RANGE	+
6	-

MASTER SCOUT
V.LOW

| TM | HDG | 000.0° | COG 355° |
| N UP | SOG | 17.4KT | NAV |

EBL 1	OFF
VRM 1	OFF
EBL 2	OFF
VRM 2	OFF

NO ALARMS

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

CURSOR POSITION
5.29 NM 130.4° R
TTG   ---   MIN
LAT   °00.7°
LON 000°02.66 E

RADAR STANDBY

STANDBY
INITIALISATION
MONITOR TEST

OFF LINE
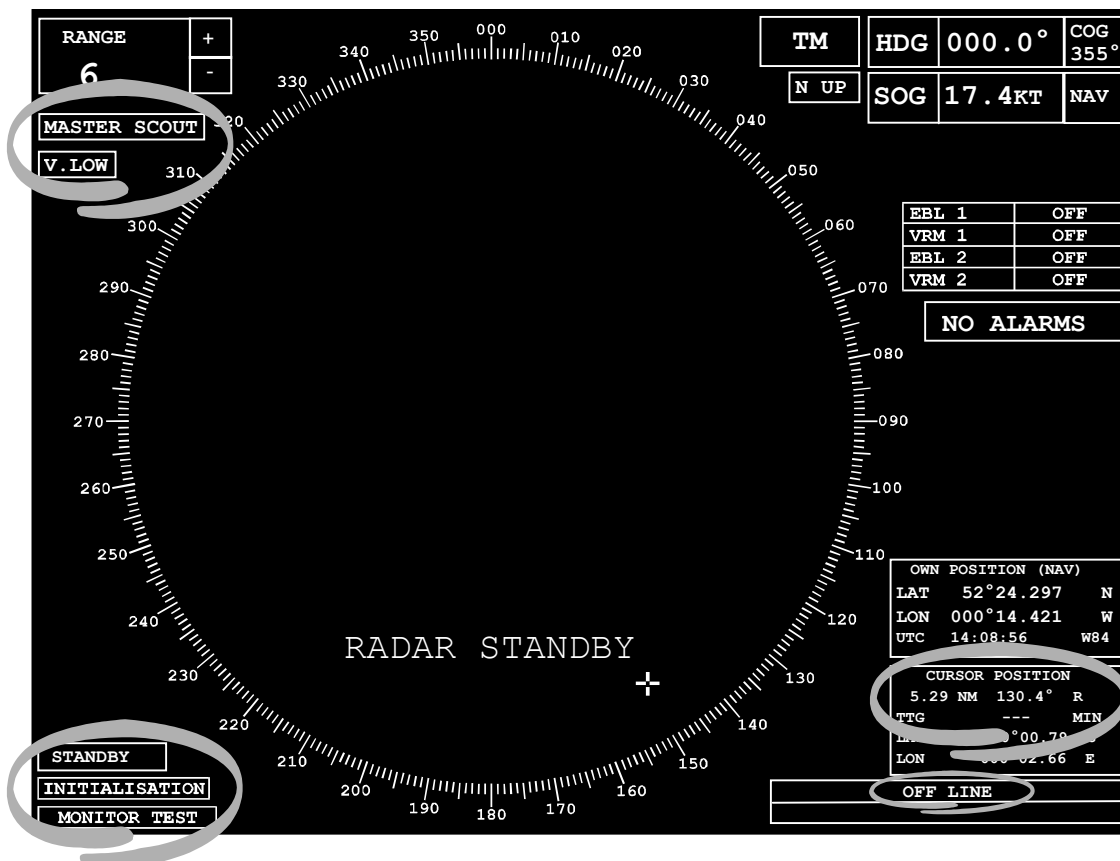
Covered in this chapter:

- Switching on and starting up the radar.
- A description of standby mode.
- How to operate the radar using the screen controls and the joystick/trackerball.
- Selecting different modes of operation.

Switching On the Radar System
Normal Start Up Sequence
Press the On/Off switch to turn on the radar display A
(normally the Bridge display).

During the start-up sequence, the display is blanked for
approximately 20 seconds.

At the conclusion of the start up sequence the **MASTER
SCOUT** caption is displayed toward the top left hand
corner of the display, and **RADAR STANDBY** is displayed
in the video area of the screen.

If there is a second display in the system press the On/Off
switch to turn on display B (normally the CIC display).

The **SCOUT** or **NAV** caption, relates to the type of
transceiver selected by the master display. The **SCOUT**
transceiver is an LPI FMCW transceiver, and the **NAV**
transceiver is a pulse radar transceiver.

The **MASTER** (or **SLAVE**) caption indicates the control
status of the display. A master display has control over the
transceiver functions. For example if the **NAV** transceiver
is selected functions such as Standby/Transmit, pulse
length, tuning, and tuning mode (AFC or Manual) can be
controlled. For the **SCOUT** transceiver from a master
display you can select: Standby/Transmit, the transmission
frequency, the transmitter power level, and the STC
setting.

A **slave** display has no control over the transceiver. It
must be used in conjunction with a master display which
will provide the necessary transceiver control functions.
The controls associated with transceiver functions are
disabled on a slave display

At system start up the interswitch defaults to Display A (the Bridge display) as Master of SCOUT. If display B is turned **On** when display A is turned **Off** there is no Master display in the system, and the transceiver generates a "TX BIST" alarm due to a "message fail error". To clear the error it is necessary for Display B to request mastership of the transceiver, or for Display A to be turned on.

Nav Radar Start Up (Master Display)
The NAV radar transceiver requires a 90 second warm up period. After the initial 20 seconds, if the NAV transceiver is selected the radar warm up message is displayed together with a 3-digit counter.
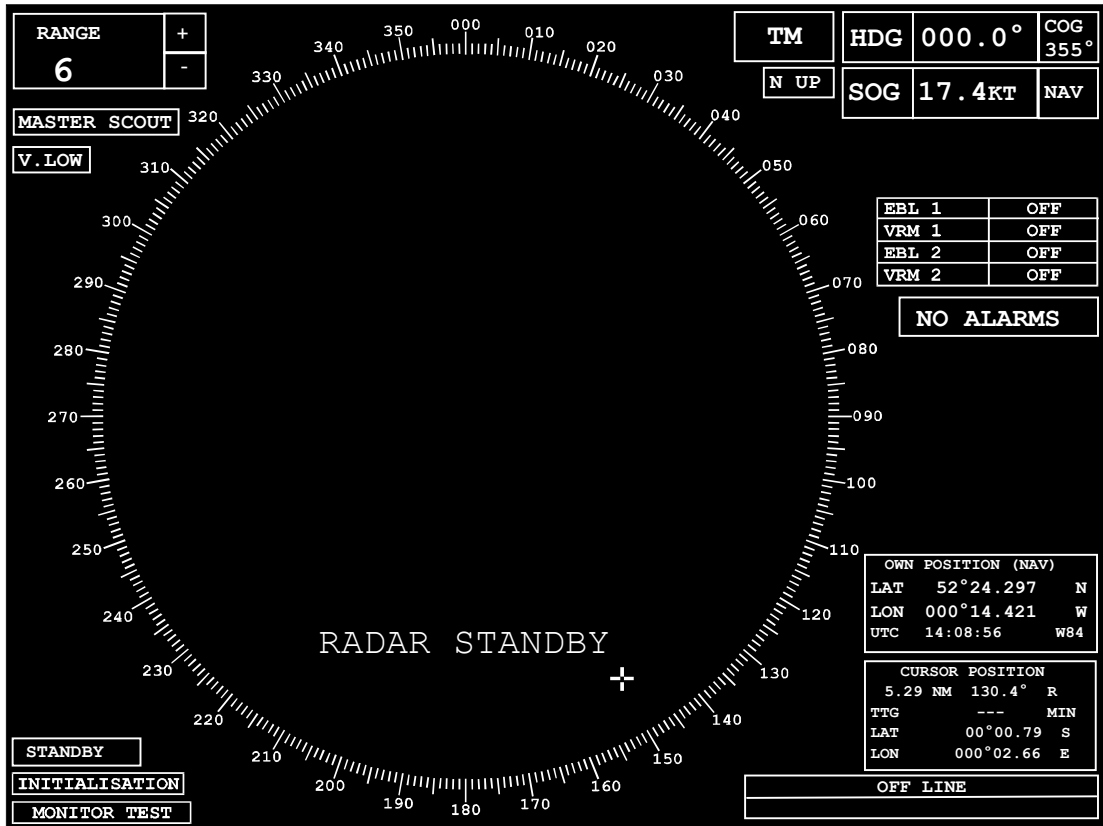
```
            RADAR WARMING UP
              PLEASE WAIT
                  nnn
```

The counter (**nnn**) will increment every second up to a maximum of 999 during the period that the transceiver timer is running. When the transceiver has warmed up and is available to transmit, the timer stops and the radar standby message is displayed. This should occur after approximately 90 seconds a delay significantly longer than 90 seconds indicates a fault. If the transceiver is already warmed up and available to transmit, the **RADAR STANDBY** message is displayed immediately after the 20 second start up sequence.

Slave Display Start Up
After the initial 20 seconds, the **RADAR STANDBY** message is displayed.

Standby Mode

```
RANGE    +        350   000  010           TM   HDG  000.0°  COG
                340              020                         355°
  6      -    330               030
                              040       N UP  SOG  17.4KT  NAV
MASTER SCOUT 320                050
V.LOW      310                   060       EBL 1        OFF
                                           VRM 1        OFF
     300                          060      EBL 2        OFF
                                           VRM 2        OFF
  290                              070
                                              NO ALARMS
  280                              080

  270                              090

  260                             100

  250                           110      OWN POSITION (NAV)
                                         LAT    52°24.297   N
  240                        120         LON  000°14.421    W
        RADAR  STANDBY                    UTC   14:08:56    W84
  230                  +    130
                                            CURSOR POSITION
   220                    140            5.29 NM  130.4°  R
        210            150                TTG        ---    MIN
STANDBY                                   LAT        00°00.79  S
INITIALISATION  200  160                  LON       000°02.66  E
MONITOR TEST  190 180 170                        OFF LINE
```
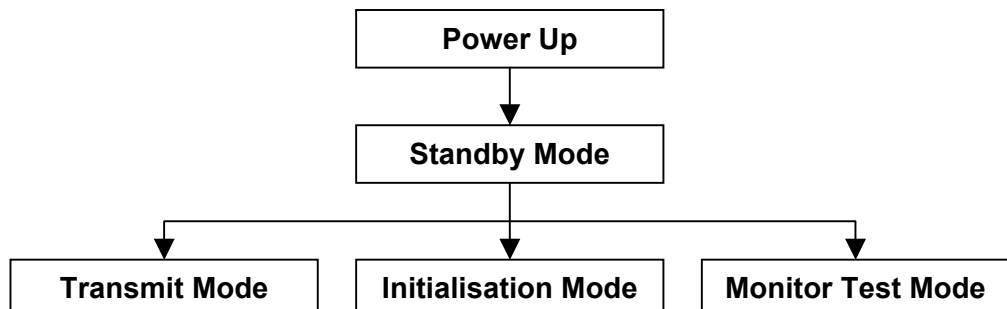
The system always powers up in standby mode with
display A as master of SCOUT.

The other start up defaults are

Range   6nm
Power   Very Low
*STC   Level 0
*Frequency   F1
            *Not shown on Standby screen.

From standby, the other display modes can be selected.

```
              ┌──────────────┐
              │   Power Up   │
              └──────┬───────┘
                     │
              ┌──────▼───────┐
              │ Standby Mode │
              └──────┬───────┘
         ┌───────────┼───────────┐
         ▼           ▼           ▼
┌────────────┐ ┌──────────────┐ ┌─────────────────┐
│Transmit Mode│ │Initialisation│ │Monitor Test Mode│
│            │ │    Mode      │ │                 │
└────────────┘ └──────────────┘ └─────────────────┘
```

In standby mode, a number of functions are available which allow the display to be set up for operation. For example, the displayed radar range can be set, and maps can be created and stored for future use.

The following functions can be accessed from standby mode.

Brilliance	Chapter 3
Cursor data	Chapter 3
Range selection	Chapter 3
User data	Chapter 3
Heading	Chapter 4
Speed	Chapter 4
Presentation & Motion modes	Chapter 5
EBL/VRM	Chapter 6
ARPA	Chapter 8
Navigation	Chapter 9
Parallel index lines	Chapter 11
Maps	Chapter 10
Alarms	Chapter 13
System	Chapter 14

These functions are described in the chapters indicated.

If you are not familiar with using the radar, it is strongly recommended that you read the following section **Using the Radar Controls**. This describes how to interact with the display in order to operate the radar. This is applicable to all its functions and to all modes of operation.
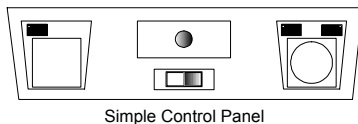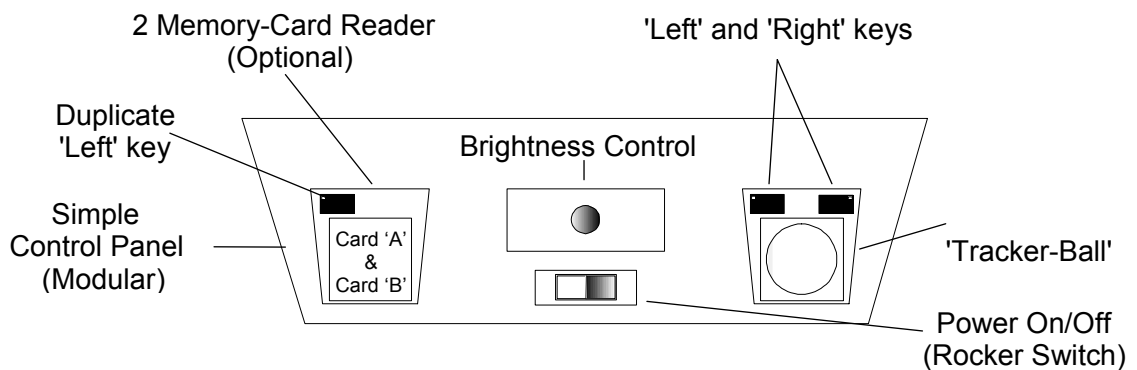
If you are already familiar with the radar operation and want to start transmitting, go straight to the section on **Selecting a Mode of Operation**.

Using the Radar Controls

Control Panels

There are two types of control panel in current use for controlling the radar, a **Simple** Control Panel and an optional **Dedicated** Control Panel.

For the Hellenic Navy Combattante III only the simple control panel is applicable

2 Memory-Card Reader
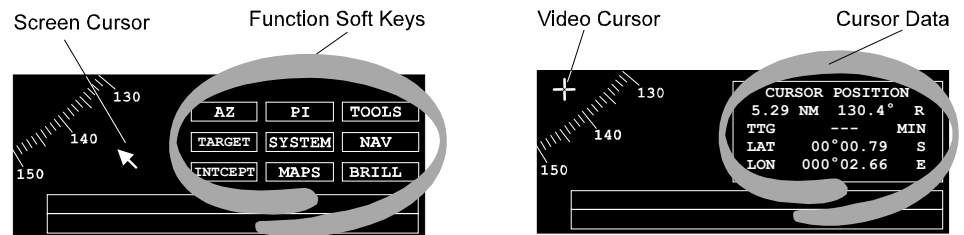(Optional)   'Left' and 'Right' keys

Duplicate
'Left' key   Brightness Control

Simple
Control Panel
(Modular)

Card 'A'
&
Card 'B'

'Tracker-Ball'

Power On/Off
(Rocker Switch)

Simple Control Panel

Simple Control Panel

The simple control panel is made up of a number of modules which are usually mounted immediately under the display monitor. A simple pointing device (trackerball), with two associated keys (left and right), is used to control the radar and its display. See diagram above. The trackerball controls the position of the on-screen cursor which is displayed as a small white arrow when positioned outside the radar circle, see **The On-screen Cursor** later in this chapter.

Selections are made by positioning the on-screen cursor over an object or caption and clicking (press and release) with the 'left' key. The left key is duplicated on the left hand side of the control panel, to enable two handed operation. The 'right' key is used on some items to provide additional functionality when available.

Note – *Throughout this manual, instructions to 'left click' or 'right click' relate to a press-and-release of either of the left keys or the right key.*
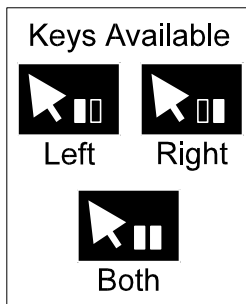
The On-screen Cursor
When the on-screen cursor is outside the video circle, it is displayed as a small white arrow, referred to as the **screen cursor** - see example below. As the cursor passes into the video circle it changes and is displayed as a small white cross, referred to as the **video cursor**.
`

Screen Cursor   Function Soft Keys   Video Cursor   Cursor Data

AZ	PI	TOOLS
TARGET	SYSTEM	NAV
INTCEPT	MAPS	BRILL

```
130
140
150
```

```
      130    CURSOR POSITION
+            5.29 NM  130.4°  R
      140    TTG        ---     MIN
      150    LAT    00°00.79   S
             LON   000°02.66   E
```

Keys Available

Left   Right

Both

Screen Cursor
As the screen cursor moves over a caption or item which can be accessed, its box is highlighted (drawn in white), and two small boxes (representing the left and right keys) appear next to the arrowhead cursor. One or both of these boxes is filled in white to indicate which key(s) are active and available for selection, see example left.

Note – For reasons of clarity and to avoid conflicting information, the screen cursor is shown without its associated left/right key boxes in the diagrams throughout the rest of the manual.

If a caption box is not highlighted as the cursor passes over it, it indicates that the caption or item inside the box cannot be accessed in the current mode.

Drop down menu options are highlighted in yellow as the cursor passes over them. If a particular option is not available it will not be highlighted. Options which can never be selected because of the current radar configuration, are NOT shown.

If an adjustable parameter is selected, the cursor will disappear and the parameter is displayed in yellow (as a number or control bar). If an adjustment is not made within 10 seconds, the parameter will be automatically deselected, and the cursor will reappear.

Video Cursor

Whenever the video cursor is displayed, a dialog box giving a readout of the cursor's position within the video circle, replaces the usual function soft keys shown in the bottom right hand corner of the display. By default this box gives cursor range and bearing (from own ship), cursor lat/long and cursor time to go (TTG).

Note – Soft keys are small, boxed areas of the screen, usually containing a single caption, which respond in much the same way as the dedicated function keys of a computer keyboard.

In TRANSMIT mode, the range and bearing of the cursor are with respect to own ship's position. In STANDBY mode, the range and bearing are with respect to the centre of the video circle.

Note – If, when in TRANSMIT, own ship's position is lost, or there is a compass error, the lat/lon readings are replaced by dashes.

Help Area

A help area consisting of two lines of yellow text is given in the bottom right hand corner of the display.

```
This line is used for PERMANENT PROMPTS
This line is used for TEMPORARY PROMPTS
```

This area is used to provide prompt information when, for instance, the user is trying to make a selection which conflicts with the existing set up. In the following chapters, most of the prompts the user will encounter are identified and explained. The prompts are by nature brief but are generally self explanatory.

Permanent prompts, when they exist, are displayed on the two lines. Temporary prompts are displayed on the lower line. In the default condition both lines are blank, unless in Standby when the permanent prompt OFF LINE is displayed.

```
                        Off line
```
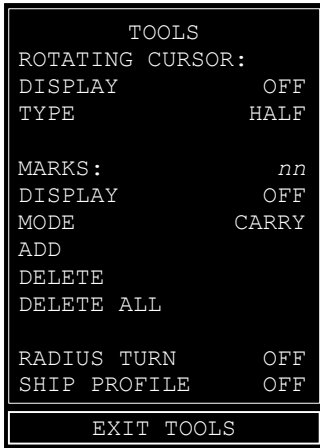
When the autotrack synthetics (information displays) are turned OFF, an appropriate message is permanently displayed on the upper line.

```
                    Target display off
```

```
 ┌──────┐ ┌──────┐ ┌───────┐
 │  AZ  │ │  PI  │ │ TOOLS │
 └──────┘ └──────┘ └───────┘
 ┌────────┐ ┌────────┐ ┌──────┐
 │ TARGET │ │ SYSTEM │ │ NAV  │
 └────────┘ └────────┘ └──────┘
 ┌─────────┐ ┌──────┐ ┌───────┐
 │ INTCEPT │ │ MAPS │ │ BRILL │
 └─────────┘ └──────┘ └───────┘
```

Soft Keys and Fixed Menus

A series of functional soft keys are displayed in the bottom right hand corner of the display.

```
┌─────────────────────────────┐
│          TOOLS              │
│ ROTATING CURSOR:            │
│ DISPLAY              OFF     │
│ TYPE                 HALF    │
│                             │
│ MARKS:                nn     │
│ DISPLAY              OFF     │
│ MODE               CARRY     │
│ ADD                         │
│ DELETE                      │
│ DELETE ALL                  │
│                             │
│ RADIUS TURN          OFF     │
│ SHIP PROFILE         OFF     │
│ ┌─────────────────────────┐ │
│ │      EXIT TOOLS         │ │
│ └─────────────────────────┘ │
└─────────────────────────────┘
```

A **left** click on any one of these keys will reveal a fixed menu and a new set of soft keys associated with that menu. The menu appears in the area immediately above the soft keys. As an example, the fixed menu and soft key for the TOOLS option are shown on the left.

A **right** click on some of the function soft keys will provide additional functionality, for example switching the Maps in the video circle ON or OFF.

Items from the menu are usually selected by a left click.

Restricted Access when in Edit Mode

Some of the soft key functions permit editing as part of their functionality. For example, Map and Folio Editing (Chapter 10) and Index Line Editing (Chapter 11). When an edit mode is selected, a permanent prompt appears in the help area, and access to some of the normal operating facilities is restricted.

```
┌───────────────────────────────────────────────┐
│                 In edit mode                   │
└───────────────────────────────────────────────┘
```

As editing is usually performed within the video circle, the following picture related facilities are unavailable during editing.

- Off-centring own ship by dragging.
- Changing ERBL/VRM by dragging.
- Acquiring or Cancelling Targets.
- Selecting from the Target Tote.
- Selecting a new Speed Mode.
- Aligning the Compass.
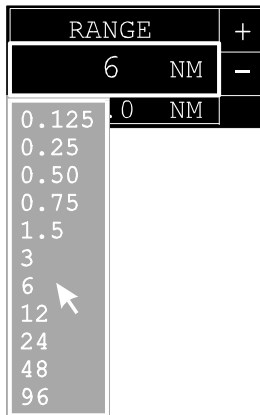
Drop Down Menus

Where there are a number of fixed selections for a particular parameter, for example RANGE in the top left hand corner of the display, a left click will reveal a drop down menu of the alternatives available.

A drop down menu is usually displayed in the vicinity of the screen cursor when the selection is made. Once a menu is displayed, the cursor is restricted to the area within the menu and selections are made with a left click. A right click <u>will close the menu without taking further action</u> (ie Cancel).

Further information on drop down menus and keypads, is given in Chapter 15.

Selecting a Display Mode of Operation

From the STANDBY display, there are three selections available.

TRANSMIT

The normal operational mode. The antenna is rotating and the transceiver transmits and receives radar pulses enabling a radar picture to be displayed.

INITIALISATION

The system initialisation mode. This is used to set up the system parameters during installation. (See Ship's Manual, Chapter 4).

MONITOR TEST

The test mode. This is used to set up the monitor, eg Geometry, pre-set contrast etc. (See Ship's Manual, Chapter 5).

The soft keys for selecting these modes of operation are located in the bottom left hand corner of the display.

To Select a Mode

1. Use the cursor control to position the screen cursor over the soft key for the mode required.
2. Left click to select.

To Select Transmit

1. Use the cursor control to position the screen cursor over the soft key STANDBY at the bottom left hand corner of the display.
2. Left click to select.

Note – A slave display can only be switched to TRANSMIT if its associated master display is in Transmit mode. If TRANSMIT is selected on a slave display when its master radar is still in Standby (NOT transmitting), the following prompt is displayed and the slave remains in Standby.

```
Master in standby
```