radio displays  (half duplex), or  (full duplex).

You may initial a group call through any of the following ways:

Through the Preset Contact

- Conventional mode: Rotate the **Channel Selector** knob to select a digital channel, and then press the **PTT** key to call the private contact preset on the channel.
- Trunking mode: Rotate the **Group Selector** knob to select the required private contact, and then press the **PTT** key.

Through the Contact List

- Conventional mode: Go to **Menu > Contact > Favorites/ Private Contact**, select a private contact in the list, and then press the  key.

- Trunking mode: Go to **Menu > Contact > Favorites/ Private Contact**, select a private contact in the list, and then press the  key.

Through the Manual Dial

- Conventional mode: Go to **Menu > Contact > Manual Dial**, then press  to enter the required private ID, and press the **PTT** key. Or go to **Menu > Settings > Radio Set > Keypad Mode > Enable**, then on the main menu press  to enter the required private ID, and press the **PTT** key.
- Trunking mode: go to **Menu > Settings > Radio Set > Keypad Mode > Enable**, then on the main menu press  to enter the required private ID, and press the  key.

Receiving a Private Call

Conventional Mode

When receiving a private call, the radio displays  (half duplex), or  (full duplex). You can listen to an incoming private call without any operation.

Trunking Mode

You can listen to a call in different ways varying with the setup mode of the call:

- Full Off Air Call Set-Up (FOACSU)

When receiving a FOACSU private call, the radio rings and vibrates, and displays  (half duplex), or  (full duplex).

To answer the call, press the  key within the preset time. After the call is successfully established, the radio emits a tone and displays . If you do not answer the call, the radio displays .

- Off Air Call Set-Up (OACSU)

When receiving an OACSU private call, you can listen to it without any operation. After the call is established successfully, the radio displays .

Ending a Private Call

In conventional mode and trunking mode, a private call automatically ends when the call hang time expires.

In trunking mode, a private call also ends in any of the following cases:

- The calling or the called party ends the call.
- The call duration exceeds the preset time.
- The base station signal is lost.
- The calling or the called party selects an empty group with the **Group Selector** knob.
- A preemptive or emergency call interrupts the call.
- The calling party changes the contact with the Clear Down feature enabled.

Call on Analog Channel

(Conventional Only)

Call Without Signaling

On an analog channel without signaling, you can initiate a call to all the other users on the channel. Do as follows:

1. Rotate the **Channel Selector** knob to select the required channel.
2. Press and hold the **PTT** key, and speak into the microphone.

Call With Signaling

On an analog channel with signaling, you can initiate a call to a specific contact on the channel. Do as follows:

1. Rotate the **Channel Selector** knob to select the required channel.
2. Press **OK/Menu** key, and go to **Contact > Contact List**.
3. Select the target contact.
4. Press and hold the **PTT** key, and then speak into the microphone.

Emergency Call

In case of an emergency, you can initiate an emergency call to ask for help from other personnel or the control centre. With the highest priority, you can make an emergency call whenever your radio is transmitting or receiving.

This feature needs to be configured and enabled by your dealer. For details, refer to the Emergency Feature section in the *User Manual*.

Message Services

The Message feature allows you to send and receive the following types of messages in trunking mode or on a digital channel in conventional mode:

- New messages: messages created using the keypad.
- Quick text messages: frequently used messages predefined by your dealer and editable.
- Status messages (trunking only): frequently used messages predefined by your dealer and not editable.

Viewing a Message

To view newly received messages on the home screen, directly press the **OK/Menu** key.

To view received messages from the InBox, sent messages, or saved messages, do as follows:

1. Go to **Menu > Message > InBox/OutBox/Drafts > InBox List/Outbox List/ Drafts List**.
2. Select the required message.

Sending a Message

Sending a Text Message

1. Go to **Menu > Message > New Msg**, and then type the text.
2. Press the **OK/Menu** key, and then select **Send**.
3. Select the required contact, and then press the **OK/Menu** key.



NOTE

Instead of directly sending the new message, you can also select **Save** in conventional mode or select **Save to Drafts** or **Save to QuickText** in trunking mode to save the new message, and send it later.

Sending a Quick Text Message

1. Go to **Menu > Message > Quick Text**, and then select the required quick text message.
2. (Optional) Edit the message, and then press the **OK/Menu** key.
3. Select **Send**, and then select the required contact.
4. Press the **OK/Menu** key.

Sending a Status Message

1. Go to **Menu > Message > Status Msg**, and then select the required status message.

2. Press the **OK/Menu** key, and then select the required contact.
3. Press the **OK/Menu** key.



NOTE

You can send status messages by manual dialing. Consult your dealer for more information.

Deleting a Message

To delete text messages from the InBox, OutBox, or Drafts, do as follows:

1. Go to **Menu > Message > InBox/OutBox/Drafts > InBox List/Outbox List/Drafts List**.
2. Select the required message, and then press the **OK/Menu** key.
3. Select **Delete**, and then press the **OK/Menu** key.

In trunking mode, you can go to **Menu > Message > Quick Text** to delete quick text messages.

For details on more features and operations, please visit our website at: <http://www.hytera.com>, or scan the QR code to download the *User Manual*.

