

ATIS

EU models only.

The Automatic Transmitter Identification System (ATIS) is mandatory for vessels navigating on some European waterways. The system allows authorities to monitor and regulate VHF radio communications by identifying any vessel that makes a VHF transmission. Each vessel is required to have an ATIS-enabled radio on board and is allocated a unique ATIS Maritime Mobile Service Identity (MMSI).

Each time a radio operator finishes talking and releases the PTT key, the radio transmits a short digital message, which includes the ATIS MMSI. The receiving station can then look up details of the vessel, saving time in communication on the busy VHF channels.

Unlike DSC, the ATIS signal is transmitted on the same VHF channel as the voice transmission.

Before you can enable ATIS, you must enter the ATIS MMSI. See “Entering or checking your ATIS MMSI” on page 83.

Before you can enable ATIS, DSC must be turned off. See “Enabling DSC functionality” on page 84. To enable ATIS, see “Enabling ATIS functionality” on page 83.

→ Notes

- ATIS is disabled in US models.
- When ATIS is enabled, the ATIS icon appears on screen.
- In some European countries SCAN functionality is limited, and, if ATIS is enabled, the 3CH SCAN and Dual scan modes will be disabled.

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AIS procedures

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27 Feb 2014

The marine Automatic Identification System (AIS) is a vessel location and information reporting system. It allows vessels to automatically share information such as position, speed, course and identity via a VHF radio link.

The received details of nearby vessels can be displayed on the handset screen together with closest point of approach times and distances. These details are also sent to the NMEA ports for display on a chart plotter if one is connected.

Closest point of approach (CPA) is the calculated closest distance between your vessel and a target vessel based on the current speed and course.

Time to closest point of approach (T/CPA) is the calculated time for a target vessel to arrive at the closest point of approach based on the current speed and course. If the radio detects that another vessel will come closer than the set CPA distance and within the set T/CPA time, the CPA alarm will sound. Both conditions must be met for the CPA alarm to sound.

For information on enabling AIS and setting the CPA time and distance criteria, see "AIS Setup" on page 88.

For general information about AIS, see "Appendix 9 - AIS information" on page 105.

For information on how to configure your chart plotter or software to make use of the RS90 AIS data, see the manual provided with that product.

→ Notes

- Before the AIS functions can be used, the RS90 must receive its own position from a GPS device, or manually entered data.
- The RS90 VHF radio includes an AIS receiver but does not transmit.

To access the AIS displays:

- Press [AIS]
- Repeat press [AIS] to switch between the three available displays:
MMSI list (list of nearby vessels)
PPI display
T/CPA list

From any of the above displays, you can select an MMSI to display details about the particular vessel.

List of nearby vessels

The MMSI list displays a list of vessels within VHF range.

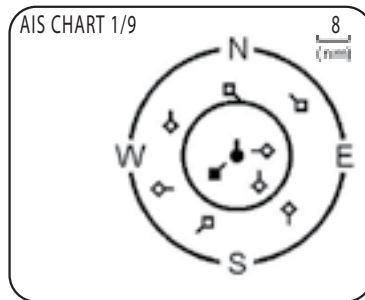
The list is arranged in ascending order; closest first.

MMSI LIST 1/2	8nM
1 SEASPRAY 225	0.59nM
2 SUNBIRD 275	1.43nM

Each vessel's MMSI (or name, depending on AIS setup) will be displayed, together with its bearing and distance from your position.

PPI display

The Plan Position Indicator (PPI) shows the geographical location of AIS targets with respect to your position, which is represented in the centre of the circular display.



Symbols

- The solid circle in the middle is your vessel.
- Hollow diamonds represent vessels that are within the current zoom distance.
- The solid diamond is the selected target vessel.
- The tails represent course over ground.

→ **Note:** Units on the PPI display are always nautical miles.

To zoom in or out:

- Press [3CH] to zoom in.
- Press [Scan] to zoom out.

Scales available are 1nm / 2 nm / 4 nm / 8 nm / 16 nm / 32 nm.

T/CPA screen

The Time and Closest Point of Approach (T/CPA) screen shows the closest point of approach settings together with a list of vessels that will approach within those criteria.

- CPA alert distance is set up in MENU → AIS SETUP → CPA. (See “Setting up the CPA distance” on page 89)
- T/CPA alert time is set up in MENU → AIS SETUP → TCPA. (See “Setting up the T/CPA time” on page 90.)

The approaching AIS target’s details will be listed on the left of the screen.

Once the vessel is within alert distance (CPA) or time (T/CPA), it will be placed in the T/CPA list.

The alert sounds for every vessel within the criteria every time their AIS signal is received.

T/CPA APPROACH		
1/ 9	05:00min	8 nM

- In the example above, the criteria are: 5:00min and 8nM.

→ Notes:

- The scale on the T/CPA Approach screen is automatically set to the optimum for the selected target. You cannot zoom in or out on this screen.
- If the radio detects a T/CPA or CPA breach, the T/CPA Approach screen will automatically popup with an alert tone. Press [X] to stop the alert; otherwise, the alert will sound again after 1 minute.

AIS Target information

From one of the AIS screens, you can display detailed information about a target vessel:

1. Press ▲ or ▼ to highlight the required target. (Hold down ▲ or ▼ to scroll rapidly.)
2. Press [OK] to view full details of the selected target, including:
 - NAME:
MMSI:
TCPA: 4:39s
CPA: 0.59nM
WIDTH: 26.0m
LENGTH: 158.0m
RECEIVED: 0m33s
CALL SIGN: MYHV6
DRAUGHT:
DIST: 1.01nM
IMO:
BEAR: 155'
HEADING:
ROT: 725.6°/min
SOG: 0.0KTS
COG: 0.0° 55'51.240"N, 012°49.991"E
TYPE: CARGO
NAV STATUS: NOT DEFINED

The display alternates between the first and next page every 5 seconds.

3. When finished, press [X] to exit.

Making a DSC call to an AIS target

1. Select the target vessel in the MMSI list, PPI or T/CPA screen.
2. Press [CALL] to send a DSC call request.

For further information about using DSC, see "DSC Procedures" on page 41.

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Setup

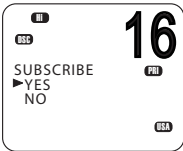
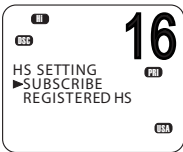
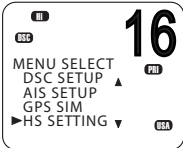
Wireless handset setup

Subscribing a wireless handset

At installation time, wireless handsets need to be registered in the RS90 transceiver. Once registered, a handset automatically connects to the transceiver when both are switched on. For information about operating the handsets, see “Handsets” on page 14.

1. Make sure the wireless handset is charged and turned OFF.
2. Make sure any other wireless handsets are also turned OFF.
3. On the wired handset, Select MENU → HS SETTING → SUBSCRIBE.
4. Select YES. The radio will display WAITING.
5. Turn on the wireless handset. The display will show SEARCHING.
6. Press and hold the [SCAN] on the wireless handset until the display shows REGISTER.

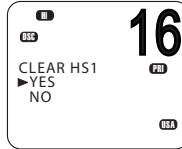
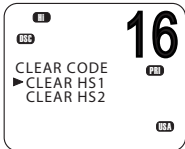
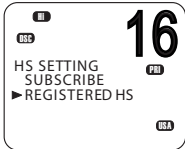
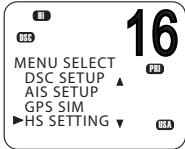
The display will soon show CONNECTING, and then the handset will be registered in the transceiver.



Unsubscribing a wireless handset

To delete an already registered handset:

1. Select MENU → HS SETTING → REGISTERED HS.
2. Select the handset you wish to remove.
3. Select CLEAR <handset name>.
4. Select YES.



Buddy list setup

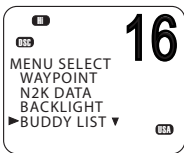
The buddy list stores up to 20 contact names and MMSIs. Contact names are stored in the order of entry, with the most recent entry shown first.

Once set up, you can use the buddy list to:

- DSC call an individual buddy; see “Sending an individual DSC Call” on page 48.
- DSC request location of a buddy; see “Sending an LL request for the position of a buddy” on page 54.
- DSC track selected buddies; see “Tracking a buddy - introduction” on page 55.
- DSC Test call; see “Sending a DSC test call” on page 58.

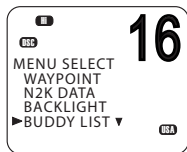
Add a new buddy

You can enter a maximum of 20 buddy names.



1. Select MENU → BUDDY LIST → MANUAL NEW.
 2. Enter the buddy name, one character at a time up to a maximum of 11 alphanumeric characters.
 3. Press [OK] repeatedly if necessary until the cursor moves to the MMSI entry line.
 4. Enter the MMSI number associated with the buddy name, then press [OK] repeatedly until STORE/CANCEL is displayed.
 5. Scroll to STORE or CANCEL as required and then press [OK].
- **Note:** When the buddy list is full, you cannot make a new entry until you have deleted an existing entry.

Edit or delete a buddy name



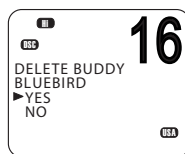
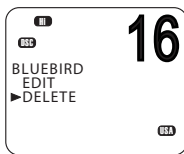
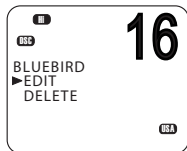
1. Select MENU → BUDDY LIST.
2. Scroll to the required entry and press [OK].
3. To edit the buddy, select EDIT.



- Edit the buddy name, or
- To edit only the MMSI, press [OK] repeatedly until the cursor moves to the MMSI line.
- When finished editing, press [OK] repeatedly if necessary until STORE/CANCEL appears.
- Scroll to STORE or CANCEL as required and then press [OK].

To delete a buddy:

- Select DELETE at step 3, and then YES. The buddy will be deleted from the list immediately.



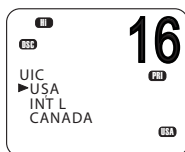
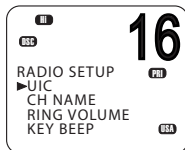
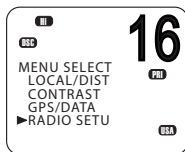
Radio setup

UIC

US and AUS models only.

This option allows you to switch between USA, International, or Canadian channel banks. The selected channel bank is displayed on the LCD along with the last used channel. For details of channel banks, see “Appendix 11 - US and ROW VHF marine channel charts” on page 111.

1. Select MENU → RADIO SETUP → UIC.
2. Select the desired channel bank then press [OK].

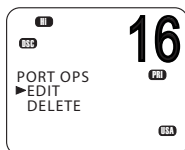
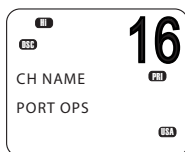
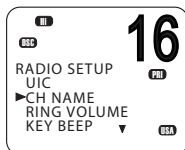
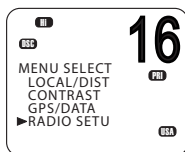


Editing channel names

If a channel has been assigned a name, the name appears next to the channel number on the standby screen. You can edit or delete the channel names.

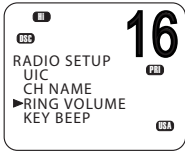
A list of default channel names is given in “Appendix 11 - US and ROW VHF marine channel charts” on page 111 and “Appendix 12 - EU VHF marine channel charts” on page 119.

1. Select MENU → RADIO SETUP → CH NAME.
2. Use ▲ and ▼ to scroll to the one you want to change then press [OK].
3. Select EDIT.
4. Enter the new name over the existing one.
5. Press [OK] repeatedly if necessary to display the YES/NO confirmation.
6. Scroll to YES or NO as required and press [OK].



To delete a channel name:

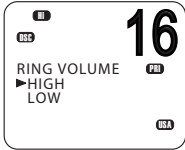
Use a similar procedure to the above, but select DELETE at step 3.



Ring volume

The radio sounds a two-tone alert when it detects an incoming DSC call. You can change the volume level.

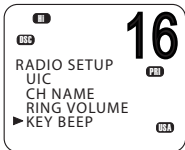
1. Select MENU → RADIO SETUP → RING VOLUME.
2. Scroll to HIGH or LOW as required, then press [OK].



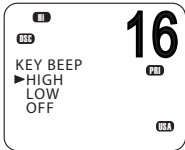
Key beep volume

You can change the key beep volume or turn the key beeps off completely.

1. Select MENU → RADIO SETUP → KEY BEEP.
2. Scroll to the required setting: HIGH, LOW or OFF, then press [OK].



→ **Note:** The key beep setting is separate for each handset.



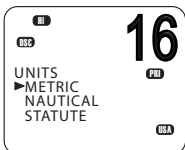
Units

You can select your preferred measurement units for distance and cross-track error (for waypoint navigation).

1. Select MENU → RADIO SETUP → UNITS.
2. Scroll to the required measurement units: METRIC, NAUTICAL or STATUTE, then press [OK].



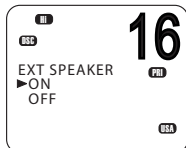
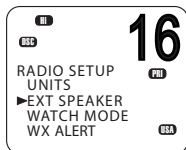
→ **Note:** Nautical Miles is the only unit available in AIS mode.



External speaker

You can switch the external speaker ON or OFF.

1. Select MENU → RADIO SETUP → EXT SPEAKER.
2. Scroll to ON or OFF as required, and then press [OK].



Setting the priority channel

US model only.

If you are operating on the USA or Canadian channel banks, you can set the radio to scan CH16 and CH9 as well as the working channel.

1. Go to menu option RADIO SETUP → WATCH MODE.
2. Select one of the two options:
 - 16CH to enable Channel 16 only, or
 - 16CH+9CH to enable both Channel 16 and Channel 9.

This setting affects Dual Watch and Tri watch modes.

When watch mode is only channel 16:

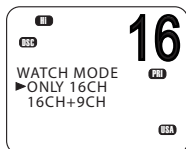
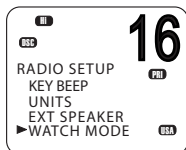
- The [16/9] key switches to channel 16.
- Short press [SCAN] enters dual-watch mode.
- Long press [SCAN] scans all available channels.

When watch mode is channel 16 and channel 09:

- Short press the [16/9] key switches to the current priority channel.
- Long press the [16/9] key toggles the priority channel between CH16 and CH09.
- Short press [SCAN] enters tri-watch mode.
- Long press [SCAN] scans all available channels.

For further information, see:

- "Priority channels" on page 23.
- "Dual watch scan" on page 32

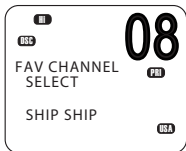
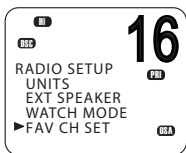


- “Tri watch scan” on page 33

Setting up a favourite channel

Non-US models only.

The WX key can be programmed to a channel of your choice so that you have quick access to that channel. For further information, see “Favourite channel (non-US models)” on page 30.



1. Select MENU → RADIO SETUP → FAV CH SET.
2. Use the ▲ and ▼ keys to select the required channel, and then press [OK].

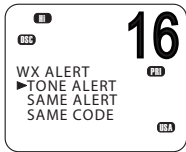
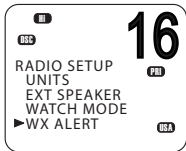
→ **Note**

- For US models, the WX key has a different purpose. See “Receiving weather alerts (US model only)” on page 28.
- You can store just one favourite channel.

Setting up weather tone alert


US model only.

1. Select MENU → RADIO SETUP → WX ALERT → TONE ALERT.
2. Select ON or OFF as required.



Tone alert ON.

- If an alert tone is broadcast from the NOAA weather station, the weather alert is picked up automatically and the alarm sounds. Press any key to cancel the alarm and to hear the weather alert message.
- The Weather alert symbol will be displayed on screen to show that the weather alert tone setting is on.

Weather alert symbol: 

Tone alert OFF

With this setting, the radio ignores weather alerts.

Setting up SAME alert

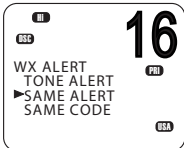
US model only.

- **Note:** SAME ALERT works only after you have entered and selected a SAME code for your geographic area (see “Entering a SAME code” on page 78).



For usage, see “Receiving SAME alerts (US model only)” on page 29.

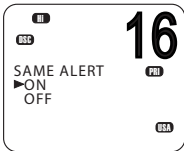
1. Select MENU → RADIO SETUP → WX ALERT → SAME ALERT.
2. Select On or OFF as required.



- **Note:** SCAN mode will operate up to 50% more slowly when SAME ALERT is ON to allow time to decode the special warning code transmissions.

SAME alert ON

- The radio will receive any local NWR or EAS alerts.
- The SAME icon will be displayed on screen to show that the SAME alert setting is on.



SAME alert OFF

With this setting, the radio ignores SAME weather alerts.

Entering a SAME code

US model only.

Before you can receive SAME weather alerts, you must enter and then select a SAME code for your geographic area into the radio.

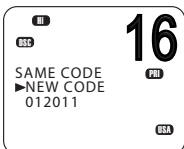
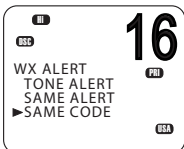
To find the SAME codes for your geographic area:

- Telephone 1-888-NWR-SAME (1-888-697-7263), or
- Visit www.nws.noaa.gov/nwr/indexnw.htm

1. Select MENU → RADIO SETUP → WX ALERT → SAME CODE.

If you have already entered some SAME codes, they will be listed.

2. Select NEW CODE. Enter the new SAME code along the dashed line, one number at a time.
3. When prompted, select STORE and press [OK] to store the SAME code.



Repeat if necessary to enter a maximum of 10 SAME codes.



Selecting a working SAME code

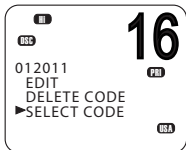
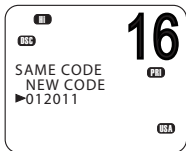
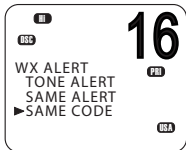
US model only.

In order to receive SAME weather alerts, you must select a SAME code that you have previously entered into the radio.

1. Select RADIO SETUP then WX ALERT → SAME CODE.
2. If you have already entered some SAME codes, they will be listed.
3. Select the SAME code for your geographic area.

Choose SELECT CODE. Then select YES.

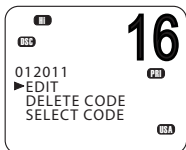
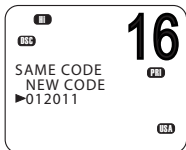
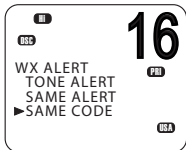
Selected SAME codes are displayed with the word 'ON' next them in the list



Editing or deleting a SAME code

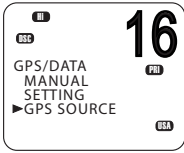
US model only.

1. Select RADIO SETUP → WX ALERT → SAME CODE.
2. If you have already entered some SAME codes, they will be listed.
3. Select the SAME code for your geographic area.
4. Select EDIT or DELETE as required.



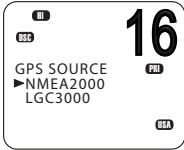
Selecting the GPS source

The RS90 radio can use either NMEA 0183 or NMEA 2000 protocol to receive GPS data from a compatible GPS unit. Up to 4 sources can be connected.



1. Select GPS/DATA →GPS SOURCE.
2. Select the required GPS source, and then press [OK].

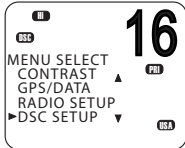
Note: NMEA 2000 SOURCE options will appear only if an NMEA 2000 network is connected to the radio and is operational.



DSC Setup

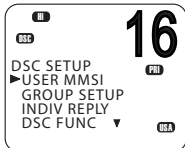
Entering or viewing your individual MMSI

The user MMSI (Marine Mobile Service Identity) is a unique 9 digit number, similar to a personal telephone number. It is used on marine transceivers that are capable of using the DSC system.



→ **Note:** Entering the MMSI is a once-only operation. You can display and read your user MMSI at any time, but you can only enter it once.

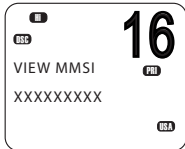
Contact the appropriate authorities in your country to obtain your user MMSI.



1. Select MENU → DSC SETUP → USER MMSI.

If you have already entered your MMSI, it will be shown on screen.

If you are entering your MMSI, a dashed line appears.



2. Enter your MMSI along the dashed line, one number at a time.
3. Press [OK] to store your user MMSI.
4. Enter your user MMSI again as a password check, then press [OK] to permanently store the user MMSI.

→ **Note:** Your MMSI is also shown on the startup screen when you power on the transceiver.

Introduction to group MMSI

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.

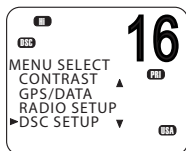
The RS90 radio can store up to 20 group MMSIs. In other words, you can be in 20 different groups.

A group MMSI always starts with 0.

For information on sending a DSC group call, see “Sending a group call” on page 50.

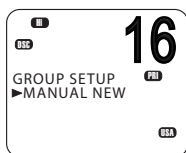
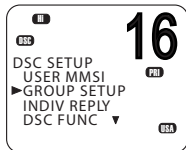
Creating a group MMSI

1. Select MENU → DSC SETUP → GROUP SETUP.
2. Select MANUAL NEW.



If this is the first time that you are entering a group name, a dashed line appears.

3. Enter the group name along the dashed line. It can be a maximum of 11 alphanumeric characters.
4. Press [OK] repeatedly if necessary to reach the MMSI line.
5. Enter the group MMSI. The first number is always a 0.
6. Press [OK] repeatedly until STORE/CANCEL is displayed.
7. Select STORE or CANCEL as required.

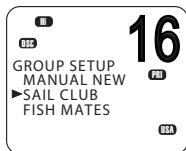
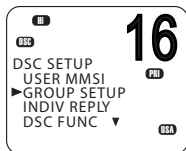
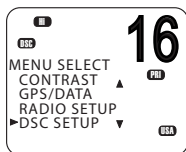


Editing or deleting a group MMSI

1. Select MENU → DSC SETUP → GROUP SETUP.

The display shows the list of existing group names.

2. Scroll to the group you want to edit and press [OK].
 - To delete the group, select DELETE then YES. The group will be deleted immediately.
 - To edit the group, select EDIT.
3. Edit the group name as required.
4. Press [OK] repeatedly if necessary until the cursor moves to the MMSI line.
5. Edit the MMSI. (Note that the first number is always a 0.)
6. Press [OK] repeatedly until STORE/CANCEL is displayed.
7. Scroll to STORE or CANCEL as required and press [OK].



Entering or checking your ATIS MMSI

EU models only.

The ATIS MMSI is a special MMSI that is used on inland waterways in Europe for identifying the ship or vessel that made a VHF radio transmission. The MMSI is transmitted on the VHF channel each time the radio operator finishes talking and releases the PTT key. For further information, see “ATIS” on page 65.

You can display and read your ATIS MMSI at any time, but you can only enter it once.

1. Select MENU → DSC SETUP → ATIS MMSI.

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

If you are entering a new ATIS MMSI, a dashed line appears.

2. Enter your ATIS MMSI along the dashed line, one number at a time. An ATIS MMSI always starts with the number 9.
3. Press [OK].
4. Enter your ATIS MMSI again as a password check, then press [OK] to permanently store the ATIS MMSI.

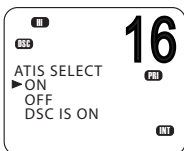
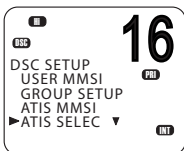
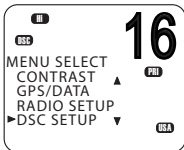
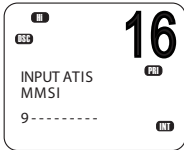
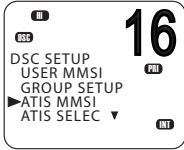
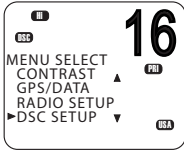
Enabling ATIS functionality

EU models only.

1. Select MENU → DSC SETUP → ATIS SELECT.
2. Scroll to ON or OFF as required and press [OK].

→ Notes

- Before you can enable ATIS, you must enter an ATIS MMSI. See “Entering or checking your ATIS MMSI” above.
- Before you can enable ATIS, DSC must be turned off. See “Enabling DSC functionality” on page 84.
- When ATIS is enabled, the ATIS icon is displayed on screen.
- In some European countries, SCAN functionality is limited, and, if ATIS is enabled, the 3CH SCAN mode will be disabled.

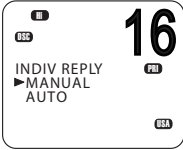
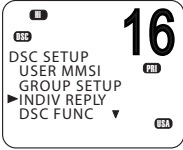
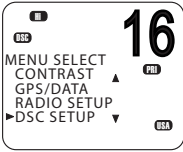


Individual DSC call - reply options

The reply to an incoming DSC individual call can be automatic or manual.

- An automatic reply sends an acknowledgement and then sets the requested working channel, ready for a conversation.
 - A manual reply prompts you to acknowledge the call.
1. Select MENU → DSC SETUP → INDIV REPLY.
 2. Scroll to MANUAL or AUTO as required and press [OK].

For information on receiving an individual DSC call, see “Receiving a DSC individual call” on page 61.



Enabling DSC functionality



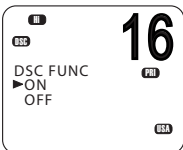
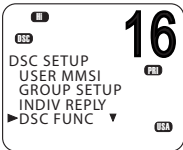
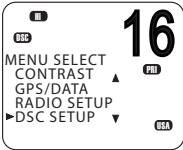
Warning: DSC is an important safety function; disabling it is not recommended.

DSC is only available after a valid USER MMSI has been entered. For instructions on entering your MMSI, see “Entering or viewing your individual MMSI” on page 81.

1. Select MENU → DSC SETUP → DSC FUNC.
2. Scroll to ON or OFF as required and press [OK]

→ Notes

- It is not possible to have both ATIS and DSC on at the same time. If you want to enable DSC, you must first switch ATIS off.
- When DSC functionality is selected, the **DSC** icon is displayed on screen.



LL polling calls - reply options

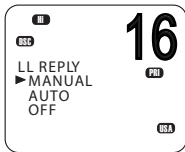
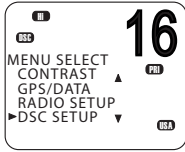
A DSC LL polling call is received by the radio when one of your buddies sends a request for your position—latitude and longitude request (LL request)—normally at regular intervals.

For information on LL requests (polling) see “Sending an LL request for the position of a buddy” on page 54.

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.
- **AUTO**
Automatically reply to any incoming LL polling requests.
- **OFF**
Ignore all incoming LL polling requests.

1. Select MENU → DSC SETUP → LL REPLY.
2. Scroll to MANUAL, AUTO or OFF as required and press [OK].



Automatic channel switch options

When a DSC call is received, it may include a request to change to a specific channel for subsequent communications.

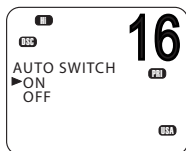
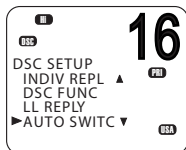
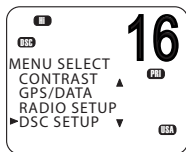
With Auto Switch set to ON, when receiving a DSC call, the radio will automatically switch to the requested channel if not cancelled within 10 seconds. This might disrupt important communications that are already in progress on the current working channel. To avoid this, you can prevent the radio from automatically switching channel by setting the AUTO SWITCH feature to OFF.

If Auto Switch is set to OFF, the  icon will be displayed on screen 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.

To enable or disable automatic channel switching:

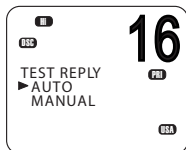
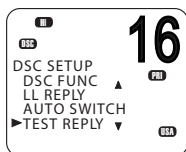
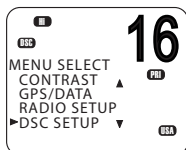
1. Select MENU → DSC SETUP → AUTO SWITCH.
2. Scroll to ON or OFF as required and press [OK].



Setting up DSC test reply

You can set up the radio to respond to incoming DSC TEST calls with an automatic or manual response.

1. Select MENU → DSC SETUP → TEST REPLY.
2. Scroll to AUTO or MANUAL as required and press [OK].



- **AUTO**
On receiving a DSC TEST call, waits for 10 seconds, and then automatically acknowledges the call.
- **MANUAL**
On receiving a DSC TEST call, requires you to press the [ACK] soft key to acknowledge the call.

For information on receiving a DSC test call, see “Receiving a DSC test call” on page 64.

Setting up the DSC inactivity timer

The inactivity timer causes the radio to automatically exit a procedure after a specified period of inactivity.

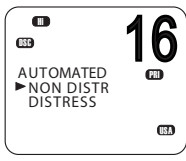
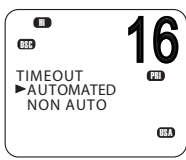
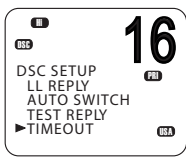
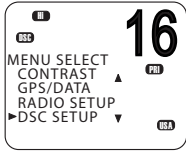
AUTOMATED

You can set the radio to exit any automated procedure after a period of non-activity.

There are two categories:

- DISTRESS options: NO TIMEOUT, 5 MINS, or 10 MINS
- NON-DISTR options: NO TIMEOUT, 10 MINS, or 15 MINS

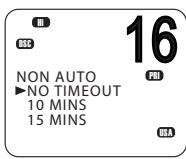
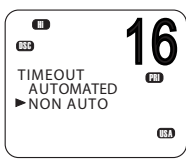
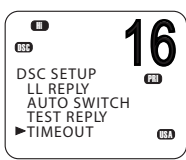
1. Select MENU → DSC SETUP → TIMEOUT → AUTOMATED.
2. Select NON DISTRESS or DISTRESS.
3. Scroll to the required timeout period, and then press [OK]



NON AUTO

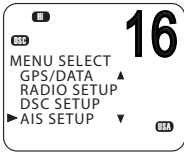
You can set the radio to exit any non-automated procedure after a period of non-activity.

1. Select MENU → DSC SETUP → TIMEOUT → NON AUTO.
2. Scroll to the timeout period: NO TIMEOUT, 10 MINS or 15 MINS, then press [OK]



AIS Setup


Note: The wired HS has a shortcut key to access AIS SETUP (Shift 2).

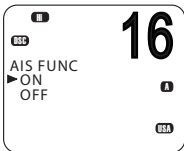
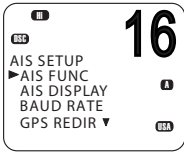


Enabling AIS functionality

1. Select MENU → AIS SETUP → AIS FUNC.
2. Scroll to ON or OFF as required and press [OK].

→ Note

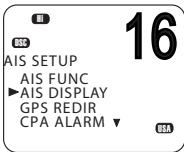
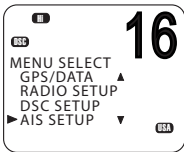
When AIS functionality is enabled, the  icon is shown on screen.



Setting up AIS display format

When viewing the PPI screen, AIS targets can be displayed with the vessel's name or MMSI.

1. Select MENU → AIS SETUP → AIS DISPLAY.
2. Scroll to SHIP MMSI or SHIP NAME as required and press [OK].

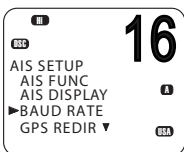
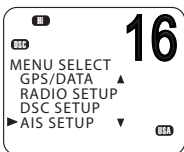


Setting up AIS baud rate

AIS data can be output to a compatible chart plotter, multi-function device (MFD) or PC via the NMEA port.

The NMEA port baud rate can be set to 4800 or 38400. The default setting is 38400. If 4800 is selected, a warning that data may be lost will be displayed.

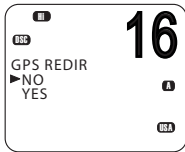
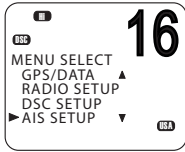
1. Select MENU → AIS SETUP → BAUD RATE.
2. Scroll to 4800 or 38400 as required and press [OK].



GPS REDIR

GPS redirection option set to output the GPS information to the chart plotter, eliminating the need for an additional multiplexer.

1. Select MENU → AIS SETUP → GPS REDIR.
 2. Scroll to YES or NO as required and press [OK].
 - If you select YES, the string \$RMC will be redirected to the chart plotter once it is received.
- **Note:** The REDIR function will only redirect RMC and GLL messages from NMEA 0183 input port to the AIS output port.

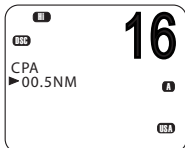
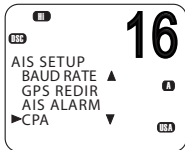
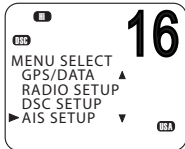


Setting up the CPA distance

Closest point of approach (CPA) is the calculated closest distance between you and a target vessel based on the current speed and course.

If the radio detects that a target vessel will come closer than the set distance and within the set T/CPA time, the CPA alarm will sound a two-tone alert.

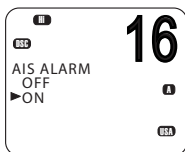
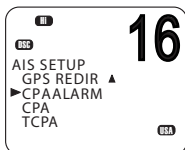
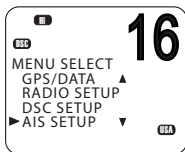
1. Select MENU → AIS SETUP → CPA.
 2. Use the ▲ and ▼ keys to raise or lower the CPA distance limit.
 3. Press [OK].
- **Note:** The CPA distance is always in nautical miles.



Enabling the CPA alarm

You can enable or disable the CPA alarm.

1. Select MENU → AIS SETUP → CPA ALARM.
2. Scroll to ON or OFF as required, and then press [OK].



Setting up the T/CPA time

Time to closest point of approach (T/CPA) is the calculated time for a target vessel to arrive at the closest point of approach based on the current speed and course.

If the radio detects that a vessel will arrive at the closest point of approach within the set time and the CPS distance, the CPA alarm will sound a two-tone alert.

1. Select MENU → AIS SETUP → TCPA.
2. Use the ▲ and ▼ keys to raise or lower the T/CPA time limit.
3. Press [OK].

