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INTRODUCTION

The information system manages the datalink communication and provides the crew with information coming from the airline and from the Air Traffic Control (ATC).

The information system consists mainly of an Air Traffic Service Unit (ATSU), two Data-link Control and Display Units (DCDU*) located on the left and right central panels, and two illuminated pushbuttons (*) "ATC MSG".

The ATSU manages :

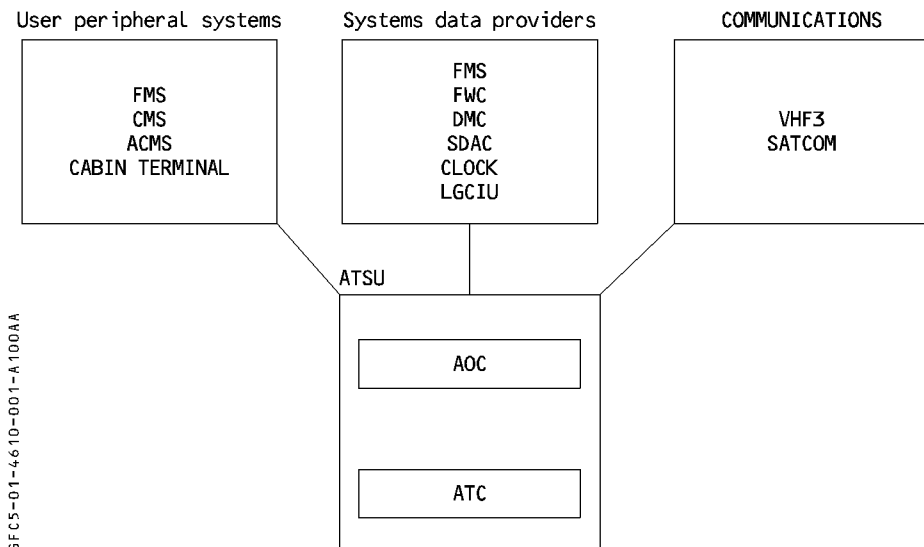
- The Air-Ground communications through the appropriate communication media (SATCOM or VHF data radio or HF data radio (*)).
- The exchange of information between the aircraft and :
 - the airline according to the Airline Operational Control (AOC) applications defined in the ATSU, or
 - the Air Traffic Control.
- The information display via the MCDU and the DCDU (*).
- The appropriate warning for crew information.

The ACARS functions are included in the ATSU.

* Not yet installed.

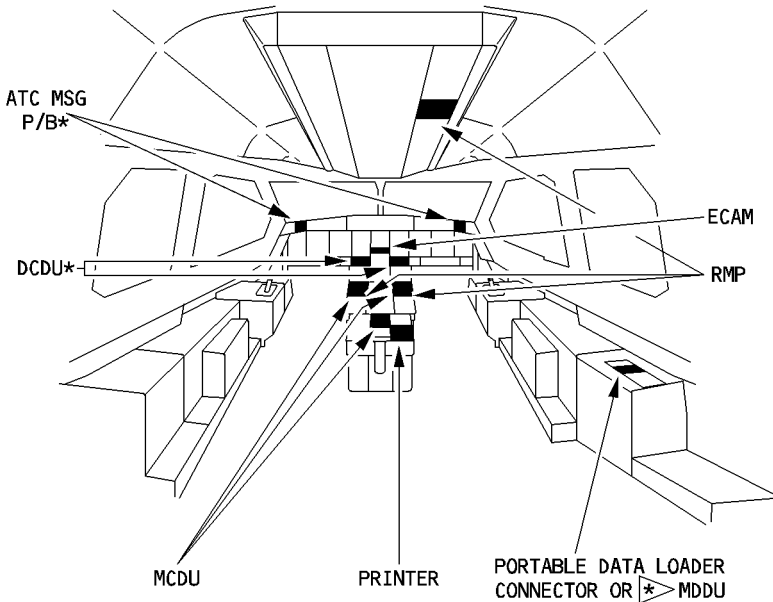
SYSTEM ARCHITECTURE

The ATSU is connected to the following systems :



The ATSU supports uplink and downlink messages. They may be either automatically or manually handled, with or without information to the crew.

COCKPIT ARRANGEMENT



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The pilot interface is made of :

- The DCDU (*) to display any ATC messages (up and down link)
- The "ATC MSG" (*) pushbuttons to alert the crew of any ATC uplink arrival (*) associated with a dedicated chime (*)
- The MCDU to handle the AOC and ATC functions and the data transfer with DCDU (*).
- The PRINTER to print any type of messages.
- The ECAM for operational information.
- The RMP to allow frequencies tuning.

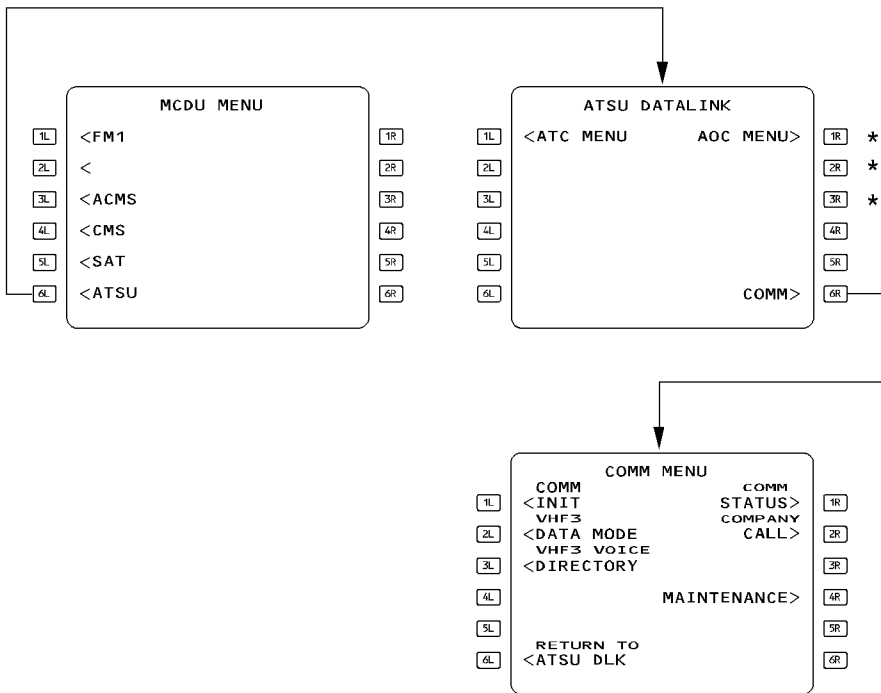
* Not yet installed.

INTRODUCTION

The 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 the communications through the COMM MENU page on MCDU.



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* These fields are customized according to the AOC programming.

DOWNLINK AND UPLINK MESSAGES

DOWNLINK MESSAGES

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

Reports generated by a peripheral (CMS, ACMS, 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 embed request for transmission of specific downlink reports.

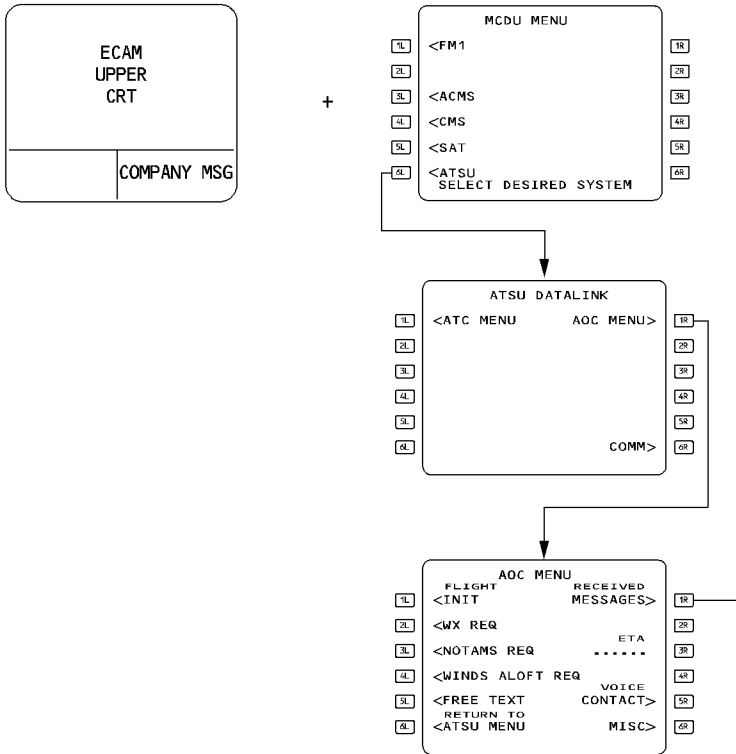
Messages are indicated (this does not include ATC messages) to the crew by :

- "COMPANY MSG" memo (in green) on ECAM memo, or
- "COMPANY ALERT" memo pulsing (in green) on ECAM memo, or
- "COMPANY CALL" memo (in green) on ECAM memo, 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 "DATA LINK 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 “COMPANY MSG” or a “COMPANY ALERT” ECAM memo :



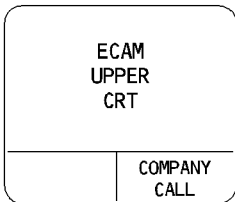
DISPLAYS THE MESSAGE AND
ALLOWS A MANUAL HARD COPY ON PRINTER

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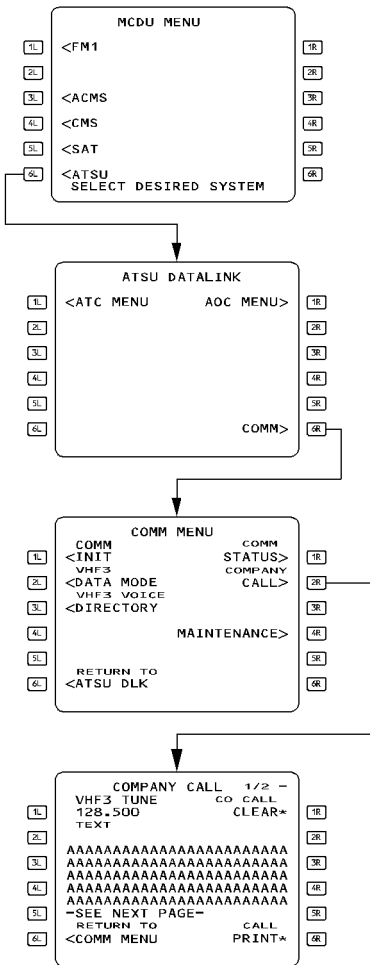
On the AOC MENU page, pressing the [1R] key displays the received message and clears the ECAM memo.

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

– For a “COMPANY CALL” ECAM memo :



+



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On the COMPANY CALL MCDU page :
 pressing the [1R] key clears the COMPANY CALL memo.
 pressing the [1L] key clears the COMPANY CALL memo and activates the VHF voice frequency associated with the memo.



DATALINK/VOICE TRANSFER ON VHF3

VHF 3 can be used in voice mode in case of :

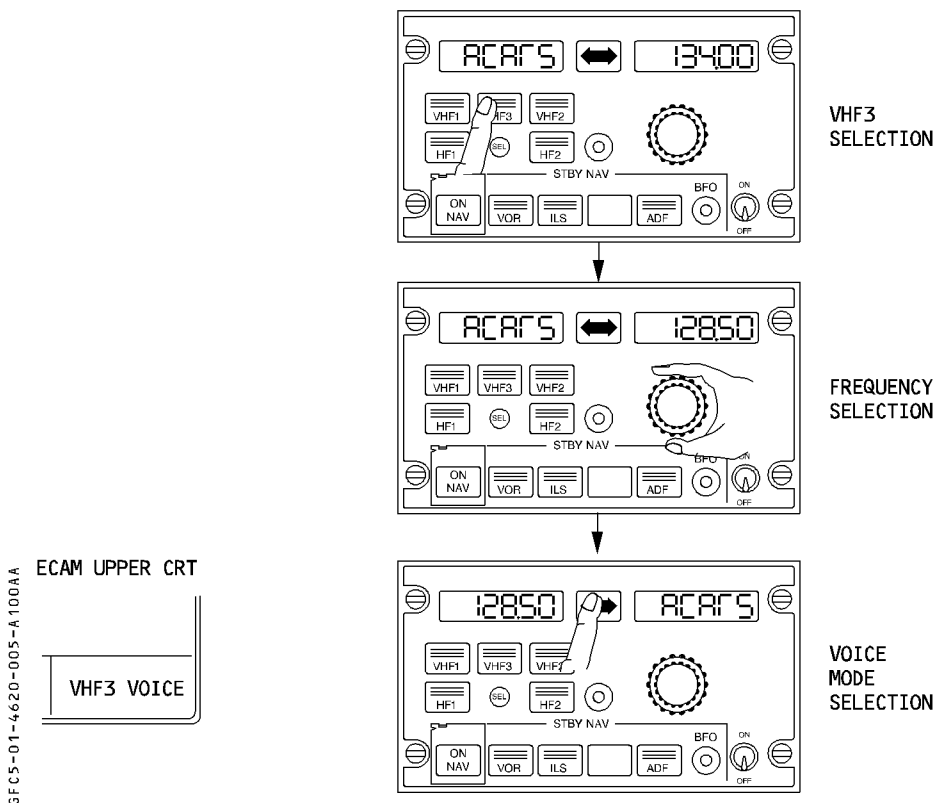
- VHF 1 or VHF 2 failure
- COMPANY CALL

The green “COMPANY 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 transceiver operates in voice mode, therefore datalink communications are interrupted.

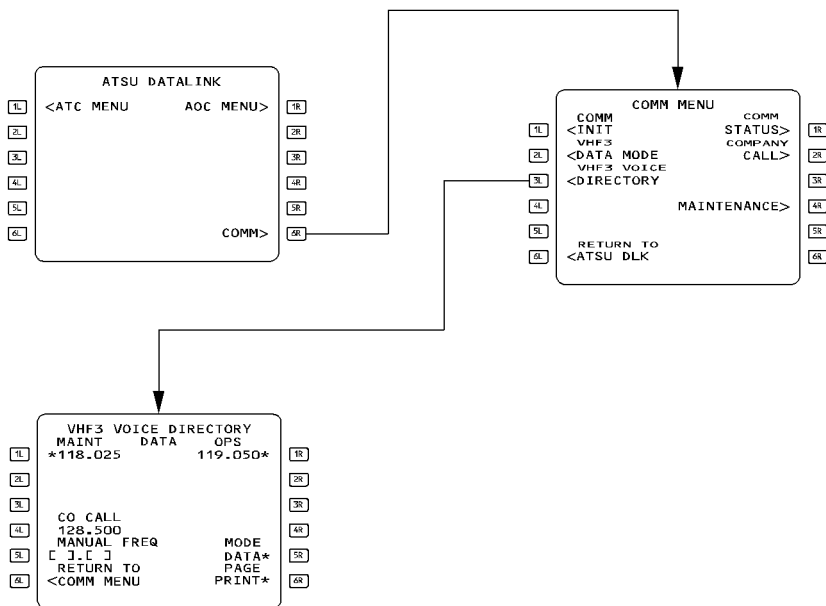
The voice frequency may be either tuned by the ATSU or tuned by the crew through the RMP. The DATALINK/VOICE transfer can be done either from any of the RMPs or from the ATSU through the VHF3 VOICE DIRECTORY MCDU page.

DATALINK/VOICE transfer from a RMP :



Pressing again the transfer key on RMP returns to DATALINK mode.

. DATALINK/VOICE transfer from the ATSU through the VHF3 VOICE DIRECTORY page :



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On the VHF 3 VOICE DIRECTORY MCDU page :

- 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 COMPANY CALL message. Pressing the adjacent key deletes the adjacent COMPANY CALL memo and activates the voice frequency.
- A voice frequency may be manually entered in the scratchpad. Pressing the [5L] key validates the entry and displays the entered frequency in this field. Pressing this key again activates the voice frequency.

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

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

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	ATSU COMMUNICATION FUNCTION		SEQ 102	REV 18

R

LEFT INTENTIONALLY BLANK


R SCRATCHPAD MESSAGES ON THE COMM MENU

MESSAGE	COLOR	CONDITIONS
NOT ALLOWED	W	It is not allowed 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 was unsuccessful.
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 unavailable. The system displays the default SCAN MASK instead.
FAILED COMMAND	W	The command, selected by the crew, cannot currently be performed.
COMMAND NOT AVAIL	W	The command is unavailable.
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 MASK	A	No service provider has been selected.
ENTER 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 unsuccessful.

INTRODUCTION

Two kinds of Airline Operational Control (AOC) applications are provided :

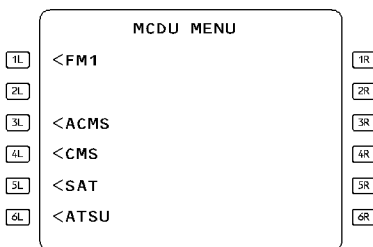
- Remote AOC applications embedded in systems peripheral to ATSU (ACMS, CMS, FMS, CABIN TERMINAL)
- Hosted AOC applications uploaded into the ATSU.

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

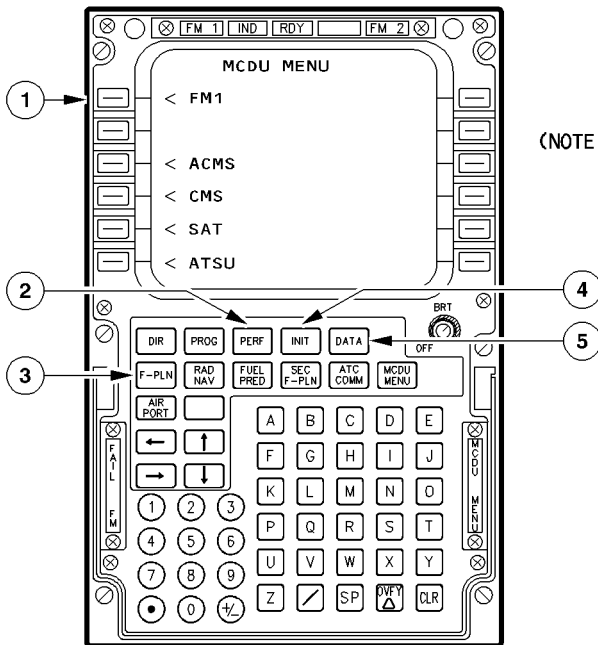
FLIGHT MANAGEMENT SYSTEM (FMS) (Refer to 1.22.45)

Through the FMS 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 4.04.50)

R



(NOTE : DEPENDING ON OPTIONS,
MCDU FRONT FACE MAY
SLIGHTLY DIFFER)

- ① Pressing this key selects the related system, then
- ② Pressing this key gives access to takeoff data (Uplink only)
- ③ Pressing this key gives access to wind data (F-PLN page)
- ④ Pressing this key gives access to the F-PLN initialization and wind data (Uplink only)
- ⑤ Pressing this key gives access to the Pre-flight and Post-flight reports, and the ACARS print/program (downlink only).
For additional details on its operation, refer to the FMGS PILOT GUIDE (4.04.50).

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	AOC APPLICATIONS	SEQ 100	REV 09

Central Maintenance System (CMS) (refer to 1.45.20)

Through the CMS 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)
- Individual system BITE data (manual downlink only) (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 Condition Monitoring System (ACMS)

The ACMS 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 ACMS 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.

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	CNS/ATM	SEQ 100	REV 07

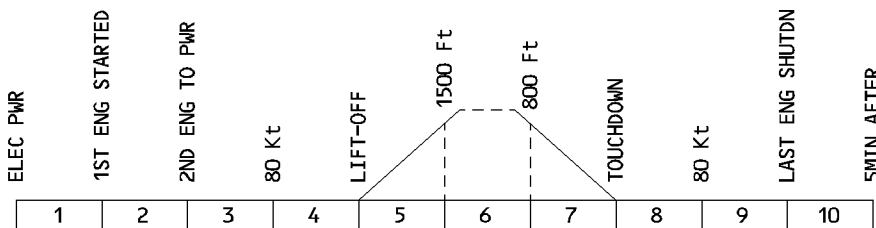
ATC APPLICATIONS

Not yet installed.



WARNINGS AND CAUTIONS

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E / WD : FAILURE TITLE conditions	AURAL WARNING	MASTER LIGHT	SD PAGE CALLED	LOCAL WARNIG	FLT PHASE INHIB
ATSU FAULT (Failure at ATSU initialization, if associated with ATSU INIT FAULT ECAM message)	SINGLE CHIME	MASTER CAUTION	NIL	NIL	3, 4, 5, 7, 8

MEMO DISPLAY

- The DATALINK STBY message is displayed in green, when datalink communication between the aircraft and ground is temporarily lost.
- The COMPANY CALL message is displayed in green, when the aircraft receives a message from the ground requesting voice communication on VHF.
- The COMPANY MSG message is displayed in green, when the aircraft receives a message from the ground.
- The COMPANY ALERT message is displayed in green, when the aircraft receives an uplink alert message, or when an AOC special condition requires a pilot action on the MCDU (depends on AOC programming). This message pulses green for 180 seconds, then remains steady. It is associated with a buzzer for 1 second.



BUS EQUIPMENT LIST

		NORM			EMER ELEC		
		AC	DC	DC BAT	AC ESS	DC ESS	HOT
ATSU	ATSU 1	AC1	DC1				
	DCDU-1*		DC1				
	DCDU-2*		DC2				

* Not yet installed