

Preface

Disclaimer

As Navico is continuously improving this product, we retain the right to make changes to the product at any time which may not be reflected in this version of the manual. Please contact your nearest distributor if you require any further assistance.

It is the owner's sole responsibility to install and use the equipment in a manner that will not cause accidents, personal injury or property damage. The user of this product is solely responsible for observing safe boating practices.

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This manual represents the product as at the time of printing. Navico Holding AS and its subsidiaries, branches and affiliates reserve the right to make changes to specifications without notice.

Copyright

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Warranty

The warranty card is supplied as a separate document.

In case of any queries, refer to the brand website of your unit or system: www.simrad-yachting.com

RF emissions statements

European Union

This RS90S complies with CE under RED Directive 2014/53/EU. The relevant Declaration of conformity is available in the product's section at the following website: www.simrad-yachting.com.

United States

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.

Warning

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Emissions notice

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device's antenna must be installed in accordance with provided instructions; and it must be operated with minimum "1.5m " m spacing between the antennas and all person's body (excluding extremities of hands, wrist and feet) during operation. Further, this transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

- **Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that of the receiver is connected.
 - Consult the dealer or an experienced technician for help.

Canada

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference; and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage, et
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

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 (RS90S) 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 (RS90S) 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.

Notice specific to the Wireless handset (HS35)

This ISM device complies with Canadian ICES-001. Maintain a minimum separation of 2.5 cm (1 inch) from the face.

Cet appareil ISM est conforme à la norme NMB-001 du Canada. Maintenir une distance minimum de 2,5 cm (1 inch) de la surface.

Australia & New Zealand

Complies with the requirements of level 2 devices of the Radiocommunications (Electromagnetic Compatibility) standard 2017 and Radiocommunications (VHF Radiotelephone Equipment – Maritime Mobile Service) Standard 2014.

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 - Slovak Republic
CZ - Czech Republic	LV - Latvia	SI - Slovenia
DK - Denmark	LI - Liechtenstein	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	

Trademarks

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NMEA® and NMEA 2000® are registered trademarks of the National Marine Electronics Association.

Navico recommends that you check the radio operating licensing requirements of your country before using this VHF radio. The operator is solely responsible for observing proper radio installation and usage practices.

Notes on MMSI and DSC

The user MMSI (Marine Mobile Service Identity) is a unique nine digit number. It is used on marine transceivers that are capable of using DSC (Digital Selective Calling). Digital Selective Calling offers significant safety and convenience advantages over older VHF radios without this functionality.

- **Note:** Many countries do not have radio repeaters that support DSC message relaying. However DSC can still be useful for direct ship-to-ship communication, where the other vessel is also equipped with a DSC capable radio.

You must obtain a user MMSI and enter it into your radio in order to use the DSC functions. Contact the appropriate authorities in your country to obtain an MMSI number - charges may apply. If you are unsure who to contact, consult your Simrad dealer.

- **Note:** DSC distress calls generated by this radio are limited to the same range restrictions that apply to regular VHF transmissions. The vessel sending a distress can only rely upon DSC if within range of a GMDSS Coast Radio Station. Typical VHF range may be about 20NM, though this varies greatly depending upon installation, antenna type, meteorological conditions, etc.

About this manual

This manual is a reference guide for installing and operating a RS90S VHF radio. Important text that requires special attention from the reader is emphasized as follows:

- **Note:** Used to draw the reader's attention to a comment or some important information.
-  **Warning:** *Used when it is necessary to warn personnel that they should proceed carefully to prevent risk of injury and/or damage to equipment/personnel.*

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1

Introduction

The Simrad RS90S VHF radio is a comprehensive solution for marine VHF radio applications.

The radio comprises:

- RS90S VHF transceiver.
- One wired handset as standard, and optionally up to 3 more wired handsets. (Maximum of 4 wired handsets in total.)
- Up to 2 optional wireless handsets.
- Up to 4 optional external speakers.

In addition to routine ship-to-ship or ship-to-shore VHF communications, the RS90S has many advanced features, including:

- NMEA 2000 and NMEA 0183 network connectivity, which allows the radio to share information with other onboard devices, such as a GPS antenna, a chart plotter or a multi-function display.
- Digital Selective Calling (DSC) for automated distress calls, and for calling individual vessels using their Maritime Mobile Service Identity (MMSI). Also includes a track buddy function.
- Automatic Identification System (AIS) for monitoring nearby vessels (receive only).
- Automatic Terminal Information Service (ATIS) function for controlled VHF communications in European inland waterways (EU models).
- Automatic weather alert using TONE and SAME systems (US models).
- Monitoring multiple VHF channels simultaneously (country specific).
- Intercom calls between handsets.
- Voice recording.
- Fog horn and loud-hailer modes.
- Horn button connection.
- Up to three instant favourite channel selections.

2

Getting started



Caution: Under extreme operating conditions, the temperature of the rear heat-sink on this radio may exceed normal surface temperatures. Caution is advised to prevent possible skin burns.

Handsets

All the operating functions of the RS90S are carried out using the handsets. Each handset contains a microphone, a small internal loudspeaker and various buttons for controlling the radio.

Two types of handset are available:

- Up to four wired handsets can be connected. There must be at least one wired handset connected to the station one terminal in the installation.
- Up to two wireless handsets can be installed. The wireless handsets communicate with the transceiver by 2.4 GHz radio communication. The wireless handsets are powered by internal rechargeable batteries, and are charged by inductive charging when on the cradle.

When there are multiple handsets, they are synchronized so that there is no conflict of operation and each display the same information on their screens.

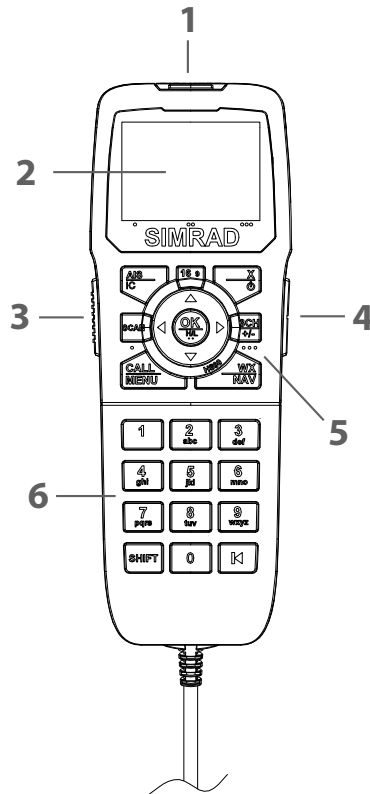
Handset naming

Handset names appear on screen at times—for example, when another handset has control of the radio.

Wired handsets HS1, HS2, HS3, HS4

The above handsets—1 standard and 3 optional—are connected to the transceiver. The volume controls on these handsets control the corresponding external speakers.

Handset parts



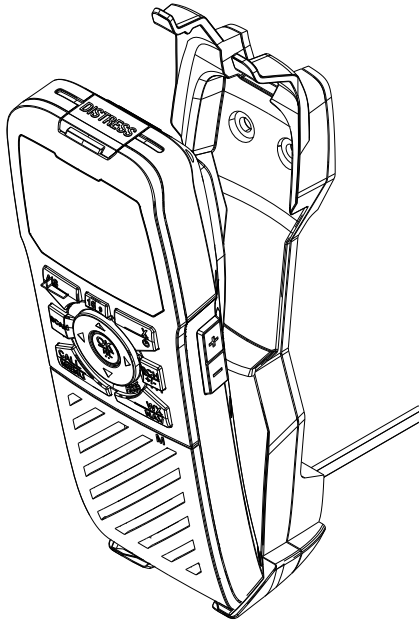
- 1 Red distress cover with button beneath
- 2 Screen
- 3 PTT button
- 4 Volume control
- 5 Function keys
- 6 Keypad (wired handsets only).

Subscribing a wireless handset

At installation time, wireless handsets must be registered in the transceiver. For instructions, see “Subscribing a wireless handset” on page 85.

Charging a wireless handset

When a wireless handset is not in use, it should be placed on its cradle for charging.



Locate the bottom of the handset onto the cradle first, and then press the top of the handset inwards until it clicks into the top lugs.

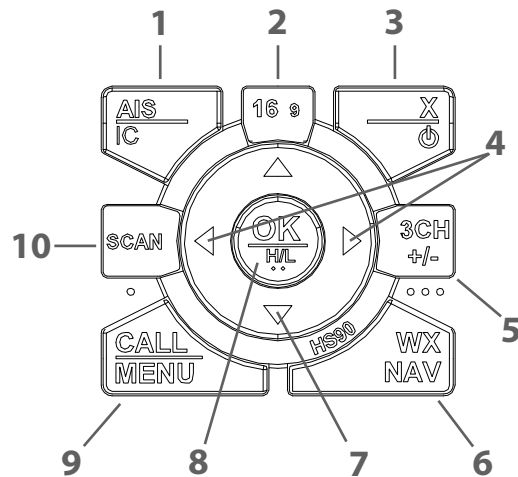
Handset operation priority

If you want to use HS1, but it displays “HS# IN USE,” it means that another handset is operating.

To shift control to HS1:

1. Press [X].
2. The display shows “Take Control?”
 - Press [OK] to take over control.
 - Or, [X] to leave the other handset in control.

Handset control buttons



- 1 Short press for AIS menu.
Long press for Intercom / Hailer mode.
- 2 Press to select the priority channel.
- 3 Short press for Exit key.
Long press for power on/off.
- 4 Squelch keys. Also used for moving cursor left/right.
- 5 Three favourite channel key.
- 6 Short press for weather station (US models).
Long press for Navigation mode.
- 7 Change channel, or scroll menu options.
- 8 Short press for [OK] key.
Long press to toggle high/low power.
- 9 Short press for DSC menu.
Long press for menu.
- 10 Short press to start dual-watch or tri-watch mode.
Long press to start scanning channels.

For more information on keys, see "Appendix 2 - Keys reference" on page 111.

Switching on and off

Switching on the system

The VHF radio is switched on from a wired handset.

To switch on the radio:

1. Press and hold [X] on a wired handset until the startup screen showing version numbers appears.
2. When prompted, press [X] to exit the startup screen and display the main operating screen.

This switches on the transceiver and the wired handset.

- **Note:** A wireless handset can only switch itself on and off. See “Switching on a wireless handset” on page 17.

Switching off the system

The system is switched off by holding down the [X] key on a wired handset until the display shows “Release key to power off.”

Just one handset

1. In standby mode, press [X] on the wired handset until the display shows “Release key to power off.”
2. Release the [X] key.

More than one wired handset

HS1 (handset 1) has a power-off menu. All the other handsets simply power themselves off.

Handset 1 power-off menu:

- **SYSTEM**
Turns off all handsets and the transceiver.
 - **HS1**
Turns off the handset itself.
Displays “SYSTEM IS WORKING” with no backlight.
- **Note:** You can ignore the power-off menu and keep holding down [X] until the display shows “Release key to power off.”

Switching on a wireless handset

- Press and hold [X] until the display illuminates.

The display shows "Searching," then "Connecting," and then the current operating screen.

→ Notes:

- This only switches on the individual wireless handset, not the transceiver.
- If the transceiver is off, the wireless handset continues to display "Searching".
- At install time, wireless handsets must be subscribed. See "Subscribing a wireless handset" on page 85.

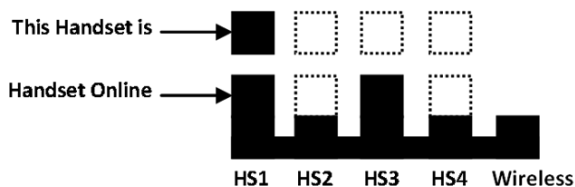
Switching off a wireless handset

→ **Note:** This procedure only switches off the wireless handset. It does not switch off any other handsets or the transceiver.

1. Press and hold [X] until the following message appears: "Release key to power off."
2. Release the [X] key.

Handset status display

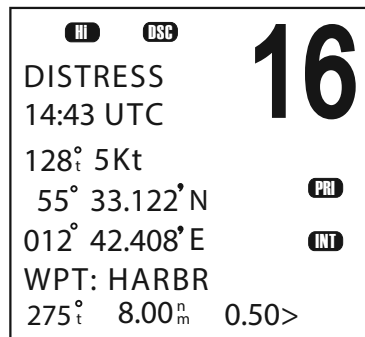
A small icon located on the lower right of the screen shows the status of all connected handsets.



The above example shows that handset 1 and handset 3 are online and this handset is handset 1.

The standby screen

The following illustration shows a typical operating screen in standby mode. The radio is in standby mode when it is waiting to send or receive calls.



The above screen shows:

- The radio is tuned to channel 16, which has been designated as the priority channel (PRI).
- In this unit, Channel 16 has been named "DISTRESS."
- Transmitting power is set to high (Hi).
- DSC is enabled.
- The time is 14:43 UTC.
- The current course is 128° true and speed over ground is 5.0 knots.
- The current latitude is 55°33.122'N and longitude 012°42.408'E.
- The channel bank selected is International (INT).
- The name of the destination waypoint is HARBR.
- The unit selected is Nautical Miles (nm).
- The destination waypoint is 8 nm away at a bearing of 275° true.
- The current Cross-Track-Error is 0.5 nm to port (requires a course change to starboard).

During normal operation, the following icons may be displayed on the screen depending on setup:

Symbol	Meaning
A or B	Channel suffix
AIS	AIS is enabled
	Flashing if a weather alert has been received (US models only)
ATIS	ATIS is enabled
	Low battery warning. Activates at 10.5 V
	Incoming DSC call. Flashing if there are unread call log messages
CAN	Canadian channel bank is selected
CH1 , CH2 , CH3	Favourite channel 1, 2 or 3 is selected
D	The current channel is a duplex channel
DSC	DSC is enabled
DW	Dual watch mode
H	High transmission power (25 W)
INT	International channel bank selected
L	Low transmission power (1 W)
LOCAL	'Local' sensitivity selected.. Otherwise blank for distance sensitivity
PRI	The priority channel is selected
RX	The radio is receiving
S	The Shift key has been pressed
SAME	The SAME alert setting is 'ON'
SCAN	Channel scanning in operation
SKIP	This channel is being skipped in the scan
TRI	Tri watch mode
TX	The radio is transmitting
USA	USA channel bank is selected
	Auto Switch is set to OFF
•	Voice recording is ON

Modes

The RS90S has several different modes of operation. The main mode is standby mode, during which the radio is ready to send or receive VHF calls. Generally, pressing the [X] key will exit any special mode and return to standby mode.

Scanning mode

In scanning mode, the radio scans selected channels for radio activity.

Navigation mode

Navigation mode displays distance and bearing to a selected waypoint.

Hailer mode

Hailer mode allows you to use the radio to hail other vessels or deck crew through a connected loud-hailer speaker.

Hailer mode also features a listen-back mode, which uses the PA speaker as a microphone to listen for a response.

Fog horn mode

Fog horn mode allows you to use the radio to sound a fog horn tone through a connected loud-hailer speaker.

Intercom mode

Intercom mode allows you to use the handsets to communicate from one handset to the others in your vessel.

Standby Mode

In standby mode, the RS90S displays the main operating screen on the handset(s) and is ready to send or receive calls on the selected channel.

Changing channel

Different jurisdictions in the world have allocated different sets of VHF radio channels for different purposes. These sets are known as channel banks. The available channel banks and their corresponding channels are given in "Appendix 7 - Channel charts" on page 119.

Normally the radio should be left tuned to the priority channel CH16 (CH16 or CH09 (US models)) in case an emergency call is broadcast on that channel. The RS90S can also be set to monitor several channels at the same time. In this case, the radio continuously scans the selected channels and, if activity is heard on a channel, it will switch to that channel while the activity continues. Then it will revert to scanning. See "Scanning channels" on page 29.

You can use one of the following methods to change channel:

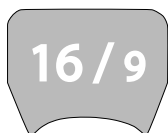
- Press [16/9] to switch immediately to the priority channel (see "Priority channels" below).
- Press ▲ or ▼ until you reach the required channel number.
- Press and hold ▲ or ▼ to rapidly scroll through the channel numbers. When the number you require is displayed, release the key.
- Input the number on the keypad (wired handset only), and when the required channel number is flashing on screen, press [OK], or wait for 2 seconds for the number to be accepted automatically. When entering a single-digit channel number, prefix the channel number with 0.
- Repeat press [3CH] to scroll through your three favourite channels. See "Three favourite channels 3CH" on page 29.
- Press [WX] and then ▲ or ▼ to tune to a weather station (US model only). See "Receiving weather alerts (US model only)" on page 27.
- Press [WX] to go directly to a set favourite channel (EU models only).

Priority channels

Channel 16 is the international emergency priority channel. On Channel 16, operators must give priority to any emergency calls occurring on that frequency. In the US, Channel 9 is also an emergency priority channel.

To switch directly to Channel 16 (or Channel 9 if configured):

- Press the 16/9 button.
- **Note:** The default emergency channel is CH16. On US models, you can change the default emergency channel to CH9 by holding down 16/9 until the unit beeps and displays 09. Repeat the procedure to change back to CH16 as the default emergency channel.



Adjusting squelch

The squelch adjustment allows you to adjust the sensitivity of the radio so that background noise is minimized. In areas of high static noise, such as close to large cities, you can improve quality of reception by adjusting the squelch.

- Use the ◀ and ▶ keys to adjust the level up or down respectively.
- Adjust the level until the background noise just disappears.

→ **Note:** You can also adjust the sensitivity of the VHF receiver using the Local/Distance setting. See “Radio sensitivity” on page 108.

Setting transmission power

The RS90S has two transmission power settings:

High 25 W (Hi)

Low 1 W (Lo)

To change the power setting:

Press and hold [H/L] until the Hi or Lo icon on the display changes.

→ Notes:

- Channel 16 always remains in high transmission power.
- Some channels allow only low-power transmissions. If you try to change to high power, the RS90S will sound an error beep.
- Some channels allow only low power transmissions initially, but can be forced to high power by holding down [H/L] and PTT at the same time.
- See “Appendix 7 - Channel charts” on page 119 for a list of channel data.

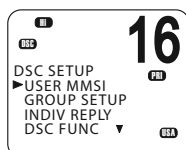
PTT Key

The Push to Talk (PTT) key activates the microphone and transmits your voice over the selected channel.

→ Notes:

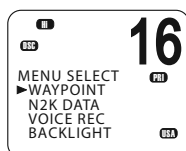
- Pressing PTT while a menu is displayed will exit the menu without making any selection.
- DSC transmission has higher priority than PTT voice transmission.
- During PTT transmission, the radio cannot receive a DSC call.
- If PTT gets stuck or accidentally held in the talk position, a built-in timer sounds an error beep and shuts down the transmission after 5 minutes.

Using the menus



The [CALL/MENU] button provides access to two different menus as follows:

- Short press to access the DSC menu.
- Long press (press and hold) to access the main menu.



To use the menus:

- Use ▼ or ▲ to scroll to the option you want.
- Press [OK] to select a menu option, or
- Press [X] to go back without selecting an option.

→ **Note:** If the radio is left in menu mode, after a default time of 10 minutes, it beeps a warning and then automatically returns to standby mode.

Shortcut keys

The RS90S wired handset keypad includes a SHIFT key that modifies the function of some keys.

- Press [SHIFT] to display the shift icon (S), and then press the number key to access the required function.

SHIFT + 2

Press [SHIFT], then press 2 to access the AIS SETUP menu.

SHIFT + 3

Press [SHIFT], then press 3 to access the external speaker ON/OFF.

SHIFT + 4

Press [SHIFT], then press 4 to access the Waypoint menu.

Entering data

Entering data with a wired handset

Enter data using the keypad. The first press of a key inputs the number corresponding to the key; subsequent presses input letters of the alphabet as indicated on the key. For example, 2, A, B, and C are typed using the same key.

After a short pause, the cursor automatically jumps to the next space; or, you can press [OK] to move to the next space immediately.

→ **Note:** Characters can only be entered in upper case.

To replace a character:

- Use the ◀ and ▶ keys to move the cursor to the character. You can then type over the character.

To finish entering data:

Press [OK] repeatedly to reach the end of the line. The cursor will then move to the next input required, or a save/cancel option will be displayed for you to select as required.

→ **Note:** You can press [X] at any time to go back one step.

Entering data with a wireless handset

Use the ▲ and ▼ keys to scroll through the available characters, and then press [OK] to select the required character.

Warning messages

See “Appendix 4 - Warning Messages” on page 113.

Alert tones

See “Appendix 3 - Beep tones and call alerts” on page 113.

3

Operating procedures

Making a routine radio call

Making a routine ship to ship or ship to shore call.

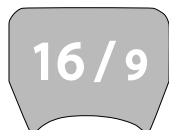
1. Select a calling channel.
See "Changing channel" on page 20.
 2. Listen to make sure that there is no traffic on the channel.
 3. Hold down [PTT] and announce the station you want to contact and your own vessel's details. When you have finished speaking, say "Over" and then release [PTT].
 4. When you receive a reply on the calling channel, agree a working channel.
 5. Change to the working channel.
 6. Continue the conversation:
 - Hold down [PTT] while you are speaking.
 - Release [PTT] while you are listening.
 7. When finished, press [16/9] to return to the radio watch channel.
- **Note:** When you call a coast station, the coast station operator normally states a suitable working channel.

Calling a buddy

You can call a buddy using their MMSI on the DSC system. For further information, see "Introduction to DSC" on page 40.

Making a channel 16/9 distress call

1. If not already on the priority channel, press the [16/9] key.



2. Listen to make sure there is no traffic on the channel.
3. Hold down [PTT] and announce your distress call.
4. Say your call sign, details of your vessel, its position and the nature of the distress.
5. Say "over" and then release [PTT] when you have finished speaking.
6. Allow a short time for a reply.
7. If you don't hear a reply, repeat the distress call (steps 3 to 6 as above).
8. When you receive a reply, continue the conversation:
 - Hold down [PTT] while you are speaking.
 - Release [PTT] while you are listening.

You may be asked to change to a working channel.

→ **Notes:**

- In the USA, you can toggle between Channel 16 and Channel 9 as the priority channel. Hold down [16/9] until a beep sounds and the required priority channel is displayed.
- This feature needs to be setup in the radio settings ("Setting the priority channel" on page 90).

Making a DSC distress call

Using the DSC system (where available) you can make a distress call by pressing a single Distress button. For further information, see "Introduction to DSC" on page 40.

Receiving weather alerts (US model only)

The National Oceanic and Atmospheric Administration (NOAA) provides several weather forecast channels on USA and Canadian channel banks. If severe weather is forecast, the NOAA broadcasts a weather alert on 1050 Hz.

To access weather alerts:

1. Short press [WX] to enter WX mode.
 2. Press ▲ or ▼ to change WX channel.
 3. If WX TONE ALERT setting is ON (see “Setting up weather tone alert” on page 91), the radio will monitor the WX channel you select. If an alert tone is broadcast from the NOAA weather station, the weather alert is picked up automatically and the RS90S alarm sounds. Press any key to cancel the alarm and to hear the weather alert message.
 4. When finished, press [WX] again or [X] to exit WX mode.
- **Note:** In WX mode, the Wx icon appears on screen.

Receiving SAME alerts (US model only)

The NOAA All Hazards Weather Radio Service (NWR) works in conjunction with the Emergency Alert System (EAS) to issue weather alerts for specific geographic areas or weather warnings. It uses a digital encoding system known as Specific Area Message Encoding (SAME) to broadcast these alerts.

Each transmitter in the NWR network is identified with a unique 6-digit SAME code.

If SAME is enabled and the 6-digit country IDs you want to monitor have been entered, the radio will sound the weather alarm when it detects a weather alert on the selected weather channel.

For SAME alert setup, see “Setting up SAME alert” on page 92.

Receiving a SAME ALERT

If SAME ALERT is ON and an NWR or EAS alert for your geographic area is broadcast, the RS90S detects the alert signal and sounds the alarm.

Press any key to cancel the alarm.

- If the alert is being sent by NOAA NWR, the radio automatically tunes to the designated frequency so that you can listen to the alert.
- If the alert is being sent by the EAS, the nature of the alert is shown on screen as WARNING, WATCH, ADVISORY, or TEST.

Press any key to show the nature of the alert.

→ **Note:** The list of alerts is shown in "Appendix 3 - Beep tones and call alerts" on page 113.

Receiving SAME TEST messages

In addition to the WARNING, WATCH and ADVISORY alerts, the EAS also send out TEST messages so that you can check that your WX ALERT setup is working correctly. The TEST message is usually transmitted between 1000 and 1200 (10.00AM and noon) every Wednesday.

If your WX ALERT setup is working correctly, the alert sounds and TEST is displayed on screen, followed by a broadcast message from the National Weather Service.

→ **Note:** If there is a threat of severe weather, the test will be postponed until the next fine weather day.

Favourite channel (non-US models)

In standby mode, press [WX] to access your favourite channel, press again or [X] to go back to the last working channel.

→ **Notes:**

- To set up the favourite channel, see "Setting up a favourite channel" on page 91.
- You can store just one channel as the favourite channel. It can, for example, be a weather reporting station.

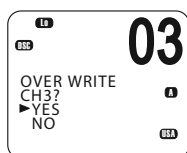
Three favourite channels 3CH

Once set up, you can use the three favourite channels in two ways:

- Repeat press [3CH] to toggle between your three favourite channels, or
- Scan the three channels and the priority channel.

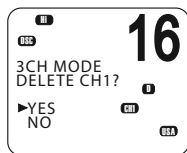
To add a favourite channel:

- To add a favourite channel for the first time, select that channel then hold 3CH to store it in the CH1 location.
- You can repeat the procedure to store two more favourite channels in the CH2 and CH3 locations respectively.
- Once the three locations are full, if you try to add another favourite channel, the radio will overwrite the CH3 location after prompting you to confirm.



To delete a favourite channel:

- Select that channel and then hold down [3CH]. The radio will remove that favourite channel after prompting you to confirm.



To toggle between your three favourite channels:

- Press [3CH] to enter 3CH mode.
- The radio displays "3CH MODE" and CH1, CH2, or CH3 to show which of your favourite channels is currently selected.
- Repeat press [3CH] to switch between the three channels.

To exit 3CH mode:

- Press [X].

Scanning channels

The RS90S can automatically monitor more than one channel at the same time. It scans a selected range of channels, and when a valid signal is received, the radio stops scanning and remains on that channel so that you can hear the communication. However, if the signal from the channel ceases for more than 5 seconds, the scan automatically restarts.

Four scan modes are provided:

- **All scan**
Scans all available channels in sequence, but also checks the priority channel every 2 seconds.

- **Dual watch scan**
Scans the selected channel and channel 16.
- **3CH scan**
Scans your three favourite channels and the priority channel.
- **Tri watch scan** (US models only)
Scans the current channel, channel 16 and channel 9.

ALL SCAN mode

Hold down [SCAN] for about 3 seconds to start ALL SCAN mode. The radio displays the SCAN icon and "ALL SCAN." You will see the channel numbers changing.

- If you hear a communication of interest, press [SCAN] or [PTT] to stop at the currently scanned channel.
- Press [X] to quit scan mode and return to the previously selected channel.

→ Notes:

- Scan is not allowed in some EU countries.
- If TONE ALERT or SAME is enabled (US models only), the weather channel is also scanned.

Skipping busy channels

If one channel is always busy with traffic, you can set the radio to skip that channel during scanning.

To skip a channel:

- While the channel is displayed during scan, press [OK] to skip over it.

To resume scanning a skipped channel:

- With scanning OFF, as you scroll up and down through channels, the SKIP icon will be displayed when you are on a skipped channel. With the SKIP channel selected, press [OK] to cancel the SKIP function.

→ Notes:

- You cannot skip the priority channel.
- The SKIP icon will disappear when the radio is powered OFF/ON.

3CH scan mode

- With any of your favourite channels selected (by pressing the 3CH key), hold down [SCAN] to start scanning your favourite channels and the priority channel.
- Press [SCAN] again to stop at the broadcast channel.
- During scanning, press [X] to cancel 3CH scanning and return to the previously selected channel.
- Press SCAN or PTT to stop at the currently scanned channel.
- To scan only one of your favourite channels, press 3CH then immediately press and release SCAN.

For further information on 3CH, see “Making a routine radio call” on page 25.

- **Note:** 3CH scan functionality is limited in some European countries and, if ATIS is enabled, the 3CH scan mode will be disabled.

Dual watch scan

Dual watch scan monitors the current working channel and the priority channel.

To enter dual watch scan:

- Short press [SCAN].
The DW icon will be displayed on screen.

To exit dual watch scan:

- Press [SCAN] or [X].

→ **Notes:**

- For US models, you can select Channel 9 as the priority channel (see “Priority channels” on page 21).
- To scan both channel 16 and channel 9, see “Tri watch scan” next page.

Tri watch scan

(US models only)

Tri watch monitors the current working channel, Channel 16 and Channel 9.

For tri watch, you need to enable both channel 16 and channel 9 as priority channels. See “Setting the priority channel” on page 90.

To enter tri watch scan:

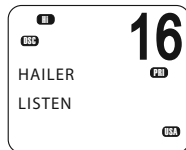
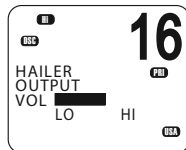
- Short press [SCAN].
The TRI icon will be displayed on screen.

To exit tri watch scan:

- Press [SCAN] or [X].

Using the hailer

If the RS90S is connected to a suitable public address (PA) speaker, you can use the Hailer function to hail other vessels or deck crew. The Hailer function also features a listen-back mode, which uses the PA speaker as a microphone to listen for a response.



1. Press and hold [AIS/IC] until the HAILER menu appears.
2. Select HAILER.
3. Press [PTT] to talk.
4. Release [PTT] to listen for a response.
5. When finished, press [X] to exit Hailer mode.

→ Notes:

- While pressing [PTT], you can change the volume of the PA speaker using the volume control on the side of the handset.
- Hailer mode is only available on the wired handsets.

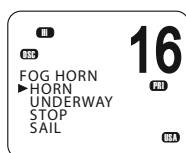
Using the fog horn

If the RS90S is connected to a suitable public address (PA) speaker, you can use the Fog Horn function to sound certain international standard fog horn tones through the PA speaker.

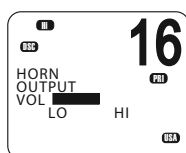


1. Press and hold [AIS/IC] until the HAILER menu appears.
2. Select FOG HORN.

There are 8 internationally recognized fog horn signals available:



HORN	Manual operation
UNDERWAY	One long tone
STOP	Two long tone
SAIL	One long, two short
ANCHOR	One long warble
TOW	One long, three short
AGROUND	Warble sequence
SIREN	Manual operation



3. Select the required signal, then press [OK] to start.
 - Press [OK] to sound the HORN or SIREN.
 - The other signals will sound automatically approximately every two minutes until you press [X] to cancel.
4. When finished, press [X] to exit horn mode.



→ Notes:

- When the fog horn is not sounding, it is in Listen mode.
- While pressing [PTT], you can change the volume of the PA system using the volume control on the side of the handset.
- In Horn mode, you can press [PTT] to talk through the PA speaker.
- If a horn button has been installed, you can press the button for a momentary sounding of the horn.

Using the intercom

When two or more handsets (wired or wireless) are installed, you can use the radio to communicate between handsets.



1. Press and hold [AIS/IC].
2. Select INTERCOM from the menu.
3. Press [PTT] to talk.
4. When finished, press [X] to quit Intercom mode.

→ Notes:

- Intercom mode only works when two or more handsets are installed. While the intercom is being used, the VHF radio is disabled, except for incoming DSC calls.
- The intercom system is half duplex; you cannot receive and transmit at the same time; you must release the [PTT] key to listen.
- The receiving handset(s) can adjust their volume controls.

Using the announce function

You can use the handset to make announcements to the other handsets and any external speakers that are connected.



1. Press and hold [AIS/IC] until the HAILER menu appears.
2. Select ANNOUNCE.
3. Press [PTT] to talk.
4. When finished, press [X] to exit Announce mode.

→ Notes:

- The Announce function does not listen for a response.
- During Announce mode, if a voice signal is received on a VHF channel, an Rx icon appears on screen.
- If an alert such as ATIS, AIS, DSC or WX is received, or the [DISTRESS] key is pressed or a DSC call received, the radio will exit Announce mode and handle the alert or DSC call.

Using the voice recorder

When activated, the voice recorder function records all received and transmitted voice communications.

If memory is full, it will overwrite previous recordings.

Recording

Long press the voice recorder key to access the recording menu. Select RECORDER and then ON to enable the recording function.

→ **Note:** Voice recording is ON by default.

Playback

Press the voice recorder key to play the recording. A playback icon will be displayed on lower right of the screen. During playback, select 'FWD 5S' from the menu to fast forward 5 seconds.

When finished playing back, the radio will return to standby mode.

Sharing NMEA 2000 data

NMEA 2000 (N2K) is a communications network standard used for connecting marine electronic devices. It is the successor to NMEA 0183.

→ **Note:** The RS90S also supports NMEA 0183.

Various devices can be connected via a network cable and can share data on the network. This allows the devices to work together and, for example, one display unit can show information from different sources.

The RS90S uses N2K to share the following data:

- Waypoint data to a chart plotter. See "Sending waypoint data to a chart plotter" on page 39.
- AIS
- Display navigation data received from other devices: Depth, speed, course, heading and wind data.

4

Waypoint procedures

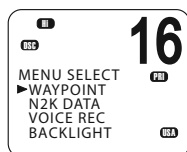
A waypoint refers to the latitude, longitude and name of a place that you have entered into the radio. A waypoint can be a destination, a point along a planned course, or any location useful for navigation, such as a fishing spot.

You can use waypoints as follows:

- Display the coordinates, bearing and distance to a waypoint on the standby screen. See “Navigating to a waypoint” on page 38.
- Output a waypoint’s coordinates and other details via NMEA 2000 for display on a chart plotter or other compatible device. See “Sending waypoint data to a chart plotter” on page 39.

→ **Note:** The RS90S can store up to 200 waypoints.

Adding a new waypoint

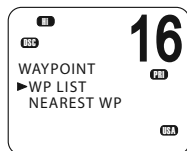


1. Select MENU → WAYPOINT → WP LIST.

Your waypoint list will be displayed.

2. Press [OK].

NEW WP starts to flash.



3. Press [OK] again to add a new waypoint.

4. Enter a waypoint name (maximum 6 characters).

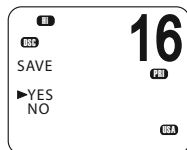
5. Enter the latitude. Use ▲ or ▼ key to select N or S as required, and then press [OK] to move to the longitude setting.

6. Enter the longitude. Press [OK] once you have selected E or W.

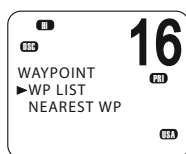
7. When prompted, select YES or NO to save the new waypoint.



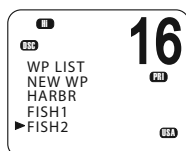
→ **Note:** When the waypoint list is full, you must delete an entry before you can create a new entry.



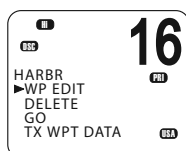
Editing a waypoint



1. Select MENU → WAYPOINT → WP LIST.
The display shows your list of waypoints.

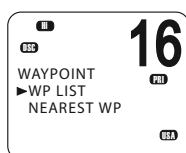


2. Press [OK].
NEW WP starts to flash.
3. Scroll down to the entry you want to edit.
4. While the required waypoint is flashing, press [OK].



5. To edit the waypoint, select WP EDIT.
6. Edit the waypoint name, latitude or longitude. You can press [OK] repeatedly until the cursor moves to the required place.
7. When finished, press [OK] repeatedly if necessary to reach the SAVE prompt.
8. Select YES or NO to save the data as required.

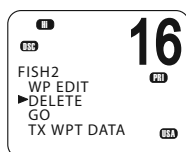
Deleting a waypoint



1. Select MENU → WAYPOINT → WP LIST.
The display shows your list of waypoints.



2. Press [OK].
NEW WP starts to flash.
3. Scroll down to the entry you want to delete.
4. While the required waypoint is flashing, press [OK].



5. Select DELETE.
6. If you select YES at the prompt, the waypoint will be deleted immediately.

Navigating to a waypoint

Navigating to a waypoint requires two steps:

- Selecting which waypoint you want to navigate to.
- Pressing [NAV] to go to Navigation mode.

These steps are explained below.

Selecting a waypoint from your list

1. Select MENU → WAYPOINT → WP LIST.
2. Press [OK] and then scroll to the required waypoint and press [OK] again.
3. Select GO.
4. When prompted, select YES.

When in Navigation mode (see below), the distance and bearing from your current position to the selected waypoint will be displayed on the bottom line of the standby screen.

Selecting the nearest waypoint

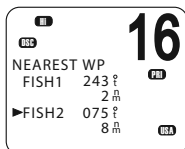
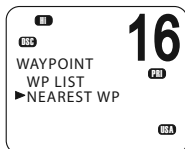
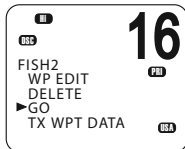
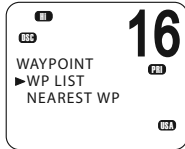
→ **Note:** This option is only available when a valid signal from a GPS device is present.

1. Select MENU → WAYPOINT → NEAREST WP.

The display shows your list of waypoints with the nearest at the top.

2. Scroll to the required waypoint and press [OK].

When in Navigation mode, the distance and bearing to it from your current position will be shown on the bottom line of the standby screen.



Entering navigation mode

- Long press [NAV] to enter navigation mode.

In navigation mode, the following details about the destination waypoint will be displayed on the standby screen:

Name of waypoint

B: Bearing in degrees; 't' for true

D: Distance

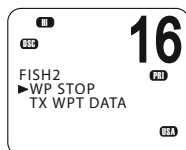
X: Cross track error

Cross track error is the distance the vessel is to one side of the straight line between two waypoints.

Exiting navigation mode

- Long press [NAV] or press [X].

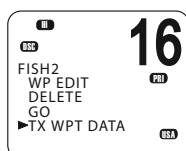
Stop navigating to a waypoint



1. Select MENU → WAYPOINT → WP LIST.
2. Press [OK] then scroll to the required waypoint and press [OK] again.
3. Select WP STOP.
4. When prompted, select YES.

Sending waypoint data to a chart plotter

You can send waypoint data via NMEA 2000 to a compatible chart plotter.



1. Select MENU → WAYPOINT → WP LIST.
The display shows your list of waypoints.
2. Press [OK].
3. Scroll to the required waypoint, and then press [OK].
4. Select TX WPT DATA to send the data to the chart plotter.

5

DSC procedures

Introduction to DSC

DSC (Digital Selective Calling) is part of the Global Maritime Distress and Safety System. It allows radio stations to contact each other on a dedicated digital channel (channel 70). The radios automatically exchange the digital contact and acknowledgement messages on channel 70, freeing up the other VHF channels for voice communications.

Once they have established contact, both radios automatically switch to a VHF working channel for the operators to carry out normal voice communication.

Each DSC radio has a unique 9-digit number, known as a Maritime Mobile Service Identity (MMSI), which is used to contact that individual radio.

DSC radios continuously monitor channel 70 irrespective of what other channels they are working on. If someone calls your vessel via DSC, your radio will sound an alert tone for you to respond to the call.

If the RS90S radio is connected to a GPS system, it will automatically send your location when calling other stations. This is especially useful for distress calls.

DSC process

The calling and acknowledging process on channel 70 operates as follows:

1. The calling radio transmits a DSC signal on channel 70.
2. Receiving radio(s) sound alert tones for their operators.
3. For individual, LL request and DSC test calls, the receiving radio sends a DSC acknowledge signal on channel 70.
4. Both the calling and receiving radios switch to a working VHF channel (except for LL request and DSC test calls).
5. Calling and receiving operators commence normal VHF voice communications on the working channel.
6. Press [X] to return to standby mode.

Distress calls

DSC is particularly useful for sending distress signals to all stations. The process is automated to the extent that if you are under stress, you can simply press a single, dedicated distress button—the red button beneath the red cover on top of the RS90S handset.

When sending a distress call, the DSC radio automatically transmits as much information as is available, including:

- The MMSI of the ship in distress;
- The position of the ship in distress; (If the radio is connected to a GPS);
- The nature of the distress.

→ Notes:

- Before the DSC functions can be used, you must enter a valid MMSI into the RS90S radio. See “Entering or viewing your individual MMSI” on page 95.
- If the small DSC icon is not displayed on the standby screen, DSC may have been turned off in settings. See “Enabling DSC functionality” on page 98.

Softkeys

A softkey is a name that appears at the bottom of the screen and provides additional functionality to the [SCAN] and/or [OK] and/or [3CH] buttons during DSC operations.

Dot symbols on the handset keys and just under the display screen indicate which keys correspond to the softkeys as follows:

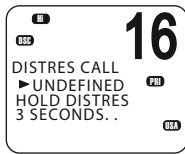
.	..	...
[SCAN] key	[OK] key	[3CH] key

The following table shows the softkeys that occur in DSC mode.

Key label	Function
ACK	Acknowledge a call
ACCEPT	Accept a channel request
NEW-CH	Request a new channel
PAUSE	Pause a call countdown sequence
RESEND	Resend the call
SILENC	Silence an audible alarm

DSC Distress calls

Initiating an UNDEFINED distress call immediately



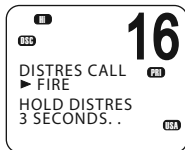
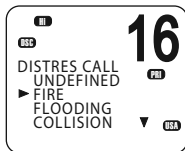
1. Flip open the red cover on top of the handset.
2. Press and hold the red [DISTRESS] key for about 3 seconds.

The radio counts down the 3 seconds, and then:

- Beeps loudly,
- Displays "DISTRESS CALL SENDING" on screen, and
- Sends out the UNDEFINED distress call to all stations on channel 70.

3. Release the [DISTRESS] key.
4. If you have time, observe any acknowledgement of your call and follow up by sending a MAYDAY distress call on Channel 16. See "Continuing a distress call" on page 43.

Initiating a distress call of specific nature



1. Flip open the red cover on top of the handset.
2. Press the red [DISTRESS] key briefly.
3. The radio will display a list for you to select the nature of the distress:

UNDEFINED
FIRE
FLOODING
COLLISION
GROUNDING
LISTING
SINKING
ADRIFT
ABANDONING
PIRACY
OVER BOARD

4. USE the ▲ and ▼ keys to reach the required nature of distress, and then press and hold the [DISTRESS] key for about 3 seconds.

The radio counts down the 3 seconds, and then:

- Beeps loudly,
- Displays "DISTRESS CALL SENDING" on screen, and
- Sends out the specified distress call to all stations on channel 70.

5. Release the [DISTRESS] key.

Continuing a distress call

1. After you have initiated a distress call as above, the radio goes into call repeat mode—it automatically repeats the distress call approximately every 4 minutes, until the call is acknowledged by an official search and rescue station.

The display shows the time remaining to the next resend.

You can press ▼ or ▲ to scroll through the transmitted Distress call information.

2. You now have the following soft-key options:

- **RESEND**

Displays “HOLD DISTRESS 3 SECONDS TO SEND.” You can then:

- Hold down the red [DISTRESS] key for 3 seconds to resend the call, or
- Press the [EXIT] softkey to return to waiting for an acknowledgement.

- **PAUSE**

Pauses the call repeat mode. You can then:

- Press the [EXIT] softkey to resume the same call.

- **CANCEL**

Displays “DISTRESS CALL SEND CANCEL.” You can then:

- Press the [NO] softkey to return to waiting for an acknowledgement.
- Press the [YES] softkey to send the DISTRESS CANCEL signal.
- Press [PTT] and report your situation using the handset.
- When finished talking, press [X] to return to standby mode.

3. After receiving an acknowledgment, press the [SILENC] softkey.

4. Press [X] to quit the current distress acknowledgment.

→ **Notes:**

- Prior to receiving an acknowledgement, you cannot terminate the distress alert call. It can only be cancelled by completing the distress call cancel process as described above.
- Call information is stored in the Distress Call Log. See “Calling using the distress log” on page 51.

Receiving a distress call

When the radio receives a DSC distress call, it:

- Sounds a two-tone alarm through the handset(s) and speaker(s), and
- Automatically switches to channel 16 after 10 seconds if there is no user intervention.

If the two-tone distress alarm sounds on your radio:

1. Press the [SILENC] softkey to silence the alert.

You do not need to send a DSC acknowledgement; this will be done by an official search and rescue station.

2. Maintain a listening watch on Channel 16 for voice communications from ship and coast stations about the distress.
3. You can then:
 - Press ▼ or ▲ to scroll through details of the distress call,
 - Press [PTT] to talk, or
 - Press [X] to exit the DSC session.

Distress acknowledgement: (DISTRESS ACK)
or distress relay all ships: (DISTRESS REL)

Only official Search and Rescue stations are permitted to send these signals.

When your radio receives a Distress Acknowledgement signal it does the following:

- Cancels any Distress Mode transmissions,
 - Sounds a two-tone alert, and
 - Automatically switches to channel 16 after 10 seconds if there is no user intervention.
1. Press the [SILENC] softkey to silence the alert.
 2. Press the [ACCEPT] softkey to switch to CH16 immediately.
 3. Maintain a listening watch on CH16, and standby to give assistance.
 4. You can:
 - Press ▼ or ▲ to scroll through details of the call,
 - Press PTT to talk to the coast station or other ship, or
 - Press [X] to exit the DSC session.

Distress relay individual (INDIV DISTR RELAY)

When the radio receives an Individual Distress Relay call, it sounds the alert tone and displays INDIV DISTR RELAY.

1. Press the [SILENC] softkey to silence the alarm.
2. You can then:
 - Press ▼ or ▲ to scroll through details of the call.
 - All models
Press the [ACCEPT] softkey to immediately accept the change to CH16. Note: The radio automatically changes to CH16 after 10 seconds.
 - US models
Press [ACK] softkey to ACK the call.
 - Press [X] to quit the current DSC session.

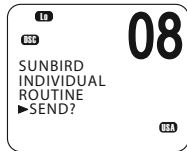
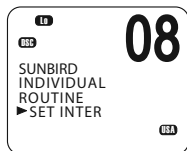
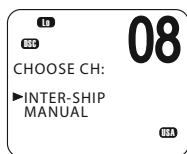
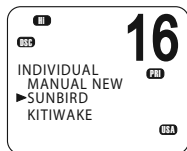
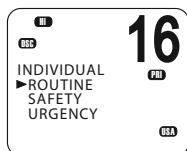
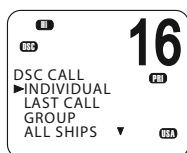
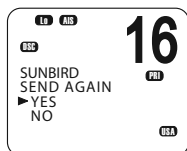
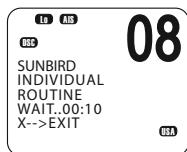
Sending routine DSC calls

Briefly press [CALL / MENU] to access the DSC menu options:

Call type	Page
INDIVIDUAL	page 46
LAST CALL	page 47
GROUP	page 48
ALL SHIPS	page 49
CALL LOG	page 50
DISTR LOG	page 51
SENT CALL	page 52
LL REQUEST	page 52
TRACK BUDDY	page 53
DSC TEST	page 56

The above functions are explained in the sections below.

To make a DSC Distress call, see “DSC Distress calls” on page 42.



General usage

- When an alert sounds, press the [SILENC] softkey to stop the beeping sound.
- When choosing a working channel, select INTER-SHIP; the radio will automatically list suitable ship-to-ship (Simplex) channels that you can use for a particular function. Duplex channels cannot usually be called, however, if you wish to use a Duplex channel, select MANUAL, and then select your channel of choice. If the call is to a Coast Station the radio will recognize this and specify the correct working channel.
- After sending an LL request, the radio waits for 30 seconds for an acknowledgement before prompting you to send again.

Sending an individual DSC Call

1. Select DSC MENU → INDIVIDUAL.
2. Select the priority level: ROUTINE, SAFETY or URGENCY.
3. Select the buddy you want to call from the list, or
 - Select MANUAL NEW and enter the MMSI you want to call.
4. On the "CHOOSE CH" screen, select INTER-SHIP. (Or, select MANUAL to use a duplex channel—see point 2 of "General usage" on page 46.)

The display shows "SET INTER"

5. Use ▲ or ▼ to reach the working channel you want to specify and press [OK].
6. When the SEND prompt appears:
 - Press [OK] to send the call request on CH70, or
 - Press [X] to exit without sending.
7. When you hear the acknowledgement alert tone:
 - Press the [SILENC] softkey to silence the alert.
 - Press [PTT] to commence voice communication.
8. If there is no reply within 30 seconds, the display shows: "SEND AGAIN?"

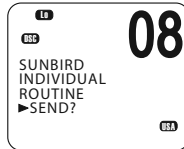
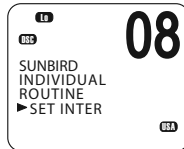
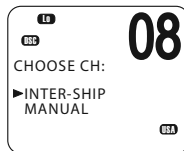
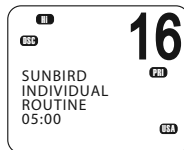
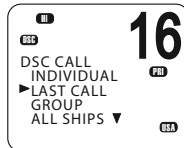
You can then select:

- [YES] to send again, or
- [NO] to quit and return to standby mode.

→ **Note:** For information on receiving an individual DSC call, see “Receiving a DSC individual call” on page 59.

Calling the MMSI of the last call received

(This will send a ROUTINE, INDIVIDUAL call.)



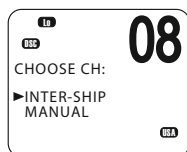
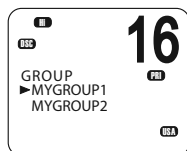
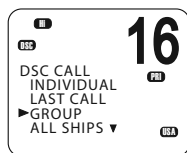
1. Select DSC MENU → LAST CALL.
2. The display shows the details of the most recent incoming call.
3. Press [OK] to display the “CHOOSE CH” screen.
4. On the “CHOOSE CH” screen, select INTER-SHIP. (Or, select MANUAL to use a duplex channel—see point 2 of “General usage” on page 46.)

The display shows “SET INTER”

5. Use ▲ or ▼ to reach the working channel you want to specify and press [OK].
6. When the SEND prompt appears:
 - Press [OK] to send the call request on CH70, or
 - Press [X] to exit without sending.
7. When you hear the acknowledgement alert tone:
 - Press the [SILENC] softkey to silence the alert.
 - Press [PTT] to commence voice communication.
8. If there is no reply within 30 seconds, the display shows: “SEND AGAIN?”

You can then select:

- [YES] to send again, or
- [NO] to quit and return to standby mode.



Sending a group call

A group MMSI is a shared MMSI. When a DSC call is transmitted by one of the vessels in the group, all the radios that have the same MMSI entered will receive the message, and can reply on the chosen channel if necessary.

To enter a group MMSI, see “Creating a group MMSI” on page 96.

→ **Notes:**

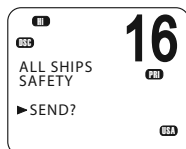
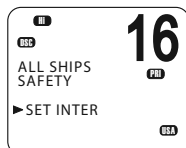
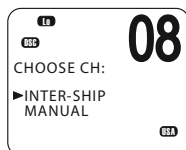
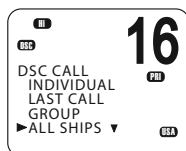
- Unlike the DSC or ATIS MMSI, a group MMSI can be changed at any time.
- Group calls are always sent with ROUTINE priority.
- No DSC acknowledgement is required for a group call.

1. Select DSC MENU → GROUP.
2. The display shows the names of your pre-programmed groups.
3. Select the group that you want to call.
4. On the “CHOOSE CH” screen, select INTER-SHIP. (Or, select MANUAL to use a duplex channel—see point 2 of “General usage” on page 46.)

The display shows “SET INTER”

5. Use ▲ or ▼ to reach the working channel you want to specify and press [OK].
6. When the SEND prompt appears:
 - Press [OK] to send the call request on CH70, or
 - Press [X] to exit without sending.

→ **Note:** For information on receiving a group call, see “Receiving a DSC group call” on page 60.



Sending an all ships call

1. Select DSC MENU → ALL SHIPS.
2. Select one of the two call priorities:
 - SAFETY
Use to send safety information to all ships within range.
 - URGENCY
Use when a serious situation or problem arises that could lead to a distress situation.
3. On the “CHOOSE CH” screen, select INTER-SHIP. (Or, select MANUAL to use a duplex channel—see point 2 of “General usage” on page 46.)
The display shows “SET INTER”
4. Use ▲ or ▼ to reach the working channel you want to specify and press [OK].
5. When the SEND prompt appears:
 - Press [OK] to send the call request on CH70, or
 - Press [X] to exit without sending.

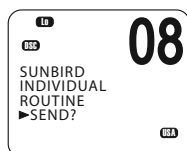
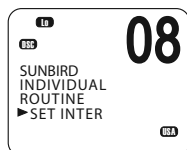
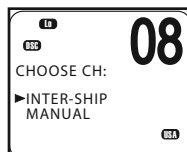
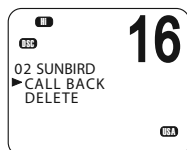
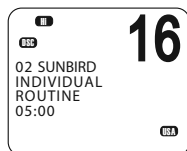
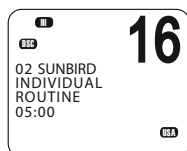
→ **Note:** For information on receiving an all-ships call, see “Receiving a DSC all-ships call” on page 59.

Call Logs

The call logs store details of the DSC calls as follows:

Call type	Description
Last call	Details of the last incoming call
Call Log	Details of the last 20 incoming calls (does not include distress calls)
Distress log	Details of the last 20 distress calls received
Sent calls log	Details of the last 20 sent calls

You can use the call logs to call back a vessel that sent a call.



Calling using the call log

The call log contains the contact details for the 20 most recent incoming calls, so that you can call one of them back quickly.

1. Select DSC MENU → CALL LOG.

The display shows the details of the most recent call.

2. Use ▲ and ▼ to find the caller you want to call back and press [OK].
3. Choose the option:
 - CALL BACK — to send a DSC call request, or
 - DELETE — to delete the call from the call log.

4. On the “CHOOSE CH” screen, select INTER-SHIP. (Or, select MANUAL to use a duplex channel—see point 2 of “General usage” on page 46.)

The display shows “SET INTER”.

5. Use ▲ or ▼ to reach the working channel you want to specify and press [OK].
6. When the SEND prompt appears:
 - Press [OK] to send the call request on CH70, or
 - Press [X] to exit without sending.
7. When you hear the acknowledgement alert tone:
 - Press the [SILENC] softkey to silence the alert.
 - Press [PTT] to commence voice communication.

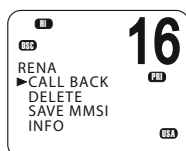
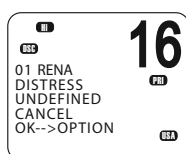
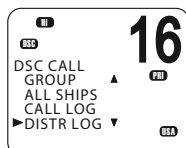
8. If there is no reply within 30 seconds, the display shows: “SEND AGAIN?”

You can then select:

- [YES] to send again, or
- [NO] to quit and return to standby mode.

Calling using the distress log

The Distress Log contains the Distress Log data for the 20 most recently received distress calls, so that you can call any of them quickly. Always try to make voice contact on CH16 first, as follows:



1. Select DSC MENU → DIST LOG.

The display shows the details of the most recent call.

2. Use ▲ and ▼ to find the caller you want to call back and press [OK].
3. Choose CALL BACK — to send a call request.

Other options are:

- DELETE — to delete the call from the distress log.
- SAVE MMSI — to save the caller's MMSI.
- INFO — to view more information about the distress call.

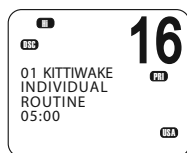
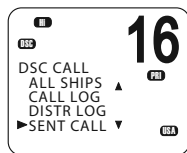
4. On the "CHOOSE CH" screen, select INTER-SHIP. (Or, select MANUAL to use a duplex channel—see point 2 of "General usage" on page 46.)

The display shows "SET INTER"

5. Use ▲ or ▼ to reach the working channel you want to specify and press [OK].
6. When the SEND prompt appears:
 - Press [OK] to send the call request on CH70, or
 - Press [X] to exit without sending.
7. When you hear the acknowledgement alert tone:
 - Press the [SILENC] softkey to silence the alert.
 - Press [PTT] to commence voice communication.
8. If there is no reply within 30 seconds, the display shows: "SEND AGAIN?"

You can then select:

- [YES] to send again, or
- [NO] to quit and return to standby mode.



Viewing the sent call log

The Sent Call log contains details for the 20 most recent calls sent from your radio.

You can review details of each call, and delete calls from the list as required.

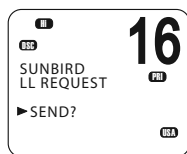
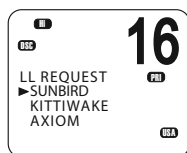
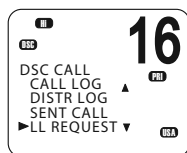
1. Select DSC MENU → SENT CALL.

The first entry in the call log is the most recent sent call.

2. Press ▲ or ▼ to scroll through the sent calls.
3. With a particular call displayed, press [OK] to display the DELETE prompt:
 - Press DELETE to delete the entry from the sent call log, or
 - Press [X] to exit without deleting.

Sending an LL request for the position of a buddy

The latitude and longitude request (LL request) function allows you to send a DSC request to an MMSI on your buddy list and the response will contain the current latitude and longitude position of the other vessel. In this way, you can check the location of your buddy. This is also known as a “polled position request.”



→ **Note:** You must first set up details of your buddy in the buddy list (see “Buddy list setup” on page 86).

1. Press DSC MENU → LL REQUEST.
2. Select the buddy whose LL position you want to request.
3. When the “SEND?” prompt appears, press [OK] to send the LL request.
4. If the buddy radio responds with a position, the RS90S beeps:
 - Press the [SILENC] softkey to silence the alert.
 - Press ▲ or ▼ to view the LL information received.
5. If there is no reply within 30 seconds, the display shows: “SEND AGAIN?”

You can then select:

- [YES] to send again, or
- [NO] to quit and return to standby mode.

Tracking a buddy - introduction

You can select a buddy or list of buddies continuously track their positions.

You can also start and stop tracking your buddy and add or remove buddies from your buddy track list.

The radio sends an LL Request to each buddy in turn at a set time interval and, if a response is received from a buddy, it displays the buddy's LL position on screen.

To set up buddy tracking, you need to:

1. Setup your buddies list. See "Buddy list setup" on page 86.
2. Create a tracking list of up to three buddies.
3. Set the tracking interval.
4. Select a buddy to track.
5. Start/stop tracking the buddy.

Steps 2 to 5 are explained below.

→ **Note:** You can also send an individual DSC latitude and longitude request to a buddy. See "Sending an LL request for the position of a buddy" on page 52.

Creating your tracking list

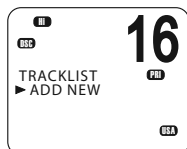
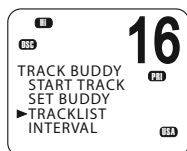
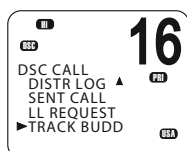
1. Select DSC MENU → TRACK BUDDY.
2. Select TRACKLIST. Any buddies already on the tracking list will be listed.
3. To add a buddy to the tracking list, select ADD NEW to show your list of buddies.
4. Select a buddy then press [OK] to add that buddy to the tracking list.

To delete a buddy from the tracking list

Select that buddy, then press [OK].

- Select YES to delete, or
- NO to keep the buddy in the list.

→ **Note:** The tracking list is limited to three buddies.



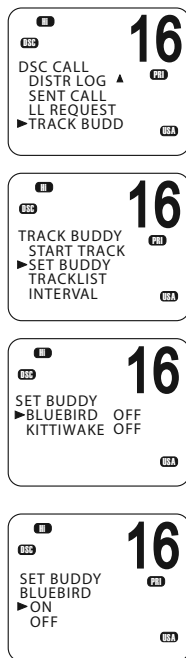
Setting the track buddy update interval

You can set the interval at which the position requests are sent out.



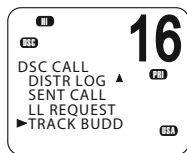
1. Select DSC MENU → TRACK BUDDY.
2. Select INTERVAL.
3. Select the required interval: 15, 30 or 60 minutes.
4. Press [OK].

Selecting a buddy to track



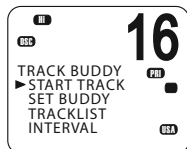
1. Select DSC MENU → TRACK BUDDY.
2. Select SET BUDDY to show the tracking status of each buddy on your tracking list.
3. Select the buddy whose status you want to change.
4. Select ON or OFF as required to change the tracking status and press [OK] to confirm.

Start or stop tracking a Buddy



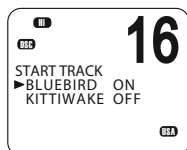
→ **Note:** START TRACK will only track buddies on your TRACKLIST whose status is ON.

1. Select DSC MENU → TRACK BUDDY.
2. Select START TRACK.



The display shows the status of each buddy on your tracking list (ON or OFF).

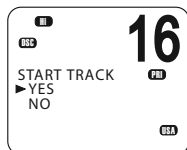
3. Check that the status of the buddies that you want to track is ON, and then press [OK].



4. When prompted:

- Select YES to start tracking, or
- NO to STOP tracking.

The radio sends an LL Request to each buddy in turn at the interval time and, if a response is received from a buddy, displays the buddy's LL position on screen.



For information on receiving a response to an LL request, see "Receiving a response to a DSC LL request" on page 61.