



## Covered in this chapter:

- A description of transmit mode and returning to standby mode.
- Displaying user data on own ship.
- Selecting the radar range and displaying range rings.
- Off-centring own ship in the video circle.
- Tuning the transceiver.
- Using the video processing controls.
- Selecting the transmitter operating condition.
- Recording events.
- Selecting the display's intensity for day or night operation and setting the brilliance.
- Selecting system configuration.
- Red First Strike.
- Freeze Frame.

## Introduction

When TRANSMIT is selected from Standby, the system is switched to transmit. Slave radars can only be set to transmit if the associated Master is already transmitting.



Video Circle

**Transmit Display NAV Mode** 



## **Transmit Display SCOUT Mode**

Most of the captions and soft keys associated with the TRANSMIT display are available for selection, and are highlighted individually as the screen cursor moves over them.

Most of the basic radar functions are covered in this chapter. Other, more specific functions are covered in individual chapters.

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# **System Configuration**

The system is configured to operate with one of two transceivers (labelled SCOUT or NAV) the SCOUT transceiver is an FMCW transceiver, the NAV transceiver is a conventional Pulse type transceiver. Only one transceiver is active at a time.

The System Configuration soft key, in the top left hand corner of the display, gives an indication of the selected transceiver and the Master or Slave status of the display.

A left click on this soft key at either of the BridgeMaster displays in the system allows selection of the alternative available system configuration as listed below.

| Current Configuration | Alternative Available Selection |  |  |
|-----------------------|---------------------------------|--|--|
| MASTER NAV            | MASTER SCOUT                    |  |  |
| MASTER SCOUT          | MASTER NAV                      |  |  |
| SLAVE NAV             | MASTER NAV                      |  |  |
| SLAVE SCOUT           | MASTER SCOUT                    |  |  |

## **Selecting Configuration**

- 1. Position the screen cursor over the System Configuration soft key.
- 2. Left click to reveal System Configuration menu.
- 3. Position the screen cursor over ACCEPT and left click.





#### Transceiver Functions (NAV TX/RX) Transceiver Tuning



The transceiver tuning indicator is located in the bottom left hand corner of the display. The current level of tuning is indicated by the shaded bar behind the TUNE caption. This bar indicates the level in percentage terms with 0% on the left, 100% on the right. The tuning indicator is only displayed when the radar is in Transmit mode, and can only be adjusted manually on a display which is MASTER to the NAV radar.

Coarse tuning is set up from the System menu during initialisation.

## **Selecting Manual or Automatic Tuning**

Only applicable for Master displays. The system defaults to the mode of tuning last selected (MAN or AFC).

- 1. Position the screen cursor over the AFC/MAN selection field.
- 2. Left click to toggle the tuning control to MAN (Manual) or AFC (Automatic Frequency Control).

## Manual Tuning Adjustment

Only applicable for Master displays. Long pulse must be selected, ideally on the highest range scale that shows a target near to the limit of the selected range scale.

- 1. Position the screen cursor over the TUNE selection field.
- 2. Left click to activate the control. The grey bar will change to two yellow bars. The lower bar is the tuning indicator, the upper bar is the tuning control level.
- 3. Move the cursor control left or right to adjust the tuning control level (upper bar) until the maximum level is reached on the tuning indicator (lower bar). If distant radar targets are visible use these for the final adjustment.

Note -For accurate tuning to be achievable, coarse tuning must have been accurately set during radar initialisation. Refer to ship's manual for details.

4. Left click to set the level and de-activate the bar. The bar will return to its grey shaded state.





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| F      | ANGE  |    | + |
|--------|-------|----|---|
|        | 6     | NM |   |
| RR     | 1     | NM |   |
| MASTE  | r nav |    |   |
| TRANSN | 1IT   |    |   |
| MP     |       |    |   |

## **Radar Transmission Pulse Length**

The current selection of pulse length is indicated in the 'pulse length' soft key at the left hand side of the display. The caption in the soft key box is an abbreviation of the current pulse length selection, SP (Short Pulse), MP (Medium Pulse) or LP (Long Pulse). The soft key is not displayed in Standby mode, and the pulse length can only be manually changed if the display is configured as a Master to the NAV radar.

SP is only available on the 3NM range and below. MP is available from 0.5NM to 24NM ranges. LP is available from the 3NM range upwards.

**Note** – On changing range the system will maintain the current pulse length unless it is not available. There is no automatic reversion of pulse length when reselecting the original ranges.

## Selecting the Radar Transmission Pulse Length

- 1. Position the screen cursor over the Pulse Length soft key.
- 2. Left click to cycle to the pulse length required. The caption will cycle in a SP, MP, LP, MP, SP sequence if all three are available. Only pulse lengths that are valid for the selected range can be selected.



Alternatively, a right click on the soft key, will reveal a drop down menu listing the pulse lengths available, with the current selection highlighted. Left click on the length required, or right click to close the menu without further action.









## Transceiver Functions (SCOUT TX/RX) Transmitter Power Level

The current selection of power is indicated in the 'power level' soft key at the left hand side of the display, visible in both Standby and Transmit. The caption in the soft key box is an abbreviation of the current power level selection, V.Low (Very Low), Low, Normal or Boost. The power level can only be changed if the display is configured as master to the Scout radar.

## **Selecting Transmitter Power Level**

- 1. Position the screen cursor over the Power Level soft key.
- 2. Left click to display the power level drop down menu listing the levels available, with the current selection highlighted
- 3. Left click on the level required, or right click to close the menu with no further action.

# STC

The current selection of STC setting is indicated in the 'STC setting' soft key at the left hand side of the display. The caption in the soft key box is the current STC setting, STC 0, STC 1, STC 2, STC 3. The soft key box is only displayed in Transmit mode, and can only be changed if the display is configured as Master

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## Selecting the STC Setting

- 1. Position the screen cursor over the STC SETTING soft key.
- Left click to cycle to the STC setting required. The caption will cycle in a STC 0, STC 1, STC 2, STC 3, STC 0 sequence

Alternatively, a right click on the soft key, will reveal a drop down menu listing the settings available, with the current selection highlighted. Left click on the setting required, or right click to close the menu without further action.



## **Transmission Frequency**

The current Frequency setting is indicated in the 'Frequency selection' soft key at the left hand side of the display. The caption in the soft key box is the current Frequency selection, F1, F2. The soft key box is only displayed in Transmit mode, and can only be changed if the display is configured as Master

## **Selecting the Transmission Frequency**

| F1 |
|----|
|----|

- 1. Position the screen cursor over the Frequency selection soft key.
- 2. Left click to cycle to the Frequency setting required. The caption will cycle between F1, F2.



# **User Specified Data**

The user data area of the display is located at the bottom right hand side, above the help area and function soft keys. The area is used to show information relating to own ship and is available in both Standby and Transmit modes.

The following types of data can be displayed,

- Own Ship's Position
- Waypoint Data
- Wind and Depth

Note - Waypoint and 'Wind and Depth' data are only available if the appropriate sensor inputs were selected during initialisation. See Ship's Manual, Chapter 4.

#### Selecting the Data Type

- 1. Position the screen cursor over the top line of text in the User Data box.
- Left click to select the type of data required. Each click will cycle the display to the next type. Alternatively a right click will reveal a drop down menu containing a list of data types, left click on the type required, or right click to close the menu without further action.

#### **Data Displays**

An example of each type of data display is given below. When specific data is unavailable, the associated readout is replaced with dashes.

#### **Own Ship's Position**

The 'source' display, in brackets after the title, depends on the external positioning input configured during initialisation (see Ship's Manual, Chapter 4) and/or the position mode selected (see Chapter 9).

The source can be any one of the following: (DGPS), (GPS), (DR) or (EP). (NAV) is shown if an unknown navigational input is being used.

| OWN | POSITION (NAV) |
|-----|----------------|
| LAT | `52°24.297 N   |
| LON | 000°14.421 W   |
| UTC | 14:08:56 W84   |
|     |                |
| OF  |                |

| OWN POSITION (NAV) |  |
|--------------------|--|
| WAYPOINT DATA      |  |
| WIND AND DEPTH     |  |
|                    |  |

| OWN | POSITION (NAV)       |
|-----|----------------------|
| LAT | <b>`</b> 52°24.297 N |
| LON | 000°14.421 W         |
| UTC | 14:08:56 W84         |

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Note that the position displayed here is the position of the centre of the ship. Any waypoint data given on the display will be related to this point. This position will differ slightly from that shown on the navigation sensor's own internal display, given that the correct sensor offsets have been entered into the Radar Display during initialisation, unless the navigation sensor's antenna is actually sited at the centre of the ship. The co-ordinates of the navigation sensor's antenna relative to the centre of the ship, if entered during initialisation, enable the true position of Own Ship's Centre to be displayed.

#### **Time and Datum**

The time information can be displayed as UTC directly (UTC), UTC with an offset (LOC) or local time (LOC) if there is no UTC input set in initialisation. This is set up in the Navigation function, see Chapter 9.

The datum used for all displayed Navigation data is WGS84, and W84 is always shown in the menu.

#### Alarms

The LAT/LONG information will be displayed in red if there is an alarm which affects the validity of the data (ie Compass, Log or Nav Input).

When there is a position alarm the LAT/LONG information will be dashed out.

The TIME information will be dashed out after 30 seconds if the data becomes invalid.

#### **Invalid Latitude**

If own ship's latitude is greater than 78°N or 78°S, then own ship's lat/lon position will be display in **RED** and all map data and route information will be removed from the screen.

A permanent prompt Invalid latitude will also be displayed.

Invalid latitude

| WAYPOINT DATA  |
|--|
| WPT nnnn T BRG nnn.n°<br>DTG nnn.nn NM<br>XTE(n) nn.nn NM<br>TTG nn:nn |

#### Waypoint Data

The information displayed in this menu is dependent on the route set up configured within the Navigation function, see Chapter 9.

When information is displayed, it relates to the next waypoint in the current route as follows:

- WPT The number of the NEXT waypoint in the current route.
- T BRG True Bearing of waypoint from own ship.
- DTG Distance To Go to waypoint (in nm).
- XTE(L) Cross Track Error (Left or Right) (in nm, km or sm).
- TTG Time-to-go to waypoint (in hh.mm).

## Wind and Depth

| WIND AND | DEPTH |      |
|----------|-------|------|
| REL WIND | nnn   | KT`` |
|          | nnn ° | REL  |
| DEPTH    | nnnn  | М    |

This 'menu' is only available if either or both inputs are configured during Initialisation. See Ship's Manual, Chapter 4. Either TRUE or REL (Relative) wind speed is displayed depending on the data received from the sensor. The wind bearing is displayed relative to own ship's heading.

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# **Range Scales & Range Rings**

The radar range scale can be selected from a list of preset values. A set of fixed range rings, displayed as a number of equally spaced concentric circles (normally six), can also be switched ON or OFF. Range scale selection can be made in both Standby and Transmit modes. Range rings cannot be selected or displayed in Standby.



The current range scale and range ring selections are given in the top left hand corner of the display. The ranges are either displayed in nm, km or sm, as selected during Initialisation, see Ship's Manual, Chapter 4.

## Choosing the Appropriate RANGE Scale

To ensure the best detection of small targets amongst sea clutter, always select the shortest range scale consistent with operational requirements.

## Range Scale in SCOUT Mode

The video processing within the SCOUT transceiver is limited to either 12nm or 24nm dependant on the range scale in use at the master display unit. For range scales of 12nm or less the video processing is limited to 12nm. When the range scale is greater than 12nm or when the picture is off centred on the 12nm range the video processing is limited to 24nm. No video is displayed beyond the video processing range of the SCOUT processor. This is indicated to the operator by an orange ring at 12nm or 24nm on both display units indicating the maximum range of the SCOUT processor.

#### Selecting a Range Scale

Ranges can be selected by using either the + and - soft keys, or by using a drop down menu.

- 1. Position the screen cursor over the + (or -) symbol.
- 2. Left click to select the next (or previous) range scale. Ranges from 0.125 to 96 nm. (0.25 to 192 km) are available.

An appropriate prompt is displayed when the upper or lower limit is reached







Alternatively a left click on the Range field, will reveal a drop down menu listing the ranges available, with the current selection highlighted. Left click on the range required, or right click to close the menu without further action.

## **Turning Range Rings ON and OFF**

|    | RANG | 3  | + |
|----|------|----|---|
|    | 6    | МИ | _ |
| RR | 1    | NM |   |
|    |      |    |   |

The separation between the range rings (RR) is indicated under the Range field.

| RANGE     | + |
|-----------|---|
| 6 NM      | - |
| RINGS OFF |   |

To turn the range rings ON or OFF

- 1. Position the screen cursor over the Range Ring field.
- 2. Left click to toggle rings ON or OFF



# Heading Line (HL)

The ship's heading line is shown as a single line centred on own ship and drawn to the edge of the video circle. In the Head-up presentation mode (see Chapter 5) the line is always drawn at  $000.0^{\circ}$ .

When own ship is off-centred, an additional indication of own ship's heading is shown by an asterisk and a short line drawn just inside the video circle.





# Stern Line (SL)

During Initialisation, the heading line can be configured as a Stern Line drawn behind own ship, see Ship's Manual, Chapter 4. The type of line displayed is indicated by whether HL or SL is written in the soft key at the left side of the display, see example left. This function cannot be changed from the TRANSMIT display. However, the line can be turned on/off as described below.

# **Temporarily Hiding the Heading/Stern Line**

The heading/stern line can be removed temporarily, to view more clearly something which is on, or close to, the line.

- 1. Position the screen cursor over the HL (or SL) soft key.
- 2. Press and hold down the left key.
  - The line, together with all of the synthetics within the video circle, remains hidden as long as the key is held down.
- 3. Release the key to return the line and synthetics to the video circle.

# **Off-centring the Picture**

The default picture is with own ship placed at the centre of the video circle. However, the picture can be off-centred by 'dragging' own ship to a new position within the video circle as follows.

The video display can be off-centred by up to two thirds of the range scale radius.

- 1. Position the video cursor over own ship's position.
- 2. Press and hold down the left key.
- 3. Drag own ship to the required off-centred position.
- 4. Release the key.



Position cursor over 'Own Ship'



Left key press and drag to new position

## **Centring the Video Display**

The CENTRE soft key, located near the bottom right hand corner, can be used to redraw the display with own ship at the centre of the video circle, or to reposition own ship for maximum view along own ship's course.

# CENTRE

MAX VIEW

#### To Centre the Display

- 1. Position the screen cursor over the CENTRE soft key.
- 2. Left click to place own ship at the centre of the video circle.

## For Maximum View

- 1. Position the screen cursor over the CENTRE soft key.
- 2. Right click to reveal a pop up menu containing the 'Max View ' option, see example left.
- 3. Left click to select Max View, or right click to close the menu without further action.

CENTRE

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When Max View is selected, the video display is offcentred by two thirds of the range scale radius in a direction determined by the operational mode.

In unstabilised mode (H up), the direction is reciprocal to the heading marker.

In stabilised mode, the direction is reciprocal to the course over ground (COG), or heading marker if COG is unavailable.



# **Video Processing Controls**

The video processing controls are located in the bottom left hand corner of the display.

#### Video Gain and Anti-Clutter Controls

The video GAIN control, and the anti-clutter (RAIN & SEA) controls when set to Manual (MAN), can be adjusted independently. Each control is adjusted using the shaded bar behind its associated caption which indicates the level in percentage terms with 0% on the left, 100% on the right.

#### **Using the Video GAIN Control**

Always adjust the GAIN setting while on the longer range scales of 12 or 24 nm. (24 to 48 km). A light background speckle must be present to achieve the best target detection and long range performance. A temporary reduction in gain can be beneficial when searching for targets in rain or snow conditions. Video gain is independently adjustable for AUTO and MAN anti-clutter modes.

#### **Using the Manual Anti-Clutter SEA Control**

Use the Anti-Clutter SEA control to reduce sea clutter to an operational level where some residual clutter speckle is present. The setting must permit small targets, often of similar signal strength to the sea clutter returns, to be detected.

Always use the control with great care. Avoid setting the control to completely remove all sea clutter, as this will reduce the detection of small targets. The setting should be periodically checked as prevailing sea conditions change.

#### **Using the Manual Anti-Clutter RAIN Control**

Use the Anti-Clutter RAIN control to optimise suppression of rain clutter, i.e. balance the detection of targets within the clutter region (under the rain) with detection of those outside the clutter region.

Always use the control with great care. Excessive suppression can cause loss of small targets. It is often advantageous to use this control to search for targets in the clutter region. Return the control to zero after the search.

## Using the Automatic Anti-Clutter Control

In open sea conditions, use AUTO to suppress rain and sea clutter. This normally provides optimum detection by adapting the amount of clutter suppression applied to the varying characteristics of clutter returns.

Pulses received from radar transponders are subject to slight degradation. However, they are still easily recognisable by their signal strength.

#### **Selecting Manual or Automatic Anti-Clutter Control**

- 1. Position the screen cursor over the MAN/AUTO selection field.
- 2. Left click to toggle control to MAN (manual) or AUTO (automatic).

## Manual Change of GAIN, RAIN & SEA Settings

- 1. Position the screen cursor over the control you wish to change.
- 2. Left click to make control bar active. The bar will appear yellow.
- 3. Move the cursor control left or right to move the bar to the level required.
- 4. Left click to set the level and de-activate the bar. The bar will return to its dimmed shaded state.

Note - Rain and Sea settings cannot be changed in AUTO mode.

# **Enhanced Video Mode**

A substantial improvement in the presentation of small and/or short range targets, especially when operating at range scales of 3 nm (6 km) and above, can normally be achieved by selecting the enhanced video mode. This facility is available on range scales 0.75 nm and above. Targets are not enhanced close to own ship.



AIN

SEA

MAN

#### Using the Enhanced Video Mode

In estuary and open sea conditions, always use the enhanced video mode for best target detection. This will enhance small targets, significantly improving their perceptibility on the display at all ranges, especially on range scales of 3 nm. (6 km) and above.

WARNING - USE THE ENHANCE CONTROL WITH CAUTION. IF USED ON SHORT RANGE SCALES IT WILL DEGRADE TARGET DISCRIMINATION.

Note - The size of enhanced video returns will be extended outward in range and clockwise in bearing to a small extent.

## **Turning Enhanced Video Control ON and OFF**

- 1. Position the screen cursor over the Enhance (ENH) soft key.
- 2. Left click to toggle the Enhance control ON or OFF.





## Events

The EVENT soft key is only active if tracks (own ship/target) are being recorded.

A left click on the EVENT soft key records the lat/long position of own ship and each selected track. Current time is also recorded. If the tracks are currently being displayed, the event will be shown in the video circle, see Chapter 9.

# **Brilliance Control**

The BRILL soft key, located in the bottom right hand corner of the display, is used to select day or night brilliance and to set the level of display intensity for different components of the display.

Note - The display monitor has its own associated brilliance control which you may need to adjust.





A right click on the BRILL soft key will reveal a drop down menu listing the DAY/NIGHT brilliance options available (1 day-time level and 3 night-time levels). Left click on the setting required. See example left. To set the display intensity for different components of the display, proceed as follows.

- 1. Position the screen cursor over the BRILL soft key.
- 2. Left click to reveal the BRILLIANCE menu. See example left.

The menu lists the various components of the display for which the brilliance can be set independently.

The first line of the menu, under the heading, indicates the DAY/NIGHT brilliance option to which the menu settings apply.

The settings are independently stored for each DAY/NIGHT brilliance option, and are retained on switchoff.

#### **Day/Night Selection**

One of four different pre-set levels of display intensity can be selected (one day-time level and three night-time levels).





| ROUTES<br>RY TRACKS                             |
|---|
| MENU TEXT<br>TARGET ALARM<br>ALARM <b>T</b> EXT |
| EXIT BRILLIANCE                                 |

| DEFAUI | ΓĽ | BRI  | LL |  |
|--------|----|------|----|--|
| PANEL  | BI | RILL | +  |  |
| PANEL  | BI | RILL | -  |  |

- 1. Position the screen cursor over the first line in the menu (Night 1 in the example left).
- 2. Left click to cycle through the settings available. The display intensity will change with each click in a sequence of NIGHT1, NIGHT2, NIGHT3, NIGHT1. See note on next page.

Alternatively, a right click will reveal a drop down menu listing the settings available. Left click on the setting required. See example left.

Note - This method of selection is normally used to switch between night-time settings; the day-time setting can only be selected from the drop down menu.

## **Changing the Relative Brilliance Settings**

- 1. Within the menu, position the screen cursor over the item you wish to change.
- 2. Left click to make the control bar active. The bar will appear yellow.
- 3. Move the cursor control left or right to move the bar to the level required.
- 4. Left click to de-activate the bar. The bar will return to its dimmed shaded state.

## **Returning to the Default Brilliance Settings**

- 1. Position the screen cursor on the DEFAULT BRILLIANCE soft key.
- 2. Left click to return to the default (i.e. factory set) relative brilliance levels.

Note - If the brilliance controls are not providing adequate control of the display, the monitor may need adjusting (see Monitor Testing in Ship's Manual, Chapter 5).

#### Panel Brilliance

The lighting brilliance of the Radar Control Panel is controlled by the PANEL BRILL (+ and -) soft keys.

- 1. Left click on the PANEL BRILL + soft key to INCREASE the brilliance.
- 2. Left click on the PANEL BRILL soft key to DECREASE the brilliance.

| DEFAULT BRILL |   |
|---------------|---|
| PANEL BRILL + |   |
| PANEL BRILL - | ¥ |

EXIT BRILLIANCE

DEFAULT BRILL

PANEL BRILI

PANEL

BRILI

#### **Exiting the Brilliance Menu**

- 1. Position the screen cursor over the EXIT BRILLIANCE soft key located directly under the menu.
- 2. Left click to exit.

# **Returning to Standby Mode**



The transmit (TRANSMIT) soft key, located at the top left hand side of the display, is used to return the display to Standby mode. See Chapter 2.

- 1. Position the screen cursor over the TRANSMIT soft key.
- 2. Left click to reveal the Standby menu.
- 3. Position the screen cursor over the ACCEPT caption and left click.

GO TO STANDBY? ACCEPT CANCEL Note - When the menu is displayed, a left click on the CANCEL caption, will close the menu and leave the system in TRANSMIT mode.

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# **Red First Strike**

The Red First Strike facility allows fast moving targets such as helicopters to be easily identified in red the first time their video paints at a given position in the video circle. Subsequent paints at the same or overlapping positions are in the normal colour. This does not effect the normal tracking of targets.

The soft key for selecting Red First Strike is located at the bottom left hand side of the display. The caption inside the key is **NAV** to indicate that normal video presentation is selected, or **AIR** to indicate that Red First Strike presentation is selected.

## Selecting Red First Strike Presentation

- 1. Position the screen cursor over the NAV soft key.
- 2. Left click to select Red First Strike presentation. The caption in the soft key changes to AIR.



## **Returning to Normal Video**

- 1. Position the screen cursor over the AIR soft key.
- 2. Left click to select normal video presentation. The caption in the soft key changes to NAV.



## Freeze Frame

The Freeze Frame facility allows the video picture to be frozen, for example, when ship is on radio silence. The freeze frame can be controlled either locally (LOC) by the operator via the Freeze soft key (bottom left hand corner of screen, see example left), or remotely (REM) from an external input. If either control is set to the frozen state, the video and trails are frozen on the screen and are not updated again until both controls are set to the unfrozen state.

Note The radar display does not inhibit the transceiver during freeze frame.

The true motion origin is not updated during Freeze Frame. When leaving Freeze Frame, there will be a picture clear if the picture was in Freeze Frame for more than 10 seconds.

## **LOCAL - Operator Control**

From the unfrozen state,



1. Position the screen cursor over the FREEZE soft key.



Left click to freeze frame.
The caption inside the soft key will change to FROZEN L.

The display can be unfrozen by a further left click on the soft key, but is dependent on the state of the remote control. See Tables on next page.

## **REMOTE - External Control**

(If connected to Ship's Radar Silence facility) Whenever the external remote control R is operated to freeze frame, the soft key caption is changed to FROZEN R irrespective of the operator L setting.

When the remote control is set to unfreeze the display, the soft key caption will change to FREEZE (if the local control is not in force) or FROZEN L. See Tables on next page.

The following table illustrates the relationship between the local L and remote R Freeze Frame controls.



| Actions on left click |     | Operator control (LOC) state |                              |  |
|-----------------------|-----|------------------------------|------------------------------|--|
| on FREEZE key         |     | OFF to ON                    | ON to OFF                    |  |
| External R            | OFF | Switches to Freeze Frame.    | Switches off Freeze Frame.   |  |
| state                 |     | Operator control set on.     | Operator control set to OFF. |  |
|                       |     | Soft key text changes to     | Soft key text changes to     |  |
|                       |     | FROZEN L.                    | FREEZE.                      |  |
|                       | ON  | Remains in Freeze Frame.     | Remains in Freeze Frame.     |  |
|                       |     | Operator control set ON.     | Displays 'External Freeze    |  |
|                       |     | Displays 'External Freeze    | Frame On' prompt.            |  |
|                       |     | Frame On' prompt.            | Soft key text remains as     |  |
|                       |     | Soft key remains at          | FROZEN R.                    |  |
|                       |     | FROZEN R                     |                              |  |

| Actions on change |     | Operator control (LOC) state |                                    |  |
|-------------------|-----|------------------------------|------------------------------------|--|
| of external State |     | OFF to ON                    | ON to OFF                          |  |
| External R        | OFF | Switches to Freeze Frame.    | Remains in Freeze Frame.           |  |
| state             | to  | Soft key text changes to     | Displays 'External Freeze          |  |
|                   | ON  | FROZEN R.                    | Frame On' prompt.                  |  |
|                   |     |                              | Soft key text is <b>FROZEN R</b> . |  |
|                   | ON  | Switches to Freeze Frame.    | Remains in Freeze Frame.           |  |
|                   | to  | Soft key remains at          | Displays 'External Freeze          |  |
|                   | OFF | FREEZE.                      | Frame On' prompt.                  |  |
|                   |     |                              | Soft key text changes to           |  |
|                   |     |                              | FROZEN L.                          |  |

## **Warning Prompts**

The prompts indicated in the preceding Tables are displayed (in bottom right hand corner of display) even if the radar is in Standby mode.

Whenever the display is Frozen (L or R), an attempt to select any of the functions listed below, will result in the 'In Freeze Frame' prompt being displayed.



- Range scale
- Presentation mode
- Motion mode
- Centre
- Trails
- Off-centre own ship