46.00 CONTENTS

INTRODUCTION

The information system manages the datalink communication and provides the crew with information coming from the airline.

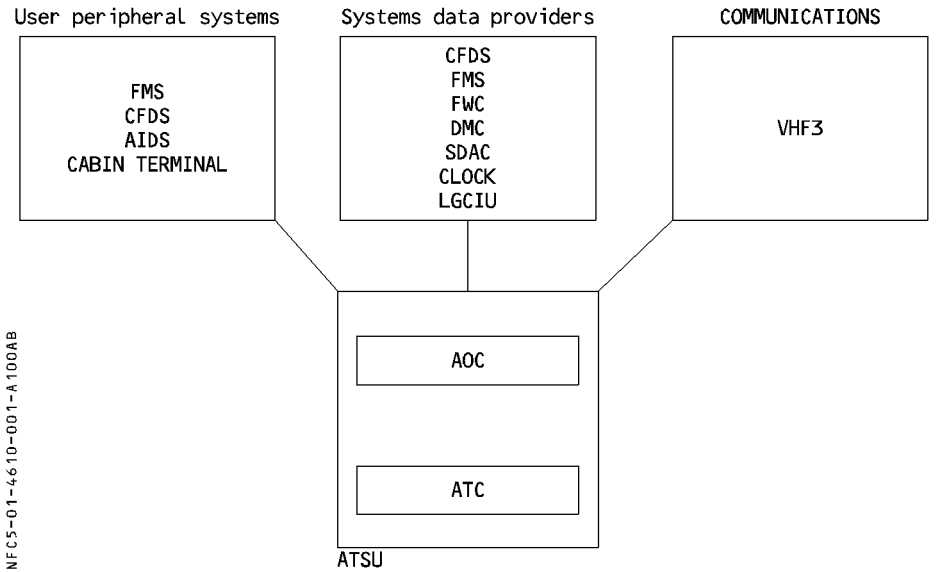It consists mainly of an Air Traffic Service Unit (ATSU).

The ATSU manages :

— The Air-Ground communications through the appropriate communication media (VHF data radio or HF data radio (*)).

— The exchange of information between the aircraft and the airline according to the Airline Operational Control (AOC) applications defined in the ATSU.

— The information display via the MCDU.

— The appropriate warning for crew information.

The ACARS functions are included in the ATSU.

* Not yet installed.

SYSTEM ARCHITECTURE

The ATSU is connected to the following systems :

User peripheral systems

FMS
CFDS
AIDS
CABIN TERMINAL

Systems data providers

CFDS
FMS
FWC
DMC
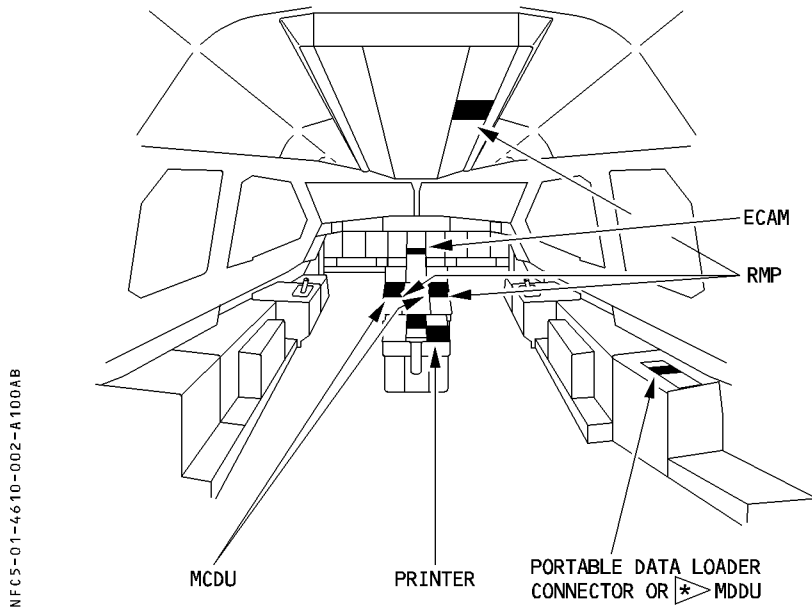SDAC
CLOCK
LGCIU

COMMUNICATIONS

VHF3

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AOC

ATC

ATSU

The ATSU supports uplink and downlink messages.

They may be either automatically or manually handled, with or without information to the crew.

COCKPIT ARRANGEMENT

MCDU   PRINTER   PORTABLE DATA LOADER CONNECTOR OR [*]> MDDU

ECAM

RMP

The pilot interface consists of :
— The MCDU to handle the AOC functions.
— The PRINTER to print any type of messages.
— The ECAM for operational information.
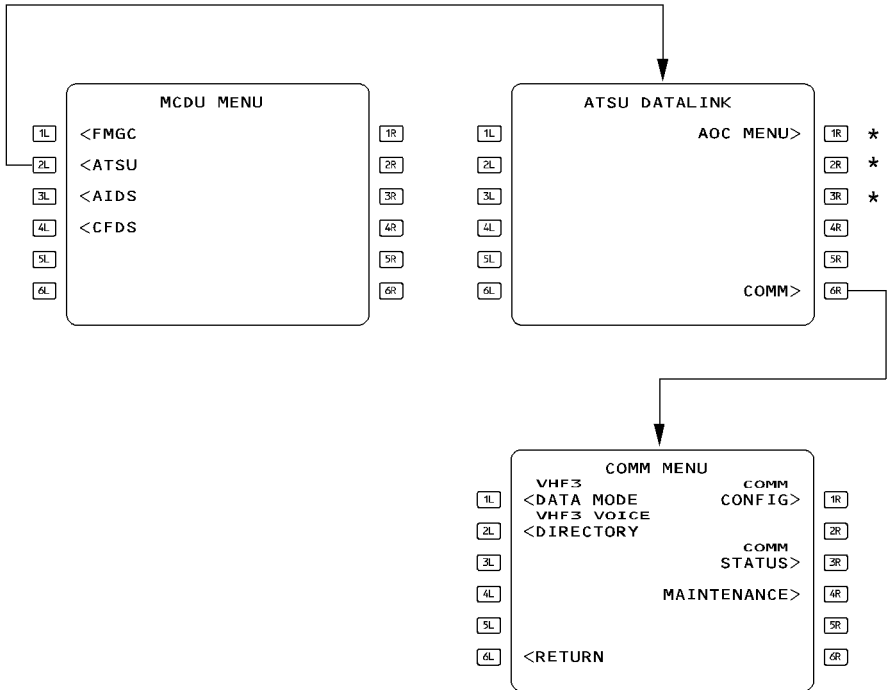— The RMP to allow frequencies tuning.

INTRODUCTION

Air-Ground communications are managed, by the ATSU communication function, either:
— Automatically without pilot action, or
— Manually, using MCDU pages and/or RMPs.
The pilot controls communications via the MCDU's COMM MENU page.

* These fields are customized according to AOC programming.

DOWNLINK AND UPLINK MESSAGES

DOWNLINK MESSAGES

Aircraft to ground messages (downlink) comprise maintenance, monitoring, operational, performance and cabin data.

Reports generated by a peripheral (CFDS, AIDS, FMS, CABIN TERMINAL) system can be automatically downlinked by the ATSU depending on each airline AOC programming.

UPLINK MESSAGES

Ground to aircraft messages (uplink) either contain crew information (wind for example) or data to be uploaded into the FMS (Flight plan for example). Uplinks can also contain requests for transmission of specific downlink reports.

Messages are indicated to the crew by :
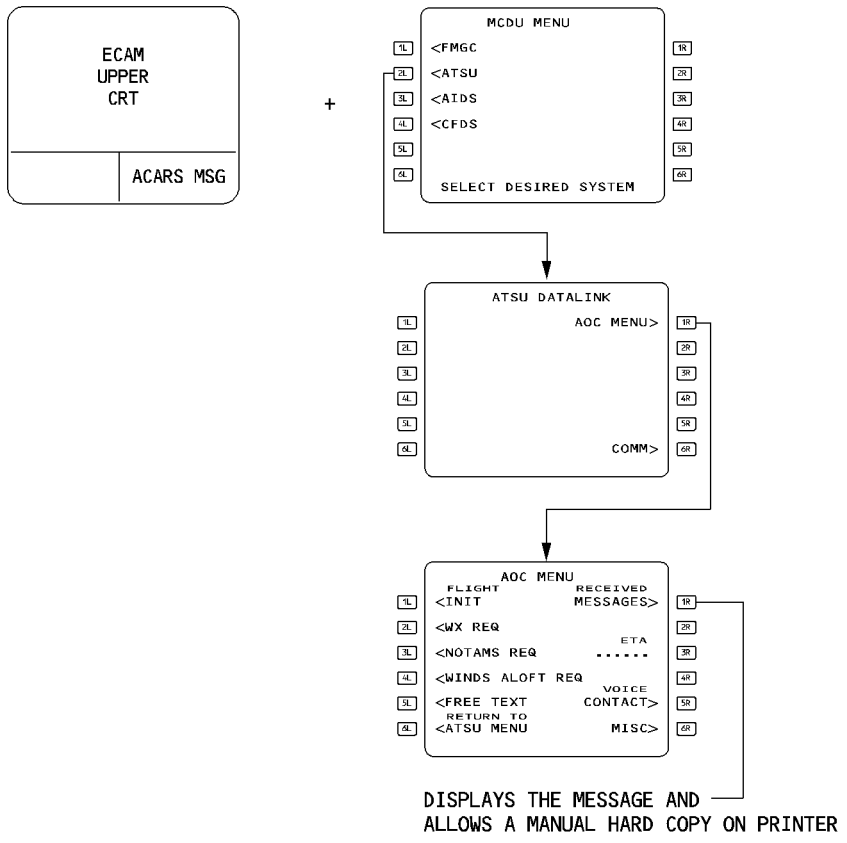· "ACARS MSG" memo (in green) on ECAM, or
· "ACARS CALL" memo (in green) on ECAM, or
· MCDU MENU light illumination if the MCDU is not in the mode where the uplink message can be displayed, or
· Hard copy on cockpit printer depending on airline AOC programming.

Note : *A steady green "ACARS STBY" memo is displayed in case of communication loss between aircraft and ground.*

Depending on the memo displayed on ECAM the uplink message indications are available as in the following examples :
— For a "ACARS MSG" ECAM memo :


```
        ECAM
        UPPER
         CRT

                    ACARS MSG
```

+

```
              MCDU MENU
1L  <FMGC                    1R
2L  <ATSU                    2R
3L  <AIDS                    3R
4L  <CFDS                    4R
5L                           5R
6L                           6R
        SELECT DESIRED SYSTEM
```

```
            ATSU DATALINK
1L                 AOC MENU>  1R
2L                            2R
3L                            3R
4L                            4R
5L                            5R
6L                   COMM>    6R
```

```
              AOC MENU
        FLIGHT      RECEIVED
1L  <INIT          MESSAGES>  1R
2L  <WX REQ                   2R
                      ETA
3L  <NOTAMS REQ    ......     3R
4L  <WINDS ALOFT REQ          4R
                      VOICE
5L  <FREE TEXT     CONTACT>   5R
    RETURN TO
6L  <ATSU MENU        MISC>   6R
```

DISPLAYS THE MESSAGE AND
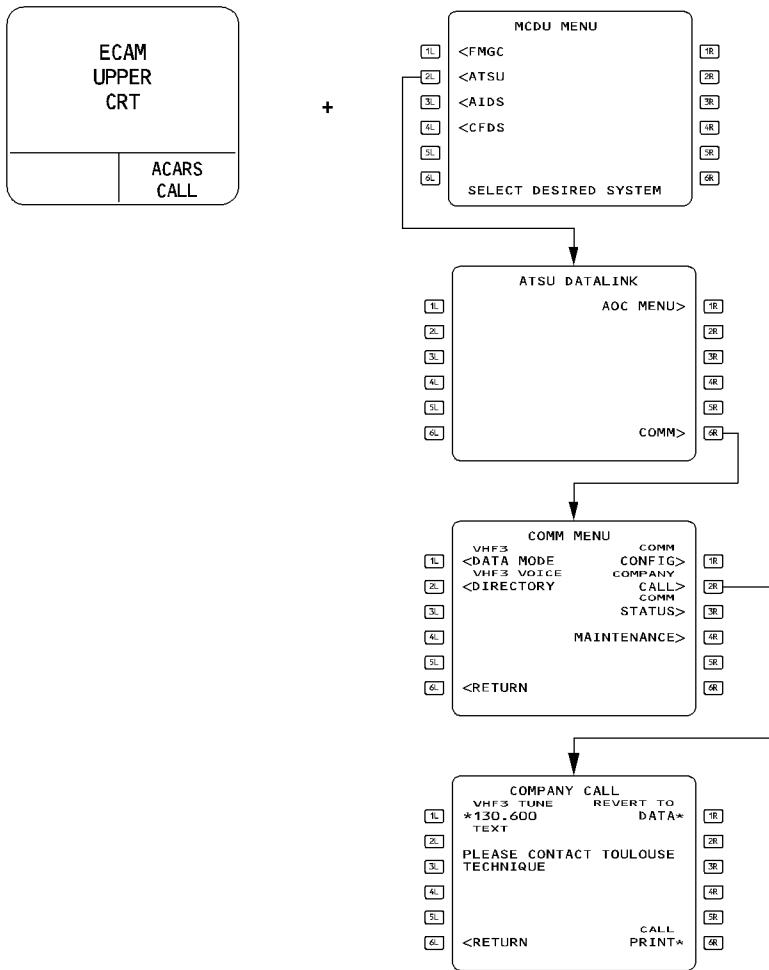ALLOWS A MANUAL HARD COPY ON PRINTER

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On the AOC MENU page, pressing the [1R] key displays the received message and clears the ECAM memo.

Note : AOC MENU page is customized according to the AOC programming.

– For an "ACARS CALL" ECAM memo :

On the MCDU's COMPANY CALL page :
Pressing the [1L] key clears the ACARS CALL memo, and activates the VHF voice frequency on the VHF3 associated with the memo.
When in VHF3 voice mode, pressing the [1R] key reverts VHF3 to DATALINK mode.

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DATALINK/VOICE TRANSFER ON VHF3

VHF 3 can be used in voice mode in case of :
— VHF 1 or VHF 2 failure
— ACARS CALL
The green "ACARS CALL" memo indicates that a voice contact request has been received from the ground.
The green "VHF 3 VOICE" memo indicates that the VHF 3 tranceiver operates in voice mode, therefore datalink communications are interrupted.
The voice frequency may be either tuned by the ATSU or tuned by the crew through the RMP. The DATALINK/VOICE transfer can be done either from any of the RMPs or from the ATSU through the VHF3 VOICE DIRECTORY MCDU page.
DATALINK/VOICE transfer from a RMP :
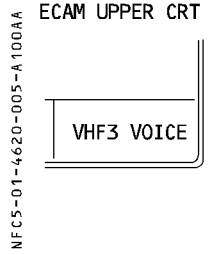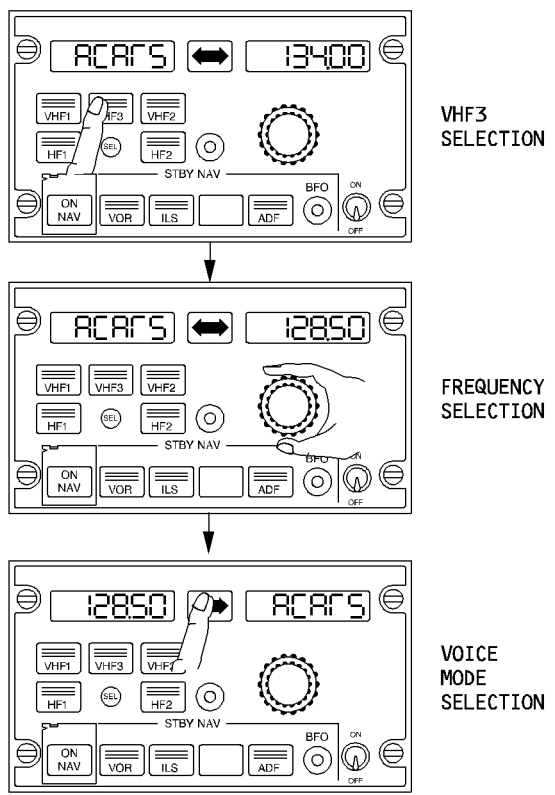
Pressing again the transfer key on RMP returns to DATALINK mode.

. <u>DATALINK/VOICE transfer from the ATSU through the VHF3 VOICE DIRECTORY page</u> :
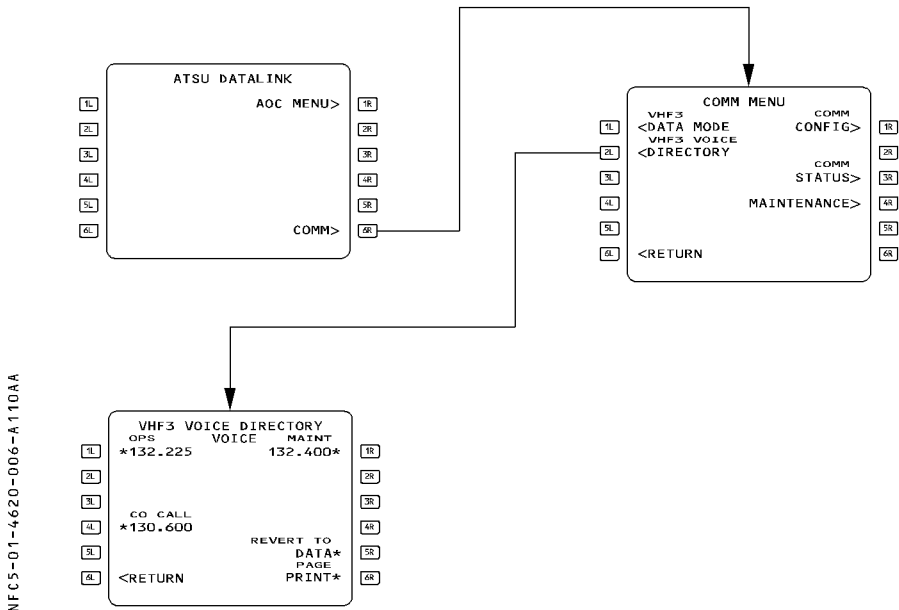
On the MCDU's VHF 3 VOICE DIRECTORY page :
· Below the title, it is indicated whether VHF3 is in "VOICE", or "DATA" mode.
· Fields [1L] to [3L], and [1R] to [3R], display the voice frequencies defined in the airline database.
  Pressing one of the adjacent keys activates the corresponding preselected voice frequency.
· Field [4L] displays the voice frequency provided in the last received ACARS CALL message. Pressing the adjacent key deletes the adjacent ACARS CALL memo, and activates the voice frequency on VHF3.

  Note : After the activation of the voice frequency, ACARS remains displayed in the active window of the RMP.

Pressing the [5R] key returns VHF3 to DATALINK mode.

DATALINK/VOICE TRANSFER ON HF1

LEFT INTENTIONALLY BLANK

R | **SCRATCHPAD MESSAGES ON THE COMM MENU**

MESSAGE	COLOR	CONDITIONS
NOT ALLOWED	W	It is not permitted to press this key.
ENTER A/C REGISTR	A	The aircraft registration number is not valid. To enter this parameter, refer to 3.04.46.
PRINT FAILED	W	A print command is not successful.
FORMAT ERROR	W	The message was entered in an inappropriate format.
VHF3 SWITCH IMPOSSIBLE	A	It is not possible to switch from VHF 3 voice mode to VHF 3 data mode.
DEFAULT VHF SP LIST	A	The new SCAN MASK is not available. The system displays the default SCAN MASK instead.
SYSTEM BUSY - TRY LATER	W	The system is busy. The command, selected by the flight crew, cannot currently be performed.
COMMAND NOT AVAIL	W	The command is not available.
VHF3 CAN BE SET IN VOICE	A	VHF 3 datalink communications are lost. However, VHF 3 can be used in voice mode.
ENTER VHF3 SCAN SELECT	A	No service provider has been selected. To select a service provider, refer to 3.04.46.
ENTER ACARS A/L ID	A	The airline identification number is not valid. To enter this parameter, refer to 3.04.46.
PRT MSG PRINT FAIL	W	Automatic print of an AOC uplink message was not successful.

INTRODUCTION

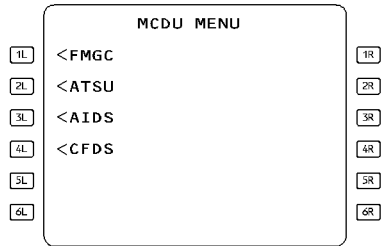Two kinds of Airline Operational Control (AOC) applications are provided :
— Remote AOC applications embedded in systems peripheral to ATSU (AIDS, CFDS, FMGC, CABIN TERMINAL)
— Hosted AOC applications uploaded into the ATSU.
Due to the highly customized aspect of the hosted AOC applications, only the remote AOC applications are described in this chapter.

REMOTE APPLICATIONS

The remote AOC applications are accessible by pressing the related system key on the MCDU MENU page.

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```
                    MCDU MENU

    1L   <FMGC                          1R
    2L   <ATSU                          2R
    3L   <AIDS                          3R
    4L   <CFDS                          4R
    5L                                  5R
    6L                                  6R
```

Message/reports are processed by the AOC peripherals (FMGC, AIDS, CFDS) ; the ATSU communication function only routes the request according to the company routing policy.

FLIGHT MANAGEMENT SYSTEM (FMGC) (Refer to 1.22.45)

Through the FMGC interface it is possible to access the following data :
— Wind data (F-PLN page)
— Takeoff data (uplink only)
— F-PLN initialization (uplink only)
— Pre-flight, post-flight report and ACARS print/program (downlink only)
See FMGS PILOT GUIDE (Refer to 4.04.40)

R

(NOTE : DEPENDING ON OPTIONS, MCDU FRONT FACE MAY SLIGHTLY DIFFER)
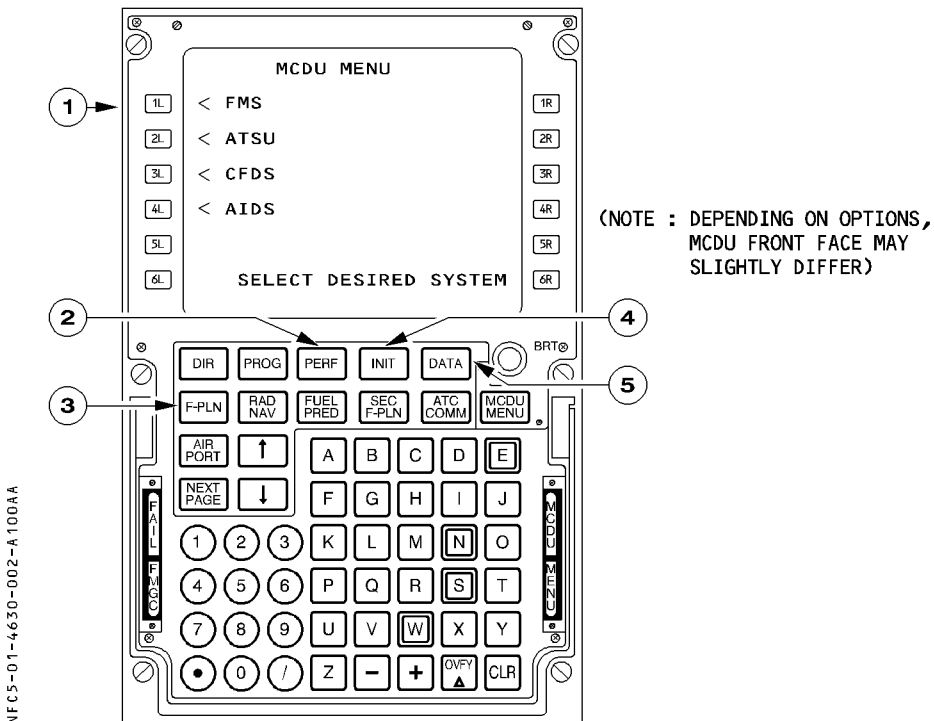
(1) Pressing key selects related system then

(2) Pressing key gives access to takeoff data (Uplink only)

(3) Pressing key gives access to wind data (F-PLN page)

(4) Pressing key gives access to F-PLN initialisation and wind data (Uplink only)

(5) Pressing key gives access to Pre-flight, Post-flight report and ACARS print/program (downlink only).
For operation see FMGS PILOT GUIDE (Refer to 4.04.40).

Centralized Fault Display System (CFDS) (refer to 1.45.20)

Through the CFDS interface it is possible to downlink the following data :
— Post flight report (on the ground) or current flight report (in flight) which includes :
  · All failure messages detected by the BITEs
  · The warnings displayed to the crew during the last or current flight leg.
  Report can be downlinked upon crew action or upon ground request or automatically.
— Previous Flight Report (on the ground)
— Real-time failure and warning messages (in flight).
— Class 3 report (on the ground) containing all class 3 failures detected during the last flight leg. The report can be downlinked upon crew action or automatically.

Aircraft Integrated Data System (AIDS)

The AIDS interface provides ATSU with the data for the following applications :
— Aircraft Performance Monitoring (APM),
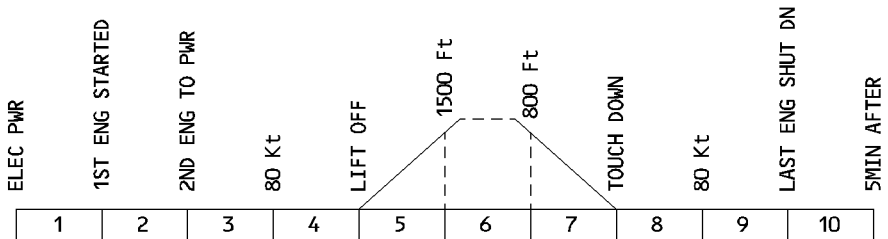— Engine Condition Monitoring (ECM),
— APU Health Monitoring (AHM).
Any of the AIDS DMU reports can be downlinked (through ATSU) :
— Manually on the ground or in flight
— Automatically in real-time,
— Upon ground request or upon automatic request from the ATSU.

WARNINGS AND CAUTIONS

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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

ELEC PWR · 1ST ENG STARTED · 2ND ENG TO PWR · 80 Kt · LIFT OFF · 1500 Ft · 800 Ft · TOUCH DOWN · 80 Kt · LAST ENG SHUT DN · 5MIN AFTER

E / WD : FAILURE TITLE conditions	AURAL WARNING	MASTER LIGHT	SD PAGE CALLED	LOCAL WARNIG	FLT PHASE INHIB
ACARS FAULT	SINGLE CHIME	MASTER CAUTION	NIL	NIL	3, 4, 5, 7, 8

MEMO DISPLAY

— ACARS STBY message is displayed in green when communication between aircraft and ground is not available or when a failure occurs at ATSU initialization to indicate to the crew to enter some initialization parameters.

— ACARS CALL message is displayed in green when the aircraft receives a message from the ground requesting voice communication on VHF.
This message is pulsing green during 60 seconds then steady.

— ACARS MSG message is displayed in green when the aircraft receives a message from the ground.
This message is pulsing green during 60 seconds then steady.

BUS EQUIPMENT LIST

		NORM			EMER ELEC		
		AC	DC	DC BAT	AC ESS	DC ESS	HOT
ATSU	ATSU 1	AC1	DC1				