

# Situation Data Display (SDD-UM)

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	INDRA				
		Signature	Date	Responsibility	
	Carlos Martínez Ramos		13/04/2012	System Engineering	
	Jorge J. Custodio Cabello		13/04/2012	System Engineering	
	Domingo Olivares		13/04/2012	Technical Manager	
Authorized	Francisco J. Zapata		13/04/2012	Product Manager	

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## 1. INTRODUCTION

The SDD Position is one of the components of the Approach, ACC and Tower Integrated Control System. Its main aim is to offer help to technical staff in the Traffic Control Center, providing a work environment able to monitor the whole system in an easy but precise way in real time. For that reason, the position itself, which its main element is a computer (screen, mouse and keyboard), is connected to the rest of subsystems of the system.

## 1.1 SCOPE

The scope of this manual is the operational description of the SDD Position available at the AirCon 2100 system.

The intended audience of this manual is controllers who use the SDD Position.

### 1.2 GENERAL SYSTEM DESCRIPTION

The AirCon 2100 System is based on a standard product developed by Indra. As an option if it is requested, the operational system is supplemented with an autonomous simulator addressed to controllers for training purposes and to allow the analysis of new operational procedures.

AirCon 2100 represents the last product generation and its architecture is based on the experience gained in the development of open systems for the displaying and processing of radar data and flight plans, found on numerous systems installed in Spain (SACTA System), Canada, Germany, Norway, Holland and India. One of the main characteristics of the system is its availability, due to the employment of redundant elements on a distributed scenario, and to the use of tested and highly reliable commercial equipment.

The software architecture of the system is determined by its modularity and distribution and has been organized using distributed discrete processes for the different subsystems. At the same time, the system makes use of communication by messages, both for intercommunications between tasks and for its synchronicity. In order to reassure a maximum level of maintenance, communications and application tasks have been isolated.



The Operating System used is Red Hat Enterprise Linux 5.7, which is easily found in the software market, included its standard TCP/IP communications protocols.

The following figure shows the global architecture for the AirCon 2100 System.



# Sistema ATM para el ACC BOGOTÁ

Figure 1: System Architecture

AirCon 2100 includes all the necessary functionality required in a modern ATC system.

Its main elements are:

- Local Area Network (LAN). A redundant category 5 with a 1 Gigabyte bandwidth capacity LAN is employed and, as a consequence, futures updates of the system can be easily implemented making use of standard communications protocols.
- Radar Communications Processor (RDCU). It centralises and channels radar communications in order to manage this information by the SDP, both for Main Mode and Alternative Mode (Bypass). The RDCU is duplicated (Operative/Reserve) and its switching can be performed manually and automatically.

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- Surveillance Data Processor (SDP). This processor employs duplicate CISC computers and receives the data (primary, secondary and meteorological) processed by the RDCU. Next, it performs the merge of all this information and, finally, sends it to the controllers (SDDs) for a coherent display of the airspace picture.
- Safety Nets (SNET): it carries out surveillance duties (STCA, MSAW, RAW) and achieves the integration between radar data and flight plans in order to get a precise tracking.
- Situation Data Display (SDD). It employs powerful workstations that receive data processed both by the SDP, FDP and by the SNET. Later on, it manages all these information for a coherent displaying at the controllers screens (SDD). At the same time, it displays additional relevant information such as geographic maps, meteorological data, etc.
- Flight Data Processor (FDP). This processor employs redundant CISC computers and performs the management of flight plans. These flight plans can be generated by the system or can arrive from external resources where Repetitive Flight Plans (RPLs) are also included. In addition, it validates information flight inputs, computes the evolution of flights and keeps controllers informed by means of showing information on screens. It also performs MTCD duties.
- Flight Data Display (FDD). They are the FDPs interface and display information concerning flight plans. Controllers can use them to perform adjustments on flight plans and on other significant data. They incorporate printers used to produce flight plans lists, AFTN and OLDI messages, NOTAMs, etc.
- **Supervisor (CMD).** It makes possible a continuous real time supervision of the system and allows the configuration management of its main elements.
- Data Recording Facilities (DRF). It employs redundant CISC computers and performs a continual recording of landing data, flight plans and controller actions for further reproduction and analysis. It makes use of magnetic tapes.
- DataBase Management (DBM). It provides the necessary facilities for the creation and modification of Adaptation DataBase and locates the system in its geographical environment to achieve the required efficiency.
- Data Link Server (DLS): it provides support for Logon, CPDLC dialogue, and ADS-C services, and provides a communications path between the ATCS and the aircraft using these services.
- Simulator (SIM). (OPTIONAL). It provides to the controllers an operational replica of the real scenario for training purposes. It is an exercise simulator system and allows the use of several exercises, simultaneously and independently. It allows the analysis of new operational procedures as well as the management and maintenance of the full set of sessions and exercises recorded in the Simulation Library. It allows the creation of new exercises, the selection of training scenarios and a complete set of interactive capacities in order to provide full control and management.





- Instructor Pilot Position (PILOT TSS). This position is in charge of:
  - Selecting exercises, sessions, etc.
  - Managing flights in real time.
- Exercise manager (ATG/EPP). From this unit simulation exercises are managed.

## 1.3 SITUATION DATA DISPLAY (SDD) POSITION OVERVIEW

Its main functions are:

The SDD Position is based on a powerful workstation to perform the radar data and flight plans display.

- Radar information display
- By-Pass mono-radar data processing and display
- Flight Plan handling and Flight Plan display
- Aeronautical and Meteorological information display

## 1.4 MANUAL STRUCTURE

This manual provides precise information concerning all menus and windows belonging to the SDD position. It is divided in two chapters and several appendix:

#### Chapter 1 Introduction

It provides an overview of the overall system, the SDD Position environment, and the contents of this manual. Finally, the conventions used in this manual are described.

#### Chapter 2 Functional Description

It presents an explanation of each SDD Position software element, including all the descriptions for a complete starting contact. It describes the selection modes and all SDD Position windows.

It also describes all the actions performed by means of the SDD windows as well as the actions performed with the airways.

#### Appendix A Definitions and Glossary of Terms

It presents the glossary of terms used in the manual as well as the abbreviation dictionary.

#### Appendix B System Messages List

It includes a list with the system messages that can be displayed.

#### Appendix C Local Error Messages List

It includes a list with the messages for local errors that can be displayed.



#### Appendix D Generate Manual Maps User Manual

It provides a quick guide to manual maps generation.

#### Appendix E Safety Nets

It includes a description about the Safety Nets process and their respective configuration.

### 1.5 NOTATION USED IN THIS MANUAL

Select "X" means to place the cursor on the position denoted by "X" and to press the left button of the mouse.

Colour assignment is described using capital letters.

The interaction with mouse buttons is described:

- LB click: Left Button Click: select using mouse left button,
- CB click: Center Button Click: select using mouse center button,
- RB click: Right Button Click: select using mouse right button.

Sometimes a command, window, etc. must be used respecting some specific rules. For these cases, all commands or windows are described with the list of applicable rules.

Bi-state icons or buttons are represented between brackets Options concerning menus are represented between parentheses Edition fields are represented between quotation marks.

Two columns where the steps to be performed are described. The first column describes the action to be carried out and the second one describes the result of that action.

The next figure shows an example of some different notations used when particular fields are selected or edited.



# 2.2.18.1.7 Action: Modify FPL => {[FP Act.] => [MODIFY]}

**Application:** Modify an existing Flight Plan. Once it is modified, the Flight Plan is permanently changed.

ACTION	RESULT
Perform the FP visualization action	
Click on the [Modify] switch, situated at the bottom of the window, with LB.	
	The switch changes to YELLOW and the accessible fields for the action are displayed in WHITE background.
Modify the desired fields. Some fields do not allow modification and some other are mandatory.	
To send an AFP message to IFPS, active AFP switch.	

Figure 1-2: Operative Description (Example)

The icons and switches are listed in brackets; the menu options, edition fields and windows are listed between quotation marks.

Description of windows includes the following parts:

- Window's layout figure
- Window's description
- Edition fields' description
- Window commands' description

Next figure illustrates some of the conventions used when making selections and editing data in the fields of the SDD windows.



FP HISTORY	Я X	DATBLK ONH	RBL ALM
FPL/13-01-10 08:56:10 AAA0116 KK EPWAYGYN 130856 EBBD2MFP (FPL-IBE0116/A0164-IS -01B737/M-5/C -EPB00925 NOS00F025 DCT MOPEX DCT ALETA DCT WAR DCT		BRIGHT METEO F 3D MET MSG Operational Icon	MTCD ALM OFF 15
	<u>7</u>	LABELS	
			<u> </u>
ROLE Pop-up menu for selecting values	Horizontal Vertical	LUCALS	9
HISTORY 1	Scrolling bars	BACKGROUND	
		Scrol	ling bars to select values
DELAX WANDOWER		Q EST FPL MAP	CONFIG SYS MSG C
	Den un menu dientru	■ 1 ■ 1	LMG
STRETCHING FACTOR	Pop-up menu display		MSAW RADARS
YELLOW mark	<indicating selected="" th="" track<=""><th>× 4</th><th>QNH</th></indicating>	× 4	QNH
	Pop-up submenu display ———	6 BAXX 5	VOR_SYMBOLS
Only one of each group is Activated		= 8 BUXX 41	NDB_SYMBOLS
		■ 9 CRXX 42	APP_SYMBOLS
ATTS ATTYPE PET Activated (YELLOW) and inhibited		= 11 DRXX 44	FIX_VOR_NAMES
(Background) Operational Switches		12 DUXX 45	FIX_NDB_NAMES
WARN ADEP COOR		• 14 EUXX 47	FIX_APP_NAMES
RVSM ADES FREE TEXT		15 FGXX 48	AIRPORT_SYMBOLS
		= 17 FOXX 50	AIRPORT_NAMES
		= 18 FPXX 51 = 19 FWXX 52	PROFILES
		= 20 GAXX 53	BOUNDARY
ACCEPT		21 GRXX	LOCAL_MAID
RED fields are erroneous or mandatory Windo FP OPERATION	w Title	Field that shows the blin is ready to accept input	king input marker from the keyboard
A/C FLIGHT ID RADIO CALLSIGN NO TYPE W DEP DEST NAV/COM	RVSM SURVEILLANCE EQU	TEPMENT CSSR R F	T
TEST2 01 A320 M EPWA LEMD S	UN C	1332 I >	WHITE fields accept input data
SID FIR ROUTE		STAR	mpar data
CRUISING	ESTIMATE		GREY fields do not
EOBD EOBT MSG CTOT ATFCM ATD ETA SPEED LEVEL	FIX TIME LEVEL RCOOR	D SCOORD ALT AD(S)	accept input data
FAT FREE TEXT CFL FCL	REG ST	S MODE S	
F300			
ORIGINAL ROUTE			
	F APP UPDATE CA	NCEL CLEAR PRIN	r
CURRENT CERRENT			
ALSINEOTED WILLA WARALAD			

#### Figure 1-3: Window Conventions



#### 1.6 SELECTING MENUS, ICONS AND FIELD TEXT ENTERING

The available windows, commands, and options are accessed through menus, menus options, icons and switches. These actions cause windows to be displayed where the SDD functions are initiated.

The mouse is the main device for controller inputs although, in specific cases, the controller may use the keyboard for that end. The logical functions of the mouse buttons are described in following table:

Button	Function
	Request information operations and low-level local actions.
Loft Button (LD)	Copy data from a field.
	Move windows.
	Map selection.
	Create/Erase RBLs
Central Button (CB)	Paste data to a field.
	RBL creation acceptance.
Right Button (RB)	Close edition windows.

Table 1-1: Mou	se Button	Functions
----------------	-----------	-----------

**Pull-down menus:** are used to allow a fast and user-friendly operation to modify selected data. This menu is displayed upon clicking once on the icon. The menu display is kept after button release, and pointing and clicking perform the selection. To close the pull-down menu (with no changes) click on it with the RIGHT mouse button. A pull-down menu comprises:

Title, with the type of field to be changed (CFL, Altitude filter upper level, etc.)

An available options list for the field. The list has a scroll bar to allow the selection of options not in view due to window size. Initially, the display will be centred on the current value. An option can be selected by clicking on it with the LB, which causes the menu to disappear.

An edition field. Any valid option may be edited in it, either it is or is not in the list of options. Before editing, the cursor must be placed on this field. The Enter key is used to accept the edited option, causing the menu to disappear.

**Keyboard:** a set of functions can be activated directly by means of the keyboard. These keys (or combination of keys) have an associated function as shown in following table:

Table	1-2:	Keyboard	functionali	ity
-------	------	----------	-------------	-----

Кеу	Function
<tab></tab>	Moves the cursor to the next field.

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Кеу	Function	
< Shift > + < Tab >	Moves the cursor to the previous field.	
< Supr > or <del></del>	Removes the next character within a field.	
< Arrows >	Left arrow: Moves the cursor within the field one position to the left. Right arrow: Moves the cursor within the field one position to the right.	

### Table 1-3: Key Functions

Кеу	Function
"_"	Reduce the presentation scale. Increase presentation range in discrete steps.
"+"	Expand the presentation scale. Decrease presentation range in discrete steps.
<f1></f1>	Predefined configuration by default.
<f2></f2>	Displays route of selected track
<f3></f3>	Manual electronic transference of a selected track.
<f4></f4>	Open/ close the Executive List.
<f5></f5>	Selected label rotation.
<f6></f6>	Create a new minimum flight plan for an assumed flight.
<f7></f7>	Activate the flight plan window of the selected track.
<f8></f8>	Open CFL pop-up menu for a selected track.
<f9></f9>	Expand the presentation scale.
<f10></f10>	Reduce the presentation scale.
<f11></f11>	Centers the display
<f12></f12>	De-centers the display
<tab></tab>	Move the cursor position from one field to the following one.
<supr></supr>	Delete the character after the cursor position (within a field).



Кеу	Function	
<arrows></arrows>	Perform a display scrolling (continuous decentring).	
<arrows> (within an editable field) Key Combination</arrows>	Left arrow: moves backward the cursor, character by character, within a field. Right arrow: moves forward the cursor, character by character, within a field. Function	
<alt> + <m></m></alt>	Remove/Display the Main Menu Area	
<alt> + <l></l></alt>	Invoke the inter-console marker function.	
<alt> + &lt;0&gt;</alt>	Inhibit/activate all current filters.	
<alt> + <g></g></alt>	Inhibit/activate the local map generator tool.	
<alt> + <h></h></alt>	Activate/inhibit the display of tracks' past positions.	
<alt> + <p></p></alt>	Activate the SSR code modification of primary tracks.	
<alt> + <tab></tab></alt>	Move the cursor position back from one field to the previous one.	



### 1.6.1 Rules for Introducing and Removing Data

Windows contain "fields" where data can be input, (sometimes it is even compulsory). The following rules for entering data apply to all SDD windows.

Input can only be made into a window if the "focus" is in that window (screen cursor is inside the window area).

The field displaying the blinking input cursor is ready to accept inputs.

Fields that are shaded in dark GREY do not accept data.

When an icon that opens a window is selected, both window and input cursors are automatically positioned inside the first editable field of the window.

After entering data in one field, pressing <Tab> on the keyboard, moves the cursor to the next field. Alternatively, use the input cursor.

Pressing <Shift><Tab> on the keyboard moves the input marker backward to the previous field.

To enter data, double click to select the whole field and then type the new characters.

Clicking twice on a field selects all the information contained within the field; this selected information will be automatically removed when the operator types a new input.

#### 1.6.2 Configuration Window for Flight Lists

Every flight plan list can be configured: its fields can be added or removed for display, as well as the size of the font, the display mode and the sorting fields in the list can be changed. All these actions are performed by the Configuration Window for each flight list.

All flight lists (Executive, Planner, Departures, Arrivals, Coordination) have this window and it is displayed by RB click in the top bar of the list.

#### Configuration of list font size:

Three font sizes can be selected: Small, Medium and Large. Selected size is the one with its bi-state icon in **YELLOW** colour.

#### List Mode Display:

Two display modes can be selected: Short and Extended. Selected mode is the one with its bi-state icon in YELLOW colour.

#### Configuration of displayed fields in flight list:

Configuration window includes the list of available fields for the flight plan list, and each one has a bi-state icon. This icon can be activated (YELLOW) and the field is included in the list, or inhibited (background colour) and the field is removed from the list.

#### Sorting Options:

The flights inside every flight plan list can be sorted clicking in the field title. A second and a third sorting criteria can be included by the configuration window.



## Airports:

This option, available only for tower, arrival and departures lists, allows to filter displayed tracks by the airport. Several airports can be selected to be displayed, as well as all of them can be easily selected by [ALL] option.



Figure 1-4: Configuration Window

## 1.6.2.1 Action: Flight List Configuration => {Configuration Window}

Application: Perform this procedure configure a flight list.

ACTION	RESULT
RB click on the list top bar.	
	The Configuration Window for this list is displayed.



ACTION	RESULT
	DEPARTURES CONFIG ×
	🔷 SMALL 🔷 MEDITUM 🔶 LARGE
	◆ EXTENDED ◇ SHORT
	C/S R ATD
	SSR CFL SID
	📕 ADEP 📕 EOBT 📕 RFL
	🗖 TYPE 🔤 CTOT 📮 FREE TEXT
	SORTING OPTIONS
	C/S       ∑
	AIRPORTS
	ACCEPT CANCEL
Select the font size (Small, Medium, Large) by clicking in the bi-state icon.	
Select the flight list mode (Extended, Short) by clicking in the bi-state icon.	
Select the fields to display in the flight list clicking in the bi-state icon (YELLOW for active, background colour to inhibit the field).	
Select the fields for sorting criteria by selecting them in the Sorting options pop-up menus.	
If the configuration window displayed is for Tower, Departures or Arrivals list, LB click in AIRPORTS button. A pop-down window is displayed with all available airports. Select the airports which entires will be displayed in the list.	



ACTION	RESULT
	DEPARTURES CONFIG ×
	◆ SMALL ◆ MEDIUM ◆ LARGE
	◆ EXTENDED ◆ SHORT
	C/S R ATD
	SSR CFL SID
	ADEP EOBT RFL
	TYPE CTOT FREE TEXT
	SORTING OPTIONS
	$ c/s \Sigma $ $ c/s \Sigma $
	AIRPORTS
	ALL EPBA EPBC EPBK EPBP EPBY EPCE EPDA
	EPDE EPEL EPGD EPGI EPGL EPGO EPIN EPIR
	EPIW EPJG EPKA EPKK EPKM EPKP EPKR EPKS
	EPKT EPLE EPLK EPLL EPLR EPLS EPLU EPLY
	EPMB EPMI EPML EPMM EPMO EPNL EPNM EPNT
	EPOD EPOK EPOM EPOP EPPI EPPK EPPL EPPO
	FPRZ FPSC FPSD FPSN FPSO FPST FPSU FPSW
	EPSY EPTM EPTO EPWA EPWK EPWR EPWS EPWT
	EPZA EPZG EPZP EPZR
The configuration is applied only in the flight list affect	
	Configuration Window.
Finish the action by clicking in:	
[ACCEPT]: The changes in the flight list are saved.	
[CANCEL]: The changes in the flight list are not saved, the list turns to the status previous to the configuration.	


## 1.7 COMMON ACTIONS ON WINDOWS

This section describes the functions, which may be applied to all windows in the position.

These operations are carried out directly with the mouse on the edge and/or title of the required window. These areas are coloured light **GREY**. The operations are the following ones:

#### Change size:

Windows which size can be changed have a resize button in a corner. Following these steps changes the window's size:

- Press and hold the resize button with the LB.
- Drag the frame to the new position.
- Release the mouse LB. The window's size is changed.

Also it is possible to change window size to a size that allows the simultaneous display (if it is possible) of every list element; this action is performed clicking in the icon in window's title bar (only for windows that include this icon).

#### Change position:

LB click while the pointer is on the border of the corresponding window.

Move the mouse to drag the window's frame to the new position.

Release the mouse button. The window is placed in the new position.

#### Bring to foreground:

Move the mouse pointer to the window's border.

Click once with the LB on the border.

When the button is released the operation is carried out.

#### Inhibit:

Click on the corresponding activation icon. The icon text colour changes from YELLOW to WHITE or Background colour.

#### Activate:

Click on the corresponding activation icon. The icon text colour changes from WHITE or Background colour to **YELLOW**.



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# 2. FUNCTIONAL DESCRIPTION

This chapter provides information for new users of the SDD Position. It presents every work available window with a description of their formats, layout, icons and menus.

The screen is divided into two main areas and a window:

- General Information Area
- SIT Area
- Main Menu Area



Main Menu Area

Figure 2-5: SDD Screen (example)

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# 2.1 SDD SIT AREA

The following sections describe the format (colours, sizes, etc.,) of all elements included in the SIT Area of the SDD Position.

The colours for tracks, alerts, etc. can be off-line adjusted in GTI. Colours in this manual must be taken as an example, being the colours given in first system configuration.

Element	Description
Plots	Symbols
	Colours
	Track Label
	Track Colour
	Track Symbol
Tracks	Leader Line
ITAUKS	Velocity Vector
	Past Positions
	Track in STCA
	Synthetic Track
Meteorological Data	
Range Bearing Lines (RBLs)	
Flight Plan Route	

### Table 2-4: SDD SIT Area. Description

## 2.1.1 Plots

The plots, which have not still created a track, can be displayed for selected radar. Once the track is created, the plot symbol is no longer displayed.

The plot symbol is a shape associated to a unique plot, which location in the SIT Area is automatically moved by the system in order to present the actual position of the flight.

The symbols to each type of plot are described in following table:



#### Table 2-5: Plot Symbols

Symbol	Plot Type	
$\bigcirc$	PRIMARY	
+	SECONDARY	
X	SECONDARY COMBINED with PRIMARY	
$\bigotimes$	Primary plots after requesting primary track initiation (that is, under tracking)	

## 2.1.2 Tracks

### 2.1.2.1 Track Symbol

The track symbol is a shape associated to a unique track, which location on the SDD SIT Area is automatically moved by the system in order to represent the actual position of the flight.

The symbols associated to each type of track are described in following table:

## Table 2-6: Track Symbols

Symbol	Track Type
	PRIMARY
$\bigcirc$	SECONDARY
$\Leftrightarrow$	SECONDARY COMBINED with PRIMARY
$\langle \cdot \rangle$	CORRELATED
$\bigcirc$	ADS
$\bigcirc$	ADS COMBINED with PRIMARY



Symbol	Track Type	
$\bigcirc$	ADS COMBINED with SECONDARY	
	ADS COMBINED with PRIMARY and/or SECONDARY	
++	SYNTHETIC	
	CODE AMBIGUITY	
$\triangle$	ADS-B	
$\triangle_{s}$	ADS-B COMBINED WITH MODE S Note: Any kind of track (except synthetic) merged form at least a Mode S radar is denoted with a "S" mark.	

# 2.1.2.2 Track Label

The track label is a set of essential information related to the track. This information is organized in lines and fields. The contents for track label, as well as its interactivity can be configured offline. Information given in this chapter is only an example.

Different track labels can be assigned to different track types (Controlled, Inbound, OAT traffic seen by GAT sectors, Uncontrolled and Not Correlated), and three different configurations are currently available for each of them, one for each role (approach, route and tower).

The current role is displayed in the Main Menu area and can be modified by DATABLK window.

Tracks in holding status display a # symbol in Line 2, Field A.

Tracks with pending coordination action(s) will display the symbol **¤**, in **BLUE** colour in Line 2, Field A.

For tracks which Ground speed is greater than 999 knots, this speed is indicated in track label by the previous "^" symbol in YELLOW colour. Ex. Ground speed of 200 knots is indicated in track label by the value "200", but 1200 knots is indicated as ^200.



# 2.1.2.2.1 Alert Display Conditions

For alerts and warnings displayed in track label (Line 1) will apply the following values to display its configured alert/ warning graphic and aural display.

Alert	Symbol	Colour	Condition
UHF	U	YELLOW	Flight type "M" equipped with UHF, displayed for CFL $\geq$ FL175
8.33	0.22 0	VELLOW	No 8.33 equipment, displayed for
0.00	Ŭ		$FL175 \leq CFL \leq FL195$
8.33	8	DED	No 8.33 equipment, displayed for
0.00	Ŭ		CFL ≥ FL195
			STATE flight which type is "M", and:
R\/SM	S	VELLOW	RVSM Exent in RVSM airspace, displayed for (CFL or MODE C) $\ge$ FL265
		TLLLOW	or
			RVSM Equipped in RVSM airspace, displayed for Aircraft Number > 1.
			STATE flight which type is "M", and:
RVSM S	Track Colour	RVSM Equipped/ RVSM Exent in RVSM airspace, displayed for (CFL or MODE C) < FL265	
			RVSM Equipped in RVSM airspace, displayed for (CFL or MODE C) $\ge$ FL265 and Aircraft Number > 1.
	_		Non-RVSM equipped and not STATE flight, or RVSM equipped and not
RVSM	R	RED	
RVSM	R	YELLOW	Non-RVSM equipped and not STATE flight, or RVSM equipped and not STATE flight but with aircraft number 2 or greater, displayed for
		$FL265 \leq (CFL \text{ or MODE C}) \leq FL285$	

### Table 2-7: Alert Display Conditions



# 2.1.2.2.2 Track Label Contents (example)

The following table displays the elements in track label in extended mode (except the fields marked as "Only in extended mode")

#### Table 2-8: Track Label – Fields Description

Line	Field	Displayed Information	Valid Data
	Field A	Operational Sector Identification	4 alphabetic characters
	Field B	ROF/ RAM/ ASSR/ Heading alert	2 characters FQ/ RO/ SQ/ HG (YELLOW)
	Field C	8.33/ UHF warnings	1 character 8 (YELLOW): 8.33 warning. 8 (RED): 8.33 alert. U (YELLOW): UHF equipped.
Line 1	Field D RVSM	RVSM	1 character R (RED): RVSM alert. R (YELLOW): RVSM warning. S (YELLOW): non RVSM equipped. S (GREEN): RVSM equipped.
	Field E	MSAW/ APW/ RAW/ MTCD alerts	2 characters AW: MSAW (YELLOW: prediction; RED: violation) ZN: APW (YELLOW: prediction; RED: violation) ZN: RAW (GREEN) MC: MTCD (YELLOW: prediction; RED: violation)
	Field F	Distress	2 characters EM (RED): Emergency HJ (RED): Hijack RF (RED): Radio Communication Failure LB (YELLOW): CLAM alert
Lino 2	Field A	Coordination required mark	1 character
Line Z	Field B	Callsign	7 characters



Line	Field	Displayed Information	Valid Data
	Field C	^ mark	1 character
	Field D	Ground speed/ Vertical speed	3 characters
	Field A	Altitude indicator	1 character
	Field B	Mode C	3 characters
Line 3	Field C	Vertical Speed Indicator	1 character ↑ => Aircraft is climbing ↓ => Aircraft is descending Space => Aircraft altitude is enduring
	Field D	Cleared flight level (CFL)/ PEL	3 characters CFL value for controlled tracks PEL value for inbound tracks
	Field E	Exit flight level (XFL)	3 characters
	Field A	Aircraft type/ Mode A	4 characters
Line 4 Fie	Field B	Wake turbulence category	1 character
Field C		Last point	5 characters
	Field A	Assigned heading (Only for extended mode)	3 characters
Line 5	Field B	Heading mark (Only for extended mode)	1 character
	Field C	Assigned speed (Only for extended mode)	3 characters
	Field D	Assigned vertical rate indicator (Only for extended mode)	1 character
	Field E	Requested flight level (RFL) (Only for extended mode)	2 characters



## 2.1.2.2.3 Sensitive Label Fields

Track label is not only for displaying aircraft values, it also allows to interact with it by value inputs, menus and templates display. Sensitive fields can be configured off-line. Here is an example of sensitive label fields configuration.

Predefined sensitive fields are:

• For Controlled Tracks:

Label p Line	osition Field	Function displayed
1	A	Transference options (Transfer/ Assume)
2	В	Callsign Menu
2	D	Toggle: Vertical Speed/ Ground Speed
3	D	PEL input pop-up display
3	E	XFL input pop-up display
4	A	Toggle: Aircraft type/ Mode A
4	С	Graphical route modification
5	A	Heading input pop-up display
5	С	Speed input pop-up display
5	D	Vertical Rate input pop-up display
5	E	RFL input pop-up display

### Table 2-9: Controlled Tracks Label - Sensitive Fields

• For Inbound Tracks:

#### Table 2-10: Inbound Tracks Label – Sensitive Fields

Label p Line	osition Field	Function displayed
1	A	Transference options (Transfer/ Assume)
2	В	Callsign Menu
2	D	Toggle: Vertical Speed/ Ground Speed
3	D	PEL input pop-up display
4	A	Toggle: Aircraft type/ Mode A



Label p Line	osition Field	Function displayed
4	С	Graphical route modification
5	E	RFL input pop-up display

• For Uncontrolled Tracks:

Label position Line Field		Function displayed
1	A	Transference options (Transfer/ Assume)
2	В	Callsign Menu
2	С	Toggle: Vertical Speed/ Ground Speed

• For Non-correlated Tracks:

Table 2-12: Non-correlated Tracks Label – Sensitive Fields

Label position		Function displayed	
Line	Field		
1	A	Transference options (Transfer/ Assume)	
2	В	Callsign Menu	
2	С	Toggle: Vertical Speed/ Ground Speed	

### 2.1.2.2.4 <u>Action: Partial Track Label Orientation => {Graphical Mode}</u>

Application: Perform this procedure to re-orient the label for a specific track.

ACTION	RESULT
LB click on the track leader line.	
	The label cycles through the possible label orientation (in 45° steps) counter-clockwise.



ACTION	RESULT
	ARR002 449 340 ↓ I⊮M⊞R 3
RB click on the track leader line.	
	The label cycles through the possible label orientation, in 45° steps clockwise for each RB click on track leader line.
	HRR002-449_340

# 2.1.2.2.5 <u>Action: Toggle Vertical Speed/Ground Speed => {Graphical Mode}</u>

Application: Perform this procedure to toggle the Vertical Speed or Ground Speed display.

ACTION	RESULT
LB Click on "Speed" field in track label.	
	The information displayed on the track-field toggles between the "Vertical Speed" and the "Ground Speed".
	DLH4455 530 JULH4455 530 JUL
LB Click on it again.	
	It returns the default display.



## 2.1.2.3 Extended Label

Extended label window is displayed from [ELW] button in Main Menu Area, and will include the extended data for the selected flight.

EXTENDED LABEL WINDOW	×
FAU7552 WY C310/L HOSP EMER MEDEVAC	C/2100
SUAA SUAG AG11A RWY: I ASI RAMON SANDI CARME TMB MASOL A	11 AT
090 080 EVACUATION	200 NOCOED
SWYUZRE1M1 CV1U1	A1L1
111111 230 092 270 M52 326 326 +20 2019 0 +0 096	

Figure 2-6: Extended Label

Table 2-13: Extended Label Fields

Line	Field	Displayed Information	Valid Data	
	Callsign	Callsign	7 characters in GREEN colour	
			1 character	
			W (GREEN): RVSM equipped;	
	W	RVSM status	W (YELLOW): RVSM exempt (non-RVSM, state);	
			W (RED): RVSM non equipped (non-RVSM, not state) or unknown.	
Line 1	Y	8.33 status	1 character	
			Y (GREEN): 8.33 equipped;	
			Y (YELLOW): 8.33 not equipped, but UHF equipped.	
			Y (RED): 8.33 not equipped.	
	Full Callsign	Full radio callsign	Up to 28 characters in GREEN colour	
	Transponder type	Transponder type	2 characters	
			A/: mode A only;	
			C/: mode A and/ or mode C;	



Line	Field	Displayed Information	Valid Data		
			S/: mode A, mode C and/or mode S.		
	Mode A code Mode A code		4 characters		
	Aircraft number	Number of aircraft when in group flight.	2 characters		
	"X"				
	Aircraft type	Type of aircraft	4 characters		
	Wake turbulence	Wake turbulence	"/" + 1 character		
			Up to 20 alphanumeric characters ALTRV: for a flight operated in accordance with		
Line 2	STS		altitude reservation. ATFMX: for a flight approved for exemption from ATFM measures by the appropriate ATS authority.		
		Flight plan status from flight plan field STS (in field 18)	FFR: fire fighting;		
			FLTCK: flight check for calibration of navaids;		
			HAZMAT: for a flight carrying hazardous material;		
			HEAD: a flight with Head of State Status;		
			HOSP: for a medical flight declared by medical authorities;		
			HUM: for a flight operating on humanitarian mission;		
			MARSA: for a flight for which a military entity assumes responsibility for separation of military aircraft;		
			MEDEVAC: for a life critical medical emergency evacuation;		
			NONRVSM: for a non-RVSM capable flight intending to operate in RVSM airspace;		
			SAR: for a flight engaged in a search and rescue mission;		
			STATE: for a flight engeged in military, customs or police services.		
	ORCAM SSR	ORCAM assigned SSR code. Only visible when it is different than present	4 characters in YELLOW		



Line	Field	Displayed Information	Valid Data
		mode A code.	
	Departure aerodrome	Aerodrome of departure code	4 characters
	Destination aerodrome	Aerodrome of destination code	4 characters
	Alternate aerodromes	2 alternate aerodromes in brackets	11 characters
Line 3	STAR	STAR procedure	7 characters
LINE J	RWY	Runway assigned for this aircraft	6 characters
	Next Frequency	Frequency of next operational sector	7 characters in WHITE, except YELLOW when ROF is used by another Operational Sector or when track has been assumed by next unit. LB click on it will display the Operational Sector that performs the ROF action (if any).
Line 4	Route	Significant points in route. Maximum 7 points separated by spaces.	41 characters
	FIR exit level	Exit level from FIR	4 characters "/" + 3 digits
	CFL	Cleared Flight Level	3 characters
	RFL	Requested flight level	3 characters in YELLOW
	Rate	Assigned vertical rate When displayed sign is "+": more than displayed rate. When displayed sign is "-": less than displayed rate.	10 characters "RATE:" + 4 digits + "+" or "-"
Line 5	Free text	Text field for any relevant data about the flight or any other information.	20 characters
	RVR min	Minimum RVR from RVR/ in flight plan field 18.	6 characters
	Coordination status	Not visible when no manual coordination is required.	6 characters: "NOCOED", "NOTFIG", "COOING",



Line	Field	Displayed Information	Valid Data	
			"NEGINO	כ",
			"COOTE	D",
			"RENTIG	, ,
			"MANCO	Ю",
			"TRANSI	Ξ",
			"TRANE	З",
			"MANTR	Α",
			"TRFING	Ϊ,
			"TRFREI	D",
			"ABRGN	G".
			Up to 18	alphabetical characters:
			N =>	Non-equipped
			S =>	Equipped
			A =>	GBAS Landing System
			B =>	LPV (APV with SBAS)
			C =>	LORAN C
			D =>	DME
			E1 =>	FMC WPR ACARS
			E2 =>	D-FIS ACARS
		Navigation and Communications Equipment	E3 =>	PDC ACARS
Line 6	6 NAV/ COM		F =>	ADF
			G =>	GNSS
			H =>	HF RTF
			=>	Inertial Navigation
			J1 =>	CPDLC ATN VDL Mode 2
			J2 =>	CPDLC FANS 1/A HFDL
			J3 =>	CPDLC FANS 1/A Mode A
			J4 =>	CPDLC FANS 1/A Mode 2
			J5 =>	CPDLC FANS 1/A SATCOM
			J6 =>	CPDLC FANS 1/A SATCOM (MTSAT)
			J7 =>	CPDLC FANS 1/A SATCOM (Iridium)
			K =>	MLS



Line	Field	Displayed Information		Valid Data
			L =>	ILS
			M1 =>	ATC RTF SATCOM (INMARSAT)
			M2 =>	ATC RTF (MTSAT)
			M3 =>	ATC RTF (Iridium)
			0 =>	VOR
			P1-P9 =>	Reserved for RCP
			R =>	PBN Approved
			T =>	TACAN
			U =>	UHF RTF
			V =>	VHF RTF
			W =>	RVSM Approved
			X =>	MNPS Approved
			Y =>	VHF with Frequency 8.33 MHz
			Z =>	Other capabilities/equipment carried
			Up to 15 a	alphabetical characters
	SURVEILLANCE EQUIPMENT	Surveillance Equipment.	N =>	None. (The aircraft does not carry transponder equipment).
				It is not allowed this value if an SSR Code is assigned.
			A =>	Mode A (Transponder equipment can send positional information but without altitude information)
			C =>	Mode A and Mode C (Transponder equipment can send both positional and altitude information)
			E =>	Mode S (aircraft identification, pressure-altitude and extended squitter (ADS-B) capability).
			H =>	Mode S (aircraft identification, pressure-altitude and enhanced surveillance capability)
			=>	Mode S (aircraft identification, but not pressure-altitude capability)
			L =>	Mode S (aircraft identification, pressure-altitude and extended squitter (ADS-B) and enhanced



Line	Field	Displayed Information	Valid Data	
				surveillance capability)
			X =>	Mode S (nor aircraft identification transmission neither pressure altitude information)
			P =>	Mode S (Transponder equipment can send pressure altitude transmission but it cannot sent aircraft identification capability)
			S =>	Mode S (Transponder can send both aircraft identification and pressure altitude transmission)
			B1 =>	ADS-B with dedicated 1090 MHz ADS-B "out" capability
			B2 =>	ADS-B with dedicated 1090 MHz ADS-B "in" and "out" capability
			U1 =>	ADS-B "out" capability using UAT
			U2 =>	ADS-B "out" and "in" capability using UAT
			V1 =>	ADS-B "out" capability using VDL Mode 4
			V2 =>	ADS-B "out" and "in" capability using VDL Mode 4
			D1 =>	ADS-C with FANS 1/A capabilities
			G1 =>	ADS-C with ATN capabilities
	PBN	Performance Based Navegation from PBN/ in flight plan field 18.	16 charad	cters
		ICAO Address;	111111-F	FFFFF
		Selected Altitude;	(3 charac	ters)
		Heading;	-180 to 18	80
		IAS (Knots);	0 to 1023	
Line 7 and	Modo S data	Mach;	0 to 0,99	
8	Mode o data	TAS;	0 to 1023	
		Ground Speed	0 to 1023	
		Inertial Vertical Velocity;	-512 to 5	11
		Barometric Vertical Velocity;	-512 to 5	11
		Track Angle Rate;	-16 to 16	



Line	Field	Displayed Information	Valid Data
		Roll Angle; True Track Angle.	- 90° to 90° -180 to 180

## 2.1.2.4 Track Colour

In order to the controller quickly identifies certain situations, the system provides the capability of classify the tracks by means of colour codes.

The colour code is an adaptation data and it is applied to the symbol, leader, track, past positions, and tracks velocity vector.

The below table states the colours used to distinguish the different types of tracks as they were defined in the adaptation data used when this manual was written. The colour

Alerts are coloured independently from the general label colour.

Example	Presentation	Meaning
TRA005 431 270 B737M MIXAT h s r 27	GREEN	Controlled IFR track
RO LB KKWAR 281 109 <b>↓</b> 20 DC10H	YELLOW	Controlled VFR track
LOT1145 363 193↑	GREY with the callsign WHITE	Pre-Inbound track.
DOM004 248 A-53 <b>f</b> DC10H EPWA h s r 24	WHITE with the callsign GREEN	Inbound IFR track
<mark>V33033</mark> 451, 325	WHITE with the callsign YELLOW	Inbound VFR track
.V33033M 174Ac 13╋	WHITE with the callsign PINK	Inbound from OAT seen by GAT sectors track



Example	Presentation	Meaning
V33033M -452, 325 -	PINK	OAT traffic seen by GAT sectors
DOM004 371 158 <b>↑</b>	GREY	Uncontrolled, outside operational sector
DOM006 404 185 <b>f</b> DC10H EPKK 330°M87R 22	GREY with the SSR RED	Not controlled in operational sector

## 2.1.2.5 Leader Line

The leader line is the solid line that connects the track symbol with its track label. The label is located at 90° in relation with the track's course.



Figure 2-7: Leader Line

The track leader line is an active item that allows, by clicking on it, to rotate the leader line together with the track label in 45° steps. LB clicking on the track label rotates counter-clockwise. When RB click on the leader line, the track label rotates clockwise.

The system automatically detects and solves any overlapping display (automatic orientation of tracks' labels [OVERLAP]).

It is also possible to hold the label with CB and move it wherever (freely changing leader line's length and orientation). In such case, the label will not respond to further LB or RB click for step-to-step orientation, until [ORI OFF] disables individual label orientations.



## 2.1.2.5.1 Action: Track Label Free Individual Position Change

Application: Change track label position to allow a better display and make track label interactions easier.

ACTION	RESULT
RB click on the track label, and keep the button pressed.	At first, it seems the RBL creation procedure but immediately the cursor changes to a YELLOW label square jointed by a YELLOW line to the track.
	EDDT AND EFERGE GILAS DLH4455 +0 40 EDDI AND EFERGE GILAS DLH4455 +0 340 EDDI AND EFERGE GILAS DLH4455 +0 340 EDDI AND EFERGE GILAS DLH4455 +0 ADD ASP 34 DLH4455 +0 ADD ASP 34 DLH4455 +0 BAREP KELOD BOLL SOL BAREP KELOD BOLL SOL BBB/G OBOLL SOL BB/G OBOLL SOL
Without releasing the RB, select a new position for the track within the screen and finally, release the RB.	DDT GERGA GILAS EDDI A ANERU EDDI A ANERU EDDI A ANERU GORIG SONUT BORIG BARK DLH4455 40 ALTOROS EPZP

# 2.1.2.6 Historical Positions

The past position of tracks and plots represent previous sites. They are displayed using points of fixed size being of the same colour as their associated tracks.



Figure 2-8: Historical Positions Symbol

The number of past positions to be displayed can be selected between zero and ten per track.

## 2.1.2.7 Velocity Vector

The tracks can be displayed with an associated velocity vector.

Velocity vector is a straight line from the track symbol to an extrapolated point.

Its orientation is given by the course, and the length represents the space travelled in a selectable-controller time T (1-15 min.).





Velocity vector can be adjust in size:

- From [DATBLK] icon situated in the MM\_A (see 0).
- From Velocity Vector Icons, situated in the MM\_A (see 0).



## 2.1.2.8 Presentation Range

SDD position display can be adjusted in presentation range to get the display closer or further and get a general or detailed sectors display.

Presentation range can be adjusted:

- Selecting a predefined value from the pop-down menu in General Information Area,
- Clicking in a predefined value icon in the Main Menu Area,
- Performing manual expansion [EXP +] and [EXP -] actions, in Main Menu Area.
- By means of the keyboard: <+>/ <-> increase/ decrease presentation range in discrete steps.

### 2.1.2.9 Callsign Menu

Callsign Menu includes every available functions to be performed in the track.

Callsign Menu is displayed by:

- LB click in Callsign track field.
- LB click in Callsign field of any flight list.

Action selection is performed by LB clicking in the respective button, that displays the window or tool to perform the selected action. Some actions require acceptance for the action, or enter some parameters, and this input is also performed by Callsign menu.

The available functions displayed in this menu for each track, depend of the track type (correlated, owned, ...) and the scenario conditions (alerts activation, radar mode...).



AFR4413		
FPL EDIT		
DECORRELATE		
HOLD		
TRANSFER		
CLOSE		
TRA005		
FPL EDIT		
DECORRELATE		
HOLD		
DECONTROL		
FORCE EMER		
HIJ COM EME		
CLOSE		
IBE 025 0		
FPL EDIT		
DECORRELATE		
HOLD		
EAT FIX		
1237 ACCEPT		
DECONTROL		
FORCE EMER		
CLOSE		



The available functions displayed in this menu for each track, depend of the track type (correlated, owned, ...) and the scenario conditions (alerts activation, radar mode...) and are the following:

Table 2-14: Extended Label Options





	FUNCTION	CONDITIONS TO BE DISPLAYED
IIILE	FUNCTION	IN CALLSIGN MENU
ENTRY COORD	Displays the Entry Coordination Window.	The coordination is Entry Type.
EXIT COORD	Displays the Exit Coordination Window.	The coordination is Exit Type.
ASSIGN CODE	Display the SSR code assignment window.	The track is primary owned and Monoradar is not active.
FPL EDIT	Display the Flight plan operation window.	The track is correlated.
CREATE FICTITIOUS	Display the Abbreviated Flight Plan Window.	The track is not correlated, under control; the monoradar option is not active; with an special SSR code, such as 2000 or 7000.
MINIMAL FP	Display the Minimal flight plan creation window.	Not correlated and under control track.
MANUAL CORRELATION	Performs a manual correlation action.	Track not correlated.
DECORRELATE	Performs a decorrelation action.	Track secondary correlated; under control track and the Monoradar option is not active.
HOLD	Performs the hold status for the track.	Track not in hold status and under control.
UNHOLD	Forces the end of hold status for the track.	Track in hold status and under control.
DECONTROL	Performs the decontrol action, and the track becomes uncontrolled.	
TRANSFER	Performs a hand-over action to leave the control of the track.	Track correlated; not in transfer phase; an advanced internal operational sector belongs to the route or an advanced external operational sector belongs to the route and the out coordination is OLDI type.
ACCEPT TRANSFER	Performs the acceptance of the active transfer.	Track correlated in transfer phase toward a operational sector under control; or a under control advanced operational sector belongs to its route and it is in OLDI transferring phase.
REJECT TRANSFER	Performs the rejection of the active transfer.	Track correlated and in transfer phase.
ASSUME	Performs a hand-over request to have the control of the track.	Track not under control, not in transfer phase and the By-pass option is not activated.
FORCE ASSUME	Performs an ASSUME that does not require agreement by the track owner.	Track correlated, not in transfer phase, not under control, and assumed by other user.
SKIP	FP trajectory skips advanced status to next Operational Sector	Track is in advanced and assumed and in a different Operational Sector.
CANCEL SKIP	Cancels previously performed Skip action.	Skip action previously performed (only displayed in position that performed it).
ANNOUNCE	Set the track in advance in the selected position.	Track correlated, own and VFR or Minimal FP.
ROF	Performs a request on frequency action.	<ul> <li>Track correlated and not in transfer phase and:</li> <li>Exist under control operational sector is sectorized.</li> <li>Or OLDI coordination and advanced operational sector is sectorized.</li> </ul>
CANCEL ROF	Performs a cancelation of previous ROF request.	Inbound controller, after a ROF request.
FORCE EMER	Forces an emergence in the track. Allowed emergencies: HIJ, COM, EME.	Track under control.
CANCEL MAN EMER	Cancels previously force emergency performed.	Track under control and previously forced emergency.
ENABLE STCA	Active STCA alarm.	Exist track and has STCA alert inhibited.



TITLE	FUNCTION	CONDITIONS TO BE DISPLAYED IN CALLSIGN MENU
DISABLE STCA	Inhibit STCA alarm.	Exist track and has STCA alert active.
ENABLE APW	Active APW alarm.	Exist track and has APW alert inhibited.
DISABLE APW	Inhibit APW alarm.	Exist track and has APW alert active.
ENABLE MSAW	Active MSAW alarm.	Exist track and has MSAW alert inhibited.
DISABLE MSAW	Inhibit MSAW alarm.	Exist track and has MSAW alert active.
CLOSE	Close the Callsign Menu	

## 2.1.2.9.1 Action: Actions in Callsign Menu

**Application:** Main available actions, included in previous list (see 2.1.2.8) are quick and easy to be performed by Callsign Menu.

ACTION	RESULT
LB click on the Callsign symbol (both in the track label or in a flight plan list).	
	The callsign menu with available options for the track is displayed.
Click in the action to be performed	
	The action is performed automatically. If data is required to perform the action, an input window is displayed with the required fields. E.g. For Manual Correlation, this window is displayed:



ACTION	RESULT
	MANUAL CORRELATION ×
	CALLSIGN ORIG EOBD EOBT DEST
Edit the fields with the correct values (if input values are required).	
If input values are required, finish the action by clicking on one of the following icons:	
[OK] icon	
	The action is triggered. The window is closed.
[CLEAR] icon (if included)	
	All values in Window are removed from fields.
[CLOSE] icon	
	The action is cancelled. The window is closed.





# 2.1.2.10 Tracks in Distress

Tracks may present following distress statuses:

- HJ. Hijack (7500)
- RF. Communication Failure (7600)
- EM. Emergency (7700)

The pilot activates these statuses. Changing the SSR Code, the corresponding visual and aural alert is activated and the characters, which identify each distress type, are displayed on the track label within the "Distress" field.

These alarm options can be manually assigned by the controller using the Callsign Menu (only for controlled tracks).



Figure 2-11: Tracks in Distress

# 2.1.2.11 Special Position Indicator (SPI)

The pilot sends a signal to cause the flight display in **BLUE** within the controller screen during 20 seconds in order to attract the controller attention and to indicate its presence within the operational sector.







# 2.1.2.12 Tracks in STCA

Two main conflict statuses can occur when there is a pair of tracks in STCA: Warning or Alert:

STCA Warning

Tracks in STCA warning present the velocity vector in YELLOW, as well as a YELLOW square surrounding the track label.

A yellow line is also displayed between both tracks in their route, and a seconds counter with the countdown to the violation phase.



Figure 2-13: Tracks in STCA Warning

STCA Alert

Tracks in STCA alert are similar than the STCA warning, but in red colour.









# 2.1.2.13 Tracks in MTCD

This alert is displayed in track label "Alarm Indicator" field by a "MC" yellow or red message, depending on the conflict seriousness.

Tracks which routes will not cross, but their proximity can also create a conflict, are also detected as MTCD conflict.

A **YELLOW** "MC" message is displayed when the flight plan level in the predicted conflict point is outside the segment formed by the AFL and CFL values.

A **RED** "MC" message is displayed when the flight plan level in the predicted conflict point is inside the segment formed by the AFL and CFL values.



Figure 2-15: Track in MTCD

Controller can manually display MTCD conflict zone.

When several tracks are in MTCD conflict, or a track is in MTCD conflict with some other tracks, only one MTCD conflict can be displayed at the same time.













Clicking in "MC" field, three zones are displayed:

- Continuous white line: selected track (MTCD conflict track which "MC" message was clicked)
- Discontinuous white line: not-selected track (MTCD conflict track which "MC" message was not clicked)
- **RED** line: MTCD conflict zone.



# 2.1.2.13.1 Action: MTCD Conflict

**Application:** Display several information about an MTCD conflict to analyse the conflict to predict a solution. It is required that tracks in MTCD conflict are under control.

ACTION	RESULT
For two under control tracks in MTCD conflict ("MC" message displayed in track label, and MTCD conflict mark in flight plan lists), LB click in "MC" message in one of those track label.	
	MTCD conflict is selected and displayed.
	Three zones can be distinguished, by:
	Continuous white line: route for one of tracks in MTCD conflict (the one which "MC" field was clicked)
	Discontinuous white line: route for the other track in MTCD conflict.
	RED line: route for MTCD conflict zone.
	нс 18E0023 1335 18E001 240 4 ИС 240 4 ИVER 4 ИVER 4 ИVER 4 ИVER 4 ИVER 4 И ИС 240 240 1335 240 1335 240 1335 240 1335 240 1335 240 1335 240 1335 240 240 240 240 240 240 240 240 240 240
Clicking in "MC" field for a few seconds, the rest of tracks are displayed in lighter colours to remark selected MTCD conflict.	
To display Conflict Window with all current MTCD conflicts:	
LB click in [FLP] icon in General Information Area, and select [CONFLICT] option.	
	Conflict window is displayed with every MTCD conflicts.
To display Conflict Window with MTCD conflicts for a single track:	
LB click in one of MTCD conflict track first field in a Flight plan list.	



ACTION	RESULT
	Conflict window is displayed for selected track, including current MTCD conflict.
	CNF ×
	FP CONFLICTS 08:41
	C/S ADEP SEGMENT ENTRY SEGMENT EXIT
	1 — Conflict time: 0843 IBE0023 LLLL 5416N01958E/0822/230 5305N01901E/0845/230 IBE004 55DD 5331N01846E/0840/230 5311N01858E/0844/230
	16 12
	8 4 <u>1</u>
	0 5 10 15 20 25 3 CANCEL
LB/ RB click in graphical zone in conflict window, in one of the tracks in conflict marks (triangle mark)	
	Track horizontal future situation (HFS) window is displayed.







# 2.1.2.14 Tracks in APW

Track label displays ZN in YELLOW (prediction) or RED (violation) in alarm field (see 2.1.2.2).



Figure 2-18: Track in APW – Prediction



Figure 2-19: Track in APW – Violation

Two main conflict statuses can occur when there is a pair of tracks in APW: Prediction (APW-P) and Intrusion (APW-I):

- Prediction (APW-P): APW-P comes about when a future intrusion is foreseen, a VSP time before it happens.
- Intrusion (APW-I).

In APW list, tracks in APW-P are displayed in YELLOW colour in APW list, and tracks in APW-I are displayed in RED colour in APW list.




### 2.1.2.15 Tracks in RAW

Restricted Area Warning (RAW) is the alert to warn about the intrusion in a restricted area. It is similar to APW, but RAW is calculated with the flight plan progression.

RAW warning is displayed in track label as ZN in the same colour as the track label is. It is also displayed in FP lists in Warning field as RAW.

#### 2.1.2.16 Tracks in MSAW

This function is especially necessary if the control center geography forms many mountainous and slopes. The System allows definition of dangerous areas and if an aircraft is flying very low, an alarm triggers.

It is necessary to define the MSAW area in the adaptation database in order to trigger a MSAW alert when a track is entering the area. It is defined both the shape and the level.

If an aircraft is descending from the area level when crossing that area, it will be in danger, and the track will be in MSAW alert. Track label displays AW in YELLOW in "Alarm Indicator" (see 2.1.2.2) field for MSAW in prediction phase. The SDD emits an acoustic signal during that status. Track label displays AW in RED in "Alarm Indicator" field for MSAW in violation.

When the aircraft leaves the area or climbs out the area level both the alert graphical presentation and the sound ceased.



Figure 2-22: MSAW alert - Prediction





## 2.1.2.16.1 Profiles in MSAW Areas

In case an aerodrome within the FIR is situated in a mountainous zone, which may causes warnings, it is necessary to define a MSAW area.

It is possible to define profiles to avoid flights, which correctly take off and land by following the established procedures, to emit the MSAW alert. The profiles creation is performed in the adaptation database.

The profile consists of a circular area, which surrounds the airport, and a corridor, which goes from this one to the outside of the area outline. Through this corridor, the aircraft does not emit the MSAW Alert but when an aircraft does not follow this profile, it will trigger the MSAW Alert.



#### 2.1.2.17 RVSM Alarm

The System provides the possibility to define if a sector supplies navigation with RVSM or not from the adaptation database. If so, the aircraft within the sector between the FL290 and FL410 flight levels must be equipped with RVSM to make better use of the airspace.

When the RVSM alarm is displayed, the track label includes this alarm, as defined (see 2.1.2.2)

The CMD Position defines the separation parameters in RVSM levels.



Figure 2-25: Track in RVSM alert

#### 2.1.2.18 8.33 Alarm

As the RVSM navigation requests to make better use of the airspace, the 8.33 frequency tries to make better use of the radio frequencies space. Within the adaptation database, it is possible to establish a level from which this alert is checked. See "Alert Display Conditions" 0.



Figure 2-26:

#### Track in 8.33 alarm

#### 2.1.2.19 CLAM Alarm

As described in point, it is possible to enter a new Cleared Flight Plan Level (CFL) in a correlated owned track through the "CFL" field.

If the aircraft crosses this flight level climbing or descending and does not keep the established level, the CLAM alert (LB) is displayed in YELLOW (see 2.1.2.2).



	LB
D0M006	+0
240 460	
DC10H EP	KK
hsr	24

Figure 2-27: Tracks in CLAM

## 2.1.2.20 Heading Alarm

This alarm is displayed in YELLOW in "Alarm Indicator" field (see 2.1.2.2) of a correlated track label. Enter values into heading field (see 2.1.2.2). Then, the System checks if the assigned orientation matches the real one.

Figure 2-28: Track in Heading alert

## 2.1.2.21 Route Conformance and Adherence Monitoring (RAM) Alert

This alert is displayed when the track real position distance to the predicted flight plan is greater more than a configurable VSP value.

In track label, the YELLOW "RO" message is displayed in "Alarm Indicator" field (see 2.1.2.2).



Figure 2-29: Track in RAM alert



## 2.1.2.22 Route Intersection Error (RIE) Alert

This alert applies for ADS correlated tracks with ADS reports including predicted\_route data. This information (predicted\_route) includes the next two fixpoints in route. When predicted\_route is included in ADS report, a "R" is included in track label, that allows to display predicted route in ADS report in **GREEN** colour by LB click in it (this alert is only displayed when no other alert is simultaneously displayed in this field).

The system compares the track route with the predicted one (ADS report). When both routes do not match (with 10 NM tolerance), RIE Alarm is displayed with "RP" in "WARN" field in FP list.

	D	AC	WARN	RV	R	C/S	SSR	ATYP	EOBT	ADEP	ADES	RFL	EC
С	٠	Аc	RP	ΕQ	Ι	AFL121	4501	A320	1315	UUEE	LKPR	360	36
-				NO	Ι	RYR24LD	3101	B738	1321	EGSS	EPSC	220	13
						Figure 2-30:	RIE	E Alarm in	FP List				

Figure 2-30: RIE Alarm in FP List

RIE alarm is also displayed by LB click in "R" field in track label. The displayed segments (from ADS report) are displayed in YELLOW colour.



Figure 2-31: RIE Alarm



This calculus will not be performed when the track does not match the FP route, in this case RAM (calculus and alert) is performed.

### 2.1.2.23 QNH Altitude Correction

The AirCon 2100 system allows definition of pressure areas around the airports. The adaptation database performs this definition by establishing shape, Transition Altitude and the airport where they are situated.

For flights below the Transition Altitude, the System displays the Mode C value corrected for the current QNH or QFE-Correction in accordance with the current setting. This display is clearly distinguishable from normal Mode C by adding an "A" in front of the flight level.

#### 2.1.2.24 Synthetic Tracks

A synthetic track is a track automatically generated by the System or upon controller's request. Synthetic tracks progress based on their FP route. Thus, synthetic tracks base is the existing FP and not the radar information. The track always follows the FP data: level, speed, route, etc.

To request the System, this procedure performs a generation of flight positions along the time except when there is no radar information associated to the Flight Plan.

Automatically, when the flight passes from a covering radar area to a non-covering radar area, it becomes a synthetic track.

The label and the colour is the same as for the real tracks (see previous sections). A special symbol distinguishes the synthetic tracks from the real ones.





It is possible to enter a new CFL for synthetic tracks.

2.1.2.24.1 Creation and cancellation of Synthetic Track

It could be possible to create and cancel a Synthetic Track.

The operator could select the corresponding FP and it appear the "FPL Menu" displayed by LB click in Flight Plan List first field





Figure 2-33: FPL Menu

- Selecting "CREATE" option, the system will create a Synthetic Track for the FP.
- Selecting "DELETE" option, the system will cancel a Synthetic Track for the FP.

## 2.1.3 Flight Plan Correlation

When the radar track (SDP) has a Flight Plan (FDP) associated with the same SSR Code as the track.

If the track is Mode S, the Callsign performs the correlation, not using the SSR Code for that purpose. Therefore, if the SDP is not running and/or the Bypass Mode is working, the tracks cannot correlate with Flight Plans.

Once the track has correlated, its label changes colour. The Flight Plan information is associated to this track and the flight label presents the most relevant one.

The System provides two types of correlation: automatic and manual.

## 2.1.3.1 Automatic Correlation

The System must fulfil following two requirements to correlate a FP automatically:

- If the track is not Mode S, there must be a FP in the FPs Data Base with the same SSR Code as the track in question. If the track is Mode S, there must be a FP with the same Callsign.
- The radar track must stay at a minimum distance according to the route and times of that Flight Plan. This functionality is called "Geographical Coordination".

## 2.1.3.2 Manual Correlation/ Decorrelation

Correlation

The operator has the possibility to perform a manual correlation of a non-correlated track with a FP with the same SSR Code, independently of the distance between the track and the Flight Plan route.



Click on the track symbol, or in the correlation option in Callsign menu. Fill in the "Callsign" field of the displayed Manual Correlation Window and click in OK, the rest of the fields will be automatically filled. The action finishes with a procedure to close actions.



<u>NOTE</u>: If the "Flight Plan Ambiguity" is initiated, the operator may force the association via manual correlation by selecting the flight plan considered as correct.

Decorrelation

As FPs can be associated, the controller can manually decorrelate a owned track. That is, take its FP away. The FP keeps the current status - it is not cancelled nor deleted, and it is only decorrelated.

This action is performed by Callsign menu of a own track.

AFR4413
FPL EDIT
DECORRELATE
HOLD
TRANSFER

Figure 2-35: Manual Decorrelation

Once the action is accepted, the track changes the colour defined for non-correlated tracks and it displays the information coming from the radar but not the one of the Flight Plan.

The track and the Flight Plan will not be automatically correlated each other any more. If correlation is required, the action must be manual.



### 2.1.3.3 Abbreviated Flight Plan (APL)

For a non-correlated aircraft, an Abbreviated Flight Plan can be created. It is not a real Flight Plan as the track-displayed information, apart from the SSR code, is the Callsign. If the Callsign exists in another APL track, the System does not allow that Callsign assignment.

The special behaviour of these tracks (including this code) is that there can exist more than two (2) flights with the same code, without causing track ambiguity (2 or more tracks with the same code).



Figure 2-36: APL Menu

### 2.1.3.3.1 Action: Create an APL

Application: Perform this procedure to create an abbreviated FP (only for assumed tracks).

ACTION	RESULT
LB click on the "Callsign" field of the track label of a non correlated track. The Callsign menu is displayed. CREATE FICTITIOUS option.	
	The APL window is displayed.
	APL ×
	CALLSIGN CSSR 7000 OK CLOSE CLEAR
Fill in the Callsign field with a Callsign not assigned to any other APL track.	



ACTION	RESULT
Finish the action by clicking on one of the following icons:	
[OK] icon	
	The Abbreviated FP is created.
[CANCEL] icon	
	The creation action is cancelled.
[CLEAR] icon	
	The displayed data is deleted.

## 2.1.3.4 Minimal Flight Plan

When a track has no Flight Plan associated to it, apart from creating a Flight Plan to associate it with the track, it is possible to create a Minimal Flight Plan just including the necessary fields reducing the FP creation action by far.

Minimal FP Window is displayed from Callsign Menu, LB click on the "Callsign" field of the track label.



Figure 2-37: Minimal FP Window

Table 2-15: "FP Min" Window. Edition Fields

Field	Description	Valid Data
CALLSIGN	Aircraft identification	2 to 7 alphanumeric characters



Field	Description	Valid Data
CSSR	SSR code	4 digits
DEP	Departure Aerodrome	4 alphanumeric characters
DEST	Destination Aerodrome	4 alphanumeric characters
CFL	Cleared Flight Level	Not Available in FP Min Window
ТҮРЕ	Type of Aircraft	2 to 4 alphanumeric characters. The first one shall be an alphabetic character.
WAKE	Type of wake turbulence	L = light M = medium H = heavy J = super-heavy (jumbo)
EQ	Equipment	Up to two alphabetic characters. W = RVSM equipped Y = 8.33 equipped

The required fields are "Callsign", "SSR Code" and "Destination".

If necessary, it is possible to access to the Flight Plan template (FP Operation Window) later on to enter the rest of the fields. If so, the track colour changes to the one corresponding to a normal correlated track and it will not be displayed as a track with Minimal Flight Plan any more.

### 2.1.3.4.1 <u>Action: Minimal FP Creation => {Graphical Mode}</u>

Application: Perform this procedure to create a minimal FP (only for owned tracks).

ACTION	RESULT
LB click on the "Callsign" field of the track label of a non correlated track. The Callsign menu is displayed. Select Minimal FP option.	
	The "Minimal FP Creation" window is displayed.







## 2.1.3.5 Fictitious Flight Plan.

Similar than Minimal Flight Plan Window, Fictitious Flight Plan Window is provided when the FDP is not available. The difference between Minimal FP Window and Fictitious FP Window is CFL field is editable.



Liauro	n 20.	Eistitious	ED	Window
rigule	Z-30.	FICULIOUS	ГΓ	VVIIIuow

Tahle	2-16.	"Fictitious	FP"	Window	Edition	Fields
Iable	2-10.	1 10111003	I F	vvinuow.	LUILION	i icius

Field	Description	Valid Data	
CALLSIGN	Aircraft identification	2 to 7 alphanumeric characters	
CSSR	SSR code	4 digits	
DEP	Departure Aerodrome	4 alphanumeric characters	
DEST	Destination Aerodrome	4 alphanumeric characters	
		Flight level (hundreds of feet): Fxxx where xxx 00 to 999.	
CEL	Cleared Flight Level	Altitude (hundreds of feet): Axxx where xxx 000 to 999.	
		Level (tens of meters): Sxxxx where xxxx 0000 to 9999.	
		Altitude (tens of meters): Mxxxx where xxxx 0000 to 9999.	
ТҮРЕ	Type of Aircraft	2 to 4 alphanumeric characters. The first one shall be an alphabetic character.	
		It shall be known by the system.	



Field	Description	Valid Data	
WAKE	Type of wake turbulence	L = light M = medium H = heavy J = super-heavy (jumbo)	
EQ	Equipment	Up to two alphabetic characters. W = RVSM equipped Y = 8.33 equipped	

The functionality for this window is equal to Minimal Flight Plan Window

Fictitious track is displayed in Assumed colour until the FDP becomes operative, and track is displayed as Minimum (see Track Colour).

## 2.1.4 Meteorological Data

Meteorological data is displayed as continuous information through eight different intensities. The information is extracted from the radar messages and radar information.

A meteorological map consists of several layers with different intensities, which can be displayed in different colours that can be chosen by the controller through a menu.

The meteorological map is shown like a continuous map up to 8 intensities and with any form.

The controller can choose the option of displaying the meteorological maps, pressing the METEO button at the Main Menu Area.

The operator can display the different intensities selecting the [MET'X'] button and can set and change the colour for each intensity by clicking in each coloured and numbered square. For each selected button, the SDD shows meteorological data received from radars.

METEO		I EO	×
METO	0	MET4	2
MET1	0	MET5	2
MET2	1	MET6	3
MET3	1	MET7	3

Figure 2-39: Meteorological Data Display





Figure 2-40: Meteorological Data Display

## 2.1.5 Range Bearing Lines (RBL)

The RBLs are dynamic information traces represented between:

- Geographical Point Geographical Point The displayed information is fixed.
- Geographical Point Track The displayed information is updated according to the track movement.
- Track Track



### The displayed information is updated according to the tracks movement.

The RBL creation is undergone by means of the mouse as shown in following table:

Mouse Button	Action
СВ	Start/ finish the RBL creation action
RB	Abort the RBL creation action
LB	Display the geodesic coordinates of the final end of the RBL



Figure 2-41: Range Bearing Lines (RBL) Display

RBLs can be removed all together by means of the [RBL OFF] icon, and individually by clicking CB in the RBL's label.

Alarms can be programmed for the RBLs if it is attached to a track.

The RBL colour is **YELLOW** while creation action and when this action has finished the colour is **BLUE**. For all the RBLs with programmed and activated alarm, the colour will be **RED** for the line and for the fields where the alarm is assigned.

The RBL label format depends on its status as shown in following table:

Status	Format
RBL between	two geographical points
	Line 1: B: Azimuth
	Between initial point (geographical point of activation) and the final point (geographical point where the RBL cursor is located).



Status	Format
	Line 2: R: Distance
	Between the two end points (in nautical miles).
RBL between	geographical point-track and track-track converging to the same point
	Line 1: B: Azimuth
	Between initial point (geographical point of activation) or track and the track.
	Line 2: R: Distance
	Between the origin and the associated track or between both associated tracks (in nautical miles).
	Line 3: Time: E or T values (selected in DATBLK [see 2.3.16.13])
	E: Estimated time, in minutes, from the tracks' point or origin, assuming that the flight is heading in that direction.
	T: Estimated time, in minutes, to/ from the point of origin to the RBL cursor, assuming that the flight is heading from/ to that direction.
	Line 4: X: Distance
	Estimated minimum distance, in nautical miles, between the RBL ends.

Depending on the RBL location and its end-points, the fields displayed on the vector label may change:

- Between geographical point geographical point
  - $\diamond$  Display Line 1 (B) and Line 2 (R).
- Between geographical point track
  - If the track is not going to cross the imaginary perpendicular between the geographical point and the route, only Line 1 (B) and Line 2 (R).
  - If the track is going to cross the imaginary perpendicular between the geographical point and the route, Line 1 (B), Line 2 (R), Line 3 (E/ T) and Line 4 (X).
- Between track track
  - If according to the tracks heading, these ones are not going to cross each other, only Line 1 (B) and Line 2 (R).
  - If according to the tracks heading, these ones are going to cross each other, Line 1 (B), Line 2 (R), Line 3 (E/T) and Line 4 (X).

Lines 3 and 4 are displayed if the ends of the RBL are approaching. Once the minimum distance point is reached, lines 3 and 4 are removed.

The RBL colour is **YELLOW** during its creation period and, when the creation is finished, the colour is **BLUE**.



#### **RBLs** Deletion:

- CB click on the RBL label to deleted RBLs one by one
- LB click on the [RBL OFF] icon to delete all.

It is possible to established alarms for the RBLs for each value. When the value exceeds the established limit, the System activates the alarm and the colour changes to **RED** for the vector line and for the fields where the alarm is assigned.

### 2.1.5.1 Action: Create Range Bearing Line => {Graphical Mode}

Application: Perform this procedure to create a new Range Bearing Line in the SDD SIT Area.

ACTION	RESULT	
CB Click on the screen to mark the initial point (geographical point, track, etc.)		
	In this phase, the RBL displays a label with the information. The RBL colour in this initial phase is YELLOW.	
While the RBL is being created.		
	The mouse buttons have functions different to those normally assigned.	
	LB – Displays the geographical coordinates of the free end of the RBL.	
	CB – Cancel the RBL creation procedure.	
	RB – End the RBL creation.	





# 2.1.5.2 Action: Program RBL ALARMS => {[RBL ALM]}

Application: Perform this procedure to program alarms in the Range Bearing Line.

ACTION	RESULT
Once the RBL has been created, LB click on the [RBL ALM] switch of the Main Menu Area.	
	The RBL alarm programming function is activated.
LB click on the RBL label corresponding to the alarm to be programmed.	
	Depending on the selected line, the pop-up menu title is different (azimuth, range, time and minimum estimated distance).
	The pop-up menu contains the different type of alarms: Inhibits a previous programmed alarm (DISABLE) Warn that the field values are within certain limits (INSIDE) Warn that they are outside limits (OUTSIDE) Warn that the field value is above a limit (OVER) Warn that it is below a limit (UNDER)







ACTION	RESULT
When the alarm is reached, the RBL line and the corresponding field of the RBL label are activated and turn to RED colour.	B 042 R 130.5
An alarm may be programmed for each field simultaneously.	
The alarm may be accepted (inhibited)	
Manually: by LB click on the corresponding alarm.	
Automatically: when the alarm has been fulfilled.	
CB Click on any programming menu or window title.	
	The programming procedure under way is automatically cancelled.

## 2.1.5.3 Action: Partial RBL Removing => {Graphical Mode}

Application: Perform this procedure to remove only the selected RBL from the SDD SIT Area.

ACTION	RESULT
CB Click on the label first line of a created RBL.	
	The RBL is removed from the screen.



## 2.1.5.4 Action: Remove RBLs => {[RBL OFF]}

Application: This action starts from the [RBL OFF] icon situated in the MM\_A.

ACTION	RESULT
Click in [RBL OFF] in Main Menu Area.	
	Every RBL is removed from SDD display.

## 2.1.6 Flight Plan Route

Correlated track flight plan routes are graphically displayed, using a sequence of vectors which joint the successive route points, starting from the first overflown fix point and ending with the last route point. When no fix points have been overflown, the whole flight plan route is displayed. Each flight plan route vertex has a label with three lines. The flight plan routes are displayed in **GREEN** (see following figure). When the route is being modified it is displayed in **LIGHT BLUE** colour.



Figure 2-42: Flight Plan Route Display

Each vertex displays the following information:

#### Table 2-18: Track Flight Plan Route Label

Line	Description	Format
First Line	Display the fix point name.	
Second Line	Display the estimated time to over fly the fix point.	HH:MM
Third Line	Display the flight level assigned to the corresponding fix point.	Hundreds of feet

## 2.1.6.1.1 <u>Action: Graphical Route Visualization => {[EXECUTIVE]} or {[PLANNER]}</u>

**Application:** Use this procedure to display the flight plan route from EXECUTIVE or PLANNER. There are two ways to display Graphical route:

## From EXECUTIVE/ PLANNER:

ACTION	RESULT
Click on the [EXECUTIVE] or [PLANNER] icon of the Main Menu Area.	
	The FP List is displayed.
LB click on the COP (XCOP) field.	
	FP route is displayed in GREEN colour.







ACTION	RESULT
LB Click on the "LAST POINT" field in the track label.	
	The route is shown in LIGHT BLUE colour. A pull-down menu is displayed with several options:
1 Choose the Display option in the menu.	
	The graphical route is displayed.
2 Choose the Cancel option in the menu.	
	The action of graphical modification is cancelled and no modification is performed.

## From Graphical route modification Menu:



## 2.1.6.1.2 Action: Graphical Route Modification

**Application:** Perform this procedure to graphically modify the current flight plan route.

Flight Plan route modification can be performed:

- From the track label
- From the FP template

#### From the Track label

ACTION	RESULT
LB Click on the "LAST POINT" field in the track label.	
	The route is shown in LIGHT BLUE colour. A pull-down menu is displayed with several options:
	TEST001 231 162 B737M EPWK h s r 30 TEST001 EPWK EDIT CANCEL DISPLAY
There are two options to draw a route modification or finish the action:	
1 Choose a fix point or an arrival aerodrome in the list.	
	The route is modified directly from current point until the selected fix point or aerodrome.
2 Choose the "Edit" option and click on fix points (LB click in fixpoint name) or any geographical point, drawing the desired route.	
If LB click is performed in an area close to several fix points, a pop-up menu is displayed with the related possibilities. Select one of them.	
The last edited fix point must be selected with mouse RB click, that finishes the route modification action.	
Note: The last point must belong to the former route or an aerodrome	





ACTION	RESULT
or an external point, if it is an external route.	
	If the selected points to modify the route are valid, the modification is performed.
	If there is a non-valid point, the action finishes and any modification is not performed.
3 Choose the Cancel option in the menu.	
	The action of graphical modification is cancelled and no modification is performed.

# From the flight plan template => {track symbol -> "FP Operation" -> [MODIFY]}

ACTION	RESULT
RB click in track symbol	
	The flight plan template is displayed
LB click in Modify and select the Route field	
	The route field is displayed.
Perform a route modification	
Click in OK button to accept the modification	
	If route entered is correct, the flight plan template turns to View action and route modification is performed.



ACTION	RESULT
	If route entered is wrong, a List of routes window is displayed with available correct routes for that flight. LB double click in a route select it and clicking in OK button performs the acceptance action.
Clicking in CANCEL button the modification is cancelled and the flight plan template is closed without changes.	

## 2.1.7 Actions on Owned Tracks

Actions to carry out on an owned track:

- Track Selection from the FPs List
- Input of New CFL
- Estimate in Track
- Enter into the Hold List
- Exit from the Hold List.
- Hand-Over Procedure
- Distress Procedures
- SKIP
- Anounce
- Minimum FP Creation
- Decontrol
- Create fictitious
- Manual corelation

## 2.1.8 Transfer Actions

The track change of sector always requires manual intervention, both if the involving sectors (current and future) are inside the FIR, or the track comes from to an external sector.

A VSP time before the internal sector crossing point (COP), the FQ alert is displayed to remind the controller to transfer the track.

Several actions can be performed to transfer tracks.



#### 2.1.8.1 Action: Transfer to next operational sector in route

**Application:** This action is performed to transfer the control of the track to the next operational sector in the flight plan route.

**NOTE**: In controller operational sector, the label operational sector field displays the next operational sector that will control the track, and in future operational sector (where the track is an incoming one) the label operational sector field displays the current controller operational sector.

ACTION	RESULT
For an own track LB click in the Callsign label field.	
	The Callsign Menu is displayed.
LB click in TRANSFER option.	
	<ul> <li>The transfer process is started.</li> <li>The transfer is marked in Operational sector field in both positions involved in the transfer.</li> <li>In Controlled position: marked with RED colour.</li> <li>In Future position: marked with ORANGE colour.</li> <li>In Future position: marked with ORANGE colour.</li> </ul>
In the future controller position LB click in Callsign track label field.	



ACTION	RESULT
	The Callsign Menu is displayed, with options to Accept and Reject the transference.
	A320M ALUKA h s r 35 REJECT
To Accept: LB click in ACCEPT TRANSFER.	
	The Callsign Menu is closed and the track is transferred, becoming own in the position and not own in the position that begins the transference.
To Reject: LB click in REJECT TRANSFER.	
	The Callsign Menu is closed and the transference is cancelled, remaining the track control as before the transfer action.

## 2.1.8.2 Action: Transfer to any operational sector

Application: This action is performed to transfer the control of the track to any FIR operational sector.

ACTION	RESULT
For an own track LB click in the Operational sector label field.	
	The Transfer Menu is displayed, with available operational sectors where can be transferred.
	0P30 0PS2 0PS3 0PS4 0PS5 0PS6 V





ACTION	RESULT
LB click in the operational sector to transfer.	
	The transfer process is started.
	The transfer is marked in Operational sector field in both positions involved in the transfer.
	• In Controlled position: marked with RED colour.
	OP11     IBE4565 438     245     A320M KORUP     h s r 30     In Future position: the track label is displayed as advance,     and the Operational sector field is remarked in ORANGE
	colour.
	OP10 IBE4565 438 248 <b>†</b> A320M KORUP h s - <del>r 3</del> 0
In the position that controls the selected operational sector LB click in Operational sector track label field.	
	The Transfer Menu is displayed, with options to ACCEPT and REJECT the transference
	OP10 IBE4565 441 IBE4565 252 A320M KORUP h s 7 30 REJECT
To Accept: LB click in ACCEPT TRANSFER.	
	The Transfer Menu is closed and the track is transferred, becoming own in the position and not own in the position that begins the transference.
To Reject: LB click in REJECT TRANSFER.	



ACTION	RESULT
	The Transfer Menu is closed and the transference is cancelled, remaining the track control as before the transfer action.

## 2.1.8.3 Action: Request on frequency => [ROF]

**Application:** This action is performed to request the transfer of the track. This action can be performed by any position except of the one that controls the track.

ACTION	RESULT
For an incoming track, LB click in the Callsign label field.	
	The Callsign Menu is displayed.
LB click in ROF field.	
	In both positions (current and future under control operational sectors) the FQ alert is displayed in YELLOW colour, in track label. In Extended label Frequency field is displayed in YELLOW colour.
This action can be cancelled in the Incoming track, with [CANCEL ROF] option in Callsign Menú.	
	In both positions (current and future under control operational sectors) the FQ alert is cancelled and the warning indicator is no longer displayed in track label.
This action is finished with a transfer action from the controlled operational sector	



## 2.1.8.4 Action: Request of Transfer Level

Application: This action is performed to negotiate the flight level for the coordination point.

This action can be performed both when the track is controlled and when it is inbound.

## For Inbound Track:

ACTION	RESULT
For an incoming track, LB click in "External flight level" (PEL) field (see 2.1.2.2)	
	PEL pop-down menu is displayed with available level values for entering the operational sector.
Select and accept a value by:	
LB click in predefined values (automatical acceptance);	
<ul> <li>Entering a value in the edition field (acceptance by <enter>key);</enter></li> </ul>	
Entering a value by the numbered buttons (acceptance by [Enter] button).	



ACTION	RESULT
	The field value change its colour both in the inbound track and in the position that controls the track.
	In the position that controls the track
	5 FQ FQ 401 290 300 B733M EPWA h s r 20 F FQ 13 FQ 13 FQ 13 FQ 13 FQ 13 FQ 13 FQ 13 FQ FQ 500 FQ FQ 500 FQ 50 FQ 500 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 F FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ 50 FQ FQ FQ FQ FQ FQ FQ FQ FQ FQ FQ FQ FQ
	In the position where the track is inbound:
	₿ ■SAS4411 401 290 300 150 EPWA
In the position that controls the track, LB click in the orange coloured field.	



ACTION	RESULT
	The XFL menu is displayed, with options to enter a new level (re- negotiate the transfer level), accept the proposed level or reject it.
In the position where the track is inbound, LB click in PEL field will display the PEL menu again, with a REJECT button to cancel the action.	
The negotiation action is finished by: Accept proposed level: LB click in ACCEPT option in XFL menu in position that controls the track. Reject proposed level: LB click in REJECT option in XFL menu in position that controls the track.	



## For Controlled Track:

ACTION	RESULT
For a controlled track, LB click in "External flight level" (XFL) field (see 2.1.2.2)	
	XFL pop-down menu is displayed with available level values for entering the operational sector.         Image: sector is a sector
Select and accept a value by:	
LB click in predefined values (automatical acceptance);	
<ul> <li>Entering a value in the edition field (acceptance by <enter>key);</enter></li> </ul>	
Entering a value by the numbered buttons (acceptance by [Enter] button).	


ACTION	RESULT
ACTION	The field value change its colour both in the inbound track and in the position that controls the track. In the position that controls the track:
	In the position where the track is inbound:
	¤SAS4411 401 290 210 150 B733M EPWA h s r 20
In the position where the track is Inbound, LB click in the field.	



ACTION	RESULT
	The PEL menu is displayed, with options to enter a new level (re- negotiate the transfer level), accept the proposed level or reject it.
In the position where the track is controlled, LB click in XFL field will display the XFL menu again, with a REJECT button to cancel the action.	
The negotiation action is finished by: Accept proposed level: LB click in ACCEPT option in XFL menu in position that controls the track. Reject proposed level: LB click in REJECT option in XFL menu in position that controls the track.	



The SDD allows to display the active restricted areas and CDRs, which are created and managed online in FDD, and offline in DBM positions.

Displayed areas/ CDRs contains its area identifier and the lower and upper levels



Figure 2-43: Restricted Areas



Figure 2-44: CDRs (open and closed)

# 2.1.9.1 Action: Activation/ Inhibition of Restricted Areas/ CDRs => {[AREAS]}

Application: Perform this procedure to activate/ inhibit the display of the active restricted areas in the SDD SIT Area.

ACTION	RESULT
LB Click on the [AREAS] switch of the "Main Menu" window.	
	The colour switch turns to selected and the current active restricted areas and CDRs are displayed.
Clicking again on the [AREAS] switch	
	The restricted areas/ CDRs are removed from the screen and the switch colour turns to Background.



### 2.1.10 Miscellaneous Actions within the SIT\_A

This section contains information about different menus and how to enter data in them.

For level menus (CFL, XFL, ECL, RFL) there is a colour code for the level in the menus including:

Table 2-19: Colour Code for Levels

Colour	Meaning
LIGHT GREY	Flight Level
WHITE	Requested Flight Level
GREEN	Exit Flight Level
RED	Levels not available for flight due to lack of 8.33 equipment, or lack of RVSM approval.

Colour code is merely informative, all the levels in the menu can be selected.



## 2.1.10.1 Combined Data Input

For controlled and correlated tracks, crucial flight parameters can be quickly input by Combined Data Input Menu. This pop-up menu groups three input menus: Cleared Flight Level, Assigned Heading and Assigned Speed. And the menu allows to input one or some of these three values together.



Figure 2-45: SDD Screen

### 2.1.10.1.1 Action: Combined Data Input

Application: Perform this procedure to input CFL, HDG, SPD values (only one or some).

ACTION	RESULT
Long LB click on the RFL track field.	
	The Combined Data Input Menu is displayed.









ACTION	RESULT
Keyboard: Press <enter> button.</enter>	
Graphic Menu: Click in [EXECUTE] Icon	
	The action is accepted and system process entered values. The Combined Data Input Menu is closed.
Cancelling action, by RB click in menu title.	
	The window is closed without data changes.

### 2.1.10.2 Cleared Flight Level (CFL)

CFL is used in order to change the Authorized Flight Level of the Flight Plan.

CFL value will only be displayed if it is different than AFL value.

The flight level is changed at the request of the pilot. When the pilot requests the change of the flight level, the following steps will be carried out:

1. LB click on the Track Label, field CFL (see 2.1.2.2), and input the new desired CFL. RB cancels the action.



Figure 2-46: CFL Menu

In Radar Tracks: The Flight Level is automatically hidden when the authorized Flight Level has been reached.



**Remarks:** It is necessary to be aware that the data seen on the controller screen will be those sent by the radar. Of course, if the aircraft is out of the radar coverage it is displayed as synthetic track. This synthetic track takes data from the FP.

### 2.1.10.2.1 Action: Input of New CFL => {Graphical Mode}

Application: Perform this procedure to input a new CFL (only for owned tracks).

ACTION	RESULT
LB click on the track "CFL" field	
	The "CFL" pop-up menu is displayed to select/ enter the desired new one.
	DDM006         CFL         240         230         220         210         200         190         180         170         Y         1 2 3 E         4 5 6 N         7 8 9 E         0 <         Y
The new CFL can be entered either:	
<ul> <li>By LB clicking on the predefined value.</li> <li>Entering the new value into the "Edition" field via keyboard or via provided numbered buttons. Afterwards it is required to accept it (by Enter key or by ENTER button).</li> </ul>	
	The selected or entered value is automatically updated on the track label. At the same time, the window is closed.







## 2.1.10.3 Action: Enter New HDG (Heading)

Application: Enter a new heading value (only for owned tracks or synthetic tracks).

ACTION	RESULT
LB click on the heading field of the track label, marked with an "h" (see 2.1.2.2).	This action displays the Heading Menu to select or enter a new value.
The new HDG can be entered:	The action automatically updates the selected or entered value in the
LB click on the predefined value. Predefined values can be increased by activating the "+5" button, and the original value is restored by inhibiting the "+5" button.	track label. At the same time, the window is closed.
Entering the new value into the "Edition" field via keyboard or via provided numbered buttons. Afterwards it is required to accept it (by <enter> key or by ENTER button).</enter>	



# 2.1.10.4 Action: Enter New XFL (Exit Flight Level)

Application: Enter a new XFL.

ACTION	RESULT
LB click on the "XFL" field of the track label (see 2.1.2.2).	This action displays the XFL Menu to select or enter a new value.
Select APPLY option for apply selected value in trajectory calculation (only for ascent flights).	The action automatically updates the selected or entered value in the track label. At the same time, the window is closed.
LB click on the predefined value	
Entering the new value into the "Edition" field via keyboard or via provided numbered buttons. Afterwards it is required to accept it (by <enter> key or by ENTER button).</enter>	

Edit./Rev.: A/0 Date: 12/04/2012



# 2.1.10.5 Action: Enter New ECL (En-Route Cruising Level)

Application: Enter a new ECL.

ACTION	RESULT
LB click on the "ECL" field of the track label. Or LB click on the "XFL" field of the track label, and then select ECL button, situated at the bottom of the Menu.	This action displays the En-route Cruising Level Menu to select a new value.
Select RFL option to set RFL value as selected ECL value. The new ECL can be entered:	The action automatically updates the selected or entered value in the track label. At the same time, the window is closed.
LB click on the predefined value. Entering the new value into the "Edition" field via keyboard or via provided numbered buttons. Afterwards it is required to accept it (by <enter> key or by ENTER button).</enter>	



## 2.1.10.6 Action: Enter New SPD (Speed)

Application: Enter a new assigned speed (only for owned tracks or synthetic tracks).

ACTION	RESULT
LB click on the speed field of the track label, marked with an "s" (see 2.1.2.2).	This action displays the Speed Menu to select or enter a new value.         DC10H-EPKk         PD         PD
The new SPD can be entered: LB click on the predefined value. Entering the new value into the "Edition" field via keyboard or via provided numbered buttons. Afterwards it is required to accept it (by <enter> key or by ENTER button).</enter>	The action automatically updates the selected or entered value in the track label. At the same time, the window is closed.



## 2.1.10.7 Action: Enter New VR (Vertical Rate)

Application: Enter a new Vertical Rate (only for owned tracks or synthetic tracks).

ACTION	RESULT
LB click on the vertical rate field, marked with "r", of the track label (see 2.1.2.2).	This action displays the vertical rate menu to select or enter a new value.
The new vertical rate can be entered:	The action automatically updates the selected or entered value in the track label. At the same time, the window is closed, and
LB click on the predefined value	the track label changes the "r" field to "R".
Entering the new value into the "Edition" field via keyboard or via provided numbered buttons. Afterwards it is required to accept it (by <enter> key or by ENTER button).</enter>	
"+" and "-" buttons means "or more" and "or less" and can be pressed to indicate the entered vertical rate is the minimum or maximum value allowed.	



# 2.1.10.8 Action: SSR Code Assignment/ Modification to PSR Track

Application: Assign/ Modificate an SSR Code to a PSR track.

This action can be performed in two ways:

ACTION	RESULT
LB click on the "Callsign/ SSR Code" of the track (////)	The Callsign Menu is displayed.
Select [ASSIGN CODE] Option.	This action enables the SSR Code Assignment field.
Enter the SSR Code in the "Edition" field.	
Clicking on the [ACCEPT] icon, the action is finished.	6145 //// 251

or

ACTION	RESULT
Select the track by pointing it with the mouse.	
Select the track and press <alt> + <p> key combination.</p></alt>	This action displays the SSR Code Assignment Window again.
Enter the SSR Code in the "Edition" field.	
Clicking on the [ACCEPT] icon, the action is finished.	6145 //// 251



#### 2.1.10.9 Action: Inter-Console Marker => <Alt> + <i>

**Application:** It allows displaying an additional cursor on another SDD by using the SDD own cursor to indicate to another controller the situation of an important element within the airspace.

The controller initiating the action gets the cursor with the operational sector to which it is pointing and the controller receiving the action gets the cursor with the operational sector of the first controller.

ACTION	RESULT
Press <alt> + <i> keys.</i></alt>	This action displays the Interconsole Marker.
	INTERCONSOLE MARKER SECTOR [ ACCEPT CANCEL
There are two ways of entering the required operational sector:	
Enter the operational sector name via keyboard.	
	INTERCONSOLE MARKER SECTOR OP 12 ACCEPT CANCEL



ACTION	RESULT
RB click on the "OPERATIONAL SECTOR" field.	This action displays a menu with the available operational sectors to select one.
Select one by clicking on it.	The operational sector automatically gets into the field and the menu is closed.
The action finishes by:	
Clicking on the [ACCEPT] icon	The System validates the action.



ACTION	RESULT
Clicking on the [CANCEL] icon	The window is closed and it cancels the action.

#### 2.1.10.10 Action: SKIP/ Cancel SKIP

**Application:** This action is performed in the advanced operational sector to set the next operational sector in route as the advanced one for this track.

A cancelation action is allowed for it. Cancel Action is provided and cancels previously SKIP action performed. This action can only be performed by the op.sector that previously performs SKIP action.

ACTION	RESULT
For a track in advanced, LB click in Callsign track label (or in a Flight Plan List) field	
	The Callsign Menu is displayed, containing the SKIP option.
LB click in SKIP.	



ACTION	RESULT
	The track is no longer in advanced.
At the same position, LB click in Callsign track label (or in a Flight Plan List) field.	
	The Callsign Menu is displayed, including CANCEL SKIP option.
	DLH1321 431 360 DIBED FPL EDIT CANCEL SKIP FORCE ASSUME CLOSE
LB click in CANCEL SKIP.	





#### 2.1.10.11 Action: Announce

**Application:** Only for VFR or Minimal FPs. This is an only informative action that displays the track label in advanced colour at the selected sector. This action is performed previously to a transfer action for VFR flights, to inform the next operational sector about incoming flight and to allow silent coordination this future action to the selected op.sector.

ACTION	RESULT
For a VFR track, LB click in Callsign track label (or in a Flight Plan List) field.	











### 2.2 SDD GENERAL INFORMATION AREA

This area is always displayed on the SDD position, that is, no device can close it. It is located at the top of the screen, arranged in one line, and presents two kinds of items: icons and information boxes.

ITEM	ТҮРЕ	DESCRIPTION
ST MSAW STCA APW MT	CD PSR T OPTIONS	RANGE: 300 NM SFS GDM Wx: FALT 000 720 QL SC QL FTR OFF
ST	Information Box	Display a pull-down menu to select the colour of the plots belonging to a radar, only if the SDD is in Supervisor Mode. In another hand, this icon shows the role of the SDD (Controller/ Supervisor).
MSAW	Information Box	Display the MSAW Alert activation status. When this function is activated (in the CMD), all data is processed to verify the alert status in each track.
STCA	Information Box	Display the STCA Alert activation status. When this function is activated (in the CMD), all data is processed to verify the alert status in each track.
APW	Information Box	Display the APW Alert activation status. When this function is activated (in the CMD), all data is processed to verify the alert status in each track.
MTCD	Information Box	Display the MTCD Alert activation status. When this function is activated (in the CMD), all data is processed to verify the alert status in each track.
PSR T	lcon	PSR tracks manual creation function. If in CMD position the option "AUTO. PSR TRACK INITIATION" is not activated, controller can create PSR tracks manually.
OPTIONS	Icon	Display a pull-down menu including options of tracks and plots.
Presentation Range	Icon	Display a pull-down menu to select the presentation range.
Operational Mode	lcon	Display a pull-down menu to select the operative mode (Integrated, By-pass or Mono- radar). In addition the active tracker is shown.
RADAR	lcon	Display a pull-down menu to select the radar. If being in INT mode, the PSR, SSR and combined initiation plots area shown for the selected radar only.

	Table 2-20: SDD	General	Information	Area.	Items
--	-----------------	---------	-------------	-------	-------



ITEM	ТҮРЕ	DESCRIPTION
WX:	lcon	Display a pull-down menu to select the meteorological radar.
FALT	lcon	Activate/Inhibit the altitude filters for the SDD SIT Area.
Filter Limits	lcon	Display a pull-down menu to select the upper and lower altitude filters to be modified.
QL SC	Icon	Display a pull-down menu to select the operational sectors used for the Quick-look function.
QL	lcon	Activate/inhibit the Quick-look function.
FILTER OFF	lcon	Activate/inhibit the display of all current filters.
AWA3 - 129.375 Q EST FPL MAP CONFIG SYS MSG CLOCK MENU		
Operational Sector	Information Box	Display the operational sector and frequency assigned to the position.
Operational Sector	Information Box	Display the operational sector and frequency assigned to the position.
Operational Sector Q EST	Information Box	Display the operational sector and frequency assigned to the position. Display the Quick Estimate Window
Operational Sector Q EST FPL	Information Box Icon Icon	Display the operational sector and frequency assigned to the position. Display the Quick Estimate Window Display a pull-down menu to perform actions on the FPs.
Operational Sector Q EST FPL MAP	Information Box Icon Icon	Display the operational sector and frequency assigned to the position. Display the Quick Estimate Window Display a pull-down menu to perform actions on the FPs. Display a pull-down menu to select the maps to be presented on the SDD Position.
Operational Sector Q EST FPL MAP CONFIG	Information Box Icon Icon Icon	Display the operational sector and frequency assigned to the position. Display the Quick Estimate Window Display a pull-down menu to perform actions on the FPs. Display a pull-down menu to select the maps to be presented on the SDD Position. Display a pull-down menu to select an already defined configuration, and to save a new configuration.
Operational Sector Q EST FPL MAP CONFIG SYS MSG	Information Box Icon Icon Icon Icon	Display the operational sector and frequency assigned to the position. Display the Quick Estimate Window Display a pull-down menu to perform actions on the FPs. Display a pull-down menu to select the maps to be presented on the SDD Position. Display a pull-down menu to select an already defined configuration, and to save a new configuration. Display a window with system messages.
Operational Sector Q EST FPL MAP CONFIG SYS MSG CLOCK	Information Box Icon Icon Icon Icon Icon Icon	Display the operational sector and frequency assigned to the position. Display the Quick Estimate Window Display a pull-down menu to perform actions on the FPs. Display a pull-down menu to select the maps to be presented on the SDD Position. Display a pull-down menu to select an already defined configuration, and to save a new configuration. Display a window with system messages. Display the clock window.

### 2.2.1 [ST] lcon

See Display of Plots.

### 2.2.2 Minimum Safe Altitude Warning [MSAW] Icon

The Minimum Safe Altitude Warning (MSAW) is defined in adaptation and it is activated/inhibited at CMD. When it is activated, the icon text colour is **GREEN** and, when it is inhibited, the icon text colour turns to



YELLOW. When Safety Nets is not available, this functionality is not operative, and its colour turns to RED.

When the selected Operational Mode is By-Pass the MSAW functionality is available.





### 2.2.3 Short Term Conflict Alert [STCA] Icon

The Short Term Conflict Alert (STCA) is also defined in adaptation and it is activated/inhibited at CMD. When it is activated, the icon text colour is **GREEN** and, when it is inhibited, the icon text colour turns to **YELLOW**. When Safety Nets is not available, this functionality is not operative, and its colour turns to **RED**.



Figure 2-48: [STCA] Icon

Two tracks in STCA can be in two conflict states: Prediction or Violation.

### 2.2.4 Area Proximity Warning [APW] Icon

The Area Proximity Warning (APW) is defined in adaptation and it is activated/inhibited at CMD. When it is activated, the icon text colour is **GREEN** and, when it is inhibited, the icon text colour turns to **YELLOW**. When Safety Nets is not available, this functionality is not operative, and its colour turns to **RED**.



Figure 2-49: [APW] Icon



### 2.2.5 Medium Term Conflict Detection [MTCD] Icon

The Medium Term Conflict Detection (MTCD) is defined in adaptation and it is activated/inhibited by the CMD (see CMD Position User Manual). When it is activated, the icon text colour is **GREEN** and, when it is inhibited, the icon text colour turns to **YELLOW**.



Figure 2-50: [MTCD] Icon

### 2.2.6 Primary Search Radar Tracks [PSR T] Icon

The [PSR T] icon allows the activation of the PSR tracks manual creation function.

If the [AUTO. PSR TRACK INITIATION] function is activated in the CMD, the tracks creation is automatic, and otherwise the [PSR T] icon can be used to initiate the manual tracking by the SDP. (For more information, see CMD Position User Manual).

When the PSR tracks manual creation function is activated causes the RDP to initiate the tracking of PSR plots falling in a system parameter size and during a system parameter time.

Following colours represents the icon status:

- Inhibited. WHITE on GREY
- Activated. BLACK on LIGHT GREY





### 2.2.6.1 Action: Manual Creation of PSR Tracks => {[PSR T]}

Application: Perform this procedure to create manual PSR Tracks.

With this action the system looks for a PSR track by clicking in a SDD SIT point, and it will only apply when the track is situated in a near point from selected one.

ACTION	RESULT
Click on the [PSR T] button situated in the SDD General Information Area.	
	The PSR manual creation function is activated.



ACTION	RESULT
LB Click on a point in the SDD SIT Area.	
	It causes the SDP to initiate the tracking of PSR plots falling in a system parameter size area during a system parameter time.

### 2.2.7 [OPTIONS] Icon

When clicking on this icon, a pull-down menu is displayed to allow performing different actions on the tracks and plots. The options included in the pull-down menu are the following ones:

HISTORY: Activate/inhibit the tracks' past positions display.

The activation status can be also selected by means of the key combination <Alt> + <H>.

**PSR PLOT:** Activate/inhibit the primary plots display.

PSR BYP: Activate/inhibit the primary tracks display.

SSR PLOT: Activate/inhibit the secondary plots display.

**SSR BYP:** Activate/inhibit the non-correlated secondary tracks display.

**CORR:** Activate/inhibit the correlated secondary tracks display.

**REPORT:** Activate/inhibit the ADS reports.

FILLED: Activate/inhibit the display of under-control sectors in a different background colour.

All the options are selected with the mouse LB. The selected option is displayed with a YELLOW mark (see next figure):



OPTIONS R	
F HISTORY	
<b>PSR PLOT</b>	
■ PSR BYP	
SSR PLOT	
SSR BYP	
CORR	
<b>REPORT</b>	
<b>FILLED</b>	

Figure 2-52 Options Pull-down Menu

All filter options (PSR PLOT, PSR BYP, SSR PLOT, SSR BYP, CORR) will only affect to tracks that are not owned, not advanced, not concerned and not in alert status.

### 2.2.7.1 Action: Activation/Inhibition of History Tracks => {[OPTIONS] -> [HISTORY]} or {<Alt> + <H>}

Application: Perform this procedure to activate/inhibit the display of the history tracks.

ACTION	RESULT
Click on the [OPTIONS] switch situated in the Main Menu Area.	
	A pull-down menu is displayed with the available options.
	OPTIONS R
	F HISTORY
	PSR PLOT
	PSR BYP
	SSR PLOT
	SSR BYP
	CORR
	<b>FILLED</b>
Click on the [HISTORY] switch option.	



ACTION	RESULT
If it is disabled	
	A YELLOW mark is displayed to indicate the history tracks presentation activation.
If it is activated	
	The mark returns to background colour to indicate the history tracks presentation inhibition.

**NOTE:** This action can be also performed with the <Alt> + <H> keys.

### 2.2.8 [Presentation Range] Icon

This icon displays the current selected range in NM.

By LB click on the icon, a pull-down menu displays the possible ranges to select the required one. Once the range is selected, the pull-down menu is automatically closed, and the current range display is displayed in General Information Area in format: "RANGE: XXX NM".

The current selected range is displayed on the pull-down menu with a **YELLOW** mark on the left. The available ranges are defined by adaptation.



Ri	ANGE	: 180	NM
	20	NM	
	40	NM	
	60	NM	
	80	NM	
	100	NM	
	120	NM	
	140	NM	
	160	NM	
<b></b>	180	NM	
	200	NM	
	250	NM	
	300	NM	
	350	NM	
	400	NM	
	450	NM	
	500	NM	

Figure 2-53: Presentation Range Pull-down Menu

# 2.2.8.1 Action: Presentation Range Selection => {[Presentation Range]}

**Application:** Perform this procedure to select the range of the information to be displayed on the SDD SIT Area.

ACTION	RESULT
LB Click on the [Presentation Range] icon of the General Information Area.	
	A pull-down menu with the available ranges is displayed.



ACTION	RESULT
	RANGE:       180 NM         20 NM       40 NM         40 NM       60 NM         80 NM       100 NM         120 NM       140 NM         160 NM       160 NM         200 NM       200 NM         200 NM       250 NM         300 NM       350 NM         400 NM       450 NM         500 NM       500 NM
Finish the action by:	
Selecting the desired value.	
	The new range is displayed on the icon and the pull-down menu is automatically closed.
LB click anywhere outside the pull-down menu.	
	The pull-down menu is closed without making any change.

Note: Presentation range can be modified in several ways (see 2.1.2.8).

# 2.2.9 [Operational Mode] Icon

This icon is used to select the operational mode: INT (Integrated), MON (Mono-radar) or BYP (By-Pass).

Figure 2-54: Tracker Display

LB click in SFS icon will display a pop-down menu with operational modes, selected by LB clicking on it.





```
Figure 2-55:
```

Operational Mode Menu

#### • (INT) Integrated Mode or Multiradar:

The Position displays multiradar tracks processed by the SDP coming from all System radars, which are operative. Thus, the plot position is calculated taking into account the information sent by several radars.

#### • (MON) Monoradar Mode:

The position displays the mono-radar tracks received from the SDP of radar selected by the controller from the radar sites defined by adaptation.

#### • (BYP) By-Pass Mode:

The SDP does not process the received radar information. It comes directly from the RDCU system of the radar site selected to the SDD. The SDD position is the one in charge of the received information process, track creation, etc. The FDP information is still accessible but as the SDP is not a part of the process, all relation between the FDP and the SDP is cancelled. When every tracker is off, the SDDs display the following window and, at the same time, the picture is frozen.



Tigure 2-30. Trozen Ficture Display

Following functions are not available when the mode of operation is "BYP":

- Orrelation of track with Flight Plan
- ◊ STCA
- Mode C Tracking
- Synthetic Tracks
- APW Prediction and Intrusion
- Hand-over

F



ollowing table describes the different operational mode colours and their description.

#### Table 2-21: Operational Mode. Colour Code

Operational Mode	Colour	Description
Integrated (INT)	GREEN	SDD in integrated (multi-radar) mode
Mono-radar (MON)	GREEN	SDD in mono-radar mode
By-Pass (BYP)	YELLOW	SDP available
By-Pass (BYP)	PINK	SDP not available

# 2.2.9.1 Action: Operational Mode Selection => {[Operational Mode]}

Application: Perform this procedure to select the type of operational mode (INT, MON or BYP).

ACTION	RESULT
When the SDP is running, LB click on the [Operational Mode] icon, which is in Integrated Mode (INT) by default.	
	A pull-down menu containing the "INT", "MON" and "BYP" operational modes is displayed.
	INT MON BYP
When the SDP is not running.	
	The icon displays the "BYP" (By-pass mode) by default.
Select the desired operational mode.	
	The [Operational Mode] icon displays the activated mode.



#### 2.2.10 Radar Source [RADAR] Icon

This icon displays the selected current radar for the following purposes:

When being in INT mode, for plot display.

When being in MON mode, maximum of 3 active radars, selected in adaptation, are displayed, so now up to three radars can be selected.

When being in By-Pass mode, the SDD position processes and displays mono-radar tracks received directly from the RDCU.

The radar is selected by means of a pull-down menu situated in the General Information Area.



Figure 2-57: Radar Source Pull-down Menu

#### 2.2.10.1 Action: Select Radar Source => {[RADAR]}

**Application:** Perform this procedure to select the radar for being displayed when the SDD is in By-pass mode as well as for visualize the non-associated plots when the SDD is in Integrated mode and the controller has requested its visualization.

ACTION	RESULT
LB click on the [RADAR] icon of the SDD General Information Area	
SHELL	
	A pull-down menu containing the radar names list is displayed.
	SHELL WX SHELL MANTA CUENCA
Select the desired radar by clicking on it.	
	The pull-down menu is automatically closed and the selected radar is displayed on the icon text.
	CUENC/



#### 2.2.11 Weather Radar Data Source Information [Wx: ] Icon

The [WX: ] icon allows to select the weather radar which data will be displayed.

Each radar has its own coverage zone and the weather displayed data will only be applied to selected radar coverage.

The selected weather data can be both an specific radar for weather proposes, or a non-specific radar with a channel dedicated to weather proposes. The list of weather radars in channel is configured in DBM position.

The INT option refers to Multi-Meteo mode, that is



Figure 2-58: [Wx:] Icon

#### 2.2.11.1 Action: Select Weather Radar Source => {[WX: ]}

Application: Perform this procedure to select the weather radar source which data will be displayed.




# 2.2.12 Altitude Filters Activation/ Inhibition [FALT] Icon

The [FALT] icon allows the activation/inhibition of the altitude filter for the SDD SIT Area.

Its activation status is shown by the icon text colour: changes to **BLACK** and the background colour is **LIGHT GREY** (inhibited action).



Figure 2-59: [FALT] Icon Colour Status

When clicking on this icon, the values previously selected in the "Filter Limits" window are activated.

This filter will only affect to tracks that are not owned, not advanced, not concerned and not in alert status.

# 2.2.12.1 Action: Activate/ Inhibit the Altitude Filter

Application: Active or de-active the defined altitude filters.

ACTION	RESULT
LB click on the [FALT] icon (or in the Auxiliary Window).	
If it is disabled	The text colour and the altitude filter values of the GENERAL INFORMATION AREA change to BLACK on LIGHT GREY (activated action).
If it is activated	The colour of the icon text changes to WHITE and the background colour is GREY (inhibited action).

### 2.2.12.2 "Filters Limits" Window

The edition of a new altitude filter, both lower and upper, is performed in the corresponding "Filters Limits" window. There is a window for each limit (lower and upper).



Clicking on the icon and selecting from one of the two options included in the pull-down menu display the corresponding window (see previous figure). The windows cannot be displayed at a time.



Figure 2-60: "Filter Limits" Windows

It is composed of the following items:

### Vertical Scroll Bar

To display the pre-determined values which are not in view due to window size. It is possible to select a value, by clicking on it.

#### **Edition Field**

It allows the edition of a value by using the keyboard.

### 2.2.12.3 Action: Altitude Filter Limits Selection => {[Filter Limits]}

Application: Perform this procedure to select the Altitude Filter Limits.

ACTION	RESULT
LB click on one of the [Limit Filter] icons to edit a new altitude filter. There are two icons: lower and upper.	000 999
The icons' purpose is:	
<ul> <li>Display the altitude range in hundreds of feet when activating the altitude filter.</li> </ul>	
• Enter the value for the altitude filter (lower/upper) by means of a menu.	





ACTION RESULT A pull-down menu containing the upper or lower limits is displayed. Depending on the selection, the "Filter Limits" window (upper or lower) containing predefined values is displayed. A scroll bar allows the display of those values not in view. 100 095 090 085 -Vertical Scroll Bar 080 075 070 065 060 055 -Edition Field Selection of value may be performed either: By clicking on the desired value. By entering the data, in the "Edition" field, with the keyboard. In both cases, the window is automatically closed when the value selection is performed. RB Click on the window edition field. The window is closed and the action is aborted.

# 2.2.12.4 Action: Activate/ Inhibit Altitude Filters => {[FALT]}

Application: Perform this procedure to activate/inhibit the altitude filter status.

ACTION	RESULT
Depress the [FALT] button at the General Information Area. (or in Aux. Window)	
If it is disabled.	
	The icon text/ background colour turns to BLACK/ GREY and the action is activated.
	FALT



ACTION	RESULT
If it is activated.	
	The icon text/ background colour turns to WHITE/ BLACK and the action is aborted.
	FALT

# 2.2.13 Quick-Look Operational sectors Selection [QL SC] Icon

The [QL SC] icon allows the selection of operational sectors used for Quick-Look. By clicking on it, a popup menu of possible operational sectors is displayed for selection. The operational sectors assigned to the working position are displayed on background colour and cannot be selected for Quick-Look.

<b>Q</b> ]	L SC
Г	00G1
Е.	0P10
Γ.	0P11
Γ.	0P12
Γ.	0P13
Г	0P14
F.	0215
<b>–</b>	0P16
Е	0P17

Figure 2-61: Quick-Look Operational sectors Pop-up Menu

# 2.2.13.1 Action: Select Operational sectors for Quick-Look => {[QL SC]}

Application: Perform this procedure to select the operational sectors for Quick-Look function.

ACTION	RESULT
LB click on the [QL SC] icon of the Main Menu Area.	
	A pull-down menu of possible operational sectors is displayed. Operational sectors assigned to the working position are displayed on Background colour and cannot be selected for Quick-Look.



ACTION	RESULT
	QL SC = 0061 = 0P10 = 0P11 = 0P12 = 0P13 = 0P14 = 0P16 = 0P17
Once the pull-down menu is displayed, LB click on the corresponding one(s) to select/de-select the operational sector.	
It is possible to select/de-select various operational sectors at a time.	
	When the operational sector is selected, a YELLOW mark is displayed at its left.
LB click outside the menu area	
	The pull-down menu is closed.

# 2.2.14 Quick-Look [QL] Icon

The [QL] icon is used to activate/inhibit the Quick-Look function to visualize the selected operational sector tracks.

Its activation status is shown by the icon text colour: YELLOW if it is activated, and WHITE, if inhibited.



Figure 2-62: Quick-Look [QL] Icon



# 2.2.14.1 Action: Quick-Look Procedure => {[QL]}

Application: Perform this procedure to activate/inhibit the Quick-Look function.

ACTION	RESULT
Depress the [QL] button of the General Information Area.	
	The Quick-Look function is activated. The icon text colour changes to YELLOW.
	All the tracks under the jurisdiction of the selected Quick-Look operational sectors are displayed with the enlarged label (including Line 0).
Release the [QL] button	
	The Quick-Look function is inhibited and the icon text colour turns to WHITE.

# 2.2.15 Filter OFF [FTR OFF] Icon

It allows the activation/inhibition of all current filters defined for the SDD SIT Area.

When it is actived, it inhibits the filter of tracks.

Its activation status is shown by the icon text colour: WHITE, If it is disabled, and YELLOW, if activated.

It is also possible to toggle the activation/ inhibition by pressing <Alt> + <O>.



Figure 2-63: Filter OFF [FTR OFF] Icon

# 2.2.15.1 Action: Activate/Inhibit Total Filters => {[FTR OFF]} or {<Alt> + <O>}

Application: Perform this procedure to activate/inhibit all the current filters established for the SDD SIT Area.

ACTION	RESULT
To activate/inhibit all current filters, there are two possible ways.	
Using the mouse device:	

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ACTION	RESULI
Depress the [FTR OFF] icon of the General Information Area.	
If it is activated.	
	The icon text colour turns to YELLOW disabling all current filters. In this mode all the tracks are visible.
	FTR OFF
If it is disabled.	
	The icon text colour turns to WHITE allowing to hide some tracks according to filters settings.
Using the keyboard:	
Press on the <alt> + <o> combination keys.</o></alt>	
	Toggle the activation status to inhibition status and vice versa.

# 2.2.16 Operational Sector Display

It displays the operational sector and the frequency assigned to the position, and allows to display the complete list of sectors grouped in the operational sector.

This area displays in **GREEN** colour the assigned Operational Sector and its assigned frequency and, by manual request, sectors assigned to Operational Sector are displayed.

**OPS1 - 125.263** Figure 2-64: Sector Information Box - Operational Sector

Also, clicking on the [SECTORS] icon in the Main Menu a window is displayed with all the sectorization, also grouped by operational sectors.



Figure 2-65: Sector Information Box - Sectors

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### 2.2.16.1 Action: Sectors Display

Application: To display the complete under control sector list.

ACTION	RESULT
Check the Operational sector Information Box displays the Operational sector and the Assigned Frequency in GREEN Colour.	
LB Click in any point in the Operational sector Information Box.	
	The extended box is displayed, with the complete controlled sectors list.
	BALT CENT DREZ EAST GRUD JEDR FISW FISG FISK FISD FISP OWDT OWXB ONSE ONXG OSJR OSXC
Click again in any point in the Operational sector Information Box.	
	The Operational sector Information Box returns to its start form.
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# 2.2.17 [Q EST] Icon

This icon is used to directly perform an EST action without accessing the FP template.

# Q EST

#### Figure 2-66: [Q EST] Icon

When [Q EST] icon is clicked a new window is displayed. User must fill out the compulsory fields and an EST action is performed.





Figure 2-67: EST window

# 2.2.17.1 Action: Quick Estimate Operation

**Application:** Perform this procedure to carry out an EST operation directly, entering the Fix point, ETO and Level of a system track (Callsign or SSR code).

ACTION	RESULT
Depress the [Q EST] button of the General Information Area.	
	A window to edit the Fix point, ETO, Level and Speed is displayed
	EST ×
	CALLSIGN TYPE DEST FIX
	ETO CFL CSSR
	UPDATE
Enter the callsign value in the corresponding field and then [ENTER].	
	Some fields are filled out automatically and others remain blank.







# 2.2.18 Flight Plan [FPL] Icon

When clicking on the [FPL] icon, situated in the SDD General Information Area, a pull-down menu is displayed. This pull-down menu allows the controller to select the type of FP-operation to be performed.



Figure 2-68: Flight Plan Pop-up Menu

As the procedures are triggered from four options displayed at the [FLP] icon, the section is divided into three subsections where available FPLs actions from each icon are described.

Following table lists the FPLs actions associated to each option, as well as the window associated to the option.

Option	Operational Window	FP Action
		View FPL
		FPL History
		Create FPL
		Create Current FPL
		Modify FPL
	"FP Operation" window (in action mode and Creation Mode)	Terminate FPL
		Notify FPL
TF ACTION		Cancel Notify FPL
		Confirm/Modify ATD
		Cancel ATD
		Confirm ATA
		Cancel ATA
		AFTN Message Send
		Input FP Estimates
FP RETRIEVE	"FP's Retrieval" window	Retrieve FPL
CONFLICT	"FP Conflicts"	FPL in Conflict

#### Table 2-22: "FP Operation" Windows. Functions



### 2.2.18.1 FP Operation Window

The "FP Operation" Window in action mode consists of a form including fields to be filled in by the operator (edition area), a command area at the bottom of the window and an error message area.

This window allows choosing different actions or just information displays (View and Hist.) for an existing FP or creation of a non-existing FP, upon selection of the corresponding command. Editable fields depend on the selected command/action.

				FP OPERATION				×
FLIGHT ID COLOOO4	RADIO CALLSIGN	N0 TYPE	W DEP DES M SKHH SPZ	t NAV/ Z S	СОМ	RVSM SURVEII NO C	LANCE EQUIPMENT	CSSR R FT 5002 I S
SID	** SISEL/H121	1 ESV AROTO OR	I DLA SIDEL VUL	'IR ROUTE KY GYV PUNAS M	hv padox mar	२ **	s e	TAR ACTIV
EOBD 120416	EOBT MSG C	TOT ATFCM ATD	ETA SPE	CRUISING ED LEVEL F 80 F290	ESTIMATE TIME	LEVEL SPEE	POS. REPORT FIX ETO	ALT AD(S)
FIELD 18	NAV/RNAV1 RNAV5	6 RNP10 DAT/SV	SEL/MRDG RVR/	200 OPR/DLH RM	K/TCAS			
EAT	FREE TEXT	CFL	FCL F290		s	REG DABVP	STS	MODE S
ORIGINAL RO	UTE ASD ASDASD	asda sda sd a	SD ASDA SDASD	SISEL/H1201 U	G437			
◆ VIEW	♦ CREATE ◆ MODIFY ♦ CREATE ◆ TERM CURRENT	☆ NOTIF ◇ ATT ◇ C.NOTIF ◇ C.A	фата 4 то фс.ата 4	♦ EST SEND ♦ POS ♦ STRIP:	s	UPDA	TE CANCEL C	LEAR PRINT

Figure 2-69: Flight Plan Operation Window

Field	Description	Valid Data
Flight ID	Aircraft Identification or ACID	2 to 7 alphanumeric characters
Radio Callsign	Phonetic Airline Operator	Up to 28 characteres. Non-editable field. Defined in DBM.
NO	Number of Aircrafts	Up to 2 numerical characters (1-99)
A/C TYPE	Type of Aircraft	2 to 4 alphanumeric characters. The first one shall be an alphabetic character.
w	Type of wake turbulence	L = light M = medium

#### Table 2-23: "FP Operation" Window. Edition Area



Field	Description	Valid Data
		H = heavy J = super-heavy (jumbo)
DEP	Departure Aerodrome	Four alphabetic characters. If unknown, then enter the "ZZZZ" keyword. If created while aircraft is airborne, then enter the "AFIL" keyword.
DEST	Destination Aerodrome	Four alphabetic characters.
NAV/ COM	Navigational/ Communications Equipment	Up to 20 alphabetic characters: For ICAO 4444: • N =No equipment; • S =Takes equipment; • A=LORAN A; • C=LORAN C; • D=DME; • E=Decca; • F=ADF; • H=HF RTF; • I=Inertial Navigation; • L=ILS; • M=Omega; • O=VOR; • P=Doppler; • R=RNAV; • T=TACAN; • U=UHF RTF; • V=VHF RTF The N or S characters only can be in the first place If N is the first, no more characters can follow For ICAO 4444 amendment 1: • A: GBAS Landing System; • B: LPV (APV with SBAS); • C: LORAN C; • D: DME; • E1: FMC WPR ACARS; • E2: D-FIS ACARS; • E3: PDC ACARS; • E3: PDC ACARS; • F: ADF; • G: GNSS; • H: HF RTF; • I: Inertial Navigation; • J: CPDLC ATN VDL Mode 2; • J2: CPDLC FANS 1/A HFDL; • J3: CPDLC FANS 1/A HFDL; • J3: CPDLC FANS 1/A HFDL; • J3: CPDLC FANS 1/A VDL Mode A;



Field	Description	Valid Data
		<ul> <li>J4: CPDLC FANS 1/A VDL Mode 2;</li> <li>J5: CPDLC FANS 1/A SATCOM (INMARSAT);</li> <li>J6: CPDLC FANS 1/A SATCOM (MTSAT)</li> <li>J7: CPDLC FANS 1/A SATCOM (Iridium);</li> <li>K: MLS;</li> <li>L: ILS;</li> <li>M1: ATC RTF SATCOM (INMARSAT);</li> <li>M2: ATC RTF (MTSAT);</li> <li>M3: ATC RTF (Iridium);</li> <li>O: VOR;</li> <li>P1-P9: Reserved for RCP;</li> <li>R: PBN Approved;</li> <li>T: TACAN;</li> <li>U: UHF RTF;</li> <li>W: RVSM approved;</li> <li>X: MNPS approved;</li> <li>X: MNPS approved;</li> <li>Y: VHF with 8.33 kHz channel spacing capability;</li> <li>Z: Other equipment carried or other capabilities.</li> </ul>
RVSM	RVSM Capability Status	EQ =equippedNO =non-equipped (for civil flights)UN =unknownEX =exempted (for military flights)
SURVEILLANCE EQUIPMENT	SSR Equipment.	Up to 20 characters. For ICAO 4444: N=> None. (The aircraft do not carry transponder equipment). It is not allowed this value if an SSR Code is assigned. A=> Mode A (Transponder equipment can send positional information but without altitude information) C=> Mode C (Transponder equipment can send both positional and altitude information) X=> Mode S (nor aircraft identification transmission neither pressure altitude information) P=> Mode S (Transponder equipment can send pressure altitude transmission but it cannot sent aircraft identification transmission) I=> Mode C (Transponder can send aircraft identification transmission but it cannot sent aircraft identification transmission but it cannot sent aircraft identification transmission but it cannot sent pressure altitude transmission) S=> Mode S (Transponder can send both aircraft identification and pressure altitude transmission)



Field	Description	Valid Data		
		Blank = C		
		For ICAO 4444 amendment 1:		
		N=> None. (The aircraft do not carry transponder equipment).		
		It is not allowed this value if an SSR Code is assigned.		
		A=> Mode A (Transponder equipment can send positional information but without altitude information)		
		C=> Mode A and Mode C (Transponder equipment can send both positional and altitude information)		
		E=> Mode S (aircraft identification, pressure-altitude and extended squitter (ADS-B) capability).		
		H=> Mode S (aircraft identification, pressure-altitude and enhanced surveillance capability)		
		I=> Mode S (aircraft identification, but not pressure-altitude capability)		
		L=> Mode S (aircraft identification, pressure-altitude and extended squitter (ADS-B) and enhanced surveillance capability)		
		X=> Mode S (nor aircraft identification transmission neither pressure altitude information)		
		P=> Mode S (Transponder equipment can send pressure altitude transmission but it cannot sent aircraft identification capability)		
		S=> Mode S (Transponder can send both aircraft identification and pressure altitude transmission)		
		B1=> ADS-B with dedicated 1090 MHz ADS-B "out" capability		
		B2=> ADS-B with dedicated 1090 MHz ADS-B "in" and "out" capability		
		U1=> ADS-B "out" capability using UAT		
		U2=> ADS-B "out" and "in" capability using UAT		
		V1=> ADS-B "out" capability using VDL Mode 4		
		V2=> ADS-B "out" and "in" capability using VDL Mode 4		
		D1=> ADS-C with FANS 1/A capabilities		
		G1=> ADS-C with ATN capabilities		
0000		4 numerical characters (octal)		
CSSR ICAO SSR Code	ILAU SSK CODE	Blank = It allows the FDP to automatically assign an SSR Code		



Field	Description	Valid Data		
R	Flight Rules	I =IFRV =VFRY =IFR followed by VFRZ =VFR followed by IFRBlank = I		
FT	Flight Type	S =scheduledN =non-scheduledG =general aviationM =militaryX =otherBlank = general aviation		
SID	Standard Instrumental Departure Procedure	Alphanumeric characters (2 to 7). Must be a known SID.		
FIR ROUTE	FP route	Up to 680 characters. See following NOTE on "Route Field Validation Rules".		
STAR	Standard Terminal Arrival Route Procedure	Alphanumeric characters (2 to 7). Must be a known STAR.		
EOBD	Estimated Off-Block Date	YYMMDD (00 to 99 and 01 to 12 and 01 to 31) date of departure.		
EOBT	Estimated Off-Block Time	HHMM (00 to 23 and 00 to 59)		
MSG	Last AFTN Received Message	AFTN message; e.g.: FPL, DLA, CHG,		
стот	Calculated Take-Off Time	HHMM (00 to 23 and 00 to 59)		
ATFCM	Last CFMU Received Message	CFMU message; e.g.: SAM, SRM, SLC, FLS, DES,		
ATD	Actual Time of Departure	HHMM (00 to 23 and 00 to 59)		
EET/ ETA	Estimated Elapsed Time/ Estimated Time Arrival	HHMM (00 to 23 and 00 to 59)		
CRUISING SPEED	Cruise Speed	Kxxxx: 4 numerical characters (Km/h) Nxxxx: 4 numerical characters (Knots) Mxxx: 3 numerical characters (Mach number)		





Field	Description	Valid Data		
CRUISING LEVEL	Requested Flight Level	Flight level (hundreds of feet): Fxxx where xxx 000 to 999. Altitude (hundreds of feet): Axxx where xxx 000 to 999. Level (tens of meters): Sxxxx where xxxx 0000 to 9999. Altitude (tens of meters): Mxxxx where xxxx 0000 to 9999.		
ESTIMATE FIX	Entry Point	Up to five alphabetic characters. It shall be known by the system.		
ESTIMATE TIME	Estimated time over a significant point	HHMM (00 to 23 and 00 to 59)		
ESTIMATE LEVEL	Cleared Flight Level	3 digits (hundreds of feet)		
POS. REPORT SPEED	Cruising Speed associated al Fixpoint.	5 alphanumeric characters: Kxxxx: 4 numerical characters (Km/h) Nxxxx: 4 numerical characters (Knots) Mxxx: 3 numerical characters (Mach number)		
POS. REPORT FIX	Next FIX, Future FIX	Up to 5 alphabetic characters. It must be defined in the DBM.		
POS. REPORT ETO	Estimated time over a next point.	4 numerical characters: HHMM (00 to 23 and 00 to 59).		
ALT AD(S)	Alternate Airports	Up to 9 alphanumeric characters: Airport(Space)Airport		
FIELD 18	Additional information	<ul> <li>Alphanumeric characters according ICAO standard.</li> <li>Information in Field 18 is preceded by the following indicators:</li> <li>STS/ Reason for special handing by ATS</li> <li>PBN/ Indication of RNAV and/ or RNP capabilities</li> <li>NAV/ Data related to navigation equipment, different than in PBN/</li> <li>COM/ Communications applications/ capabilities not in item 10a</li> <li>DAT/ Data applications/ capabilities not specified in item 10a</li> <li>SUR/ Surveillance applications/ capabilities not in item 10a</li> <li>DEP/ Name and location of departure aerodrome, or Bearing and distance from the nearest significant point, or</li> </ul>		



Field	Description		Valid Data
			The first point in route or the marker radio beacon
		DEST/	Name and location of destination aerodrome
		DOF/	Date of flight departure in a six figure format
		REG/	Nationality or common mark/ registration mark of the aircraft
		EET/	Significant points of FIR boundary designators and accumulated estimated elapsed times from take-off to such point or FIR boundaries
		SEL/	SELCAL Code
		TYP/	Type(s) of aircraft
		CODE/	Aircraft address
		DLE/	Enroute delay or holding
		OPR/	ICAO designator or name of the aircraft operating agency
		ORGN/	AFTN address of the originator or appropriate contact details
		PER/	Aircraft performance data
		ALTN/	Destination alternate aerodrome
		RALT/	En-route alternate(s) or en-route alternate(s) aerodrome
		TALT/	Take-off alternate or take-off alternate aerodrome
		RIF/	Route details to the revised destination aerodrome
		RMK/	Other plain language remarks
EAT	Expected Approach Time	HHMM (	00 to 23 and 00 to 59)
FREE TEXT	Notes	Free text	t
CFL	Cleared Flight Level	3 digits (	hundreds of feet)
ECL	En-route Cruising Level	3 digits (	hundreds of feet)
S	Sector	4 alphan	umeric (number of the sector to print the strip)
REG	Aircraft Registration	Up to 7 a	alphanumeric characters
		Up to 20	alphanumeric characters
STS	Status	ALTRV: reservati	for a flight operated in accordance with altitude on.
		ATFMX:	for a flight approved for exemption from ATFM measures



Field	Description	Valid Data
		by the appropriate ATS authority.
		FFR: fire fighting;
		FLTCK: flight check for calibration of navaids;
		HAZMAT: for a flight carrying hazardous material;
		HEAD: a flight with Head of State Status;
		HOSP: for a medical flight declared by medical authorities;
		HUM: for a flight operating on humanitarian mission;
		MARSA: for a flight for which a military entity assumes responsibility for separation of military aircraft;
		MEDEVAC: for a life critical medical emergency evacuation;
		NONRVSM: for a non-RVSM capable flight intending to operate in RVSM airspace;
		SAR: for a flight engaged in a search and rescue mission;
		STATE: for a flight engeged in military, customs or police services.
MODE S	Aircraft Identification	6 hexadecimals characters (0-9, A-F)
ORIGINAL ROUTE	Original Route from Field 15	Up to 480 characters.

### 2.2.18.1.1 Flight Plan Status

Depending on the actions performed on a Flight Plan and the System current time, the Flight plan may assume following statuses:

- Initial
  - Observe the second s
  - Flight Plan entering the FIR but it is not under center control yet.
  - A RPL (Repetitive Flight Plan) just converted into Flight Plan.
- Pending
  - Initial internal departures flight plans are transitioned to Pending fight plans VSP time before the ETD.
  - In this status flight plan becomes available in EFS pending departures list.
- Notified
  - Observe that Departure Flight Plan being its EOBT 20 minutes (configurable parameter) sooner than the current time.
  - Departure Flight Plan on which a Notification action has been performed.



A "Notified" FP has SSR assigned and SID procedure, if there is one.

- Active
  - Flight Plan coming from other operational sector but still it is not under control of the position with that operational sector.
  - Obeparture Flight Plan on which an ATD action has been performed.
  - Flight Plan on which an EST (estimate) has been performed.
- Terminated
  - Arrival Flight Plan, which has exceeded the ATA or ETA.
  - Arrival Flight Plan, which has exceeded the exit time from the FIR.
  - Flight Plan on which a Cancellation action has been performed.

If a Flight Plan is "Terminated", it is stored in the FDP and it is deleted from the Flight Plan Lists. The FP SSR Code gets free and another FP can use it. No action can be performed on it, except retrieval, visualization, history display or copy.

### 2.2.18.1.2 Rules for Entering Data

Dark **GREY** fields do not allow data to be input or changed. Fields displayed in WHITE allow data entering or changing. Fields displayed on **RED** have erroneous data or are mandatory and have not been filled in.

				FP OPERATION			×
FLIGHT ID COLOOO4	RADIO CALLSIGN	N0 X/C TYPE W 01 A320 M	dep dest SKHH SPZZ	NAV/CO 2 S	M RV	/SM SURVEILLANCE EQUII	PMENT CSSR R FT
S1D			FJ	IR ROUTE			STAR
	DCT NAPUT DCT	OKROT ++ DCT **					ACTIV
E0BD 120416	EOBT MSG CT	OT ATFCM ATD	ETA SPEE	ERUISING D LEVEL FID SO F290	ESTIMATE TIME L	POS. REPO EVEL SPEED FIX	RT ETO ALT AD(S)
FIELD 18	NAV/RNAV1 RNAV5	RNP10 DAT/SV SE	L/MRDG RVR/2	00 OPR/DLH RMK	/TCAS		
EAT	FREE TEXT	CFL	ECL F290		s DA	REG STS BVP	MODE S
ORIGINAL RO	NUTE ASD ASDASD	ASDA SDA SD ASD	ASDA SDASD	SISEL/H1201 UG4	137		
¢ VIEW →	♦ CREATE ♦ MODIFY	♦ NOTIF ♦ ATD	\$ ATA \$	EST SEND			
HISTORY     RESTRICTED      RESTRICTED	CREATE CURRENT	¢ C.NOTIF ¢ C.ATD	<b>♦ С.</b> АТА   ♦	POS 🔷 STRIPS			

Figure 2-70: "FP Operation" Window (Modification Mode): Error Detection

- If the field exceeds the maximum number of allowed characters, the cursor goes to the first character position in next field.
- If there are different errors when editing a FP, the message displayed on the Error Area corresponds to the first field with error.
- Some fields allow knowing the data valid format within the FP Operation Window:



• LB click on the field name to perform a toggle between the field name and the valid format.

### 2.2.18.1.3 <u>"Route" Field Validation Rules</u>

When editing the "Route" field in the FP Operation Window follow these requirements:

- A single space separates elements.
- Elements consists of more than (1) character but less than (30).
- The "Route" field allows up to sixty (60) elements.
- The "Route" field allows up to thirty five (35) fixpoints.
- Only digits cannot compose elements.
- If only alphabetical characters form elements, the maximum lenght is 2 to 7 characters.
- Points can be fixpoint or LAT\_LON coordinated.
- Elements can consist on alphanumerical characters, slashes and asterisks (\*).
- It is possible to add estimates of time on a reporting point with character "/H".
   Example: [FIX1 FIX2/H1230 FIX3]
- For incoming flights, the first route point must be FIR external and the following ones must be internal. At least one route fixpoint must include a time estimate so the System can calculate the entry time.

```
Example: [P_EXT P_INT/H1450 P_INT DCT ...]
```

First route characters will be automatically fulfilled with "\*\*" for incoming flights.

• For exiting flights, the last route point must be external to the FIR and the previous ones must be internal.

Example: [...P\_INT P\_INT P\_EXT]

Last route characters will be automatically fulfilled with "\*\*" for exiting flights.

• For transit flights, the first and last route point must be external to the FIR and the rest must be internal. At least one route point must include a time estimate so the System can calculate the entry time.

Example: [P\_EXT/H2015 ... F\_INT F\_INT F\_INT ... F\_EXT]

First and last route characters will be automatically fulfilled with "\*\*" for transit flights.

- DCT (direct): Keyword that is entered between 2 points (fixpoints or LAT/LON coordinates) to direct route between them. It is mandatory for two fixpoints that do not belong the same airway, to avoid discontinuity.
- A route cannot consist of a single element, unless it is DCT keyword. If this is the case, DEP and DEST must be known and at least one of them must be in the local FIR.



- Routes must be continuous. The following types of routes are continuous:
  - Route starting with a Departure Aerodrome, which is inside the FIR and its first element, is the DCT keyword, a transition point on the STAR or an airway that includes a transition point on the STAR.
  - A Route made up of two geographic points.
  - Route made up of a FIX and a geographic point (or a geographic point and a FIX) separated by DCT.
  - Route made up of two FIXES connected by DCT, two FIXES connected by an airway, or two FIXES connected by more than one airway.
  - Route made up of several airways as long as there is a single crossing point for the two airways.
- Modifications in route elements, which have already been over-flown, are not allowed as they cause a route error.
- To identify the segment begin or end (where the segment changes) is used \*\*.
- To identify the Further Route (segment of route non controlled by the control center), is used ++.

An element not complying with the above rules will cause a syntax error.

When the "Route" field is erroneous, it presents a new window over the FP Operation Window showing the following information:

- **R:** It is the route entered by the controller.
- C: It is the route calculated by the system. It marks the point where the error is.
- S: It is a Standard Route. Only when there is a standard route defined in the DBM.

The route field checks the restricted area intrusion, and displays a warning message window when this event is produced.



Figure 2-71: "Area Warning" Window



### 2.2.18.1.4 FPLs Actions

This section gathers the procedures triggered from the [FP Act.] icon of the Main Menu Area of the FDD screen.

Actions in FPLs can be performed by FP Operation Window, which can be displayed by:

- RB click in Track Symbol (the template includes the selected track data).
- LB click in the first field of a FP in any flight list, and then click in FP Action (the template includes the selected track data).
- LB click in [FPL] in General Information Area, and then click in FP Action (the template is displayed empty).
- LB click in FPL EDIT option in Callsign Menu (when the option is available) (the template includes the selected track data).

From this point on, the actions are described according to the operations performed by the command switches.

Each command will have compulsory fields and accessible fields. Compulsory fields are always accessible. If there are not explicit accessible fields, only the compulsory ones can be modified.

For flight plans included in red list or black list (see FDD User Manual), a warning message is displayed in Flight Plan Operation Window, allowing the chance for ignoring this fact and continue with the current action.

### 2.2.18.1.4.1 Action: Visualize FPL => [View] Switch

Application: Display the data of a Flight Plan for visualization.

**NOTE:** This action is also used as a starting step to perform any FPL action available from the "FP Operation" window (action mode). That is, when performing any action, it is necessary to display the corresponding FP in order to carry out the operational function.

ACTION	RESULT
Click on the [View] switch, situated at the bottom of the window, with LB.	
	The switch changes to YELLOW.



ACTION	RESULT
	Hart Dig         Hart Dig
Enter data on the corresponding fields ("Callsign" field is mandatory) to retrieve the FP.	
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	If entered data is correct, the "FP Operation" window (action mode) displays the FP matching the entered data. All fields are inaccessible.
	If entered data is erroneous, an error message is displayed.
	If mandatory fields are not filled in, an error message is displayed.
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed. The action is aborted, if it has not been previously validated ([UPDATE] icon).
[CLEAR] icon	
	The displayed data is deleted from the "FP Operation" window (action mode).
[PRINT] Icon	
	Print the historical information of a FP.



Compulsory Fields: Flight ID

Accessible Fields: Flight ID, DEP, DEST, EOBD, EOBT.

2.2.18.1.4.2 Action: FPL History => [Hist.] Switch

**Application:** Request the history of an existing FPL. The system displays a report containing the information of the FPL and all actions performed on it.

ACTION	RESULT
Perform the FP visualization action.	
Click on the [Hist.] switch, situated at the bottom of the window, with LB.	
	The switch becomes YELLOW, and the "FP History" window is displayed including all actions performed in the FP. The "FP Operation" window (action mode) automatically changes to View mode ([View] switch activated) and all fields are inaccessible.
	Distribution/Tob/12-01-11 001509:26         FP AILSTON         X           TIST2 1X R32/M 50/C PMM 110112 0000 LEND         []           RXX007.00 CC MWU DCT 00001** DCT **         []           NO         []           RX007.00 CC MWU DCT 00001** DCT **         []           NO         []           PINDING/TVBIT/12-01-11 001509:38         []           r/         []
	HIBIT         MADE         COLUMN         Mode         Tots         W         Mode         Mode <th< td=""></th<>
	DAT 1925 TOOT OF DE TOO 1926 575 1926 5 RELEDAL MAINT * TEX OBJACK ONEET ONEET ONE OF OLD ON ON ON OTHER STORE * STATE OBJACK ONEET ONE OF OLD ON OTHER O
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	The "FP History" window is closed while the "FP Operation" window remains displayed.
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed.
[CLEAR] icon	



ACTION	RESULT
	The "FP History" window is closed while the "FP Operation" window (action mode) remains displayed. All data included in the "FP Operation" window (action mode) are deleted and the window automatically changes to View mode ([View] switch activated).
[PRINT] Icon	
	Print the historical information of a FP.

Accesible Fields:	Flight ID, DEP, EOBD, EOBT. Only if the FP visualization action has not been previously performed.
Compulsory Fields:	Flight ID. Only if the FP visualization action has not been previously performed.

2.2.18.1.4.3 Action: Create FPL => [Create] Switch

**Application:** Use this function to create a new Flight Plan. The flight plan will be stored in the system FP database and it is created in "active" status.

ACTION	RESULT
Click on the [FPL create] switch situated at the bottom of the window, with the LB.	
	The switch changes to YELLOW.
Enter data in the corresponding fields. For send an AFP message to IFPS, activate AFP switch.	
	TO ORDATION IN CONTRACTOR OF A DECISION OF A
Finish the action by clicking on one of the following icons.	



ACTION	RESULT
[UPDATE] icon	
	The system triggers the data validation process.
	If entered data is correct, the flight plan is added to the FPL database and the "FP Operation" window remains displayed.
	If entered data is erroneous, an error message is displayed.
	If mandatory fields are not filled in, an error message is displayed.
[CANCEL] icon	
	The "FP Operation" window (creation mode) is closed. The action is aborted, if it has not been previously validated ([UPDATE] icon).
[CLEAR] icon	
	The displayed data is deleted from the "FP Operation" window (creation mode).
[PRINT] Icon	
	Print the historical information of the FP.

Compulsory Fields:	Flight ID, A/C Type, DEP, DEST, FIR Route, EOBT, Speed, Level.
Accessible fields:	Flight ID, NO, A/C Type, W, DEP, DEST, NAV/ COM, RVSM, SURVEILLANCE EQUIPMENT, CSSR, R, FT, STD, FIR Route, STAR, EOBD, EOBT, EET, Cruising Speed, Cruising Level, ALT AD(S), FIELD 18, FREETEXT, REG, MODE S, CFL, ECL, STS.
Note:	It is also possible to create and FPL from an existing one. The action is speeded up.

2.2.18.1.4.4 Action: Create a Current FPL => [Create Current] Switch

**Application:** Use this function to create a flight plan for an aircraft that is already flying. This action creates the FP in "active" status.

ACTION	RESULT
Click on the [Create Current] switch, situated at the bottom of the window, with LB.	



ACTION	RESULT
	The switch changes to YELLOW.
Enter data in the corresponding fields.	
For send an AFP message to IFPS, activate AFP switch.	
	TO CERVATION NOT CALLED A LINE ALL ALL ALL ALL ALL ALL ALL ALL ALL AL
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	The system triggers the data validation process. If entered data is correct, the flight plan is added to the FPL database and the "FP Operation" window (action mode) remains displayed. If entered data is erroneous, an error message is displayed. If mandatory fields are not filled in, an error message is displayed.
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed. The action is aborted, if it has not been previously validated ([UPDATE] icon).
[CLEAR] icon	
	The displayed data is deleted from the "FP Operation" window (action mode).
[PRINT] Icon	
	Print the historical information of a FP.

Compulsory Fields:	Flight ID, A/C Type, DEP, FIR Route, DEST, EOBT, Cruising Speed, Cruise Level, Estimate Fix, Estimate Time, Estimate Level.						Cruising				
Accessible Fields:	Flight	ID,	NO,	A/C	Туре,	W,	DEP,	DEST,	NAV/	COM,	RVSM,



SURVEILLANCE EQUIPMENT, CSSR, R, FT, STD, FIR Route, STAR, EOBD, EOBT, EET, Cruising Speed, Cruising Level, Estimate Fix, Estimate Time, Estimate Level, ALT AD(S), FIELD 18, FREETEXT, REG, MODE S, CFL, ECL, STS.

Note: The difference between [Creat.] and [Create Current] is that the second one is the same as [Crea.] + [ATD] or [Crea.] + [Est] as, apart from creating a FP, its status is "Active". A CPL can be created starting from an already existing FP to speed up the action.

### 2.2.18.1.4.5 Action: Modify FPL => [Modify] Switch

Application: Modify an existing Flight Plan. Once it is modified, the Flight Plan is permanently changed.

ACTION	RESULT
Perform the FP visualization action	
Click on the [Modify] switch, situated at the bottom of the window, with LB.	
	The switch changes to YELLOW and the accessible fields for the action are displayed in WHITE background.
Modify the desired fields. Some fields do not allow modification and some other are mandatory.	NUMB OLLSING         M         NO         MOTO
For send an AFP message to IFPS, activate AFP switch.	INTERNATIONAL CONTRACTOR CALIFORNIA CALIFORA
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	<ul> <li>The modification process is triggered.</li> <li>If entered data is correct, The "FP Operation" window (action mode) is displayed in View mode ([View] switch activated). All fields are displayed inaccessible.</li> <li>If entered data is erroneous, an error message is displayed.</li> </ul>
	• If mandatory fields are not filled in, an error message is



ACTION	RESULT				
	displayed.				
[CANCEL] icon					
	The "FP Operation" window (action mode) is closed. The action is aborted, if it has not been previously validated ([UPDATE] icon).				
[CLEAR] icon					
	The displayed data is deleted from the "FP Operation" window (action mode) and the [View] switch is automatically activated.				
[PRINT] Icon					
	Print the historical information of a FP.				

Compulsory Fields: Flight ID, A/C Type, DEP, DEST, FIR Route, EOBD, EOBT, Speed, Level. Only if the visualization action has not been previously performed.
 Accessible Fields: Flight ID, NO, A/C Type, W, DEP, DEST, NAV/ COM, RVSM, SURVEILLANCE EQUIPMENT, CSSR, R, FT, STD, FIR Route, STAR, EOBD, EOBT, EAT, EET, Cruising Speed, Cruising Level, ALT AD(S), FIELD 18, FREETEXT, REG, MODE S, CFL, ECL, STS.
 Note: It is only possible to modify already existing data. Deletion is not allowed.

2.2.18.1.4.6 Action: Cancel FPL => [Term] Switch

**Application:** Terminate an existing Flight Plan. Once the Flight Plan is cancelled, no actions can be performed on it except the retrieve and history actions.

ACTION	RESULT
Perform the FP visualization action	
Click on the [Term] switch, situated at the bottom of the window, with LB.	



ACTION	RESULT
	The switch changes to YELLOW and the accessible fields for the action are displayed in WHITE background.
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	The FP termination process is triggered.
	If entered data is correct, the "FP Operation" window is displayed in view mode ([View] switch activated). The system transits the FP to "terminated" status. All fields are inaccessible.
	TOT         DOT.         MODE         TOTAL         TOTAL <thtotal< th="">         TOTAL         TOTA</thtotal<>
	If entered data is erroneous, an error message is displayed.
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed and the action is aborted, if it has not been previously validated ([UPDATE] icon).
[CLEAR] icon	
	All data included in the "FP Operation" window (action mode) are deleted and the window automatically changes to View mode ([View] switch activated).
[PRINT] Icon	
	Print the historical information of a FP.



Compulsory Fields:	Flight ID, DEP, DEST, EOBT. Only if the FP visualization action has not been previously performed.	
Accessible Fields:	Flight ID, DEP, DEST, EOBD, EOBT.	
Note:	If entered data were correct, the System changes the FP status to "TERMINATED". All fields are inaccessible.	

2.2.18.1.4.7 Action: Notify FPL => [NOTIF] Switch

Application: Confirm or modify the estimated time of departure.

ACTION	RESULT
Perform the FP visualization action	
Click on the [NOTIF] switch, situated at the bottom of the window, with LB.	
	The switch changes to <u>YELLOW</u> and the accessible fields for the action are displayed in WHITE background.
	NUMBER DO LANDING OFFICIAL NAME     NATE & DECIMAL TAX     DE
Confirm or modify the data presented in the "ATD" field.	
For send an AFP message to IFPS, activate AFP switch.	
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	



ACTION	RESULT
	The validation process is triggered.
	<ul> <li>If entered data is correct, The "FP Operation" window (Action mode) is displayed in View mode ([View] switch activated. All fields are displayed inaccessible.</li> </ul>
	I contract of the second of
	<ul> <li>If mandatory fields are not filled in, an error message is displayed.</li> </ul>
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed and the action is aborted, if it has not been previously validated ([UPDATE] icon).
[CLEAR] icon	
	All data included in the "FP Operation" window (action mode) are deleted and the window automatically changes to View mode ([View] switch activated).
[PRINT] Icon	
	Print the historical information of a FP.

Compulsory Fields:	Flight ID, DEP, DEST, EOBT. Only if the visualization action has not been previously performed.
Accessible Fields:	Flight ID, DEP, DEST, CSSR, SID, FIR ROUTE, EOBD, EOBT.
Note:	This action is allowed once. For re-performing the Notification action, the operator shall perform a cancel Notification action. The Notification action is not allowed when previously performed an ATD
	The recincular determined and an end and when previously performed an rep



action.

# 2.2.18.1.4.8 Action: Cancel Notify FPL => [C.NOTIF] Switch

**Application:** Cancel a previous Notification action. That is, the flight plans turns to "passive" status (if the entered hour with respect to the current one is lower than a defined parameter).

ACTION	RESULT
Perform the FP visualization action.	
Click on the [C.NOTIF] switch, situated at the bottom of the window, with LB.	
	The switch changes to YELLOW and the accessible fields for the action are displayed in WHITE background.
	Notify Constraints         No.         Array         No.
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	The Notification cancellation process is triggered if the Notification action was previously performed. The "FP Operation" window (action mode) is displayed in View mode ([View] switch activated). All fields are displayed inaccessible.
	TA CORDATION TANK DE ALCOLO AND ALCOLO ALCO
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed and the action is aborted, if it has not been previously validated ([UPDATE] icon).



ACTION	RESULT
[CLEAR] icon	
	All data included in the "FP Operation" window (action mode) are deleted and the window automatically changes to View mode ([View] switch activated).
[PRINT] Icon	
	Print the historical information of a FP.

Compulsory Fields:	Flight ID, DEP, DEST, EOBT. Only if the visualization action has not been previously performed.
Accessible Fields:	Flight ID, DEP, DEST, EOBD, EOBT.
Note:	This action can be performed when an Notification action was previously performed.

2.2.18.1.4.9 Action: Confirm/ Modify ATD => [ATD] Switch

**Application:** Mark a flight plan as having taken off and allow the operator to change or confirm the ATD proposed by the system.

ACTION	RESULT
Perform the FP visualization action.	
Click on the [ATD] switch, situated at the bottom of the window, with LB.	
	The switch changes to YELLOW and the accessible fields for the action are displayed in WHITE background.
	Line         Cat
	A VIEW A GREAT A ARREVA ARTIF A DI ALLA APRA ARTIGUENT A GREAT A THE A EXPERIMENTAL ART A REAL ART THE SECOND EXCENTION AND A REAL ART ART A REAL ART
Confirm or modify the data displayed on the "ATD" field.	



ACTION	RESULT
For send an AFP message to IFPS, activate AFP switch.	
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	The validation process is triggered.
	<ul> <li>If entered data is correct, the "FP Operation" window (action mode) is displayed in View mode ([View] switch activated. All fields are displayed inaccessible.</li> </ul>
	NOTATION     ×       NOTATION       NOTATION
	<ul> <li>If entered data is erroneous, an error message is displayed.</li> </ul>
	TAGETALICATION NOT AND
	<ul> <li>If mandatory fields are not filled in, an error message is displayed.</li> </ul>
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed and the action is aborted, if it has not been previously validated ([UPDATE] icon).
[CLEAR] icon	
	All data included in the "FP Operation" window (action mode) are deleted and the window automatically changes to View mode ([View] switch activated).
[PRINT] Icon	




ACTION	RESULT
	Print the historical information of a FP.

Compulsory Fields: Flight ID, DEP, DEST, EOBT, ATD. Only if the visualization action has not been previously performed.
 Accessible Fields: Flight ID, DEP, DEST, CSSR, SID, FIR ROUTE, EOBD, EOBT, ATD
 Note: This action can be performed once. To perform it again, the operator must previously execute a C. ATD action. Once the ATD action is performed, the Notification action cannot be executed.

2.2.18.1.4.10 Action: Cancel ATD => [C.ATD] Switch

**Application**: Cancel a previous ATD action. That is, the flight plan turns to "active". This is only allowed if a departure message was previously input.

ACTION	RESULT
Perform the FP visualization action	
Click on the [C. ATD] switch, situated at the bottom of the window, with LB.	
	The switch changes to YELLOW and the accessible fields for the action are displayed in WHITE background.
	ALENE D AND OLLETER AT A DET AT A D ALA ATE A DET AT A D ALA ATE A DET AT A D ALA A D ALA A DET AT A D ALA A DET AT A D ALA A DET AT A D ALA A A DET AT A D ALA A D AT A D ALA A DET AT A D ALA A D AT A D A ALA A D A
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	The ATD cancellation process is triggered if a previous ATD action was performed. The "FP Operation" window (action mode) is displayed in View mode ([View] switch activated. All fields are displayed inaccessible.



ACTION	RESULT
	If an ATD action was not previously performed, the system sends an error message.
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed and the action is aborted, if it has not been previously validated ([UPDATE] icon).
[CLEAR] icon	
	All data included in the "FP Operation" window (action mode) are deleted and the window automatically changes to View mode ([View] switch activated).
[PRINT] Icon	
	Print the historical information of the FP.

Compulsory Fields:	Flight ID, DEP, DEST, EOBT. Only if the visualization action has not been
	previously performed.

Accessible Fields: Flight ID, DEP, DEST, EOBD, EOBT.

**Note:** This action can be performed only if a previous ATD action was executed.

2.2.18.1.4.11 Action: Confirm/ Modify ATA => [ATA] Switch

Application: Report to the system on the actual time of arrival (ATA) of the FPL.

ACTION	RESULT
Perform the FP visualization action.	
Click on the [ATA] switch, situated at the bottom of the window, with LB.	

Indra

(SDD-UM)

ACTION	RESULT
	The switch changes to YELLOW and the accessible fields for the action are displayed in WHITE background.
	RTIGHT ID       MALED OLLSION       MALED OLLSION
Confirm or modify the estimated time of arrival in the "ETA" field.	
For send an AFP message to IFPS, activate AFP switch.	
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	<ul> <li>The validation process is triggered.</li> <li>If entered data is correct, the "FP Operation" window (action mode) is displayed in View mode ([View] switch activated). The system takes the value input in step 3 as the actual time of arrival. All fields are inaccessible.</li> </ul>
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed and the action is aborted, if it has not been previously validated ([UPDATE] icon).

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ACTION	RESULT
[CLEAR] icon	
	All data included in the "FP Operation" window (action mode) are deleted and the window automatically changes to View mode ([View] switch activated).
[PRINT] Icon	
	Print the historical information of a FP.

Compulsory Fields:	Flight ID, DEP, DEST, EOBT, ETA. Only if the visualization action has not been previously performed.
Accessible Fields:	Flight ID, DEP, DEST, EOBD, EOBT, ETA.
Note:	It is impossible to perform the EST or ACT actions once the ATA action has been executed.

2.2.18.1.4.12 Action: Cancel ATA => [C.ATA] Switch

**Application:** Cancel a previous ATA action. That is, the actual time of arrival entered in the system is cancelled.

ACTION	RESULT
Perform the FP visualization action.	
Click on the [C.ATA] switch, situated at the bottom of the window, with LB.	
	The switch changes to YELLOW and the accessible fields for the action are displayed in WHITE background.
Finish the action by clicking on one of the following icons:	



ACTION	RESULT
[UPDATE] icon	
	The ATA cancellation process is triggered if the ATA action was previously performed. The "FP Operation" window (action mode) is displayed in View mode ([View] switch activated. All fields are displayed inaccessible.
	HIT ID     ACT     ACT
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed and the action is aborted, if it has not been previously validated ([UPDATE] icon).
[CLEAR] icon	
	All data included in the "FP Operation" window (action mode) are deleted and the window automatically changes to View mode ([View] switch activated).
[PRINT] Icon	
	Print the historical information of a FP.

 Compulsory Fields:
 DEST, EOBT. Only if the visualization action has not been previously performed.

 Accessible Fields:
 DEST, EOBD, EOBT.

 Note:
 This action can be performed only if a previous ATA action was executed.

2.2.18.1.4.13 Action: AFTN Message Sending => [AFTN SEND] Switch

Application: Starts the sending of an AFTN message.



ACTION	RESULT
Perform the FP visualization action.	
Click on the [AFTN SEND] switch, situated at the bottom of the window, with LB.	
	The switch changes to YELLOW and the "ICAO AFTN Transmission" Window is displayed
Fill all compulsory fields and select [TRANS] option.	
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	<ul> <li>The validation process is triggered.</li> <li>If entered data is correct, the AFTN message is sent and the "FP Operation" window (action mode) is displayed in View mode ([View] switch activated). All fields are inaccessible.</li> <li>If entered data is erroneous, an error message is displayed.</li> <li>If mandatory fields are not filled in, an error message is displayed.</li> </ul>
[CANCEL] icon	
	The "ICAO AFTN Transmission" window is closed and the action is aborted, if it has not been previously validated ([UPDATE] icon).



ACTION	RESULT
[CLEAR] icon	
	All data included in the "ICAO AFTN Transmission" window are deleted and the window automatically changes to View mode ([View] switch activated).
[PRINT] Icon	
	Print the historical information of a FP.

**Compulsory Fields:** Flight ID. Only if the visualization action has not been previously performed.

Accessible Fields: Flight ID, DEP, DEST, EOBD, EOBT.

2.2.18.1.4.14 Action: Estimate Actions => [EST] Switch

Application: Perform estimate actions on a future reporting point of the flight plan route.

ACTION	RESULT
Perform the FP visualization action	
Click on the [EST] switch, situated at the bottom of the window, with LB.	
	The switch changes to YELLOW. The accessible fields for the action are displayed on a WHITE background. The window displays on the "Fix Point", "ETO" and "CFL" fields the data calculated by the system for the next route point to be overflow.
	TIGHT 2 AND DELEM A TO THE ADD ADD ADD ADD ADD ADD ADD ADD ADD AD
Enter the future point ("FixPoint" field) of the flight plan route, if not displayed, and confirm or modify the values for the "ETO" and "CFL" fields. The Fix Point and CFL fields are mandatory. The ETO field, although accessible, is not mandatory due to the system automatically	



ACTION	RESULT
calculation.	
For send an AFP message to IFPS, activate AFP switch.	
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	The system validates the estimates and calculates the ETO, if not entered.
	<ul> <li>If entered data is correct, the "FP Operation" window (action mode) is displayed in View mode ([View] switch activated. All fields are displayed inaccessible.</li> </ul>
	Difference         Difference <thdifferenc< th="">         Difference         Differenc</thdifferenc<>
	ALT PRACTICE OR DE LES
	<ul> <li>If entered data is erroneous, an error message is displayed.</li> </ul>
	<ul> <li>If mandatory fields are not filled in, an error message is displayed.</li> </ul>
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed and the action is aborted, if it has not been previously validated ([UPDATE] icon).
[CLEAR] icon	
	All data included in the "FP Operation" window (action mode) are deleted and the window automatically changes to View mode ([View] switch activated).
[PRINT] Icon	
	Print the historical information of a FP.



Compulsory Fields:	Flight ID, DEP, DEST, EOBT, ESTIMATE FIX, ESTIMATE TIME, ESTIMATE LEVEL Only if the visualization action has not been previously performed.
Accessible Fields:	Flight ID, DEP, DEST, CSSR, EOBT, EOBD, ESTIMATE FIX, ESTIMATE TIME, ESTIMATE LEVEL.

2.2.18.1.4.15 Action: Position Report => [POS] Switch

Application: Perform position report actions on reporting points of the flight plan route.

ACTION	RESULT
Perform the FP visualization action	
Click on the [POS] switch, situated at the bottom of the window, with LB.	
	The switch changes to YELLOW. The accessible fields for the action are displayed in a WHITE background. The window displays on the Estimate Fix, Estimate Time and Estimate Level fields the data calculated by the system for the last route point supposed to have been overflown.
Enter the route reporting point ("Estimate Fix" field) of the flight plan route, if not displayed, and confirm or modify the values for the "Estimate Time" and "Estimate Level" fields.	
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	The system validates the estimates.
	• If entered data is correct, the "FP Operation" window (action mode) is displayed in View mode ([View] switch activated. All fields are displayed inaccessible.
	• If entered data are erroneous, an error message is displayed.
	<ul> <li>If mandatory fields are not filled in, an error message is displayed.</li> </ul>
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed and the action is aborted, if it has not been previously validated ([UPDATE] icon).



AC	TION	RESULT		
[CLEAR] icon				
		All data included in the "FP Operation" window (action mode) are deleted and the window automatically changes to View mode ([View] switch activated).		
[PRINT] Icon				
		Print the historical information of a FP.		
Compulsory Fields:	Flight ID, DEP, DEST, EOBT, Estimate Fix, Estimate Time, Estimate Let the visualization action has not been previously performed). Estimate Estimate Time, Estimate Level (if the visualization action has been previ performed).			

Accessible Fields: CSSR in addition to compulsory fields.

2.2.18.1.4.16 Action: Strip Printing => [Strips] Switch

**Application:** Performs or plans a strip printing action, by selecting the moment for strip printing (entering a sector or reaching a fix point).

ACTION	RESULT
Perform the FP visualization action	
Click on the [Strips] switch, situated at the bottom of the window, with LB.	
	The switch changes to <u>YELLOW</u> and the accessible fields for the action are displayed in WHITE background.
	TELENE NAME OLLELEN NA TO DE CONTROL SUPERIO DESCRICO SUP
Enter the "FIXPOINT" data or the "S" sector data for which the strip is	



ACTION	RESULT
going to be printed.	
Finish the action by clicking on one of the following icons:	
[UPDATE] icon	
	The action is performed; when the Fixpoint or the Sector previously entered is reached, a paper strip will be printed. The "FP Operation" window (action mode) is displayed in View mode ([View] switch activated. All fields are displayed inaccessible.
[CANCEL] icon	
	The "FP Operation" window (action mode) is closed and the action is aborted, if it has not been previously validated ([UPDATE] icon).
[CLEAR] icon	
	The displayed data are deleted from the "FP Operation" window

**Compulsory Fields:** Estimate Fix or S (mutually exclusive).

Accessible Fields: Estimate Fix, S

## 2.2.18.1.5 List of Synonyms

When two or more Flight Plans have the same Callsign and the Controller performs a view operation ([View] switch), the System displays the List of Synonyms over the FP Operation Window.

This List of Synonyms includes all flight plans with the same Callsign.

						LIST	OF S	YNON:	YMS		×
CALLSIGN	R NO	TYPE	DEP	EOBD	EOBT	стот	DEST	ETA	CSSR	ROUTE	STATUS
TEST3 TEST3	I	A320 A320	EPWA EPWA	110112 110112	0900 0900		EPSC LEMD	0946	3102 1333	DCT NAPUT DCT DCT NAPUT DCT OKROT ++ DCT *	NOTIF NOTIF





Click twice on a Flight Plan within the List of Synonyms to present all FP data within their corresponding fields in the FP Operation Window.

### 2.2.18.2 FPLs Retrieval

This option triggers all FPLs retrieval procedures for subsequent actions on them. By clicking on the "FP Retrieve" option of the [FPL] pop-up menu, the "FP's Retrieval" window is displayed.



Figure 2-73: Flight Plan Menu [FPL]

This window is used to define filter for the FPLs retrieval and to display the data of one FPL that matches the set of specific parameters entered by the controller.

When the controller performs a query to the system on the "FP's Retrieval" window, the system displays the list of flight plans matching the specific parameters.

The layout of these windows is shown in figure below.

										F	'P's F	OUND	FOR 1	THE GIVEN FILTER				0	2	×
CALLSIGN	R	FT	NO T	TYPE I	DEP	EOBD	EOBT	стот	SPEED	RFL	DEST	ETA	CSSR	FIR ROUTE	REG	STS	RCOORD	SCOORD	STATUS	
NADIA		х	h	1320 E	₽WA	110112	0900		N0300	F300	L EMD		1330	DCT NAPUT DCT OKROT ++ DC					NOTIF	
TEST		х	А	1320 E	PWA	110112	0900		N0300	F300	LEMD		1331	DCT NAPUT DCT OKROT ++ DC					NOTIF	
TEST2	Ι	Х	h	\320 E	PWA	110112	0900		N0300	F300	LEMD		1332	DCT NAPUT DCT OKROT ++ DC					NOTIF	
TEST3		х	А	1320 I	PWA	110112	0900		N0300	F300	EPSC	0946	3102	DCT NAPUT DCT					NOTIF	
TEST3		х	A	\320 E	₽WA	110112	0900		N0300	F300	LEMD		1333	DCT NAPUT DCT OKROT ++ DC					NOTIF	
TEST4		х	A	1320 E	<b>PWA</b>	110112	0900		N0558	F300	EPSC	1105		DCT NAPUT/H1035 N0558F300					TERM	
TEST5		х	А	1320 E	PWA	110112	0900		N0300	F300	EPSC	0946	3103	DCT NAPUT DCT					NOTIF	
												FP	's RE	TRIEVAL						×
CALLSIG	N	R	FT I	DEP	E	OBD	EOBT	DES	т		R	DUTE		REG	STS	FR	DIM	υ	NTIL	
																				-
STATE:	\$ I	NIT	♦ PE	ND 🔷	NOTI	f 🔷 Act	IV 💠	TERM	♦ ALL					🖵 Summary Retrieve		UPDATE	CEL	CL EAR	Pr All	

Figure 2-74: "FP's Retrieval" Window

#### **Edition Area:**

Most of the fields are the same as for the "FP Operation" Window in action mode. Following table shows those fields, which are different including a description with their valid data.

#### Table 2-24: "FP's Retrieval" Window. Edition Area

Field	Description	Valid Data
CALLSIGN	Aircraft identification	2 to 7 alphanumeric characters



Field	Description	Valid Data
R	Flight Rules	1 character
FT	Flight Type	1 character
DEP	Departure Aerodrome	4 alphanumeric characters
EOBD	Estimated Off-Block Date	Date (YYMMDD) (00 to 99, 01 to 12 and 01 to 31)
EOBT	Estimated Off-Block Time	Hour (HHMM) (00 to 23 and 00 to 59)
DEST	Destination Aerodrome	4 alphanumeric characters
ROUTE	One or more fixes. If there is more than one, they are separated by the AND (+) or OR ( ) operators	Name of fixes known by the system
REG	Aircraft Registration	7 alphanumeric characters
STS	Status. Defined in FP field 18.	HOSP, EMER, SAR, HUM, HEAD, STATE
FROM	Time determining the start of a temporal filter for FPL retrieval	YYMMDD (00 to 99, 00 to 12 and 00 to 31) HHMM (00 to 23 and 00 to 59)
UNTIL	Time determining the end of a temporal filter for FPL retrieval	YYMMDD (00 to 99, 00 to 12 and 00 to 31) HHMM (00 to 23 and 00 to 59)

## Rules for Entering Data:

Dark **GREY** shaded fields do not allow data to be input or changed. Fields displayed on WHITE can be input or changed. Fields displayed on **RED** have an erroneous data or they are mandatory and have not been filled in.

If maximum number of characters allowed in a field is filled in, the cursor automatically goes to the first character position in next field.

If there are different errors (compulsory, syntactic, etc.,) when editing a FP, the message displayed on the error message area corresponds to the first field with error where the cursor is situated.

## **Command Area:**

Following table shows the different commands included in the "FP's Retrieval" Window. The operational behaviour is described below.

Table 2-25: "FP's Retrieval" Window. Command Area



Icon/Switch	Description					
State	<ul> <li>Allows the filter by flight plan status. It can be displayed flights in status:</li> <li>ACTIV: Active</li> <li>NOTIF: Notificated</li> <li>INIT: Initial</li> <li>PEND: Pending</li> <li>TERM: Terminated</li> <li>ALL: All flights (no state filter)</li> </ul>					
Summary Retrieve	Display the number of FPs matching the criteria (filters).					
UPDATE	Trigger the actions performed in the current window.					
CANCEL	Close the window. If actions were not previously validated, they will not be taken into account by the system.					
CLEAR	Delete the data displayed on the fields of the window.					
Pr All	Print all the retrieved FP.					

#### Error Message Area:

It displays the error associated to the field where the mouse is focused on.

A list of error messages is provided in Annex B.

## "Retrieved Flight Plan(s)" Window:

This window is displayed when clicking on the [UPDATE] icon of the "FP's Retrieval" Window.

The FPs not in view can be visualized by means of the vertical scroll bar available in the window right side.

Each line included in this window contains the following information:

### Table 2-26: "Retrieved Flight Plan(s)" Window. List Element

Element	Description
CALLSIGN	Indicative

Doc.N°: 007450000000MA01 Edit./Rev.: A/0 Date: 12/04/2012



Element	Description
R	Flight Rules
FT	Flight Type
NO	Number of Aircrafts
ТҮРЕ	Aircraft Type
DEP	Departure Aerodrome
EOBD	Estimated Off-Block Date
EOBT	Estimated Off-Block Time
СТОТ	Calculated Take-Off Time
SPEED	Cruise Speed
RFL	Requested Flight Level
DEST	Destination Aerodrome
ETA	Estimated Time of Arrival
CSSR	SSR Code
FIR ROUTE	FP Route
REG	Aircraft Registration
STS	Status
RCOORD	Last OLDI Incoming Message
SCOORD	Last OLDI Outgoing Message
STATUS	Status of the FP.
<counter></counter>	Number of retrieved flight plans

2.2.18.2.1.1 Action: Retrieve Multiple FP => {[FPL] -> (FP RETRIEVE)}

**Application:** Perform this procedure to display one or more Flight Plans, from the FPLs database, that match the selection criteria.



ACTION	RESULT
LB click on the "FP RETRIEVE" option of the [FPL].	
	The "FP's Retrieval" window is displayed.
	FP*2 FILTUIEVAL     X       OALSSIN & FT     FF     FF </td
To display the FPs:	
If input parameters are known, enter the data in the corresponding fields and click on the [UPDATE] icon.	
	The "Retrieved Flight Plan(s)" window is displayed with the flight plan(s) matching the specific parameters.
	CALLEDIN (A, PT) NO         PATH SCOND FOR THE GIVEN FLETCH         C. J.         M.           CALLEDIN (A, PT) NO         PATH SCOND FOR THE GIVEN FLETCH         C. J.         M. N.         STA         STA
If input parameters are unknown click on the	SIATE: ^ INT: ^ FIDE _ NETLY ^ TEM + AL. P Benary Mitrieve MBATE GAVER. GLAR 74 All
[UPDATE] icon.	
	The "Retrieved Flight Plan(s)" window is displayed with all flight plans.
Once the "Retrieved Flight Plan(s)" window is displayed, it is possible to select one of the FPs:	
By clicking twice on the corresponding FP.	
	The selected FP is displayed on the "FP's Retrieval" window. That is, the "Retrieved Flight Plan(s)" window is removed from screen and the "FP's Retrieval" window is displayed instead of.



ACTION	RESULT
From this point on, all possible FP actions may be performed on the selected FP.	
If clicking on the [Summary Retrieve] switch at the bottom of the "FP's Retrieval" window with the LB and the on the [UPDATE] icon.	
	An indication of the number of FPs that matches the selection criteria is displayed over the "FP's Retrieval" window.
	Number of FP s = 3 FP s FSTD EVAL FP s FSTD EVAL V CLASSIN & FT SEP END DOT BEY NOT
	STATE. ^ INIT ^ FIND ^ INITIF ^ ACTIF ^ TEDH . ALL F Summary Intrieve UNIXIE CANEEL CLOBE Pr ALL
Finish the action by clicking on one of the following buttons:	
[CANCEL] icon	
	All windows are closed.
[CLEAR] icon	
	The displayed data is deleted from the "FP's Retrieval" window.

Compulsory Fields: None.

## 2.2.18.3 Conflict

The controller can request the list of FP pairs if detected to be in conflict by the MTCD (Medium Term Conflict Detection) function.

This list is displayed on the "FP Conflicts" window with a title containing the time at which the window was opened.

The "FP Conflicts" window is displayed when performing any of the following actions:

• By clicking on the "Conflict" option of the [FPL] pop-up menu. This option displays all the current conflict pairs.





Figure 2-75: Flight Plan Menu

- By clicking on the "Conflict" option of the [FPL] pop-up menu displayed when accessing a FP from the Flight Plan list. This option displays the FPs in conflict with the selected flight plan.
- By LB click on the MTCD indicator of the track label. This option displays the FPs in conflict with the selected flight plan.

The "FP Conflicts" window has two main sections (areas) and a command area, as described below:



			CNF			×
		FP	CONFLICTS 1	13:42		
C/S	ADEP	SEGMENT	f entry	SEGME	NT EXIT	
2 – Con IBE343 L0T663	flict time: 2 EPWA 6 EPGD	1354 50MOR/1 GRU/1	1353/170 1352/170	GRU/1 SOMOR/1	1357/162 1356/170	
DLH121 IBE343	flict time: 2 EPGD 2 EPWA flict time:	LODNI/1 50M0R/1 1346	1354/170 1353/170	GRU/1 GRU/1	1358/170 1357/162	
L0T663 DLH121 1 - Con	6 EPGD 2 EPGD flict time:	SKARY/1 SKARY/1 1345	1346/148 1345/170	LODNI/1 LODNI/1	1350/170 1354/170	
20						
16						
12						
8						
4			_3			
	<u>A</u> 5	10	- <sup>2</sup> 	20	25	-
			CANCEL			

Figure 2-76: "FP Conflicts" Window

## First Window Section (List Area):

It is situated in the window upper section and it contains the list of FP pairs in conflict.

Following table describes the information involving this area:

able 2-27: "FP Conf	icts" Window. Firs	t Window Section	(List Area)
---------------------	--------------------	------------------	-------------

Element	Description
C/S	Callsign
ADEP	Departure Aerodrome





Element	Description
SEGMENT ENTRY	Start of the segment at which the flight enters in conflict / ETO / Level at the inbound fix
SEGMENT EXIT	End of the segment at which the flight exits from the conflict / ETO / Level at the outbound fix

## Second Window Section (Chart Area):

It is a graphic display of the conflict. The conflict is represented in an X-Y chart, where X represents the time in minutes counted from the time displayed on the window title (time 0 is the time when the window was opened) and Y represents the distance between the FP projected to be in conflict.

Each conflict is displayed in the chart with a symbol, together with the conflict identification number and a horizontal vector

The symbol location on the chart for each conflict is determined as follows:

- the X coordinate is the time at which the flights are projected to reach their minimum separation;
- the Y coordinate represents the minimum distance between the flight plans in conflict.

The vector start is placed in the conflict symbol, and extends to the conflict entry time.

The conflicts in the chart are displayed in two colours: **RED** (hight severity) or **YELLOW** (medium severity). The criteria to display in one of the colours depends on two adapted parameters:

- Minimum warning distance.
- Minimum warning time.

An imaginary line is drawn in the chart with the following coordinates:

- X = 0, Y = minimum warning distance
- X = minimum warning time, Y = 0

All conflicts, situated on the left of this imaginary line, are displayed in **RED**. All conflicts situated on the right of this imaginary line are displayed in **YELLOW**.





Figure 2-77: "FP Conflicts" Window – Warning/ Conflicts Areas

The interaction with the conflict symbol allows the access to the Future Horizontal and Vertical Situation windows, described below.

## **Command Area:**

Following table shows the different commands, which are included in the "FP Conflicts" window.

#### Table 2-28: "FP Conflicts" Window. Command Area

lcon	Command
CANCEL	Close the "FP Conflict" window.

## 2.2.18.3.1 Horizontal Future Situation Window (HFS)

The "HFS" window comprises a "Radar Data Display" window, which is similar to the SDD SIT Area.

It is used to display the FPs future air traffic situation. To display the window, LB click on the conflict symbol (conflict chart). The window shows the extrapolated FPs is displayed centred in the position and time at which the minimum distance will be reached.







Figure 2-78: Horizontal Future Situation Window

## Command Area:

The Command Area is located at the top of the "HFS" window and consists of the following items:

#### Table 2-29: "HFS" Window. Command Area

lcon	Command		
Presentation Range	Display the presentation range. When clicking on it, a pop-up menu is displayed to select a new presentation range in nautical miles.		
Time ("+" or "-")	Display the time (in the future). When clicking on it, a pop-up menu is displayed to select the time when the extrapolation is performed. The time may be augmented or decreased (from 1 to 5 minutes) with the "+" and "-" icons. The default time is running 10 minutes faster than the current system time.		
Maps	Display a pop-up menu to select the type of map to be displayed at the Display Area.		

## **Display Area:**

It represents the geographical visualization of the future situation.



# 2.2.18.3.2 <u>Action: Future Situation Visualization => {[FPL] -> [CONFLICT]}</u>

**Application:** Perform this procedure to display the list of FP pairs if detected to be in conflict by the MTCD function.

ACTION	RESULT
Click on the [FPL] icon of the SDD General Information Area.	
	A pull-down menu is displayed.
	FP ACTION FP RETRIEVE CONFLICT
LB click on the "Conflict" option	
	The "Conflict" window is displayed.
	CNF ×
	C/S ADEP SEGMENT ENTRY SEGMENT EXIT
	3 - Conflict time: 0819 Bd1123 L0M0 KEB/0817/115 NOVLO/0832/150 S - Conflict time: 0819 Bd1123 L0M0 KEB/0817/115 NOVLO/0832/150 AFR111 L0T2 KEB/0817/150 BOSNA/0823/150 A - Conflict time: 0814 A - Conflict time: 0814 2 - Conflict time: 0814 4
LB click in a track symbol (triangle symbol)	The future horizontal situation window is displayed, extrapolated to the conflict time.







# 2.2.19 Maps [MAP] Icon

This icon allows the activation/inhibition of maps visualization, by displaying a pop-up menu including the different map menu entries.

The map is selected with the LB. The selected map is displayed with a **YELLOW** mark (see following figure), and the non-selected map is displayed with the mark in background colour. It is available to select more than one category without closing the pop-up menu. To de-select a map, LB click on the current selected one.







Figure 2-79: Maps Selection Pop-up Menu

It is also possible to select sub-maps from the corresponding map by clicking the desired option on the pop-up sub-menus, with the LB. If defined (as shown in previous figure), the " • "symbol is displayed besides the map name.

Maps brightness can be individually adjusted by scroll bars that are displayed by CB click in map name at MAP pop-up menu.



MAP	_
□ LMG	
🗆 MSAW	
⊏ QNH	
SENSORS 🏷	
SECTORS 🔈 🏷	🗖 BALT
VOR_SYMBOLS	CENT
□ NDB_SYMBOLS	🗖 DREZ
ROU_SYMBOLS	
□ APP_SYMBOLS	E EAST
□ FIX_VOR_NAMES	FISG
□ FIX_NDB_NAMES	🗖 FISK
□ FIX_ROU_NAMES	FIS0
□ FIX_APP_NAMES	FISP
T AIRWAYS	FISW
AIRPORT_SYMBOLS	🗖 GRUD
□ AIRPORT_NAMES	🗖 JEDR
□ AIRPORT_RUNWAYS	□ ONSE
PROFILES	🗖 ONXG
BOUNDARY	🗆 OSJR
LOCAL_MAPS ▷	□ OSXC
	🗖 OWDT
	□ OWXB
	🗖 RZES
	📮 SUWA
	🗖 TAGD
	🗖 ТАКК
	🗖 TAKT
	TAPO
	🗖 TAWA
	TRZE
	TWBY
	TWRZ
	TWWA

Figure 2-80: Maps Brigtness Adjustment

# 2.2.19.1 Action: Select Maps => {[MAP]}

Application: Perform this procedure to activate/inhibit the map display.



ACTION	RESULT
LB Click on the [MAP] icon of the SDD General Information Area.	
	A pull-down menu is displayed to select the required type of map. MAP I LMG MAW QNH SENSORS VOR_SYMBOLS VOR_SYMBOLS ROU_SYMBOLS ROU_SYMBOLS FIX_VOR_NAMES FIX_VOR_NAMES FIX_NOB_NAMES FIX_ROU_NAMES FIX_APP_NAMES FIX_APP_NAMES FAIRWAYS AIRPORT_SYMBOLS AIRPORT_RUNWAYS FAIRPORT_RUNWAYS FOFTLES BOUNDARY LOCAL_MAPS
To select/de-select map:	
RB click on the desired map.	
	The corresponding map is selected showing a YELLOW mark on the left side. At the same time, the selected map is displayed on the SDD SIT Area. It is possible to select different maps at a time within the same process.
RB click again on the selected map.	
	The map is de-selected and the mark returns to background colour.
To select/de-select sub-maps:	
Some map menu entries include defined sub-maps. The arrow "  *" displayed on the name right side distinguishes them.	



ACTION	RESULT
LB click on the corresponding map's arrow.	
	The sub-maps pop-up menu is displayed to select the required one. MAP I LMG P MSAW P QNH SENSORS P BALT P VOR_SYMBOLS P BALT P VOR_SYMBOLS P DREZ R ROU_SYMBOLS F FISG P FIX_VOR_NAMES F FISG P FIX_NUB_NAMES F FISG P FIX_NUB_NAMES F FISG P FIX_APP_NAMES F FISG P FIX_APP_NAMES F FISG P FIX_APP_NAMES F FISG P AIRWAYS F GRUD AIRWAYS F ONSE P AOPT_SYMBOLS F ONSE P AOPT_SYMBOLS F ONSE P ROFILES F ONSE P BOUNDARY LOCAL_MAPS P OWDT F OWDT F OWDT F OWDT F TAKK F TAKT F TAPO
Finish the action by LB clicking outside the pull-down menu area.	



ACTION	RESULT
	The pop-up menu(s) is closed.

## 2.2.19.2 Action: Adjust Map Brightness => {[MAP]}

Application: Perform this procedure to adjust the brightness for an individual map.

ACTION	RESULT
LB Click on the [MAP] icon of the SDD General Information Area.	
	A pull-down menu is displayed to select the required type of map. MAP F LMG F MSAW F QNH SENSORS SECTORS F VOR_SYMBOLS F NDB_SYMBOLS F ROU_SYMBOLS F APP_SYMBOLS F FIX_VOR_NAMES F FIX_NOB_NAMES F FIX_ROU_NAMES F FIX_APP_NAMES F AIRPORT_SYMBOLS F AIRPORT_SYMBOLS F AIRPORT_NAMES F AIRPORT_RUNWAYS F PROFILES F BOUNDARY LOCAL_MAPS
CB click in a map name (or first LB click in map and then CB click in map name)	
	An horizontal scroll bar is displayed, that allows to adjust map brightness.



ACTION	RESULT
	MAP       CONFIG       SYS         F       LMG         F       MSAW         F       QNH         SENSORS       >         SECTORS       >         F       VOR_SYMBOLS         F       NDB_SYMBOLS         F       ROU_SYMBOLS         F       ROU_SYMBOLS         F       FIX_VOR_NAMES         F       FIX_NDB_NAMES         F       FIX_ROU_NAMES         F       FIX_APP_NAMES         F       FIX_APP_NAMES         F       AIRPORT_SYMBOLS         F       AIRPORT_NAMES         F       BOUNDARY         LOCAL_MAPS       >
Move horizontal scroll bar to adjust map brightness.	
	The map brightness is adjusted according to manual selection.
LB click outside map pop-down menu.	
	Map pop-down menu is closed and the action is finished.



## 2.2.20 Fixed Configuration [CONFIG] Icon

When clicking on the [CONFIG] icon, a pop-up menu is displayed to allow, by means of two options, the selection of a fixed configuration or the programming of a new one.

"LOAD" sub-menu allows the selection of a previously saved configuration.

"SAVE" sub-menu allows the selection of a profile to store current configuration.

CONFIG	
LOAD >	DEFAULT
SAVE 🖻	CONFIG1
	USERPREF
	FCON1
	FCON2
	FCON3
	FCON4
	FCON5
	FCON6
	FCON7
	FCON8

Figure 2-81: Fixed Configuration Pop-up Menu. "LOAD" Option

By clicking on "SAVE" and selecting an option, the new configuration is saved.

CONFIG	
LOAD 🖻	
SAVE >	DEFAULT
	CONFIG1
	USERPREF

Figure 2-82: Fixed Configuration Pop-up Menu. "SAVE" Option

Table 2-30: CONFIG Menu. Elements

Element	Description	
DEFAULT	This predefined configuration is loaded the first time a user login in the position. It is readable and writable.	
CONFIG1	This configuration can be loaded or stored, as it is readable and writable.	
USERPREF	Each user can save and load its own configuration in option USERPREF, which will be distributed by the system and	



Element	Description
	charged in every SDD position.
FCONX	These predefined configurations can only be loaded, as they are no writable.

### Table 2-31: System elements Stored/ Loaded in each CONFIG element

FCON/ CONFIG	USERPREF
PSR T – on/ off	
OPTIONS - on/ off for all options in the dropdown menu	MAP – all options in the dropdown menu
RANGE value	BRIGHT – all values
Decentering	DATBLK – all options in the menu
QL – on/ off	OVERLAP – on/ off
VIEW X - on/ off, position on screen, range, maps and	RBL ALR – on/ off
	RANGERINGS - on/ off
	All lists (Departures, Arrivals, Executive controller list, Planning
	Controlling list, Hold list, Coordination list) – position on screen, content (short/ extended/ custom), sorting, airports.
	METEO – on/ off
SSKF - ON/ OTT AND VALUES	

# 2.2.20.1 Action: Retrieve Special Configuration => {[CONFIG]} -> {[LOAD]}

Application: Perform this procedure to recover a special configuration.

ACTION	RESULT
Click on the [CONFIG] icon of the SDD General Information Area.	
	A pull-down menu with available configurations is displayed.
Click on the "LOAD" option (LB).	



ACTION	RESULT
	A pull-down submenu is displayed with the different configurations already established by adaptation and created by the controller.
	CONFIG LOAD > DEFAULT
	SAVE F CONFIG1 USERPREF
	FCON1 FCON2
	FCON3
	FCON4 FCON5
	FCON6 FCON7
	FCON8
Select one of the available configurations (LB).	
	The screen displays the selected configuration.

# 2.2.20.2 Action: Save Special Configuration => {[CONFIG]} -> {[SAVE]}

Application: Perform this procedure to program a special configuration.

ACTION	RESULT
Perform the necessary modifications on the position.	
Click on the [CONFIG] icon of the SDD General Information Area.	
	A pop-up menu with available configurations is displayed.
Click on the "SAVE" option (LB).	
	A pop-up submenu is displayed with the four possible options.



ACTION	RESULT	
	CONFIG LOAD > SAVE > DEFAULT CONFIG1 USERPREF	
Select one of the possible configurations names.		
	The desired configuration is loaded with the name of the previously selected configuration.	

## 2.2.21 System Messages [SYS MSG] Icon

This icon is used to display/close the "System Messages" window.

SYS MSG

Figure 2-83: [SYS MSG] Icon

It is a message list generated by the system, which warn the controller about the important changes in the system, as well as the errors that have taken place.

When a message is received, the icon starts blinking. The blinking stops when the window is displayed. The messages are deleted when clicking on the [ACKN] icon situated on the bottom centre of the "System Messages" window.

SYSTEM MSG	×			
13:00 2010-07-12-FDP UP 13:00 2010-07-12-TIME-OUT EXPIRED 13:00 2010-07-12-TIME-OUT EXPIRED 13:32 2010-07-12-RBL ALARM FUNCTION DISABLED				
13:32 2010-07-12-RBL ALARM FUNCTION DISABLED				
ACKN				

Figure 2-84: "System Messages" Window

The vertical scroll bar allows the visualization of all messages, which are not in view due to window size. The messages are sorted by last time of reception.



The information displayed on the "System Messages" window is described in following table:

Table 2-32: "System Messages" Window. Information Display

Item	Description
Time	System time at which the system message was generated (HH:MM)
Date-Message Text	Date(YYYY-MM-DD)-Brief description of the message

## 2.2.22 [CLOCK] Icon

This icon is used to display/close the "System Clock" window. It is the system time (UTC) in HH:MM:SS format.



Figure 2-85: "System Clock" Window

## 2.2.23 [Menu] Icon

This [Menu] icon displays or closes the Main Menu Area, which is displayed at the bottom of the SDD screen.

Its activation status is shown by the icon text colour: YELLOW if it is activated, and WHITE if inhibited.

It is also possible to toggle the activation/inhibition by pressing <Alt>+ <M>.



Figure 2-86: [MENU] Icon

## 2.2.23.1 Action: Display/ Close the Main Menu Area => {[MENU]} or {<Alt> + <M>}

Application: Perform this procedure to display/ close the Main Menu Area presentation.

ACTION	RESULT
There are two ways for displaying/closing the Main Menu Area.	



ACTION	RESULT
By means of the mouse device:	
Depress the [MENU] icon of the General Information Area.	
If it is activated (YELLOW)	
	The icon text colour turns to WHITE.
	At the same time, the Main Menu Area situated at the bottom of the SDD SIT Area is removed.
If it is disabled (WHITE)	
	The icon text colour turns to YELLOW and the Main Menu Area is displayed.
By means of the keyboard device:	
Pressing on the <alt> + <m> combination keys.</m></alt>	
	The Main Menu Area is displayed/closed.


## 2.3 MAIN MENU AREA

The Main Menu Area is located at the bottom of the SDD screen. It is composed of icons and switches, which perform the different functions.

The Main Menu Area is displayed or closed from the [Menu] icon, located in the SDD General Information Area. Its activation status is shown by the icon text colour: WHITE, If it is disabled, and YELLOW, if activated.

Flight plan lists include a set of fields with flight plan data; these fields can be changed off-line from GTI. In this manual a predefined set of fields is provided as an example.

EXECUTIVE	TWR	CPDLC	VIEW1 ING	ZONBLK	RTE OFF	DATBLK	QNH	RBL ALM	OVERLAP	LAST POS	250 NM	(A)	EXP+	S	n	14 1	1 3 5 8	CON	PRINT LISTS
PLANNER	ARR	ADS AIR	VIEW2 RING	S ELW	RBL OFF	BRIGHT	METEO	MTCD	FREETEXT	FINDER	<u> </u>	EOE	EXP-		•			SDD1	3 ATMCSUP
	DEP		VIEW3		ORI OFF	F 3D	MET MSG	ALM OFF	SECTORS	SSR F	20100		CEN	20	50	70 1	00 140 180 220 500 DE	F ACC	LOGIN LOGOUT

Figure 2-87: Main Menu Area

Item	Туре	Description
EXECUTIVE	lcon	Display/close the FP List.
PLANNER	lcon	Display/close the FP Planner List.
TWR	lcon	Display/close the Tower Position List. (only if position has any sectors assigned)
ARR	lcon	Display/close the Arrival FP List
DEP	lcon	Display/close the Departure FP List.
CPDLC	lcon	Display/close the CPDLC exchange messages List.
ADS AIR	lcon	Display/close the list of flights equipped with ADS.
VIEW1	lcon	Display/close the Auxiliary Window (number 1)
VIEW2	lcon	Display/close the Auxiliary Window (number 2)
VIEW3	lcon	Display/close the Auxiliary Window (number 3)
LMG	lcon	Display/close the "LMG Control Panel" window to allow the local maps generation.
RINGS	lcon	Display/close the range rings.
ZONBLK	lcon	Display/close the configuration window for special areas.

#### Table 2-33: "Main Menu" Area. Items



Item	Туре	Description				
ELW	lcon	Display/close the Extended label window				
RTE OFF	lcon	Delete all FPs routes from the screen.				
RBL OFF	lcon	Delete the display of all the active RBLs in the screen.				
ORI OFF	lcon	Return to all tracks' labels to the default position.				
DATBLK	lcon	Display/close the "Track Display Configuration" window.				
BRIGHT	lcon	Display/close the "Brightness" window.				
F 3D	lcon	Display/close the "3D Filter Window"				
QNH	lcon	Display/close the "QNH" window including zone and values information (in hPa)				
METEO	lcon	Activate/inhibit the display of weather data.				
MET MSG	lcon	Display/close the Meteo Messages Window.				
RBL ALM	lcon	Activate/inhibit the Range Bearing Alarms				
MTCD	lcon	Activate/inhibit the display of MTCD alarm in track labels.				
ALM OFF	lcon	Inhibit all the aural alarms.				
OVERLAP	lcon	Activate/inhibit the function for the automatic orientation of track labels				
FREETEXT	lcon	Display/close the Freetext Window.				
SECTORS	lcon	Display/close the Assigned Sectors list.				
LAST POS	lcon	Display/close the Last Position Window.				
FINDER	lcon	Display/close the "Finder Window"				
SSR F	lcon	Display/close the "SSR Filter Window"				
	EXP+ EXP- CEN	S       0       ½       1       3       5       8         20       50       70       100       140       180       220       500       DEF				
	lcon	Current range is displayed over this icon.				



Item	Туре	Description
Ð	lcon	Increase presentation range in discrete or continuous steps.
		Current range is displayed over this icon.
	lcon	Perform a left scrolling movement within the screen as a horizontal scroll bar.
►	lcon	Perform a right scrolling movement within the screen as a horizontal scroll bar.
<b>A</b>	lcon	Perform an upwards-scrolling movement within the screen as a vertical scroll bar.
•	lcon	Perform a downwards-scrolling movement within the screen as a vertical scroll bar.
Ο	lcon	Perform a decentring action.
EXP +	lcon	Perform an expansion action.
EXP -	lcon	Perform a contraction action.
CEN	lcon	Perform a centring action.
S	lcon	Displays the velocity vector, which size is direct relation with speed.
0, ½, 1, 3, 5, 8	lcons	Displays the velocity vector, which size will use the number of seconds inside the icon.
20, 50, 70, 100,, DEF	lcons	Performs a range action, which value is the number of NM inside the icon. DEF uses predefined range value.
PRINT LISTS	lcon	Print the lists (Executive, Planner and Hold Lists) of the SDD position.
PRINTERS	lcon	Selection among available printers, allowing editing predefined printer.
LOGIN	lcon	Freeze all the actions that can be performed in the position. At the same time, it displays the "Login" window to unfreeze the position.
LOGOUT	lcon	Freeze all the actions that can be performed in the position. At the same time, it displays the "Login" window to unfreeze the position.

## 2.3.1 Common Actions from FP Lists

Flight plan lists include some fields with interaction capability. These fields are clearly recognised moving the mouse pointer by them, as they are rounded by a square. All the fields, as well as their interactivity can be customised by GTI Tool. The configuration given in this manual is only an example.



#### Table 2-34: Fields Accesibles from FP Lists

Field	Mouse button	Action
Status Indicator	LB	Flight plan operation window display (see 2.3.1.1).
Status Indicator	LB	MTCD Conflict (see 2.3.1.2).
Status Indicator	LB	Synthetic track creation (see 2.3.1.3).
Status Indicator	LB	Synthetic track deletion (see 2.3.1.4).
C/S	LB	Callsign Menu (see 2.1.2.9).
SECTOR ENTRY/ EXIT	LB/ RB	Graphical route display (see 2.1.6.1.1).
Coordination Field	RB	Display the Coordination Window (see 2.3.4).

# 2.3.1.1 Action: Flight Plan Operation Window display => {FP List => Status Indicator => [FP ACTION]}

Application: Perform this procedure to display Flight plan template from a Flight plan list.

ACTION	RESULT
Open a Flight Plan list (Executive, Planner, Arrivals, Departures) and LB click in "Status indicator" field.	
	FPL Menu is displayed.
	F • R0 DEPKK2 F • R0 DOMEST1 F • R0 KKWAR • OUTBOUL FPL × ITBOU2 FPL × ITBOU2 ARKK CONFLICT SYNTH TRACKS CREATE DELETE
LB click in [FP ACTION] button.	
	Flight plan template is displayed, containing selected flight data.



# 2.3.1.2 Action: MTCD Conflict Window Display => {FP List => Status Indicator => [CONFLICT]}

**Application:** Perform this procedure to display, from a Flight Plan list, MTCD Conflicts Window, that display MTCD conflicts for selected flight plan.

ACTION	RESULT
Open a Flight Plan list (Executive, Planner, Arrivals, Departures) and LB click in "Status indicator" field.	
	FPL Menu is displayed.
	F RO DEPKK2 MC DOMEST1 DOMEST2 F RO KKWAR F RO KKWAR FPL X JTBOU2 ARKK CONFLICT SYNTH TRACKS CREATE DELETE
LB click in [CONFLICT] button.	
	MTCD conflict window is displayed, with data about the MTCD conflicts the flight plan is involved in.
	$ \begin{array}{c} 8 \\ 4 \\ 6 \\ 5 \\ 5 \\ 10 \\ \hline 15 \\ \hline 20 \\ 25 \\ 3 \\ \hline \hline CANCEL \end{array} $



## 2.3.1.3 Action: Synthetic Track Creation => {FP List => Status Indicator => [CREATE]}

**Application:** Perform this procedure to create a synthetic track from a flight plan included in a flight plan list.

ACTION	RESULT
Open a Flight Plan list (Executive, Planner, Arrivals, Departures) and LB click in "Status indicator" field.	
	FPL Menu is displayed.
	F RO DEPKK2 F MC DOMEST1 F RO DOMEST2 F RO KKWAR FPL X JTBOU1 FPL X JTBOU2 FPACTION CONFLICT SYNTH TRACKS - CREATE DELETE
LB click in [CREATE] option, located in SYNTH. TRACKS square.	
	If flight plan complies all requirements to create a synthetic track, it is created.
	SYNTH01 210 DC10H MARIA

### 2.3.1.4 Action: Synthetic Track Deletion => {FP List => Status Indicator => [DELETE]}

**Application:** Perform this procedure to delete a synthetic track from a flight plan included in a flight plan list. The track deletion means no modification in the Flight Plan. It is just a graphical representation deletion.

ACTION	RESULT
Open a Flight Plan list (Executive, Planner, Arrivals, Departures) and LB click in "Status indicator" field.	
	FPL Menu is displayed.



ACTION	RESULT
	F RO DEPKK2 MC DOMEST1 F RO DOMEST2 RO KKWAR FPL X JTBOU1 FP ACTION CONFLICT SYNTH TRACKS - CREATE DELETE
For a Synthetic track, LB click in [DELETE] option, located in SYNTH. TRACKS square.	
	Synthetic track is removed from the system.



## 2.3.2 FP List [EXECUTIVE] Icon

Click on the [EXECUTIVE] icon to display the FP List including all FPs crossing the operational sector. The icon changes to **GREY** when being selected.

	EXE	CUTIVE		Ч X
D OET OEP OEF OEM OES SECTOR ENTRY	PEL WARN C/S AFL CFL	SSR ATYP R RV EOBT CTOT ADEP ADES RF	L ECL SECTOR EXIT XFL OX	OXP
5 • 0010 SUI 330 ACT 0010 SUI 33	DLH001 330	1330 B744 I EQ 2345 EDDF VSSS 33	3 330 0051 330 00	60 BOKSU



Executive List includes all active assumed FPs.

Flight Plans will be removed from Executive List when the FP is no longer assumed by the Operational Sector (it is controlled by any other Operational Sector, it is transferred by a hand-over, or the FP becomes Terminated).

There are two ways to display the list: short and extended. To get the list in the short mode, RB click on the title's row to display the configuration window and select (SHORT) or (EXTENDED).

Executive List can be sorted by every field, clicking on field's name, flight plans will be sorted by this field. Second and third sorting criteria are also defined by configuration menu.

Lists are user-configurable, so lists in this manual are examplary, and can differ from the real system configuration. See GTI User Manual for further information.

The FP List displays following information:

Element	Description
Status Indicator	C (Correlated FP) - (Non-correlated FP) L (Lost FP) H (Holding FP) F (FP in Conflict) A (Correlation Ambiguity) S (Synthetic Track)
D	Displays a coloured circle for: <ul> <li>Even Flight Level: Green</li> <li>Odd Flight Level: Yellow.</li> </ul>

Table 2-35: Executive List. Element Information



OEP	Coordination Entry Point		
OEF	Coordination Entry Flight Level		
OEM	Coordination Status		
OES	Communication Status		
SECTOR ENTRY	Contains data about the entry in the sector, including:		
	- Time of entry in the sector		
	- Fixpoint for entry in the sector. If no fixpoint, it is filled with ''.		
	- Level of entry in the sector.		
PEL	Planned Entry Level		
WARN	Displays the warnings in the flight.		
C/S	Aircraft Indicator		
AFL	Actual Flight Level		
CFL	Current Flight Level		
SSR	SSR Code		
ATYP	Aircraft Type		
R	Flight Rules		
RV	RVSM equipped/Not equipped		
	$EQ \rightarrow Equipped$		
	" " (Blank) → Non-Equipped		
EOBT	Estimated Off-Block Time.		
СТОТ	Calculated Take-Off Time		
ADEP	Departure Aerodrome.		
ADES	Destination Aerodrome		
RFL	Requested Flight Level		
ECL	En-Route Cruising Level		



SECTOR EXIT	Contains data about the exiting of the sector, including: - Time for exiting the sector - Fixpoint for exit the sector. If no fixpoint, it is filled with ''. - Level of exit in the sector.		
XFL	Exit Flight Level		
ОХТ	Coordination Entry Time		
ОХР	Coordination Entry Point		
OXF	Coordination Entry Flight Level		
ТА	Time to Send ACT		
S	Sortie		
EXA	Exercise Area		
OFL	Coordinated FL with ADCU		
ADCU	Air Defence Controlling Unit		
MFREQ	Frequency of ADCU		
FREE TEXT	FP Free Test Field (included in flight plan Free text field)		
Counter	It displays the number of FPs included in the upper/lower list.		



#### 2.3.3 Planner FP List [PLANNER] Icon

Click on [PLANNER] icon to display the Planner list. The icon changes to GREY when being selected.

Planner List includes:

- Assumed flights;
- Pre-inbound active flights, only when it will be assumed by the Operational sector in a VSP time (FP List Presentation Time) or the Operational Sector is the first internal one that will control the flight.;
- Pre-inbound notified flights, only when the Operational Sector is the first internal one that will control the flight.

When the Active FP in Planner List is not assumed by any sector, it will be deleted in each postion a VSP time after it leaves the Operational sector.

There are two ways to display the list: short and extended. To get the list in the short mode, RB click on the title's row to display the configuration window and select (SHORT) or (EXTENDED).

FP Planner List can be sorted by every field, clicking on field's name, flight plans will be sorted by this field. Second and third sorting criteria are also defined by configuration menu.

Lists are user-configurable, so lists in this manual are examplary, and can differ from the real system configuration. See GTI User Manual for further information.

		PLANNER	•. ×
D SECTOR ENTRY PEL WA	ARN C/S AFL CFL	SSR ATYP R RV EOBT CTOT ADEP ADES RFL ECL SECTOR EXIT XFL OFL ADCU	FREE TEXT
- 0010 350 350	AFR001 000	1331 B773 I EQ 2345 LFPG UAAA 390 390 0035 350	X
– 0010 EPDE	SPHOJ 000	0033 AN26 I NO 0010 EPDE EPWA 050 0049	
- 0010 RUDKA 220 220	GNX5358 000	4502 AN26 I NO 2345 UMMS LKPR 220 220 0143 220	
- 0010 SUI 330 330	DLH001 000	1330 B744 I EQ 2345 EDDF VSSS 330 330 0051 330	
- 0011 SUI 290 290	AFL001 000	1340 A319 I EQ 2345 EDDB UUEE 290 290 0056 290	
- 0012 SUI 280 280	AFL002 000	1341 A319 I EQ 2345 EDDB UUEE 280 280 0057 280	
- 0014 GORAT 400 400	SVW23QJ 000	4503 B737 I EQ 2345 UUWW LFMN 400 400 0059 400	
- 0015 370 370	ETD150 000	1337 A343 I EQ 2345 KORD OMAA 370 370 0110 370	
<ul> <li>0016 LENOV 380 380</li> </ul>	QTR053 000	4501 A319 I EQ 2345 OTBD EDDT 380 380 0056 180 180	
- 0017 350 350	UAE226 000	1335 B773 I EQ 2345 KSFO OMDB 350 350 0111 350	
<ul> <li>0018 LAGAR 370 370</li> </ul>	DLH3208 000	1336 B737 I EQ 2345 EDDM UUEE 370 370 0104 370	
<ul> <li>0031 LAGAR 370 370</li> </ul>	LOT412 000	3103 E145 I EQ 2345 LSZH EPWA 370 370 0114 020	
- 0033 350 350	QTR052 000	1333 B773 I EQ 2345 KIAD OTBD 350 350 0127 350	
- 0035 SUI 370 370	N1129E 000	3102 C560 I EQ 2345 EDLN EPWA 370 370 0118 020	
- 0036 390 390	UAE242 000	1332 A342 I EQ 2345 CYYZ OMDB 390 390 0131 390	$\nabla$





Element	Description
Status Indicator	C (Correlated FP) - (Non-correlated FP) L (Lost FP)



	H (Holding FP)		
	F (FP in Conflict)		
	A (Correlation Ambiguity)		
	S (Synthetic Track)		
D	Displays a coloured circle for:		
	- Even Flight Level: Green		
	- Odd Flight Level: Yellow.		
OET	Coordination Entry Time		
OEP	Coordination Entry Point		
OEF	Coordination Entry Flight Level		
ОЕМ	Coordination Status		
OES	Communication Status		
SECTOR ENTRY	Contains data about the entry in the sector, including:		
	- Time of entry in the sector		
	- Fixpoint for entry in the sector. If no fixpoint, it is filled with ''.		
	- Level of entry in the sector.		
PEL	Planned Entry Level		
WARN	Displays the warnings in the flight.		
C/S	Aircraft Indicator		
C/S AFL	Aircraft Indicator Actual Flight Level		
C/S AFL CFL	Aircraft Indicator       Actual Flight Level       Current Flight Level		
C/S AFL CFL SSR	Aircraft Indicator       Actual Flight Level       Current Flight Level       SSR Code		
C/S AFL CFL SSR ATYP	Aircraft Indicator         Actual Flight Level         Current Flight Level         SSR Code         Aircraft Type		
C/S AFL CFL SSR ATYP R	Aircraft Indicator         Actual Flight Level         Current Flight Level         SSR Code         Aircraft Type         Flight Rules		
C/S AFL CFL SSR ATYP R RV	Aircraft Indicator         Actual Flight Level         Current Flight Level         SSR Code         Aircraft Type         Flight Rules         RVSM equipped/Not equipped		
C/S AFL CFL SSR ATYP R RV	Aircraft Indicator         Actual Flight Level         Current Flight Level         SSR Code         Aircraft Type         Flight Rules         RVSM equipped/Not equipped         EQ → Equipped		



	" " (Blank) → Non-Equipped
EOBT	Estimated Off-Block Time.
стот	Calculated Take-Off Time
ADEP	Departure Aerodrome.
ADES	Destination Aerodrome
RFL	Requested Flight Level
ECL	En-Route Cruising Level
SECTOR EXIT	Contains data about the exiting of the sector, including:
	- Time for exiting the sector
	- Fixpoint for exiting the sector. If no fixpoint, it is filled with ''.
XFL	Exit Flight Level
ОХТ	Coordination Entry Time
ОХР	Coordination Entry Point
OXF	Coordination Entry Flight Level
ТА	Time to Send ACT
S	Sortie
EXA	Exercise Area
OFL	Coordinated FL with ADCU
ADCU	Air Defence Controlling Unit
MFREQ	Frequency of ADCU
FREE TEXT	FP Free Test Field (included in flight plan Free text field)
Counter	It displays the number of FPs included in the upper/lower list.

The Callsign background is remarked when selecting the FP. If there is any conflict the FP first field turns to **RED**.





The FP List includes scroll bars when the number of FPs exceeds the window size.

## 2.3.4 Coordination Window

RB click on the Coordination Field of EXECUTIVE, PLANNER, COORD IN or COORD OUT will display the Coordination Window, that allows Entry/ Exit Coordination. By means of this window, a coordination message is manually send to external centers both entry and exit.

Coordination window can be both AFTN or OLDI, depending the coordination type between the centers, and can be both entry or exit. Each window includes the data and available coordination messages depending on the AFTN/ OLDI type, and the current coordination phase.

COORDINATION	×	
CALLSIGN ADEP ADEST EOBD EC LOT4433 EPGD EGGL 090629 13	) <b>вт</b> 332	
Exit After Coordination DataCOPETOTFLFREQČGOMEDŽ1342F180		
♦ CRIN ♦ AGP ♦ EST ♦ COOR		
SEND		

Figure 2-90: AF

AFTN Coordination Window

	co	ORDINAT	ION	×
CALLSI ARROC	GN ADEP )1 LEME	Adest EPWA	EOBD 091104	EOBT
Entry O	ldi Coordinatio COP R	m Data / CO ETO 0010 F	TFL 7240	FREQ
♦ MAN ♦ 38032	♦ G.ADI ♦ MAS	♦ SLAGT ♦ CDN	¢cof ¢ac₽	<b>◆ROF</b> ◆RJC
	SEND		CANCEL	]
	Figure 2-91:	OLDI Co	ordination Wind	low



	Table 2-37:     Coordination Window	
FIELD	DESCRIPTION	
CALLSIGN	Aircraft Identification	
ADEP	Departure Aerodrome	
ADEST	Destination Aerodrome	
EOBD	Estimated Off-Block Date	
EOBT	Estimated Off-Block Time	
СОР	Coordination Fixpoint	
ЕТО	Estimated Time Over Fixpoint	
TFL	Transfer Flight Level	
FREQ	Frequency	
MAN	Manual coordination (Not available for AFTN)	
НОР	Handover proposal (Not available for AFTN)	
G .ABI	ABI Coordination Message (Not available for AFTN)	
MAS	Manual Assumption (Not available for AFTN)	
G .ACT	ACT Coordination Message (Not available for AFTN)	
CDN	Coordination message	
COF	Change of frequency (Not available for AFTN)	
ACP	Acceptance message	
ROF	Request on frequency	
RJC	Rejection	
EST	Estimation	
COOR	Coordination dialogue establishment	
ICON	DESCRIPTION	



FIELD	DESCRIPTION
SEND	Coordination message sending
CANCEL	Cancel the coordination message process

### 2.3.5 [TWR] lcon

This window is only available in SDD that controls the tower approach position.

Tower List includes the departure flights related to strips which departure aerodrome match with one of the aerodromes included in the list and are included in EFS position in any zone in Ground and Tower roles, which are:

Ground Position:

- **Pre-Taxi Zone** is the area defined below the "Taxi" separation line, and includes the strips sent from the pending list.
- **Taxi Zone** is the area defined above the "Taxi" separation line and below the "Runway" line, and includes the strips sent from the tower position.

TWR position:

- Departures will first appear in Taxi Zone (the bottom area of the list, above the "Taxi line").
- **Runway Zone** is the area defined between the "Runway line" and the "Taxi line" separation lines, and includes the strips sent from the ground position.
- Airborne Zone is the upper area (below the "Airborne line" separation line), and includes the strips that are still airborne (approaching aircraft and that which received a "clear to land" clearance).

This window does not allow controller interaction.

Controller can set the fields to be displayed in Tower list among a predefined set of fields, that can be also adjusted.

Lists are user-configurable, so lists in this manual are examplary, and can differ from the real system configuration. See GTI User Manual for further information.



		٦	FOWER		•.	×
ADEP	C/S	RWY	SID	LEVEL	HDG	1
EPDE	SPHOJ	29	LIMVI			

Figure 2-92: Tower List

Table 2-38: Tower FP List

FIELD	DESCRIPTION		
	C (Correlated FP)		
	- (Non-correlated FP)		
	L (Lost FP)		
Status Indicator	H (Holding FP)		
	F (FP in Conflict)		
	A (Correlation Ambiguity)		
	S (Synthetic Track)		
ADEP	Departure Aerodrome		
R	Flight Rules		
C/S	Aircraft Identification		
АТҮР	Aircraft Type		
EOBT	Estimated Off-Block Time.		
СТОТ	Calculated take-off time		
ATD	Actual Time of Departure		
ADES	Destination Aerodrome		
RWY	Runway		
SID	Standard Instrument Departure		
LEVEL	Flight Level		
HDG	Heading		
STUP	Start-up time		



FIELD	DESCRIPTION					
РВСК	Push-back time					
<number></number>	Number of FPs included in the list.					

#### 2.3.6 Arrival FP List [ARR] Icon

The Arrival FP List includes all Arrival Flight Plans in "active" status which are included in Planner list and that will arrive in a VSP time. It will also include all active domestic flights included in planner list.

Arrival FP list will also include notified domestic flights that will be controlled by the Operational sector at any time.

The Configuration Window for Arrival List includes the Airports filter, that will only display the flights that fulfil the Arrival List conditions, and are also related to an airport selected in this filter.

													ARRIVAL	S										4	X
	SQ C/S	ATYP R	SSR	ADEP	SECTOR	ENTR'	Y	STAR	AFL	CFL	ADES	OEP	08	ET (	OEF	OEM	OES	S EXA	OFL	ADCU	MFRE	Q FREE T	IEXT		
-	L0T3946	AT45 I	0035	EPWA	0019				000		EPWR														
-	SPHOJ	AN26 I	0033	EPDE	0010 EP	DE		LIMVI1U	000		EPNA														

Figure 2-93: Arrival FP List

There are two ways to display the list: short and extended. To get the list in the short mode, RB click on the title's row to display the configuration window and select (SHORT) or (EXTENDED).

Arrival List can be sorted by every field, clicking on field's name, flight plans will be sorted by this field. Second and third sorting criteria are also defined by configuration menu.

Lists are user-configurable, so lists in this manual are examplary, and can differ from the real system configuration. See GTI User Manual for further information.

Table 2-39:	Arrival FP List

FIELD	DESCRIPTION
Status Indicator	C (Correlated FP) - (Non-correlated FP) L (Lost FP) H (Holding FP) F (FP in Conflict)



FIELD	DESCRIPTION						
	A (Correlation Ambiguity)						
	S (Synthetic Track)						
SQ	Sequence number						
C/S	Aircraft Identification						
АТҮР	Aircraft Type						
R	Flight Rules						
SSR	SSR Code						
ADEP	Departure Aerodrome						
	Contains data about the entry in the sector, including:						
SECTOD ENTDY	- Time of entry in the sector						
SECTOR ENTRY	- Fixpoint for entry in the sector. If no fixpoint, it is filled with ''.						
	- Level of entry in the sector.						
STAR	Standard Instrument Arrival Route						
AFL	Actual Flight Level						
CFL	Current Flight Level						
ADES	Destination Aerodrome						
OEP	Coordination Entry Time						
OET	Coordination Entry Point						
OEF	Coordination Entry Flight Level						
OES	Coordination Status						
OEM	Communication Status						
S	Sortie						
EXA	Exercise Area						
OFL	Coordinated FL with ADCU						



FIELD	DESCRIPTION
ADCU	Air Defence Controlling Unit
MFREQ	Frequency of ADCU
FREE TEXT	Free Text Information
<number></number>	Number of FPs included in the list.



## 2.3.7 Departure FP List [DEP] Icon

The Departure FP List includes all FPs to take off from an airport within one of the position operational sector. The list shows the flights, which are going to take off or have already taken off but are still within our operational sector.

The Departure FP List has two sections:

- First List Area (upper): It includes all assumed departure flights.
- Second List Area (lower): It includes the following flights:
  - o Domestic Notified Flights, that will be controlled by the Operational Sector at any time;
  - o Domestic Active Flights, that are included in Planner list;
  - Departure Notified Flights, that will be controlled by the Operational Sector at any time;
  - Departure Active Flights, that are included in Planner list and that are assumed by the departure Operational sector;
  - Departure Active Flights, that are not assumed by any Operational Sector and they are in the departure Operational Sector, or in VSP time after having leaved it.

The Configuration Window for Departure List includes the Airports filter, that will only display the flights that fulfil the Departure List conditions, and are also related to an airport selected in this filter.

There are two ways to display the list: short and extended. To get the list in the short mode, RB click on the title's row to display the configuration window and select (SHORT) or (EXTENDED).

Departure List can be sorted by every field, clicking on field's name, flight plans will be sorted by this field. Second and third sorting criteria are also defined by configuration menu.

Lists are user-configurable, so lists in this manual are examplary, and can differ from the real system configuration. See GTI User Manual for further information.

							DE	PART	URES									Ч	x
	C/S	ATYP R SSR	ADEP EOBT	CTOT SID	ADES	AFL CFL	SECTOR EXIT	ECL	OXP	OXT	OXF	OXM	OXS ATD	S EXA	OFL	ADCU	MFR	EQ	0
L																			
	C/S	ATYP R SSR	ADEP EOBT	CTOT SID	ADES	AFL CFL	SECTOR EXIT	ECL	OXP	OXT	OXF	OXM	OXS ATD	S EXA	OFL	ADCU	MFR	EQ	2
ŀ	SPHOJ	AN26 I 0033	EPDE 0010	LINV	I EPWA	000	0049												
-	LOT3946	AT45 I 0035	EPWA 0018	LDZ	EPWR		0054												

Figure 2-94: Departure FP List



Table 2-40:

Departure FP List

FIELD	DESCRIPTION						
	C (Correlated FP)						
	- (Non-correlated FP)						
	L (Lost FP)						
Status Indicator	H (Holding FP)						
	F (FP in Conflict)						
	A (Correlation Ambiguity)						
	S (Synthetic Track)						
C/S	Aircraft Identification						
АТҮР	Aircraft Type						
R	Flight Rules						
SSR	SSR Code						
ADEP	Departure Aerodrome						
FORT	Estimated Off-Block Time						
	It may include "C", which means the CTOT indication reception.						
СТОТ	Calculated take-off time						
SID	Standard Instrument Departure						
ADES	Destination Aerodrome						
AFL	Actual Flight Level						
CFL	Current Flight Level						
	Contains data about the exiting of the sector, including:						
	- Time for exiting the sector						
	- Fixpoint for exit the sector. If no fixpoint, it is filled with ''.						
	- Level of exit in the sector.						
ECL	En-Route Cruising Level						
ОХР	Coordination Entry Time						



FIELD	DESCRIPTION
ОХТ	Coordination Entry Point
OXF	Coordination Entry Flight Level
ОХМ	Coordination Status
OXS	Communication Status
ATD	Actual Time of Departure
S	Sortie
EXA	Exercise Area
OFL	Coordinated FL with ADCU
ADCU	Air Defence Controlling Unit
MFREQ	Frequency of ADCU
FREE TEXT	Free Text Information
<number></number>	Number of FPs included in the list (upper/lower).



#### 2.3.8 [CPDLC] lcon

Clicking in [CPDLC] icon, CPDLC message visualization window is displayed, which shows the message exchange between the flight and the controller.

CPDLC message visualization window has those areas:

- Uplink messages area: sent by controller to aircraft.
- Downlink messages area: sent by aircraft to controller.

			С	PDLC MESSAGES	×
C∕S	UAL	RE	HOUR	TEXT UPLINK	
-DEPKK1	NA	₩∕U	13:19:12	INCREASE SPEED TO 400 TAS OR GREATER	
-DEPKK1	ΝÂ	R	13:19:20	REPORT PASSING SKVI	
-DEPKK2	ΝÂ	NE	13:19:30	CONFIRM SPEED	
-DEPKK2	ΝÂ	R	13:20:05	RADAR CONTACT LOST	$\nabla$
C/S	UAL	RE	HOUR	TEXT DOWLINK	
-DEPKK1	NM	Ν	13:19:19	WILCO	
-DEPKK1	ΝM	Ν	13:19:27	ROGER	
-DEPKK2	ΝM	Ν	13:19:37	PRESENT SPEED 220 TAS	
-DEPKK2	NM	Ν	13:20:12	ROGER	$\nabla$

Figure 2-95: CPDLC messages visualization window

There are two ways to display the list: short and extended. To get the list in the short mode, RB click on the title's row to display the configuration window and select (SHORT) or (EXTENDED).

Departure List can be sorted by every field, clicking on field's name, flight plans will be sorted by this field. Second and third sorting criteria are also defined by configuration menu.

Lists are user-configurable, so lists in this manual are examplary, and can differ from the real system configuration. See GTI User Manual for further information.

Both areas present the following information:

Element	Description	Valid Data
(Status Indicator)	CPDLC Connection Status.	- : Connected; P : Pending; E : Connection timeout.
CALLSIGN	Flight identification	2 to 7 alphanumeric characters



Element	Description	Valid Data
U	Message attribute (Emergency) Defines the relationship between messages when it is queued in operator queue.	D: Distress U: Urgent N: Normal L: Low
AL	Message attribute (Alert) Defines the alert type to controller over received message.	<ul> <li>UPLINK:</li> <li>A/D: Sound and visual alarm unique for message presence</li> <li>A: Sound and visual alarm for message presence</li> <li>V: Visual indication in a secondary level or acoustic and visual indication for message presence</li> <li>N: No alert required</li> <li>DOWNLINK: <ul> <li>H: High</li> <li>M: Medium</li> <li>L: Low</li> </ul> </li> </ul>
RE	Message attribute (Answer) Defines the requirements of the answer of the controller to an element of the message.	UPLINK: W/U: Wilco, Unable, Standby A/N: Affirmative, Negative, Standby R: Roger, Standby NE: Wilco, Unable, Affirmative, Negative, Roger, Standby not enabled DOWNLINK: Y: Answer required N: Answer not required
HOUR	Hour of send/reception of the message.	HH:MM:SS



Element		Description	Valid Data
TEXT DOWNLINK)	(UPLINK/	Presents the CPDLC message received/sent.	

#### 2.3.8.1 CPDLC Messages

CPDLC application allow to communication services with a datalink. Services may include clearances, requests, reports and all kind of ATC information. It is also provided capacity to exchange information with non-predefined format (free text).

Sending a CPDLC message is the selection of a direction, selection of a message (manual or automatically), and quickly and efficiently message sent. When a message is received, it is displayed.

CPDLC message window allow exchange messages between pilot and controller by a datalink, reducing time lag and improving the integrity of communications.

LB clicking on CPDLC connection symbol of the label, the CPDLC message window is displayed, that allow connect, disconnect and CPDLC message sent.



Figure 2-96: CPDLC messages window

CPDLC message window has two main areas:

• List of CPDLC messages



CPDLC message list for its selection. Selection is done by clicking on the **BLUE** square at its left.

• Command Area

Command included in this area are in the following table:

Icon	Description
CON	CPDLC communication is established. When it is finished, label will include a 'l' symbol in "CPDLC" field. Once the flight responses, it is displayed a 'C' symbol at this field.
DESCON	Perform CPDLC communication desconnection.
AUTOMATIC	Automatic CPDLC message generation.
CANCEL	Cancel any action that may be performed in the window.
SEND	Allow CPDLC selected message sent.

The system displays CPDLC Status in flight lists and in track label (when the field is included), displaying the following status:

#### Table 2-43: CPDLC Status

Element	Description
Blank	No CPDLC Capacity
C	CPDLC Capacity. Inactive connection.
I	CPDLC Capacity. Starting connection.
С	CPDLC Capacity. Active connection.
f	CPDLC Capacity. Finishing connection.
F	CPDLC Capacity. Connection finished.
~	CPDLC Capacity. Inactive by time connection.



Element	Description	
!	CPDLC Capacity. Connection failure.	

#### 2.3.8.2 Action: Connect/ Disconnect CPDLC

**Application:** This function recognises for each flight which applications (ADS, CPDLC) does it support and it init the service.

This action may be performed from [EXECUTIVE] or from [PLANNER] list.

The connection is done:

LB click on "CPDLC connection" symbol of the track label.

CPDLC message window is displayed:



Figure 2-97: CPDLC messages window - Connection

ACTION	RESULT
To connect, LB click over [CON] icon.	
Afterwards, the label will display a 'l' symbol instead of a 'c' symbol in the second element of "CPDLC" field.	
After response, the field will display a 'C' symbol.	





### 2.3.8.3 Action: CPDLC message sent

**Application:** This action is performed selecting an address, a message (manual or automatically) and sending it. Sent and received messages are displayed in [CPDLC] window.

ACTION	RESULT	
After the display of the CPDLC message window.		
For sending a message, select one of the proposed ones. If it is necessary, select the height, velocity It can be performed:		



ACTION	RESULT	
Selecting one of proposed options by LB click in one of them		
• Enter a value in text field in the bottom of displayed menu		
• Writing the message in the last field of free text available.		
Finally LB click in [SEND] icon. Afterwards the window will be closed.		
CPDLC       FANS1       OP         ROGER       EXPEDITE         AFFIRM       EXPEDITE         NEGATIVE       PROCEED         STANDBY       INCREASE         MANTAIN       ALTITUDE         RESUME       OWN NAVIGATION         CONFIRM       PROCEED         CONFIRM       ALTITUDE         CONFIRM       REPORT         CONFIRM       PROTION         REQUEST       REQUEST         I       I	ERATION : SKA8822 × ALDB TO ALTITUDE HESCENT TO ALTITUDE RECT TO POSITION HEED TO SPEED OR GREATER HED TO SPEED OR LESS CK ON ROUTE STANCE OFFSET DIRECTION OF ROUTE SING POSITION K MICROPHONE FREQUENCY FFERRED FOMATIC CANCEL SEND	

## 2.3.8.4 Automatic CPDLC message window

When the system generate an automatic CPDLC message for the selected flight (RADAR CONTACT LOST, RADAR CONTACT [position], etc.), icon [AUTOMATIC] in CPDLC messages window is activated. LB clicking on this icon, automatic CPDLC message window is displayed.



CPDLC FANS1 OPERATION : DEP	×	
SUGGESTED ANSWEI	RS	
14 RADAR CONTACT 50 6.6N	1!	
18 RADAR CONTACT LOST		
25 RADAR CONTACT 50 6.4N	1!	
28 RADAR CONTACT LOST		
36 RADAR CONTACT 50 6.4N	1!	
40 RADAR CONTACT LOST		
120 RADAR CONTACT 50 2.9N	1!	
	Ы	
SELECTION		
]		
Send Close Delete		

Figure 2-98: Automatic CPDLC messages window

This window shows CPDLC automatic messages relative to a flight that were not both sent or discarded. LB clicking in a message, its content is displayed in 'SELECTION' field.

LB click on [Send] icon will send selected message and will close the CPDLC automatic messages window.

LB click on [Delete] icon will delete selected message.

LB click on [Close] icon will close the window.

### 2.3.8.5 Action: Automatic CPDLC message generation

Application: Automatic CPDLC messages management.

ACTIÓN	RESULT
After the display of the CPDLC message window.	



ACTIÓN	RESULT
When the system generates an automatic CPDLC message for a selected flight (RADAR CONTACT LOST, RADAR CONTACT [position], etc.), the [AUTOMATIC] icon in CPDLC message window is activated. LB click in this icon will display the automatic CPDLC message window.	CPDLC FANS1 OPERATION : DEPF × SUGGESTED ANSWERS 14 RADAR CONTACT 50 6.6N 1! 18 RADAR CONTACT LOST 25 RADAR CONTACT 50 6.4N 1! 28 RADAR CONTACT 50 6.4N 1! 40 RADAR CONTACT 50 6.4N 1! 40 RADAR CONTACT 50 2.9N 1! SELECTION ] Send Close Delete
Select one of available messages.	CPDLC FANS1 OPERATION : DEPF ×         SUGGESTED ANSWERS         14 RADAR CONTACT 50 6.6N 1!         18 RADAR CONTACT LOST         25 RADAR CONTACT 50 6.4N 1!         28 RADAR CONTACT LOST         36 RADAR CONTACT 50 6.4N 1!         40 RADAR CONTACT 50 2.9N 1!         SELECTION         ] 40 RADAR CONTACT LOST         Send       Close         Delete
	It is displayed in "Selection" field.
The action ends with one of the following actions:	
Click in [Send] icon	
	Selected message is sent and the automatic CPDLC message window is closed.



ACTIÓN	RESULT
Click in [Delete] icon	
	Selected message is deleted.
Click in [Close] icon	
	Automatic CPDLC message window is closed.

### 2.3.9 Icon [ADS AIR] ADS communication connection

Clicking in this icon, FP's with ADS window is displayed, and it includes the total of flights equipped with ADS.

AIRCRAF	
APS0004 PTV0003 ENT0003	
UHAOUUY	

Figure 2-99: FP with ADS window

#### 2.3.9.1 Display/ Edition of ADS contract

For tracks with flights with ADS capacity, the characteristics for ADS contracts can be displayed by window that is displayed with LB clicking over the ADS connection symbol in track label.

ADS	CALLSIGN: SKA8{ ×	
CONTRACTS: FANS1		
PERIODIC DEMAND EMERG EVENT		

Figure 2-100: ADS contracts window

Four contracts are able to be selected:

- Periodic  $\rightarrow$  Allow requesting the flight the information and periodicity for sending ADS reports.
- Demand  $\rightarrow$  Allow requesting the flight an unique ADS report with required data.



- Emerg → Initiated automatically or by a pilot request. If a periodic contract was active, it is suspended while the emergency mode is active. The event contract won't be affected by emergency contract. The information sent is: position, data, FOM and, optionally, the callsign and velocity vector.
- Event  $\rightarrow$  Allow to request an ADS report when an event occurs. Possible events are:
  - Vertical rate change.
  - Altitude range deviation.
  - Waypoint change.
  - Lateral deviation change.

For periodic, emergency or normal contract, the period of report reception (*reporting period*) in seconds (0 if no periodic contract is active), and groups in contract and the periodicity are displayed (modulus). To enter data in the fields of the periodic contract, the field must be selected (LB clicking in the name of the field icon), and writing the value inside the field.

The system displays ADS Status in flight lists and in track label (when the field is included), displaying the following status:

Element	Description
Blank	No ADS Capacity
а	ADS Capacity. Inactive connection.
I	ADS Capacity. Starting connection.
А	ADS Capacity. Active connection.
f	ADS Capacity. Finishing connection.
F	ADS Capacity. Connection finished.
~	ADS Capacity. Inactive by time connection.
ļ	ADS Capacity. Connection failure.

Table 2-44: ADS Status





ADS Reports are graphically displayed:

- By a triangle: for basic reports;
- By a rhombus: for extended reports.



Figure 2-101: Extended ADS Report

### 2.3.9.2 Action: Display/ Edition of ADS contract

**Application:** ADS contracts management (allows to display and edit periodic, in demand, emergency and by event contracts).

ACTIÓN	RESULT
LB click in [EXECUTIVE] icon. FP list is displayed.	
	SECTOR INBOUND LIST D AC WARN RV C/S SSR ATYP EDBT ADEP ADES RFL PEL SCENT SET F • Ac RAM SK48822 5011 DC10 1024 EPWA FEK 310 003 EPWA 100 F • Ac EQ LOT6533 1201 DC10 1020 EPSN EPWA 160 132 105 C • EQ SKA6655 2101 B735 1032 EPWA LEMD 220 003 EPWA 103
"AC" display the availability of ADS and CPDLC communications.	
LB click in the first letter to establish the ADS contract type.	
SECTOR INBOUND LIST Q AC WARN RV C/S SSR ATYP EOBT ADEP ADES RFL PEL SCENT SET AC RAM SKA8822 5011 DC10 1024 EPWA EPKK 310 003 EPWA 102 C AC EQ LOT6633 1201 DC10 1020 EPSN EPWA 160 132 105 C C EQ SKA6655 2101 B735 1032 EPWA LEMD 220 003 EPWA 103 Firstletter	
	The ADS contract window is displayed with the type of the contract to create.
	ADS CALLSIGN: SKA8{ ×
	CONTRACTS: FANS1
	PERIODIC DEMAND EMERG EVENT
	If the flight was in emergency status, the window is:



ACTIÓN	RESULT
	ADS CALLSIGN: SKA8{ ×
	CONTRACTS: FANS1
	PERIODIC DEMAND EMERG EVENT
	· <u>·</u> ··································
To select a periodic contract:	ADS CALLSIGN: SKA88 ×
LB click in [PERIODIC] icon. The window is displayed with respective	PERIODIC DEMAND EMERGE EVENT
fields to complete or modify the ADS contract.	REPORTING INTERVAL 60
	EARTH REFERENCE 1
	AIRFRAME ID
	AIR REFERENCE O
	AIRCRAFT INTENT O O
	EPER MIN -
	CANCELATIONS
	ALL
	DEFAULT SEND
l	






To select a under-demand contract: LB click in [DEMAND] icon. The window is displayed with respective Folde to complete or modify the ADS contract	
REPORTING INTERVAL FLIGHT ID PREDICTED ROUTE AIRFRAME ID AIR REFERENCE AIRCRAFT INTENT CANCELATION FLIGHT ID CLEAR RESET SEND	SKABB × ANS1 EFFR EVENT









Figure 2-102: Periodic ADS contract window

For event contract, events in current contract and its threshold values (when they are requested) are displayed.



ADS CAL	LSIGN: S	KA8822	×
CON	IRACTS: FAI	<b>i</b> S1	
PERIODIC DEMAND	emerq 🖪	ENT	
VERTICAL RATE	۰ ۱	T/MIN	
ALTITUDE RANGE	0	FT	
	0	FT	
LATERAL DEV	0.00000	NM	
AIR SPEED		MACH	
HEADING	DE	GR	
EPER	MIN 🗖		
WAYPOINT CHANGE			
CA	NCELATIONS		
ALL			
CLEAR	ET	NGE	
DEFAULT	SI	IND	

Figure 2-103: Event ADS contract window

The demand contract request is performed LB clicking in [DEMAND] icon. Optional fields to be included in demand contract are selected by LB clicking in associated icon.



ADS CALLSIGN	: ska88 ×
CONTRACTS:	FANS1
PERIODIC DEMAND	MERG
REPORTING INTERVAL	0
FLIGHT 1D	•
PREDICTED ROUTE	Ø
METEREOLOGICAL	0
EARTH REFERENCE	0
AIRFRAME ID	0
AIR REFERENCE	Q
AIRCRAFT INTENT	0
XIYEF.	MIN 🗖
CANCELATI	ONS
ALL	
CLEAR	
SEND	

Figure 2-104: Demand ADS contract window

To display the ADS contract characteristics, after the request, the window can be closed by LB clicking in the top right hand corner of the window ("X" symbol). This action implies exit without saving any action performed over this window.

#### Table 2-45: ADS Contract window. Fields

Field	Description
Reporting Interval	Time, in seconds, to receive reports. This field is mandatory.
Flight ID	Flight identificator
Predicted Route	Number of next points in flight route.
Earth Reference	Speed (Current true track, Ground speed, Vertical speed)



Field	Description
Meteorological	Meteorological data (Current wind speed, Wind direction, Temperature)
Airframe ID	Airframe identification ICAO 24 bit format
Air Reference	Current true heading, vertical speed and Mach number
Aircraft Intent	Aircraft intent in X minutes

Possible actions in this window over periodic and by event contracts. These actions are:

• Creation/ Modification of periodic or event contract:

A field of the contract can be selected/ deselected by LB click over it. To add/ modify the value of the field, the pointer must be over the edition box. To validate the modification, it is required to LB click over [SEND] icon.

• Cancelation of periodic contract:

If a periodic contract is active, it is possible to cancel the new contract request by LB clicking on [PERIODIC] icon in cancellation area (Cancellations).

• Cancelation of emergency contract:

If an emergency contract is established, it is possible to cancel the emergency by LB clicking in [EMERG] in cancellation area (Cancelations). Cancelling the emergency a periodic contract is kept with the same characteristics of emergency contract.

• Cancellation of event contract:

If the event contract is active, it is possible to cancel it by LB clicking in [EVENT] icon in cancellation area (Cancelations).

• Cancellation of all contracts:

It is possible to cancel every active contract (periodic and/ or by event), by LB click in [ALL] icon in cancellation area (Cancelations).

#### 2.3.10 VIEW [VIEW1], [VIEW2], [VIEW3] Icon

Use these icons to display/ close the Auxiliary Windows.

Three Auxiliary Windows provide additional displays to controllers.

The Auxiliary Window includes the General Information Area and SIT\_A graphical representation possibilities. The Controller may situate the window at any point within the map.





Figure 2-105: "View" Window

Click on the [VIEWX] icon and then select a specific point in the screen to display the Auxiliary Window.

Its behaviour is autonomous, that is, some actions performed within this window do not affect the SDD SIT\_A. Moreover, it includes an icon, which allows window resizing.

As shown in previous figure, the Auxiliary Window has two main areas:

#### 2.3.10.1 Command Area

Similar to the one of the SDD GENERAL INFORMATION AREA:

Table 2-46:Auxiliary Window. Elements

Element	Туре	Description
PRESENTATION RANGE	lcon	Display a menu to select the presentation range



Element	Туре	Description
FALT	lcon	Activate/ Inhibit the altitude filters for the SIT_A Auxiliary Window
LIMITS FILTER	lcon	Display a menu to select the altitude upper and lower filters to be modified
МАР	lcon	Display a menu to select maps to be displayed on the SDD position
EXP+	lcon	Increase the selected area display extension
EXP-	lcon	Decrease the selected area display extension
CEN	lcon	Centre the display
DCEN	lcon	De-centre the display
CSEL	lcon	Centres the display in selected track. The display remains centered in selected track until a display change, or RBL action, is performed in Auxiliary Window.

### 2.3.10.2 Display Area

This area displays the SDD map with the selected centre when opening the window. The options selected from the Command Area are within this area.

## 2.3.10.3 Action: Auxiliary Window Display => {[VIEWX]}

Application: Perform this procedure to use auxiliary windows to perform current different displays.

ACTION	RESULT
LB click in [VIEWX] icon in Main Menu Area (X is 1, 2 or 3).	
	The mouse pointer turns into a YELLOW cross when it is moved by SIT area.
LB click in a point in SIT area.	
	Auxiliary window is displayed, centred in selected point.





### 2.3.10.4 Action: Center Auxiliary Window in Selected Track => {[CSEL]}

Application: Perform this procedure to set a track as the center of the auxiliary window.

ACTION	RESULT
LB click in [VIEWX] icon in Main Menu Area (X is 1, 2 or 3).	
	The mouse pointer turns into a YELLOW cross when it is moved by SIT area.
LB click in a point in SIT area.	
	Auxiliary window is displayed, centred in selected point.











### 2.3.11 Local Maps Generation Tool [LMG] Icon

By clicking on the [LMG] icon, the tool for generating local maps is activated or inhibited. The tool activation/inhibition may be also toggle by pressing <Alt> + <G>.

#### 2.3.11.1 "LMG Control Panel" Window

The [LMG] icon allows the activation/inhibition of the Local Map Generation Tool. When clicking on the icon, the "LMG Control Panel" window is displayed/closed.

LOCA	L MAP	GENER.	ATION	×
$\bigcirc \bigcirc$	<b>#</b>	X	$\overline{\mathbb{X}}$	
🛛 АВСВ		$\square$		
SEL CLR				
ACCEPT	CANCE	L		
LOAD	SAVE	1	DELET	ГЕ

Figure 2-106: "LMG Control Panel" Window

The "LMG Control Panel" window consists of the following main areas:

- Primitive Graphic Type Area
- Edition Area
- Command Area

#### 2.3.11.2 Primitive Graphic Type Area

This area is composed of icons that represent the different graphics to be drawn:

- <u>Circumference</u>. It requires central point and radius.
- <u>Circle</u>. It requires central point and radius.
- Filled Polygons. It requires, at least, three vertices not crossing each other.



- Polylines. It requires, at least, three vertices not crossing each other.
- <u>Vectors</u>. It requires two points.
- <u>ATC Symbols</u>. It requires selecting the symbol and position.
- <u>Text</u>. It requires introducing the text within the edition area.
- <u>Arcs</u>. It requires two points.
- <u>Sectors</u>. It requires central point and arc points.
- <u>Filled Sectors</u>. It requires central point and arc points.

#### 2.3.11.3 Edition Area

The edition area is only used to enter the data when the selected primitive graphic is text. To enter any other primitive graphic, following <key> + mouse button actions are carried out:

Ctrl + LB	Select the geographic position (centre, radius, first point, etc)
Ctrl + CB	Cancel the last primitive graphic edition
Ctrl + RB	Accept the primitive graphic

#### 2.3.11.4 Command Area

Following icons are included in this area:

#### Table 2-47: "LMG Control Panel" Window. Command Area

lcon	Meaning
SEL	Selected
CLR	Delete the shape
COLOR	Colour of the shape
ACCEPT	Trigger the creation action of the primitive graphic.
CANCEL	Reject the last action and start again the drawn map from the last step.
LOAD	Recover a local map stored into disk.



lcon	Meaning
SAVE	Save the current local map into disk (changes made on local map are saved).
DELETE	Delete current local map display (local map to be generated starts from zero).

# 2.3.11.5 Action: Local Maps Generation => {[LMG]}

Application: Perform this procedure to allow the Local Maps Generation.

ACTION	RESULT
LB click on the [LMG] icon to activate the Local Maps Generation tool.	
NOTE: This action can be also initiated by pressing the <alt> + <g> keys.</g></alt>	
	The "LMG Control Panel" window is displayed.
	LOCAL MAP GENERATION ×
	ABCB ABCB ABCB ABCB ACCEPT CANCEL LOAD SAVE DELETE
Select the type of primitive graphic by clicking on the corresponding icon of the "LMG Control Panel" window.	
	Text is displayed on the control panel to indicate the next action to be performed depending on the selected primitive graphic.
If the primitive graphic is a text, input data by means of the keyboard, and confirm with Enter key.	
If the primitive graphic is a figure, the following mouse actions are carried out:	



ACTION	RESULT
Crtl + LB: selects a geographic position (centre, radius, first point, etc).	
	LOCAL HAP GENERATION RECEIPT CAMPUSE RECEIPT CAMPUSE RAVE DELETE
Move the cursor, without releasing the LB, in order to size the primitive graphic.	
Crtl + CB: cancels the last primitive graphic edition (before being accepted). All steps may be cancelled successively.	
It is also possible to cancel the primitive graphic by clicking on the [CANCEL] icon of the "LMG Control Panel".	
Crtl + RB: accepts the primitive graphics, which then form part of the LMG map.	
It is also possible to accept the primitive graphic by clicking on the [ACCEPT] icon of the "LMG Control Panel" window.	



ΔΩΤΙΩΝ	PESIII T
	RESULT
Once the primitive graphic is accepted, click on the [SAVE] icon at the bottom of the control panel to save it.	
	A pull-down menu is displayed with the available option names.
Click on the [LOAD] icon, at the bottom of the "LMG Control Panel" window to load the primitive graphic.	
	A pull-down menu is displayed with available option names.
Click on the [DELETE] icon.	
	To erase the already created primitive graphic.
Click again on the [LMG] icon.	
	The "LMG Control Panel" window is closed. If the new graphic has not been activated, the creation action is cancelled.



### 2.3.12 [RINGS] Icon

The [RINGS] icon is used to activate or inhibit the display of range rings.

RINGS
-------

#### Figure 2-107: [RINGS] Icon

Range rings is a set of ten (10) concentric circles which radius are differenced in 5 NM among them. The biggest ring is surrounded by the angle value, measured clockwise beginning in (Y, 0) coordinate.



Figure 2-108: Range Rings Display



## 2.3.12.1 Action: Activation/ Inhibition of Range Rings => {[RINGS]}

**Application:** This functionality is used to display ten concentric rings, which radius differences are fixed (5 NM), to measure distances in SIT Area.

ACTION	RESULT
LB click on the [RINGS] icon to activate the Range Rings display.	
	If a previous range rings action was performed, range rings are displayed in previous selected position.
	Mouse pointer changes to a YELLOW cross mark.
	+
LB click in a position in SIT area.	
	Range rings are displayed, centred in selected position.
	$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} $
LB click on the [RINGS] icon to inhibit the Range Rings display.	
	Range rings are inhibited to display.



### 2.3.13 [RTE OFF] lcon

By clicking on the [RTE OFF] icon, all FP routes which are displayed on the screen, are deleted.



Figure 2-109: [RTE OFF] Icon

### 2.3.13.1 Action: Routes Display Cancel => {[RTE OFF]}

Application: Perform this procedure to cancel all graphical route display.

ACTION	RESULT
LB click on the [RTE OFF] button of the Main Menu Area	
RTE OFF	
	All graphical route displays are cancelled.

### 2.3.14 Range Bearing Lines [RBL OFF] Icon

The [RBL OFF] icon is used to delete the display of all the active RBLs in the screen.

### RBL OFF

Figure 2-110: [RBL OFF] Icon

### 2.3.14.1 Action: Remove RBLs

Application: Perform this procedure to remove all active RBLs from the SDD SIT Area.

ACTION	RESULT
LB click on the [RBL OFF] button of the Main Menu Area	
	All active RBLs are removed from the screen. Following figure shows the removing action; first window displays the screen including all the RBLs; and second window displays the screen without the RBLs.





## 2.3.15 Label Orientation [ORI OFF] Icon

By clicking on the [ORI OFF] icon, the track labels with manually selected position, return to their default position.

### ORI OFF

Figure 2-111: [ORI OFF] Icon

### 2.3.15.1 Action: Total Tracks Label Orientation => {[ORI OFF]}

Application: Perform this procedure to bring all tracks labels back to their default position.

ACTION	RESULT
LB click on the [ORI OFF] button of the Main Menu Area.	
	All track labels with manually selected position return to the default one.



### 2.3.16 Tracks Display Configuration [DATBLK] Icon

Click on this icon to display the Track Display Configuration Window.

Use this window to configure the different aspects in relation to the tracks displayed in the SIT\_A.

DATBLK

Figure 2-112:	[DATBLK] Icon
DATA BLOCK	CONFIGURAT: $\times$
LABEL SIZE	M
VELOCITY VECT	COR 3
ROLE	ACC ==
HISTORY	10 🗡
LIST FONT	M FF
DELAY HANDOVE	R 10 👗
STRETCHING FA	CTOR 40%
REP NUMB	3
ROUTE FONT	M ==
CROUTE MARKS	; ; 008 ∑ NM □ 010 ∑ MIN
LABEL ORIENTA	x 4 x 110N
NUMBER OF LIN	TES 2 ==
RBL TIME	T





 Table 2-48:
 Track Display Configuration Window. Icons Description

lcon	Description
LABEL SIZE	Present a menu with three different sizes for track label symbols and characters. The available options are:
	"S" $\rightarrow$ Small
	"M" → Medium
	"L" → Large
VELOCITY VECTOR	Click on the arrow-buttons, the number increases or decreases in 1 unit. The vector lenght steps are 1 minute with a maximum of 15 and a minimum of 1. A small transversal trace to the velocity vector delimits each minute.
	The track future position (in that minute's quantity) shows the velocity vector end taking into account the current track flight speed and heading.
LABEL ROLE	Present the menu with the available SDD roles, that will affect the track label format.
	Options are the following ones:
	$APP \rightarrow Approach$
	ACC → Route
	TWR → Tower
HISTORY	By means of the arrow-buttons, the number of past positions is increased or decreased for each track.
	The number of available past positions is 10 as maximum and 1 as minimum.
LIST FONT	Present the menu with the available formats for the Flight Plans Lists size. The options are:
	$S \rightarrow Small$
	$M \rightarrow Medium$
	L → Large
DELAY HANDOVER	By means of the arrow-buttons, the time (in seconds), for which the Flight Plan route accepted after a hand-over between two sectors is displayed, is selected.
	The number of seconds is 10 as maximum and 0 as minimum.
STRETCHING FACTOR	By means of the arrow-buttons, the distance (in screen size percentage) that the track label can be manually moved from its original position.
	The available percentage is from 10 to 80 in gaps of 10.
REP NUM	By means of the arrow-buttons, the number of ADS reports.
	The available values is from 1 to 3 in gaps of 1.



lcon	Description
ROUTE FONT	Present the menu with the available formats for the graphical route font size. The options are:
	$S \rightarrow Small$
	M → Medium
	L → Large
ROUTE MARKS	By means of a pop-up menu, the graduation in the route marks can be selected, both in NM or in minutes.
	The available values, both for NM and for MIN are from 2 to 20 in gaps of 2.
	By means of a bi-state icon, route marks can be displayed in graphical route display or not.
LABEL ORIENTATION	By means of the arrows, the label orientation can be selected.
	The centre symbol performs a label rotation in anti-clockwise by means of 45°.
NUMBER OF LINES	Number of lines to be displayed in label (when track is not selected)
RBL TIME	Value displayed in RBL label (T or E value).

Click on the [X] icon to close the Track Display Configuration Window.

## 2.3.16.1 Action: Select Tracks Symbols and Characters Size => {[DATBLK] -> [LABEL SIZE]}

Application: Perform this procedure to select the size for track symbols and characters.

ACTION	RESULT
LB click on the [DATBLK] icon situated in the Main Menu Area.	
	The "Track Display Configuration" window is displayed.



ACTION	RESULT
	DATA BLOCK CONFIGURAT: × LABEL SIZE M F VELOCITY VECTOR 3 × ROLE ACC F HISTORY 10 × LIST FONT M F DELAY HANDOVER 10 × STRETCHING FACTOR 40% × REP NUMB 3 × ROUTE FONT M F ROUTE FONT M F ROUTE MARKS 0008 × NM COURS NM LABEL ORIENTATION × * × × * × NUMBER OF LINES 2 F
Click on the [LABEL SIZE] icon.	
	The options available in the pull-down menu are:
	S - small
	M - medium
	L - large
Select the desired track label format by clicking on it.	
	Automatically, the size is displayed on the track symbols and characters.







## 2.3.16.2 Action: Select Time Velocity Vector => {[DATBLK] -> [VELOCITY VECT]}

Application: Perform this procedure to select the unit time for the velocity vector.

ACTION	RESULT
LB click on the [DATBLK] icon situated in the Main Menu Area.	
	The "Track Display Configuration" window is displayed.          DATA BLOCK CONFIGURAT:         LABEL SIZE         VELOCITY VECTOR
	ROLE ACC F
	STRETCHING FACTOR
	□ ROUTE MARKS □ 008 \ MM □ 010 \ MIN LABEL ORIENTATION ← ★ ★
	NUMBER OF LINES 2 F
Click on the [VELOCITY VECTOR] arrows (up and down).	
	The time unit (number) is increased or reduced in 1-minute unit (with a maximum of 15 and a minimum of 1). Automatically, the size is displayed.







## 2.3.16.3 Action: Select Total Track Label Format =>{[DATBLK] -> ROLE}

Application: Perform this procedure to select the label role.

ACTION	RESULT
Depress the [DATBLK] button of the Main Menu Area	
	The "Track Display Configuration" window is displayed.
	DATA BLOCK CONFIGURAT: ×
	LABEL SIZE
	VELOCITY VECTOR 3
	HISTORY 10
	LIST FONT
	DELAY HANDOVER
	STRETCHING FACTOR
	ROUTE FONT M
	$\square \text{ ROUTE MARKS} \square \boxed{008 \underbrace{\vee}_{\text{NM}}} \text{ NM}$
	NUMBER OF LINES 2
	RBL TIME
Click on the IROLELicon	
	A pop-up menu with the available formats is displayed.
	The menu options are:
	APP- Approach
	ACC- Route
	TWR- Tower
Once the pop-up menu is displayed, select the	



ACTION	RESULT
desired label role format	
	Automatically, label role is modified.
	EE RAM DEPKK1 458 304† DC10H AHDG ASP 37 REM 127,88 RAM DEPKK1 DC10H +307 457 ASP LEMD



## 2.3.16.4 Action: History Tracks =>{[DATBLK] -> HISTORY}

**Application:** Perform this procedure to select the number of past positions (historic) to be displayed for each track.

ACTION	RESULT
LB click on the [DATBLK] icon situated in the Main Menu Area.	
	The "Track Display Configuration" window is displayed.          DATA ELOCK CONFIGURAT:         LABEL SIZE         VELOCITY VECTOR         3         ROLE         ACC =         HISTORY         10         LIST FONT         M =         DELAY HANDOVER         10         STRETCHING FACTOR         40%         REP NUMB         3         FROUTE FONT         M =         0008         NUMBER OF LINES         2         REF TIME
Click on the [HISTORY] arrows (up and down).	
	The time unit (number) is increased or reduced in 1-minute unit (with a maximum of 10 and a minimum of 1).



# 2.3.16.5 Action: Select Total Track Label Format =>{[DATBLK] -> LIST FONT}

Application: Perform this procedure to select the font size for FP list.

ACTION	RESULT	
Depress the [DATBLK] button of the Main Menu Area		
	The "Track Display Configuration" window is displayed.	
	DATA BLOCK CONFIGURAT	
	LABEL SIZE	
	VELOCITY VECTOR 3	
	ROLE ACC -	
	LIST FONT	
	DELAY HANDOVER 10	
	STRETCHING FACTOR 40%	
	TROUTE MARKS	
	► ★ ★ LABEL ORIENTATION ★ ★ ★	
	<i>₩</i> <del>₩</del> <del>₩</del>	
Click on the [LIST FONT] icon.		
LIST FONT		
	A pop-up menu with the available sizes is displayed.	
	The menu options are:	
	S – Small	
	M – Medium	
	L – Large	
Once the pop-up menu is displayed, select the		



ACTION	RESULT	_
desired font size for lists.		
	Automatically, list font is resized. WARN RV C/S C RAM DEPKK1 C RAM DEPKK2 C OUTBOU1 C OUTBOU2 C TRANSI4 C TRANSI4	



# 2.3.16.6 Action: Delay Handover => {[DATBLK] -> DELAY HANDOVER}

Application: Perform this procedure to select the delay for handover procedures.

ACTION	RESULT
LB click on the [DATBLK] icon situated in the Main Menu Area.	
	The "Track Display Configuration" window is displayed.
	DATA BLOCK CONFIGURAT
	LABEL SIZE
	VELOCITY VECTOR 3
	HISTORY 10 👗
	LIST FONT
	DELAY HANDOVER 10
	STRETCHING FACTOR 40%
	REP NUMB 3
	ROUTE FONT
	ROUTE MARKS
	K ← X LABEL ORIENTATION ← X ← K ← X
	NUMBER OF LINES 2 -
	RBL TIME
Click on the [DELAY HANDOVER] arrows (up and down).	
DELAY HANDOVER 10 $\boxed{\checkmark}$	
	The time unit (number) is increased or reduced in 1-minute unit (with a maximum of 10 and a minimum of 1).



## 2.3.16.7 Action: Stretching factor => {[DATBLK] -> STRETCHING FACTOR}

**Application:** Perform this procedure to select the percentage of screen length that a track leader line length can have.

ACTION	RESULT
LB click on the [DATBLK] icon situated in the Main Menu Area.	
	The "Track Display Configuration" window is displayed.
	DATA BLOCK CONFIGURAT
	LABEL SIZE
	VELOCITY VECTOR 3
	ROLE ACC -
	HISTORY 10
	LIST FONT
	DELAY HANDOVER
	STRETCHING FACTOR
	REP NUMB 3
	ROUTE FONT M F
	ROUTE MARKS
	× + ×
	LABEL URLENTATION $\leftarrow \bigstar \leftarrow$
	NUMBER OF LINES 2 =
	RBL TIME T
Click on the [STRETCHING FACTOR] arrows (up and down).	
	The percentage is increased or reduced in 10-percentaje units (with a maximum of 80 and a minimum of 10).
	STRETCHING FACTOR 70%
Re-allocate a track label	The track can only be moved the percentage of the length screen previously selected.






# 2.3.16.8 Action: Report Number => {[DATBLK] -> REP NUM}

Application: Perform this procedure to select the number of reports.

ACTION	RESULT	
LB click on the [DATBLK] icon situated in the Main Menu Area.		
	The "Track Display Configuration" window is displayed.	
	DATA BLOCK CONFIGURAT: $\times$	
	LABEL SIZE	
	VELOCITY VECTOR 3	
	ROL E	
	HISTORY 10 🔺	
	LIST FONT	
	DELAY HANDOVER 10	
	STRETCHING FACTOR 40%	
	REP NUMB 3	
	ROUTE FONT	
	□ ROUTE MARKS □ 008 1 NM □ 010 1 NM	
	LABEL ORIENTATION $\leftarrow \times \leftarrow$ $\leftarrow \times \leftarrow$ $\leftarrow \times \leftarrow$	
	NUMBER OF LINES 2 =	
	RBL TIME	
Click on the [REP NUM] arrows (up and down).		
REP NUMB		
	The reports number is increased or reduced in a unit (minimum 1 and maximum 3).	
	Automatically, the number of reports is updated.	



# 2.3.16.9 Action: Route Font => {[DATBLK] -> ROUTE FONT}

Application: Perform this procedure to select the number of reports.

ACTION	RESULT
LB click on the [DATBLK] icon situated in the Main Menu Area.	
	The "Track Display Configuration" window is displayed.
Click on the [ROUTE FONT] arrows (up and down).	
	A pop-up menu with the available sizes is displayed. The menu options are: S – Small M – Medium L – Large
Select the desired route font size by clicking on it.	
	Automatically, the size is displayed on the track symbols and characters.



ACTION	RESULT
	ESIKA 14:48 230 ESIKA 14:48 230 230

# 2.3.16.10 Action: Route Marks => {[DATBLK] -> ROUTE MARKS}

Application: Perform this procedure to include graduated marks in graphical route display.

ACTION	RESULT
LB click on the [DATBLK] icon situated in the Main Menu Area.	
	The "Track Display Configuration" window is displayed.
	DATA BLOCK CONFIGURAT: ×
	LABEL SIZE M
	VELOCITY VECTOR
	HISTORY 10
	FROUTE MARKS
	$\begin{array}{c} \mathbf{x} 4 \mathbf{x} \\ \text{LABEL ORIENTATION} 4 \mathbf{x} 4 \\ \mathbf{x} 4 \mathbf{x} \end{array}$
	NUMBER OF LINES 2 -
	RBL TIME
Click on the [ROUTE MARKS] bi-state icon.	
T ROUTE MARKS	
	The route marks are active.



ACTION	RESULT
Click on NM row bi-state icon. (or in MIN row bi-state icon)	
□ 006 ∑ NM □ 014 ∑ MIN	
	The graduation is performed by NM units.
Click on the Micon.	
	A pop-up menu is displayed with available values. Click in one of them and the selection is performed.
	220 220 220 220 220 220 220 220 220 220



# 2.3.16.11 Action: Global Track Label Orientation => {[DATBLK] -> LABEL ORIENTATION}

Application: Perform this procedure to select the delay for handover procedures.

ACTION	RESULT
LB click on the [DATBLK] icon situated in the Main Menu Area.	
	The "Track Display Configuration" window is displayed.
For a concrete orientation click in the arrow in Label Orientation option that represents the desired orientation.	
	Every track displayed changes its orientation to the selected one.



# 2.3.16.12 Action: Track label lines to display selection => {[DATBLK] -> NUMBER OF LINES}

**Application:** Perform this procedure to adjust the number of lines displayed in the track label when the track is not selected.

ACTION	RESULT
LB click on the [DATBLK] icon situated in the Main Menu Area.	
	The "Track Display Configuration" window is displayed.
LB click in Number of lines icon displays the pop-down with available values for lines to be displayed in track label (2-5 and FULL).	
Colori ana unius in ana daura	NUMBER OF LINES 2 3 4 5 FULL
Select one value in pop-down.	
	Every track label in SDD is displayed with the selected number of lines, and will only display its full content when a track is selected.



# 2.3.16.13 Action: Select value for RBL label => {[DATBLK] -> RBL LINES}

Application: Perform this procedure to set the value to be displayed in RBL, between T and E values.

ACTION	RESULT
LB click on the [DATBLK] icon situated in the Main Menu Area.	
	The "Track Display Configuration" window is displayed.          DATA BLOCK CONFIGURAT: ×         LABEL SIZE         VELOCITY VECTOR         3         ROLE         HISTORY         10         LIST FONT         DELAY HANDOVER
	STRETCHING FACTOR 40% REP NUMB 3 ROUTE FONT M F ROUTE MARKS F DOB M NM F M F M F M F M F M F M F M F
LB click in RBL LINES icon displays the pop-down with available values for lines to be displayed in track label (T and E).	
Select one value in pop-down.	
	RBL label will include selected value in its label (in addition of B, R and X)



#### 2.3.17 Brightness [BRIGHT] Icon

This icon is used to display/close the "Brightness" window.

Its activation status is shown by the icon font/ background colours: **BLACK**/ LIGHT GREY if it is activated, and WHITE/ DARK GREY, if inhibited.

Maps bright will be individually adjusted, see 2.2.19.

BRIGHT
--------

Figure 2-114: [BRIGHT] Icon

#### 2.3.17.1 "Brightness" Window

This window allows the controller to alter the colour and brightness of the different display elements.

	BRIGHT	CONTROL	×
		RESET	DEFAUL T
LABELS			1
	-100		
METEO			
BACKGROUND	Ē		
RANGE RINGS			
3D FILTER			1
		0	
ZONES			

Figure 2-115: "Brightness" Window

As shown in previous figure, to modify the colour and the brightness, there are three horizontal scroll bars for general bright purposes, and twelve more for maps related bright configuration, which slip left and right according to necessities by means of mouse pointer. Clicking in MAPS bi-estate button, all map type is displayed for its bright modification.

The number on the top of the scroll bar indicates the current value.

Clicking on **[DEFAULT]** button restore changes to the bright values active when Bright adjustment window was opened. Clicking on **[RESET]** button sets all bright values to 0 (except METEO, which value is set to -60) and all the scroll bars to the central position.

The following items are available for it individual bright adjustment:



- **LABELS**: Brightness for track display.
- **METEO**: Brightness for meteorological graphics.
- **BACKGROUND**: Brightness for main window's background display.
- **RANGE RINGS:** Brightness for range rings display.
- **3D FILTER:** Brightness for 3D filter zones.
- **ZONES:** Brightness for restricted areas.

## 2.3.17.2 Action: Change Brightness => {[BRIGHT]}

**Application:** Perform this procedure to modify the general brightness of the SDD, as well as that of the maps, tracks and RBLs in the SDD SIT Area.

ACTION		RESULT
Depress the [BRIGHT] button of the Main Menu Area.		
	The icon turns to YELLOW	and the "Brightness" window is displayed.
	1	BRIGHT CONTROL ×
		RESET DEFAULT
	LABELS	
	METEO	
	BACKGROUND	
	RANGE RINGS	
	3D FILTER	
	ZONES	
LB Click on the vertical scroll bars and move left and right without releasing the mouse button.		
	The number increases or d	ecreases depending on the movement selection.
Click in [DEFAULT] button to change current brightness values to the initial ones (the values when the bright		



ACTION	RESULT
control window was displayed).	
Click in [RESET] button to change current brightness values all to default ones.	
	The brightness values changes and the brightness of SDD elements also changes.
Release the [BRIGHT] button.	
	The icon text colour changes to Background colour and the window is closed.

## 2.3.18 [F 3D] lcon

This icon is used to filter tracks inside a cylinder zone. It is a negative filter, which means that will hide the tracks inside the cylinder zone. This filter will apply only over the tracks that are not filtered by altitude filter or track filter; and will only affect to tracks that are not owned, not advanced, not concerned and not in alert status.

# F 3D

Figure 2-116: [F 3D] Icon

The system allows to create up to five cylinder zones where tracks will be hidden for display. Tracks hidden for display in those zones are tracks not owned, not advanced and not in alert status.

Each cylinder zone is created entering the centre point, the radius and the minimum and maximum level where filter will apply. The centre point can be defined by a lat-long coordinate or by a fixpoint.





Figure 2-117: 3D Filter window

# 2.3.18.1 Action: 3D Filter => {[F 3D]}

**Application:** Performs this action to filter track display in SIT area. F 3D creates a cylindrical area where to filter tracks display.

ACTION	RESULT
Click on [F 3D] button of the Main Menu Area.	
	3D Filter window is displayed with the available possibilities.









ACTION	RESULT
To cancel the action:	
Click on [X] icon in the 3D Filter Window.	
	The window is closed without validating the entered data.

# 2.3.19 [QNH] Icon

This icon displays the QNH (Altimeter sub-scale setting to obtain elevation when on the ground) and the zone where is taken from. It displays three fields:

- Airport: Aerodrome where the pressure zone is located
- Pressure: Current pressure value for that zone (in mb)
- Height: Transition Level (in hundreds of feet)



Figure 2-118: "QNH" Window

When clicking on the "QNH" window, a pop-up menu is displayed to select the defined QNH and corresponding zone.



	QNH	×
EPBY	1013	60
EPBY	1013	60
EPGD	1013	60
EPKK	1013	60
EPLL	1013	60
EPPO	1013	60
EPRZ	1013	60
EPSC	1013	60
EPWA	1013	60
EPWR	1013	60
EPZG	1013	60

Figure 2-119: QNH and Zone Selection Pop-Up Menu

# 2.3.20 Meteorological Data [METEO] Icon

The [METEO] switch is used to activate or inhibit the meteorological information display.

# METEO

Figure 2-120: [METEO] Switch

When selected, the system displays the "Meteorological Data Display".

# 2.3.20.1 Action: Activation/Inhibition of Weather Data => {[METEO]}

Application: Perform this procedure to activate/inhibit the display of PSR weather data.

ACTION	RESULT
LB click on the [METEO] switch of the Main Menu Area.	
	The switch colour turns to YELLOW and the weather data is displayed.





ACTION	RESULT	
Click again on the [METEO] switch.		
	The weather data is inhibited (the switch turns to Background colour).	

## 2.3.21 Meteo Messages [MET MSG] Icon

Click on this button to display meteo messages. Those messages are classified by Airport and by type.

#### MET MSG

Figure 2-121: [MET MSG] Switch

This function allows the controller to request for the different meteorological information by means of a window corresponding to the selected message. Up to 15 airports may be available for meteorological information.

Click on the button with the airport name which messages shall be displayed. The airport marked with **YELLOW** is the one which messages are being displayed.

The meteo messages available for selection are:

- **ATIS** or *Airport Traffic Information System*. A continuous broadcast of airport information, commonly found at tower-controlled airports. It usually includes weather information, runways in use, and any important notices. The information is normally updated hourly, and each update is identified by a letter in the phonetic alphabet (alpha, bravo, charlie, etc.).
- AIRMET or Airmen's Meteorological Information, is a weather advisory issued by a
  meteorological watch office for aircraft that is potentially hazardous to low-level aircraft
  /aircraft with limited capability. Compared to SIGMETs, AIRMETs cover less severe weather:
  moderate turbulence and icing, surface winds of 30 knots, or widespread restricted visibility.

AIRMETs are broadcast on the ATIS at ATC facilities, and are referred to as Weather Advisories. AIRMETs are valid for six hours.

There are three types of AIRMET, all identified by a phonetic letter: S (Sierra), T (Tango), and Z (Zulu). Sierra describes IFR conditions or mountain obscuration. Tango describes turbulence, high winds, or no convective Low Level Wind Shear. Zulu deals with icing and freezing levels.

 METAR or Meteorological Reports-Aviation Routine Weather Report is a format for reporting weather information. A METAR weather report is predominantly used by pilots in fulfilment of a part of a pre-flight weather briefing, and by meteorologists, who use aggregated METAR information to assist in weather forecasting.

METAR reports typically come from airports or permanent weather observation stations. Reports are typically generated once an hour; however, if conditions change significantly, they may be updated in special reports called SPECI's. Some reports are encoded by an automated airport weather station located at airports, military bases and other sites. Some locations still use-augmented observations, which are recorded by digital sensors and



encoded via software, but are reviewed by certified weather observers or forecasters prior to being transmitted. Trained observers or forecasters, who manually observe and encode their observations prior to their being transmitted, may also take observations.

• **SIGMET** or *Significant Meteorological Information* is a weather advisory that contains meteorological information concerning the safety of all aircraft. There are two types of SIGMETs, convective and non-convective. The criteria for a non-convective SIGMET to be issued are severe or greater turbulence over a 3000 square mile area or severe or greater icing over a 3000 sq mile area or IMC conditions over a 3000 sq mile area due to dust, sand, or volcanic ash.

This information is usually broadcast on the ATIS at ATC facilities. A SIGMET is a forecast valid for up to four hours. They are assigned an alphabetic designator from N (November) through Y (Yankee) of course, excluding S and T.

A Convective SIGMET is issued for convection over the Continental U.S. Convective SIGMETs are issued for an area of thunderstorms affecting an area of 3000 sq miles or greater, a line of thunderstorms at least 60 nm long, and/or severe or embedded thunderstorms affecting any area that are expected to last 30 minutes or longer.

• **TAF** or *Terminal Area Forecast* is a format for reporting weather forecast information, particularly as it relates to aviation. Generally, a 9- or 12-hour forecast, though some TAFs can cover an 18- or 24-hour period, it complements and uses similar encoding to METAR reports.

A human forecaster based on the ground always produces TAFs. For this reason, there are far fewer TAF locations than there are METARs. TAFs are much more accurate than Numerical Weather Forecasts, since they take into account local, small-scale, geographic effects.

- **SPECI** is *Special Weather Report* issued when there is significant deterioration or improvement in airport weather conditions, such as significant changes of surface winds, visibility, cloud base height and occurrence of severe weather. The format of the SPECI report is similar to that of the METAR and the elements used have the same meaning. The identifier METAR or SPECI at the beginning of the weather report differentiates them.
- **SNOWTAM** is a message describing the conditions of the runways, taxiways and apron at an aerodrome.
- GAMET is a message emitted for high traffic density of low-level flights (under FL100); and it
  includes information about meteorological phenomena hazardous for those low-level flights
  (e.g. strong wind, low visibility, thunderstorms, significant clouds, icing and turbulence) as
  well as additional information required by low-level flights (synoptic situation, surface wind,
  upper-air wind, upper-air temperature, visibility, cloud, freezing level and lowest QNH).



AIRPORT METEOROLOGICAL MESSAGES	×
AIRPORTS	
EPGD         EPKK         EPKT         EPLL         EPPO         EPRZ         EPSC         EPWA           EP226	EPWR
#ATIS #AIRMET #METAR #SIGNET #TAF #SPECI #SNOWTAM #GAMET	
ATIS	EPBY
AIRMET	EPBY
METAR	EPBY
SIGMET	EPBY
TAF	EPBY
SPECI	EPBY
SNOWTAM	EPBY
GAMET	

Figure 2-122: "MET" Window

This window includes options to select airports and meteo message types, and a visualization area.

# 2.3.21.1 Airport Selection Area

- AIRPORTS				
RPBY EPGD	ЕРКК ЕРКТ	EPLL EPP0	EPRZ EPSC	EPWA EPWR
EPZG				

Figure 2-123: Airport Selection Area



This area includes one button for each airport; and each airport can be selected for meteo messages display clicking on it. If button is in WHITE colour, meteo messages display for the airport is inhibit; if button is in YELLOW colour, meteo messages display for the airport is active.

#### 2.3.21.2 Message Type Selection Area

|--|

#### Figure 2-124: Message Type Selection Area

This area includes a bi-estate icon for each meteo message type, that can be active (YELLOW colour) or inhibit (WHITE colour). When each type is active, the respective Message List Display Area is displayed. If it is disabled, the respective Message List Display Area is hidden for display.

#### 2.3.21.3 Message List Display Area

AIRMET	EPWA
	la de la companya de
	J

Figure 2-125: Message List Display Area

This area is filled with the list of meteo messages (one area for each meteo message type), one row for each message; and it includes a scroll bar, active when the list of messages is greater than the area size.

E	PBY	1				
EF	BY	ЕРКК	EPLL	EPRZ	EPWA	EPZG
E	GD	ЕРКТ	EPPO	EPSC	EPWR	

Figure 2-126: Message List Display Area – Airport selection

Clicking in the airport name (EPBY in this example), a list of airports is displayed and can be selected the airport which messages are to be displayed in this list.

#### 2.3.21.4 Message Display Area





If a message is selected (click in a message in a message list display area), it is detailed in this area, and can be acknowledged by clicking in ACK button. It includes a scroll bar, active when the list of messages is greater than the area size.



# 2.3.22 Range Bearing Alarms [RBL ALM] Icon

The [RBL ALM] switch is used to activate or inhibit the Range Bearing Alarms. The colour switch provides following information:

# RBL ALM

Figure 2-128: [RBL ALM] Switch

# 2.3.23 MTCD Conflicts [MTCD] Icon

The [MTCD] switch is used to activate or inhibit the display of MTCD conflicts in SIT area (displays/ inhibits all MTCD conflict display: label marks and graphical conflict display).

MTCD

Figure 2-129: [MTCD] Switch

# 2.3.24 Aural Alarms Cancel [ALM OFF] Icon

This icon is used to cancel all aural alarms due to any reason.

# ALM OFF

Figure 2-130: [ALM OFF] Icon

# 2.3.25 Automatic Orientation of Track Labels [OVERLAP] Icon

The [OVERLAP] switch is used to activate or inhibit the function for the automatic orientation of track labels.



Figure 2-131: [OVERLAP] Switch

# 2.3.26 [FREETEXT] lcon

The [FREETEXT] switch is used to display or hide the Free Text Window, which includes an area for free text display, three buttons (one per each channel), a clear button option and buttons for go back or forward in the freetext messages.



Free Text messages are sent to the system by FDD positions and can be sent by any of three existing channels.

[FREETEXT] switch is blinking when new messages are received, and the channel with unread messages is also blinking.

Clear button deletes the free text message displayed.

Left and right arrow buttons allow to go back or forward in the channel messages.

	FREE TEXT	×
13:58 2009-06-25 FROM	SDD37	
CH2 TEXT		
CHN1 CHN2 CHN3	CLEAR < 1/1	\] >

Figure 2-132: Free Text Window

#### 2.3.27 Sectors Visualization [SECTORS] Icon

This icon is used to display/close the "Sectors" window to visualize the sectors in each operational sector, assigned to the system control positions.

When clicking on this icon, the "Sectors" window is displayed.

	SECTORS	N	×
UCS 1 00G1 1 UCS 2 0P10 0 UCS 3 0P11 1 UCS 4 0P12 1 UCS 5 0P13 1 UCS 6 0P14 0	RZES GRUD JEDR DREZ TAWA CENT		
<			

Figure 2-133: "Sectors" Window

The window displays each system control position and the operational sector and sectors assigned to it.



# 2.3.27.1 Action: Sectors Visualization => {[SECTORS]}

**Application:** Perform this procedure to display the sectors (assigned to operative sectors) assigned to each UCS.

ACTION	RESULT
Depress the [SECTORS] button of the Main Menu Area.	
	The "Sectors" window is displayed to visualize to which Operational sector Control Position the sectors are assigned.
	SECTORS 🗵 🗙
	UCS 1 00G1 RZES UCS 2 0P10 GRUD UCS 3 0P11 JEDR UCS 4 0P12 DREZ UCS 5 0P13 TAWA UCS 6 0P14 CENT
Release the [SECTORS] button.	
	The "Sectors" window is closed.

# 2.3.28 [LAST POS] Icon

This icon is used to display/close the "Last Position" window to visualize the last positions of a lost track after it disappears from Lost list. The system allows the display of last position for lost tracks since it appears in Lost list in the following 15 minutes (a position is displayed by each time the track get lost, in the previous 15 minutes)..

LAST	POSITION	×
CALLSIGN	SSR	
	Ι	OK

Figure 2-134: "Last Position" Window

User can enter both Callsign or SSR code to look for last position.

# 2.3.28.1 Action: Display of last position of a Lost track => {[LAST POS]}

**Application:** Perform this action to display the last position of a lost track, when it was removed from Lost list. It will only be useful in the next 15 minutes since the track appears in Lost list.



ACTION	RESULT
Click in [LAST POS] button of the Main Menu Area.	
	The "Last Position" window is displayed to display the last position of a lost track.
	LAST POSITION ×
	CALLSIGN SSR OK
Complete the Callsign or the SSR field and click in OK button.	
	The lost track is displayed in its last position registered in the system.

# 2.3.29 Finder [FINDER] Icon

This icon is used to find and mark the position of an element.

# FINDER

## Figure 2-135: [FINDER] Icon

When [FINDER] icon is clicked a new window is displayed. User has the following options:

- Enter a coordinate (Latitude, longitude) to find it on the map,
- Latitude/ longitude values for mouse pointer position,
- Enter the airport code,
- Enter the fixpoint name,
- Enter a Callsign,
- Enter an SSR.



FINDER ×
LAT LON N E
POSITION
AIRPORT
POINT
CALLSIGN
SSR OK CLEAR



After an element is entered, the exact position of the element is displayed in the main window.

# 2.3.29.1 Action: Display the position of an element => {[FINDER]}

Application: Perform this action to locate significant points (or any point by a its coordinates) in the FIR.

ACTION	RESULT
Click on [FINDER] button of the Main Menu Area.	
	Finder window is displayed with the available possibilities.







ACTION	RESULT
To cancel the action: Click on [X] icon in the Finder Window.	
	The window is closed without validating the entered data.

# 2.3.29.2 Action: Display the lat/ long values for mouse pointer => {[FINDER] -> Position}

**Application:** Perform this action to get the latitude and longitude coordinates of a the point marked by mouse pointer.

ACTION	RESULT
Click on [FINDER] button of the Main Menu Area.	
	Finder window is displayed with the available possibilities.
	FINDER ×
	LAT LON N E
	POSITION
	AIRPORT
	CALLSIGN
	SSR OK CLEAR
Click on "POSITION" Icon.	
	The text field displays the lat/ long coordinates for mouse position in every moment.
	The mouse pointer includes the values for lat/ long position in yellow colour.



ACTION	RESULT
	472519N 0130719E FINDER LAT LON N POSITION [472519N0130719E AIRPORT
LB click in a SIT Area point.	
	Finder field is set with the selected lat/ long value. FINDER × LAT LON N E POSITION 481431N0113115E AIRPORT POINT CALLSIGN OK CLEAR
To finish the action:	
	The window is closed.

# 2.3.30 SSR Filter [SSRF] Icon

This icon is used to filter by SSR code criteria. It will filter the tracks that match the SSR code criteria described in it (by SSR code range or by an expression) This filter will apply only over the tracks that are not filtered by altitude filter or track filter; and will only affect to tracks that are not owned, not advanced, not concerned and not in alert status.



# SSR F

#### Figure 2-137: [SSRF] Icon

SS	R FILTER (123	34) ×
A RANGE	← EXPR —	3 - 4 -
	APPLY	🗖 ENABL E

Figure 2-138: SSR Filter window

SSR Filter:

- By range: the system will not display the tracks not owned, not advanced and not in alert status which SSR code are in the code range described by minimum and maximum values entered.
- By expression: the system will not display the tracks not owned, not advanced and not in alert status which SSR code check the expression defined by numbers and '\*' ('\*' is the representation for any one-digit value).

The SSR filter requires the Enable bi-state activation for its filter function activation.

#### 2.3.30.1 Action: Track filter by SSR code => {[SSRF]}

**Application:** Perform this action to filter tracks display in SIT area by SSR criteria. This window allows to filter by a SSR code range or by an unique SSR code.

ACTION	RESULT
Click on [SSRF] button of the Main Menu Area.	
	SSR filter window is displayed with the available functions.
	SSR FILTER (1234) ×
	APPLY
	This window can filter tracks both by an SSR code or by an SSR code



ACTION	RESULT
	range.
Filter by SSR Range:	
Click in RANGE bi-state icon.	
	The MIN and MAX edition fields are displayed as available.
Enter four-digit values for MIN and MAX SSR codes (MIN value must be smaller than MAX value), in order the SSR filter will apply in the range between the entered SSR codes.	
Click in Enable bi-state button to activate the filter.	
To validate the action:	
Click [APPLY] button.	
	The window is closed and the tracks with its SSR code between the entered range are displayed.
To cancel the action:	
Click on [X] icon in the Finder Window.	
	The window is closed without validating the entered data.
Filter by SSR Code Expression:	
Click in EXPR bi-state icon.	
By clicking in each numbered box a pop-up menu is displayed with numbers from 0 to 9. Clicking in the value for the digit performs its selection.	
After selecting the four values for SSR code, click in Enable bi- state button to active the filter.	
To validate the action:	
Click [APPLY] button.	
	The window is closed and just the track with the selected SSR code is displayed.
To cancel the action:	
Click on [X] icon in the Finder Window.	
	The window is closed without validating the entered data.



# 2.3.31 [ARROWS] Icons

When clicking on these icons, different actions in relation to the SDD SIT Area are performed.



Figure 2-139: Arrows

#### Table 2-49: Arrows Description

Symbol	Description
Q	Decrease the presentation range in defined intervals.
Q	Increase the presentation range in defined intervals.
<b>I</b>	Perform a left scrolling movement within the screen as a horizontal scroll bar.
►	Perform a right scrolling movement within the screen as a horizontal scroll bar.
ł	Perform an upwards-scrolling movement within the screen as a vertical scroll bar.
+	Perform a downwards-scrolling movement within the screen as a vertical scroll bar.
$\odot$	Perform a decentring action.



# 2.3.31.1 Action: Scrolling on the SDD SIT Area => {[SCROLLING ARROWS]}

**Application:** Perform this procedure a scrolling movement within the screen.

ACTION	RESULT
Click on the corresponding [ARROW] icon situated in the Main Menu Area.	
	The scrolling movement will be performed left, up, right and down depending on the selected icon.

# 2.3.31.2 Action: Presentation De-centring => {[

Application: Perform this procedure to de-centre the SDD SIT Area display.

ACTION	RESULT
LB Click on the [ ] icon in the Main Menu Area.	
LB Click on the corresponding SDD SIT Area point.	
	The point clicked on becomes the new display centre.

#### 2.3.31.3 Action: Position Visualization Increase or Decrease

Application: Perform this procedure to allow the visualization of a greater zone of the SDD SIT Area.

Increase => {[ZOOM ARROW]} or {<->}

ACTION	RESULT
There are two ways of enlarge the screen presentation.	
By clicking on the button, successively.	In both cases, the presentation range is expanded in discrete steps.
By pressing on the <-> key, successively	



# Decrease => {[ZOOM ARROW]} or {<+>}

Application: Perform this procedure to allow the visualization of a smaller zone of the SDD SIT Area.

ACTION	RESULT
There are two ways of enlarge the screen presentation.	
By clicking on the button, successively.	In both cases, the presentation range is contracted in discrete steps.
By pressing on the <+> key, successively	

# 2.3.32 Interactive Expansion Scale [EXP+] Icon

This icon is used to activate the expansion function to expand an area of the SDD SIT Area once the new position centre is determined.

Figure 2-140: [EXP+] Expansion Icon

EXP+

It is also possible to activate/inhibit the Expansion function by pressing the <F9> key.

# 2.3.32.1 Action: Interactive Expansion => {[EXP+]}

Application: Perform this procedure to increase the presentation range of the SDD SIT Area.

ACTION	RESULT				
There are two ways of expanding the screen presentation.					
By means of the mouse device:					
LB Click on the [EXP+] icon of the General Information Area.					
	The expansion function is activated.				
	EXP+				
LB Click on the geographic point to be expanded.					
	The mouse cursor becomes a YELLOW cross to identify the procedure.				



ACTION	RESULT
	<b>+</b>
Without releasing the mouse pointer, enlarge the geographical area to be expanded.	
	A YELLOW area (box) is displayed.
	<b></b>
Release the mouse pointer to finish the action by LB clicking	
	The selected area is expanded.
If CB Clicking while performing the action.	
	The action in process is cancelled.
By means of keyboard device:	
By pressing on the <f9> key.</f9>	
	Activate/inhibit the expansion procedure (step 1.1)

# 2.3.33 Interactive Contraction Scale [EXP-] Icon

This icon is used to activate the contraction function to contract an area of the SDD SIT Area once the new position centre is determined.



Figure 2-141: [EXP-] Expansion Icon



It is also possible to activate/inhibit the Contraction function by pressing the <F10> key.

# 2.3.33.1 Action: Interactive Contraction: {[EXP-]} or {<F10>}

Application: Perform this procedure to decrease the presentation range of the SDD SIT Area.

ACTION	RESULT			
There are two ways of expanding the screen presentation.				
By means of the mouse device:				
LB Click on the [EXP-] icon of the General Information Area.				
	The contraction function is activated.			
LB Click on the geographic point to be contracted.				
	The mouse cursor becomes a YELLOW cross to identify the procedure.			
Without releasing the mouse pointer, size the geographical area to be contracted.				
	A YELLOW area (box) is displayed.			



ACTION	RESULT
Release the mouse pointer to finish the action by LB clicking.	
	The selected area is contracted.
If CB clicking while performing the action.	
	The action in process is cancelled.
By means of keyboard device:	
By pressing on the <f10> key</f10>	
	Activate/inhibit the expansion procedure (step 1.1)

# 2.3.34 Centring [CEN] Icon

This icon performs a return of the SDD SIT Area to geographical centre determined by the system.



Figure 2-142: Centring [CEN] Icon

# 2.3.34.1 Action: Presentation Centring => {[CEN]}

Application: Perform this procedure to centre the SDD SIT Area display.

ACTION	RESULT
LB Click on the [CEN] icon of the General Information Area.	
	The SDD SIT Area returns to its geographical centre.
	CEN

## 2.3.35 Velocity Vector Icons

Velocity Vector size can be adjusted in DATBLK options menu (see 0), or can also be adjusted by icons in Main Menu Area.



Figure 2-143: Velocity Vector Icons

#### Table 2-50: Velocity Vector Icons

lcon	Description
S	Velocity vector size is function of track speed.
0	Velocity vector size is set to 0 (velocity vector is de-active for display) .
1/2	Velocity vector size is set to $\frac{1}{2}$ minutes.
1	Velocity vector size is set to 1 minute.
3	Velocity vector size is set to 3 minutes.
5	Velocity vector size is set to 5 minutes.
8	Velocity vector size is set to 8 minutes.

#### 2.3.35.1 Action: Velocity Vector Adjustment

Application: Perform this procedure to adjust the size for display the tracks' velocity vectors.





# 2.3.36 Predefined Range Icons

These icons displays the value for presentation range, in NM, for a quick range restore.

20	50	70	100	140	180	220	500	DEF

Figure 2-144: Predefined Range Icons

Table 2-51: Velocity Vector Icons

Icon	Description		
<number></number>	Value, in NM for presentation range.		
DEF	Predefined value, adjusted by adaptation for presentation range.		

# 2.3.36.1 Action: Presentation Range Adjustment by MM\_A Icons

Application: Perform this procedure to quick adjust presentation range.

ACTION	RESULT
Click in one of Presentation Range icons in main menu area. Velocity vector icons are defined in previous table (see 2.3.36).	
	Presentation range changes to defined value.


# 2.3.37 SDD Identification

It is a non-editable field that includes information about the login user, SDD identification and its role. SDD roles can be:

- APP: approach
- ACC: enroute
- TWR: tower



Figure 2-145: SDD Identification Icon

## 2.3.38 [PRINT LISTS] Icon

When clicking on this icon flight plans are printed in selected laser printer.

# PRINT LISTS

#### Figure 2-146: Print Lists Icon

Printed data includes the flights in Executive, Planner and Hold list, including the following fields:

## Executive List:

C/S, CFL, SSR, ATYP, R, ADEP, ADES, FREE TEXT

Executive List is printed sorted by CFL and secondary by Callsign.

## Planner List:

OEP, SECTOR ENTRY, PEL, C/S, AFL, CFL, SSR, ATYP, R, RV, ADEP, ADES, SECTOR EXIT, XFL, OXM, OXS, FREE TEXT

Planner List is printed sorted by Sector Entry Time, and secondary by Callsign.

# Hold List:

C/S, ATYPE, AFL, CFL, FIX, ETO, EAT, ETA, ADES Executive List is printed sorted by CFL and secondary by Callsign.



# 2.3.39 Printer Icon

When clicking on this icon, a window with all available laser printers is displayed. It includes all printers and a **YELLOW** mark on selected one.

PRINTER SELECTION	×
PRINTERS	
ATMCSUP (Type: - Dev: WAR_L)	P3)
♦ EPWA (Type: - Dev: WAR_LP7)	
♦ FDOROOM1 (Type: - Dev: WAR_L	.P5)
♦ FDOROOM2 (Type: - Dev: WAR_L	.P6)
♦ FLOWFDO (Type: - Dev: WAR_LP	4)
<pre></pre>	.P1)
♦ TECHSUP2 (Type: - Dev: WAR_L	.P2)
Set as default	

Figure 2-147: Printer Icon

The "Set as default" printer allows to change the predefined printer to the currently selected one.

The name of selected printer is displayed in SDD Printer button.

АТМС	

Figure 2-148: SDD Printer Icon

## 2.3.40 [LOGIN] Icon

When clicking on this icon, the position is frozen, that is, no action can be performed. This functionality is performed to change the position user.

# LOGIN

Figure 2-149: [LogIn] Icon



# 2.3.40.1 Action: Change User => {[LOGIN]}

Application: Perform this procedure to change the current position user.

ACTION	RESULT
Click on the [LOGIN] icon situated in the Main Menu Area.	
	The position is frozen. At the same time, the "Login" window is displayed.
	LOGIN LOGIN PASSWD
Enter data in the corresponding fields.	
Finish the action by pressing on the <enter> key.</enter>	
	The position is unfrozen with a new user.

# 2.3.41 [LOGOUT] Icon

When clicking on this icon, the position is frozen, that is, no action can be performed.

# LOGOUT

Figure 2-150: [LogOut] Icon

At the same time, the confirmation window is displayed and after accepting, "Login" window is displayed to unfreeze the position.



Figure 2-151: "Confirmation" Window





L	DGIN
LOGIN	Ĭ
PASSWD	Ι

Figure 2-152: "Login" Window

As shown in previous figure, this window consists of two fields. The first one identifies the position's user and the second one is the password for entering.

If the data is properly entered, when finishing, press <Enter> key and the action will be validated coming back the position to normal operation.

# 2.3.41.1 Action: Freeze the Position => {[LOGOUT]}

Application: Perform this procedure to freeze any type of action to be performed in the position.

ACTION	RESULT		
Click on the [LOGOUT] icon situated in the Main Menu Area.	A confirmation window is displayed. CONFIRMATION CONFIRM LOGOUT? YES NO		
Click on [YES] button.	The position is frozen. At the same time, the "Login" window is displayed.		
Enter data in the corresponding fields.			
Finish the action by pressing on the <enter> key.</enter>			
	The position is unfrozen.		



# 2.4 SDD GENERAL INFORMATION AREA IN SUPERVISION MODE

The SDD in supervisor mode has some additional functionality to let the control and supervision of other workstations. When the SDD is in Supervisor mode the [ST] icon, in the screen top left hand corner, is enabled.

The screen of the Supervisor is the following:



Figure 2-153: Screen of the Technical Supervisor



SUT	
STE	
ACC	

Figure 2-154: Technical Supervisor Mode Role Indicator

The Supervisor has the following special functionalities:

- Only the supervisor can distribute to all the workstations the maps that he created locally.
- The supervisor can visualize all the plots of each radar (each one in different colour).
- All alerts are displayed in Supervisor SDD.
- The logs and the status of other working positions are all displayed at Supervisor SDD.

## 2.4.1 Display of Plots

The [ST] icon is used to show if the Supervisor Mode is enabled.

When the SDD is in Supervisor Mode, a pull-down menu is displayed if the [ST] icon is clicked.

User must select the radars for displaying the generated plots. One different colour is activated to each radar. Then, the plots are displayed at the SIT area.







# 2.4.1.1 Action: Display the plots at SDD SIT Area

**Application:** Perform this procedure to display the plots emitted from radars. For each radar, the plot is displayed in a different colour.

ACTION	RESULT
LB click on the [ST] button at the General Information Area.	
	The pull-down menu with the radars is displayed.
Depress the buttons from the radar of which the User wants to see the corresponding plots. As a result the button changes its colour. Press [OK] button.	
	The plots of the selected radars are displayed on SDD SIT Area.



ACTION	RESULT
	CLAM     291       CLAM     340       Start Room     441       Start Room     58       Start Room     58       Start Room     59       Start Room     572       Start Room     573       Start Beron     573       Start Beron     573       Start Beron     573       Start Beron
Release the previously selected radars buttons.	
	The plots of the selected radars are not shown now.
CB click on the Radars menu.	
	The pull-down menu disappears.



# 2.4.2 [RADAR] Icon

This icon is used to display the Radar Status Window, which includes a list of available radars and their status (by a colour code).



Figure 2-156: [RADAR] Switch

	RADAR STA	TUS	×
radar	SUP STATUS	RX STAT	US
GDM	ON	NO DATA	
KRM	ON	NO DATA	
KTM	ON	NO DATA	
POM	ON	NO DATA	
PUM	ON	NO DATA	
RZM	ON	NO DATA	
SZM	ON	NO DATA	
WAM	ON	NO DATA	
WAR	ON	NO DATA	
WRM	ON	NO DATA	
WIM	ON	NO DATA	
NBB	ON	NO DATA	

Figure 2-157: Radars Menu

Radar Icon is displayed in Main Menu area in a colour that means:

Table 2-52: Radar Colour Code

Colour	Description
GREEN	All radars are ON and operative.
RED	At least one radar is manually changed to OFF at CMD, or the radar RDCU line is not operative.
ORANGE	At least one radar is manually changed to MAINTENANCE at CMD, and the rest are ON and operative.

**RED** colour is the most restrictive, so if any radar is OFF or its RDCU line is not operative, [RADAR] icon will display in Red, even the rest of them are ON, or are in MAINTENANCE mode.

**ORANGE** colour is more restrictive than **GREEN** colour, so if any radar is in MAINTENANCE mode, [RADAR] icon will be displayed in **ORANGE** colour, even the rest are ON.



# 2.4.3 [USERS] icon

The [USERS] icon is used to show the log of the SDD.

USERS

Figure 2-158: Users icon

Upon clicking on the [USERS] icon, a new window is displayed with all the SDD in the System. The user may check the status and the log of each SDD.

				USERS				•.	×
SDD1	SDD10	SDD19	SDD28	SDD37	SDD46	SDD55	SDD64	SDI	073
SDD2	SDD11	SDD20	SDD29	SDD38	SDD47	SDD56	SDD65	SDI	)74
SDD3	SDD12	SDD21	SDD30	SDD39	SDD48	SDD57	SDD66	SDI	)75
SDD4	SDD13	SDD22	SDD31	SDD40	SDD49	SDD58	SDD67	SDI	076
SDD5	SDD14	SDD23	SDD32	SDD41	SDD50	SDD59	SDD68	SDI	)77
SDD6	SDD15	SDD24	SDD33	SDD42	SDD51	SDD60	SDD69	SDI	)78
SDD7	SDD16	SDD25	SDD34	SDD43	SDD52	LOGIN	LOGIN	SDI	)79
SDD8	SDD17	SDD26	SDD35	SDD44	SDD53	CON	LOGIN		
SDD9	SDD18	SDD27	SDD36	SDD45	SDD54	CON	LOGIN		
POSITIO	N USER	L	OGIN	LOGOUT	r ali	AS			
SDD61	LOGI	N							ΠA
SDD62	CON	1	.0:54		COL	ง			
SDD63	CON	1	.0:07		COP	ง			
SDD70	LOGI	<b>N</b>							
SDD71	LOGI	N							
50072	LOGI	IN							

Figure 2-159: USERS window



# 2.4.3.1 Action: Users information

Application: Perform this procedure to display the status and the log of all SDDs in the System.

ACTION	RESULT
Select [USERS] icon at the Main Menu Area.	
	The window with all SDDs in the System is displayed.
	USERS • ×
	SDD1 SDD10 SDD19 SDD28 SDD37 SDD46 SDD55 SDD64 SDD73
	SDD2 SDD11 SDD20 SDD29 SDD38 SDD47 LOGIN SDD65 SDD74
	SDD3 SDD12 SDD21 SDD30 SDD39 SDD48 SDD57 SDD66 SDD75
	SDD4 SDD13 SDD22 SDD31 SDD40 SDD49 SDD50 LOGIN SDD76
	SDD5 SDD14 SDD23 SDD32 SDD41 SDD50 SDD59 SDD68 SDD77
	SUD6 SUD15 SUD24 LOGIN LOGIN SUD60 SUD69 SUD78 SDD7 SDD16 SDD25 SDD24 SDD34 SDD52 SDD51 SDD50 SDD78
	SDD10 SDD10 SDD25 SDD34 SDD35 SDD32 SDD31 SDD70 SDD75 SDD8 SDD17 SDD26 SDD35 SDD44 SDD53 SDD62 SDD71
	SDD9 SDD18 SDD27 SDD36 SDD45 SDD54 SDD54 SDD54 SDD72
	POSITION USER LOGIN LOGOUT ALIAS
	SDD33         LOGIN           SDD41         LOGIN           SDD51         LOGIN           SDD56         LOGIN           SDD67         LOGIN
RB click on one/several icon/s of a SDD.	
	The log is shown at the button, and also information is displayed about th SDD on the information panel.
	USERS 🔹 🗙
	SDD1 SDD10 SDD19 SDD28 SDD37 SDD46 SDD55 SDD64 SDD73
	SDD2 SDD11 SDD20 SDD29 SDD30 SDD47 LOGIN SDD65 SDD74
	SDD3 SDD12 SDD21 SDD30 SDD39 SDD48 SDD57 SDD66 SDD75
	SDD4 SDD13 SDD22 SDD31 SDD40 SDD49 SDD30 LOGIN SDD76 SDD5 SDD14 SDD23 SDD32 SDD41 SDD50 SDD59 SDD58 SDD27
	SDD6 SDD15 SDD24 LOGIN LOGIN SDD60 SDD69 SDD70
	SDD7 SDD16 SDD25 SDD34 SDD43 SDD52 SDD51 SDD70 SDD79
	SDD8 SDD17 SDD26 SDD35 SDD44 SDD53 SDD62 SDD71
	SDD9 SDD18 SDD27 SDD36 SDD45 SDD54 SDD63 SDD72
	POSITION USER LOGIN LOGOUT ALIAS
	SDD33 LOGIN SDD42 LOGIN SDD51 LOGIN SDD56 LOGIN SDD67 LOGIN
Select [USERS] icon.	
	The "USERS" window is closed.



# 2.4.4 LMG in Supervisor Mode

In addition of the main functionality of LMG tool, Supervisor Mode also includes the local maps remote copy functionality.

Remote Copy allows the copy of maps in remote SDD positions.

LOCAL MAP GENERATION	×
SEL CLR	
ACCEPT CANCEL	
LOAD SAVE DELETI	:
REMOTE COPY	
ALL MAPS 🗵 ALL SDDS 🗵 COPY	

Figure 2-160: LMG Tool in Supervisor Mode

The Remote Copy function provides the following buttons:

- Maps button: allow the selection of local maps to copy. It displays a pop-down menu with available maps to copy. The available options are LOCALX for a single local map or ALL MAPS to copy all local maps.
- SDDs button: allow the selection of SDD positions where to copy the local maps. It displays a pop-down menu with available SDDs where to copy. The available options are SDDX for a single SDD where to copy local maps, or ALL SDD, to copy local maps in all available SDDs.
- Copy button: performs the remote copy of selected maps in selected positions.



# 2.4.4.1 Action: Local maps remote copy => {[LMG]}

Application: Perform this procedure to display the status and the log of all SDDs in the System.

ACTION	RESULT
In Supervisor Mode, LB click in [LMG] button.	
	LMG tool is displayed.
Check that local maps are defined, or create some. LB click in [ALL MAPS] button and select the maps to install. LB click in [ALL SDDS] button and select the SDD where to install. LB click in [COPY] button.	
	The maps are copied in SDDs selected.

# 2.5 OTHER WINDOWS

The operator cannot open or close some windows for special situations.

Some circumstances automatically display these windows and when the circumstances end, these windows disappear from the screen. The user can only change their position on the screen.

These windows are following described: Lost, Hold, Conflict, Coordination IN, Coordination OUT, APW and MSAW lists.



# 2.5.1 Lost List

When radar information is lost for more than a certain number of radar scans, the track is terminated and the information associated to the track is transferred to the Lost List.

When radar information is retrieved, the track and the label are automatically re-established in the screen, provided that the aircraft has an ICAO or domestic transponder and has an associated flight plan.





For correlated PSR tracks, this re-establishment must be undergone manually. The flight plan is deleted from the Lost List when the label is re-established or until a time (design parameter) has expired. The flight plan deletion also causes its deletion from the Lost List.

The controller can manually inhibit the flight plan deletion from the Lost List after time parameter, being the track maintanied displayed in Lost List after a bigger time value, defined in VSP.

## 2.5.1.1 Information Area

The information displayed on the Lost List goes as follows:

Field	Meaning				
	L (LOST FP) by default				
	C (Correlated FP)				
	- (Non-correlated FP)				
Status Indicator (1 character)	H (Holding FP)				
	F (FP in conflict)				
	A (Correlation Ambiguity)				
	S (Synthetic track)				
	For tracks in alert, this field is displayed in <b>RED</b> colour.				
C/S	Aircraft Indicator				
Deletion Indicator (1 character)	D (Deleted after time parameter)				
	K (Inhibited for deletion after time parameter)				
ADES	Destination Airport				

Doc.N°: 007450000000MA01 Edit./Rev.: A/0 Date: 12/04/2012



Field	Meaning
AFL (3 digits)	Actual Flight Level
CFL (3 digits)	Cleared Flight Level
Deletion Indicator (1 character)	D (Deleted after time-out)
	K (Inhibited for deletion)
<number></number>	Total number of Lost Flights. It also provides a menu to sort flights

Some of the Lost List fields have the capability of performing operational actions. Following table describes which are the sensitive fields and the undergone actions.

Table 2-54: Lost List. Sensitive Fields Options

Field	Option
Status Indicator	Display the FP pop-up menu (LB)
C/S	Decode Callsign / SSR Code (LB) Hand Over (RB)
Deletion Indicator	Toggle the deletion type (D or K)

# 2.5.2 Hold List

This list gathers the information related to all the tracks, which are in "holding" status.

The window is automatically displayed when the system detects that a track is in "holding" status (action performed by the controller). The window remains displayed until it becomes empty (no track in holding status).

Each line on the list is related to a different track in "holding" status.

Track label in holding status displays a **H** symbol before its callsign.

					HOLD				
	C/S	ATYP	AFL	CFL	FIX	ETO	ETA	ADES	3
Н	ARR006	DC10	145			0042	0036	EPKK	
н	TEST001	B737	233		EPWK	0042	0041	EPWK	
н	TRA005	B737	270		BULEP	0027	0107	CUBA	

Figure 2-162: Hold List



## The Hold List contains the following information:

## Table 2-55: Hold List. Information Area

Field	Description
	H (Hold)
Status Indicator (1 character)	F (Conflict)
	L (Lost)
C/S	Aircraft Identification (7 characters) / SSR code
АТҮР	Aircraft Type
AFL	Actual Flight Plan Level
CFL	Cleared Flight Level
FIX	Fixpoint where the aircraft is in "holding"
ETO	Estimated Time Over a Fix
ETA	Estimated Time of Arrival
ADES	Destination Aerodrome
<number></number>	Total number of flights in "holding" status. It also provides a menu to sort the flights

Some of the Hold List fields have the capability of performing operational actions. Following table describes which are the sensitive fields and the undergone actions.

## Table 2-56: Hold List. Sensitive Fields Options

Field	Option
Status Indicator	Display the FP pop-up menu (LB)
C/S	Decode Callsign / SSR Code (LB) Hand Over (RB)
Mode C or H	Delete the flight plan from the list (RB)



Hold List can be sorted by every field, clicking on field's name, flight plans will be sorted by this field.

# 2.5.2.1 Action: Enter/ Leave Hold List

Application: Perform a hold action over an owned track.

ACTION	RESULT			
Click in a controlled track callsign (in track label or in a flight plan list)	The Callsign Menu is displayed.			
Click in Hold option.	The Hold field is displayed. IBE 025 0 FPL EDIT DECORRELATE HOLD EAT FIX [1237 ACCEPT DECONTROL FORCE EMER CLOSE			
<ul> <li>Two possible options:</li> <li>Input in EAT field the hour (HHMM) the track will enter in Hold status.</li> <li>Click in [FIX] Icon and select a fix in displayed menu (the track will enter in Hold status when reach selected fixpoint).</li> <li>Confirm the action by clicking [Accept] button.</li> </ul>	The Hold List is displayed (if it was not) and contains the data corresponding to the track. The "Status Indicator" field of the Hold List displays an "H". The track label displays a YELLOW # symbol before its Callsign. HOLD C/S ATYP AFL CFL FIX ETO ETA ADES 3 H ARR0005 DD10 145 0042 0036 EPKK H TRA005 B737 270 BULEP 0027 0107 CUBA # IBE0008 0 075 B737M EPWA h s r 07			
Click in the track callsign (in track label or in a flight plan list.	The Callsign Menu is displayed.			
Click in Unhold option	The track leaves hold status, and hold list.			



# 2.5.3 Coord In/ Out Lists

These lists includes the information related with flight plans that have pending coordination dialogue, and includes, in COM field, the current coordination status.

From COM field, the Coordination window can be displayed, allowing the completion of coordination dialogue.

Both lists (Coord IN/ Coord OUT) are automatically displayed when any flight plan has pending coordination dialogue, and automatically disappears when the coordination dialogue is completed.

				COORD	IN						
	C/S	ADEP	ADES	EOBT	COPN		ETO	PEL	COOR	COM	2
	C DLH4455	EDDF	UKDD	0959	BOKSU		1138	340	RAP	ото	
	C IBE7733	LEMD	ZBAA	0959	PENOR		0959	340	RAP	ОТО	
Ĵ,											
					COORD	OUT					
	C/S	ADEP	ADES	EOBT	XCOP		XTO	XFL	COOR	COM	2
	ARG1332	UKDD	SAEZ	1100					ACT	LT0	
	C IBE4565	EPWA	LEMD	1203	KORUP		1212	300	REV	MAN	

Figure 2-163: Coordination In/ Out Lists

Table 2-57: Coordination IN/ OUT List. Information Area

Field	Description
	L (LOST FP) by default
	C (Correlated FP)
	- (Non-correlated FP)
Status Indicator (1 character)	H (Holding FP)
	F (FP in conflict)
	A (Correlation Ambiguity)
	S (Synthetic Track)
ADEP	Departure Aerodrome
ADES	Destination Aerodrome
EOBT	Estimated Off-Block Time
	It may be filled with "C"; which indicates the reception of CTOT indication
ADEP	Departure Aerodrome
ADES	Destination Aerodrome



Field	Description
COPN/ XCOP	Coordination Point
ΕΤΟ/ ΧΤΟ	Estimate Time Over Fixpoint
PEL/ XFL	Planned Entry/ Exit Level With (*), Activation level With (F), the RFL from the FP
COOR	Coordination Dialogue Establishment
СОМ	Coordination Status
<number></number>	Total number of flights in "holding" status. It also provides a menu to sort the flights

# 2.5.4 Conflict List

This list gathers the information related to all the tracks in STCA conflict.

The window is automatically displayed when the System detects that there are tracks in STCA conflict. The window remains displayed until no track is in STCA conflict.

Each line on the list is related to a different STCA conflict (two tracks) and has a different colour depending if the aircraft is in prediction status or violation status.

Prediction (PR) Yellow

Violation (VI) Red

	CON	FLICT		
C/S	C/S	CDIS	MDIS	2
<ul> <li>DOMES</li> </ul>	T1 DOMEST2	3.43NM	3.32NM	
– WARKK	KKWAR	26.6NM	0.09NM	

Figure 2-164: Conflict List

The Conflict List contains the following information:

Table 2-58: Conflict List. Information Area

Field	Description
Callsign / SSR Code	Aircraft 1 Identification (7 characters) / SSR code.
Callsign / SSR Code	Aircraft 2 Identification (7 characters) / SSR code.



Field	Description
CDIS	Current distance between the aircrafts in conflict.
MDIS	Minimum distance reached between two flights in STCA conflict.
<number></number>	Total number of elements in the Conflict List

Conflict List can be sorted by every field, clicking on field's name, flight plans will be sorted by this field.

## 2.5.5 APW List

This list gathers the information related to all tracks in APW conflict.

When the System detects that there are tracks that will enter in a restricted area, the APW list automatically displays. The window remains displayed until no track is in APW conflict (prediction or intrusion).



Figure 2-165: APW List

Table 2-59: APW List. Colours Code

Colour	Meaning
YELLOW	Track in APW prediction
RED	Track in APW intrusion

The APW List contains following information:

Table 2-60: APW List. Information Area

Field	Description
Status Indicator	L (LOST FP) by default
	C (Correlated FP)

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Field	Description
	- (Non-correlated FP)
	H (Holding FP)
	F (FP in conflict)
	A (Correlation Ambiguity)
	S (Synthetic Track)
C/S	Aircraft Identification (7 characters)
SSR	SSR Code
<number></number>	Total number of elements in the APW List

APW List can be sorted by every field, clicking on field's name, flight plans will be sorted by this field.



# 2.5.6 MSAW List

This list gathers the information related to all tracks in MSAW alert.

When the System detects that there are tracks that may be in danger by minimum safe altitude, the MSAW list automatically displays. The window remains displayed until no track is in MSAW conflict.

C/S SSR 1 C LOT123 5476		M	SAW	
C LOT123 5476		C/S	SSR	1
	СL	0T123	5476	

Figure 2-166: MSAW List

Table 2-61: MSAW List. Colours Code

Colour	Meaning
YELLOW	Track in MSAW prediction
RED	Track in MSAW intrusion

The MSAW List contains following information:

Table 2-62: MS

MSAW List. Information Area

Field	Description
	L (LOST FP) by default
	C (Correlated FP)
	- (Non-correlated FP)
Status Indicator	H (Holding FP)
	F (FP in conflict)
	A (Correlation Ambiguity)
	S (Synthetic Track)
C/S	Aircraft Identification (7 characters)
SSR	SSR Code
<number></number>	Total number of elements in the MSAW List

MSAW List can be sorted by every field, clicking on field's name, flight plans will be sorted by this field.



# A. ABBREVIATIONS AND GLOSSARY OF TERMS

# A.1 LIST OF ABBREVIATIONS

ABI	Advanced Boundary Information Message
ACT	ACTivation
ADS	Automatic Dependent Surveillance
AFTN	Aeronautical Fixed Telecommunications Network
ATA	Actual Time of Arrival
ATCC	Air Traffic Control Center
ATD	Actual Time of Departure
ATIS	Automatic Terminal Information Service
BYP	BY-Pass operational mode
СВ	Mouse Central Button
CFL	Cleared Flight Level
CIN	See NIC
CLAM	Cleared Level Adherence Monitoring Alert
CPDLC	Controller Pilot Data Link Communication
CPL	Current Flight Plan
CSSR	Code SSR
DBM	Data Base Management
DCT	DireCT
DEP	DEParture Aerodrome
DEST	DESTination Aerodrome
DF	Direction Finder



DRF	Data Recording Facility
EET	Estimated Elapsed Time
EST	ESTimate
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
ETO	Estimated Time Over a Fix
FCON	Fixed CONfiguration
FDD	Flight Data Display
FDP	Flight Data Processing
FP	Flight Plan
FPL	Flight Plan
GRM	Graphical Route Modification
HFS	Horizontal Future Situation
HMI	Human-Machine Interface
IAS	Indicated Air Speed
ICAO	International Civil Aviation Organization
IFR	Instrumental Flight Rules
INT	INTegrated operational mode
Km	Kilometer
LAN	Local Area Network
LB	Mouse Left Button
LMG	Local Maps Generation
METEO	METEOrological



mbar	milibars
mm	millimetres
MON	MONo-radar operational mode
MSAW	Minimum Safe Altitude Warning
MTCD	Medium Term Conflict Detection
NIC	Navigation Integrity Control
NM	Nautical Miles
PBN	Performance Based Navegation
PSR	Primary Search Radar
PSR T	Primary Surveillance Radar Track
QFE	Atmospheric pressure at aerodrome elevation or at runway threshold
QNH	Altimeter sub-scale sitting to obtain elevation when on the ground
RAD	RADar (Radar)
RAW	Restricted Area Warning
RB	Mouse Right Button
RBL	Range Bearing Line
RETD	Revised Estimated Time of Departure
RFL	Requested Flight Level
RIE	Route Insertion Error
SDD	Situation Data Display
SDP	Surveillance Data Processing
SID	Standard Instrument Departure
SPI	Special Position Identification



SSR	Secondary Surveillance Radar
STAR	STandard ARrival
STCA	Short Term Conflict Alert
ST-RAW	Short-Term Restricted Area Warning
TL	Transition Level
UHF	Ultra High Frequency
UTC	Coordinated Universal Time
VFR	Visual Flight Rules
VHF	Very High Frequency
VSP	Variable System Parameter

# A.2 GLOSSARY OF TERMS

## Adaptation

Set of system-specific data adapted by and used by a system.

#### **Adaptation Data**

Values entered into the system to control different processes as the determination of the insertion moment of the FP to the list, activation/inhibition of certain alerts, etc.

## **ADS Contract**

An agreement between the ADS ground-user and the ADS air-user, that is, the latter one will provide reports to the former one under the conditions specified in the contract.

## Aerodrome

A defined area (including any buildings, installations, and equipment) intended to be used either wholly or in part for arrival, departure and surface movement of aircraft and operational vehicles.

#### Aircraft Identity (ACID)

A group of alphanumeric characters used to identify an aircraft in air-to-ground communications. It is the same as callsign.

## Airspace

It is a volume from above the surface of the earth and to a specified altitude. It can be designated to be under the control of an air traffic controller.



## Airway

A corridor for air traffic that is equipped with radio navigational aids, which is used by the aircraft to maintain its position within the corridor. An airway is defined by a series of Fixes.

#### Altitude

The vertical distance of a level, a point, or an object considered as a point, measured from mean sea level.

## Altitude Filter

Operational display filter that suppresses the display of tracks which corresponding altitude is not within the filter limits. Tracks assumed by the display are not subject to filtering.

#### Bypass mode

Operational mode of a SDD indicating that the radar data processing what is feeding the display of the SDD is the mono-radar tracking running in SDD processor. The information coming from RDP central server (if it is running) is not taken into account by the SDD.

#### Lost

A track (aircraft) is Losted when a radar return has not been received for a particular target. When this happens, the target tracker projects a target position based on the target's previous positions and generates a new track position update for the display. A Losting track is dropped from both the display and the target tracker's database if its Losting time exceeds a Variable System Parameter limit.

#### Conflict

Predicted converging of aircraft in space and time, which constitutes a violation of a given set of minimum separations.

#### **Conflict Alert**

Predictive function that involves the monitoring of all aircraft-pairs that are equipped with Mode C transponders. Conflict Alert warns the controller of potential collisions due to airspace violations.

#### Controller

A person authorized to provide air traffic control service.

A means of communication between controller and pilot, using data link for ATC communications.

#### **Coordination Process**

Transference process between controllers. Sometimes it requires request and acceptance, according to the transference mode.

#### Correlation

The process of coupling (manually or automatically) radar track and a flight plan based on predefined criteria, as belonging to the same aircraft.

#### **Cruising Level**

A level maintained during a significant portion of a flight.



# **Current Flight Plan (CPL)**

The flight plan, including changes, if any, brought about by subsequent clearances.

## **Demand Contract**

A contract between a requestor and a provider of information service, such as ADS, to provide a single report to the requestor.

## **Emergency Contract**

A contract to provide ADS reports at regular intervals during an emergency.

## **Event Contract**

Contract established between controller and pilot. It causes the aircraft returns ADS reports at controllerdefined events.

#### Fix

Reference point specified either by geographic coordinate (latitude, longitude), a name, or as a distance and bearing from a navigational aid.

## Flight Data

Data related to real or foreseen movements of an aircraft, usually displayed in abbreviated or in code form.

#### **Flight Information**

A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

#### Flight Level

A surface of constant atmospheric pressure that is related to a specific pressure datum, 1013.2 hectopascals (hPa), and is separated from other such surfaces by specific pressure intervals.

#### Flight Plan

Specified information relating to the intended flight of an aircraft that is filed orally or in writing with an FSS or an ATC facility.

#### **FP Strip**

Device that contains information on a flight's progress and current status. These are displayed on the specific working positions to communicate the flight information to the controller in charge.

#### Hand-Over Procedure

Process of transferring flights between controllers.

#### Heading

The direction in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from North (true, magnetic, compass or grid).



## Height

The vertical distance of a level, a point or an object considered as a point, measured from a specified datum.

## Leader Line

Line which links the data label to its corresponding track.

## Level

A generic term relating to the vertical position of an aircraft in flight and meaning variously, height, altitude, or flight level.

## Medium Term Conflict Detection (MTCD)

Predictive function, which involves the monitoring of the trajectory of all the system flight plans under control of the ATC center. The MTCD function alerts the controller on the potential violation of separation criteria (longitudinal, lateral and vertical).

## Minimum Safe Altitude Warning (MSAW)

Predictive function, which involves the monitoring of all aircrafts that report valid altitude data. MSAW warns the controller of potential collisions with ground-based objects.

## Mode C

A setting on the aircraft transponder equipment that implies the current height of the aircraft sending.

## Mono-radar Track

It is information set, evolving in time, related to an aircraft, based upon radar information received from a unique radar site and used by the computer for tracking purposes.

## Multi-radar Track

It is an information set, evolving in time, related to an aircraft and obtained from the synthesis of all monoradar tracks what represent the above referenced aircraft.

## **Periodic Contract**

A contract to provide ADS reports at regular intervals.

## Pop-up Menu

Menu displayed upon clicking once on a selectable option, usually a track field. The menu's position on the display depends on the location of the selectable option. Menu display is kept after button release and selection is performed pointing and clicking (usually LB).

## Primary Surveillance Radar (PSR)

The radar sensor used to determine the position of an aircraft.

## Process

Program segment that is usually dedicated to a functionally cohesive activity, recognized and scheduled for execution by UNIX.



## **Pull-down Menu**

Menu displayed upon clicking once on a button. The menu's position is fixed. Menu display is kept after button release and selection is performed pointing and clicking (usually LB).

#### Quick-look

Mode for displaying a track label for information purposes.

#### Radar

A device which, by measuring the time interval between transmission and reception of radio pulses and correlating the angular orientation of the radiated antenna beam or beams in azimuth and/or elevation, provides information on range, azimuth, and/or elevation of objects in the path of the transmitted pulses.

#### **Restricted Area**

Defined airspace volume, where the flights are restricted under certain conditions, or where, dangerous activities for the flights are performed.

#### Route

The planned or actual path of an aircraft specified using some or all of the following: departure aerodrome, SID, Fixes, Airways, Holding Pattern, STAR, and/or destination aerodrome.

#### Runway

A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.

#### Secondary Surveillance Radar (SSR)

The radar sensor used to interrogate aircraft transponder equipment to receive SSR codes, barometric pressure information, and/or the SPI.

#### Sector

A subdivision of a designated control area which belong to a controller or a small group of controllers. The entire sector must belong to one controller jurisdiction at a time. In addition, sectors composing a controller jurisdiction shall be adjacent.

#### Sectorization

The action of altering the existing configuration by changing the allocation of some or all sectors in respect of the working positions.

#### Short Term Conflict Alert (STCA)

Predictive function that involves the monitoring of all aircraft pairs, which are equipped with Mode C transponders. Conflict Alert warns the controller of potential collisions due to airspace violations.

#### Situation Data Display (SDD)

The computer display where Air Traffic Controllers view targets (aircraft) and radar returns.



## **Special Position Identification SPI**

A feature of aircraft transponder equipment that, when enabled, causes the aircraft's corresponding Present Position Symbol (PPS) to change to the Special Purpose Indicator on the SDD. This PPS is used to differentiate the aircraft's PPS from others that may be in the same immediate area.

#### SSR Code

A four-octal digit code, which is sent from aircraft transponder, in order to uniquely identify the aircraft.

## Standard Instrument Departure (SID)

A special route, that an aircraft (following IFR) over-flies during a take-off (using the <Take Off> command). A SID connects an airway to an airport and it is defined by a series of fix/level pairs that begin at or near the departure runway and end at or near the airway.

## Synthetic Track

Type of track generated by the system upon controller request. A special track symbol distinguishes these tracks from the real ones.

#### Track

The projection on the surface of the earth of the path of an aircraft, the direction of which path at any point is expressed in degrees from magnetic North.

#### Track Label

Collection of tabular data displayed on one to four lines. The data label is linked to its corresponding track by a leader line.

#### Track Symbol

Visual representation of the type of track.

## **Traffic Flow**

Set of reports, which are provided by the system or operator request. These reports support the user for decision-making on air traffic flow smoothing within either a determined airspace, or flight plan route or departure/origin aerodrome, in order to make the best use of the airspace.

#### Transit

Flights passing through the working area (FIR).

#### **Transition Level**

Altitude at which, or below, the vertical position of an aircraft is controlled by altitudes reference.

#### Transponder

L-band radar receiver/transmitter carried aboard certain aircraft. It transmits a beacon code and Mode C altitude (if so equipped), in response to an interrogation from Secondary Surveillance Radar. The data provided by a transponder can be in any of the following forms: Mode 3/A, Mode 2, or Mode C.

## UNIX

Operating System used for the system.



## Variable System Parameter

It is a system parameter, which can be modified on line.

## **Working Position**

A specially constructed group of workstations that are contained in a single cabinet structure.

#### Workstation

The computer and application software. Workstations are grouped together in various combinations to form a working position.



# B. ERROR MESSAGES

# SDD messages.

# " MTCD DATA BASE LIMIT EXCEEDED!! "

Maximum number of MTCD conflicts in local database reached.

## " EXCLUSIVE GML SUPERVISOR CAPABILITY "

## " EXCLUSIVE METEO SUPERVISOR CAPABILITY "

Actions only alowed to supervisor

## " LMG OPERATION NOT ALLOWED "

Error in LMG tool

## " NUMBER MAXIMUM AREAS EXCEEDED "

Maximum number of areas reached

# " INTERCONSOLE MARKER ACTIVATION NOT POSSIBLE "

Error in interconsole marker tool

## " DECENTERING LIMIT REACHED "

- " MAXIMUM RANGE "value" NM "
- " MINIMUM RANGE "value" NM "

Limits reached for decentering and range tools

# " RBL ALARM FUNCTION DISABLED "

RBL disabled warning

## " RESTRICTED ACTION, GRAPHIC ROUTE MODIFICATION ACTIVATED "

Action not allowed while route modification is activated



" ACTUAL POSITION LOWER THAN REQUESTED "

Error in manual sorting of Lists

- " CURSOR ACTIVATION NOT POSSIBLE "
- " CURSOR ACTIVATION NOT POSSIBLE (HFS) "
- " ERROR ACTIVATING AID (HFS) "

" PRINT ERROR: NO PRINTER AVAILABLE "

# " PRINTING ERROR: TABULAR FILES NOT CREATED "

Printing errors

" MAXIMUM SELECTED ADF CHANNELS REACHED "

Error in ADF channel for Direction Finder tool

" RBL WARNING: UNABLE TO CONNECT TRACK WITH ITSELF "

" RBL WARNING: RBL EXISTS "

**RBL** creation warnings

- " TRACK NOT OWN "
- " TRACK NOT PRIMARY "
- " PRIMARY NOT HOOKED "

Tracks selection warnings

## " CONFLICTS REQUESTED FOR "callsign" "

- " REQUEST ERROR FOR "callsign" "
- " REQUESTED CONFLICT "callsign" CANCELLED "

Conflicts window warnings

# MESSAGES FROM EXTERNAL EVENTS.

" QNH/TL CHANGED "



QNH change notice

" ATIS INFO CHANGED "

" METAR INFO CHANGED " " TAF INFO CHANGED " " SIGMET INFO CHANGED " " SPECI INFO CHANGED " " AIRMET INFO CHANGED " " GAMET INFO CHANGED "

Incoming meteorological message notice

" NO CPDLC MESSAGE SELECTED "

ADS/CPDLC request notice.

Zone creation/deletion notice.

" MAKE ZONE MET " " MAKE RADIOSONDE " " CLEAR ZONE MET " " CLEAR RADIOSONDE "

" NO DATA MET "

" DEMAND CONTRACT REQUEST FROM FLIGHT: "CALLSIGN" "

Give change notice

" RDP DOWN " " RDP UP "

" FDP DOWN " " FDP UP "

FDP status notice

RDP (SDP) status notice

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# FDP MESSAGES.

# " FLIGHT PLAN ALREADY EXIST "

Flight Plan can not be created, because exists another with the same keywords fields (ARCID, ADEP, EOBD, EOBT, ADES).

## " FP NOT EXIST "

There is not Flight Plan for Incoming message.

# " FULL FILE "

Flight Plan can not be created, because the capacity of the Fligth Plan Database is full.

# " INACCESSIBLE FP "

For an action over a Flight Plan, which is not accessible according to the state of this.

# " OFFLINE LINE "

For a manual AFTN messages transmission, and the LINE is not ONLINE.

# " FLIGHT PLAN NOT FOUND "

Upon Flight Plan Retrieve, no matches found.

# " NO FP FOUND "

Upon Flight Plan Retrieve, no matches found.

## " NOT UNIQUE "

For retrieve and incoming messages there are more that one element that matches with the present keywords.

# " NOT VALID FOR COORD EVOLUTION "

When an OLDI message that does not correspond to the current coordination status is received or sent.

# " NOT VALID FOR FP CONDITION "


When an OLDI message that can not be processed in the current status of flight plan is received.

# " COORD. NOT ACCESSIBLE "

When a coordination message is not received, but the partner center is not defined as a coordination center.

## " FIELD WITH ERROR "

When there is an error in one field. (This error is only displayed, when the specific error field can't be displayed).

# **SNET MESSAGES**

## " IMPOSSIBLE CREATE APL Fictitious (INCOMPLETE) "

Error when trying to create a fictitious FP without fulfilling all fields of the fictitious window

#### " IMPOSSIBLE CREATE APL Fictitious (ALREADY EXISTS) "

Error when trying to create an already existing fictitious FP in the System

## " Callsign UNABLE TO CREATE HACT > LAST ETO "

Error when trying to create manually or automatically a synthetic track starting from a Flight Plan which route has been already overflown.

## " Callsign UNABLE TO CREATE HACT < FIRST ETO "

Error when trying to create manually or automatically a synthetic track starting from a Flight Plan which route has not started yet to be overflown yet.

## " Callsign UNABLE TO CREATE INCOMPLETE ROUTE "

Error when trying to create a synthetic track starting from a Flight Plan without route.

Errors in FP Template are included in FDD User Manual.



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# C. GENERATE MANUAL MAPS USER MANUAL

# INDEX FILE STRUCTURE

In the directory /local/<proj\_name>/sdd/exec/mapas open the index file calls <proj\_name>.map.

For example vi <proj\_name>.map.

The structure of the <proj\_name>.map is the next one:

The user decides to create a new maps data to show in the SDD.

First of all, the user creates the data of a new map in a file. There are two possibilities to order the data:

Case 1: The file contains map data that can be drawn directly in the position or,

Case 2: The file contains a group of map files in a tree structure.

## Case 1: Menu entries not grouped in a submenu

The user is going to create a map of new fixpoint names.

In order to allow to the user to define a new map following the next instructions:

- 1. The user creates in the directory /local/<proj\_name>/sdd/exec/mapas the file newfixpoint.map with the data that he wants to show.
- 2. Open <proj\_name>.map and add the next line:

File name	File type	SDD map name
newfixpoint	GENERIC	New Fixpoints.

If the user creates the file newfixpoint.map in other directory for example /local/<proj\_name>/sdd/exec/mapas/personal, the first field of the <proj\_name>.map file is the path name.

File name	File type	SDD map name
personal/newfixpoint	GENERIC	New Fixpoints



#### Case 2: Menu entries grouped in a submenu

The user is going to create a group of maps of new fixpoints.

In order to allow to the user to define a new map following the next instructions:

1.- The user creates in the directory /local/<proj\_name>/sdd/exec/mapas the file newfixpointgroup.map with the next data:

File name	File type	SDD map name	
newfixpoint1	ixpoint1 GENERIC		
newfixpoint2	GENERIC	New Fixpoints 2	
newfixpoint3	GENERIC	New Fixpoints 3	

2.- The user creates in the directory /local/<proj\_name>/sdd/exec/mapas the file newfixpoint1.map, newfixpoint2.map and newfixpoint3.map with the data that he wants to show.

3.- Open <proj\_name>.map and add the next line:

File name	File type	SDD map name	
newfixpointgroup	SUBMAP	New Fixpoints	

In the SDD the user click the map button and the New Fixpoints is show with > icon. Clicking the > icon a menu is displayed with:

SDD map name
New Fixpoints 1
New Fixpoints 2
New Fixpoints 3

If the user creates the file newfixpointgroup.map in other directory for example /local/<proj\_name>/sdd/exec/mapas/personal, the first field of the <proj\_name>.map file is the path name.

File name	File type	SDD map name	
personal/newfixpointgroup	SUBMAP	Personal Points	



# D. SAFETY NETS

# D.1 MSAW

This function is especially necessary if the control center geography forms many mountainous and slopes.

Minimum Safe Altitude Warning is displayed only in predefined MSAW Areas.

These areas are defined in DBM to guarantee the flight safety regarding the altitude and a MSAW alarm will be set off at the SDD position when the aircraft descends below this level. MSAW areas are defined both in shape and in level. Each area consists of a set of geodesic points describing the perimeter and a level that is determined because of ground obstacles.

After MSAW zones definition, Safety Nets defines the zones with a defined precision (1 NM). A track in MSAW conflict must be controlled in a local sector, or MSAW alert will not be displayed.

A VSP time before the MSAW area (both vertically or horizontally) is entered, MSAW alert is displayed at SDD in prediction phase. Colours for MSAW alert can be modified in GTI, by changing "MSAW prediction" and "MSAW violation" values.



Figure 2-167: MSAW alert - Prediction

When the aircraft enters the defined MSAW area, alert MSAW alert turns into violation phase.



Figure 2-168: MSAW alert - Violation

The Minimum Safe Altitude Warning (MSAW) List presents all the pairs of tracks, related to the sector, that are in MSAW alert status. The list is automatically generated and displayed when the system detects that there are tracks in MSAW conflict.





Figure 2-169: MSAW List

When the aircraft leaves the area or climbs out the area level both the alert graphical presentation and the sound ceased.

A System Message is sent both to CMD and SDD positions when a MSAW conflict is produced.

MSAW alert includes an aural alert, that can be cancelled manually by controller.

DBM allows to off-line adjust parameters for MSAW zones creation and edition.

- MinimumsZonesEdit TEST - 🗖						
DataBase : war_sim_4						
EXIT Esc Save F1						
NAME : TEST ALTITUDE : 160 MAP COLOUR						
Append Modify Insert Delete						
MINIMU	JM ZONES CONTOUR POINTS					
Latitude Longitu	ude CONTOUR POINT LOCATION	1				
530000N 0180000	OE 🔼 LATITUDE : N/S :					
530000N 0190000	OE LONGITUDE : E/W :					
520000N 0190000	0E	-1				
520000N 0180000	OE 🔽 OK Forget					

Figure 2-170: DBM – Minimum Zones Edit Window

# D.2 PROFILES IN MSAW AREAS:

In case an aerodrome within the FIR is situated in a mountainous zone, which may causes warnings, it is necessary to define a MSAW area.

It is possible to define profiles to avoid flights, which correctly take off and land by following the established procedures, to emit the MSAW alert. The profiles creation is performed in the adaptation database. Profiles can be defined both for arrival flights or for departure flights, and also for a certain wake turbulence, or for all of them.

The profile consists of a circular area, which surrounds the airport, and a corridor, which goes from this one to the outside of the area outline. Through this corridor, the aircraft does not emit the MSAW Alert but



when an aircraft does not follow this profile, it will trigger the MSAW Alert. Inside the circular area, MSAW alert is totally inhibited. The corridor has tolerance in lateral, in heading and in lat-long.

The DBM allows to off-line adjust Profiles parameters, as displayed in the image.

	DataBa	se : war_	4		
EXIT Esc	Save F1	Report F	4		
PR	OFILE PARA	METERS E	DITIO	лс	
HEADING	TOLERANC	E (deg)	:	18	
ALTITUDE	TOLERAN	CE (Hf)	:	2	
DISTANCE	TOLERAN	CE (Nm)	:	2	
ATDDODT	TOLERANC	E (Nm)	100	5	1

Figure 2-171: DBM – Profile Parameters Edit Window

# D.3 APW

APW is quite similar to MSAW, the main difference is restricted area can be defined as a circular or a polygonal shape; and its altitudes are defined (both minimal and maximal altitudes). Restricted areas can be defined in DBM (static) and in FDD (dynamic).

A System Message is sent both to CMD and SDD positions when an APW conflict is produced.

Schedules: restricted areas can be also defined with multiple activation times and altitude levels. Each schedule has up to four range codes to filter for STCA, APW and MSAW alert exclusion. A track in APW conflict must be controlled in a local sector, or APW alert will not be displayed.

A VSP time before the restricted area is entered, APW alert is displayed at SDD in prediction phase. Colours for APW alert can be modified in GTI, by changing "APW prediction" and "APW violation" values.





Figure 2-172: Track in APW – Prediction

When the aircraft enters the defined restricted area, alert APW alert turns into violation phase.



Figure 2-173: Track in APW – Violation

The Area Proximity Warning (APW) List presents all the pairs of tracks, related to the sector, that are in STCA alert status. The list is automatically generated and displayed when the system detects that there are tracks in APW conflict.

APW					
C/S SSR 1					
C KKWAR	5002				

Figure 2-174: APW list – Prediction





Figure 2-175: APW list – Violation

APW alert includes an aural alert, that can be cancelled manually by controller.

From CMD supervisor position, several VSP are available to adjust APW parameters, as displayed in the following image.

	SYSTEM	PARAMETERS	_		_
		APW			
PARAMETER NAME		Unit	MINIMUN	I MAXIMUM	VALUE
Min. altitude		FL	0	900	0
Max. altitude		FL	0	900	900
Alarm timeout		sec.	30	120	120
	OV.	Evit			
		EXIC			

Figure 2-176: CMD - APW VSP's

## D.4 STCA

At least one of the STCA tracks in conflict must be under control or inbound by a local sector. For STCA conflict tracks must be predicted to be in vertical and in horizontal conflict in a period of time.

Minimal and maximal altitude values are defined to STCA display.

In addition, STCA separation parameters for vertical conflict are different by level layers:

- o 0-290 flight levels;
- o 290-410 flight levels;
- >410< Max FL(flight levels).</li>

STCA separation parameters for horizontal conflict may differ for different sectors. If one of the tracks in STCA conflict is in a different sector that the other track in STCA conflict, and its parameters vary, it is apply the more restrictive value.

STCA exclusion is performed by several filters:

- SSR exclusion filter: in the whole FIR;
- o SSR exclusion filter in a restricted area;



# • STCA special areas for STCA inhibition.

A VSP time before the STCA area (both vertically or horizontally) is entered, STCA alert is displayed at SDD in prediction phase. Colours for STCA alert can be modified in GTI, by changing "STCA prediction" and "STCA violation" values.

A System Message is sent both to CMD and SDD positions when an STCA conflict is produced.

A VSP time before the restricted area is entered, STCA alert is displayed at SDD in prediction phase. Colours for STCA alert can be modified in GTI, by changing "STCA prediction" and "STCA violation" values.



Figure 2-177: Tracks in STCA Warning

When the track enters the STCA conflict, alert turns into violation phase.



Figure 2-178:

Tracks in STCA Alert



The Short Term Conflict Alert (STCA) List presents all the pairs of tracks, related to the sector, that are in STCA alert status. The list is automatically generated and displayed when the system detects that there are tracks in STCA conflict.

	CONFLICT						
	C/S	C/S	CDIS	MDIS	2		
-	DOMEST1	DOMEST2	3.43NM	3.32NM			
-	WARKK	KKWAR	26.6NM	0.09NM			

Figure 2-179: STCA List

STCA alert includes an aural alert, that can be cancelled manually by controller.

From DBM position, STCA parameters can be off-line adjusted.

🗙 StcaParametersEdit 📃 🗖 🗙				
DataBase : war_4				
EXIT Esc	Save F1 Re	port F4		
STCA PARAMETERS EDITION				
Minimum Altitude for STCA (Hf): 0				
Maximum Altitude for STCA (Hf): 900				
STCA Vertical Separation (min. to 290 FL) : 8				
STCA Vertical Separation (290 to 410 FL) : 17				
STCA Vertical Separation (410 to max. FL) : 17				
STCA RVSM Vertical Separation (290 to 410 FL) : 8				
Time to Prediction (sec) : 120				
Append	Modify	Insert	Delete	[
STCA HORIZONTAL DISTANCE BY SECTOR				
SECTORS	DIST.		DISTAN	CE EDITION.
BAXX	3		SECTOR	·
BLXX	0		SECTOR	
BUXX	7		DIST. (1	Nm.) :
CRXX	7		0K.	Forget
CUXX	7			

Figure 2-180: DBM – STCA Parameters Edit Window