

# RM-03N VHF/UHF TRANSCEIVER



## INSTRUCTION MANUAL



**REXON<sup>®</sup>**  
*What An Excellent Radio!*

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# ***Cautions***

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**AVOID** storing the radio under the sunshine or in hot areas. High temperature can shorten the life of electronic devices, and warp or melt certain plastics.

**AVOID** storing the radio in the dusty, dirty areas.

**PLEASE** keep the radio dry. Rainwater or damp will corrode electronic circuits.

**NEVER** place the transceiver where normal operation of the vehicle may be hindered or where it could cause bodily injury.

**USE** DC power supply, take notice of power voltage must be 13.8V only.

**USE** supplied microphone only. Other microphones have different pin assignments and may damage the transceiver.

**AVOID** operating the transceiver without running the vehicle's engine. The vehicle's battery will quickly run out if the transceiver is in transmission while the vehicle's engine OFF.

**BE CAREFUL!** The transceiver will overheat while operating continuously for a long period.

# Unpacking



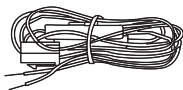
①



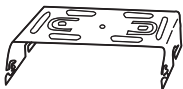
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③



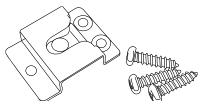
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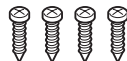
⑥



⑦



⑧



⑨

① Radio RM-03N

② Microphone

③ Fuse(15A)

④ DC power cable

⑤ Mounting bracket

⑥ Washer & spring washer

⑦ Mic hanger & screw set

⑧ Machine screw (M4x8mm)

⑨ Self-tapping screw  
(M5X20mm)

## Additional Accessories

(PC-51)



Programming  
Lead

(CP-51)



Cloning  
Lead

(RMP-05)



Mic with  
DTMF

(QRP-01)



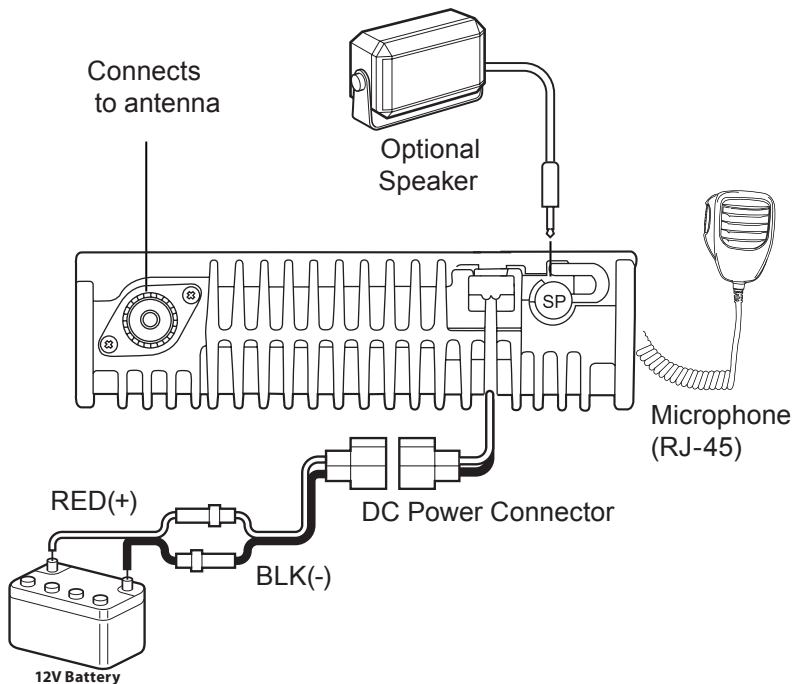
DC Power  
Supply

(QCA-01)

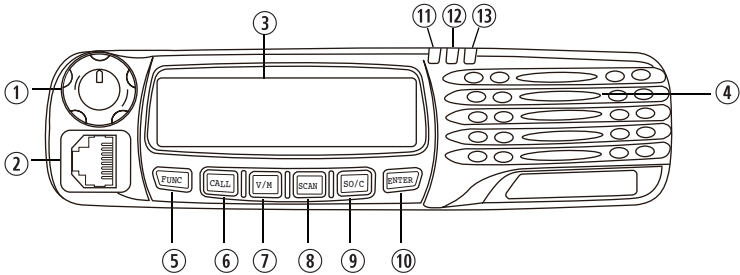


Antenna

# Installation & Connection



# Front Panel Description



① Power button & Selector Knob:

Press the power button to turn radio ON, hold the button to turn radio OFF for 3 seconds.

Turn selector knob clock wisely go through next channel or increase a frequency step and counter clock wisely to previous channel or decrease a frequency step.

② RJ45 Connector: Microphone connector or programming lead.

③ LCD Display: The display include 16x2 two rows of dot matrix

④ Speaker: Inner speaker

⑤ **FUNC** button: Press it then press relevant key, or keep pressing within 2 seconds press relevant key to achieve multiple shortcut operations. Press and hold more than 2 seconds to enter background operations.

⑥ **CALL** button: transmits selected DTMF/2-Tone/5Tone signalling

⑦ **V/M** button: To toggle channel and VFO mode.

⑧ **SCAN** button: Select scan type **FREQ/CH SCAN** ,**CTCSS/DCS SCAN** or **PRIORITY WATCH** then press **ENTER** button to execute.

⑨ **SQ/C** button: Press the button to temporarily monitor receiving.

⑩ **ENTER** button: Press once to enter channel setup.

⑪ Busy/Scan Indicator:

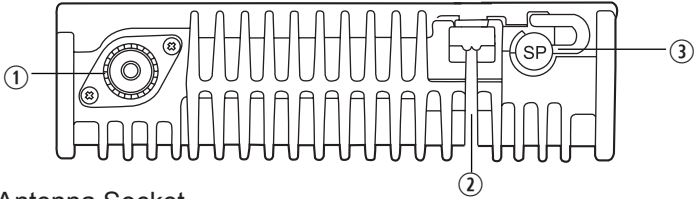
The lamp glows green when the channel is busy.

The lamp flashes green which mean matching carrier and signaling.

⑫ TX indicator: The lamp glows red when the transceiver is transmitting.

⑬ Power On Indicator: indicates transceiver is turn ON.

# Rear Panel Description



① Antenna Socket

Connect an antenna to the socket with M type cable.


② DC Power Cable

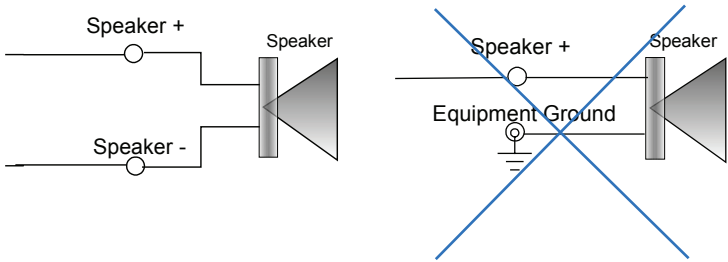
Connects 12VDC battery to the cable. pay attention to polarities .

**DO NOT** connect to 24VDC battery. This will damage the transceiver.

③ External Speak Jack :

Connects an 8  $\Omega$  external speaker with 3.5mm phone jack if desired.

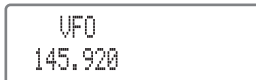
 **CAUTION:** External Speaker is designed with Bridge Tied Load(BTL) audio output. The Speaker-plus and Speaker-minus outputs should NEVER be tied to ground. Doing so could result in damage to the BTL output , please following below installation.



# Operation Modes

There are four types of operation mode .

1. VFO mode (Frequency mode): This mode shows only frequency on the display. All menu settings will be changed & stored as the latest value permanently, after pressing **ENTER** .



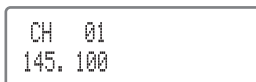
VFO  
145.920

2. Channel number mode: At this mode, all settings are done through PC programmer. The user is not allowed to change any settings of the radio.



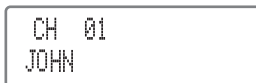
CHANNEL 01

3. Channel+Frequency mode: At this mode, frequency and channel number are shown on LCD. The user can temporarily change radio settings after pressing **ENTER** . Once the radio is turned off or switched to another channel, the temporary setting will be erased and back to initial settings. Press **FUNC** and **SO/C** to remove this channel from scan list permanently. (Delete a nuisance channel during scan.)




CH 01  
145.100

4. Channel+Name Tag mode: After pressing **FUNC** and then **CALL** , you can rotate the power knob to change name tag permanently. You can also temporarily change radio's settings after pressing **ENTER** . Once the radio is turned off or switched to another channel, the temporary setting will be erased and back to initial settings. Press **FUNC** and **SO/C** buttons to remove this channel from scan list permanently. (Delete a nuisance channel during scan.)



CH 01  
JOHN

 There are three levels of operation menu; shortcut operation menu, channel setting menu and radio setting menu.

# Basic Operation

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- **Turn The Radio On & Off**


Press the power knob to turn the radio on. Hold power knob for 3 seconds to turn it off.

- **Adjusting Volume**

Press power knob once, LCD display will appear "SET VOLUME", turn the knob clockwise to increase volume or counterclockwise to reduce it.

- **Change Operation Mode**

Press **V/M** on the front panel or **V/M** on extended DTMF microphone to toggle between either VFO mode (frequency) & Channel+Name Tag mode, or VFO & Channel+Frequency mode.

 Access is denied when the radio is programmed at Channel mode

- **Channel Selection / Frequency Changing**

1. Channel mode: RM-03N can be programmed up to 250 channels. Rotate power knob clockwise to go through next channel or counterclockwise to previous channel.

2. VFO mode: Rotate power knob to change the frequency. You can also input the desired frequency through DTMF Mic. Channel step at 5KHz, 6.25KHz, 10KHz, 12.5KHz, 20KHz, 25KHz, 30KHz, or 50KHz can be set by user after pressing **ENTER** to choose it.

- **Lock The Buttons**

Press **FUNC** and then keep pressing **ENTER** for 2 seconds to lock all buttons. Thus, radio's settings would not be changed by user's accidental touch.

## • Scan

RM-03 allows optionally looking for carrier or carrier with CTCSS or DCS. Your dealer can program those channels to be scanned on the scan list.

### Frequency/Channel Scan (Carrier Scan)

Press **SCAN** button repeatedly until LCD shows “FREQ/CH SCAN?”, then press **ENTER** button to begin scanning per frequencies or per channels.

During scanning, press UP/DOWN button on the Mic or rotate power knob to change scanning direction; press any button to stop scanning. (except **FUNC** button).

☰ When the transceiver is programmed with PA frequencies and PB frequencies, in frequency mode (VFO), frequency subsection scan is valid. For more details, please refer to HELP options in programming software.

### CTCSS / DCS Scan (Tone Scan)

Press **SCAN** button repeatedly till LCD displays “CTCSS/DCS SCAN?”. Then press **ENTER** to start scanning. When finding a matching signaling, the scan will resume for 15 seconds. Press any key to stop scanning.

☰ Tone Scan will be invalid if no sub audio tone is received in current channel. Press Mic UP/DOWN or power knob to change scanning direction.

## • Monitor

This function allows you to override the squelch and the CTCSS ,DCS or 5 tone or listen to weak signal. Through PC programmer, you can define Monitor function to be operated as:

1. Keep pressing **SQ/C** button to open squelch and release it to stop monitor. or

2. Press **SQ/C** one time to activate monitor function. Presss it again to stop monitor.

## • **Transmitting**

Before transmitting, it is recommended to monitor the channel you are using to ensure it is not busy by pressing SQ/C button or Moni button on extended microphone. Then, keep pressing PTT button and start talking at approximately 2 inches from the Mic hole. During transmitting, the LED on the front panel will glow red. Release PTT button when you have finished talking.

### **Sending Burst Tone**

Burst tone is an alternative means of accessing public repeater, except for sub audio tone such as CTCSS or DCS. Hold PTT button and press DOWN key on the Mic, you will send out burst tone, which has been set through PC programmer.

### **Sending Selcall Signalling**

Hold PTT button and press UP key on the Mic, you will send out DTMF/ 5 tone/ 2 tone signalling, which has been set through PC programmer.

## • **Receiving**

RM-03N can be programmed to work channel by channel in “Open traffic” or “Group Mode”(CTCSS or DCS). Group mode prevents other users on the same channel from being heard on your radio.

### **Open Traffic:**

In this mode, you will hear all communication transmitted on the channel. When a message is received, radio's squelch will be un-mute and LED will glow green, and you will hear the message.

### **Group Mode:**

CTCSS/DCS (Continuous Tone Code Squelch system / Digital Coded Squelch) are particular TX signaling as an access key to work a repeater (encoder) or to unlock the party signaling sensitive squelch. In group mode,

You will receive only messages coming from those parties sending a proper TX signaling. (By this way, more radios share the same frequency.) If an incorrect code or no code is received, LED glow green but squelch will still remain mute.

## ***Advanced Manual Operations***

### ● **Editing A Channel**

1. In VFO mode, turn power knob to select the frequency you need.
2. Press **ENTER** button to edit all settings in channel mode.(Please refer channel mode settings)
3. Press **FUNC** button, LCD will show “FUNC”. Then, press **V/M** button, and LCD will appear “WAIT”.
4. Rotate power knob to choose a channel would be stored with the above setting.
5. Press **FUNC** button, LCD will show “FUNC”. Then hold **V/M** button for 2 seconds till LCD appears “COPY”. Finally the radio sounds 2 beeps, “COPY” is disappeared and the channel editing is stored successfully.

### ● **Duplicate A Channel**

1. In VFO mode, press **V/M** button to get into channel mode. Then rotate power knob to select the source channel.
2. Press **FUNC** button, LCD will show “FUNC”. Then, press **V/M** button LCD will appear “WAIT”
3. Rotate power knob to select the destination channel.
4. Press **FUNC** button, LCD will appear “FUNC”. Hold **V/M** button for 2 seconds till LCD shows “COPY”. Finally the radio sound 2 beeps,

“COPY” is disappeared and the channel duplicating is stored successfully.

## • Delete A Channel

1. In VFO mode or channel mode, press **FUNC** button, LCD will show “FUNC”. Then, press **V/M** button, LCD will appear “WAIT”.
2. Rotate power knob to select a channel being deleted.
3. Press **FUNC** button, LCD will show “FUNC”. Hold **CALL** button for 2 seconds till LCD appears “CLEAR”. Finally the radio sound 2 beep, “CLEAR” is disappeared and channel is deleted successfully.
4. Repeat step 2 & 3 to delete more channels continuously.)
5. Press **SQ/C** button to exit

## • Channel Name Tag

In channel name tag mode, press **FUNC** button and then press **CALL** button to edit its channel name tag. Rotate power knob to set alpha-numeric you want. Press **CALL** button for previous character or **V/M** button for next character. Finally press **SQ/C** button to confirm and exit.

## • Make A Signalling Call

Press **CALL** button to make a signalling call, if this channel has been programmed with signalling (DTMF, 2-Tone, 5-Tone) by your dealer. .

## • Scan

### Frequency/Channel Scan (Carrier Scan)

Press **SCAN** button repeatedly until LCD shows “FREQ/CH SCAN?”, then press **ENTER** button to begin scanning per frequencies or per channels.

During scanning, press UP/DOWN button on the Mic or rotate power

knob to change scanning direction; press any button to stop scanning. (except **FUNC** button).

- ☞ When the transceiver is programmed with PA frequencies and PB frequencies, in frequency mode (VFO), frequency subsection scan is valid. For more details, please refer to HELP options in programming software.

### **CTCSS / DCS Scan (Tone Scan)**

Press **SCAN** button repeatedly till LCD displays “CTCSS/DCS SCAN?”. Then press **ENTER** to start scanning. When finding a matching signaling, the scan will resume for 15 seconds. Press any key to stop scanning.

- ☞ Tone Scan will be invalid if no sub audio tone is received in current channel. Press Mic UP/DOWN or rotate power knob to change scanning direction

## ● **Priority Scan**

In VFO mode, Priority scan will monitor the priority scan channel once every 5 seconds.

1. In VFO mode, press **V/M** button switch to channel mode. Then, rotate power knob to select a channel as priority channel.
2. Press **SCAN** button repeatedly till LCD displays “PRIORITY WATCH?”, then press **ENTER** button to start priority scanning.


☞ When the priority channel receives a matching carrier and signaling, scanning will resume at priority scan channel for 10 seconds. If you press PTT during this time, the priority scan will be stopped and the radio will stay in this channel for communication.

## ● **TX Power Selection**

Keep pressing **FUNC** and then **CALL** buttons or press H/L button at extended Mic repeatedly to choose TX power among HIGH/MIDDLE/LOW.

1. “TX POWER HIGH” indicates TX power is high.

2. “TX POWER MIDDLE” indicates Tx power is middle.
3. “TX POWER LOW” indicates TX power is low.

 In Channel number mode, the user is not allowed to change TX power manually.

## ● **Offset**


Keep pressing  and then  buttons to choose either OFF-SET+/OFFSET-/ OFFSET OFF.

1. “OFFSET+” indicates plus offset Transmitting frequency is higher than receiving frequency.
2. “OFFSET-” indicates minus offset Transmitting frequency is lower than receiving frequency.
3. “OFFSET OFF” indicates shut offset off.

## ● **Band-Width Selection**

Keep pressing  and then  buttons to choose bandwidth among 25K/20K/12.5K.

1. “W/N 25K” indicates wide band.
2. “W/N 20K” indicates middle band.
3. “W/N 12.5K” indicates narrow band.

 In Channel number mode, the user is not allowed to change band width manually.

## ● **Voice Componder**

Keep pressing  and then  buttons to switch COMPANDER ON or OFF.

“COMPANDER ON” : Componder feature is activated.

“COMPANDER OFF”: Componder feature is not activated.

## ● **Reverse TX/RX**

Keep pressing  and then  buttons to switch REVERSE ON or OFF.


“REVERSE ON” : TX & RX will be reversed.

“REVERSE OFF”: TX & RX will remain as it is programmed.

## ● **Searching & Dialing Pre-stored DTMF String**

RM-03N can be programmed with 16 pre-stored DTMF string dial. (Pre-stored DTMF string dials must be edited through PC programmer)


1. Press **FUNC** button once, and then press **SCAN** button to get into pre-stored DTMF dial list. “EMPTY” means there are nothing in pre-stored code.
2. Rotate power knob or press UP/DOWN on the Mic to choose DTMF string dial.
3. Press PTT or **CALL** button to send DTMF string dial.

 In Channel number mode, the user is not allowed to choose DTMF dial manually.

## ● **Delete A Nuisance Channel**

It allows you to remove the channels which you don't want to hear from the scan list. Press **FUNC** button once and press **SQ/C** button to switch SKIP ON/OFF.

1. “SKIP ON” indicates current channel will be deleted from scan list.
2. “SKIP OFF” indicates current channel will be remaining the scan list.

 This operation is only available in channel + name mode & channel + frequency modes. It is invalid in channel number mode & VFO mode.

# ***Menu for Radio's General Setting***

Any changing on the general settings will be stored permanently. These general settings can be done through buttons in any mode (VFO/Channel):

3. Keep pressing **FUNC** for 2 seconds to get into general setting menu of RM-03N.
4. Press **SCAN** button repeatedly or press Up/Down key on extended microphone till desired setting appears.
5. Rotate power knob to change the setting.
6. Press **SO/C** button confirm and exit.

## ● **Beep Enable/Disable**

The beep sound indicates confirmation of entry, error status, and malfunctions.

1. Hold **FUNC** button for 2 seconds to get into general setting menu.
2. Press **SCAN** button repeatedly or press Up/Down key on extended microphone till LCD displays "BEEP"
3. Rotate power knob to select ON or OFF.
4. ON: Beep enabled ; OFF: Beep disabled

 Default: ON

## ● **TOT (Time-out timer)**

TOT is the function that prevents from locking up a repeater or frequency by prolonged keying of PTT. The time-out timer limits the amount of time you have to transmit your message. When you reach the time limit which has been programmed by your dealer, your transmission will be cut off. In order to transmit again, you must push PTT button to reset the timer.

1. Hold **FUNC** button for 2 seconds to get into general setting menu.
2. Press **SCAN** button repeatedly or press Up/Down key on extended microphone till LCD displays “TIME OUT TIMER”
3. Rotate power knob to select OFF/1~30Min
4. OFF: Time-out timer disabled

 Default: OFF

## ● **APO (Auto Power Off)**

Once APO is activated, the radio will be automatically switched off when the pre-set timer is running to end.

1. Hold **FUNC** button for 2 seconds to get into general setting menu.
2. Press **SCAN** button repeatedly or press Up/Down key on extended microphone till LCD displays “AUTO POWER OFF”
3. Rotate power knob to select OFF/1 /2 HOUR.
4. 30MIN: Automatic power off after 30 minutes; 1HOUR:Automatic power off after 1 hour; 2HOUR Automatic power off after 2 hours

 Default: OFF

## ● **BCLO (Busy Channel Lockout) & BTLO**

BCLO is to disable transmitting while RX signal is received. Once the channel is busy and you press PTT, the radio will beep as warning and get back to receiving.

BTLO is mainly for repeater application. It will not be transmitted until receiving RX carrier with correct sub tone. If the repeater is occupied by other group when you press PTT button, BTLO will standby till the using group is leaving. And then, the radio's loudspeaker will beep for 3 times to remind you that you are allowed to use the repeater now.



1. Hold **FUNC** button for 2 seconds to get into general setting menu.
2. Press **SCAN** button repeatedly or press Up/Down key on extended

microphone till LCD displays “LOCKOUT”

3. Rotate power knob to set OFF/BUSY/REPEATER LOCK.
4. REPEATER LOCK: transmitting is inhibited when current channel receives a matching carrier but dis-matching CTCSS/DCS.
5. BUSY: Carrier lockout, transmitting is inhibited when current channel receives a matching carrier;
6. OFF: Busy channel lockout is disabled.

 Default: OFF



## • DTMF Transmitting Time



1. Hold  button for 2 seconds to get into general setting menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD displays “DTMF SPEED”
3. Rotate power knob to set 50MS/100MS/200MS/300MS/500MS, which indicates the time for sending each DTMF signal & the interval between each DTMF being sent.

 Default: 100MS



## • Squelch Level Setup

Setting the radio to a tight squelch level, you can avoid unwanted signals or noise, but you may not receive a weak signal. Therefore, it will be better for you to select the normal squelch level (default value: 4).

1. Hold  button for 2 seconds to get into general setting menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD displays “SQUEL LEVEL”
3. Rotate power knob to set squelch level between off-20. off means open squelch and speaker.

 quick tips : You can also adjust the squelch level by keep pressing  button, and then rotating power knob.



## ● Scan Dwell Time Setup

1. Hold  button for 2 seconds to get into general setting menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD displays “DWELL TIME”
3. Rotate power knob to set PAUSE/5/10/15 Sec.
4. 5SEC/10SEC/15SEC means the scan resume time. Once the radio stops on a busy channel, Scan mode will stop and resume for a period of time.
5. Pause: Once the radio stops on a busy channel, Scan will not keep going until RX signal is gone for 2 seconds.

 Default: 15SEC



 This setup can be also applied to CTCSS/DCS scan

## ● LCD Backlight

1. Hold  button for 2 seconds to get into general setting menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD displays “BACKLIGHT”
3. Rotate power knob to select LOW/HIGH.
4. LOW:. Low brightness; HIGH:. High brightness

 Default: HIGH



## ● Check Working Voltage


1. Hold  button for 2 seconds to get into general setting menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD displays “VOLTAGE”

3. The LCD will show working voltage.

## ● **Burst Tone Selection**



Burst tone is an alternative means of accessing the repeater, in addition to CTS or DCS tone.

1. Hold  button for 2 seconds to get into general setting menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD displays “TBST”
3. Rotate power knob to set burst tone at either 1750Hz, 2100Hz, 1000Hz, or 1450Hz.

 Default: 1750Hz

## ● **DTMF ANI On/Off**

Alpha Numeric Identification function is available by DTMF or 5Tone signaling. Enable this function, the radio will display the caller's ID number when receiving a DTMF ANI calling



1. Hold  button for 2 seconds to get into general setting menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD displays “DTMF ANI”
3. Rotate power knob to switch ON/OFF.
4. OFF: DTMF ANI is disable; ON: DTMF ANI is enabled.

 Default: OFF

 Notice: DTMF or 5 tone ANI must be set through PC programmer.

## ● **Channel Mode Setup**



There are 3 different Channel modes: Channel+frequency mode, Channel+name tag mode, & Channel mode.

1. Hold  button for 2 seconds to get into general setting menu.
2. Press  button repeatedly or press Up/Down key on extended

microphone till LCD displays “DISPLAY TYPE”

3. Rotate power knob to choose either **FREQ/CHANNEL/NAME**.


 Default: **FREQ**

 Once you choose Channel mode, the radio will not be able to switch between channel & VFO modes by pressing  button.

## ● **Factory Default**

If your radio seems to be malfunctioning, resetting the microprocessor may solve the problem. When performing the reset, you may lose memory data and stored information. Back up or write down important data before performing the reset.

1. Hold  button for 2 seconds to enter menu items.

2. Press  button repeatedly or press Up/Down key on extended microphone until LCD shows “RESTORE”

3. Turn selector knob to choose **OFF/SETUP?/FACTORY**.


4. **FACTORY**: resume factory default; **SETUP**: return initial setup; **OFF**:Non application

5. Press  button to confirm and exit.

# Menu for Channel Settings

In channel modes, including channel + frequency mode & channel + name tag mode, the edition of channel menu setting is a temporary changing. Once you turn the radio off or switch to other channel, this temporary setting will be erased and back to initial channel setting by PC programmer.

1. Under Channel modes, press **ENTER** button to get into channel menu.
2. Press the **SCAN** button repeatedly or press Up/Down key on extended microphone to turn through the channel menu.
3. Rotate power knob to set parameter.
4. Press **SO/C** or **ENTER** button to confirm and exit the channel menu setup.

 This edition is invalid in channel number mode. The edition of channel setting in VFO mode will be stored permanently.

## • Sub Tone (CTCSS/DCS) Encode Setup

1. Press **ENTER** button to get into channel menu.
2. Press **SCAN** button repeatedly or press Up/Down key on extended microphone till LCD shows “CTDCS/ ENCODE”
3. Press **CALL** button to select CTCSS, DCS or OFF. When DCS is selected, press **V/M** button to select N or I (positive /inverse)
4. Rotate power knob to select CTCSS/DCS subtone.
5. CTCSS code: 62.5Hz-254.1Hz, total 51 subtones.
6. DCS code: 000N-777I, total 1024 codes, N stands for positive code, I stands for inverse code.

 Default : 023N

## • **Sub Tone (CTCSS/DCS) Decode Setup**

1. Press **ENTER** button to get into channel menu.
2. Press **SCAN** button repeatedly or press Up/Down key on extended microphone till LCD shows “CTDCS DECODE”
3. Press **CALL** button to select CTCSS, DCS, or OFF. When DCS is selected, press **V/M** button to select N or I (positive /inverse)
4. Rotate power knob to select CTCSS/DCS subtone.
5. CTCSS code: 62.5Hz-254.1Hz, total 51 subtones.
6. DCS code: 000N-777I, total 1024 codes, N stands for positive code, I stands for inverse code.

 Default: 023N

## • **DTMF/ 5 Tone/ 2 Tone Decode Selection**



DTMF/ 5Tone/ 2Tone signalling function as similarly as CTCSS/DCS. Without receiving correspondent tone signalling, the speaker will remain mute. DTMF and 5Tone signalling can be applied for other advanced features such as ANI, PTT ID, group call, individual call, stun, remote kill, revival, tail eliminator,...etc. The signalling edition must be done through PC programmer. Please refer to the HELP option in the programming software to know how to operate these features.

1. Press **ENTER** button to get into channel menu.
2. Press **SCAN** button repeatedly or press Up/Down key on extended microphone till LCD shows “TONE DECODE”
3. Rotate power knob to select either DTMF/ 2TONE/ 5TONE/ OFF.
4. “DTMF”: the channel will be mute by a DTMF signal. The speaker won’t be open until receiving a correspondent DTMF signal. To transmit the pre-stored DTMF signaling, hold “PTT” then press UP.
5. “2TONE: the channel will be mute by a 2-Tone signal. The speaker

won't be open until receiving a correspondent 2-Tone signal. To transmit the pre-stored 2-Tone signaling, hold "PTT" then press UP.



6. "5Tone": the channel will be mute by a 5-Tone signal. The speaker won't be open until receiving a correspondent 5-Tone signal. To transmit the pre-stored 5-Tone signaling, hold "PTT" then press UP.
7. "OFF": DTMF, 2Tone, or 5Tone signaling decoder is cancelled and this channel will not be mute.

## ● **Sending 2-Tone Call**

1. Press  button to get into channel menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD shows "2TONE CALLXX" , XX means the group in the list.
3. Rotate power knob to select the 2-Tone group you want to send. Press PTT to transmit the selected 2Tone group call.

 There are up to 32 groups of 2-Tone Call to be set with name alias through PC programmer.

## ● **Sending 5-Tone Call**

1. Press  button to get into channel menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD shows "5TONE CALLXX" , XX means the group in the list.
3. Rotate power knob to select the 5-Tone group you want to send. Press PTT to transmit the selected 5-Tone group call.

 There are up to 100 groups of 5-Tone Call to be set with name alias through PC programmer.

## ● Open Squelch Modes

This function used to setup the mode to open radio's squelch.

1. Press **ENTER** button to get into channel menu.
2. Press **SCAN** button repeatedly or press Up/Down key on extended microphone till LCD shows "SIGNAL"
3. Rotate power knob to select either **SQUELCH**, **CTCSS/DCS**, **CTDCS&TONE**, or **CTDCS/TONE** .

"**SQUELCH**": The speaker will be unmute while receiving a matching carrier.

"**CTCSS/DCS**", The speaker will be unmute while receiving a matching carrier and CTCSS/DCS sub audio tone.

"**TONE**", The speaker will be unmute while receiving a matching carrier and DTMF/2-Tone/5-Tone signaling.


"**CTDCS&TONE**", The speaker will be unmute while receiving a matching carrier and CTCSS/DCS sub audio tone and DTMF/2-Tone/5-Tone signaling.

"**CTDCS/TONE**", The speaker will be unmute while receiving a matching carrier and either CTCSS/DCS/DTMF/2-Tone/5-Tone signaling.



## ● Offset Direction Setup

This function should coordinate with the offset frequency setup, which enable you to communication with other transceivers through a repeater.

1. Press **ENTER** button to get into channel menu.
2. Press **SCAN** button repeatedly or press Up/Down key on extended microphone till LCD shows "OFFSET"
3. Rotate power knob to select an offset direction
4. "OFFSET-", indicate minus offset, TX frequency is lower than RX frequency. When "Reverse" function is enabled, TX frequency will be higher than RX frequency.



5. “OFFSET+”, indicate plus offset, TX frequency is higher than RX frequency. When “Reverse” function is enabled, TX frequency will be lower than RX frequency.
6. “OFFSET OFF” means shut offset function off.  
 Note: Offset function will be invalid when “Talk around” function is enabled.

## • **Offset Interval Setup**

1. Press  button to get into channel menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD shows “OFFSET FREQ”
3. Rotate power knob to set offset frequency from 00 to 69.995 MHz.
4. default is 0.6MHz.

## • **Channel Step Setup**



Channel step means the frequency interval to the next frequency.

1. Press  button to go through channel menu settings.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD shows “STEP”
3. Rotate power knob to select a channel step from 5K, 6.25K, 10K, 12.5K, 20K, 25K, 30K, or, 50K.. Default: 20K

 This function work in frequency (VFO) mode only.

## • **Wide/Narrow Band Selection**




Select band width.

1. Press  button to get into channel menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD shows “W/N”
3. Rotate power knob to select bandwidth from 25KHz, 20KHz, or

12.5KHz.



## ● **Reverse TX/RX**

TX frequency turns to RX frequency & RX frequency change to TX frequency. The signaling will also be reversed if CTCSS/DCS signaling existed in this channel.

1. Press  button to get into channel menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD shows “REVERSE”
3. Rotate power knob to set ON/OFF reverse frequency.
4. ON: enable frequency reverse; OFF: disable frequency reverse  
 This function will be disabled while “Talk around” function is enabled.

## ● **Talk Around**



By Talk Around function, you can directly communicate with other radios in your group in case the repeater is not activated or when you are out of the repeater range. The transceiver will transmit by RX frequency with its CTCSS/DCS signaling.

1. Press  button to get into channel menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD shows “Talk Around”.
3. Rotate power knob to switch ON or OFF.
4. ON: talk around enabled; OFF: talk around disabled.

 Default: OFF

## ● **TX Off Setup**

PTT is invalid and the current channel works in RX mode.

1. Press  button to get into channel menu.
2. Press  button repeatedly or press Up/Down key on extended



microphone till LCD shows “TX INHIBIT”.

3. Rotate power knob to switch ON or OFF.
4. ON: TX OFF function is enabled, PTT is invalid.
5. OFF: TX OFF function is disabled, PTT is valid.

 Default: OFF

## • **Compander**

Enable this function to reduce background noise and enhance audio clarity, especially in long range communication.




1. Press  button to get into channel menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD shows “COMPANDER”.
3. Rotate power knob to switch ON or OFF.
4. ON: voice compander is enabled; OFF: compander is disabled

 Default: OFF

## • **Scramble Setup(Optional)**

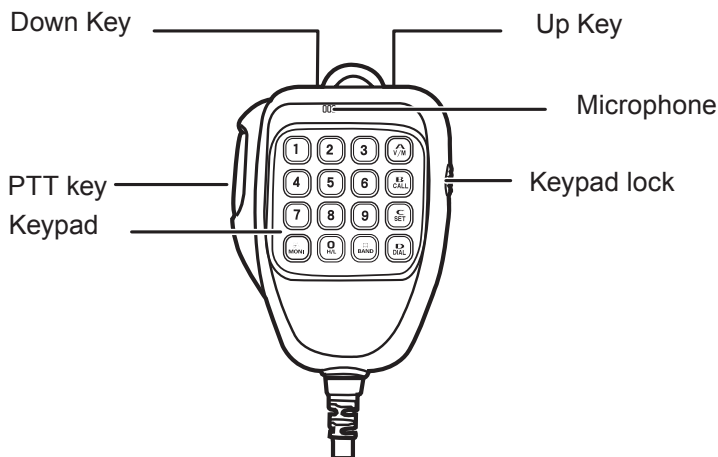
An analog voice inversion scrambler can be equipped as optionals. This special audio process can offer a more confidential communication. Other radios at same frequency will receive only disordered

noises.

1. Press  button to get into channel menu.
2. Press  button repeatedly or press Up/Down key on extended microphone till LCD shows “SCRAMBLE”.
3. Rotate power knob to switch ON or OFF.
4. ON: Scrambler is enabled; OFF: Scrambler is disabled  
 Default: OFF

# MICROPHONE OPERATIONS

Using convenient microphone keypad to operate desired frequency/channel through the RMP-05 Mic keys



## • Keypad Lock

Pull down the slider switch to lock keypad for overriding keypad entry, The lamp is turned off and all of keypads is not work except PTT switch.

## • Function Shortcut On Keypad



MONI button : forced monitor this channel or frequency.



H/L button: switch tx power to HI/MIDDLE/LOW level.



BAND button: switch bandwidth to 12.5K/20K/25KHz.



V/M button : Toggle VFO to frequency with channel mode



CALL button : Transmit selected signaling (DTMF,2-Tone,5-Tone)



**C SET** button: Set function menu list same as channel operation, Press **SCAN** button repeatedly or press Up/Down key on extended microphone. Then press **SQ/C** button to confirm and exit.



work failure at channel number mode.



**D DIAL** button : Transmit string dial , press Down/Up key to select pre-stored DTMF codes, data entry through the number keys as well , then press PTT to transmit and store the data.

Numbers button: Frequency entry or channel selection by extended microphone.

## ● **Restore Initial Setting**

Holding **FUNC** and **SQ/C** buttons turn the radio on to start initialization.



All programming data will be automatically delete after this operation.

## ● **Cloning**

Duplicate a radio by cloning lead.

1. Plug cloning lead into source and destination radio.
2. Holding **FUNC** and **SCAN** buttons and then turn the radio on, LCD shows “CLONE”.
3. Press **ENTER** button on source radio, both of radios show “CLONE xx”, xx means cloned size.
4. Destination radio will restart after finished cloning. unplug the destination radio and plug a new radio which desired cloning. follow step 2 and 4 for more radios. turn off the source radio after all done.