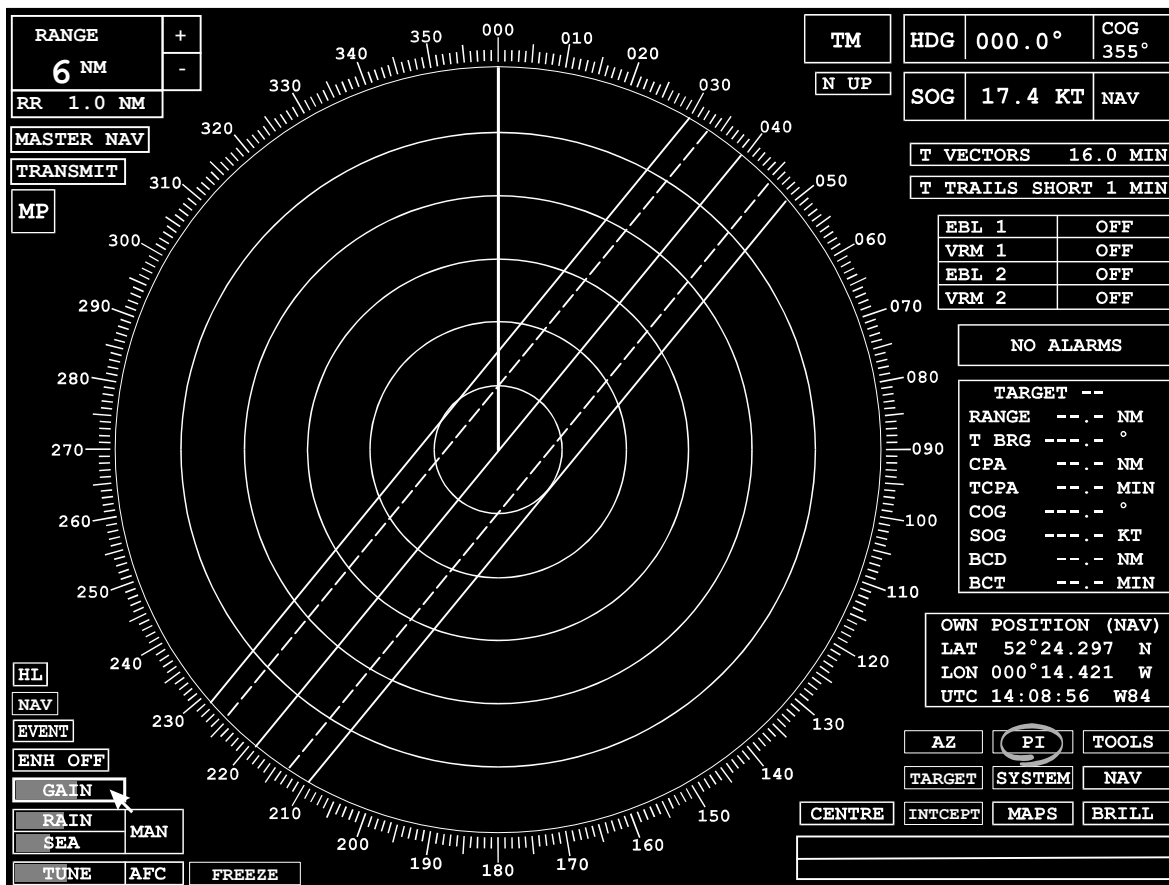


# CHAPTER 11

## Parallel Index Lines



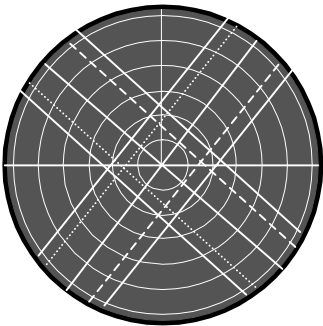
### Covered in this chapter:

- Displaying index lines.
- Creating index lines and group.
- Editing index lines and groups-range, bearing clipping.
- Saving and retrieving groups to/from memory card.

## Introduction

A summary of the Index Line features are as follows:-

- Simultaneous display of up to fifteen index lines at a time.
- Grouping of index lines into groups of five lines each.
- The definition of 'clipping' points so that lines can have finite length.
- The storage of index line groups on a memory card.



Index lines are available in all presentation modes and motion modes, in Transmit and Standby, but only on range scales of 0.25 nm and above. Selecting an invalid range scale will suppress the display of index lines until a valid range is reselected.

Each index line is defined by the range of its closest point to own ship, its bearing and its line type. Bearings are true when in a stabilised presentation mode, but relative to own ship's head when in an unstabilised mode.

Switching between stabilised and unstabilised presentation modes, or between standby and transmit, causes the display of index lines to be switched off.

## Turning Index Display Lines ON and OFF

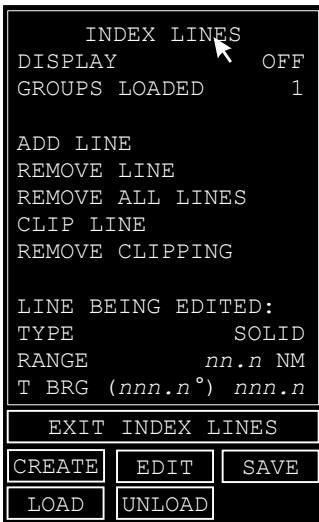
1. Position the screen cursor over the PI soft key.
2. Right click to toggle the lines ON or OFF.



*Note - Consecutive right clicks on the PI soft key toggles the display of index lines ON and OFF. When switched-ON, only Groups of defined index lines which were previously selected are displayed. A left click on the PI soft key will reveal the INDEX LINES (Advanced) menu which is used for selecting, editing and storing groups of index lines. See Index Line Editing later in the chapter.*

### Accessing the Index Lines Menu

1. Position the screen cursor over the PI soft key which is located in the bottom right corner of the display.
2. Left click to reveal the Index Lines menu. See example below:-



*Note - A left click on the EXIT INDEX LINES soft key will close the menu.*

### Turning Index Lines ON and OFF

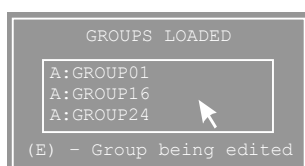
1. Within the menu, position the screen cursor over the DISPLAY line.
2. Left click to toggle index lines between ON and OFF. An appropriate prompt is displayed if conditions are incorrect.



### Listing the Currently Loaded Groups

The number displayed at the end of the GROUPS LOADED line in the menu indicates the number of index lines groups which are currently loaded. A group which is being edited is counted as having been loaded. See Loading and Unloading Groups later in the chapter.

1. Within the menu, position the screen cursor over the GROUPS LOADED line.
2. Left click to reveal a list of the currently loaded groups. See example left.
3. Right click to close the menu.



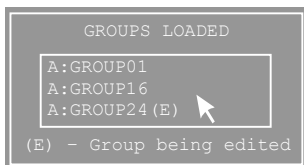
## Index Line Editing

Within the INDEX LINES menu, all lines from ADD LINE to T-BRG (or R-BRG) are used for editing, but are not active until edit mode is selected.

### Selecting the EDIT mode



1. Position the screen cursor over the EDIT soft key located under the Index Lines Menu.
2. Left click to access.  
If conditions allow editing the dialog box shown left is revealed inviting the operator to select the group to be edited. If not, a suitable prompt is displayed.
3. Left click on the group required. If the group you wish to edit is not included in the list refer to Loading and Unloading Groups later in the chapter.  
Pivot points appear on all lines of the selected group. All lines in the group can now be edited.

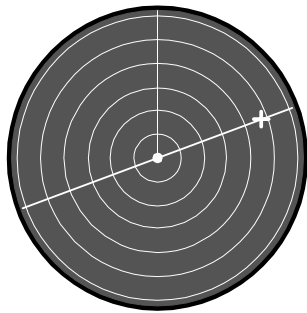


*Note - A right click in the dialog box will remove the box without further action. Once a group has been selected, the letter (E) will appear against that group when the dialog box is next displayed. See example left. Only one group can be edited at a time, and groups which are loaded but not being edited are displayed less brightly in the video circle, and without pivot points.*

### Selecting a Line for Editing

The range and bearing of a selected line can be changed by dragging the line within the video circle, or from within the menu using the cursor control or a series of drop down keypads.

1. Within the video circle, position the screen cursor on the line to be edited.
2. Left click to select.  
The selected line will be drawn in magenta and its pivot point is marked by a small filled circle. The pivot point is only used during editing. All other lines in the group are drawn in blue.



Drag line to change bearing

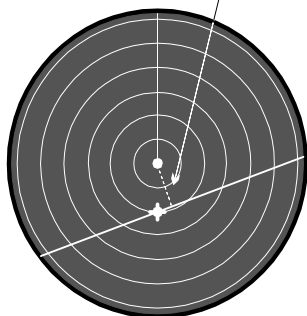
### Changing the Bearing of Selected Line

1. Within the video circle, position the video cursor over any point on the line other than that pivot point.
2. Press and hold down the left key.
3. Rotate the line about the pivot point by dragging to the required bearing. The bearing is automatically updated in the menu.
4. Release the left key.

Alternatively a left click on the BRG line in the INDEX LINES menu will allow adjustment using movement of the cursor control. A right click will reveal a drop down numeric keypad from where a new bearing can be entered. Refer to Chapter 15 in User Guide.

The figure given in brackets in the BRG line is the reciprocal bearing of the selected line and is for information only.

Range is shortest distance to Index Line

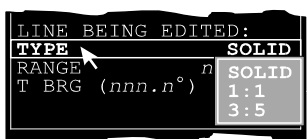


Drag pivot point to change range

### Changing the Range of Selected Line

1. Within the video circle, place the video cursor over the pivot point of the selected line.
2. Press and hold down the left key.
3. Drag the line to the required range from own ship. The range is automatically updated in the menu.  
*Note - Range is the shortest distance from Own Ship to index line.*
4. Release the left key.

Alternatively a left click on the RANGE line in the INDEX LINES menu will allow adjustment using movement of the cursor control. A right click will reveal a drop down numeric keypad from where a new range can be entered. Refer to Chapter 15 in User Guide.



### Changing the Line Type of Selected Line

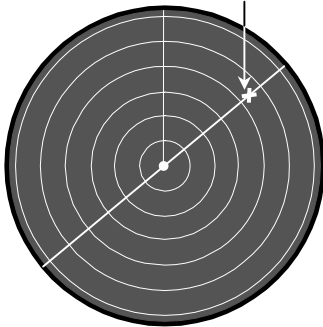
1. Position the screen cursor over the TYPE line in the menu.
2. Left click to cycle through the line types available (SOLID, or mark/space ration 1:1 or 3:5). The line type displayed is the line type selected. A right click will reveal a drop down menu, as shown on the left, containing a list of the line types available. Left click on the line type required.

### Clipping the Selected Line

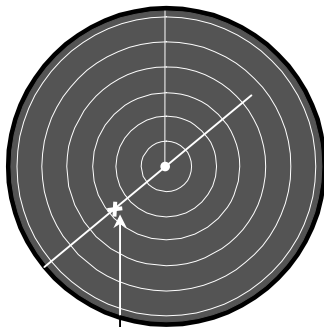
Index lines normally span the full video circle. The clipping facility allows a line to be clipped (shortened) to give it a finite length.



First clipping point



1. Position the screen cursor over the CLIP LINE caption in the INDEX LINES menu.
2. Left click to access.  
The line in the menu will be displayed in yellow.
3. Within the video circle, position the video cursor over the line to be clipped at the point where clipping is required (the first clipping point, see example left).
4. Left click to clip the line.  
The shortened line will be drawn in magenta, clipped at the appropriate point.
5. If a second clipping point is required, position the video cursor at the point where clipping is required.
6. Left click to clip the line.  
The line will now be drawn between the two clipping points. If necessary, the pivot point will be repositioned automatically. If required, steps 3 to 6 can be repeated on all lines in the group.

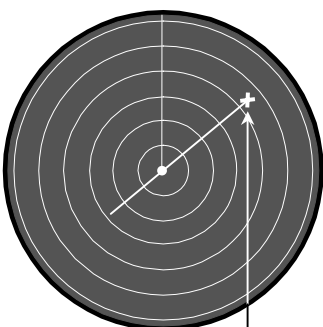


Second clipping point

A further left click on the CLIP LINE caption in the INDEX LINES menu will return the caption to its original colour and return editing to the 'edit by dragging' mode.

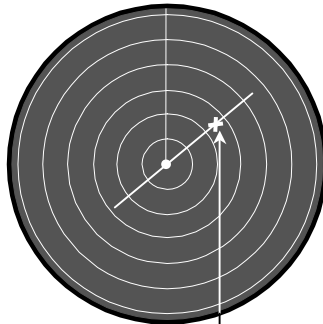
When in 'edit by dragging' mode, index lines which have already been clipped, can be fine tuned by further editing as follows.

*Note - It is only existing clipping points that can be edited, new clipping points cannot be applied in this editing mode.*



Drag end of line to adjust clipping

1. Within the video circle, position the video cursor over the clipped end of the index line which is to be adjusted.
2. Press and hold down the left key.
3. Drag the end of the line (the clipped point) to the required position. The cursor is constrained to the line's bearing (the line can only be shortened or lengthened), leaving the line's range and bearing unchanged.
4. Release the left key.



Left click to  
remove clipping

### Removing Clipping from a Selected Line

1. Position the screen cursor over the REMOVE CLIPPING caption in the
2. Left click to access.  
The caption in the menu will be displayed in yellow.
3. Within the video circle, position the video cursor over the line to be unclipped.
4. Left click on any point along the line to remove clipping, see example left.  
The unclipped line will retain its range and bearing, and will be drawn in magenta spanning the full video circle. If required, steps 3 and 4 can be repeated on all lines in the group.

A further left click on the REMOVE CLIPPING line in the INDEX LINES menu will return the caption to its original colour and return editing to the 'edit by dragging mode'.

### Index Group Editing

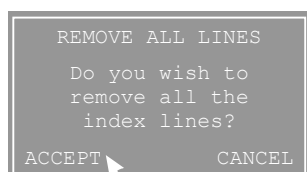
#### Removing a Line from the Selected Group



1. Position the screen cursor over the REMOVE LINE caption in the INDEX LINES menu.
2. Left click to access.  
The caption in the menu will be displayed in yellow.
3. Within the video circle, position the video cursor over the line to be removed.
4. Left click to remove.  
If required, steps 3 and 4 can be repeated on all lines in the group.

A further left click on the REMOVE LINE caption in the INDEX LINES menu will return the caption to its original colour and return editing to the 'edit by dragging mode'.

#### Removing ALL Lines from the Selected Group



1. Position the screen cursor over the REMOVE ALL LINES caption in the INDEX LINES menu.
2. Left click to remove all lines.  
A dialog box requesting confirmation will appear, see example left.
3. Within the dialog box, click on ACCEPT to remove all lines.



### Adding a Line to the Selected Group

1. Position the screen cursor over the ADD LINE caption in the INDEX LINES menu.
2. Left click to add.  
The new line (at full video circle width) will be drawn in magenta through own ship with its pivot point on own ship.

If the group already has its full quota of lines (five) the following prompt is displayed and no new line is added.



Once a line has been added, it can be edited in any of the ways already explained (a change of range and bearing, a change of line type and line clipping).

### Creating a New Group of Index Lines



1. Position the screen cursor over the CREATE soft key located under the menu.
2. Left click to access.  
If conditions allow, and there are less than three groups already loaded, the edit mode is entered and a new group of lines can be created using the edit procedures already described (initially by using ADD LINE). A suitable prompt will be displayed if three groups are already loaded. To create a new group, one of the groups already loaded must first be unloaded. See Loading and Unloading Groups which follows.

### Loading and Unloading Groups

The LOAD key allows a new group of index lines to be loaded, even while editing. The UNLOAD key allows any one of the groups already loaded (except for the group being edited) to be unloaded.

#### Loading a New Group



1. Position the screen cursor over the LOAD soft key located under the menu.
2. Left click to reveal a list of the groups available for loading.

The list is for a particular file card (A or B) and contains the file names of the groups available for selection, see Chapter 15 in the User Guide.

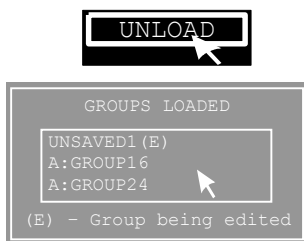


3. Left click on the group required.  
A suitable prompt is raised if three groups are already loaded. In this case a group must be unloaded before a new group can be added.

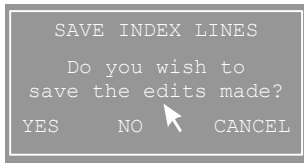
Note - Once a Group file(s) has been loaded from a *memory card*, that card can be removed without affecting the displayed graphics. The loaded file will remain in the radar's volatile memory until the radar is switched off.

### Unloading a Group

1. Position the screen cursor over the UNLOAD soft key located under the menu.
2. Left click to reveal a list of the groups already loading. The list will include the card and file name of the groups where appropriate. It will also list any unsaved groups (groups which have been edited or created but not yet saved).
3. Left click on the group to be unloaded.



Note - Unsaved groups are always labelled as UNSAVEDx where 'x' is a number from 1 to 3. Unsaved groups will be lost if unloaded.



### Exiting from Edit Mode

Edit mode can be exited either by a second left click on the EDIT or CREATE soft keys (as appropriate) or by a left click on the SAVE soft key. If an exit is attempted via the EDIT or CREATE soft keys, the dialog box shown on the left is displayed.

*Note - Unsaved groups remain in the radar's volatile memory until the radar is switched-off. When the radar is switched-off, any unsaved groups are erased and cannot be recovered.*

From within the dialog box, left click on NO to exit without saving.

YES to reveal a dropdown alphanumeric keypad from where a memory card and file name can be entered. See Chapter 15 in User Guide.

CANCEL to close the dialog box without further action.

### Saving a Group

The group currently selected as the group for editing, can be saved at any time using the SAVE soft key.

1. Ensure the group to be saved is selected for editing. (Left click on the EDIT soft key and select group from dialog box).



2. Position the screen cursor over the SAVE soft key located under the menu.

3. Left click to save.

A drop down alphanumeric keypad will be revealed from where a memory card and file name can be entered. See Chapter 15 in User Guide.

4. If required, repeat steps 1 to 3 to save other groups.