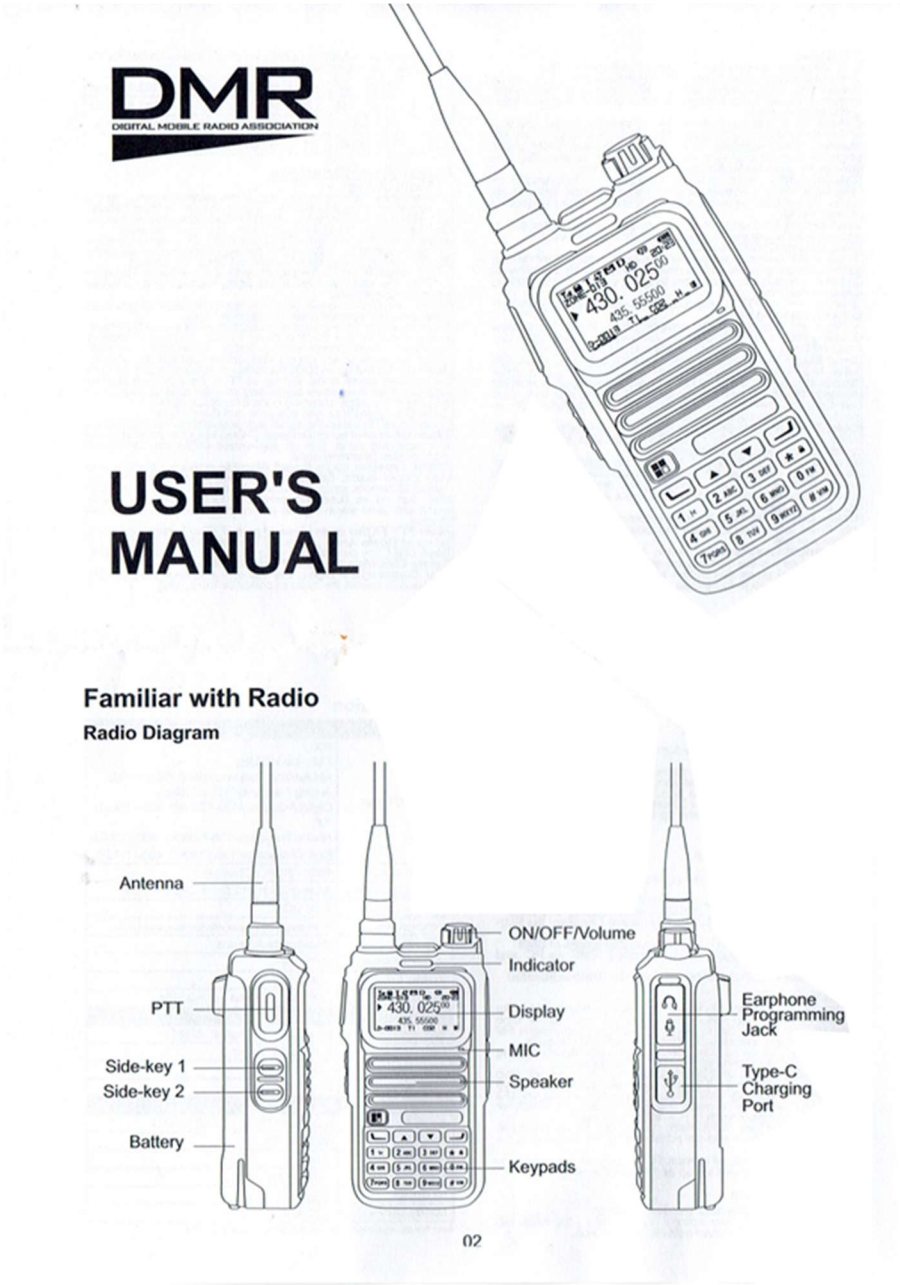


DM-4R DMR Radio User's Manual

1 Precautions

Please observe the following precautions when using this product to avoid fire, personal injury, damage to equipment or other accidents:

1. Do not use the equipment in inflammable and explosive environments (such as gas, dust, smoke, etc.),
2. Please turn off the equipment when refueling or parking at the gas station.
3. Do not place the equipment in dusty, wet, or humid places or on uneven surfaces.
4. Please do not operate this equipment near interference sources (such as TV, computer, distribution cabinet, etc.).

5. Do not transmit while charging.
6. Do not expose the device to direct sunlight for long periods of time or place it near a heat source.
7. If the equipment emits an abnormal odor, it must be turned off immediately. After ensuring safety, it should be sent to the nearest maintenance site for inspection.
8. Do not modify or adjust this equipment for any reason as it will void your warranty.
9. Please obey the local laws and regulations.

Disclaimer: The customer shall bear all the responsibility for the equipment failure or accident caused by the customer's violation of the above precautions, and the company shall not be responsible for it.

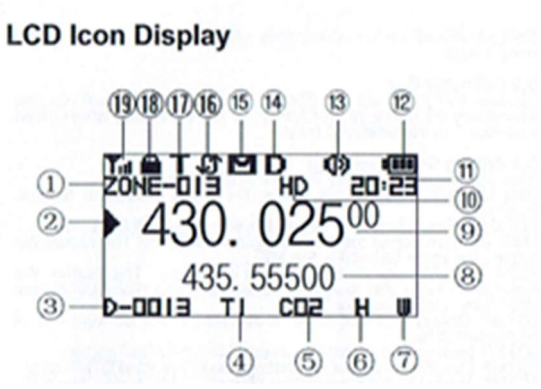
Please Check the Package Upon Arrival

2 DM-4R DMR Radio Packing List

Thanks for choosing our radio. Please unbox and check whether the following accessories are included and well-packed. If there's anything missing or damaging after unboxed, please contact your local distributor.

Item Number	Component	Quantity
1	Radio	1
2	Antenna	1
3	Li-ion Battery	1
4	Charger	1
5	Belt Clip	1
6	User Manual	1
7	Guarantee Card	1

3 LCD Display



1. VFO MODE /CH MODE /ZONE-XXX Mode, XXX means current working zone
2. Main frequency icon
3. D-XXXX Digital Channel, A-XXXX Analog Channel, XXXX means Channel number
4. T1 or T2 digital Timeslot / FM Analog RX modulation
5. CXX digital channel codes/CTC analog channel with sub-lones/DCS analog channel with digital sub-tones/ENC analog channel with encrypted sub-tone/MUT analog channel with decoded sub-tone
6. H/L: High/Low Power
7. W/N Wide/Narrow Band
8. Sub-display information
9. Main Display information
10. Digital Call Hold Mode
11. System Time
12. Battery Power
13. Beep
14. Dual standby
15. Unread Message
16. Scan
17. R-Talk around/T-Freq Inverse
18. Keypad Lock
19. Signal Icon

Key	Function Descriptions
PTT	Transmit or Exit Menu
Side 1	Select as secondary PTT via Menu, but then a definable function is not available.
	Definable long press and short press functions
Side 2	Definable long press and short press functions
	Confirm or Enter in Menu
	DTMF : A
	Enter DTMF inputting mode, under analog channel status.
	Enter dial call mode, under digital channel status.
	Select or Deselect entries from a list (Zone, Group List)
	DTMF B
	Cancel or Exit Menu
	Switch A / B channel
	Delete inputting while under DTMF of dial inputting
	Increase frequencies, or channels or scroll menu list upwards
	DTMF: C
	Decrease frequencies, or channels or scroll menu list downwards
	DTMF: D
0	Short press: input number 0
	Long press: definable function
	DTMF: 0
	Input Number 0 or Space Bar in edit mode
1	Short press input number 1
	Long press definable functions
	DTMF: 1
	Input Number 1/ English Letters / Chinese Characters
2 - 9	Short press: input numbers 2-9
	Long press: definable functions
	DTMF: 2-9
	Input Numbers 2-9/ English Letters / Chinese Pinyin Codes
*	Short press to switch display from channel frequency I channel number | channel Alias
	Long press to lock the keypad
	DTMF: A
	Backspace (Delete Characters is edit mode)
	In **CTCSS** entry mode, switch between tone / DCS / off
#	Change display working mode from VFO frequency mode | channel model | zone mode
	DTMF: B
	Activate input status and switch input methods between numbers, upper- or lower-case letters

4 Function Description

4.1 Input Frequency

1. switch working mode to VFO frequency mode by pressing # key
2. Input frequency via number keys, input 8 digits and the inputting done.

4.2 Input Repeater Frequency

1. Enter into Menu [Channel Set]->[Offset Freq] to input frequency difference via number keypads
2. Enter into Menu [Channel Set]->[Offset DIR]to set frequency upwards and downwards

4.3 Transmitting

1. Press PTT and will transmit at current frequency, and the indicator lights up red at the same time. If it is a digital channel, it will enter a digital calling interface and show up as the called ID, name and the call type (private call group call or all call).
2. Press Menu [Basic Set]->[Main PTT TX and set up to [Area A], press PTT button and transmit at A frequency always. If set up to [Main Area], it will transmit at main frequency all the time.
3. Turn on [Key Define]->[Slaver PTT] then the shortcut function of side-key 1 is invalid, press side-key 1 to transmit at B frequency.

4.4 Receiving

The indicator lights up green while receiving. If the current channel is a digital channel, it will enter digital calling interface and shows up as caller ID, name and calling type (private call, group call or all call. If it is a group call, it shows up as group ID)

4.5 DMR Encryption

There are 3 types of encryptions available: ARC/AES128/AES256. None of the following conditions is indispensable, if two pieces encrypted radios need to communicate with each other: (1) same encryption type; (2) same encryption serial number; (3) same encryption keys

4.6 Dial Call

1. press  to enter dial interface while under digital channel status.
2. press  to switch calling type, to input called ID via keypad, or delete via 
3. Press PTT to call

4.7 DTMF

4.7.1 DTMF Inputting and Sending

1. press  to enter int DTMF inputting interface while under analog channel.
2. input DTMF code via keypads, and delete via  ;
3. Press PTT to call, the device will send DTMF code to receiver after appointed delay time

4.7.2 While the device enters into receiving status, the display will show up the sender's DTMF code if turn on DTMF decoding.

4.7.3 Press keypads to send relative DTMF code while under analog transmitting status.

4.7.4 DTMF Remote Monitor.

1. Set up a DTMF Monitor code and turn on [DTMF Control]
2. Other radios send DTMF code with the same monitor code to this radio.
3. After decoding successfully, the radio will transmit for 60 seconds automatically to make remote monitor happen.

4.7.5 DTMF Stun/Kill/Activate

1. set up a DTMF code for Stun/Kill/Activate, and turn on [DTMF Control]
2. Other radios will do Stun/Kill/Activate to this radio when they send relative DTMF code. The radio cannot be use until receive activate code once it is in Kill status. The radio can receive but cannot receive input via keypad or transmitting once it is in Stun status.

Note: should set up Activate code once Stun/Kill code is set up, or the device cannot be activated.

4.8 Text Input

*4.8.1 Press # to switch inputting method, press * to delete inputting when under text input status.*

4.8.2 Press number keys to input numbers

4.8.3 English Letters Inputting

1. Number 2-9 can input relative English letters, press Number 0 to input space, Number 1 to input English symbols.
2. Press the same button to switch to different letters.

4.9 Function of Definable keys

[Monitor (Analog)] only available on analog channels. Enter receiving and playing status once trigger this key.

[H/L Power] To switch high/low power of current channel.

[Dual Standby] To turn on/off dual standby. The power saving mode is invalid once the dual standby turns on.

[TX Priority] To switch priority RX to [Edit] or [Busy]. Once set up to Busy status, the main frequency will shift to the calling frequency automatically when the calling ends.

[Scanning] Press this button to enter scanning status and press arbitrary keys to exit.

[Backlight On-off] Press to turn on/off backlight.

[Roger Beep] To switch the RX end tone types.

[FM Radio]

1. press button to enter FM status, press PTT to exit.
2. press # button to switch from FM to frequency mode or channel mode. Press number keys to input FM frequency while under frequency mode. Press number keys to input FM channels while under channel mode.
3. Press * button to switch from FM searching to Single Channel or Full Band mode. Long press UP OR DOWN keys to search channels. Stop searching when receive channel while under single channel searching mode. To search for 16 channels and store them while under full band searching mode.

[Talk around] To switch repeater frequency to Talk-Around or Frequency Reverse. To transmit at RX frequency under Talk-Around status. To interchange frequency of RX and TX under frequency reverse mode.

[Alarm] Press the button to enter emergency alarm status and make an alarm sound, press arbitrary keys to exit.

[Freq Detect] [CTC/DCS Scan]

1. press this button to enter frequency detecting or remote sub-tone decoding mode, and the device will scan the RX signal nearby.
2. press * button to switch from frequency detecting to remote sub-tone decoding.
3. press or PTT to exit during frequency detecting, press # to switch detecting bands.
4. Press- detecting results to VFO channels and to return to standby mode.
5. Press PTT to give up detecting results and exit detecting mode.

[Send Single Tone] Available only on analog channels. Press this button to transmit a single frequency signal at current frequency.

[Status Query] Press this button to check time, battery power etc.

[Remote Monitor] Available for digital channels and Individual Call Contact. Press this button to make a 15-second call to monitor the surrounding sounds.

[Color Code Scan] Available for digital channels only. Press this button to enter Color Code Scanning mode to scan color codes from same digital frequencies.

[Remote Stun/Kill/Wake Up] Available for digital channels and Individual Call only. Press this button to Stun/Kill/Activate appointed radios. The stunned radio can receive signals and do nothing. The killed radios cannot be used only do activate them to remove from Stun and Kill status.

[Online Check] Available for digital channels and Individual Call only. Press this button to check whether the radios turn on and on the same channels or not.

[LCD Brightness] Press this button to change the lightness of backlight. Level 0 is the darkness, and level 4 is the brightest.

[NOAA Mode] press this button to enter NOAA scanning mode, and switch NOAA channels via channel knob. The radio will start to scan NOAA automatically when there is not any operation for 6S.

The following are NOAA frequencies.

1	162.55000M	2	162.40000M	3	162.47500M
4	162.42500M	5	162.45000M	6	162.50000M
7	162.52500M	8	161.65000M	9	161.77500M
10	161.75000M	11	162.00000M		

5 Menu Specifications

5.1 Basic Radio Setting

[Radio Name] To change the alias of this radio, can set up as the owner's alias or calling number. When set up as [Send Radio Name] in menu list [Analog Set]-> [TX End Tone] the alias of this radio will be sent out to receivers after analog calling ends.

[Lock Timer] The keypad will lock automatically when there is not any operation of the radio within the appointed time while under standby status. Long press * button to unlock the keypad.

[Light Timer] To set up the shutdown time of backlight. Set up as often the radio will turn off the timer, the backlight no longer turns off automatically.

(Menu Exit] The radio will exit the menu interface automatically once there is not any activity within the appointed time.

[Save Mode] To save power consumption while setting up the Power Saving function. But there is a delay for RX omitting or missing messages under power saving status. Otherwise, the radio cannot set up as power saving while under dual standby status.

[Scan Mode] Set up as [CO], the radio will resume scanning once the received signal ends. Set up as [TO], the radio will resume scanning after it receives signal and stay for a while. Set up as [SE], the radio stops scanning once it receives signals.

[Scan Direction] Scanning upwards and downwards.

[Scan Dwell] To set up the signal stay time while under [TO] status.

[Scan Return] Set up as [Original CH] to return to original status after scanning done. Set up as [Current CH]to stay at current channel after scanning done.

[Alarm Type] Set up as [Local Alarm]to make an alarm sound once trigger alarm. Set up as [Remote Alarm]to send alarm signals to remote radio and this radio doesn't make any sound itself. Set up as [Local+Remote] this radio makes an alarm sound and send alarm signals to remote radios while triggering this function.

[Main PTT TX] Set up as [Area A] as PTT to transmit at A band. Set up as [Main Area], press PTT to transmit at main band.

[Save CH] Copy current channel to appointed channel and save it.

[Delete CH] Delete the data of selected channel.

[LCD Contrast] The higher the value, the deeper the contrast.

[Initialization] The frequency data will return to the last programming status.

[Address Book] Displays the content of the Radio ID database address book that looks up Radio IDs and displays the Callsign and Name in place of the ID.

5.2 Definable Key

[Slaver PTT] Set up as [On]and the side-key 1 will be the secondary PTT. The preset functions will be invalid when press side-key 1 to transmit at B band.

The definable key menu provides a short cut to many features or the radio, and some features that are not available from the other menu functions. The following functions can be assigned to definable keys.

[none] – disable the function of this key.

[Monitor] available for analog channels only, this function disables the squelch and puts the radio in continuous receive mode.

[H/L Power] switch between High and Low Power.

[Dual Standby] Enable / Disable the dual watch function that enables the radio to receive from either the A or B area channels.

[TX Priority] change the transmit priority between channel busy and edit.

[Scanning] pressing the key will put the radio in scan mode. Will scan channels in channel or zone mode, or frequencies when in VFO mode.

[backlight on / off] turns the backlight on or off.

[Roger Beep] set the end tone to off, tone 1, tone 2, or mdc-1200.

[FM Radio] switch to FM Broadcast radio mode. The exit button will return to two-way radio mode.

[Talkaround] switch between off, talkaround, and frequency reverse (inverse)

[Alarm] triggers the alarm mode. Alarm mode must be set in the menu.

[Frequency Detect] scan for an active frequency and display it.

[CTC/DCS Scan] switch to VFO mode and scan for either the CTCSS tone or DCS code being used with transmissions on that frequency.

[Send Single Tone] send a constant tone on the currently selected channel. Exit using the exit button.

[Status Query] Display the date, time, and mode of the current channel.

[Remote Monitor]

[Color Code Scan] in DMR mode, listen to the current VFO frequency for the transmitted Color Code.

[Remote Stun] Send the remote stun code set in the main menu.

[Remote Kill] Send the remote kill code set in the main menu.

[Remote Wake Up] Send the remote wake up code set in the main menu.

[Online Check] Enable the online frequency check function. Report success or failure.

[Called Show] Show the last DMR contact type (individual or group)

[RX AM / FM Switch] Switch between AM and FM receive for the current channel.

[Analog Spectrum] Enable the Analog spectrum analyzer Press the exit key to return to the main screen.

[SQ] Set the squelch level for the current channel type (analog or digital).

[Freq Step] Change the frequency step for the radio.

[DA Switch (VFO) When in VFO mode, switch the current frequency between analog and digital mode.

[NOAA Mode] Switch the radio to receive the currently selected NOAA channel.

[Save CH] in VFO mode, save the current frequency and configuration to a selected channel.

[New SMS] Create a new SMS message

[Jump to SMS Menu] Jump to the SMS Menu.

[Brightness] Change the Brightness level of the display.

[Analog CH VOX] when using an analog channel, enable and disable VOX mode.

[Zone Select] Change the current zone for the selected display area.

[

5.3 Analog Communication Setting

This data is available only for analog channels.

[SQ Level] The higher the value, the more difficult to turn on receiving.

[TX Start Tone] To use to set up the individual call frequency.

MIC Gain] To adjust the MIC receiving sensibility. The higher the value, the more sensibility the MIC.

[SPK Gain] To adjust the speaker's volume. The higher the value the louder the speaker, to avoid audio distortion, please don't turn up the speaker highly.

[DTMF Delay] If DTMF tone is needed, it will be sent out at the appointed time.

(DTMF Interval] To set up the interval of two DTMF codes.

[DTMF Duration] To set up the lasting time of individual DTMF code.

[DTMF Mode] To set up the sending time of DTMF code. The radio will not send DTMF code while transmitting, when the radio set up as [Off].

[DTMF Select] To send one of 16 preset DTMF codes while

transmitting.

[DTMF Display] The received DTMF code will show up on the

display once the radio set up as [On].

[DTMF TX Gain] [DTMF RX TH] There are difficulties while decoding DTMF codes of different brands radios. By adjusting the value of these two options, the DTMF codes of different brand radios can be compatible. Encode gain 64 and decode threshold 24 are recommended.

[DTMF Control] Other radios can take charge of this radio by sending same DTMF code of monitor/Stun/Kill/Activate, when the radio set up as [On].

[VOX] Enables and disables the analog VOX settings

[VOX delay} Sets the “hold” time that the radio will continue in transmit mode before releasing the radio back to receive mode.

[VOX TH] Sets the VOX sensitivity to trigger transmit.

5.4 Digital Communication Setting

This data is available only for digital channels.

[Personal ID] To set up numeric TD, ID ranges from 1-16776415.

[Group Hold (unit: MS)] This radio makes calls within the appointed time after the end of group call, and the receiving part will be the called one.

[Single Hold (unit MS)] This radio makes calls within the appointed time after the end of individual call, and the receiving part will be the called one

[SQ Level] To set up the squelch of digital communication. The smaller the value, the easier to turn on the squelch. Note that the radio will not be in power saving mode once the squelch level is too small.

[Contacts Set] To set up Add/Delete/Modify contact list. Note that there is only one all call contact and cannot be changed and deleted. Contact ID ranges from 1-16776415

[Group List Set] To set up Add/Delete/Modify receiving group contact list. Press  to select group call members and the selected members will turn to black background. And press _ to cancel.

[Encryption Set] To set up DMR encryption of this radio.

5.5 Channel Setting

5.5.1 Analog Channel Setting

[CTC/DCS] [RX CTC/DC] [TX CTC/DCS] To set up sub-tone of current channel. To switch the types via * key.

[DCS Encrypt] Set up as [Encrypt 1/2/3] to encrypt with standard DCS and only valid for DCS. Set up as [Mute Code] the sub-tone of current channel is invalid and use [Mute Code 1/2/3]as sub-tone of current channel.

[Mute Code 1/2/3] To decode non-standard digital sub-tone via one-click privacy decode function.

[Scan Add] Set up as [Remove], the radio will not scan this channel while scanning.

[Offset Dir] Set up [Offset Freq] before setting up frequency the TX frequency = RX frequency + frequency difference. When selected [Downward], the TX frequency = RX frequency - frequency difference

[Offset Freq] Set up frequency difference as 0, if need to turn off the frequency difference of current channel.

5.5.2 Digital Channel Settings

[DMR Mode] There is no time slot difference when set up as [Dual Slot Off] and can communicate with each other once the frequency and color code are the same. The radios can communicate only with the same time slot when set up as [Dual Slot On].

[DMR Slot] The time slot of current channel is valid only when set up as] Dual Slot On].

[TX Politely] The device can make calls whether it is under called or not when set up as [Impolite]. The device cannot make calls whether it is called or not when set up as [Carrier Match]and current frequency is occupied. The device cannot make calls while it is called by others, when set up as [CC Match].

[Contact] This field contains the Talk Group or Private Call ID for the channel. This field is sent, along with the digital transmission to enable receiving radios or repeaters configured to listen for this “contact” to hear the transmission. Radio and repeaters not configured to receive this contact will ignore the transmission.

[RX Group] This field contains the RX Receive Group for the channel. Any transmission containing a contact of type “Group Call” (also know as a “Talk Group”) that is included in this RX Receive Group can be heard on the Radio. If the RX Group List field is empty or is missing the desired Group Call, then transmissions sent to this radio containing those contacts will not be heard by the user. In addition to the properly configured RX Receive Group List, the radio must have the timeslot and color code selected that matches the incoming transmission.

[Channel ID Set] This setting lets you switch between sending your DMR ID stored in the Personal ID found in the Digital Set or the DMR ID value stored in the current channels channel ID. Selecting “Radio ID” uses the DMR ID value from Digital Set-> “Personal ID” , Selecting “Channel ID” uses the DMR ID value in the channel’s “Channel ID”.

[Channel ID] This field holds the DMR ID for the channel. You can use this DMR ID in place of the Basic Set->Personal ID but setting the Channel ID Set field to “Channel ID”. To use the Basic Set->Personal ID, select the “Radio ID”.

[Promiscuous Receive] (also known as digital monitor mode). Setting this Channel field on will cause the radio to ignore talk group and color code restrictions. The radio will receive signals on any talk group and any color code. Setting this field off will restrict received signals to those containing the color code set in the channel and those talk groups that are in the rx Group List added to the channel.

5.6 Zone Setting

The radio has 256 zones and can be editable. Use  key to choose the members of the current zone and press the  key to delete.

5.7 SMS

[New SMS] creates a new message to be edited. Press the menu key to select [Send] or [Save]. SMS can be sent to the receiver via [Contacts] or [Dial No.] to select ID and sending type. To switch call types to [Individual] or [Group Call] use the  key while under [Dial No.] status. Editing SMS text will be saved to [Drafts], when set up as [Save].

[Inbox] to save the incoming SMS and up to 256 pieces of SMS.

Each SMS includes the following:

1. Time: receiving time.
2. Type: Individual/group/all call.
3. ID: the sender ID
4. Name: the contacts in the contact list. If not in the list, this item is blank.
5. Text: SMS text. The number means the line number.

You can do the following operation after reading the SMS:

[Reply] (Edit reply SMS and send to sender) .

[Forward] (Forward the SMS to others)

[Delete] to delete the current message.

[Outbox]to save sent SMS, and up to 256 pieces of SMS.

Each SMS includes the following

1. Time: Sending Time
2. Status: Sent or Fail.
3. Type: Private/Group/All Call
4. ID: Receiver ID
5. Name: the contacts in the contact list. If not in the list, this item is blank.

6. Text: SMS text. The number means the line number.

You can do the following operation after reading the SMS:

[Resend] (Re-send the SMS)

[Forward] (Forward the SMS to others) or

[Delete] delete the current message.

(Drafts] Save unfinished SMS, and up to 256 pieces of SMS

[Default SMS] Pre-edited and programmed SMS via PC and save up to 16 messages.

[Clear All SMS] Delete all messages in the [Inbox], [Outbox], or [Drafts].

5.8 FM Radio

Set up [Work Model] as [Freq. Mode] input is FM radio frequency values when FM Radio is enabled. Use the channel buttons to switch frequencies. Set up as [CH Mode], the input is FM channel numbers, use channel buttons to switch FM channels.

[RX Standby] Set up as [On], the radio can stand by the calling signals of main frequency while under FM radio status.

[Scan Mode] Set up as [One Station], the FM radio will stop searching channels once it search available channel and save the channel frequency into current channel. Set up as [All Range], the radio will stop searching channels once it searches for 16 channels and save them to RM radio channels.

[Area] The radio has 16 FM radio zones, and 16 channels per zone. And zone names can be editable and set up as [Set As Current].

[Channel] 16 channels of current FM zone, and the frequency value can be editable and set up as [Set As Current].

To Enter scan mode for FM Broadcast Stations, enable FM Radio to receive and press and hold either the up or down arrows. The radio will search in the arrow's direction and stop once it finds 16 stations.

5.9 Time Management

[APO]To [On] or [Off]the auto shutdown function.

[APO Timer] if no actions are performed on the radio, the radio will shut down automatically when this function is activated.

Specification

General	
Frequency Range	RX: FM: 64-108MHz AM Aviation Frequency Band:108-136MHz Analog Frequency :136-520MHz Digital Frequency:136-174MHz 400-470MHz TX: Analog Frequency:136-174MHz 400-470MHz Digital Frequency:136-174MHz 400-470MHz
Channel Capacity	1024+2*VFO Channel
Channel Spacing	Analog:25kHz/12.5kHz Digital:12.5K
Voltage	7.4V DC
Working Mode	Same frequency simplex,different frequency simplex
Antenna	Removable Antenna
Frequency Stability	±2.5ppm
Working Temperature	−20 ~ +60℃
Dimension	112 X 61 X 38MM about198g
Transmitting	
Modulation Mode	Analog: F3E Digital: 4FSK
Maximum deviation	≤5KHz /≤2.5KHz
SNR (WN)	-45dB/ -40dB
TX Current	≤1500mA
Receiving	
Sensitivity	0.22μV/ 0.25μV 12dB SINAD
Inter modulation	65dB/ 60dB
Audio Distortion	<5%
Audio Output Power	≤1W(16Ω)
RX Current	≤350mA
Standby Current	≤70mA

Note: The above parameters are subject to change without prior notice!

Commonly used Terms

1. Contact, also known as Digital Contact is data sent with the radio transmission required for a properly configured receiving radio or repeater to receive the transmission. Contacts can be one of two types 1. Group Calls (also know as Talk Groups) destined to a group of radios or repeaters configured to receive that Group Call. 2. Individual Calls that are destined to a single radio or repeater. The radio or repeater must be configured to receive either type of contact.

Frequently Asked Questions

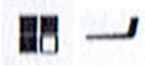
1. How do I switch between digital and analog mode?
   Switching between Analog and Digital frequency mode can only be performed while in VFO mode. There is no menu entry for switching modes. You must bind one of the programmable keys to the

DA Switch (VFO) option and use that programmable key to switch between modes while in VFO mode. Note: You can switch to VFO mode from the frequency or channel display by pressing the '#' key. The '#' key cycles through channel mode, zone mode, and VFO mode.

2. How do I set the CTCSS for TX and RX.

   The CTCSS menus appear under the [Channel Set] menu for Analog channels. Press the  key and scroll to [Channel Set]. Press the  key again and scroll to [CTCSS/DCS] to set both TX and RX tone or codes. You can also scroll to [RX CTC/DCS] to set the RX tone or code and [TX CTC/DCS] to set the TX tone or code. When you enter one of these menu options by pressing the  key, you can switch between OFF, CTCSS tones, and DCS codes by pressing the '*' key. Once you select tone or DCS codes, use the up and down arrows to select the desired tone or code.

   Pressing the  key will save your selection.

3. How do I add channels to a zone?
   If your Zone already exists, then select [Zone Set] under the [Digital Set] menu and then select your desired Zone from the list. Here you can edit the Zone name, or select channels using the [Select CH] menu. Scroll through the list of channels and add a channel to the Zone by pressing the  key. The selected channel will be highlighted in black (with white letters). To unselect a channel, press the  key again and the channel will no longer be highlighted. Save you selections by pressing the  key. You can cancel your changes by pressing the  key.

4. How do I edit a channel alias or the personal ID?
   Once you enter the [Channel Alias] or [Personal ID] menus, you will usually have either space characters or previous saved characters in the edit box. Use the down arrow to scroll past the last character in the edit box and use the '*' key to backspace and delete the character to the left of the cursor. Once you delete the characters, you can enter new text using the available entry methods. You may switch between numbers, Upper-case and Lower-case letters by pressing the '#' key. Letters may be entered by pressing the labeled key multiple times until the desired letter appears.

   Save your edits using the  or discard them using the  key.

5. Does the radio support VOX mode for using APRS from a mobile phone?
   Yes, the radio supports VOX in analog radio mode only. VOX can be enabled and the delay set from the VOX menus under the Analog Setup menu

6. What is the format of the address book for Radio ID lookup?
   The Programming software expects the address book to be a CSV file with the following header with data fields that match the header.
   RADIO_ID,CALLSIGN,FIRST_NAME,LAST_NAME,CITY,STATE,COUNTRY
   This was the default format for the Radio ID users.csv file. When using the file generator, select a customer format and provide the header fields above.

7. How do I change Zones on the radio?

There are two ways to change the zone displayed on the radio. The first is under Basic Settings. There is an option “Area A Zone” and “Area B Zone” option to set the which zone is shown in the top and bottom display lines. A is the top line and B is the bottom Line. The second is to bind one of the side or keyboard keys to “Zone Set”. To navigate to “Basic Settings”, press the  key.

8. How do I enable the analog spectrum analyzer

   The analog spectrum analyzer can only be enabled by assigning the spectrum analyzer function to a key. To enable the analog spectrum analyzer from the radio:

   a. Use the menu key  to enter menu mode.
   b. Navigate to the Key Define menu and press  to enter the menu.
   c. Select the Key to define and press  .
   d. Navigate to the options and select the “analog Spectrum” option and press  save it.
   e. Return to the top level by pressing the main PTT key.
   f. Press the defined key to enable the spectrum analyzer.
   g. Use the  key to exit.

9. Does the DM-4R support Motorola TRBO functions such as “Tone Permit Acquisition”?

   The DM-4R does not support any explicitly patented TRBO technology such as “Tone Permit Acquisition” as these remain unlicensed by Motorola. The DM-4R is designed for common Amateur Radio use cases and will not replace a Motorola radio when sophisticated trunking functions are required.

10. Why does the radio display T for Frequency reverse (inverse) and R for Talkaround
    The T indicates that the **transmit** frequency is select for receive (and the Receive frequency for transmit). R indicates that the **receive** frequency is selected for both transmit and receive.