

LOWRANCE

Link-2

Marine Handheld VHF Radio

User Guide

ENGLISH



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Important safety information Please read carefully before installation and use.	
	This is the safety alert symbol. It is used to alert you to potentially hazardous situations. Obey all safety messages that follow this symbol to avoid possible injury or death.
	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury
	CAUTION indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.
	CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

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It is the owner's sole responsibility to install and use this instrument in such a manner that will not cause accidents, personal injury or property damage.

Lowrance disclaims all liability for any use of this product in a way that may cause accidents, damage or that may violate the law.

Governing Language: This statement, any instruction manuals, user guides and other information relating to the product (Documentation) may be translated to, or has been translated from, another language (Translation). In the event of any conflict between any Translation of Documentation, the English language version of the Documentation will be the official version of the Documentation.

This manual represents the Link-2 radio at the time of printing. Lowrance reserves the right to make changes to specifications without notice

Safety and operational information

FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC regulations require that members of the general public should not be exposed to excessive levels of radio frequency radiation. To comply with the specified limits it is recommended that this radio is operated in such a manner as to limit transmission to no more than five minutes in any half hour period and that the antenna is kept at least 8 inches from any part of the body during transmission.

CAUTION: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Industry Canada Statement

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This radio transmitter Link-2 (IC:4697A-LINK2) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio Link-2 (IC:4697A-LINK2) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Antenna type: Flexible with SMA type connection supplied with the radio.

Important

1. DSC functions will not operate until you have entered your user MMSI.
2. The radio channels installed into the radio may vary from country to country, depending upon the model and government or national communications authority regulations.
3. Lowrance recommends that you check the radio operating licensing requirements of your country before using the radio. The operator is solely responsible for observing proper radio installation and usage practices.
4. This radio is designed to generate a digital maritime distress call to facilitate search and rescue. To be effective as a safety device, this radio must be used only within the geographic range of a shore-based VHF marine Channel 70 distress and safety watch system. The geographic range may vary but under normal conditions is approximately 20 nautical miles..

Safety Training Information

When transmitting, hold the radio in a vertical position with its microphone 2 inches (5 cm) away from your mouth and keep the antenna at least 2 inches (5 cm) away from your head and body.

The radio must be used with a maximum operating duty cycle not exceeding 50%, in typical Push-to-Talk configurations.

DO NOT transmit for more than 50% of total radio use time (50% duty cycle). Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded.

To maintain compliance with the Body Worn configuration use only supplied accessories.

Other body-worn accessories or configurations may not comply with the FCC RF exposure requirements and should be not be used.

The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to assure that this radio operates with the FCC RF exposure limits of this radio.

This Marine VHF radio also complies with the following guidelines and standards regarding RF energy and electromagnetic energy levels as well as evaluation of those levels for human exposure:

- FCC OET Bulletin 65 Edition 97-01 Supplement C, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
- American National Standards Institute (C95.1-1992), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
- American National Standards Institute (C95.3-1992), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields — RF and Microwave.

Section 1 - General information

Congratulations on your purchase of this handheld VHF marine radio Link-2, designed and built using superior technology and craftsmanship. It provides the following useful features:

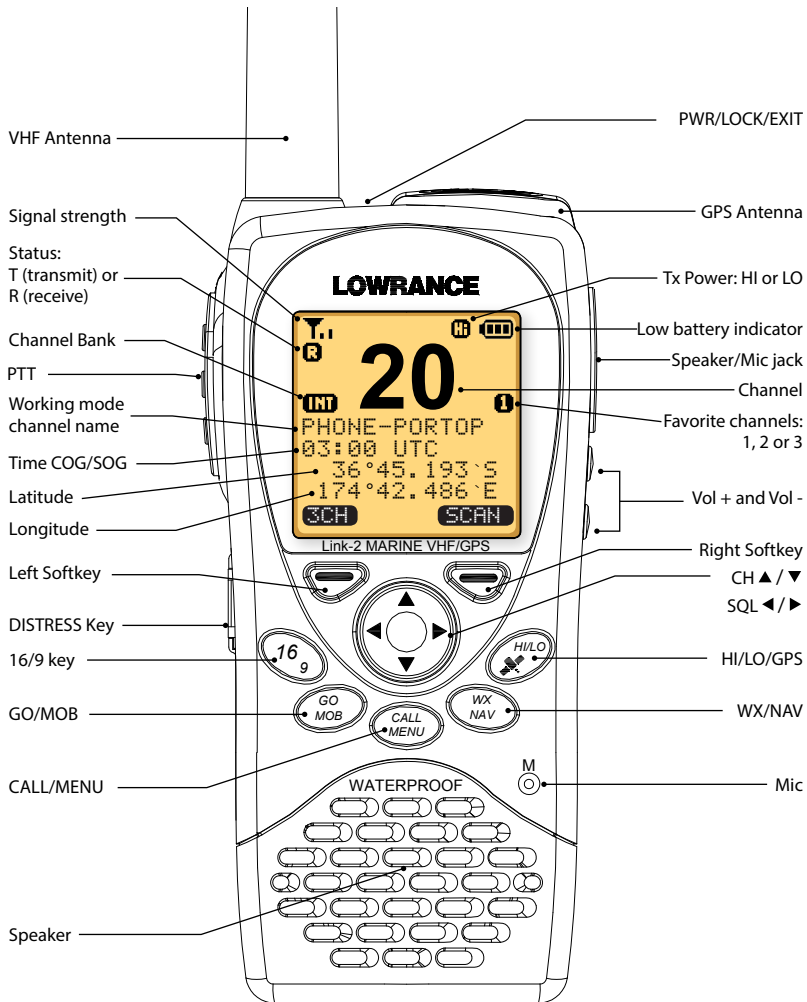
- Adjustable contrast settings for the LCD
- Adjustable keypad backlighting for easy night time use
- Waterproof and submersible to comply with JIS-7
- GPS latitude and longitude (LL) and time display
- Built-in GPS sensor
- Choice of High or Low (5 W or 1 W) transmission power
- Special CH16 key for quick access to the priority (international distress) channel
- Special 3CH key to select your three favorite channels
- Flexible dual watch facility
- DSC (Digital Selective Calling) capability that meets CLASS-D standards
- DISTRESS call button to automatically transmit the MMSI and position until an acknowledgement is received
- Easy access to a buddy list of up to 20 favorite people
- LL position polling information
- Buddy tracking capacity
- Weather alert facility (US only)
- ATIS facility for inland waterways (Europe only).

CAUTION

Battery caution: This device uses a Lithion Ion battery - please observe the following cautions.


- Do not disassemble
- Do not incinerate or expose to fire
- Dispose of used batteries according to local codes and requirements.



Section 2 - Controls and keys




2-1 Keys/Controls and functions

PWR/LOCK/EXIT

PWR: To turn the unit on and off, press and hold down PWR /  / EXIT (red key) for more than 2 seconds and release.

LOCK: The keylock, locks and unlocks keypad. Press PWR /  / EXIT (red key) for 1 second and release. A key icon  will appear on screen to indicate whether keylock is on or off.

EXIT: Also used to EXIT some menu items. Short press PWR /  / EXIT (red key) for 1 second and release.

▲ VOL ▼

Volume Adjustment - located on the side of the radio. Press ▲ to increase or press ▼ to decrease until a comfortable volume is reached.

SQL ◀ / ▶

Squelch or Threshold Level - located on the central control dial. Sets the threshold level for the minimum receiver signal. 16 steps available.

CH ▲ / ▼

Channel select - located on the central control dial. Press ▲ to select a higher channel or press ▼ to select a lower channel.





16/9

Priority Channel. Press to cancel all other modes and to tune into the priority channel. Press again to return to your original channel. To make Channel 09 the default instead, hold down 16/9 until a beep sounds and 09 is displayed (US only).

Left softkey (3CH/EXIT)

This radio utilizes 'soft keys' where the functionality of each softkey button will change depending on the mode the radio is in. The bottom line of the LCD display will indicate the function of each softkey located immediately below.

3CH softkey:

 The 3CH softkey is used to initiate a Three Favorite Channels scan function. Press to toggle between your favorite channels. The , , or  symbol appears on the LCD to show which favorite channel is selected.

If you want to scan all three favorite channels, press 3CH, then immediately press and hold SCAN.

To add a favorite channel for the first time, select that channel then hold 3CH to store it in the CH1 location. Repeat the procedure to store two more favorite channels in the CH2 and CH3 locations respectively.

If you try and add another favorite channel it will overwrite the existing CH3. CH1 and CH2 will remain unless you delete them.

To delete a favorite channel, select that channel then hold

down 3CH until a dialog box appears to prompt the deletion.

EXIT softkey:

EXIT The EXIT softkey is used when navigating menus to clear incorrect entries, to exit from a menu without saving changes and to back up to the previous screen.

Right softkey (SCAN/ENTER)

SCAN softkey:

SCAN The SCAN softkey is used to initiate a channel scan function. Quick press and release for **Dual Watch** - scan between your current channel and the priority channel in DUAL mode.

Press and hold down SCAN for more than 2 seconds to enter **ALL SCAN** mode where the priority channel is checked every 1.5 seconds.

When a signal is received, scanning stops at that channel and "R" appears on the screen. If the signal ceases for more than 5 seconds, the scan restarts.

In ALL SCAN mode, you may wish to 'skip' a channel because it may always be busy and therefore stops the scan. If you wish to 'skip' a channel, hold down the left softkey for more than 2 seconds. **SKIP** will appear on the screen and the channel will be skipped. To cancel the skip, manually select the skipped channel and press the left softkey for more than 2 seconds.

It is not possible to skip over the priority channel.

ENTER softkey:

ENTER Use the ENTER softkey when navigating menus and to confirm entries and edits.

CH ▲ / ▼

Channel Select. The current channel is shown on the screen in BIG digits with the channel description information below the channel number.

Press **CH ▲ / ▼** to step through the available channels one at a time, or hold down to scroll quickly through all the available channels. See Appendix B for a listing of channel charts.

Alphanumeric Entry. This key can also be used for menu selection and alphanumeric entry. Press **CH ▲ / ▼** to scroll the cursor up or down menu options when navigating menus.

When editing an item that contains only numbers, press - **CH ▲** to count through the numbers or hold down to scroll through quickly.

To enter a character, press **CH ▼** to step through the alphabet or hold down to scroll through quickly.

HI/LO/ ✘

Transmission Power. High (HI) 5 W or Low (LO) 1 W. Press to toggle between high or low transmission powers for the entire channel bank. The **HI** or **LO** selection is shown on the LCD screen.

Some channels allow only low power transmissions. Error beeps will sound if the power transmission setting is incorrect.

Some channels allow only low power transmissions initially, but can be changed to high power by holding down HI/LO and PTT all at the same time. See Appendix B for a complete listing of channel charts.

Hold down ✘ key to enter GPS Satellite mode.

WX/NAV

WX. Quickly press to access Weather channels. Press again to return to your previous mode.

For non US models: The Wx key can be programmed to a weather channel of your choice. See section 4-11 to program your favourite channel.

NAV. Hold down WX/NAV for more than 3 seconds to enter Navigation mode. Bearing, Distance and cross track error from the last selected waypoint will display on the screen. If no WP is set, it will appear "NO ACTIVE ROUTE!!" prompt.

GO/MOB

Press GO/MOB if you are navigating to waypoint and want to reset the XTE (cross track error) as shown on the screen.

If someone falls overboard, hold down GO/MOB for about 3 seconds to mark the position.

The latitude and longitude of the Man Overboard position is shown on the screen and is automatically set as the destination waypoint.

PTT

Push To Talk. Push to start transmitting then talk into the mic.

CALL/MENU




CALL. Quickly press the CALL/MENU key to access the DSC Call menu. The call mode is used for making DSC calls. US only.


MENU. Hold down the CALL/MENU key more than 3 seconds to access the Menu Setup mode and to customize your VHF radio.

Please refer to the following sections for more details.

Section 3 - Operating the radio

3-1 Power On/Off



You can turn on the unit by pressing PWR/  switch (on the top side of radio) until the screen and backlight are on. You can also adjust the volume to a comfortable level, by pressing the VOL  /  keys on the side of unit.

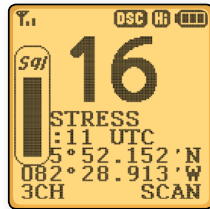
Note: Press the PWR/  key at any time will turn the display backlight on.

3-2 Adjusting the Squelch level



The SQUELCH control enables you to set the levels of your desired signal. It determines how strong your signal can be before you can hear it, before it “breaks squelch.” It aims to keep any static, unwanted, weak or distant signals from interrupting your conversations.

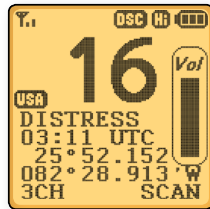
There are 16 signals to choose from when adjusting the squelch level. To increase the levels, raise the “Squelch Gate” higher so that only stronger signals can get through. Level “0” for instance, means that there is no “Squelch Gate” and everything will get through.

To adjust the squelch level, press SQL  /  accordingly.





3-3 Volume control

Press VOL  /  to adjust the volume level. A volume sub-menu will appear when pressed. It times-out after 5 seconds.



3-4 Channel selection

To manually select a channel, press CH  to increase, or press CH  to decrease the channel number. Communication channels are located on channel 01-28 and 60-88. For more detailed channel chart information, refer to Appendix B.

16/9 (Priority channel)



Press to cancel all other modes and to tune into the priority channel. Press again to return to your original channel. The default Priority Channel is CH16.


For US models: To make Channel 09 the priority channel, hold down 16/9 until a beep sounds and 09 is displayed.

3-5 Receiving and transmitting


CAUTION

Transmitting without an antenna may damage the radio.

1. To turn power on, press the PWR key for more than 2 seconds.
2. Adjust for comfortable volume level. (The squelch level temporarily set to “0”).
3. Set the suitable Squelch level to mute noise if necessary.
4. Press CH  /  to select the desired channel.

When receiving a signal,  appears on screen and audio is emitted from the speaker.

Further volume adjustment may be needed to get your desired setting.

5. Press HI/LO to select the output power.
Choose low power to conserve battery power, or choose high power for longer distance communications.
6. Press and hold “PTT” to transmit, then speak into the microphone, while  appears on the screen.
7. Release PTT, to receive conversation.

Note: Some channels are for low power only. Channel 70 cannot be used for transmission.

For clear and audible transmission:

- Pause for a few seconds after pressing PTT
- Hold the microphone 5 to 10 cm (2 to 4 inches) away from your mouth and speak at a normal volume.

3-6 Dual Watch operation

Dual watch monitors channel 16 while receiving another channel. To activate this, you must:

1. Select the desired operating channel (e.g. CH88).
2. Push the SCAN key repeatedly until **DM** appears on screen.
3. To cancel dual watch, press SCAN (once) until **DM** disappears.

If a signal is received on channel 16, dual watch pauses on channel 16 until the signal disappears.

To transmit on the selected channel during dual watch, press and hold PTT.

3-7 3CH operation (Favorite Channel)

You can instantly access the three most frequently used channels by 3CH mode, Three Favorite Channels. Press to toggle between your favorite channels. The **1**, **2**, or **3** symbols appear on the LCD to show which of your favorite channel is selected.

3-7-1 Add a favorite channel for the first time

1. Select the desired channel, then hold 3CH to store it. The CH1 **1** symbol appears on the screen.
2. Repeat the procedure to store two more favorite channels in the CH2 and CH3 locations.

3-7-2 Modify or delete favorite channel

If you try and add another favorite channel it will overwrite the existing CH3. But CH1 and CH2 will remain unless you delete them.

To delete a favorite channel:

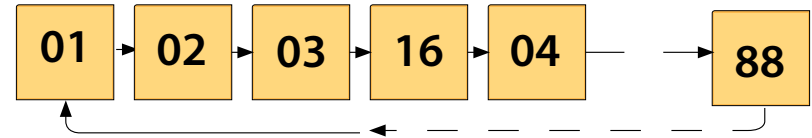
- Select that channel, then hold down 3CH until a dialog box appears to prompt the deletion.

3-8 Scan Operation

Scanning is an effective way to locate signals quickly over a wide frequency range.

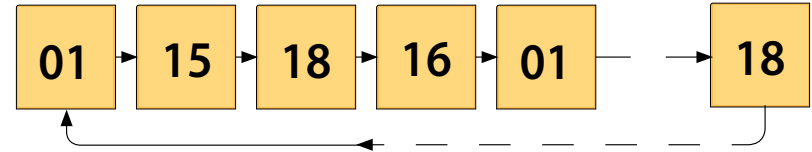
All Scan

All channels in the set are scanned sequentially, in repeated cycles (CH16 is checked every 1.5 seconds).



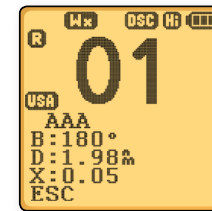
3CH Scan

Press and hold down the SCAN key in the 3CH mode, you will then enter a 3CH SCAN mode. However, only the 3CH and CH16 will be scanned.



3-9 Navigation mode

Press and hold down NAV key, (US only), or just press the NAV key (EU only) to enter the Navigation Mode. It will display: Bearing, Distance and cross track error from the last selected waypoint.



If no WP is set, 'NO ACTIVE ROUTE!!' will appear to prompt you that no WP is selected.

During Nav Mode:

- PTT – return to normal mode and TX
- 16/9 – return to normal mode and go to 16/9
- NAV – return to normal mode
- GO – Reset the cross track error (XTE)
- SQL ▶ – Go to WP select Mode
- SQL ◀ – Go to Plotter Mode
- Other key – error beep.

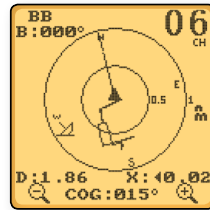
3-10 WP select mode



- CH ▲/▼ – Page up down the list
- SQL ◀ - Go to Plotter Mode
- SQL ▶ - Returns to Navigation Mode.

Note: During WP Select Mode, press ENTER right-key to flash the first WP, then press CH ▲/▼ to select next WP, press ENTER right-key again to set the WP as your next destination and enter navigation mode.

3-11 Plotter mode



During plotter mode:

- Softkey It will zoom in/out the circle to see more/less area
- SQL ◀ Go to Navigation Mode
- SQL ▶ Go to WP select Mode
- PTT Return to normal mode and TX
- 16/9 Return to normal mode and go to 16/9
- NAV Go to normal mode
- Other key Error beep.

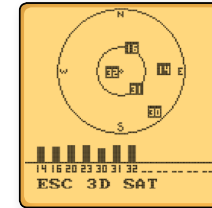
To avoid screen clutter, a maximum of 5 waypoint icons closest to you plus the active waypoint are shown.

3-12 GPS satellite mode

Press and hold the HI/LO/✘ key to enter GPS satellite mode.

During GPS satellite mode:

- PTT Return to normal mode and TX
- 16/9 (16) Return to normal model and go to 16/9
- ✘ Return to normal mode
- Left softkey Return to normal mode
- Other key Error Beep.



Section 4 - Advanced setup

How to display and navigate menus

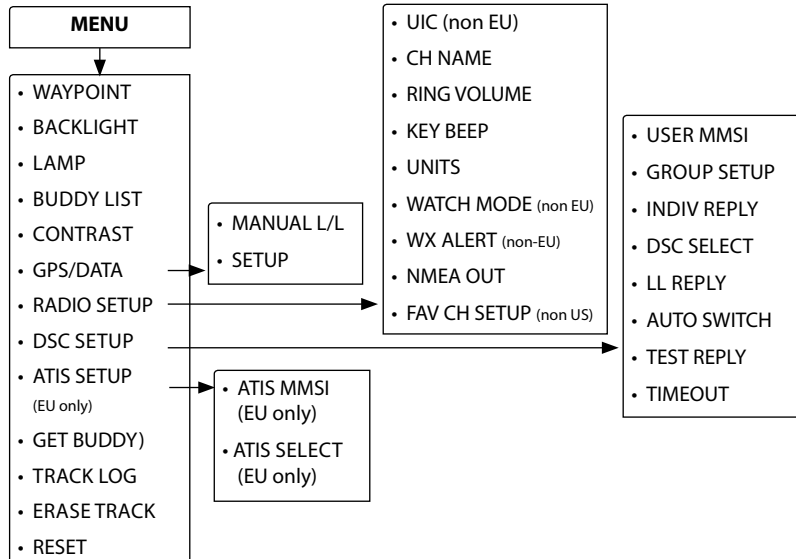
1. Hold down CALL/MENU key for more than 1 second to enter the set up menu.
2. Press CH ▲ / ▼ to scroll up and down the menu until the cursor is positioned at the desired items. Press ENTER softkey to select the item.
3. Make any changes then press ENTER softkey to confirm changes. Otherwise, press EXIT softkey to ignore.
4. Press EXIT softkey to go back or exit. Any changes are activated as soon as you enter/exit the screen.

How to enter Alphanumeric data

Use the CH ▲ / ▼ key to enter characters.

1. Press ▼ to enter and count through numbers and letters, and hold down to select the desired character.
2. Press ▲ to go through letters of the alphabet, and hold down to select the desired character.
3. Press ENTER to confirm.

The following options are available through MENU:



Hold down the CALL/ MENU key for more than 1 second to enter radio set-up mode. This allows the following functions to be accessed. Scroll down the list and press ENTER. To exit the Menu or sub-menu modes press 16 or EXIT.

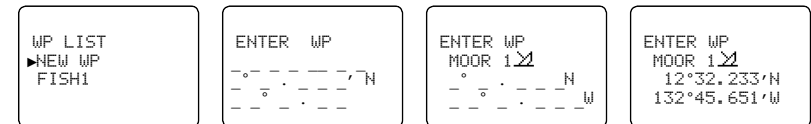
WAYPOINT	Selects the WP List Entry to enter names and LL positions for a WP. Up to 500 WP can be stored.
BACKLIGHT	Sets the backlight level: 8 levels.
LAMP	Sets the backlight lamp time out.
BUDDY LIST	Selects the Buddy List Entry to enter names and MMSI's for regularly called DSC stations. Up to 20 names can be stored (US only).
CONTRAST	Selects display contrast setting: 8 levels.
GPS/DATA	Select to change the following GPS/DATA settings: Time Offset, Format, Display, LL Display, COG/SOG, GPS Alert, GPS Enabled.
RADIO SETUP	Select to change the following radio settings: Band, CH Name, Ring Tone Volume, Beep Volume, Units, Watch mode, WX alert.
DSC SETUP	Select to change the following DSC settings: User MMSI enter, Group MMSI, INDIV RELAY AND LL Relay (US only).
ATIS SETUP	Select to change the following ATIS settings: ATIS MMSI Enter, ATIS Select. (EU Only).
GET BUDDY	Enable or disable Buddy Data and Auto Function.
TRACK LOG	Set the distance interval for recording the track points.
ERASE TRACK	Erase track history points.
RESET	Reset to factory settings.

4-1 Waypoint

You can store up to 500 waypoints and their LL positions. When your WAYPOINT LIST is full, you cannot make a new entry until you have deleted an existing one.

- Each waypoint name can have a maximum of 6 alphanumeric characters
- The most recent waypoint name will be displayed at the top of your waypoint list.

4-1-1 Add a new waypoint



```

SAVE
MOOR 1  [X]
▶YES
NO
  
```

1. Hold down CALL/MENU for 3 seconds (US ONLY); or press MENU key (EU only).
2. The cursor is at WAYPOINT, press ENTER.
3. Select WP LIST, and then NEW WP.
4. Use the CH ▲ / ▼ to enter the new waypoint name, one alphanumeric character at a time. Select one waypoint symbol (there are 20 icons available); and then press ENTER until the cursor moves to the latitude line.
5. Use the CH ▲ / ▼ to enter the latitude of the waypoint, one number at a time; then press ENTER. The cursor moves to the longitude.
6. Use the CH ▲ / ▼ to enter the longitude waypoint, one number at a time, then press ENTER.
7. A new screen appears automatically to show the new waypoint details. If they are correct, press ENTER to STORE the new waypoint. (If they are not correct, select EXIT).

4-1-2 Edit a waypoint

```

MENU SELECT
▶WAYPOINT
BACKLIGHT
LAMP
  
```

```

WAYPOINT
▶WP LIST
  
```

```

WP LIST
NEW WP
FISH 1  [X]
▶FISH 2  [X]
  
```

```

WP EDIT
FISH 2  [X]
12°32.233'N
132°45.651'W
  
```

```

WP EDIT
MOOR 1  [X]
12°32.233'N
132°45.651'W
  
```

```

SAVE
MOOR1  [X]
▶YES
NO
  
```

1. Hold down CALL/MENU (US only); or press MENU (EU only).
2. The cursor is at WAYPOINT. Press ENTER.
3. Select WP LIST, then push ENTER, the cursor is at new WP. Scroll down to the waypoint you want to edit then push ENTER.
4. Select WP EDIT and press ENTER.
5. The waypoint details are displayed and the cursor is positioned at the first character of the name.

6. Use the CH ▲ / ▼ to change the first character of the waypoint name then press ENTER, or just press ENTER to skip to the next character.

When you reach the last character of the waypoint name, make any changes if necessary, then press ENTER to move the cursor to the waypoint icon.

Note: If you do not want to change the waypoint name waypoint icon, press ENTER repeatedly until the cursor moves to the latitude.

To change the waypoint icon, use the CH ▲ / ▼ to change the icon or press ENTER to skip to latitude. To change latitude, use the CH ▲ / ▼ to change the first digit or press ENTER to skip to the next digit. Repeat if necessary. When you reach the last digit, push ENTER to move the cursor to longitude.

Note: If you do not want to change the latitude, press ENTER repeatedly until the cursor moves to the longitude.

1. Repeat the previous step to change or press ENTER to continue.
2. A new screen appears. Press ENTER if you want to STORE the new waypoint. If you want to keep the original entry, move the cursor to NO then press ENTER.

4-1-3 Delete a waypoint

```

MENU SELECT
▶WAYPOINT
BACKLIGHT
LAMP
  
```

```

WAYPOINT
▶WP LIST
NEAREST WP
TEMP
  
```

```

WP LIST
NEW WP
FISH 1  [X]
▶FISH 2  [X]
  
```

```

FISH 2
GO
WP EDIT
▶DELETE
  
```

```

DELETE
FISH 2
▶YES
NO
  
```

```

WP LIST
NEW WP
FISH 1
▶HOME
  
```

Hold down CALL/MENU for about 3 seconds (US only); or press MENU (EU only).

1. The cursor is at WAYPOINT, press ENTER.
2. Select WP list and press ENTER. The cursor is at new WP, scroll down to the waypoint you want to delete, then press ENTER.
3. The cursor is at GO. Move the cursor to delete and push ENTER.
4. The waypoint is deleted immediately and the revised waypoint list is displayed.

4-1-4 Set a route to a stored waypoint



1. Hold down CALL/MENU for about 3 seconds (US only); or press MENU (EU only).
2. The cursor is at WAYPOINT. Press ENTER.
3. The cursor is at WP list, press ENTER. The cursor is at new WP, scroll down to the waypoint to use as the route then press ENTER.
4. The cursor is at GO and push ENTER and enter the navigation mode. The waypoint is set as your next destination.

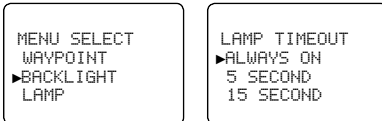
4-2 Backlight adjustment

1. Select BACKLIGHT and press ENTER. There are 8 backlight levels.
2. SQ ◀/▶ to adjust the setting. Press ENTER to confirm the setting and return to the MENU SELECT.



4-3 Lamp timer

1. Select LAMP and press ENTER. There are 4 timer settings: Always on, 5s, 15s, 30s (default).
2. Press CH ▲/▼ to adjust the setting. Press ENTER to confirm the setting and return to the MENU SELECT.



4-4 Buddy list (Manage your buddy list)

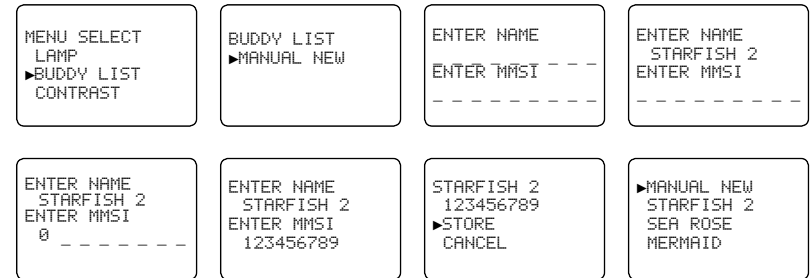
You can use the buddy list to store names and associated MMSIs of 20 DSC stations that you call frequently. Buddy names are stored in the order of entry, with the most recent entry first.

The following sections demonstrates how to use BUDDY LIST, these include: to add, edit, and delete entries.

4-4-1 Add a new buddy name

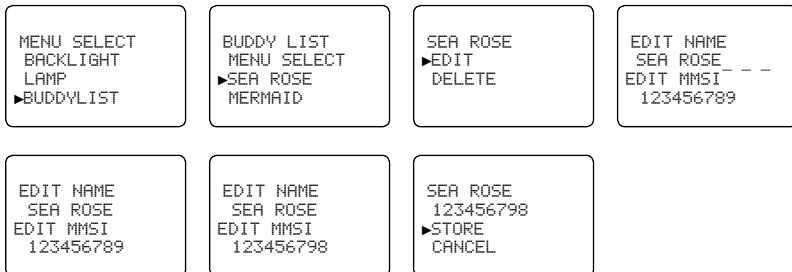
You can enter up to 20 buddy names. When your BUDDY LIST is full, you cannot make a new entry until you have deleted an existing entry.

- Each buddy name can have a maximum of 11 alphanumeric characters
- The most recent buddy name entered is shown at the top of your buddy list.



1. Hold down CALL/MENU for 3 seconds.
2. Select BUDDY LIST then press ENTER.
3. The cursor is at <MANUAL>. Push ENTER.
4. Use the CH ▲/▼ to enter the new buddy name one character at a time. Then press ENTER until the cursor moves to the MMSI entry line.
5. Use CH ▲/▼ to enter the 9-digit MMSI that is associated with that buddy name, one number at a time, then press ENTER.
6. After you enter the last digit of the MMSI, a new screen appears automatically to show the new buddy name and MMSI. Check that it is correct; and then push ENTER to save the new entry. (If it is not correct, select EXIT).

4-4-2 Edit a buddy name



1. Press and hold down CALL/MENU for about 3 seconds.
2. Select BUDDY LIST then press ENTER.
3. Scroll down to the entry you want to edit then press ENTER.
4. The buddy name is displayed and the cursor is positioned at EDIT. Press ENTER.
5. The buddy name and MMSI are displayed. The cursor is at the first character of the name.
6. Use CH ▲ / ▼ to change the first character of the buddy name then press ENTER, or just press ENTER to skip to the next character. Repeat if necessary. When you reach the last character of the buddy name, make any changes if needed, then press ENTER to move the cursor to the MMSI.

Note: If you do not want to change the buddy name, just press ENTER repeatedly until the cursor moves to the MMSI line.

7. To change the MMSI, use CH ▲ / ▼ to change the first number or press ENTER to skip to the next number. Repeat if necessary. When you reach the last number, press ENTER to display the SAVE screen.

Note: If you do not want to change the MMSI, press ENTER repeatedly until the SAVE screen appears.

8. Press ENTER to save the edits or CANCEL to keep the original entry.

4-4-3 Delete a buddy name

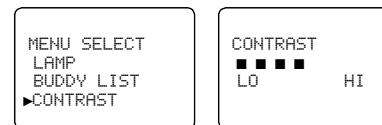


1. Hold down CALL/MENU for about 3 seconds.

2. Select BUDDY LIST. Press ENTER to display the list of buddy names.
3. Scroll down to the buddy name you want to delete then press ENTER.
4. Select DELETE then select YES.
5. The buddy name is deleted and the revised buddy list is displayed.

4-5 Contrast adjustment

1. Select CONTRAST and press ENTER. There are 8 contrast levels. The higher the numbers, the darker LCD screen.
2. SQ ◀/▶ to adjust the setting, Press ENTER to confirm the setting and return to the MENU SELECT.



4-6 GPS/DATA

You can use the GPS/DATA menu to:

- manually enter your position data
- manually enter the time data
- show or hide your position
- show or hide the time
- offset the UTC time to show your local time
- format the time display
- show or hide your course (COG) and speed (SOG)
- turn GPS ENABLE ON/OFF
- set True or Magnetic Bearing
- turn NO GPS DATA alarm sound ON/OFF.

Note: This information is important because it will be used if you send a DISTRESS call.

If GPS data is not available, the NO GPS alert will sound for 5 seconds (or until you press any button) and the screen will request you to enter the position data manually.

This will repeat every 4 hours if you do not enter the position data manually. After you have entered the position data, you must update it within 23.5 hours otherwise NO GPS alert sequence repeats.

4-6-1 Manual (Manually enter your position and UTC time)

Use the GPS/DATA menu to manually enter your latitude and longitude and the UTC (time data).

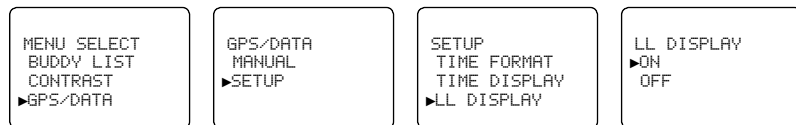
If GPS receives data automatically - all manual entries will be erased.



1. Select GPS/DATA in radio setup MENU.
2. The cursor is at MANUAL. Push ENTER.
3. The cursor is at the first latitude position.
4. Use the CH ▲ / ▼ to enter the latitude one number at a time. Press ENTER to move cursor to the longitude line.
5. Use the CH ▲ / ▼ to enter the longitude coordinates one number at a time. Press ENTER to move cursor to the UTC line.
6. Use the CH ▲ / ▼ to enter the UTC one number at a time then press ENTER.
7. After you enter the last number of the UTC, a new screen appears automatically to show the position and time data. The prefix M indicates a manual entry. If you made a mistake, repeat these steps to enter the correct data.

4-6-2 Settings: LL display (Show or hide your position)

If your position and time data is being updated automatically, you can use LL DISPLAY to choose whether to show or hide your position on the screen.

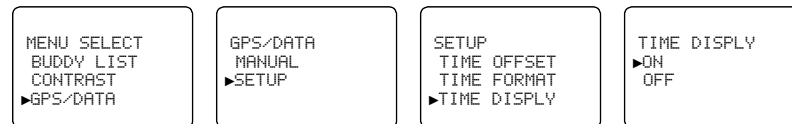


1. In the radio setup MENU, select GPS/DATA, then SETUP.
2. Move the cursor to LL Display and press ENTER.
3. The cursor is at ON (to show your position).

If you want to hide your position, move the cursor to OFF. Press ENTER to confirm your selection.

4-6-3 Settings: Time display (Show or hide the time)

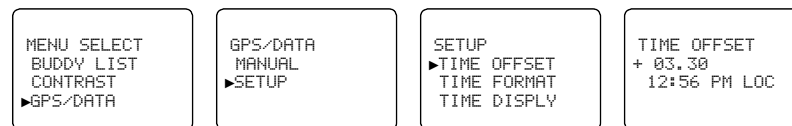
If your position and time data is being updated, you can use TIME DISPLAY to choose whether to show or to hide the time on the screen.



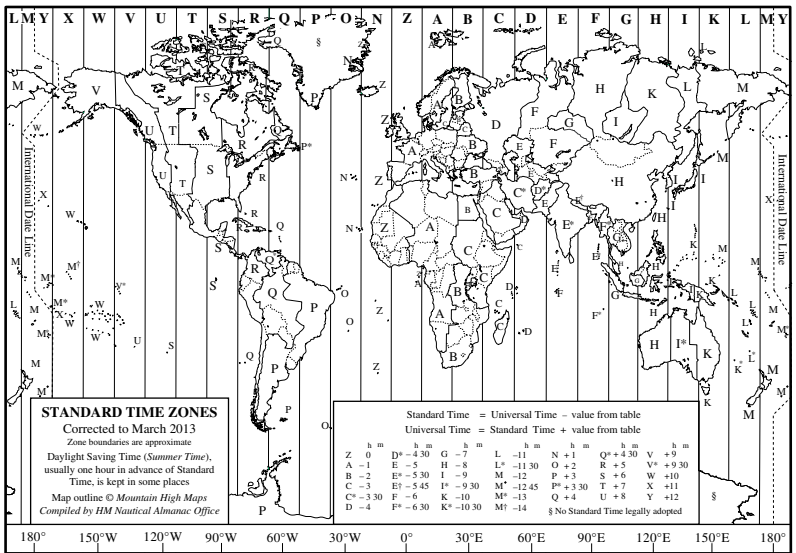
1. In the radio setup MENU, select GPS/DATA, then SETUP.
2. Move the cursor to TIME DISPLAY and press ENTER.
3. The cursor is at ON (to show the time).
If you want to hide the time, move the cursor to OFF.
4. Press ENTER to confirm the selection.

4-6-4 Time offset (Local time)

If your position and time data is being updated, you can use TIME OFFSET to enter the time difference between UTC and local time - so your local time is displayed on the screen.



1. Work out the time difference between UTC and your local time.
2. In the radio setup MENU, select GPS/DATA, then SETUP.
3. The cursor is at TIME OFFSET and press ENTER.
4. Enter + or – followed by the time difference between UTC and your local time. Half hour increments can be used (as in this example). Local time is shown with the suffix LOC.
5. Press ENTER to confirm the selection.



WORLD MAP OF TIME ZONES

4-6-5 Settings: Time format (12 or 24 hour clock)

Use TIME FORMAT to show the time in 12 or 24 hour format, depending on your preference.

MENU SELECT
BUDDY LIST
CONTRAST
▶GPS/DATA

GPS/DATA
MANUAL
▶SETUP

SETUP
TIME OFFSET
▶TIME FORMAT
TIME DISPLY

TIME FORMAT
▶12 HR
24 HR
12:56 PM LOC

- In the radio setup MENU, select GPS/DATA, then SETUP.
- Move the cursor to TIME FORMAT and press ENTER.
The cursor is at 12 HR (to show the suffix: am or pm). If you want to use the 24 Hr clock, move the cursor to 24 HR.
- Press ENTER to confirm the selection.

4-6-6 Settings: COG/SOG (Course & speed display options)

If your position and time data is being updated, you can use COG/SOG to choose whether to show or hide your course over ground (COG) and speed over ground (SOG) data on the screen.

Note: Despite the COG/SOG setting, if TIME DISPLAY is ON, the course and speed will not display on screen.

MENU
BUDDY LIST
CONTRAST
▶GPS/DATA

GPS/DATA
MANUAL
▶SETTING

SETUP
TIME DISPLAY
LL DISPLY
▶COG/SOG

COG/SOG
▶ON
OFF

COAST GUARD
356° 12.6KTS
27°34.126'N
109°55.568'W

- In the radio setup MENU, select GPS/DATA, then SETUP.
- Move the cursor to COG/SOG and push ENTER.
- Select ON or OFF as desired, in this example, ON has been selected, so the screen shows the bearing and speed.

If COG/SOG is set on, the time will not display on screen.

4-6-7 GPS alert

You can choose to turn the GPS ALERT on/off.

MENU SELECT
BUDDY LIST
CONTRAST
▶GPS/DATA

GPS/DATA
MANUAL
▶SETTING

SETUP
LL DISPLY
COG/SOG
▶GPS ALERT

GPS ALERT
▶ON
OFF

- In the radio setup MENU, select GPS/DATA, then SETUP.
- Move the cursor to GPS ALERT and press ENTER.
- Select ON/OFF as desired, in this example, ON has been selected, so if the GPS signal is lost, then the NO GPS alert will sound.

4-6-8 Turn GPS ENABLE on/off

You can choose to turn the built in GPS function on/off.



1. In the radio setup MENU, select GPS/DATA, then SETUP.
2. Move the cursor to GPS ENABLED and press ENTER.
3. Select ON/OFF as desired, in this example, ON has been selected, so the built in GPS is turned ON.

4-6-9 Set Magnetic Variation (MAG VAR)



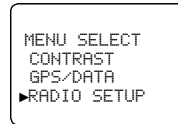
1. In the radio setup MENU, select GPS/DATA, then SETUP.
2. Select MAG VAR.
3. Press ENTER to select the first digit to adjust. Use CH ▲ / ▼ to adjust the MAGNETIC difference between true and variation, then press ENTER to confirm selection.
4. Select YES to save your changes.

Note: AUTO MAG VAR default is 00.0 for TRUE.

Note: W is the default and tenths of a degree is required.

4-7 Radio setup

The RADIO SETUP submenu is used to set up functions of the radio.



4-7-1 Channel Bank selection (UIC)

Non-EU models only

You can select the: USA, International, or Canadian channel band. The channel bands are listed in the appendix sections.



1. In the radio setup MENU, select RADIO SETUP.
2. The cursor is at UIC, press ENTER.
3. The cursor is at USA. If you want to select the International channel band, move the cursor to INT'L. If you want to select the Canadian channel band, move the cursor to CANADA.
4. Press ENTER to confirm your choice.
5. The new channel band is selected. Depending on your choice, the USA, INT'L, or CAN icon is shown on the screen.

4-7-2 Channel name editing (CH NAME)

To setup the channel name to ON or to blank the first line.

1. Select RADIO SETUP, CH NAME, and then press ENTER. Then select the desired channel name by using the CH ▲ / ▼. Press ENTER then the screen will show the channel name, EDIT and DELETE (Maximum of 12 characters).
2. Select EDIT and press ENTER to edit the existing name tag. Input the new name over the existing one and press ENTER to display the YES/NO confirmation.

To delete the channel name, just select DELETE then press ENTER.

3. Press ENTER to confirm the new channel name and then press cancel to return to the menu.

```
RADIO SETUP
UIC
▶CH NAME
RING VOLUME
```

```
CH NAME
CALLING
```

```
CALLING
▶EDIT
DELETE
```

4-7-3 Ring volume adjustment (RING VOLUME)

1. Select the RING VOLUME by pressing CH ▲ / ▼ and choose your preference by selecting the option: HIGH or LOW setting.
2. Press ENTER again to confirm the changes.

```
RADIO SETUP
UIC
CH NAME
▶RING VOLUME
```

```
RING VOLUME
▶HIGH
LOW
```

4-7-4 Beep volume adjustment (KEY BEEP)

1. Select the KEY BEEP, then press CH ▲ / ▼ to select one of the following options will be displayed: HIGH, LOW, OFF as your key beep settings.
2. Press ENTER again to confirm.

```
RADIO SETUP
CH NAME
▶RING VOLUME
KEY BEEP
```

```
KEY BEEP
HIGH
▶LOW
OFF
```

4-7-5 Select unit (UNITS)

You can select your preferred measurement units for distance and cross track error.

1. Select RADIO SETUP, then UNITS.
2. Select your preferred measurement units and press ENTER.

```
RADIO SETUP
RING VOLUME
KEY BEEP
▶UNITS
```

```
UNITS
▶METRIC
NAUTICAL
STATUTE
```

4-7-6 Set the Priority channel (WATCH MODE)

US models only

If you are operating on the USA or Canada Channel banks, you can have the priority channel to cover both CH16 and CH09 as well as the working channel, similar to a TRI WATCH.

1. Select RADIO SETUP, then WATCH MODE.
2. Select the desired setting, and then press ENTER.

```
RADIO SETUP
KEY BEEP
UNITS
▶WATCH MODE
```

```
WATCH MODE
▶ONLY 16
16CH+9CH
```

4-7-7 Weather alerts (WX ALERT)

US models only.

The NOAA provides several weather forecast channels on US and Canadian channel banks.

If severe weather such as storms or hurricanes are forecast, the NOAA broadcasts a weather alert on 1050 Hz. You can choose to watch weather alerts.

```
RADIO SETUP
UNITS
WATCH MODE
▶WX ALERT
```

```
WX ALERT
▶ON
OFF
```

1. Select RADIO SETUP then WX ALERT.
2. The cursor is ON (NOAA weather alerts on 1050 Hz on normal mode). If you do not want to watch these weather alerts, move the cursor to OFF.
3. Press ENTER for to confirm your selection.

If you chose to receive the weather alerts, the beeps will sound whenever a weather alert is broadcast. Just press any button to hear it.

4-7-8 Set NMEA output (NMEA OUT)

```
RADIO SETUP
WATCH MODE
WX ALERT
▶NMEA OUT
```

```
NMEA OUT
▶ON
OFF
```

The Link-2 can output NMEA0183 sentences when docked in the charging cradle. Supported sentences are: RMC, GGA, GLL, GNS, GSV.

1. Select RADIO SETUP then NMEA OUT.
2. Select ON/OFF then press ENTER to confirm your desired choice.

4-7-9 Favourite Channel Setup (FAV CH SETUP)

EU and AUS models only.

The Wx key can be programmed to a weather channel of your choice so that you have quick access to that channel.

1. Select RADIO SETUP then FAV CH SETU.
2. Press CH UP/DOWN key to select a channel that you want to save as your WX favorite channel. Press ENT to save the selection. The WX icon will indicate each time your favourite channel is selected.

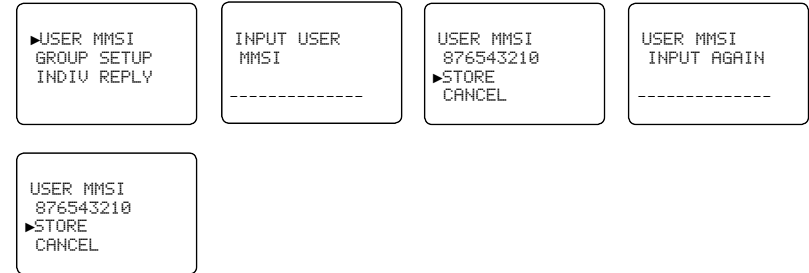
4-8 DSC setup

The DSC Setup submenu is used to set behavior of the DSC functions.

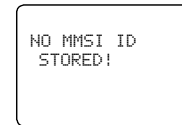
4-8-1 Enter or check your user MMSI (USER MMSI)

Note: You must enter your user MMSI before you can access the DSC functions.

When you have entered your MMSI correctly, you can display it any time. Your MMSI will also briefly appear on the startup screen each time the radio is turned on.



1. Select DSC SETUP then USER MMSI. Press ENTER.



If you have already entered your MMSI, it is shown on the screen.

If this is the first time that you are entering your MMSI, a dashed line appears with the cursor under the first position. You need to enter your MMSI along the dashed line, one number at a time.

Note: this is a one-time operation. The MMSI cannot be changed once it is entered in the radio.

2. Press CH ▲ / ▼ to select the first number of your MMSI. Press ENTER to confirm the number and move to the next position. If you make an error, select the < character then press ENTER to backup.
3. When you have entered the last number, push ENTER to advance to the next screen. The cursor is at STORE.
4. Check whether the displayed MMSI is correct, then press ENTER to store, or CANCEL to backup.

- Enter your MMSI again as a password check, then push ENTER to permanently store the user MMSI and return to the MENU.

Note: You can view your stored user MMSI at anytime by selecting MMSI/GPS under the CALL menu.

4-8-2 Maintain groups (GROUP SETUP)

You can program up to three group MMSI numbers and associated Group names. Group MMSI numbers always begin with a zero (0). You only enter the last 8 digits of the group ID number, the initial "0" is automatically entered.

4-8-2-1 Enter your groups

Use GROUP MMSI to create, edit, or delete 1, 2, or 3 groups of people that you call frequently. The entries within a group are stored in alphanumeric order. A group MMSI always has nine numbers and always starts with 0.

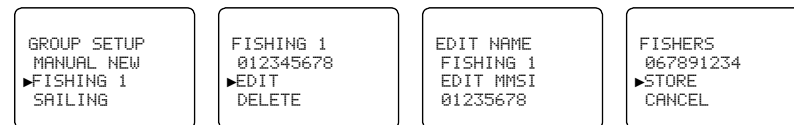
A group name can have a maximum of 12 alphanumeric characters.



- Select DSC SETUP then GROUP SETUP.
- If this is FIRST TIME that you're entering a group name, no group appears. Otherwise, any existing group names. The cursor is at MANUAL NEW.
- Use CH ▲ / ▼ to enter the new group name, one alphanumeric character at a time.
- Press ENTER to confirm each correct alphanumeric character and to move to the next position.
- When you have entered the group name, push ENTER so the cursor moves to the MMSI line.
- Use CH ▲ / ▼ to enter the MMSI associated with that group name, one number at a time. Pushes ENTER to confirm a number and move to the next position.
- If you make an error, select the < character then press ENTER.
- When you have entered the last number of the MMSI, a new screen appears automatically.
- The cursor is at STORE, check that it is correct and, if so push ENTER to save the new entry. (If it is not correct, select CANCEL).

4-8-2-2 Edit groups

You can change a group name or group MMSI at any time.



- Select DSC SETUP then GROUP SETUP.
- The names of your groups are displayed. Move the cursor to the group you want to edit and push ENTER.

The group name and MMSI are displayed, the cursor is at the EDIT, press ENTER.
- Use the CH ▲ / ▼ to change the group name. Or, to edit only the MMSI press ENTER repeatedly until the cursor moves to the MMSI line.

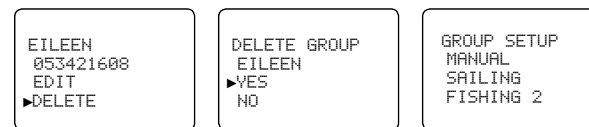
If you need to change the MMSI associated with that group name, use CH ▲ / ▼ to change the number then press ENTER.

If you do not need to change the MMSI, press ENTER repeatedly to step through the MMSI and then press ENTER.

- When you are finished, press ENTER to display the next screen.
- The cursor is at STORE, press ENTER to save the new entry or select CANCEL to EXIT.

4-8-2-3 Delete a group

- Select GROUP SETUP and press ENTER. The existing group names are displayed on screen.
- Select what you want to delete and press the ENTER. It will display EDIT or DELETE item.
- Select DELETE and press ENTER. It will display DELETE GROUP menu; arrow points to YES, then press the ENTER to empty the group and return to the GROUP SETUP screen. The LCD displays the group as follow.



4-8-3 Response to individual calls (INDIV REPLY)

You can respond to an incoming call with either: an automatic response or, with a manual response.

An automatic response sends an acknowledgement and sets-up the channel ready for a conversation.

A manual response asks if you want to acknowledge the call, and then asks if you want to converse with the caller.



1. Select DSC SETUP, then INDIV REPLY.
2. Select AUTO, for an automatic response, or select MANUAL for a manual response.

4-8-4 Enable DSC functionality (DSC SELECT)

To turn off the DSC function temporarily, such as sailing to inland water or no DSC region.

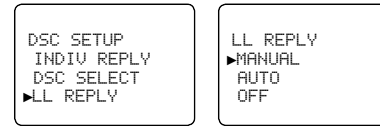
1. Select DSC SETUP, then DSC SELECT.
2. Select OFF to turn the DSC function off.
3. Press ENTER to confirm your choice and return to the menu.



4-8-5 Response type to LL polling calls (LL REPLY)

You can set up the radio to respond to an LL polling request in one of three ways:

- **MANUAL** reply manually to any incoming LL polling requests from your buddies
- **AUTO** automatically replies to any incoming LL polling requests from any of your buddies
- **OFF** ignores all incoming buddy LL polling requests.



1. Select DSC SETUP then LL REPLY.
2. Select your response and press ENT to confirm and return to the menu.

4-8-6 Automatic Channel switching (AUTO SWITCH)

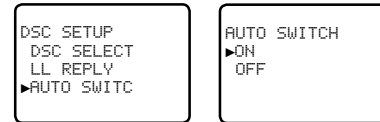
When a DSC call is received, it may include a request to change to a specific channel for subsequent communications. If a channel switch request is included, your options are:

- allow the radio to switch to the requested channel immediately by pressing the ENT button, or
- do nothing to allow the radio to automatically switch to the requested channel after a delay of 10 seconds, or
- cancel the automatic switch and remain on the current channel by pressing the EXIT button.

However, automatic switching to a subsequent communications channel on receipt of a DSC call might in some cases disrupt important ongoing communications if the working channel changes without the operator knowing.

You can prevent the radio from automatically switching from the current working channel by setting the AUTO SWITCH feature to OFF.

If the AUTO SWITCH feature is set to OFF, an **X** will be displayed on the LCD to remind you that this feature is set to off. Additionally, the text "AUTO SW OFF" will be included in an All Ships or Group call replacing the text "AUTO CHxx"



1. Select DSC SETUP, then AUTO SWITCH.
2. Select ON to enable automatic channel switching.
3. Select OFF to disable automatic channel switching.

4-8-7 DSC Test Reply (TEST REPLY)

You can respond to incoming DSC TEST calls with an automatic response or with a manual response.

- **MANUAL** manual response is required, press ENT to confirm or press EXIT to cancel.
- **AUTO** automatically replies after a 10 second delay with an ACK to any incoming DSC TEST call.

```
DSC SETUP
LL REPLY ▲
AUTO SWITC
▶TEST REPLY
TIMEOUT
```

```
TEST REPLY
▶AUTO
MANUAL
```

4-8-8 Set the inactivity timer (TIMEOUT)

You can set the inactivity timer with the following options:

- **AUTOMATED** you can set the inactivity timer to automatically timeout after a period of inactivity for the following two categories: NON-DISTRESS or DISTRESS
Timeout options are:
DISTRESS: NO TIMEOUT; 5 MINS; 10 MINS (default is NO TIMEOUT)
NON-DISTR: NO TIMEOUT; 10 MINS; 15 MINS (default is 15 MINS)
- **NON AUTO** you can set the inactivity timer to exit any non-automated procedure activity.
Timeout options are:
NO TIMEOUT; 10 MINS; 15 MINS (default is 10 MINS)

Note: If NO TIMEOUT is selected, then you must press the EXIT key to exit the procedure.

Example: to set a 10 minute TIMEOUT for non-automated functions:

1. Select TIMEOUT, then select NON AUTO
2. Select desired timeout period: NO TIMEOUT, 10 MINS or 15 MINS

```
DSC SETUP
LL REPLY ▲
AUTO SWITC
TEST REPLY
▶TIMEOUT
```

```
TIMEOUT
AUTOMATED
▶NON AUTO
```

```
NON AUTO
NO TIMEOUT
▶10 MINS
15 MINS
```

In this example, 10 MINS has been selected, meaning the radio will exit any non-automated procedure after a period of 10 minutes of non-activity.

4-9 ATIS SETUP (EU only)

This submenu is used to adjust settings for the ATIS function.

- Press MENU and then select ATIS SETUP, press ENTER to enter the submenu.

You must enter your ATIS MMSI to access ATIS functionality if you are navigating inland waterways within Europe.

ATIS sends a digital message any time that you release the PTT key. An ATIS MMSI always starts with the number 9.

4-9-1 Enter or check your ATIS MMSI (ATIS MMSI)

You must enter your ATIS MMSI before you can access the ATIS functions. This is a **once-only** operation.

You can display and read your ATIS MMSI at any time, but you get only one opportunity to enter your ATIS MMSI.

```
MENU SELECT
GPS/DATA
RADIO SETUP
▶ATIS SETUP
```

```
ATIS SETUP
▶ATIS MMSI
ATIS SELECT
```

```
INPUT ATIS
MMSI
9 - - - - -
```

```
ATIS MMSI
9100005366
▶STORE
CANCEL
```

```
ATIS MMSI
INPUT AGAIN
9 - - - - -
```

```
ATIS MMSI
9100005366
▶STORE
CANCEL
```

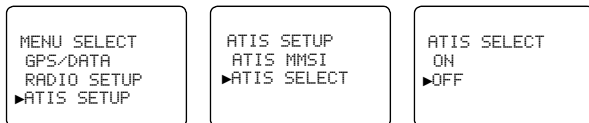
1. Select ATIS SETUP then ATIS MMSI and press the ENTER. If an existing MMSI is stored, the values appear.
2. If the MMSI is blank, a dashed line will appear, except for the initial number '9'. Then enter ATIS MMSI along the dashed line. Press ENTER to confirm each entry and then move to the next line.
3. If you make an error, press CH▼ until < appears, then press the ENTER to backup and correct the entry.
4. When you have entered the last number of the MMSI, a confirmation screen appears. The cursor is at STORE, press ENTER to store your ATIS MMSI.
5. Enter your ATIS MMSI again as a password and check the confirmation screen appears again, select STORE and press ENTER to permanently store your ATIS MMSI and return to the menu.
6. You can view your stored ATIS MMSI at anytime by selecting ATIS MMSI in the ATIS SETUP menu.

4-9-2 Enable ATIS functionality (ATIS SELECT)

When ATIS is enabled, the following occurs:

- DUAL watch, Tri Watch and scan functions are disabled
- Inland waterways rules require 1 W Tx power on Channels 06, 08, 10, 11, 12, 13, 14, 15, 17, 71, 72, 74, and 77 and 31 if enabled.

To enable/disable ATIS:



1. Select ATIS SETUP, then ATIS SELECT. Press ENTER to display ATIS SELECT ON/OFF.
2. Select ON to turn the ATIS function on.
3. Press the ENTER to confirm your choice and return to the menu.

4-10 Get Buddy

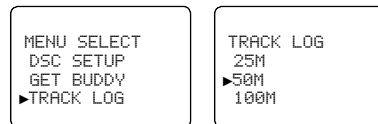
When the GET BUDDY function is enabled, the radio will transmit your LL data to your Buddies in your BUDDY list each time you release the PTT key. If your buddy also has their GET BUDDY function enabled, your details (USER MMSI (or ATIS MMSI) and LL) will appear on their radio such as the distance and bearing to you.



1. Select GET BUDDY and then press ENTER. **GB** will appear on the LCD.
2. Select ON or OFF as required, then press ENTER to confirm the selection.

4-11 Track log

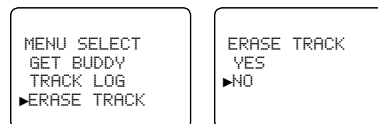
Set the distance interval to 25 m, 50 m, or 100 m for recording the track points when navigating.



1. Select TRACK LOG, then press ENTER, the 25 m, 50 m, 100 m appear on the screen.
2. Select your desired and press ENTER to confirm.

4-12 Erase track

Erase the TRACK HISTORY from the plotter screen.



1. Select ERASE TRACK, then press ENTER, the radio asks for confirmation.
2. Select Yes, then press ENTER to erase the track line of the plotter screen.

4-13 Reset (Reset to factory defaults)

Use RESET to return every setting on the radio to the factory defaults, except your MMSI, Group MMSIs and ATIS MMSI.

1. Select RESET, press ENTER, the radios asks for confirmation.
2. Select yes, press ENTER to reset the radio and return to the menu.

Section 5 - Sending and Receiving DSC Calls

5-1 What is DSC?

DSC (Digital Selective Calling) is a semi-automated method of establishing VHF, MF, and HF radio calls. It has been designated as an international standard by the IMO (International Maritime Organization) and is part of the GMDSS (Global Maritime Distress and Safety System).

Currently, you are required to monitor Distress Channel 16, but DSC will eventually replace listening watches on distress frequencies and will be used to broadcast routine and urgent maritime safety information.

DSC enables you to send and receive calls from any vessel or coast station that is equipped with DSC functionality and within geographic range. Calls can be categorised as distress, urgency, safety, or routine, and DSC selects a working channel automatically.

CAUTION

Due to EU regulations, DSC *may* not be available in the Link-2 (EU) model.

5-1-1 Maritime mobile service identity

An MMSI is a nine-digit number used on Marine Transceiver capable of using Digital Selective Calling (DSC). This number is used like a telephone number to selectively call other vessels.

5-1-2 How can I obtain a MMSI number?

Contact your local dealer.

WARNING

This radio is designed to generate a digital maritime distress and safety call to facilitate search and rescue. To be effective as a safety device, this equipment must be used only within communication range of a shore – based VHF marine channel 70 distress and safety watch system. The range of signal may vary but under normal conditions should be approximately 10 nautical miles.

Quickly press the DSC/MENU key to pop up the DSC menu. Users can then select the DSC call type to send. The channel remains unchanged and allows normal Tx operation.

5-2 DSC call types

Quick press the CALL/MENU key to select DSC call type to send.

Note: Only 4 calls can be shown at any one time on the screen.

Press CH ▲ / ▼ to scroll up and down the call types until the cursor is positioned at the desired option. Press ENTER.

The call types are:

Call Type	Description
INDIVIDUAL	Make a new call, by inputting the MMSI or pick up from the list max 20.
LAST CALL	Recalls last call no matter what type of call it is.
GROUP	Sends transmissions that are only received by radios that share a common group MMSI number, there is up to 3 group MMSI numbers can be stored and called.
ALL SHIPS	Makes an Urgency, Safety or Routine call to all ships. A confirmation screen follows the priority selection of these options. The Safety call is for advisory alert only.
CALL LOG	Allows a review of all stored calls by number and time of call. An individual call type can be placed to the selected MMSI/NAME in the LOG. The LOG contains all received call types except DISTRESS calls. The call at the end of the list is automatically erased. The earliest call is stored at the end of the list. Note: Only 20 calls can be stored at one time.
DISTRESS LOG	Allows a review of all stored Distress calls by number and time of call. An individual call type can be placed to the selected MMSI / NAME in the LOG. The call at the end of the list is automatically erased. This means the earliest call is stored at the end of the list. There are only 10 calls that can be stored.
SEND CALL	
LL REQUEST	Enables you to request GPS position information from any vessel that has a known MMSI number. The request can be picked up through the buddy list or manual entry.
TRACK BUDDY	Track the GPS position information from up to three vessels that have a known MMSI number.
DSC TEST	You can test your radio's DSC operation by sending a DSC TEST CALL to a Buddy or other station equipped with a DSC radio.
MMSI/GPS	The radio's MMSI can be viewed as well as the current position.

5-3 Send an Individual call (INDIVIDUAL)

You can call anyone who has an DSC equipped radio providing you know their MMSI.

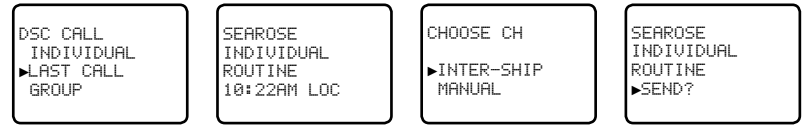


To call another person:

1. Press CALL/MENU to enter DSC mode, then select INDIVIDUAL.
2. The cursor is at ROUTINE. Press ENTER to make a routine call or select to another priority level: SAFETY or URGENCY.
3. Select MANUAL NEW to call a person that is not in your buddy list, otherwise select the name of your buddy. Press ENT. If you selected MANUAL NEW, you need to enter the user MMSI and then press ENT.
4. Select the working channel and press ENT. (Note: Duplex channels cannot usually be called and are automatically eliminated from the suggested call list. If the call is to a Coast Station, the radio will recognize this and select the correct channel).
5. The radio summarizes the call details and asks for confirmation to send the call (SEND?). Press ENT to send the call. The radio goes to CH70 and the Tx is displayed on the screen while the DSC call is being sent.
6. If the call is acknowledged (ACK), press PTT to talk. If there is no reply, try making the call again.

5-4 Reply to the Last Call (LAST CALL)

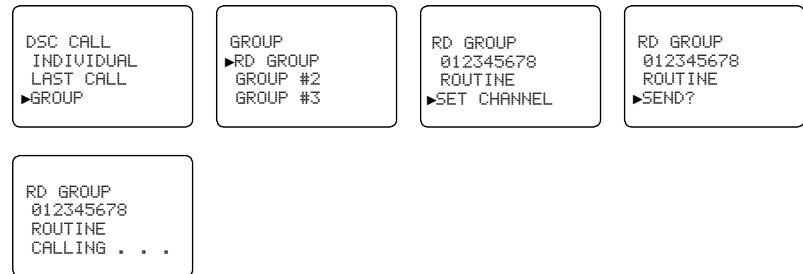
This facility is useful and used frequently.



1. Select DSC CALL then LAST CALL.
2. The contact details of the most recent incoming call are displayed. Press ENT.
3. Choose a working channel to talk on. Select the INTER-SHIP and press ENT. The radio automatically lists all Inter-ship (Simplex) channels that can be used. Duplex channels cannot usually be called, however, if you wish to use a Duplex channel, select MANUAL instead, then select your channel of choice. If the call is to a Coast Station (MMSI begins with 00) the radio will recognize this and specify the correct channel to talk on.
4. The call details are shown. Press ENT to send the call. The Tx symbol is displayed on the LCD while the call is being sent.
5. If the call is acknowledged (INDIV ACK) press PTT to talk. If there is no reply a message asks if you want to retry (SEND AGAIN?). Press ENT to retry the call.

5-5 Send a Group call (GROUP)

You should have already stored the GROUP MMSI before making the call. Group calls are always sent with ROUTINE priority.



1. Press CALL/MENU to show the DSC CALL menu.
2. The cursor is at LAST CALL. Move the cursor to GROUP and push ENTER. The names of your groups are displayed.
3. Select the group that you want to call and press ENTER.

- Select the working channel and press ENTER to SEND the call.

Note: Duplex channels cannot usually be called and are automatically eliminated from the suggested call list.

The Tx icon is displayed on the screen while the call is being sent.

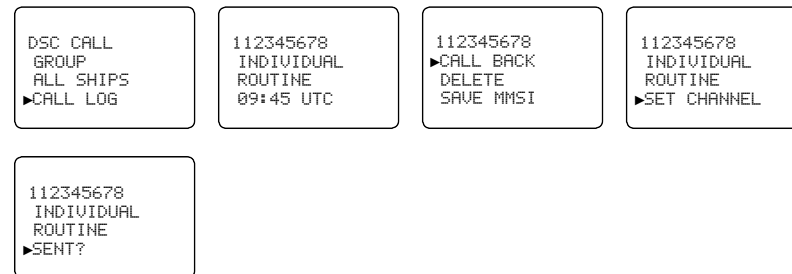
5-6 Send an All Ships call (ALL SHIPS)



- Press CALL/MENU to show the DSC CALL menu.
- The cursor is at LAST CALL Move the cursor to ALL SHIPS and press ENTER.
- There are 2 priority levels available:
URGENCY: when a serious situation or problem has occurred and could lead to a distress situation.
SAFETY: to send safety information to all other boats in range.
- Move the cursor to the priority level that is appropriate to your present situation then press ENTER.
- Select the working channel and press Enter. Duplex channels which are not usually called are automatically eliminated from the suggested call list.
- The radio asks for confirmation of the ALL SHIPS call. Press ENTER to select YES and send the ALL SHIPS call.
- The Tx icon is displayed on the screen while the call is being sent.
- If the call is acknowledged press PTT to speak.

5-7 Reply to a call in your Call Log (CALL LOG)

Your call log contains the contact details of the 20 most recent incoming calls - so you can use the call log to reply to any of these quickly. When the call log is full, the oldest entry is overwritten. Therefore, to select the priority level:

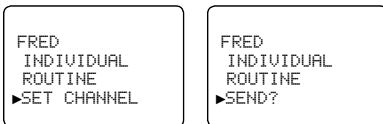
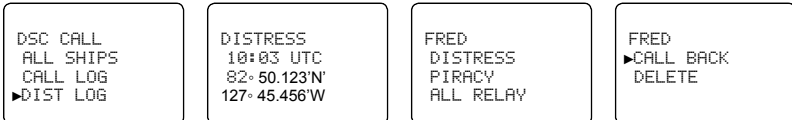


- Press call/menu to show the DSC CALL menu.
 - The cursor is at last call.
 - The contact details of the most recent incoming call are shown.
 - (Optional) If you want to save this log entry in your BUDDY LIST, move the cursor to MMSI then press ENTER and enter a buddy name. The MMSI is automatically displayed.
 - The cursor is at CALL BACK. Press ENTER.
 - Select the working channel and press ENTER.
- Note:** Duplex channels cannot usually be called and are automatically eliminated from the suggested call list. If the call is to a Coast Station, the channel is selected automatically.
- The call details are shown. Pushes ENTER to send the call. The Tx icon is shown on the screen while the call is being sent.
 - If the call is acknowledged, press PTT to talk.
 - If there is no reply (UNABLE TO ACKNOWLEDGE), a message asks if you want to retry (SEND AGAIN?).
 - Select YES, then press ENTER to retry the call.

This cycle repeats twice. If the call still cannot be placed, the radio returns to normal operation.

5-8 Reply to a call in your Distress Log (DISTRESS LOG)

Your distress log contains the contact details of the 10 most recent relayed distress calls, so that you can reply to any of these quickly. When the distress log is full, the oldest entry is overwritten to select the priority level.



1. Press DSC MENU to show the DSC CALL menu.
2. The cursor is at LAST CALL. Move the cursor to DIST CALL and push ENTER.
3. The contact details of the most recent incoming distress call are shown as the first entry (01) in the distress log. Move the cursor to step through the distress calls and select the entry that you want to call.

The details are displayed over two screens that alternate every 1.5 seconds: one screen shows the location and UTC time of the boat in distress. The other screen shows the nature of the emergency (if specified) and the MMSI of the boat that relayed the distress call.

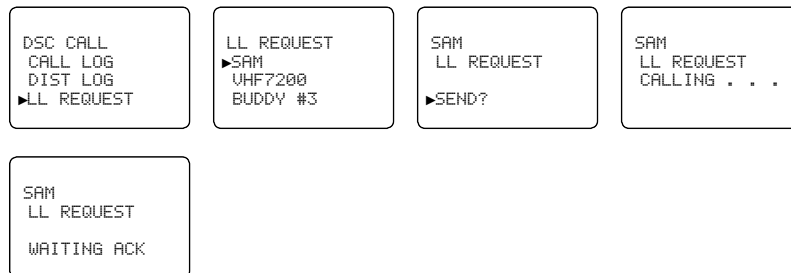
4. The cursor is at CALL BACK. Press ENTER.
5. Select the working channel and press ENTER.

Note: Duplex channels cannot usually be called and are automatically eliminated from the suggested call list. If the call is to a coast station, the channel is selected automatically.

6. The call details are shown. Press ENTER to send the call.
The Tx icon is shown on the screen while the call is being sent.
7. If the call is acknowledged, press PTT to talk.
8. If there is no reply (UNABLE TO ACKNOWLEDGE); a message asks if you want to retry (SEND AGAIN?).
9. Select YES, then push ENTER to retry the call.

This cycle repeats twice. If the call still cannot be placed, the radio returns to normal operation.

5-9 Request the LL position of a buddy (LL REQUEST)

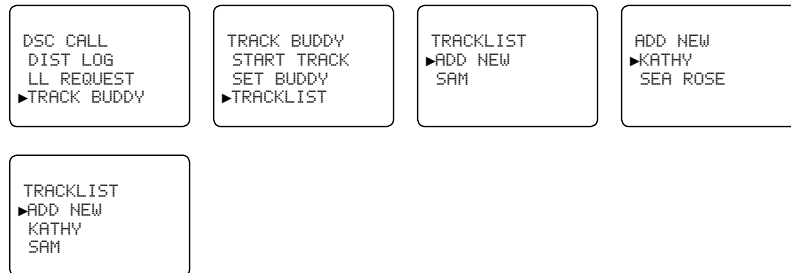


1. Press CALL/MENU to enter DSC MENU, then select LL REQUEST.
2. Select the buddy whose LL position you want to request, then press ENT to send the request.
3. The working channel name is displayed while the radio waits for an acknowledgement from your buddy. If there is no reply after 30 seconds, the radio asks if you want to retry.

5-10 Track your buddy request (TRACK BUDDY)

Use the TRACK LIST option to select a buddy (or buddies) whose position you want to track. Specify the time interval through the INTERVAL option, to start the track alternatively. If the buddy name and time interval are already set to your preference, just start tracking.

5-10-1 Add or delete a buddy (TRACKLIST)



1. Press CALL/MENU to enter DSC MENU, then select TRACK BUDDY.
2. Select TRACKLIST. Any buddies that are already on the track list will be listed.

Note: To delete a buddy from the track list, select the buddy that you want to delete, then

press ENTER. Select Yes and press ENTER to confirm your choice.

3. Select ADD NEW to show your buddy list.
4. Select the target buddy then press ENTER to add that buddy to the track list.

5-10-2 Select your TRACK BUDDY

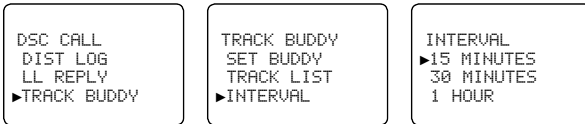
Select your buddy as follows:



1. Press CALL/MENU to enter DSC MODE, then select TRACK BUDDY.
2. Select SET BUDDY and scroll down to your desired buddy. You can set a maximum of three buddies to track.
3. Select ON to track that buddy, or OFF to not. Press ENTER to confirm. (Repeat for the other two buddies if necessary.)

5-10-3 Set the time interval of tracking

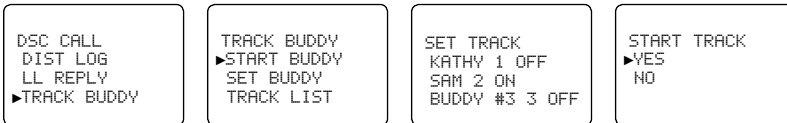
Set the time interval as follows:



1. Press CALL/MENU to enter DSC mode, then select TRACK BUDDY.
2. Select INTERVAL, and choose the desired time interval. Press ENTER to confirm.

5-10-4 Start tracking

Start tracking as follows:



1. Press CALL/MENU to enter DSC mode, then select TRACK BUDDY.
2. Select START TRACK, then YES. The START TRACK display changes to STOP TRACK. To stop tracking at any time, just press YES.

3. As soon as you start tracking, an LL Request is sent immediately on CH70 and your radio; and it waits for acknowledgement of the (first) buddy's LL position to be displayed on your radio screen.

Each of the selected buddies is polled for their LL positions at regular time intervals.

When information is received, a friendly ring tone sounds and the position is shown on the screen. Pressing any key cancels the screen.

The position that is received is not stored in your radio's Log, but is broadcast over NMEA0183 to the Chartplotters. Press any key to acknowledge, or wait for the automatic 20 second timeout.

Note: The Link-2 is capable of receiving and displaying the LL position data at normal or enhanced resolution.

5-11 Make a DSC test call (DSC TEST)

You can test your radio's DSC operation by sending a DSC TEST CALL to a Buddy or other station equipped with a DSC radio.

Note: You should not use a routine DSC call to test your radio and you should minimize the use of the safety channel for test purposes.

5-11-1 Send a DSC TEST call

1. Select DSC CALL then DSC TEST.
2. Select the buddy you want to call from your buddy list, or Select MANUAL NEW then enter the MMSI of the individual you want to call.
3. Press ENT to accept the selection.
4. Press ENT again to SEND the call. Channel 70 is selected automatically and the **TX** symbol is shown on the LCD while the call is being sent.
5. The radio waits for an acknowledgement (WAIT). If the call is acknowledged a notification is displayed.



6. If there is no reply after 30 seconds, the radio asks you if you want to retry.

5-11-2 Receiving an incoming DSC TEST call reply (DSC TEST ACK)

1. When you receive notification of a DSC TEST reply, press SILENC soft key to silence the alert.

- If the radio recognizes the user MMSI as one of your buddies, the buddy's name is displayed in place of the user MMSI.

5-11-3 Acknowledging an incoming DSC TEST call

The radio sounds a friendly two-tone alert when it detects an incoming DSC TEST call.

Note: If TEST REPLY is set to AUTO, no sound will be emitted.

- If the radio recognizes the MMSI as one of your buddies, your buddy's name is displayed in place of the MMSI.
- Press SILENC soft key to silence the alert.
- The radio will automatically acknowledge the call if TEST REPLY is set to AUTO (See section 4-8-7) and after a TIMEOUT period set for AUTO REPLY (See section 4-8-8).

```
TEST
CALL FROM
TOM
AUTO ACK
▼ 00:01
```

```
CALL FROM
TOM
AUTO ACK
IN 105
▲▼ 00:02
```

- Alternatively, if TEST REPLY is set to MANUAL, a manual response is required, press ACK softkey to acknowledge the DSC Test Call.

```
TEST
CALL FROM
TOM
AUTO ACK
▼ 00:01
```

```
CALL FROM
TOM
AUTO ACK
IS OFF
▲▼ 00:02
```

- Press +/- button or rotate the CH knob to scroll any further information (if available), or press EXIT to cancel.

5-12 View User MMSI and GPS information

The radio's MMSI can be viewed as well as the current position.

```
DSC CALL
LL REQUEST▲
TRACK BUDDY
DSC TEST
▶MMSI/GPS
```

```
ID:123456789
99°99.999°X
999°99.000°Y
```

5-14 Receiving DSC Calls

Several types of DSC calls can be received from vessels within range at various priority levels:

- DISTRESS** See Section 8.
- ALL SHIPS** Urgency or Safety priority (see Section 7-16)
- INDIVIDUAL** Urgency, Safety, or Routine priority (see Section 7-17)
- GROUP** Routine priority only (see Section 7-18)
- GEOGRAPHIC** Routine priority only see Section 7-19)
- POLLED POSITION** Routine or Safety priority (see Section 7-20)

In addition to the audible alert, the telephone icon will flash on the screen.

This is to remind you that a call is stored in the CALL LOG. Polled position call data is NOT stored.

5-15 Receiving an All Ships Call (ALL SHIPS)

```
ALL SHIPS
SAFETY FROM
123456789
AUTO SWITCH
▼ 00:01
```

```
ALL SHIPS
SAFETY FROM
123456789
AUTO SW OFF
▼ 00:01
```

```
ALL SHIPS
SAFETY FROM
123456789
CHANGE TO
▼ 00:11
```

- When you receive notification of an ALL SHIPS call, press **SILENC** soft key (AIS/IC key) to silence the alert. The priority level and the user MMSI are displayed on the screen. If the radio recognises the user MMSI as one of your buddies, the buddy name is shown in place of the user MMSI.
- Press **ACCEPT** soft key (AIS/IC key) to switch to the designated channel immediately, Press +/- button or rotate the CH knob to scroll any further information about the call, or press EXIT to return the current DSC receive process.
- If the display shows "AUTO SWITCH", the radio will automatically switch to the designated channel after 10s if no user intervention. For "AUTO SW OFF", a manual change is required - for "AUTO SWITCH" options, see section 5-8.
- Press PTT to initiate voice contact on current display channel.

The call data is stored in your Call Log (see Section 7-8).

5-16 Receiving an Individual Call (INDIV)

```
INDIVIDUAL  
ROUTINE FROM  
123456789  
AUTO SWITCH  
▼ 00:01
```

```
INDIVIDUAL  
ROUTINE FROM  
123456789  
AUTO SW OFF  
▼ 00:01
```

1. When you receive notification of an INDIV call, press **SILENC** soft key to silence the alert. INDIV calls are almost always routine priority. If the radio recognises the user MMSI as one of your buddies, the buddy's name is displayed in place of the user MMSI.
2. Press +/- button or rotate the CH knob to scroll any further information about the call, or press EXIT to return the current DSC receive process.
3. You have the following options to respond the call:
 - **ABLE** soft key respond to the call with requested channel
 - **NEW-CH** soft key respond to the call with but request a different channel
 - **UNABLE** soft key respond to the call with unable to use the requested channel (Note: this option is not available with ROUTINE calls)
4. If the display shows "AUTO SWITCH", the radio will automatically respond to the call after 10s if no user intervention. For "AUTO SW OFF", a manual response is required - for "INDIV REPLY" options , see section 5-15.
5. The caller should respond to your acknowledgement by making voice contact designated channel. If this does not happen, you can press PTT to initiate voice contact instead.

The call data is stored in your Call Log (see Section 7-8).

5-17 Receiving a Group Call (GROUP)

```
GP: SAM  
CALL FROM  
123456789  
AUTO SWITCH  
▼ 00:01
```

```
GP: SAM  
CALL FROM  
123456789  
AUTO SW OFF  
▼ 00:01
```

```
GP: SAM  
CALL FROM  
012345678  
CHANGE TO  
▼ 00:11
```

1. When you receive notification of a GROUP call, press **SILENC** soft key to silence the alert. Press +/- button or rotate the CH knob to scroll any further information about the call.

The priority level is always routine, and the group is identified on the screen. The group will be one of the 20 groups of frequently called people that you set up earlier (see Section 5-2).

2. Press **ACCEPT** soft key to switch to the designated channel immediately, or press EXIT to return the current DSC receive process.

3. If the display shows "AUTO SWITCH", the radio will automatically switch to the designated channel after 10s if no user intervention. For "AUTO SW OFF", a manual change is required - for "AUTO SWITCH" options , see section 5-18.
4. You do not need to send an acknowledgement. If desired, press PTT to initiate voice contact on the designated channel.

The call data is stored in your Call Log (see Section 7-8).

5-18 Receiving a Geographic Area Call (GEOGRAPH)

```
GEOGRAPHICAL  
CALL FROM  
254622211  
CH12 REQUEST  
▼ 00:01
```

```
GEOGRAPHICAL  
CALL FROM  
254622211  
CHANGE TO  
▼ 00:08
```

A geographic call is received by vessels within a specific geographic boundary area.

1. When you receive notification of a GEOGRAPHICAL call, press **SILENC** soft key to silence the alert. Then press **ACCEPT** soft key to manually select the channel designated in the incoming call.

The user MMSI or name is displayed on the screen. If the radio recognises the user MMSI as one of your buddies, the buddy's name is displayed in place of the user MMSI.

2. Press +/- button or rotate the CH knob to scroll any further information about the call, or press EXIT to return the current DSC receive process.
3. Monitor the working channel for an announcement from the calling vessel.

5-19 Receiving a Polled Position Call (POSITION)

```
POSITION  
REPLY FROM  
123456789  
02°50.1234 N  
▼ 00:01
```

When you receive GPS position data from a buddy in response to your LL request you are recommended to make a written note of the position, especially if it is a good fishing position.

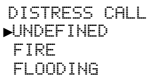
If enhanced LL position information is available from your buddy, press **SILENC** soft key to silence the alert. Press +/- button or rotate the CH knob to scroll any further information about the call, or press EXIT to return the current DSC receive process.

Note: DSC & DSE sentence will be output on the NMEA0183 port for indication on a connected chart-plotter / MFD.

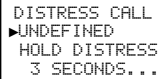
Section 6 - Distress calls

Note: You must have entered a valid user MMSI to send and receive DSC DISTRESS calls.

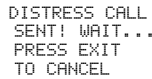
6-1 Send a Distress call



```
DISTRESS CALL
▶UNDEFINED
FIRE
FLOODING
```



```
DISTRESS CALL
▶UNDEFINED
HOLD DISTRESS
3 SECONDS...
```



```
DISTRESS CALL
SENT! WAIT...
PRESS EXIT
TO CANCEL
```

1. Open the red cover labelled DISTRESS.

If time is available to specify the nature of the distress, go to step 2. Otherwise, go directly to step 3.

2. Press and release the DISTRESS key to display the following categories. Press +/- button or rotate the CH knob to select the category that describes your situation then press ENT.

- **UNDEFINED** (Undefined)
- **FIRE** (Fire)
- **FLOODING** (Flooding)
- **COLLISION** (Collision)
- **GROUNDING** (Grounding)
- **LISTING** (Listing)
- **SINKING** (Sinking)
- **ADRIFT** (Adrift)
- **ABANDONING** (Abandoning)
- **PIRACY** (Piracy)
- **OVER BOARD** (Overboard)

3. Press and hold down the DISTRESS key for about 3 seconds, until you see the distress call sending message (DISTRESS CALL SENDING) on the screen. The whole display starts to flash and beep loudly.

4. After the Distress Call is sent, the radio waits for an acknowledgment.


•The Distress call is automatically transmitted every 3.5 to 4.5 minutes, until an acknowledgement is received ("Call repeat" mode).

•Press ▼ / ▲ to display the transmitted Distress call information.

5. You now have the following options: RESEND, PAUSE, CANCEL:
6. To RESEND the call, press **RESEND** soft key to enter "HOLD DISTRESS 3 SECONDS TO SEND" screen. Hold down DISTRESS key for 3s to resend the call or press **EXIT** soft key to return to waiting for an acknowledgement call.
7. To PAUSE the call, press **PAUSE** soft key to pause the "Call repeat" mode, press **EXIT** soft key to resume the same call.
8. To CANCEL the call, press **CANCEL** soft key to enter "DISTRESS CALL SEND CANCEL" screen.
 - Press **NO** soft key to return to waiting for an acknowledgement call.
 - Press **YES** soft key to send the DISTRESS CANCEL call. Then press PTT to report your situation using the handset mic, after the report, press EXIT to return to the normal operating mode.
9. After receiving the acknowledgment, press **SILENC** soft key then reply using the microphone, or press EXIT key to quit the current distress acknowledgment.

Note: Prior to receiving an acknowledgement, the distress alert call cannot immediately be terminated by you, it can only be cancelled by completing the distress call cancel process as described above (step 8).

8-2 Receiving a Distress Call (DISTRESS!)



```
DISTRESS
UNDEFINED
123456789
82°50.123'N
▼ 00:01
```

An alert sounds when a distress call (DISTRESS!) is received.

1. Press **SILENC** soft key to silence the alert. You do not need to send an acknowledgement.
2. The radio automatically selects CH16 after 10 seconds if no user intervention, or press **ACCEPT** soft-key to change to CH16 immediately.
3. Press +/- button or rotate the CH knob to view details of the distress call. Details include the user MMSI and nature of the emergency (if specified), also the time and the location (if specified). If the location and time are not specified, these are replaced with sequences of 9s and 8s respectively.
 - The radio is capable of receiving enhanced LL position data if the vessel transmitting the distress call is sending this. This provides the position of the distressed vessel to within 20 m (60 ft).
4. Press PTT to establish voice contact or press EXIT key to quit the DISTRESS RECEIVE call.

Note: The call data is stored in the Distress Log and location data (DSC & DSE) sentence will be output on the NMEA0183 port for indication on a connected chart-plotter / MFD.

8-3 Distress Acknowledgement (DISTRESS ACK) or Distress Relay All Ships (DISTRESS REL)

1. An alert sounds when a Distress ACK or Distress Relay all ship call is received. Press **SILENC** soft-key to silence the alert.
2. The radio automatically selects CH16 after 10 seconds if no user intervention, or press **ACCEPT** soft-key to change to CH16 immediately.
3. Press +/- button or rotate the CH knob to view details of the distress call. Details include the user MMSI and nature of the emergency (if specified), also the time and the location (if specified). If the location and time are not specified, these are replaced with sequences of 9s and 8s respectively.
4. Press PTT to make voice contact with the calling vessel. Maintain a listening watch on CH16 and standby to lend assistance
 - For a Distress Acknowledgement (DISTRESS ACK) sent from the Search and Rescue (SAR) authorities of your country, your radio automatically cancels Distress Mode transmissions and CH16 appears. Press PTT to establish voice contact with the Search and Rescue (SAR) authority.
 - The Search and Rescue (SAR) authorities of your country are the only instance allowed to send a Distress Acknowledgement (DISTRESS ACK).
5. Press EXIT key to quit the current DSC receive process.

Note: The call data is stored in the Distress Log and location data (DSC & DSE) sentence is sent on the NMEA0183 port for indication on a connected chart-plotter / MFD.

```
DISTRESS
ACK FROM
567890123
FIRE
▼ 00:01
```

8-4 Distress Relay Individual (INDIV DISTR RELAY)

When an incoming Individual Distress Relay call is received, the alarm sounds and INDIV DISTR RELAY is displayed.

1. Press **SILENC** soft-key to silence the alarm.
2. Press +/- button or rotate the CH knob to view details of the distress call. Details include the user MMSI and nature of the emergency (if specified), also the time and the location (if specified). If the location and time are not specified, these are replaced with sequences of 9s and 8s respectively.
3. ALL MODELS: Press **ACCEPT** soft-key to immediately accept the channel change before the 10s timer expires
4. US MODELS: Press **ACK** soft-key to ACK the call after the 10s delay - for "INDIV REPLY" options, see section 5-15.
5. Press EXIT key to quit current receive DSC process..

Note: The call data is stored in the Distress Log and location data (DSC & DSE) sentence is sent on the NMEA0183 port for indication on a connected chart-plotter / MFD.

Section 7 - Installation Instructions

7-1 Batteries and charger

The radio is shipped with a sealed Li-Polymer battery pack that is rechargeable.

⚠ WARNING

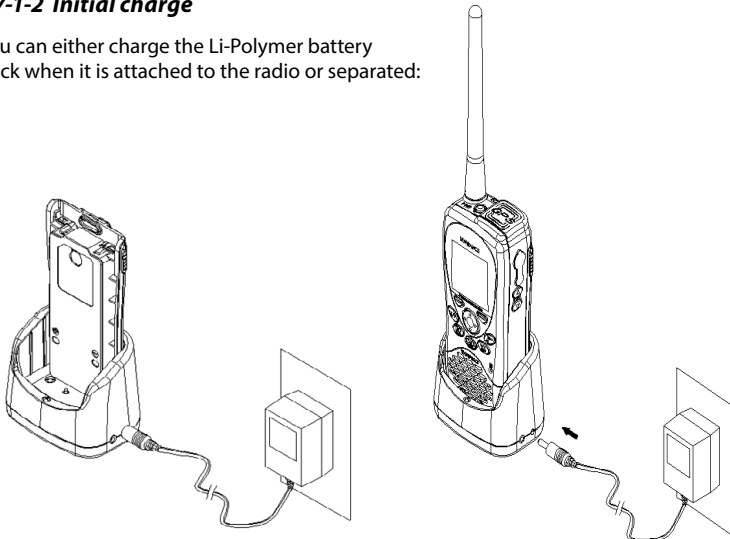
The charger provided for this radio is only to be used to charge the battery pack provided. **Do not** charge any other type of batteries in the charger as fire, explosion or battery damage could occur. Avoiding extreme room temperature will also help prolong the life of the battery pack for the radio.

7-1-1 Installing the battery pack

1. Position the battery pack to line up the three external alignment tabs to the alignment slots in the radio.
2. Engage the battery pack into the radio until battery pack is fully seated against the radio housing.
3. Pivot the locking tab up until it snaps into place on the back of the battery pack.

7-1-2 Initial charge

You can either charge the Li-Polymer battery pack when it is attached to the radio or separated:

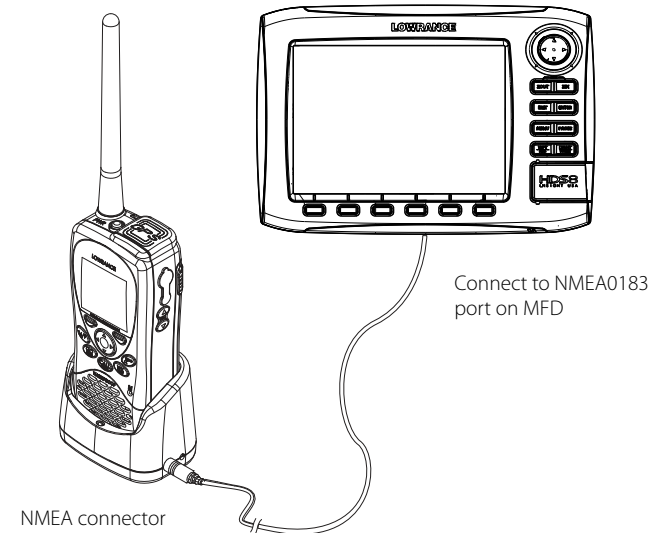


1. Plug in the AC/DC wall charger- check the voltage is correct for your wall charger.
2. Connect the charging wire into the charging socket on the cradle charger.
3. Insert the entire radio or the separated battery pack into the cradle charger. The metal charge contacts on the radio will contact the mating prongs in the charger to transfer the charging current.
4. Observe that the red light on the front of the charger glows to indicate that the battery pack is properly seated and the charger is operating.
5. Allow the battery to charge for about 2.5 to 3 hours before use. The light will change back to green when the battery is fully charged.

CAUTION

To maximise battery life: remove the battery from the charger after approximately 3.5 hours. Overcharging batteries may result in damage to both the battery pack and radio.

7-1-3 GPS connector



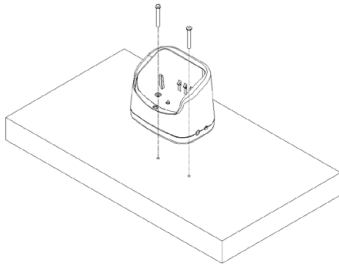
This radio supports NMEA 0183 for outputting the GPS signal. You can use the GPS connector to connect the radio and some GPS navigation receiver, such as chart plotter.

1. Insert the GPS connector cord into the NMEA socket of the cradle charger.
2. Connect the chart plotter to the VHF using the following wiring code:

Wire color	Function
Red	NMEA OUT(+)
Black	NMEA OUT(-)

7-1-4 Mounting battery charger to flat surface

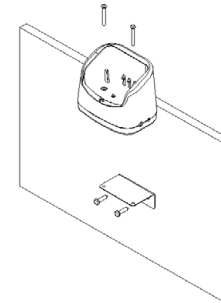
You can mount the battery charger straight onto solid surface. Make sure that the surface can be penetrated and is strong enough to hold permanently in place.



7-1-5 Mounting battery charger and bracket onto wall

You can also mount the battery charger onto wall by using the provided bracket and screws.

1. Mount the bracket as indicated in the diagram.
2. Attach the battery charger to the bracket using the screws provided.

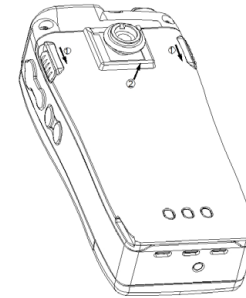


To remove the battery from the radio:

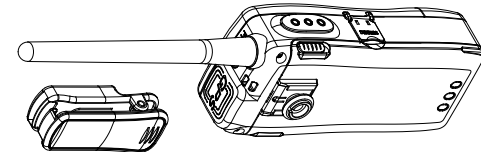
1. Slide the two levers (simultaneously) in a downward motion.
2. Remove battery.

7-2 Installing the belt clip

1. Slide the clip (2) into the recess on the back of the radio battery.



2. The belt clip supplied with your radio allows you to attach the radio to your belt. To install the belt clip: slide the belt clip to the back of your radio, make sure that the fitting Groove is aligned.

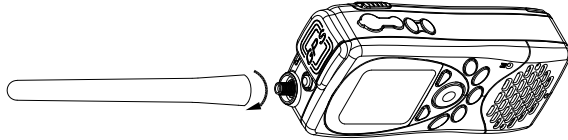


7-3 Installing and removing the antenna

Make sure that the flexible antenna is attached to the radio. Ensure that the radio is turned OFF anytime that the antenna is not connected.

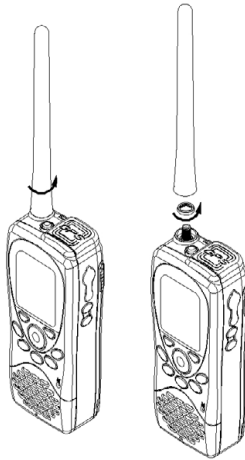
Installing the antenna:

Screw the antenna in a clockwise motion until it is securely locked into place.



Removing the antenna:

Unscrew the antenna in a anti-clockwise motion until it is removed (as illustrated below).



Note: Do not operate the radio or press PTT key without the antenna being installed.

WARNING

Never leave your radio in a closed car or trunk; the extremely high temperatures generated in hot weather can damage the electronics.

Appendix A - Technical specifications

Lowrance Link-2

A-1 General:

Waterproof	Floating and totally submersible to JIS-7
Channels	All US, Canadian and International Channels 10 NOAA Weather Channels
Frequency Range	Transmit -156.025 to 157.425 MHz Receive - 156.025 to 163.275 MHz
Battery type	BP-10
Battery details	7.4V,1400 mAh (10.36Wh), sealed Li-Polymer
Battery Life	7 Hours (with GPS/DSC on and 5W 5/5/90% ratio)
Cradle charger type	BC-10
Cradle charger details	12V DC, 800mA0
Cradle charging current	500±100 mA with 4 hour rapid charge time
Antenna Socket	SMA
DSC	CLASS-D
Display	128x128 pixel bit-mapped LCD with backlight

A-2 Receiver:

Sensitivity 12 dB SINAD	≤0.25 uV
Squelch sensitivity	0.20 uV
Adjacent Channel Selection	70 dB
Spurious Response Rejection	70 dB
Intermodulation Rejection	68 dB
Audio Power Output	250 mW at 5% THD, 700 mW max

A-3 Transmitter:

Power Output	1 or 5 Watts (selectable)
Modulation Type	FM
Hum and Noise Attenuation	40 dB
Audio Distortion	5%

Adjacent Channel Power	less than 70 dB
Spurious/Harmonic Emissions	less than 0.25uW
Current drain	Transmit (High) 1.75 A Transmit (Low) 0.8 A

A-4 GPS and Navigation:

Satellites tracked	12
Navigation	Great Circle navigation display with 300 waypoints
Plotter	12 range scales and 360 point of track history with interval control
Units	NM, SM, KM
NMEA Output	RMC, GGA, GLL, GNS, GSV

A-5 Digital Selective Calling (DSC):

DSC type	CLASS-D
MMSI and NAME directory	20 numbers & groups
Dedicated Distress key	Yes

A-6 Standards:

DSC – US models	ITU-R M.493-13
DSC – EU models	EN 300338-5
Other	EN 60950-1:2006 /A1:2010

Appendix B - Frequency charts

International marine channels

CH	TX (MHz)	RX (MHz)	MODE	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	NAME TAG	REMARK
01	156.050	160.650	D	Public Correspondence	No	Yes	TELEPHONE	
02	156.100	160.700	D	Public Correspondence	No	Yes	TELEPHONE	
03	156.150	160.750	D	Public Correspondence	No	Yes	TELEPHONE	
04	156.200	160.800	D	Port Operations	No	Yes	PORT OP	
05	156.250	160.850	D	Port Operations, Selected VTS Areas	No	Yes	PORT OPS/VTS	
06	156.300	156.300	S	Inter-ship Safety	Yes	No	SAFETY	
07	156.350	160.950	D	Port Operations	No	Yes	PORT OPS	
08	156.400	156.400	S	Commercial (inter-ship only)	Yes	No	COMMERCIAL	
09	156.450	156.450	S	Recreational Calling Channel	Yes	Yes	CALLING	
10	156.500	156.500	S	Commercial	Yes	Yes	COMMERCIAL	
11	156.550	156.550	S	Commercial, VTS in Selected Areas	Yes	Yes	VTS	
12	156.600	156.600	S	Port Operations, Selected VTS Areas	Yes	Yes	PORT OPS/VTS	
13	156.650	156.650	S	Inter-ship Navigation Safety (bridge-to bridge)	Yes	No	BRIDGE COM	
14	156.700	156.700	S	Port Operations, Selected VTS Areas	Yes	Yes	PORT OPS/VTS	
15	156.750	156.750	S	Port Operations	Yes	Yes	PORT OPS	① 1W only
16	156.800	156.800	S	International Distress, Safety, and Calling	Yes	Yes	DISTRESS	
17	156.850	156.850	S	State Controlled	Yes	Yes	SAR	① 1W only
18	156.900	161.500	D	Port Operations	No	Yes	PORT OPS	
19	156.950	161.550	D	Commercial	No	Yes	SHIP - SHORE	
20	157.000	161.600	D	Port Operations	No	Yes	PORT OPS	
21	157.050	161.650	D	Port Operations	No	Yes	PORT OPS	
22	157.100	161.700	D	Port Operations	No	Yes	PORT OPS	
23	157.150	161.750	D	Public Correspondence	No	Yes	TELEPHONE	
24	157.200	161.800	D	Public Correspondence	No	Yes	TELEPHONE	
25	157.250	161.850	D	Public Correspondence	No	Yes	TELEPHONE	
26	157.300	161.900	D	Public Correspondence	No	Yes	TELEPHONE	
27	157.350	161.950	D	Public Correspondence	No	Yes	TELEPHONE	
28	157.400	162.000	D	Public Correspondence	No	Yes	TELEPHONE	
60	156.025	160.625	D	Public Correspondence	No	Yes	TELEPHONE	
61	156.075	160.675	D	Port Operations	No	Yes	PORT OPS	

62	156.125	160.725	D	Port Operations	No	Yes	PORT OPS	
63	156.175	160.775	D	Port Operations	No	Yes	PORT OPS	
64	156.225	160.825	D	Public Correspondence	No	Yes	TELEPHONE	
65	156.275	160.875	D	Port Operations	No	Yes	PORT OPS	
66	156.325	160.925	D	Port Operations	No	Yes	PORT OPS	
67	156.375	156.375	S	Commercial, bridge-to-bridge	Yes	No	BRIDGE COM	
68	156.425	156.425	S	Boat Operations, Recreational	Yes	No	SHIP - SHIP	
69	156.475	156.475	S	Port Operations	Yes	Yes	PORT OPS	
70	156.525	156.525		Digital Selective Calling - DSC	-----	-----	DSC	②
71	156.575	156.575	S	Port Operations	Yes	Yes	PORT OPS	
72	156.625	156.625	S	Inter-ship	Yes	No	SHIP - SHIP	
73	156.675	156.675	S	Port Operations	Yes	Yes	PORT OPS	
74	156.725	156.725	S	Port Operations	Yes	Yes	PORT OPS	
77	156.875	156.875	S	Inter-ship	Yes	No	SHIP - SHIP	
78	156.925	161.525	D	Non-Commercial	No	Yes	SHIP - SHORE	
79	156.975	161.575	D	Commercial	No	Yes	SHIP - SHORE	
80	157.025	161.625	D	Commercial	No	Yes	SHIP - SHORE	
81	157.075	161.675	D	Port Operations	No	Yes	PORT OPS	
82	157.125	161.725	D	Port Operations	No	Yes	PORT OPS	
83	157.175	161.775	D	Public Correspondence	No	Yes	TELEPHONE	
84	157.225	161.825	D	Public Correspondence	No	Yes	TELEPHONE	
85	157.275	161.875	D	Public Correspondence	No	Yes	TELEPHONE	
86	157.325	161.925	D	Public Correspondence	No	Yes	TELEPHONE	
87	157.375	161.975	D	Port Operations	No	Yes	TELEPHONE	
88	157.425	162.025	D	Port Operations	No	Yes	TELEPHONE	

Special notes on international channel usage

- ①. LOW POWER (1 W) only.
- ②. LOW POWER (1 W) initially. Override to HIGH POWER by holding down H/L key before transmitting. Used normally in bridge-to-bridge communications.
- ③. Channel 70 is designated for use exclusively for Digital Selective Calling (DSC), such as Distress, Safety, and Ship Calls. No voice communication is allowed on CH70. This channel is only available on DSC enabled radios.

Note: The INTERNATIONAL mode is not legal for use in US or Canada waters.

KEY: S = Simplex operating channel; D = Duplex operating channel.

USA channel chart

CH	TX (MHz)	RX (MHz)	MODE	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	NAME TAG	REMARK
01A	156.050	156.050	S	Port Operations, Selected VTS Areas	Yes	Yes	PORT OPS/VTS	
03A	156.150	156.150	S	US Government, Coast Guard	Yes	Yes	UNAUTHORIZED	④
05A	156.250	156.250	S	Port Operations, Selected VTS Areas	Yes	Yes	PORT OPS/VTS	
06	156.300	156.300	S	Inter-ship Safety	Yes	No	SAFETY	
07A	156.350	156.350	S	Commercial	Yes	Yes	COMMERCIAL	
08	156.400	156.400	S	Commercial (inter-ship only)	Yes	No	COMMERCIAL	
09	156.450	156.450	S	Recreational Calling Channel	Yes	Yes	CALLING	
10	156.500	156.500	S	Commercial	Yes	Yes	COMMERCIAL	
11	156.550	156.550	S	Commercial, VTS in Selected Areas	Yes	Yes	VTS	
12	156.600	156.600	S	Port Operations, Selected VTS Areas	Yes	Yes	PORT OPS/VTS	
13	156.650	156.650	S	Inter-ship Navigation Safety (bridge-to-bridge), 1W with Power-up	Yes	No	BRIDGE COM	③ 1W
14	156.700	156.700	S	Port Operations, Selected VTS Areas	Yes	Yes	PORT OPS/VTS	
15	---	156.750	S	Environmental	-----	-----	ENVIRONMENTAL	② RX only
16	156.800	156.800	S	International Distress, Safety, and Calling	Yes	Yes	DISTRESS	
17	156.850	156.850	S	State Controlled	Yes	Yes	SAR	① 1W only
18A	156.900	156.900	S	Commercial	Yes	Yes	COMMERCIAL	
19A	156.950	156.950	S	Commercial	Yes	Yes	COMMERCIAL	
20	157.000	161.600	D	Port Operations, Canadian Coast Guard	No	Yes	PORT OPS	
20A	157.000	157.000	S	Port Operations	Yes	Yes	PORT OPS	
21A	157.050	157.050	S	U.S. Government, Canadian Coast Guard	Yes	Yes	UNAUTHORIZED	④
22A	157.100	157.100	S	Coast Guard Liaison	Yes	Yes	COAST GUARD	
23A	157.150	157.150	S	U.S. Government, Coast Guard	Yes	Yes	UNAUTHORIZED	④
24	157.200	161.800	D	Public Correspondence, Marine operator	No	Yes	TELEPHONE	
25	157.250	161.850	D	Public Correspondence, Marine operator	No	Yes	TELEPHONE	
26	157.300	161.900	D	Public Correspondence, Marine operator	No	Yes	TELEPHONE	
27	157.350	161.950	D	Public Correspondence, Marine operator	No	Yes	TELEPHONE	
28	157.400	162.000	D	Public Correspondence, Marine operator	No	Yes	TELEPHONE	
61A	156.075	156.075	S	U.S. Government, Canadian Coast Guard	Yes	Yes	UNAUTHORIZED	④
63A	156.175	156.175	S	Port Operations, VTS in Selected Areas	Yes	Yes	PORT OPS/VTS	
64A	156.225	156.225	S	U.S. Government, Canadian Commercial Fishing	Yes	Yes	UNAUTHORIZED	④
65A	156.275	156.275	S	Port Operations	Yes	Yes	PORT OPS	
66A	156.325	156.325	S	Port Operations	Yes	Yes	PORT OPS	
67	156.375	156.375	S	Commercial, bridge-to-bridge, 1W with Power-up	Yes	No	BRIDGE COM	③ 1W

68	156.425	156.425	S	Boat Operations, Recreational	Yes	No	SHIP - SHIP	
69	156.475	156.475	S	Boat Operations, Recreational	Yes	Yes	PLEASURE	
70	156.525	156.525		Digital Selective Calling - DSC	-----	-----	DSC	Ⓞ
71	156.575	156.575	S	Boat Operations, Recreational	Yes	Yes	PLEASURE	
72	156.625	156.625	S	Boat Operations, Recreational	Yes	No	SHIP - SHIP	
73	156.675	156.675	S	Port Operations	Yes	Yes	PORT OPS	
74	156.725	156.725	S	Port Operations	Yes	Yes	PORT OPS	
77	156.875	156.875	S	Port Operations	Yes	Yes	PORT OPS	① 1W only
78A	156.925	156.925	S	Boat Operations, Recreational	Yes	No	SHIP - SHIP	
79A	156.975	156.975	S	Commercial	Yes	Yes	COMMERCIAL	
80A	157.025	157.025	S	Commercial	Yes	Yes	COMMERCIAL	
81A	157.075	157.075	S	U.S. Government, Environmental Protection Agency Operations	Yes	Yes	UNAUTHORIZED	Ⓢ
82A	157.125	157.125	S	U.S. Government, Canadian Coast Guard	Yes	Yes	UNAUTHORIZED	Ⓢ
83A	157.175	157.175	S	U.S. Government, Canadian Coast Guard	Yes	Yes	UNAUTHORIZED	Ⓢ
84	157.225	161.825	D	Public Correspondence, Marine Operator	No	Yes	TELEPHONE	
85	157.275	161.875	D	Public Correspondence, Marine Operator	No	Yes	TELEPHONE	
86	157.325	161.925	D	Public Correspondence, Marine Operator	No	Yes	TELEPHONE	
87	157.375	161.975	D	Port Operations	No	Yes	TELEPHONE	
88	157.425	162.025	D	Port Operations	No	Yes	TELEPHONE	
88A	157.425	157.425	S	Commercial, Inter-ship Only	Yes	No	COMMERCIAL	

Special notes on usa channel usage

- ①. LOW POWER (1 W) only.
- Ⓞ. Receive Only.
- Ⓢ. LOW POWER (1 W) initially. Override to HIGH POWER by holding down H/L key before transmitting. Used normally in bridge-to-bridge communications.
- Ⓢ. Lightly shaded simplex channels 03A, 21A, 23A, 61A, 64A, 81A, 82A, and 83A cannot be lawfully used in US waters unless special authorization is obtained from the US Coast Guard. Not for use by the general public.
- Ⓢ. The letter "A" illuminated by the channel number indicates the USA channel is simplex.

This same channel is always duplex when selecting International. There is no "A" reference for International channels. The letter "B" is only used for some Canadian "Receive only" channels.

- Ⓢ. Channel 70 is designated for use exclusively for Digital Selective Calling (DSC), such as Distress, Safety, and Ship Calls. No voice communication is allowed on CH70. This channel is only available on DSC enabled radios.

KEY: S = Simplex operating channel; D = Duplex operating channel.

CANADA channel chart

CH	TX (MHz)	RX (MHz)	MODE	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	NAME TAG	REMARK
01	156.050	160.650	D	Public Correspondence	No	Yes	TELEPHONE	
02	156.100	160.700	D	Public Correspondence	No	Yes	TELEPHONE	
03	156.150	160.750	D	Public Correspondence	No	Yes	TELEPHONE	
04A	156.200	156.200	S	Canadian Coast Guard, SAR	Yes	Yes	CANADIAN CG	
05A	156.250	156.250	S	Port Operations, VTS in Selected Areas	Yes	Yes	PORT OPS/VTS	
06	156.300	156.300	S	Inter-ship Safety	Yes	No	SAFETY	
07A	156.350	156.350	S	Commercial	Yes	Yes	COMMERCIAL	
08	156.400	156.400	S	Commercial (inter-ship only)	Yes	No	COMMERCIAL	
09	156.450	156.450	S	Recreational Calling Channel	Yes	Yes	CALLING	
10	156.500	156.500	S	Commercial	Yes	Yes	COMMERCIAL	
11	156.550	156.550	S	Commercial, VTS in Selected Areas	Yes	Yes	VTS	
12	156.600	156.600	S	Port Operations, VTS in Selected Areas	Yes	Yes	PORT OPS/VTS	
13	156.650	156.650	S	Inter-ship Navigation Safety (bridge-to-bridge) 1W with power-up	Yes	No	BRIDGE COM	③ 1W
14	156.700	156.700	S	Port Operations, VTS in Selected Areas	Yes	Yes	PORT OPS/VTS	
15	156.750	156.750	S	Commercial	Yes	Yes	COMMERCIAL	① 1W only
16	156.800	156.800	S	International Distress, Safety, and Calling	Yes	Yes	DISTRESS	
17	156.850	156.850	S	State Controlled	Yes	Yes	SAR	① 1W only
18A	156.900	156.900	S	Commercial	Yes	Yes	COMMERCIAL	
19A	156.950	156.950	S	Canadian Coast Guard	Yes	Yes	CANADIAN CG	
20	157.000	161.600	D	Canadian Coast Guard	No	Yes	CANADIAN CG	① 1W only
21	157.050	161.650	D	Port Operations	No	Yes	PORT OPS	
21A	157.050	157.050	S	U.S. Government, Canadian Coast Guard	Yes	Yes	UNAUTHORIZED	
21B	---	161.650	S	Port Operations	-----	-----	PORT OPS	RX only
22A	157.100	157.100	S	Canadian Coast Guard Liaison	Yes	Yes	CANADIAN CG	
23	157.150	161.750	D	Public Correspondence	No	Yes	TELEPHONE	
24	157.200	161.800	D	Public Correspondence	No	Yes	TELEPHONE	
25	157.250	161.850	D	Public Correspondence	No	Yes	TELEPHONE	
25B	---	161.850	S	Public Correspondence	-----	-----	TELEPHONE	RX only
26	157.300	161.900	D	Public Correspondence	No	Yes	TELEPHONE	
27	157.350	161.950	D	Public Correspondence	No	Yes	TELEPHONE	
28	157.400	162.000	D	Public Correspondence	No	Yes	TELEPHONE	
28B	---	162.000	S	Public Correspondence	-----	-----	TELEPHONE	RX only
60	156.025	160.625	D	Public Correspondence	No	Yes	TELEPHONE	
61A	156.075	156.075	S	U.S. Government, Canadian Coast Guard	Yes	Yes	UNAUTHORIZED	Ⓢ

62A	156.125	156.125	S	Canadian Coast Guard	Yes	Yes	CANADIAN CG	
64	156.225	160.825	D	Public Correspondence, Duplex	No	Yes	TELEPHONE	
64A	156.225	156.225	S	U.S. Government, Canadian Commercial Fishing	Yes	Yes	UNAUTHORIZED	Ⓢ
65A	156.275	156.275	S	Port Operations	Yes	Yes	PORT OPS	
66A	156.325	156.325	S	Port Operations	Yes	Yes	PORT OPS	Ⓢ 1W only
67	156.375	156.375	S	Commercial, SAR	Yes	No	COMMERCIAL	
68	156.425	156.425	S	Boat Operations, Recreational	Yes	No	SHIP - SHIP	
69	156.475	156.475	S	Commercial Fishing Only	Yes	Yes	COMMERCIAL	
70	156.525	156.525	S	Digital Selective Calling - DSC	-----	-----	DSC	Ⓢ
71	156.575	156.575	S	Boat Operations, Recreational	Yes	Yes	PLEASURE	
72	156.625	156.625	S	Inter-ship	Yes	No	SHIP - SHIP	
73	156.675	156.675	S	Commercial Fishing Only	Yes	Yes	COMMERCIAL	
74	156.725	156.725	S	Commercial Fishing Only	Yes	Yes	COMMERCIAL	
77	156.875	156.875	S	Port Operations	Yes	Yes	PORT OPS	Ⓢ 1W only
78A	156.925	156.925	S	Boat Operations, Recreational	Yes	No	SHIP - SHIP	
79A	156.975	156.975	S	Commercial	Yes	Yes	COMMERCIAL	
80A	157.025	157.025	S	Commercial	Yes	Yes	COMMERCIAL	
81A	157.075	157.075	S	U.S. Government Operations	Yes	Yes	UNAUTHORIZED	Ⓢ
82A	157.125	157.125	S	U.S. Government, Canadian Coast Guard	Yes	Yes	UNAUTHORIZED	Ⓢ
83	157.175	161.775	D	Canadian Coast Guard	Yes	Yes	CANADIAN CG	
83A	157.175	157.175	S	U.S. Government, Canadian Coast Guard	Yes	Yes	UNAUTHORIZED	Ⓢ
83B	---	161.775	S	Canadian Coast Guard, RX Only	-----	-----	CANADIAN CG	
84	157.225	161.825	D	Public Correspondence, Marine Operator	No	Yes	TELEPHONE	
85	157.275	161.875	D	Public Correspondence, Marine Operator	No	Yes	TELEPHONE	
86	157.325	161.925	D	Public Correspondence, Marine Operator	No	Yes	TELEPHONE	
87	157.375	161.975	D	Port Operations	No	Yes	TELEPHONE	
88	157.425	162.025	D	Port Operations	No	Yes	TELEPHONE	

Special notes on canada channel usage

- Ⓢ. LOW POWER (1 W) only.
- Ⓢ. Receive Only.
- Ⓢ. LOW POWER (1 W) initially. Override to HIGH POWER by holding down H/L key before transmitting. Used normally in bridge-to-bridge communications.
- Ⓢ. Lightly shaded simplex channels 21A, 23A, 61A, 64A, 81A, 82A, and 83A cannot be lawfully used in Canada waters unless special authorization is obtained from the Canadian Coast Guard. Not for use by the general public.

Weather channels

CH	RX (MHz)	TRAFFIC TYPE	NAME	REMARK
WX01	162.550	NOAA Weather Channel	NOAA WX	RX only
WX02	162.400	NOAA Weather Channel	NOAA WX	RX only
WX03	162.475	NOAA Weather Channel	NOAA WX	RX only
WX04	162.425	NOAA Weather Channel	NOAA WX	RX only
WX05	162.450	NOAA Weather Channel	NOAA WX	RX only
WX06	162.500	NOAA Weather Channel	NOAA WX	RX only
WX07	162.525	NOAA Weather Channel	NOAA WX	RX only
WX08	161.650	CANADIAN Weather Channel	CANADA WX	RX only
WX09	161.775	CANADIAN Weather Channel	CANADA WX	RX only
WX10	163.275	NOAA Weather Channel	NOAA WX	RX only

Appendix C - EU inland waterway channels

Country Specific table

For specific channel information for your country, please refer to local authorities.

CH	SPECIFIC FOOTNOTES	TRANSMITTING FREQUENCY (MHZ)		SHIP-TO-SHIP	SHIP-TO PORT	NAUTICAL INFORMATION
		SHIP	LAND			
60	a)	156.025	160.625			x
01	a)	156.05	160.65			x
61	a)	156.075	160.675			x
02	a)	156.1	160.7			x
62	a)	156.125	160.725			x
03	a)	156.15	160.75			x
63	a)	156.175	160.775			x
04	a)	156.2	160.8			x
64	a)	156.225	160.825			x
05	a)	156.25	160.85			x
65	a)	156.275	160.875			x
06	a) b)	156.3	156.3	x		
66	a)	156.325	160.925			x
07	a)	156.35	160.95			x
67	a) c)	156.375	156.375			x
08	a) q)	156.4	156.4	x		
68	a)	156.425	156.425			x
09	a) b) c)	156.45	156.45			x
69	a)	156.475	156.475			x
10	e)	156.5	156.5	x		
11		156.55	156.55		x	
71		156.575	156.575		x	
12		156.6	156.6		x	
72	a) r)	156.625	156.625	x		
13	f)	156.65	156.65	x		
73	f) g)	156.675	156.675			x
14	q)	156.7	156.7		x	
74	a)	156.725	156.725		x	
15	h) j)	156.75	156.75			x
75	o) j)	156.775	156.775		x	
16	i)	156.8	156.8			x

76	j) d) o)	156.825	156.825			x
17	h) j)	156.85	156.85			x
77	a) k)	156.875	156.875		x	
18		156.9	161.5			x
78		156.925	161.525			x
19		156.95	161.55			x
79	a)	156.975	161.575			x
20		157	161.6			x
80		157.025	161.625			x
21	a)	157.05	161.65			x
81	a)	157.075	161.675			x
22		157.1	161.7			x
82	l) m)	157.125	161.725			x
23	m)	157.15	161.75			x
83	a) m)	157.175	161.775			x
24	m)	157.2	161.8			x
84	m)	157.225	161.825			x
25	m)	157.25	161.85			x
85	a) m)	157.275	161.875			x
26	m)	157.3	161.9			x
86	a) m)	157.325	161.925			x
27	m)	157.35	161.95			x
87	a) d)	157.375	157.375			x
28	m)	157.4	162			x
88	a) p)	157.425	157.425			x
ALS 1	a) n)	161.975	161.975			
ALS 2	a) n)	162.025	162.025			

General remarks to Country Specific table:

- The channels for service categories ship-to-ship and nautical information may also be used for vessel traffic -systems by traffic centres.
- In some countries, frequencies certain channels are used for an other service category or other radio services. These countries are Austria, Bulgaria, Croatia, the Federal Republic of Yugoslavia, Hungary, Moldova, Romania, the Russian Federation, the Slovak Republic, the Czech Republic (with exemption of channels 08, 09, 72, 74 and 86), Ukraine and the Federal Republic of Yugoslavia. The Administrations concerned should make any possible attempt to make these frequencies channels as soon as possible available for the radiotelephone service on Inland Waterways and/or the required service category.

Explanation of specific footnotes in Country Specific table:

- a. In the countries mentioned under remark 2, it is strictly prohibited to use this channel.
- b. This channel is not allowed to be used between Rhine km 150 and km 350.
- c. In the Netherlands, this channel is used by for its on-scene communications during safety operations on the North Sea, IJsselmeer, Waddenzee, Ooster- and Westerschelde.
- d. This channel may also be used for piloting, mooring, tugging and for other nautical purposes.
- e. This channel is the first ship-to-ship channel, unless the competent authority has designated an other channel. In the countries mentioned under remark 2, it is allowed that the output power is set to a value between 6 and 25 W until 1 January 2005.
- f. In the countries mentioned under remark 2, this channel is used for service category ship-to-port authorities.
- g. In the Netherlands, this channel is used by its national coastguard for communications during oil pollution operations on the North Sea and for safety messages for the North Sea, Waddenzee, IJsselmeer, Ooster- and Westerschelde.
- h. This channel may be used only for service category on-board board communications.
- i. This channel may be used only for communications between seagoing vessels and participating land stations in case of distress and safety communications within the maritime sea-areas. In the countries mentioned under remark 2, this channel may be used only for distress, safety and calling.
- j. The output power shall be reduced automatically to a value between 0.5 and 1 W.
- k. This channel may be used for communications with a social character.
- l. In the Netherlands and Belgium, this channel may be used for transmitting messages concerning bunkering and victualling. The output power has to be reduced manually to a value between 0.5 and- 1 W.
- m. This channel may also be used for public correspondence.
- n. This channel will be used for an automatic ship identification and surveillance system (AIS) capable of providing worldwide operating on seas and Inland Waterways.
- o. The availability of this channel is on a voluntary basis. All existing equipment shall be capable to of operating on this channel within a ten-year period after the entry into force of this Arrangement.
- p. After permission of the competent authority, this channel may be used only for special events on a temporary basis.
- q. In the Czech Republic this channel is used for service category nautical information.
- r. In the Czech Republic this channel is used for service category ship-to-port authorities.

Special channels ²

CH	SEND (MHz)	RECEIVE (MHz)	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	NAME TAG
CO ¹	156.000	156.000	UK Coast Guard Users	Yes	Yes	UK COAST GRD
M1	157.850	157.850	UK Marina Channel M1	Yes	Yes	UK MARINA
M2	161.425	161.425	UK Marina Channel M2	Yes	Yes	UK MARINA
31	157.550	162.150	INT'L, Duplex (Holland)	No	Yes	NL MARINA
96H	162.425	162.425	INT'L (Belgium)	No	Yes	BEL G MARINA
L1	155.500	155.500	INT'L (Skandinavia)	Yes	No	LEISURE 1
L2	155.525	155.525	INT'L (Skandinavia)	Yes	No	LEISURE 2
L3	155.650	155.650	INT'L (Skandinavia— not in Denmark)	Yes	No	LE ISURE3
F1	155.625	155.625	INT'L (Skandinavia)	Yes	No	FISHING 1
F2	155.775	155.775	INT'L (Skandinavia)	Yes	No	FISHING 2
F3	155.825	155.825	INT'L (Skandinavia) call back	Yes	No	FISHING 3
AIS1	161.975	161.975	AIS1	----	----	----
AIS2	162.025	162.025	AIS2	----	----	----

Note:

1. Lightly Shaded Simplex channel CH00 is only available in the UK to Coast Guard users with written authorization.
2. The special channels above maybe fitted to your radio. These are only licensed for use in the country indicated. No attempt should be made to use them in any other country.

Countries of Intended use in the EU:

AT - Austria	HU - Hungary	PL - Poland
BE - Belgium	IS - Iceland	PT - Portugal
BG - Bulgaria	IE - Ireland	RO - Romania
CY - Cyprus	IT - Italy	SK - Slovakia
CZ - Czech Republic	LI - Liechtenstein	SI - Slovenia
DK - Denmark	LV - Latvia	ES - Spain
EE - Estonia	LT - Lithuania	SE - Sweden
FI - Finland	LU - Luxembourg	CH - Switzerland
FR - France	MT - Malta	TR - Turkey
DE - Germany	NL - Netherlands	UK - United Kingdom
GR - Greece	NO - Norway	



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