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FC CE 06780 

**BAOFENG**

Two Way Radio

**UV-5X**

# User Manual

V1.0

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## 1. GETTING STARTED

### 1.1 Regulations and Safety Warnings

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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

**Important:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device. Your radio is set up to transmit a regulated signal on an assigned frequency. It is against the law to alter or adjust the settings inside the radio to exceed those limitations. Any adjustments to your radio must be made by qualified technicians.

**To be safe and sure:**

- Never open your radio's case.
- Never change or replace anything in your radio except the battery.

Your radio might cause TV or radio interference even when it is operating properly. To determine whether your radio is causing the interference, turn it off. If the interference goes away, your radio is causing it. Try to eliminate the interference by moving your radio away from the receiver. If you cannot eliminate the interference, the FCC requires that you stop using the radio.

**Hazardous Environments:** Do not operate the radio in hazardous environments. Explosion or fire may result.

Do not operate the radio near unshielded electrical blasting caps.

Under certain conditions, radios can interfere with blasting operations and may cause an explosion. Turn your radio OFF to prevent accidental transmission when in a blasting area or in areas posted: "Turn off two-way radio." Construction crews often use remote-control RF devices to set off explosives.

**Care and Safety:** To clean the radio, use a soft cloth dampened with water. Do not use cleaners or solvents because they can harm the body of the unit and leak inside, causing permanent damage. Use a dry, lint-free cloth to clean the battery contacts.

### RF Exposure Information

**WARNING!** Read this information before using the radio. In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters.

Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of the radio complies with the FCC guidelines and these international standards.

Never allow children to operate the radio without adult supervision and the knowledge of the following guidelines.

**WARNING!** It is up to the user to properly operate this radio transmitter to insure safe operation. Please adhere to the following:

- Use only the supplied or an approved antenna. Unauthorized antennas, modifications, or attachments could impair call quality, damage the radio, or result in violation of FCC regulations.
- Do not use the radio with a damaged antenna.
- If a damaged antenna comes into contact with the skin, a minor burn may result. Please contact your local dealer for a replacement antenna.

### Hand-held Operation (Held-to-Face)

This device was evaluated for typical hand-held (held-to-face) operations with a 1 inch spacing from the front of the radio. For hand-held operation, the radio should be held 1 inch from the user's face in order to comply with FCC RF exposure requirements.

For more information about RF exposure, please visit the FCC web site at [www.fcc.gov](http://www.fcc.gov).

### Body-worn Operation

This device was evaluated for body-worn operations with the supplied belt-clip accessory. (All necessary accessories are included in the package; any additional or optional accessories are not required for compliance with the guidelines.) Third party accessories (unless approved by the manufacturer) should be avoided as these might not comply with FCC RF exposure guidelines.

For more information about RF exposure, please visit the FCC web site at [www.fcc.gov](http://www.fcc.gov).

## GMRS Communication

This GMRS (General Mobile Radio Service) feature is a land-mobile service available for short-distance, two-way communications in the USA. You must have a valid FCC license to communicate on these channels. The GMRS/FRS frequencies that this radio uses are set aside for communicating with others while hiking, biking, and working; keeping track of family and friends at a crowded public event; checking with travel companions in another car; talking with neighbors; arranging meeting spots with others while shopping at the mall. Licensed users will be issued a call sign by the FCC, which should be used for station identification when operating this radio. GMRS users should also cooperate by engaging in permissible transmissions only, avoiding channel interference with other GMRS users, and being prudent with the length of their transmission time.

## Licensing Information

### USA

This two-way radio operates on GMRS (General Mobile Radio Service) frequencies which require an FCC (Federal Communications Commission) license. A user must be licensed prior to transmitting on the GMRS band with this radio. Serious penalties could result for unlicensed use of GMRS channels, in violation of FCC rules. Operation of this radio is subject to additional rules specified in 47 C.F.R. Part 95. For licensing information and application forms, please call the FCC Hotline at 800418-FORM. Request form #159 and form #605. Questions regarding the license application should be directed to the FCC at 888-CALL-FCC. Additional information is available on the FCC's website at [www.fcc.gov](http://www.fcc.gov).

### NOTE

Even if you operate this radio on FRS (Family Radio Service) channels at low power (0.5 watt), you are required to have an FCC license. Because this radio operates in the 0.5 to 5 watt GMRS power range all GMRS rules apply and will require you have a GMRS license even for FRS (Family Radio Service) communication. Normal FRS only radios operate at a maximum power of 0.5 watt (500 mill watt) power and have an integral (non-detachable) antenna.

## 1.2 What's in the Box

- 2 x UV-5X Radio
- 2 x Adapter
- 2 x Belt Clip
- 2 x Hand Strip
- 2 x Li-Ion Battery Pack 1800mAh 7.4V
- 2 x Desktop Charger
- 2 x Earpiece
- 1 x User Manual

## 1.3 Main Features

- 30 GMRS Channels (RX &TX)
- Channel and Frequency Mode (MR/VFO) Selectable
- Precise Frequency Scanning
- 127 Memory Channels
- Output Power: 5W / 0.5W (GMRS)
- LED Flashlight & SOS Emergency Function
- Built-in FM Radio (88-108MHz)
- 2-pin Kenwood Programming / Earpiece Jack
- TOT (Time out timer)
- Factory Reset
- Busy Channel Lockout Function (BCL)
- Frequency Step: 2.5/5/6.25/10/12.5/25KHz
- Squelch Adjustable in 9 levels
- 154 Privacy Codes (50 CTCSS codes/ 104 DCS codes)
- Dual Band, Dual Display & Dual Band
- Large Screen, Full Keyboard, Open Menu Operation
- 11 NoAA Weather Channels (Receive and Scan)
- Frequency Scan, Channel Scan, CTCSS & DCS Codes Scan
- Three Scan Recovery Ways: Carrier, Search, Time
- VOX Function
- Dual Watch Function
- DTMF Function
- Setting and Storing of Channel Names
- VOICE: Vocal Indication of The Function Selected
- Repeater Shift
- Power Save

## About Range

The BAOFENG UV-5X designed to give you maximum range under optimum conditions.

- Maximum Range: Little to no sight obstruction.
- Medium Range: Partial obstruction to line of sight.
- Short Range: Major obstruction to line of sight.

### Optimum Conditions are:

- Overwater
- Open rural areas without obstructions
- Flat areas where you can see the other person

### To ensure you get maximum range:

- Be sure to use fresh or fully charged batteries - low batteries will cause low power conditions.
- Be sure you are on a GMRS channel - FRS channels are restricted by the FCC to low power.
- Be sure to set your radio to use high power.

## 1.4 Maintenance

Your Two Way Radio is an electronic product of exact design and should be treated with care.

The suggestions below will help you to fulfill any warranty obligations and to enjoy this product for many years.

- Do not attempt to open the radio for any reason! The radio's precision mechanics and electronics require experience and specialized equipment; for the same reason, the radio should under no circumstances be realigned as it has already been calibrated for maximum performance. Unauthorized opening of the transceiver will void the warranty.
- Do not store the radio in the sunshine or hot areas.
- High temperatures can shorten the life of electronic devices, warping or melting certain plastics.
- Do not store the radio in dusty and dirty areas.
- Keep the Radio dry. Rainwater or damp will corrode electronic circuits.

- If it appears that the Radio diffuses peculiar smell or smoke, please shut off its power immediately and take off the charger or battery from the radio.
- Do not transmit without an antenna.

## 2. BATTERY INFORMATION

### 2.1 Charging the Battery Pack

The Li-ion battery pack is not charged at the factory; please charge it before use. Charging the battery pack for the first time after purchase or extended storage (more than 2 months) may not bring the battery pack to its normal maximum operating capacity. Best operation will require fully charging / discharging the battery for two or three times, and the operating capacity will reach its best performance. The battery's operating time may decrease after long-time using even though it has been fully and correctly charged. In this case, replace the battery pack.

### 2.2 Charger Supplied

Please use the specified charger provided by BAOFENG. Other models may cause explosion and personal injury. If the radio displays low battery with a voice prompt, please charge the battery in time.

### 2.3 Use Caution with the Li-ion Battery

- a. Do not short the battery terminals or throw the battery into a fire. Never attempt to remove the casing from the battery pack, as we cannot be held responsible for any accident caused by modifying the battery.
- b. The ambient temperature should be between 5 C-40 C (40°F - 105°F) while charging the battery. Charging outside this range may not fully charge the battery.
- c. Please turn off the radio before inserting it into the charger. It may otherwise interfere with correct charging.
- d. To avoid interfering with the charging cycle, please do not cut off the power or remove the battery during charging until the green light is on.

e. Do not recharge the battery pack if it is fully charged. This may shorten the life of the battery pack or damage the battery pack.

f. Do not charge the battery or the radio if it is damp. Dry it before charging to avoid damage.

#### WARNING!

When keys, ornamental chains or other electric metals contact the battery terminal, the battery may become damaged. If the battery terminals are short circuited it will generate a lot of heat. Take care when carrying and using the battery. Remember to put the battery or radio into an insulated container. Do not put it into a metal container.

## 2.4 LED Indicator

STATUS	LED
Charge Normally	Red
Fully Charged	Green

**NOTE:** Trouble means battery too warm, battery short-circuited or charger short-circuited.

## 2.5 How to Store the Battery

- If the battery needs to be stored, keep it in the status of 80% discharged.
- It should be kept in low temperature and dry environment.
- Keep it away from hot places and direct sunlight.
  - » Do not short circuit the battery terminals.
  - » Never attempt to remove the casing from the battery pack.
  - » Never store the battery in unsafe surroundings, as a short may cause an explosion.
  - » Do not put the battery in a hot environment or throw it into a fire, as it may cause an explosion.

#### NOTE

- It is recommended to power OFF your radio while charging. If the radio is turned on while charging, you may not be able to transmit if the battery is completely empty. Allow time for the battery to charge to at least 1 bar before attempting to transmit.
- For optimal battery life, remove the radio from the charger within 6 hours. Do not store the radio while connected to the charger.

When charging a radio (with battery) the indicating light will not turn green to show the fully charged status if the radio is powered on. Only when the radio is turned off will the LED light turn green when it's fully charged, which owing to the fact that the radio consumes energy when it is power-on, thus the charger cannot detect the correct battery voltage when the battery has been fully charged. In that case, the charger will charge the battery in constant voltage mode and fail to indicate correctly when the battery has been fully charged.

### 3. INSTALLATION OF ACCESSORIES

Before the radio is ready we need to charge and attach the battery pack.

#### 3.1 Installing the belt clip

- At the back of the radio there are two parallel screws mounted above the battery, remove these and thread them through the holes on the belt clip as you screw them back into the radio body.
- Removing the Belt Clip: Unscrew counter-clockwise to remove the belt clip.

#### 3.2 Installing the battery pack

Before attaching or removing the battery, make sure your radio is turned off by turning the power/volume knob all the way counter-clockwise.

- Make sure the battery is aligned in parallel with the radio body with the lower edge of the battery about 1-2cm below the edge of the radio.
- Once aligned with the guide-rails, slide the battery upward until you hear a click as the battery locks in place.

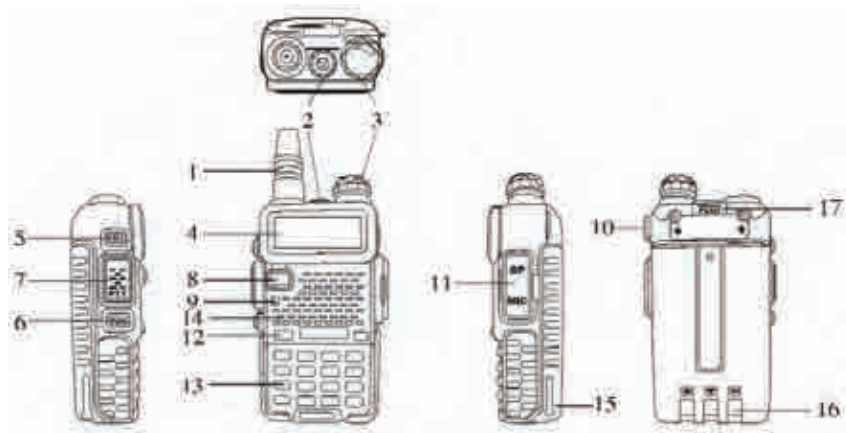
#### Remove the battery pack

To remove the battery, press the battery release above the battery pack, as you slide the battery downward.

#### 3.3 Installing the Additional Speaker/Microphone (Optional)

Pry open the rubber MIC-Headset jack cover and then insert the Speaker / Microphone plug into the double jack.

### 4. RADIO OVERVIEW



#### 4.1 Buttons and Controls of the Radio

- |                       |                      |                           |
|-----------------------|----------------------|---------------------------|
| 1. Antenna            | 7. PTT key           | 13. Keypad                |
| 2. LED Flashlight     | 8. VFO & MR Mode Key | 14. SP.&MIC               |
| 3. Power/ Volume Knob | 9. Status LED        | 15. Battery Pack          |
| 4. Two-line LCD       | 10. Strap Buckle     | 16. Battery Contacts      |
| 5. Call Key           | 11. Accessory Jack   | 17. Battery Remove Button |
| 6. Monitor Key        | 12. A / B Select Key |                           |

## 4.2 LCD display icons of the radio

### LCD Display



The transceiver is fitted with a seven character by two line dot matrix alphanumeric LCD, with auxiliary icons for miscellaneous features.

Icon	Description	Icon	Description
188	Memory channel	R	Reverse function enabled
25, 75	Least significant modifiers	N	Narrowband enabled
CT	CTCSS enabled		Battery level indicator
DCS	DCS enabled		Keypad lock enabled
+,-	Frequency shift direction (Offset)		Low Power Enabled
★	Channel Scan Enabled		High Power enabled When X7 not Displayed
S	Dual watch enabled		Indicates active band or channel
VOX	VOX enabled		Squelch Open/Close Indicator

### Battery Level Indicator

When the battery level indicator reads the battery is depleted. At this point the radio will start beeping periodically as well as flash the backlight of the display and when voice prompts are enabled, a "Low Voltage" announcement will be heard, indicating that you need to change your battery or put your radio in the charger.

## 4.3 Status Indications

The status LED has a very simple and traditional design.

LED Indicator	Radio Status
Constant Red	Transmitting
Constant Green	Receiving

## 4.4 Main Keypad Controls

### Side key 1 - CALL (Broadcast FM and Alarm)

Press **MONI** momentarily to start the broadcast FM receiver. Another momentary press turns the broadcast FM receiver off. If a signal is received on the active frequency or channel while you are listening to the broadcast FM, the squelch will be activated to that frequency (as if scanning) and remain there until the signal goes away; it will then switch back to broadcast FM.

Press and hold **MONI** to activate the alarm function. Press **MONI** (a short press) again to turn it off.

### Side key 2 - MONI (Monitor and Flashlight)

Press **MONI** momentarily to turn on the LED flashlight. Another momentary press will flash the LED. Another momentary press turns the flashlight off.

Press and hold **MONI** to monitor the signal. This will open up the squelch so you can listen to the unfiltered signal.

### VFO / MR - Mode Key

Pressing VFO/MR switches between Frequency (VFO) Mode and Memory (MR) mode. Memory mode is sometimes also referred to as Channel mode.

To save frequencies to channel memory you must be in Frequency (VFO) mode.



### A / B Select Key

The A/B key switches between A (upper) and B (lower) displays. The frequency or channel on the selected display becomes the active listening and transmit frequency or channel.

To save frequencies to channel memory you must be on the A display.

## 4.5 Numeric Keypad



The numeric keys have their secondary function printed on them (in reality it's rather menu short-cuts, more on that in Chapter4, Working the menu system).

The SCAN and # (with a small right-pointing arrow icon) keys on the other hand have actual secondary functions, scan and keypad lock respectively.

### Pound # Key

In channel mode, # (with a small right-pointing arrow icon) also acts as a transmit power shift key. While in channel mode, momentarily press # (with a small right-pointing arrow icon) to change between High and Low transmit power. Do note that this does not alter the transmit power stored to memory for that channel; it only affects the current session. Switching to another channel or another operating mode (including broadcast FM) will reset transmit power to what's stored in channel memory.

### Keypad Lock

The Baofeng UV-5X features a keypad lock that locks out all keys except for the three side keys.

To enable or disable the keypad lock, press and hold the # (with a small right-pointing arrow icon) key for about two seconds.

You can also enable so that the radio automatically locks the keypad after ten seconds from the menu, see Chapter 7, Working the menu system.

### Star \* Key

A short momentary press of the key enables the reverse function. When listening to broadcast FM a momentary press will start the scanning. Scanning in broadcast FM will stop as soon as an active station is found, regardless of scanner resume method.

To enable the scanner, press and hold the \*SCAN key for about two seconds. See Chapter 6. ADVANCED FEATURES.

### Menu and function keys

The MENU key, used to enter the menu and confirm menu options.

The ▲ and ▼ keys are used to navigate through the menu as well as select channels and step up or down in frequency (depending on operating mode).

The EXIT key is used to exit menus and cancel menu options.

For a more in-depth explanation on how to work the menu see Chapter7, Working the menu system.

## 5. BASIC OPERATIONS

### 5.1 Power on the radio

#### • Turn on

To turn the unit on, simply rotate the volume/power knob clockwise until you hear a "click". If your radio powers on correctly there should be an audible double beep after about one second and the display will show a message or flash the LCD depending on settings for about one second. Then it will display a frequency or channel. If the Voice prompt is enabled, the voice will announce "frequency mode" or "channel mode".

#### • Turn off

Turn the volume/power knob counter-clock wise all the way until you hear a "click". The unit is now off.

### 5.2 Adjust the Volume

To turn up the volume, turn the volume/power knob clock-wise. To turn the volume down, turn the volume/power knob counter-clock-wise. Be careful not to turn it too far, as you may inadvertently turn your radio off.

### 5.3 Channel Selection

There are two modes of operation: Frequency (VFO) mode, and Channel or Memory (MR) mode.

For everyday use, Channel (MR) mode is going to be a whole lot more practical than Frequency (VFO) mode. However, Frequency (VFO) mode is very handy for experimentation out in the field. Frequency (VFO) mode is also used for programming channels into memory.

In Channel (MR) mode you can navigate up and down the channel by using the ▲/▼ keys or the encoder.

Ultimately which mode you end up using will depend entirely on your use case.

### 5.4 Making a Call

Press and hold the PTT button on the side of the radio body to transmit. While transmitting, speak approximately 3-5cm from the microphone. When you release the PTT your transceiver will go back to receive mode.

**NOTE:** To ensure the best reception volume, keep the distance between the microphone and the mouth at the time of transmission from 2.5 cm to 5 cm.

### 5.5 Frequency (VFO) mode



In Frequency (VFO) mode you can navigate up and down the band by using the ▲/▼ keys. Each press will increment or decrement your frequency according to the frequency step you've set your transceiver to.

You can also input frequencies directly on your numeric keypad with kilohertz accuracy.

The following example assumes the use of a 12.5 kHz frequency step.

#### **Example. Entering the frequency 432.56250 MHz on display A**

a. In standby mode, press and hold the  key to switch to the frequency (VFO) mode.

b. Press  until the  icon appears next to the upper display.

c. Enter [4][3][2][5][6][2][5] [0] on the numeric keypad.

⦿ In VFO mode, VFO will be displayed on the right. Any transmission is prohibited, and reception and scanning are allowed. Among them, the scanning frequency can be accurately set.

#### **WARNING!**

Just because you can program in a channel does not mean you're automatically authorized to use that frequency. Transmitting on frequencies you're not authorized to operate on is illegal, and in most jurisdictions a serious offence. However, it is legal in most jurisdictions to listen. Contact your local regulatory body for further information on what laws, rules and regulations apply to your area.

## 5.6 Channel (MR) mode

The use of Channel (MR) mode is dependent on actually having programmed in some channels to use. Once you have channels programmed and ready, you can use the ▲/▼ keys or the encoder to navigate between channels.

○ In MR mode, the channel number will be displayed on the right. Among them, GMRS communication (CH1-CH30) allows transmission and reception. Channels other than CH01-CH30 can only be scanned and received, and transmission is prohibited.

## 6. ADVANCED FEATURES

### 6.1 Frequency Scanning

This function can scan the frequency.

- In frequency mode, press MENU key for more than 2 seconds. The radio will start scanning the frequency according to the set frequency step.
- You can change the scanning direction with the ▲/▼ keys.
- Press MENU key to stop the scanning.

**Note:** for Scan mode, see Menu No.18.

### 6.2 Channel scanning

Use scan to search the channels for transmissions from unknown parties, to find someone in your group who has accidentally changed channels or to quickly find unused channels for your own use.

- In channels mode, press MENU key for more than 2 seconds. The radio will start scanning according to the channel you set.
- You can change the scanning direction with the ▲/▼ keys.
- Press MENU key to stop scanning.

**Note:** for Scan mode, see Menu No.18.

## 6.3 CTCSS scanning

The function allows scanning the frequencies with CTCSS tone enabled.

- In standby mode, press MENU [1STEP][1STEP], "R-CTCS" will appear on the display.
- Press MENU and the scan of CTCSS tones will start.

**Notes:** The function cannot be activated when the radio is set in Channel mode. The Scan will start only when the receiving band will detect a signal.

## 6.4 DCS scanning

This function allows scanning the frequencies with DCS code enabled.

- In standby mode, press MENU [1STEP][0SQL]; the display will show "R-DCS".
- Press MENU and the scan of DCS codes will start.

**Notes:** The function cannot be activated when the radio is set in Channel mode. The Scan will start only when the receiving band will detect a signal.

## 6.5 Cursor → Conversion (A/B)

Directly press A/B key to move the cursor up and down. Then, you can modify or confirm the parameters indicated by the cursor.

Important1: UV-5R has a dual-frequency display function. In frequency mode, you will see on the display two different receiving and transmitting frequencies; while in channel mode the two different channels will be displayed.

Important2: In frequency or channel mode, press the A/B key to shift between the main channel A and the sub-channel B → on the display indicates on which channel (main channel A or sub channel B) you are operating.

## 6.6 Keypad Lock

This function locks the keypad to prevent accidental pressure of the controls.

To unlock the keypad, press [#rO] for more than 2 seconds.

## 6.7 FM Radio (FM)

The frequency range to listen to the radio is 65-108MHz. When listening to broadcast FM, press MENU key switches between 65-75 MHz and 76-108 MHz band.

A. In frequency or channel mode, Press [CALL] to turn on the radio.

B. Select the desired radio frequency with the ▲/▼ keys or input the frequency. Or

- Press [#**RO**] to automatically search a radio station.

C. Press [CALL] to exit FM radio.

**Note:** while you are listening to the radio, the frequency or channel of A / B receiving signal will automatically switch to the frequency or channel mode for normal transmitting and receiving.

When the signal disappears the radio will automatically switch again to FM radio mode.

## 6.8 Manual Programming (Channels Memory)

Memory channels are an easy way to store commonly used frequencies so that they can easily be retrieved at a later date.

The BAOFENG UV-5X features 127 memory channels that each can hold: Receive frequencies, group signaling information, bandwidth, ANI/ PTT-ID settings and a six character alphanumeric identifier or channel name

### Frequency Mode vs. Channel Mode

In standby mode, press and hold the [MENU] key to switch between frequency (VFO) mode and channel (MR) mode.

These two modes have different functions and are often confused.

**Frequency Mode (VFO)** : Used for a temporary frequency assignment, such as a test frequency or quick field programming if permitted.

**Channel Mode (MR)** : Used for selecting preprogrammed channels.

### Ex 1. Programming a Scan Channel with CTCSS Tone

EXAMPLE New memory in Channel 31:

RX = 432.55000 MHz

TX CTCSS tone 123.0

A. Press the [MENU] button to switch between menus.

B. Press and hold the [VFO/MR] key to set the radio to VFO mode, and the VFO icon is displayed on the right.

C. [MENU] [2] [8] [MENU] [3] [1] [MENU] [exit] ——— Deletes Prior Data in channel (Ex. 31)

D. [MENU] [1] [0] [MENU] 123.0 [MENU] [exit] ——— Selects desired RX encode tone

E. Enter RX frequency (Ex. 43255000)

F. [MENU] [2] [7] [MENU] [3] [1] [MENU] ——— Enter the desired channel (Ex. 31)

—>>[exit] ——— RX has been added

G. Press and hold the [MENU] key to return to the MR mode and the channel number will reappear.

### Ex 2. Channel memory for scanning frequency

EXAMPLE New memory in Channel 31:

Scans frequency ranger 430-435MHz

RX = 432.55000 MHz

RX DCS D023N

A. Press the [exit] button to switch between menus.

B. Press and hold the [MENU] key to set the radio to VFO mode, and the VFO icon is displayed on the right.

C. [MENU] [1] [8] [MENU] ——— Enter the scan range menu

D. Enter [4] [3] [0] [4] [3] [5] [MENU] [exit] ——— Enter the scan frequency range

E. Press and hold the [#**RO**] key to start frequency ——— Frequency required for scanning scan, 432.55000 frequency points start to scan.

There is activity, stay here temporarily, press [PTT]

key to stop scanning, confirm the required frequency. ——— Stop scanning, the required storage frequency

F. [MENU] [9] [MENU] [1] [MENU] [exit] ——— Select desired RX encode sub tone (Ex D023N DCS)

G. [MENU] [2] [8] [MENU] [3] [1] [MENU] [exit] ——— Deletes Prior Data in channel (Ex. 31)

H. [MENU] [2] [7] [MENU] [3] [1] [MENU] ——— Enter the desired channel (Ex 31)

—>> [exit] ——— Channel has been added

I. Press and hold the [MENU] key to return to the MR mode and the channel number will reappear.

## 6.9 Built-in LED Flashlight

Press the flashlight button to turn and keep the light on. Press the flashlight button again, the light is off.

**Note:** Turn off the flashlight when not in use to conserve battery power.

## 6.10 NOAA weather Receiver /Scan

Your radio can tune in to broadcasts by the United States National Oceanic and Atmospheric Administration (NOAA) Weather Radio and Environment Canada Weather Radio.

Your radio has a NOAA weather receiver function, to enable the user to receive weather reports from designated NOAA stations.

Your radio also has a NOAA weather scan function, to enable the user to scan all 11 channels of the NOAA weather receiver.

To turn the NOAA weather receiver on, press and hold the [# **NO**] key for 5 seconds while in GMRS mode. While in NOAA weather band mode press the ▲/▼ buttons to select one of the 11 NOAA weather band channels.

Press and hold the [# **NO**] key will go to NOAA weather band mode and start scanning all 11 channels and stop on any active channel. When the channel becomes inactive for 10 seconds the radio will resume scanning.

To stop the NOAA weather scans and set the channel manually on the NOAA weather band, press the [# **NO**] key during NOAA weather scan. The radio will stop scanning and the display will show the current WX Band channel setting.

To turn the NOAA weather receiver off, press the [EXIT] key.

**Note:** NOAA weather radio stations are assigned to cover specific areas and service may be limited. Please check with your local weather office for frequency and details or visit [www.weather.gov/nwr](http://www.weather.gov/nwr) in the US to view the appropriate transmitter for your area. When you listen to a weather channel, you cannot use your radio in scan mode or for GMRS communications.

## 7. WORKING THE MENU SYSTEM

For a complete reference on available menu items and parameters, see **Appendix C, Shortcut Menu operations**.

**Note:** in channel mode, the setting of these features is not possible: CTCSS/ DCS tones, wide/narrow bandwidth, PTT-ID, Busy channel lock out, channel name edit.

### 7.1 Basic use

Using the menu with arrow keys

- A. Press the [MENU] key to enter the menu.
- B. Use the ▲/▼ keys to navigate between menu items.
- C. Once you find the desired menu item, press [MENU] again to select that menu item.
- D. Use the ▲/▼ keys to select the desired parameter.
- E. When you've selected the parameter you want to set for a given menu item;
  - a). To confirm your selection, press [MENU] and it will save your setting and bring you back to the main menu.
  - b). To cancel your changes, press [EXIT] and it will reset that menu item and bring you out of the menu entirely.
- F. To exit out of the menu at any time, press the [EXIT] key.

### 7.2 Using short-cuts

As you may have noticed if you looked at **Appendix C, Shortcut Menu operations**, every menu item has a numerical value associated with it. These numbers can be used for direct access of any given menu item.

The parameters also have a number associated with them; see **Appendix C, Shortcut Menu operations** for details.

Using the menu with short-cuts:

- A. Press the [MENU] key to enter the menu.
- B. Use the numerical keypad to enter the number of the menu item.
- C. To enter the menu item, press the [MENU] key.
- D. For entering the desired parameter you have two options:
  - a). Use the arrow keys as we did in the previous section; or
  - b). Use the numerical keypad to enter the numerical short-cut code.

E. And just as in the previous section;

- a). To confirm your selection, press [MENU] and it will save your setting and bring you back to the main menu.
- b). To cancel your changes, press [exit] and it will reset that menu item and bring you out of the menu entirely.

F. To exit out of the menu at any time, press the [exit] key.

G. All further examples and procedures in this manual will use the numerical menu short-cuts.

## 7.3 Functions and Operations

### MENU No.0 -- SQL (Squelch Level)

Thanks to this function you can adjust the squelch in 10 different levels:

- **Level 0:** opened squelch. With this setting, UV-5X will detect all signals, also the weakest ones, but will also receive the background noise or undesired signals.
- **Levels 1-9:** level 1 (lowest squelch level), level 9 (highest squelch level).

If the squelch is set to the highest level, the radio will receive the strongest signals only.

### MENU No.1 -- STEP (Step Frequency)

This function lets you select the desired frequency step.

The selectable steps are the following: 2.5/5.0/6.25/10.0/12.5/20.0/25.0/50.0 KHz

**Note:** in channel mode, this function cannot be modified.

### MENU No.2 -- TXP (Transmit Power)

- HIGH [0] | LOW [1]
- Selects between HIGH and LOW transmitter power when in VFO/Frequency mode. Use the minimum transmitter power necessary to carry out the desired communications.

### MENU No.3 -- SAVE (Power Save)

The power save feature enables a reduction in the consumption of the battery when the radio is in standby.

You have 5 selections available: Off/ Mode 1/ Mode 2/ Mode 3/ Mode 4. For example: Mode 1= 1s' working and 1s' battery saving. Mode 2= 1s' working and 2s' battery is saving.

**Note:** The higher the number the longer the battery lasts. The higher number increases the RX sleep cycle, but you may miss the first few syllables before the RX opens.

### MENU No.4 -- VOX (Voice Level)

This function allows hands-free conversations: just speak in the direction of the microphone and the communication will be automatically activated.

You can choose amongst 11 levels: Off, 1-9. 1 is the highest level, 10 is the lowest one. If this option is set to Off, the VOX function is turned off.

**Note:** the higher is the level, the higher is the microphone sensitivity. The VOX function cannot be modified in SCAN and FM radio mode.

### MENU No.5 -- WN (Wide/Narrow bandwidth)

This function is used to set the working bandwidth of the radio.

You can choose between wide or narrow bandwidth.

**Wide:** 25KHz, **Narrow:** 12.5KHz

**Note:** In channel mode, this function cannot be modified.

### MENU No.6 -- ABR (Display Illumination Time)

OFF [0] | X | 2 | 3 | 4 | 5 | 6 | 7 | S | 9 | 10

Time-out for the LCD backlight(seconds)

**MENU No.7 -- TDR (Dual Watch, Dual Reception)**

When this function is activated, you can receive the frequency of channel A and channel B at the same time.

If a signal is detected, the ▼/▲ pointer will blink on the corresponding channel or frequency.

**Note:** In Dual Watch operation mode, you can change the parameter of AB channel or frequency freely.

**MENU No.8 -- BEEP (Keypad Beep)**

When this function is enabled, every time a button is pressed, you will hear a beep tone.

**MENU No.9 -- TOT (Time-Out-Timer)**

The TOT function is used to prevent a too long transmission and limits the tx time: TOT temporarily stops the transmission if the radio has been used beyond the max pre-set time (for example 15s, 30s, 45s, etc).

**Note:** If this option is set to OFF, press and hold the PTT key to keep transmission.

**MENU No.10 -- R-DCS (Receiving DCS)**

DCS codes are similar to access codes and can be added to channels, so as to create a sort of personal channel. They enable the radio to communicate with the users that are tuned on the same channel and have set the same DCS code.

You can choose amongst:

- D023N-D754N (Normal DCS), D023I-D754I (Inverse DCS)

**MENU No.11 -- R-CTCS (Receiving CTCSS)**

As DCS codes, the CTCSS codes can be added to the channels for creating new private channels.

**Note:** there are 50 groups of CTCSS tones. In channel mode the CTCSS tones cannot be changed.

**MENU No.12 -- T-DCS (Transmitting DCS)**

In this Menu you activate DCS codes in tx mode. You can choose between normal R-DCS (D023N-D754N) and inverted R-DCS (D023I-D754I)

**Note:** the groups of DCS codes are 208. DCS codes cannot be changed in channel mode.

**MENU No.13 -- T-CTCS (Transmitting CTCSS)**

In this Menu you can set a CTCSS tone in tx mode.

You can choose: Off or CTCSS (67.0 to 254.1 Hz)

**Note:** there are 50 groups of CTCSS tones. In channel mode the CTCSS tones cannot be changed.

**MENU No.14 -- VOICE(Voice prompts function)**

With this function, you activate a voice that informs you about any operation/ selection you are doing.

**MENU No.15 -- ANI-ID (Automatic Number ID)**

With this function you can set your ID-code. It can be programmed by the proper programming software. You can edit up to 5 digits.

**MENU No.16 -- DTMFST (DTMF-Side Tone of Transmit code)**

Determines when DTMF Side Tones can be heard from the transceiver speaker. You can choose amongst four options:

- **Off:** No DTMF Side Tones are heard
- **DT-ST :** Side Tones are heard only from manually keyed DTMF codes
- **ANI-ST:** Side Tones are heard only from automatically keyed DTMF codes
- **DT+ANI:** All DTMF Side Tones are heard

**MENU No.17 -- S-CODE (Signal Code)**

Selects 1 of 15 DTMF codes. The DTMF codes are programmed with software and are up to 5 digits each.

**MENU No.18 -- SC-REV (Scanner Resume Method)**

- To [0]: Time Operation-Scanning. Will resume after a fixed time has passed.
- CO [1]: Carrier Operation-Scanning. Will resume after the signal disappears.
- SE [2]: Search Operation-Scanning. Will not resume

**MENU No.19 -- PTT-ID (When to send the PTT- ID)**

- OFF [0]: No ID is sent
- BOT [1]: The selected S-CODE is sent at the beginning
- EOT [2]: The selected S-CODE is sent at the beginning and ending
- PTT-ID Codes are sent during either the beginning or ending of a transmission.

**MENU No.20 -- PTT-LT (Signal Code Sending Delay)**

- PTT-ID Delay (milliseconds), 0-50ms

**MENU No.21 -- MDF-A (Channel A Display Mode)**

This function is used to set the display mode of channel A.

Display modes:

- CH [0]: Displays the channel number
- NAME [1]: Display the channel name
- FREQ [2]: Display programmed Frequency

**Note:** Channel name mode must be set by the programming software. Up to three numbers or characters can be edited.

**MENU No.22 -- MDF-B (Channel B Display Mode)**

This function is used to set the display mode of channel B.

Display modes:

- CH [0]: Displays the channel number
- NAME [1]: Display the channel name
- FREQ [2]: Display programmed Frequency

**Note:** Channel name mode must be set by the programming software. Up to three numbers or characters can be edited.

**MENU No.23 -- BCL (Busy Channel Lock)**

When this function is on, it may prevent other radios' interference. If the selected channel is being used by other radios, when you press key PTT, your radio cannot transmit.

Release the PTT and transmit as soon as the frequency is no longer busy.

**MENU No.24 -- AUTOLK (Auto Keypad Lock )**

When this feature is activated, the keypad will be automatically locked after 15s; this prevents accidental pressure of any keys.

The keypad lock can be manually activated/deactivated through the keypad: keep pressed [# **PK**].

**MENU No.25 -- SFT-D (Frequency Shift)**

Enables access of repeaters in VFO/ Frequency mode.

- OFF [0]: TX = RX (simplex)
- + [1]: TX will be shifted higher in frequency than RX
- -[2]: TX will be shifted lower in frequency than RX

**MENU No.26 -- OFFSET (Frequency Offset)**

In this MENU you can set the deviation between tx and rx. The frequency offset of this radio is 00.000-99.998MHz.

**MENU No.27 -- MEM-CH (Store a Memory Channel)**

This menu is used to either create new or modify existing channels (0 through 127) so that they can be accessed from MR/Channel Mode.

**MENU No.28 -- DEL-CH (Delete a Memory Channel)**

In this menu you can delete a channel of the radio.



**Menu No.29 -- WT-LED (Display Backlight Color, Standby)**

• OFF [0] | BLUE [1] | ORANGE [2] | PURPLE [3]. (Default: PURPLE)

**Menu No. 30 -- RX-LED (Display Backlight Color- Receive)**

• OFF [0] | BLUE [1] | ORANGE [2] | PURPLE [3]. (Default: BLUE)

**Menu No. 31 -- TX-LED (Display Backlight Color- Transmit)**

• OFF [0] | BLUE [1] | ORANGE [2] | PURPLE [3]. (Default: ORANGE)

**Menu No. 32 -- AL-MOD (Alarm Mode)**

- SITE [0]: Sounds alarm through your radio speaker only
- TONE [1]: Transmits a cycling tone over-the-air
- CODE [2]: Transmits '19'(911 in reverse?) followed by the ANI code over-the-air

**Menu No. 33 -- BAND**

UHF/VHF. Displays the band of current displayed frequency on the upper A or lower B LCD display.

**Menu No. 34 -- TDR-AB (Transmit Selection while in Dual Watch Mode)**

When enabled, priority is returned to selected display once the signal in the other display disappears.

**Menu No. 35 -- STE (Squelch Tail Elimination)**

OFF|ON. This function is used eliminate squelch tail noise between Baofeng handhelds that are communicating directly (no repeater).

Reception of a 55 Hz or 134.4 Hz tone burst mutes the audio long enough to prevent hearing any squelch tail noise.

**Menu No. 36 -- RP-STE (Squelch Tail Elimination)**

OFF|1 - 10. This function is used eliminate squelch tail noise when communicating through a repeater.

**Menu No. 37 -- RPT-RL (Delay the squelch tail of repeater)**

OFF|1 - 10. Delay the Tail Tone of Repeater(X100 milliseconds)

**Menu No. 38 -- PONMSG (Power On Message)**

- FULL [0]: Performs an LCD screen test at power-on
- MSG [1]: Displays a 2-line power-on message

Controls the behavior of the display when the transceiver is turned on.

**Menu No. 39 -- ROGER (Roger Beep)**

OFF|ON. Sends an end-of-transmission tone to indicate to other stations that the transmission has ended.

**Menu No. 40 -- RESET (Restore Defaults)**

VFO|ALL. Resets the radio to factory defaults, with some exceptions.

## 8. ON-LINE SERVICE AND SUPPORT

The BAOFENG website provides additional information about obtaining service or support for the BAOFENG two-way radios and accessories. Visit: [www.baofeng.com](http://www.baofeng.com)

**Notes:** Every effort has been made to ensure that the information in this document is complete, accurate, and up to-date. BAOFENG assumes no responsibility for the results of errors beyond its control. The manufacturer of this equipment also cannot guarantee that changes in the equipment made by non-authorized users will not affect the information in it.

## Appendix A. - Trouble shooting guide

Phenomena	Analysis	Solution
You cannot turn on the radio.	The battery may be installed improperly.	Remove and reattach the battery.
	The battery power may run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirty or damaged battery contacts.	Clean the battery contacts or replace the battery.
During receiving, the voice is weak or intermittent.	The battery voltage maybe low.	Recharge or replace the battery.
	The volume level may be low.	Increase the volume.
	The antenna maybe loose or maybe installed incorrectly.	Turnoff the radio, and then remove and reattach the antenna.
	The speaker maybe blocked.	Clean the surface of the speaker.
You cannot communicate with other group members.	The frequency or signaling type maybe inconsistent with that of other members.	Verify that your TX/RX frequency and signaling type are correct.
	You may be too far away from other members.	Move towards other members.
You hear unknown voices or noise.	You may be interrupted by radios using the same frequency.	Change the frequency, or adjust the squelch level.
	The radio in analog mode maybe set with no signaling.	Request your dealer to set signaling for the current channel to avoid interference
You are unable to hear anyone because of too much noise and hiss.	You may be too far away from other members.	Move towards other members.
	You may be in an unfavorable position. For example, your communication may be blocked by high buildings or blocked in an underground area.	Move to an open and flat area, restart the radio, and try again.
	It may be the result of external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.
The radio keeps transmitting.	VOX may be turned on or the headset is not installed in place	Turn off the VOX function. Check that the headphones are in place.

## Appendix B. - Menu Definitions

### General

Frequency Range	GMRS (RX & TX)
	136-174 & 400-520MHz(RX)
Memory Channel	30 GMRS+11 NoAA weather Channels+127 Scanner
Operation Voltage	DC 7.4 V $\pm$ 10%
Battery Capacity	1800mAh (Li-Ion)
Frequency Stability	$\pm$ 2.5ppm
Operating Temperature	-20 $^{\circ}$ C to +50 $^{\circ}$ C
Mode of Operation	Simplex
Antenna Impedance	50ohm

### Transmitter Part

RF Output Power	$\leq$ 5W(GMRS)
FM Modulation	11K0F3E@12.5KHz
Adjacent Channel Power	60dB @ 12.5KHz
Transmission current	$\leq$ 1500mA

### Receiver Part

Receive Sensitivity	0.25 $\mu$ V (12dB SINAD)
Adjacent Channel Selectivity	$\geq$ 55dB@12.5KHz
Inter Modulation and Rejection	$\geq$ 55dB@12.5KHz
Conducted Spurious Emission	$\leq$ -57dB@12.5KHz
Rated Audio Power Output	1W @16 ohms
Receive current	$\leq$ 380mA
Rated Audio Distortion	$\leq$ 5%

**Note:** All specifications may be modified without prior notice or liability. Thank you.

## Appendix C. - Technical Specifications

### General

#### General Specifications

Specification	Value
Frequency Range (MHz)	GMRS
Memory channels	127 total (0-127)
Frequency stability	2. 5ppm
Frequency step (kHz)	2.5K/5.0K/6.25K/10.0K/12.5K/20.0K/25.0K/50.0K
Antenna impedance	50 Ohm
Operating temperature	-20°C to +60°C
Supply voltage	7.4V
	≤75mA (standby)
Consumption	380mA (reception)
	≤1.4A(transmission)
Mode of operation	Simplex or semi-duplex
Duty cycle	03/03/54 min. (Rx/Tx/ Standby)
Dimensions(mm)	58X110X32
Weight (g)	214

## Appendix D. - GMRS Frequency Chart (MHz)

CH.No	CH.Freq.(MHz)	Name	CH.No	CH.Freq. (MHz)	Name
1	462.5625	GMRS-1	16	462.5750	GMRS-16
2	462.5875	GMRS-2	17	462.6000	GMRS-17
3	462.6125	GMRS-3	18	462.6250	GMRS-18
4	462.6375	GMRS-4	19	462.6500	GMRS-19
5	462.6625	GMRS-5	20	462.6750	GMRS-20
6	462.6875	GMRS-6	21	462.7000	GMRS-21
7	462.7125	GMRS-7	22	462.7250	GMRS-22
8	467.5625	GMRS-8	23	462.5500 / 467.5500	RPT-1
9	467.5875	GMRS-9	24	462.5750 / 467.5750	RPT-2
10	467.6125	GMRS-10	25	462.6000 / 467.6000	RPT-3
11	467.6375	GMRS-11	26	462.6250 / 467.6250	RPT-4
12	467.6625	GMRS-12	27	462.6500 / 467.6500	RPT-5
13	467.6875	GMRS-13	28	462.6750 / 467.6750	RPT-6
14	467.7125	GMRS-14	29	462.7000 / 467.7000	RPT-7
15	462.5500	GMRS-15	30	462.7250 / 467.7250	RPT-8

\* Channels 8~14 are low-power FRS license free channels.

## Appendix E. - DCS Table

## DCS CODE LIST

Number	Code	Number	Code	Number	Code	Number	Code	Number	Code
1	D023N	2	D025N	3	D026N	4	D031N	5	D032N
6	D036N	7	D043N	8	D047N	9	D051N	10	D053N
11	D054N	12	D065N	13	D071N	14	D072N	15	D073N
16	D074N	17	D114N	18	D115N	19	D116N	20	D122N
21	D125N	22	D131N	23	D132N	24	D134N	25	D143N
26	D145N	27	D152N	28	D155N	29	D156N	30	D162N
31	D165N	32	D172N	33	D174N	34	D205N	35	D212N
36	D223N	37	D225N	38	D226N	39	D243N	40	D244N
41	D245N	42	D246N	43	D251N	44	D252N	45	D255N
46	D261N	47	D263N	48	D265N	49	D266N	50	D271N
51	D274N	52	D306N	53	D311N	54	D315N	55	D325N
56	D331N	57	D332N	58	D343N	59	D346N	60	D351N
61	D356N	62	D364N	63	D365N	64	D371N	65	D411N
66	D412N	67	D413N	68	D423N	69	D431N	70	D432N
71	D445N	72	D446N	73	D452N	74	D454N	75	D455N
76	D462N	77	D464N	78	D465N	79	D466N	80	D503N
81	D506N	82	D516N	83	D523N	84	D526N	85	D532N
86	D546N	87	D565N	88	D606N	89	D612N	90	D624N
91	D627N	92	D631N	93	D632N	94	D645N	95	D654N
96	D662N	97	D664N	98	D703N	99	D712N	100	D723N

Number	Code	Number	Code	Number	Code	Number	Code	Number	Code
101	D731N	102	D732N	103	D734N	104	D743N	105	D754N
106	D023I	107	D025I	108	D026I	109	D031I	110	D032I
111	D036I	112	D043I	113	D047I	114	D051I	115	D053I
116	D054I	117	D065I	118	D071I	119	D072I	120	D073I
121	D074I	122	D114I	123	D115I	124	D116I	125	D122I
126	D125I	127	D131I	128	D132I	129	D134I	130	D143I
131	D145I	132	D152I	133	D155I	134	D156I	135	D162I
136	D165I	137	D172I	138	D174I	139	D205I	140	D212I
141	D223I	142	D225I	143	D226I	144	D243I	145	D244I
146	D245I	147	D246I	148	D251I	149	D252I	150	D255I
151	D261I	152	D263I	153	D265I	154	D266I	155	D271I
156	D274I	157	D306I	158	D311I	159	D315I	160	D325I
161	D331I	162	D332I	163	D343I	164	D346I	165	D351I
166	D356I	167	D364I	168	D365I	169	D371I	170	D411I
171	D412I	172	D413I	173	D423I	174	D431I	175	D432I
176	D445I	177	D446I	178	D452I	179	D454I	180	D455I
181	D462I	182	D464I	183	D465I	184	D466I	185	D503I
186	D506I	187	D516I	188	D523I	189	D526I	190	D532I
191	D546I	192	D565I	193	D606I	194	D612I	195	D624I
196	D627I	197	D631I	198	D632I	199	D645I	200	D654I
201	D662I	202	D664I	203	D703I	204	D712I	205	D723I
206	D731I	207	D732I	208	D734I	209	D743I	210	D754I

## Appendix F. - CTCSS Table

### CTCSS CHART (Hz)

Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency
1	67.0	2	69.3	3	71.9	4	74.4	5	77.0
6	79.7	7	82.5	8	85.4	9	88.5	10	91.5
11	94.8	12	97.4	13	100	14	103.5	15	107.2
16	110.9	17	114.8	18	118.8	19	123.0	20	127.3
21	131.8	22	136.5	23	141.3	24	146.2	25	151.4
26	156.7	27	159.8	28	162.2	29	165.5	30	167.9
31	171.3	32	173.8	33	177.3	34	179.9	35	183.5
36	186.2	37	189.9	38	192.8	39	196.6	40	199.5
41	203.5	42	206.5	43	210.7	44	218.1	45	225.7
46	229.1	47	233.6	48	241.8	49	250.3	50	254.1

## Appendix G.- NOAA Weather Radio Frequency List (US, CAN)

Channel No.	RX Freq.(MHz)	Channel No.	RX Freq.(MHz)
WEATHER 01	162.5500	WEATHER 07	162.5250
WEATHER 02	162.4000	WEATHER 08	161.6500
WEATHER 03	162.4750	WEATHER 09	161.7750
WEATHER 04	162.4250	WEATHER10	161.7500
WEATHER 05	162.4500	WEATHER11	162.000
WEATHER 06	162.5000		

\* Channel 8, 9 are designated Canadian Marine Frequencies

## Appendix E. - DCS Table

The Company endeavors to achieve the accuracy and completeness of this manual, but no warranty of accuracy or reliability is given. All the specifications and designs are subject to change without notice due to continuous technological development. No part of this manual may be copied, modified, translated, or distributed in any manner without the prior written consent of the Company.

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