EUROCONTROL

EXPERIMENTAL CENTRE

FACILITY SPECIFICATION

S08 - ANT-RVSM

REAL-TIME SIMULATION

PART 3 - TECHNICAL

VERSION 2.0

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1. INTRODUCTION

1.1 PURPOSE

(1) The purpose of part 3 of the Facility Specification shall be to provide a description of the technical aspects of the simulation facility. The descriptive part shall be provided in the main body of the document whilst detailed coding or algorithm requirements shall be described in attached annexes to this section.

(2) The annex sections shall be for internal EEC use.

(3) Where detailed specification already exists in EEC USRDs then these shall be referenced in this document with a summary decryption of the requirement provided.

1.2 EEC PROJECT NUMBER, TITLE, CLIENT AND SPONSOR.

(1) The Technical EEC Project Number shall be S08

(2) The Project Title shall be ANT-RVSM.

(3) The Simulation Client shall be the RVSM Ops Task Force (ANT).

(4) The Simulation Sponsor shall be EUROCONTROL.

1.3 RELATED DOCUMENTS

(1) Documents related to the project include :

- S08 Project Plan
- Client Operational Specification
- S08 Facility Specification Parts 1, 2 and 3
- S08 Controller Notes

2. OVERVIEW OF DOCUMENT

(1) Each section will have a brief overview of the component being described.

(2) The section dealing with specific requirements takes each requirement in turn and then describes it in detail.

(3) Each requirement shall be tagged with a unique requirement number related to the section chapter.This to allow an immediate reference to a requirement in any phase of the simulation. The tag shall have the following format ;

2.1.1	Component Name	Priority	Keywords -specific requirements
Requirement Number	Specification ID	Mandatory Desirable Optional	Keywords

e.g.

4.1.1	Input Device	Mandatory	mouse : Action Button AB

(5) The fields in the requirement tag are :

- Requirement Number : a unique number allocated to the requirement.
- Specification ID : the name of the component being specified.
- Priority :

  ◊ Mandatory - implies that the component will not be acceptable unless this requirement is fulfilled.
  ◊ Desirable - implies that the requirement would enhance the component but would not make it unacceptable if absent.
  ◊ Optional - implies that the requirement may or may not be worthwhile, which gives the opportunity to propose something that exceeds the users needs.

- Keywords : used to give an idea as to the subject that the requirement addresses.

Each of these tagged requirements shall be traceable in all resulting design documents and final acceptance and validation test documents

3. HMI FUNCTIONS

3.1 MOUSE INPUT DEVICE

3.1.1	Input Device	Mandatory	Scope

(1) It shall be possible to dialogue with the system and access all functions initiated through designated data fields using a mouse input device.

(2) Dialogue may differ on a particular field when the state of that field has changed e.g. XFL status during coordination will be different to the normal status.

(3) Where two controllers work the same sector using separate CWP's (Controller Working Positions) either controller may make inputs on a flight at any time. The result of any new value input to the system is independent of the controller who initiates the action, and is re-displayed to both positions.

(4) Where a display of information is initiated then the information will only be displayed to the controller who requested it.

3.1.2	Input Device	Mandatory	Display mode

(1) When using mouse input,only one display mode shall be possible:

- **Fixed**, when the window or the information remains displayed on screen for successive use by the controller, and is removed only after a specific controller's request

3.1.3	Input Device	Mandatory	3 button mouse

(1) The simulation shall use a 3 button mouse for controller input to the system.

(2) Each button shall have a specific associated action type.

3.1.4	Input Device	Mandatory	Mouse; Action Button (AB)

(1) The left mouse button shall be defined to be the Action Button (AB).

3.1.5	Input Device	Mandatory	Mouse; Information Button (IB)

(1) The middle mouse button shall be defined to be the Information Button (IB).

3.1.6	Input Device	Mandatory	Mouse; Window Management Buttor (WMB)

(1) The right mouse button shall be defined to be the Window Management Button (WMB).

(2) The WMB shall be used for all window management actions e.g. re-size and move

3.1.7	Input Device	Mandatory	mouse : Input type

(1) There shall be four possible input types

- Simple Click
- Double Click
- Press and Hold
- Release

(2) A Simple Click (SC) shall represent a mouse button depressed for a time less or equal to 200 milliseconds.

(3) A Double Click (DC) shall represent two SC executed within a time period of 300 milliseconds.

(4) A Press and Hold (P&H) shall represent a mouse button depress for a time of greater than 200 milliseconds.

(5) A release action (REL) shall represent the end of a P&H action

3.1.7.1	Input Device	Mandatory	Dialogue : Single Click

(1) The SC action initiates a process in fixed mode.

(2) AB SC shall be used to perform an action in fixed mode .

(3) IB SC shall be used to display information in fixed mode.

(4) WMB SC shall be used to paginate a window using the scroll bar.

3.1.7.2	Input Device	Mandatory	Dialogue : Double Click

(1) AB DC shall be used as a fast means to obtain the re-centring of the cursor.

3.1.7.3	Input Device	Mandatory	Dialogue : Press & Hold (P&H)

(1) P&H initiates a process in quick look mode, i.e. the process terminates when the P&H action is completed

(2) AB P&H may be used to perform an action in quick look mode .

(3) AB P&H may be used to scroll a window using the scroll bar.

(4) IB P&H shall be used to display information in quick look mode .

(5) WMB P&H shall be used to move or re-size a window.

3.1.7.4	Input Device	Mandatory	Dialogue; Release

(1) REL terminates a process initiated by a P&H

(2) AB REL may be used to terminate an action

(3) AB REL may be used to terminate scrolling a window using the scrollbar

(4) IB REL shall be used to cancel the display of information

(5) WMB REL shall be used to teminate the moving or re-sizing of a window

3.2 DEFINITION OF A WINDOW

3.2.1	Window	Mandatory	Definition

(1) A window is an area on the display surface whereby the viewer is presented with informations.

3.2.2	Window	Mandatory	Content

(1) A window shall be able to contain a number of types of display object:

(a) Header

(b) Textual data

(c) Graphic images; e.g. maps

(d) Function buttons; e.g. iconify button

(e) Sliders; e.g. zoom slider

(f) Scroll bars

3.2.3	Window	Mandatory	Display Attributes

(1) The physical appearance of a window shall be characterised by a set of Display Attributes.

(2) These display attributes shall include:

(a) Frame

(b) Header

(c) Background Colour

(d) Foreground Colours

(e) Text Fonts

(f) Default Size

(g) Maximum Size

(h) Default Position

3.2.4	Window	Mandatory	Display Attributes : Frame

(1) It shall be possible to define whether a window has a frame or not.

(2) If a window has a frame then a solid line shall enclose the window. The colour of this line shall be specified as a parameter.

(3) If a window has no frame then it shall not be enclosed.

3.2.5	Window	Mandatory	Display Attributes : Header

(1) It shall be possible to define whether a window has a header or not.

(2) If a window has a header then a portion on the upper side of the window shall be reserved for the header display.

(3) The number of lines contained in the header shall be specified as a parameter.

(4) The header portion of the window shall not be scrollable.

3.2.6	Window	Mandatory	Display Attributes : Background Colour

(1) It shall be possible to define the background colour for a window.

(2) The background colour shall be a single colour displayed as the background for the entire window.

(3) The background colour shall correspond to a colour defined in the Colour Definition Table (cfr. 4.1)

3.2.7	Window	Mandatory	Display Attributes : Foreground Colour

(1) The foreground colour shall be defined for individual objects displayed in a window.

(2) The foreground colours shall be fixed or conditional (i.e. related to the “state” of the display object).

(3) Each foreground colour shall correspond to a colour defined in the Colour Definition Table (cfr. 4.1)

3.2.8	Window	Mandatory	Display Attributes: Text Fonts

(1) Text fonts shall be defined by font type and by size.

(2) Text fonts shall be defined according to the Font Definition Table (cfr.4.2)

3.2.9	Window	Mandatory	Display Attributes; Default Size

(1) The default window size shall be defined in terms of X and Y axis.

(2) The default window size shall be expressed in pixels or characters.

(3) Default size shall relate to the window size at exercise initiation and may vary according to data posting during the course of an exercise.

3.2.10	Window	Mandatory	Display Attributes; Maximum Size

(1) The window maximum size shall be defined in terms of X and Y axis.

(2) The maximum window size shall be expressed in pixels or characters.

3.2.11	Window	Mandatory	Display Attributes; Default Position

(1) The default window position shall be defined in terms of X, Y.

(2) The default window position shall be expressed in pixels or characters.

(3) Default window position shall define the position of the window at exercise initiation.

3.2.12	Window	Mandatory	Behavioural Attributes;

(1) The behaviour of the window in response to Window Management actions shall be characterised by a set of Behavioural Attributes.

(2) These behavioural attributes shall include:

- Move
- Re-size
- Iconify
- Scroll
- Priority

(3) Behavioural attributes shall be defined to be:

- fixed
- automatically modified (by the system)
- manually modified (by the controller)

3.2.12.1	Window	Mandatory	Behavioural Attributes : Move

(1) The position of a window shall be defined to be fixed or moveable.

(2) If a window is defined to be moveable, then it shall be possible to modify its on-screen position.

3.2.12.2	Window	Mandatory	Behavioural Attributes : Re-size

(1) The dimensions of a window shall be defined to be fixed or re-sizeable.

(2) If a window is defined to be re-sizeable, then it shall be possible to modify its dimensions.

(3) The re-size of a window shall be defined to be automatic (by the system) or manual (by the controller).

(4) Automatic and manual re-size shall be mutually exclusive.

3.2.12.3	Window	Mandatory	Behavioural Attributes : Iconify

(1) A window shall be defined to be iconifiable or non-iconifiable.

(2) A window which is defined to be iconifiable shall contain an iconify button in the top right corner of the window.

(3) The iconify button shall be small, and no text shall be displayed.

(4) Through SC AB on the iconify button, it shall be possible to modify the displayed aspect of a window from a full display to a small pictorial representation.

(5) The iconified window shall display the window name.

3.2.12.4	Window	Mandatory	Behavioural Attributes : Scroll

(1) A window shall be defined to be scrollable or non-scrollable.

(2) A window which is defined to be scrollable shall contain a scroll-bar along the bottom side of the window when the content of the window exceeds horizontally the displayed page.

(3) A window which is defined to be scrollable shall contain a scroll-bar along the right side of the window when the content of the window exceeds vertically the displayed page.

(4) A scroll bar shall be displayed automatically when the window content exceeds the displayed page size.

3.2.12.5	Window	Mandatory	Behavioural Attributes; Scroll : Bar

(1) A scroll bar shall consist of 4 parts:

(a) scroll bar body

(b) slider bar

(c) left/down arrow button

(d) right/up arrow button

3.2.12.6	Window	Mandatory	Behavioural Attributes : Priority

(1) The window priority shall be defined. This shall relate to the ability to swap priority of a particular window.

(2) Priority shall be defined as a number between 1 and 15, where 1 is the highest priority and 15 the lowest.

(3) Windows shall be initially displayed accordingly with their priorities.

(4) A window having priority 1 shall not be swappable, i.e it shall always be displayed on foreground

(5) Windows having a priority lower than 1 shall be swappable, i.e it shall be possible to transfer them from background to foreground and vice-versa.

3.3 WINDOW MANAGEMENT

3.3.1	Window Management	Mandatory	Definition

(1) It shall be possible to modify the display of some windows by interaction using the mouse.

(2) The behavioural attributes of a window shall determine what actions can be performed upon them.

3.3.2	Window Management	Mandatory	Dialogue

(1) Different forms of interaction shall be possible with a window depending on the type of controller input via the mouse.

3.3.3	Window Management	Mandatory	Actions

(1) Standard window management actions shall be possible for windows with dynamic behavioural attributes.

(2) Other actions shall be possible depending on the specific display objects within the window.

3.3.3.1	Window Management	Mandatory	Actions- Move

(1) If a window is defined to be moveable then a WMB P&H in the central part of the window shall initiate the Move process.

(2) The central part of the window shall be as described in **Figure 1. Window Configuration**.

(3) When the move process is initiated a “ghost” outline of the window shall be displayed above the window.

(4) With the WMB depressed, it shall be possible to drag the “ghost” outline to a new position on the screen.

(5) WMB REL action shall cause the window to be cleared from its original position and displayed at the position of the outline. The ghost outline shall be erased.

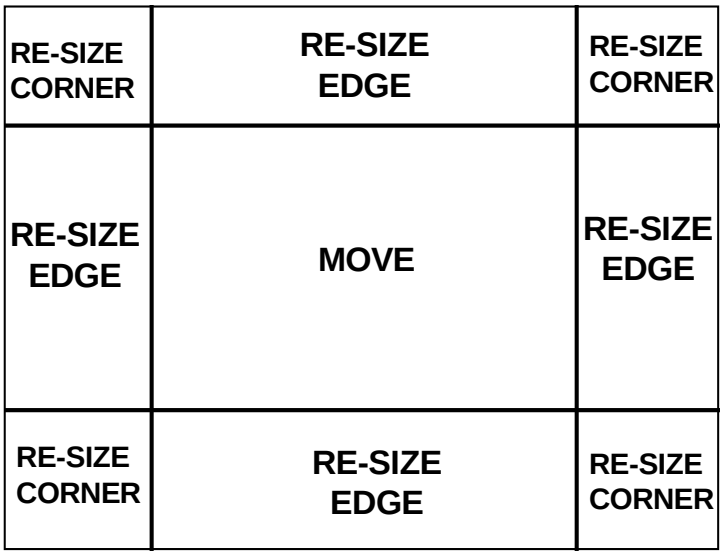

Figure 1. Window Configuration

3.3.3.2	Window Management	Mandatory	Actions- Re-size

(1) If a window is defined to be manually resizeable then a WMB P&H inside the edge or corner part of the window shall initiate the Re-size process.

(2) The edge and corner parts of the window shall be as described in **Figure 1. Window Configuration**.

(3) When the re-size process is initiated a “ghost” outline of the window shall be displayed above the window.

(4) With WMB P&H, it shall be possible to drag the “ghost” outline to a new size either by adjusting two axes or a single axis.

(5) Dragging the “ghost” outline from the corner shall permit a two axes re-size.

(6) Dragging the “ghost” outline from and edge shall permit a single axis re-size.

(7) WMB REL shall cause the window to be changed from its original size and displayed in the new size. The ghost outline shall be erased.

3.3.3.3	Window Management	Mandatory	Actions- Close

(1) If a window is defined to be closeable then an AB SC on a close button located within the window shall close the window.

3.3.3.4	Window Management	Mandatory	Actions- Swap

(1) If a window is defined to be swappable, an WMB SC anywhere on the partially covered window, shall move the window to the front or the back depending on its current priority.

3.3.3.5	Window Management	Mandatory	Actions- Iconify

(1) If a window is defined to be iconifiable, an AB SC on the iconify button located within the window shall iconify the window.

3.3.3.6	Window Management	Mandatory	Actions- De-Iconify

(1) To de-iconify a window, AB SC in the icon window. The original window shall be restored with the same attributes as when it was iconified.

3.3.3.7	Window Management	Mandatory	Actions- Scroll

(1) If a window has scroll bars displayed, it shall be possible to modify the part of the window content that is displayed.

3.3.3.8	Window Management	Mandatory	Actions- Scroll- Page

(1) It shall be possible to scroll a window in pages.

(2) The dimension of a page shall be defined as a parameter.

3.3.3.9	Window Management	Mandatory	Actions- Scroll- Step

(1) It shall be possible to scroll a window in incremental steps.

(2) The dimension of a scroll step shall be dependent on the content type of the window.

(a) The scroll step of a window displaying radar images shall be 10nm.

(b) The scroll step of a window displaying textual information shall be 1 line of text.

3.3.3.10	Window Management	Mandatory	Actions- Scroll Bar Dialogue

(1) SC AB on the scroll bar body, between the slider bar and upper arrow button, shall provoke a half page scroll up.

(2) SC AB on the scroll bar body, between the slider bar and lower arrow button, shall provoke a half page scroll down.

(3) SC AB on the scroll bar body, between the slider bar and left arrow button, shall provoke a half page scroll left.

(4) SC AB on the scroll bar body, between the slider bar and right arrow button, shall provoke a half page scroll right.

(5) SC AB on the up arrow button shall provoke a scroll up of an incremental step.

(6) SC AB on the down arrow button shall provoke a scroll down of an incremental step.

(7) SC AB on the left arrow button shall provoke a scroll left of an incremental step.

(8) SC AB on the right arrow button shall provoke a scroll right of an incremental step.

(9) P&H AB on the slider bar shall allow the slider bar to be dragged within the confines of the scroll bar body. Movements of the slider bar shall cause the window display to be modified accordingly.

4. COLOURS AND FONTS

4.1 COLOUR CODING TABLE

4.1.1	Colour Code	Mandatory	Definition

(1) The colour coding table provides a reference to all colours to be used in the HMI.

4.1.2	Colour Code	Mandatory	Global Colour Table

Palette number	ODS_prep Reference	Name	Red	Green	Blue	R 0-255	G 0-255	B 0-255
		Black	0	0	0	0	0	0
		Cyan	24	96	96			
		Green (light)	81	91	81			
		Green (medium)				117	224	79
		Grey (Dark)				92	87	87
		Grey (medium)				99	94	94
		Grey (light)	52	52	52			
		Kaki (medium)	43	43	35			
		Kaki (light)	54	51	42			
		Orange	53	47	47			
		Pink				235	173	173
		Red	100	0	0	255	0	0
		White	100	100	100	255	255	255
		Yellow (Label)	100	100	50	255	255	127
		Bright Yellow (Speed Vector)	100	100	0	255	255	0

4.2 Fonts Table

4.2.1	Fonts	Mandatory	Definition

(1) The fonts table provides a reference to all fonts to be used in the HMI.

4.2.2	Fonts	Mandatory	Fonts Table

Font Name	Description
Text Small	
Text Large	

5. EQUIPMENT

5.1 TOTAL REQUIREMENT

5.1.1	Equipment	Mandatory	Requirement

(1) The following equipment will be required for the simulation

ITEM	MEASURED	FEED	TOTAL
Sony 28 Inch screen	14		14
Panasonic 20 Inch screen	6	4	4
Techtronics 14 Inch screen	10		10
Strip printer	10		10

5.2 MEASURED CONTROLLER WORKING POSITION (CWP)

5.2.1	Equipment	Mandatory	Sector Layout - Measured

(1) A measured sector will be arranged as per the diagram below

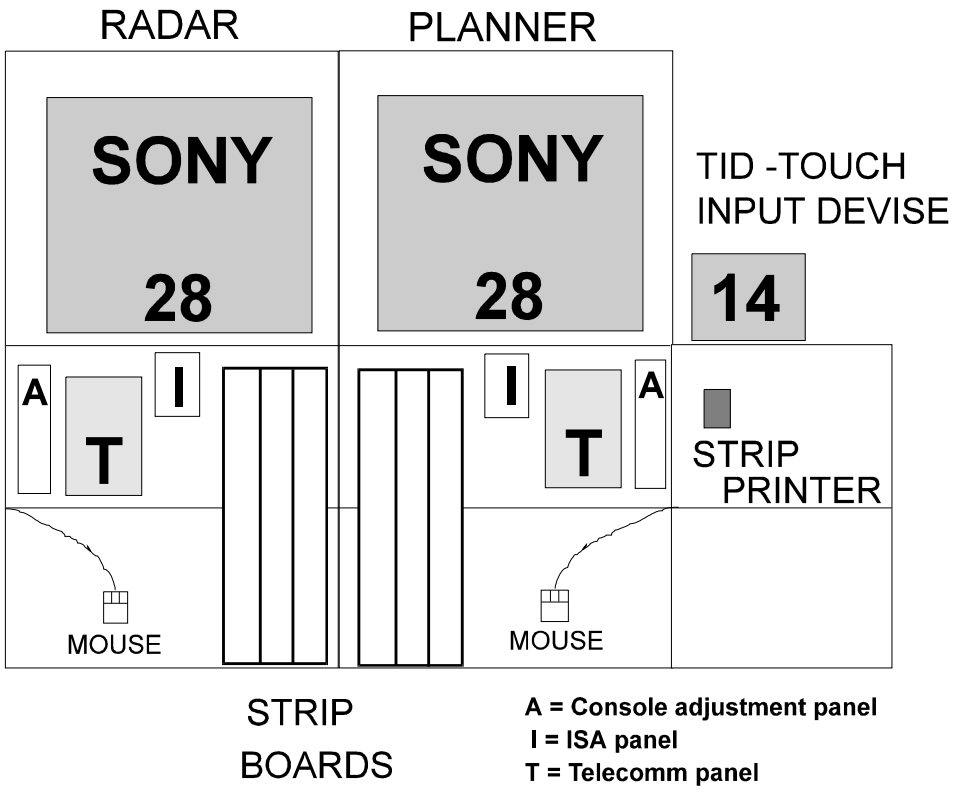

Figure 2. Measured Sector CWP

Note : Where possible a 28 inch Sony screen will be used on the planners position, exact details of screen positions can be found on the Operations Room Layout (see Annex 1).

5.2.2	Equipment	Mandatory	Inventory- Measured

ITEM	RADAR Equipment	PLANNER Equipment
Sony 28" radar display	1	0 or1
Panasonic 20” radar display	0	0 or1
Mouse	1	1
Telecomm	1	1
Strip board (shared)	1	1
Head set	1	1
Tx pedal	1	1
Strip bin	0	1
Strip printer	0	1
TID (Digitatron)	0	1

5.3 FEED CONTROLLER WORKING POSITION (CWP)

5.3.1	Equipment	Mandatory	Sector Layout -Feed

(1) A Feed sector will consist of a Panasonic 20” display with mouse, and supporting telecomm equipment.

5.3.2	Equipment	Mandatory	Inventory- Feed

(1)

ITEM	RADAR Equipment
Panasonic 20” radar display	1
Mouse	1
Telecomm	1
Head set	1
Tx pedal	1

6. RADAR WINDOW (MEASURED SECTORS)

6.1 MEASURED SECTORS

6.1.1	Radar Window	Mandatory	Definition

(1) The Radar Window is a plan view display of the airspace and of the actual traffic situation.

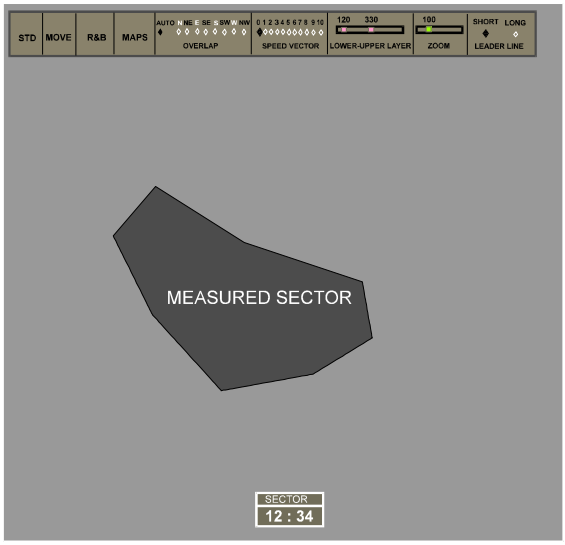

Figure 3. Measured Sector Radar Window

6.1.2	Radar Window	Mandatory	Content

(1) The radar window shall contain the following :

a) Graphical display of maps
b) Aircraft tracks

6.1.3	Radar Window	Mandatory	Initialisation

(1) The radar window shall be displayed at initialisation.

6.1.4	Radar Window	Mandatory	Closure

(1) It shall not be possible to close the radar window.

6.1.5	Radar Window	Mandatory	Display Attributes

(1) The Radar window shall have the following display attributes :

a	Frame	None.
b	Text Fonts	TBD
c	Default size	Full display
e	Maximum Size	Full display
f	Default Position	Full display

6.1.6	Radar Window	Mandatory	Behavioural Attributes

(1) The Radar window shall have the following behavioural attributes :

a	Move	Yes
b	Re-Size	No
c	Iconify	No
d	Scroll	Yes
e	Priority	High : Swappable

6.1.7	Radar Window	Mandatory	Colour

(1) The Radar window colours include (cfr. 4.1) :

a.	Background	Grey (medium)
b.	Sector	Grey (Dark)
c.	Sector border	Grey (Dark) All sectors
d.	Route	Green (light)
e.	Beacons	Green (light) Filled Triangle
f.	Coastline/Frontiers	Cyan
g.	Beacon name	Green (light)
h.	Restricted Area	Orange (outline only)

6.1.8	Radar Window	Mandatory	Dialogue

(1) Dialogue as described for the RDMW (cfr. 8) and radar tracks (cfr. 8.12).

6.1.9	Radar Window	Mandatory	Dynamic Update

(1) The radar window shall be updated cyclically every 8 seconds.

7. TIME WINDOW (MEASURED SECTORS)

7.1.1	Time Window	Mandatory	Time Window : Definition

(1) The time window shall provide the sector name and a digital time readout giving hours and minutes.

7.1.2	Time Window	Mandatory	Time Window : Content

(1) The time window shall display the Sector name and the time in a digital format.

(2) Time shall be displayed in Hours and Minutes in the format HH:MM

(3) The Sector name and the Hour and Minute digits shall be in Text Large fonts (cfr. 4.2).

7.1.3	Time Window	Mandatory	Time Window : Initialisation

(1) The time window shall be displayed at initialisation.

7.1.4	Time Window	Mandatory	Time Window : Opening

(1) The time window shall be open at initialisation.

7.1.5	Time Window	Mandatory	Time Window: Display Attributes

(1) The time window shall have the following display attributes :

a	Frame	Single line
b	Header	Sector name (Variable)
c	Text Fonts	TBD
d	Default size	Two lines
e	Maximum Size	Two lines
f	Default Position	Bottom Centre of Radar window

7.1.6	Time Window	Mandatory	Time Window : Behavioural Attributes

(1) The time window shall have the following behavioural attributes :

a	Move	Yes
b	Re-Size	No
c	Iconify	No
d	Scroll	No
e	Priority	High, not swappable

7.1.7	Time Window	Mandatory	Time Window: Colour

(1) The time window colours shall be as below :

a.	Frame	White
	Background	Kaki (medium)
	Text	White

7.1.8	Time Window	Mandatory	Time Window : Dialogue

(1) No dialogue.

7.1.9	Time Window	Mandatory	Time Window : Dynamic Update

(1) The time window shall update every minute.

8. RDMW-RADAR DISPLAY MANAGEMENT WINDOW (MEASURED SECTORS)

8.1 RDMW LAYOUT

8.1.1	RDMW	Mandatory	Definition

Figure 3. RDMW (Toolbar)

(1) The RDMW provides access to service functions which the controller uses when setting up the display, selecting tools or selecting service aids e.g. range and bearing function.

8.1.2	RDMW	Mandatory	Content

(1) The RDMW shall have the format presented in **Figure 3. RDMW (Toolbar)**.

The RDMW shall contain the following items:

BUTTONS:	Labels:
a) Standard Default setting	STD
b) Move picture	MOVE
c) Range and bearing	R&B
d) Video Maps	MAPS
e) Displays Military Tracks	MILITARY
f) Radar label setting	LABEL

RADIO BUTTONS:

a) Manual Radar Label Radio Button	OVERLAP
b) Speed Vector Radio Button	SPEED VECTOR
c) Leader Line Radio Button	LEADER LINE

SLIDERS:

a) Height Layer Filter	LOWER-UPPER LAYER
b) Picture Range Change	ZOOM

8.1.3	RDMW	Mandatory	Initialisation

(1) The RDMW shall be displayed at initialisation.

8.1.4	RDMW	Mandatory	Display Attributes

(1) The RDMW shall have the following display attributes :

a	Frame	Single Line

b	Text Fonts	TBD
c.	Header	No
d	Default size	TBD
f	Maximum Size	same as default.
g	Default Position	Top of radar window, aligned left

8.1.5	RDMW	Mandatory	Behavioural Attributes

(1) The RDMW shall have the following behavioural attributes :

a	Move	No
b	Re-Size	No
c	Iconify	No
d	Scroll	No
e	Priority	Attached to radar picture

8.1.6	RDMW	Mandatory	Colour

(1) The RDMW colours shall include :

a.	Frame	Black
b.	Background	Kaki (light)

8.1.7	RDMW	Mandatory	Buttons : Colour

(1) If not differently stated, the Main menu buttons shall inherit the following colours:

a.	Frame	Black
b.	Button Normal	Kaki (light)
c.	Button Depressed	Kaki (medium)
d.	Label	Black

8.1.8	RDMW	Mandatory	Dialogue - Buttons

(1) AB SC action on a RDMW button shall activate the connected functionality, as expressed in individual definitions from section cfr 8.2to 8.11.

8.1.9	RDMW	Mandatory	Dialogue - Sliders

(1) AB P&H action on sliders bars shall allow the slider bar to be dragged to a new position and the connected values to be modified accordingly.

(2) AB SC action on the right of a slider cursor, shall move the cursor to the right by a fixed step, and modify the connected value.

(3) AB SC action on the left of a slider cursor, shall move the cursor to the left by a fixed step, and modify the connected value.

(4) AB SC between two slider cursors, shall reset the slider to the default position, and shall modify the connected value.

8.1.10	RDMW	Mandatory	Dialogue - Radio Buttons

(1) AB SC action on a Radio Button shall activate the button, modify the connected value, and deactivate the previously selected button.

8.1.11	RDMW	Mandatory	Dynamic Update

(1) The RDMW is a static display.

8.2 STANDARD DEFAULT BUTTON - STD

8.2.1	RDMW	Mandatory	STD: Definition

(1) The STD button shall reset the radar picture to the original default values.

8.2.2	RDMW	Mandatory	STD: Label

(1) The STD button shall display the text “STD”, centred.

8.2.3	RDMW	Mandatory	STD : Function

(1) Selecting the STD shall return the display settings to the default settings.

(a) Set the initial centre to the middle of the radar picture (MOVE function)

(b) Set the radar display range to the initial value (ZOOM function)

(c) Set the antioverlap to the initial setting (manual antioverlap set to NE - OVERLAP function)

(d) Set the layer of airspace to the initial lower and upper settings (LOWER-UPPER LAYER function)

(e) Set the length of the leader line to the initial position (SHORT line - LEADER LINE function)

(f) Hide the military tracks (MILITARY TRACKS function) on all sectors except the Military sector.

8.3 MOVE BUTTON

8.3.1	RDMW	Mandatory	MOVE: Definition

(1) The MOVE button shall allow the radar image to be off-centred.

8.3.2	RDMW	Mandatory	MOVE: Label

(1) The MOVE button shall display the label “MOVE”, centred.

8.3.3	RDMW	Mandatory	MOVE : Function

(1) AB SC on the MOVE button shall modify the shape of the cursor to a white cross, and centre it to the middle of the radar picture.

(2) Dragging the cursor shall off-centre the radar picture.

(3) AB SC shall terminate the MOVE function. The new centre shall be maintained. The cursor shall modify to the original shape (arrow).

8.3.4 RDMW	4.3.5	Mandatory	MOVE: Colour

(1) The button colours shall be :

a.	Frame	Black
b.	Button Normal	Kaki (light)
c.	Button Depressed	Kaki (medium)
d.	Text	Black

8.4 RANGE AND BEARING BUTTON- R&B

8.4.1	RDMW	Mandatory	R&B: Definition

(1) The R&B button shall permit the controller to access the range and bearing functionality.

8.4.2	RDMW	Mandatory	R&B: Content

(1) The R&B button shall display a label "**R&B"**, centred.

8.4.3	RDMW	Mandatory	R&B: Function

(1) AB SC on the R&B button, the cursor shall change to a white cross with a range and bearing readout presented next to the cross.

(2) AB SC action shall fix an origin for the R&B within the radar window. Any following AB SC action shall move the origin to the new selected point.

(3) IB SC action shall terminate the R&B function.

(4) An elastic vector shall be drawn between the origin and the cursor.

(5) It shall be possible to drag the elastic vector to any point contained in the radar window.

(6) The following information shall be displayed to the right side of the cursor, measured from the point of origin :

a) Bearing, three digit number, and with 5 degree increments;
b) Range, three digit number, with 1 Nautical mile increments

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8.4.4	RDMW	Mandatory	R&B : Colour

(1) The R&B colours shall include :

a.	Frame	Black
b.	Button Normal	Kaki (light)
c.	Button Depressed	Kaki (medium)
d.	Text	Black

8.4.5	RDMW	Mandatory	R&B line: Colour

(1) The R&B line colours shall include :

a.	R&B Activated Cursor	white
b.	Vector line	white
c.	R&B Text	white

8.5 MAPS BUTTON

8.5.1	RDMW	Mandatory	Maps button: Definition

(1) The Maps button shall permit the controller to open a popup menu which will enable the selection of the required video maps.

(2) The selection of one of the buttons in the popup menu shall switch on/off the display of the corresponding map.

8.5.2	RDMW	Mandatory	Maps button: Label

(1) The Maps button shall contain the text “MAPS”, centred.

8.5.3	RDMW	Mandatory	Maps Pop-up menu: Content

(1) The information to be provided in the MAPS popup menu shall include the following :

a) Routes A — A pre-defined route map
b) Routes B — A pre-defined route map
c) Sector — The pre-defined sector map
d) Beacons — Pre-defined reporting points
e) Beacon Names — Names of the pre-defined reporting points
f) Coast — The pre-defined coastline map and frontiers
g) Mil. Areas A — Pre-defined military areas.
h) Mil. Areas B — Pre-defined military areas.

(2) The name of the button shall be written in the button label and centred.

8.5.4	RDMW	Mandatory	Maps Pop-up Menu: Initialisation

(1) The MAPS popup menu shall be displayed by an AB SC on the MAPS button.