

Thank you for your interest in our products. This manual will help you to master the operation and use of the DR-100. This manual should be read and studied to ensure that the user understands the operation of the DR-100. Please read the Safety Information Manual before use.

This manual applies to the model, DR-100 series digital handheld.

Disclaimer

We strive for the accuracy and completeness of this manual, but no warranty is given on its content. All the specifications and designs are subject to change without prior notice due to continuous technology development. No part of this manual may be copied, modified, translated or distributed in any form without our prior written authorization.

The third-party products referred to in this manual are property of those third parties. We do not guarantee their accuracy, validity, timeliness, legality or completeness.

USER NOTICES

SAFETY:

The user should be aware of and understand the general hazards in operating a two-way radio transceiver. We cannot guarantee the safety and operation of our transceiver with aftermarket accessories unless they have been tested and sold by us.

Our transceiver should be maintained and serviced by a

qualified two-way radio dealer and their technical staff. Failure to do so may violate our warranty.

WARNING:

No two-way radio transceiver including ours shall be operated including powered on in hazardous areas such as explosive atmospheres including Inflammable gas, dust particles, metallic powders, grain dust, etc. This shall include confined spaces where these hazards exist, in areas where blasting or blasting products are in use or stored, and while fueling at refueling centers. In any of these conditions or where hazards exist, the transceiver shall be powered off.

PRECAUTIONS

Observe the following precautions to prevent fire, personal injury and transceiver damage.

- Do not modify or attempt to adjust this transceiver for any reason.
- Do not expose the transceiver to direct sunlight for long

periods, nor place it close to a heat source.


- Do not place the transceiver in a dusty, humid or wet area, nor place on unstable surface.
- If an abnormal odor or smoke is detected coming from the transceiver, switch OFF immediately and remove the battery pack from the transceiver. Contact your dealer.

How to use this user manual

This manual introduces the basic operation of our compatible DMR handheld transceiver.

Your dealer or system administrator may have already preset the features of this radio based on your operational requirements. Please consult with your dealer or system administrator about the details.

The icons below are used for distinguishing between analogue and digital features.

 This icon indicates the function is only available in Digital mode

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Packing list

The following items are contained in the gift box. If any item is missing or damaged, please contact your dealer.

Item Name	Quantity (pc)
Radio unit	1
Battery pack	1
Charger	1
Power supply	1



Note:

After purchase, please check the items and quantity in the box to ensure everything is correct.

Preparation before operation

Charge the terminal

When the terminal is used for the first time, a low power alarm may occur. Turn off the terminal and charge it before using it.

(Can support charging bank, car charging, PC terminal and other nominal DC-5V charging mode.)

Note:



- Please use our designated charging equipment for charging.
- Please refer to the charging safety information instructions before charging to obtain necessary battery safety information.

Please to charge as per below procedures:

1. Insert the power adapter plug into the power socket.
2. Insert the plug of the Type-C USB charging cable into the charging port at the bottom of the terminal.

3. Observe the TFT color display screen to know the current charging status:

TFT Displays the current screen status

TFT screen displays	Current status
<p>○  icon flashes, and “charging...” shows on screen.</p>	Under charging
<p>○  icon lights green, and “charge done” shows on screen.</p>	Fully charged

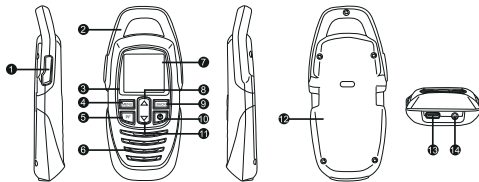
Installing Audio Accessories

1. Align the audio accessory plug with the accessory interface at the bottom of the terminal and insert it.

Tip:

If accessories cannot be used properly after installation, check whether the accessories meet requirements or are improperly installed.

Radio Operation



Parts description:

Number	Part Name	Application and function
1	【PTT】	Press 【PTT】 button for transmitting, and release it for receiving.
2	Antenna	Used for transmitting and receiving signals to ensure the stability and quality of communication;

Number	Part Name	Application and function
3	MIC	When pressing the [PTT] key to transmit, should speak into the microphone; Distance (3 ~ 5 cm)
4	Menu/OK	Standby mode: press it to access the menu list; Menu mode: press it to confirm your current option.
5	Definable key(PF)	Preset its function via PC software;
6	Speaker	Used to receive the voice sent by the other terminals;
7	TFT screen	It is used to display various working conditions and combined with visual ICONS for easy use and operation.

Number	Part Name	Application and function
8	UP	Standby mode: Short press to increase volume level; Menu mode: Used for upward selection for channel and other parameters etc.
9	Back	Standby mode: Short press to access into zone list if zone list menu activated. Menu mode: Back to previous menu.
10	Power ON/OFF/ Function key	1). Long press it to power-on or power-off the radio; 2). Standby mode: Short press it to change channel number and its channel function configuration.

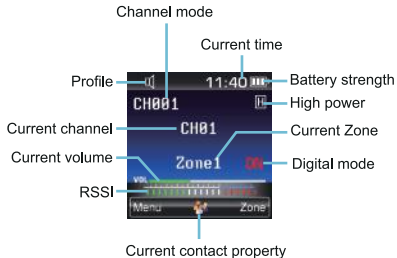
Number	Part Name	Application and function
		3). Menu mode: Short press it to cancel or exit the current operation mode.
11	Down	Standby mode: Short press to decrease volume level; Menu mode: Used for downward selection for channel and other parameters etc.
12	Li-poly battery	Used to provide power for terminal.
13	Type-C USB jack	Charging and data transmission for terminals;
14	SP/MIC	Used for external earphone accessories
















Note:

In order to improve your operation and use convenience, the terminal provides definable keys.

Screen ICON introduction









Icon	Icon description	Applications and function description
	High Power	Radio is on high power output
	Standby	White bars indicates the radio being in standby mode
	RSSI	In RX mode, the more green bars, the stronger signal
	Keylock	Appears when the keypad is locked
	Battery Status	The more bars, the larger battery capacity; and vice versa
	Monitor	Appears when monitor is on
	VOX	Appears when VOX is on
	Emergency Mode	Appears when the radio is in emergency mode.
	Encryption	Appears when Encryption is on

Icon	Icon description	Applications and function description
	Prompt Tone on	Appears when profile is in standard mode
	Prompt Tone Off	Appears when profile is in silent mode
DN	Digital Mode	Indicates the current band working in digital mode
	Time Slot 1	Indicates the working slot of current frequency or channel
	Time Slot 2	Indicates the working slot of current frequency or channel

Programmable Function keys

If desired, the following terminal features can be preset for programmable keys:

Type	Features	Description
	Radio Detection	Determine if targeted radio is active
	Remote Monitor	Covert activation of targeted radios transmitter without local indicators.
	Encryption On/Off	Turn on/off encryption
	Emergency On/Off	Initiate an emergency alarm mode or call based on programmed preset.
	Contacts	Direct access to the contact list
	Zone Switch	Changes from selected Zone to new Zone
	Permanent Monitor	Always monitor the selected channel until disabled.
	VOX On/Off	Switch between VOX On and Off.
	Backlight On/Off	Turn backlight On/Off

Type	Features	Description
	Keypad Lock	Switch between keypad lock and unlock.
	High Power	Switch transmit power high power
	Monitor	Turn On/Off the radio RX squelch circuit. Receive weak analog signals

Main functions description

Classification	Function	Description
Public Functions	Zone	A zone is a group of channels. Support end users to build and expand zones by themselves.
	VFO Mode	In VFO mode, the user can directly input the required frequency through the numeric keyboard
	Channel	Support end users to build and expand channels by themselves, up to 4000 channels, 16 zones.
	Power	The power level is for the transmission power level of the current channel, which can be set to high power.
	Emergent alarm	Emergency alarm has the highest priority.

Classification	Function	Description
Public Functions	VOX	If VOX is on, when the voice is detected to reach the transmission condition by the microphone, it will be transmitted automatically. The user can Initiate a call without pressing the [PTT] key.
	Busy channel lockout	Busy channel lockout prohibits transmission and prevents interference to other users when the radio is receiving traffic.
	TOT	When a transmission times out, the terminal will automatically terminate the transmission and issue a warning sound. The user can Initiate a call without pressing the [PTT] key.

Main functions description










Classification	Function	Description
Public Functions	Keyboard lock	Keyboard lock is used to lock keys to prevent inadvertent key operation. The radio may be set to automatic or manual lock mode.
	Power saving	Power saving is a preprogrammed function based on time that places radio into a sleep-wake mode to conserve the battery.
	Private call	Private call is a one-to-one call.
	Group call	Group call is a one-to-many call.
	All call	All call is a call to all contacts on the current digital channel.
	Talk around	When the repeater fails to work or the radio exceeds the coverage of the repeater, it can communicate off-line (RX & TX at the same frequency) to communicate


Classification	Function	Description
Public Functions	Roaming Setting	Roam Mode, RSSI Set, Connect Check Timer, Connect Re Check Timer, Connect Timer
	Roaming	When the radio moves from one site to another, it will automatically find the next available site through roaming.
	TDMA direct mode	TDMA direct mode is used to divide a direct channel (simplex) into two time slots to allow efficient channel usage. Multiple parties may share the channel without interference depending on slot setting.

Main functions description

Transmit / Receiving Icons

The following icon appears on the radio screen to indicate the radio status.

Mode	Type	ICON	Terminal product status
	Private call		Sending a private call
			Receiving an private call
	Group Call		Sending a group call
			Receiving an group call
	All Call		Sending an All Call
			Receiving an All Call

 **Note:** In the contact list, user aliases, names, ID numbers, codes, etc can be used.

General guide for fault handling

Malfunction	Analysis of causes	Handling method
Radio fails to power on	Battery power lower than preset value	Please change or charge battery.
Receive signal decreases, is unclear or is interrupted.	Battery power gets lower.	Please change or charge battery.
	Volume control at low value.	Adjust the volume to be higher.
	Antenna gets loose or antenna frequency is incorrect.	Power off radio, and re-install antenna, or change antenna with right frequency.
	Speaker is blocked or damaged.	Try to clear the outer speaker or contact your dealer.
	Using the radio under poor working environment or electromagnetic interference	Change working environment or shift antenna direction.
Unable to communicate with group members	The current working channel frequency or signaling value is different.	Change channel or reset signaling and frequency to be same as the group members

General guide for fault handling

Malfunction	Analysis of causes	Handling method
	The setting of Digital channel is incorrect.	Reprogram the current digital or analog channel.
	Out of range of group members	Move back within range
Noise or unrelated communications on current channel	Co-channel user interference	Change frequency or channel.
	Channel not programmed with correct signaling	Reprogram radio to correct signaling or change signaling to prevent interference.
Weak voice traffic with noise during communications	The communication distance is too great	Reduce range between users.
	Signals are blocked during to environment such as buildings and terrain.	Reduce range between users or move to unimpeded line of sight.
	Strong local environmental interference.	Move away from interference source.
Failure to obtain GPS position (Optional)	Radio lacks optional GPS feature or satellite view blocked by environment.	Add GPS feature; move to open site with clear view of sky.

 **Note:**

If the above methods fail to solve your problem, or you confront different malfunctions, please contact your local dealer or appointed maintenance station.

FCC Statement:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

SAR tests are conducted using standard operating positions accepted by FCC with the device transmitting at its highest certified power level in all tested frequency bands, although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. Before a new model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the exposure limit established by the FCC. Tests for each product are performed in positions and locations as required by the FCC.

For body worn operation, this device has been tested and meets the FCC RF exposure guidelines when used with and accessory designated for this product or when used with and accessory that contains no metal.

To maintain compliance with FCC RF exposure guidelines hold the transmitter and antenna at least 1 inch (2.5 centimeters) from your face and speak in a normal voice, with the antenna pointed up and away from the face.

Transmit no more than the rated duty factor of 50% of the time. To transmit (talk), push the Push-To-Talk (PTT) key. To receive calls, release the PTT key. Transmitting 50% of the time, or less, is important because the radio generates measurable RF energy only when transmitting (in terms of measuring for standards compliance).

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Kydera[®]

PROFESSIONAL DIGITAL TWO-WAY RADIO