

Expte. N° 342/14

ADVERTENCIA

El presente Informe es un documento técnico que refleja la opinión de la JUNTA DE INVESTIGACIÓN DE ACCIDENTES DE AVIACIÓN CIVIL con relación a las circunstancias en que se produjo el suceso, objeto de la investigación con sus causas y con sus consecuencias.

De conformidad con lo señalado en el Anexo 13 al CONVENIO SOBRE AVIACIÓN CIVIL INTERNACIONAL (Chicago /44) Ratificado por Ley 13.891 y en el Artículo 185 del CÓDIGO AERONÁUTICO (Ley 17.285), esta investigación tiene un carácter estrictamente técnico, no generando las conclusiones, presunción de culpas o responsabilidades administrativas, civiles o penales sobre los hechos investigados.

La conducción de la investigación ha sido efectuada sin recurrir necesariamente a procedimientos de prueba de tipo judicial, sino con el objetivo fundamental de prevenir futuros accidentes e incidentes.

Los resultados de esta investigación no condicionan ni prejuzgan los de cualquier otra de índole administrativa o judicial que, en relación con el suceso, pudiera ser incoada con arreglo a leyes vigentes.

INFORME FINAL

INCIDENTE OCURRIDO EN: Aeropuerto Internacional Ezeiza -"Ministro Pistarini", provincia de Buenos Aires.

FECHA: 9 de septiembre de 2014.

HORA (UTC): 11:00 h (aprox)

AERONAVE: Avión.

MARCA: Airbus.

MODELO: A-330-202

MATRÍCULA: EC-JPF.

COMANDANTE, PRIMER OFICIAL y PILOTO DE REFUERZO: con licencia española de piloto transporte de línea aérea [ATPL(A)]

PROPIETARIO: Empresa de transporte aéreo regular internacional.

Nota: Todas las horas están expresadas en Tiempo Universal Coordinado (UTC), que para el lugar del incidente corresponde al huso horario – 3.

1.1 Reseña del vuelo

1.1.1 El día 8 de septiembre de 2014, a las 21:55 h, la aeronave A-330-202, matrícula EC-JPF, despegó del Aeropuerto Internacional de Barajas (LEMD), en Madrid, Reino de España, con trece tripulantes y 259 pasajeros, con destino al Aeropuerto Internacional de Ezeiza (SAEZ), República Argentina.

1.1.2 Luego de volar 12:30 h aproximadamente, el piloto al mando inició el descenso para la aproximación final a unas 120 NM del VOR EZE desde el nivel de vuelo (FL) 380.

1.1.3 Durante la fase de descenso, mientras se encontraba entre los niveles FL 260 y FL 150, ingresó en una zona de tormentas percibiendo que el avión era impactado por granizo y sometido a una fuerte turbulencia asociada a las condiciones meteorológicas.

1.1.4 Producto del impacto de granizo, ambos parabrisas resultaron dañados no detectándose, en ese momento, otro tipo de daños.

1.1.5 El comandante del vuelo decidió no declararse en emergencia pero solicitó la prioridad para el aterrizaje, informando la condición correspondiente a la torre de Ezeiza la que, no obstante, alertó los servicios concurrentes correspondientes.

1.1.6 El aterrizaje y posterior rodaje a la posición de estacionamiento se efectuaron sin novedad.

1.1.7 Una vez en la posición final de estacionamiento se pudo observar que la aeronave presentaba otros daños.

1.1.8 El incidente ocurrió de día y en condiciones de vuelo IMC (condiciones meteorológicas instrumentales).

1.1.9 La notificación del suceso fue realizada por personal de la oficina ARO/AIS Ezeiza.

1.2 Lesiones a personas

Lesiones	Tripulantes	Pasajeros	Otros
Mortales	----	----	----
Graves	----	----	----
Leves	----	----	----
Ninguna	13	259	----

1.3 Daños en la aeronave

1.3.1 Célula: Daños en ambos parabrisas frontales, afectando la superficie externa, inutilizándolos. La cubierta exterior del radome resultó perforada en el cono, así mismo también se observaron daños en los carenados de cubierta de uniones

ala fuselaje, y daños en una compuerta de acceso al pack de aire acondicionado derecho. Dos tubos pitot con ligeros daños. En el ala izquierda se encontró la cobertura del faro de aterrizaje izquierdo rajado y dos paneles de intradós afectados por los golpes del granizo. En el ala derecha se encontraron daños en paneles de intradós, en el flight spoiler número 4, como así también en el slat número 1 derecho. En los estabilizadores horizontales se encontraron pequeños golpes de ambos bordes de salida.

1.3.2 Motores: los carenados de pilones de sujeción de ambos motores sufrieron daños leves causados por algunos impactos de granizo. El motor izquierdo sufrió ligeros daños en los álabes de fan, los cuales se encontraban dentro de tolerancia. También se hallaron dos álabes de guía de salida afectados, los cuales estaban dentro de los parámetros permitidos por el manual de mantenimiento. El motor derecho sufrió daños en dos álabes de la primera etapa del compresor y en nueve álabes guía de salida.

#### 1.4 Otros daños

No hubo.

#### 1.5 Información sobre el personal.

##### 1.5.1 Piloto

De 55 años de edad, de nacionalidad española, era titular de la licencia piloto transporte de línea aérea avión, con habilitaciones para: "Airbus A330/IR (A)."

De acuerdo con lo informado por la Comisión de Investigación de Accidentes e Incidentes de Aviación Civil (CIAIAC) del Reino de España, el certificado de aptitud psicofisiológica estaba vigente hasta el 6 de septiembre de 2015, con la limitación de tener disponible lentes correctores para visión cercana y llevar un par de repuesto.

La cantidad de horas de vuelo, al momento del incidente, eran las siguientes:

Total de horas de vuelo:	17719:00 h
Últimos 90 días:	203:23 h
Últimos 30 días:	68:06 h
Últimas 24 horas:	13:12 h
En el tipo de aeronave:	2559:00 h

##### 1.5.2 Primer oficial

De 47 años de edad, de nacionalidad española, era titular de la licencia piloto transporte de línea aérea avión, con habilitaciones para: "Airbus A330/IR (A)."

De acuerdo con lo informado por la CIAIAC, el certificado de aptitud psicofisiológica, estaba vigente hasta el 16 de enero de 2015, con la limitación de tener disponible lentes correctores para visión cercana y llevar un par de repuesto.

La cantidad de horas de vuelo, al momento del incidente, eran las siguientes:

Total de horas de vuelo:	11585:00 h
Últimos 90 días:	250:36 h
Últimos 30 días:	90:53 h
Últimas 24 horas:	13:12 h
En el tipo de aeronave:	1955:00 h

### 1.5.3 Piloto de refuerzo

De 53 años de edad, de nacionalidad española, era titular de la licencia piloto transporte de línea aérea avión, con habilitaciones para: “Airbus A330/A320/IR (A)”.

De acuerdo con lo informado por la CIAIAC, el certificado de aptitud psicofisiológica estaba vigente hasta el 18 de febrero de 2015, con la limitación de tener que llevar lentes correctoras multifocales.

La cantidad de horas de vuelo, al momento del incidente, eran las siguientes:

Total de horas de vuelo:	19047:00 h
Últimos 90 días:	288:33 h
Últimos 30 días:	99:37 h
Últimas 24 horas:	13:12 h
En el tipo de aeronave:	726:00 h

## 1.6 Información sobre la aeronave

### 1.6.1 Información general

Aeronave fabricada por Airbus Industries, modelo A330-202, con número de serie 733, de construcción mixta (materiales compuestos y metálicos), semimonocasco, de fuselaje ancho, monoplano de ala baja, bimotor a reacción, con tren de aterrizaje tipo triciclo retráctil.

### 1.6.2 Célula

Plan de mantenimiento por aeronavegabilidad continuada conforme al manual de mantenimiento del fabricante teniendo al iniciar su vuelo LEMD-SAEZ un total general (TG) de 46132:55 h y total de ciclos (TC) de 6215 ciclos (datos obtenidos del sistema electrónico de la empresa).

Su certificado de matrícula fue registrado a nombre de una empresa de transporte aéreo regular internacional, con fecha de inscripción el 20 de octubre de 2011.

Su certificado de aeronavegabilidad fue emitido por la Delegación de Seguridad en Vuelo N° 7 de la Dirección General de Aviación Civil de España el 28 de marzo de 2006. Categoría: Avión grande. Sin fecha de vencimiento.

Los registros de mantenimiento indicaban que la aeronave estaba equipada y mantenida de conformidad con la reglamentación y procedimientos vigentes aprobados.

El combustible requerido y utilizado era JET A-1. Al momento del incidente la aeronave disponía de 8281 litros de combustible.

### 1.6.3 Motores

Marca General Electric, modelo CF6-80E1A4, con número de serie 811486 el motor izquierdo y 811361 el motor derecho, ambos de 66870 lb de empuje. El mantenimiento se llevaba a cabo de acuerdo con las instrucciones de aeronavegabilidad continuada del fabricante, teniendo al iniciar el vuelo MAD-EZE un TG de 30882:02 h y un TC de 4159 ciclos el motor izquierdo y 44719:18 h y 5922 ciclos el motor derecho.

### 1.6.4 Peso y balanceo de la aeronave

El peso máximo de despegue era de 233000 kg, el de aterrizaje era de 182000 kg, y el peso de vacío era de 121826 kg.

Los pesos calculados al momento del incidente eran los siguientes:

Vacío:	121826 kg.
Carga de pago:	26907 kg.
Combustible:	7800 kg.
Total al momento del suceso:	156533 kg.
Máximo de despegue (PMA):	182000 kg.
Diferencia:	25467 kg en menos respecto al PMA.

Los pesos y el centro de gravedad (CG) se encontraban dentro de la envolvente operacional de la aeronave.

## 1.7 Información meteorológica

1.7.1 De acuerdo a los datos aportados por el Servicio Meteorológico Nacional (SMN), en las imágenes satelitales GOES-13 se apreciaba un sistema frontal frío sobre la región con abundante nubosidad convectiva organizada sobre la pendiente de dicho sistema con movimiento hacia el NE. La temperatura de este sistema de nubes con gran desarrollo vertical (convectivas) alcanzaba máximos puntuales entre -75°C

y -80°C. Los radares mostraban ecos compactos con desarrollos verticales que superaban los 58 dBZ. También se encontraba una corriente en chorro al NW del sistema con fuerte cortante vertical de viento.

1.7.2 En función de las apreciaciones anteriormente descritas se puede inferir que en la zona comprendida por los aeródromos (AD) SAOM-SAAR-SAAG-SUCASUMU-SULS-SAAI-SADL-SAEZ-SADP-SABE-SADF-SAAJ-SAAR-SAOM, el sistema nuboso generaba tormentas de moderada a fuerte intensidad, con precipitaciones intensas y granizo entre FL100 y FL300, asociado a condiciones de turbulencia moderada a severa y formación de hielo (engelamiento).

1.7.3 De acuerdo con la información disponible para la tripulación del World Area Forecast System (WAFS) de Londres, carta de pronóstico de entorno de tiempo fijo para el área OACI B SIGWX (Significant Weather Chart defined by ICAO) FL250-630 válida 12 UTC 09 de septiembre 2014 las condiciones pronosticadas eran posible actividad de tormentas con cúmulos nimbos (CB) dispersos con bases por debajo de FL 240 y topes pronosticados alcanzando el FL 360.

## 1.8 Ayuda a la navegación

El piloto efectuó la aproximación a la cabecera 11 de SAEZ. Contaba con las frecuencias en uso del VOR EZE 116.5 e ILS EZE 110.1. Todas las ayudas a la navegación se encontraban operables y la aproximación se desarrolló sin novedad.

## 1.9 Comunicaciones

1.9.1 Las comunicaciones con SAEZ se realizaron sin novedad.

1.9.2 El piloto no se declaró en emergencia, pero solicitó la prioridad para el aterrizaje por encontrarse con ambos parabrisas rotos. No obstante el aeropuerto SAEZ alertó los servicios concurrentes correspondientes.

## 1.10 Información sobre el lugar del incidente

El incidente tuvo lugar en la fase de descenso del vuelo AEA 041, aproximadamente entre las 90 y 60 NM, radial 054º del VOR EZE, entre los niveles de vuelo FL260 y FL150.

## 1.11 Registadores de vuelo

1.11.1 La aeronave estaba equipada con un registrador de datos de vuelo (FDR) y un registrador de voces de cabina (CVR).

a) FDR marca L3, P/N: 2100-4043-02, S/N: 000347014.

b) CVR marca L3, P/N: 2100-1020-02, S/N: 000346650.

1.11.2 La empresa explotadora puso a disposición los datos contenidos en el FDR y envió los registros contenidos en el CVR para su análisis en esta JIAAC.

1.11.3 De la información contenida en el FDR pudo establecerse que el lugar donde la aeronave fue afectada por el fenómeno meteorológico fue aproximadamente entre las 90 y 60 NM, radial 054º del VOR EZE, entre los niveles de vuelo FL260 y FL150.

#### 1.12 Información sobre los restos de la aeronave y el impacto

La aeronave aterrizó en SAEZ con daños en ambos parabrisas frontales, en el radome de la antena del radar, en el cristal del faro de aterrizaje izquierdo, en los carenados de raíz de ala, los pilones de motores, en los álabes de fan y de la guía de salida de ambos motores, producidos por impactos de granizo durante la fase de descenso.

#### 1.13 Información médica y patológica

De lo investigado surge que la condición psicofísica no tuvo injerencia en el suceso.

#### 1.14 Incendio

No hubo.

#### 1.15 Supervivencia

1.15.1 Los tripulantes del EC-JPF y sus pasajeros desembarcaron la aeronave en forma normal, por sus propios medios.

1.15.2 No hubo, en la aeronave, rol de evacuación de emergencia.

#### 1.16 Ensayos e investigaciones

1.16.1 Se verificaron en la aeronave los daños sufridos en el incidente documentándose los mismos mediante tomas fotográficas.

1.16.2 Del control de la documentación, se observa las novedades asentadas en el RTV N° 1568873 del día del incidente: Item N° 1 *“During descent due to turbulence 02 windshield cracked”*; Item N° 2 *“After taxi-in reported several damaged by maintenance in the fuselage.”*

1.16.3 Se requirió al Jefe de Escala en SAEZ de la empresa operadora, documentación complementaria con informe de daños y trabajos realizados para la puesta en servicio de la aeronave. Asimismo, se solicitó información del registro de parámetros obtenidos del FDR y del CVR.

#### 1.17 Información orgánica y de dirección

La aeronave pertenece a una empresa de transporte aéreo regular internacional de pasajeros.

## 1.18 Información adicional

1.18.1 De acuerdo con la declaración de la tripulación, el radar de abordo de la aeronave funcionaba correctamente.

1.18.2 En el Flight Crew Training Manual - A330/340, Supplementary Information – Use of radar – Adverse weather (manual de instrucción de tripulaciones de vuelo – A330/340, información suplementaria – uso del radar – meteorología adversa) se establecen los procedimientos de operación que permiten una operación con un adecuado nivel de seguridad operacional en condiciones meteorológicas adversas.

1.18.3 El Proyecto de Informe Final (PIF) del incidente fue enviado a la “**BEA Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile**”, la junta de investigación de accidentes de Francia, a fin que conjuntamente con el asesor del representante acreditado (Airbus, fabricante de la aeronave), fuese evaluado y se emitiese una opinión.

1.18.4 Las consideraciones enviadas por la BEA han sido tenidas en cuenta e incorporadas al informe. Dicho documento se encuentra como apéndice al informe, al final del mismo.

## 1.19 Técnicas de investigaciones útiles o eficaces

Se realizaron las escuchas del registrador de voces de cabina (CVR).

## 2 ANÁLISIS

### 2.1 Aspectos operativos

2.1.1 Las licencias y los certificados de aptitud psicofisiológica de los pilotos estaban vigentes.

2.1.2 La tripulación del EC-JPF se encontraba realizando un vuelo regular internacional de transporte aéreo de pasajeros, programado por la empresa (AEA 041), desde LEMD con destino SAEZ.

2.1.3 De acuerdo con los datos de pronóstico e imágenes satelitales disponibles para la tripulación, las condiciones que afectaron el vuelo deberían haber sido conocidas por la tripulación de vuelo y tendrían que haber sido objeto de atención de manera específica, verificando la evolución de las condiciones meteorológicas.

2.1.4 Es probable que la penetración en el área de tormenta no haya sido precedida por el análisis de las condiciones meteorológicas reinantes, lo que no permitió la utilización de los procedimientos establecidos para este tipo de operación destinada a minimizar la posibilidad de la ocurrencia de un suceso.



## 2.2 Aspectos Técnicos

De lo investigado no se identifican fallas técnicas o valores fuera de los normales en los parámetros de funcionamiento de la aeronave al momento del incidente, o previo a la ocurrencia del mismo.

## 3 CONCLUSIONES

### 3.1 Hechos definidos

3.1.1 La tripulación se encontraba realizando un vuelo programado de transporte aéreo internacional regular de pasajeros.

3.1.2 La tripulación contaba con sus respectivas licencias y certificados de aptitud psicofisiológica vigentes.

3.1.3 Las defensas tecnológicas para estas situaciones, a saber, radar de abordaje de la aeronave y radares de superficie del SMN, funcionaron correctamente y de acuerdo con lo previsto.

3.1.4 La aeronave poseía certificados de matrícula y de aeronavegabilidad en vigencia.

3.1.5 Los registros de mantenimiento indicaban que el mantenimiento se realizaba de acuerdo a lo establecido por el fabricante de la aeronave y aprobados por la firma explotadora.

3.1.6 El peso y el CG de la aeronave estaban dentro de los límites de la envolvente.

### 3.2 Conclusiones del análisis

Durante la fase de descenso de un vuelo comercial internacional regular, ingreso de la aeronave en un área de tormentas, con importante actividad convectiva, granizo y turbulencia severa, resultando la aeronave con daños leves, debido a:

- a) Programación del descenso en una zona con CB dispersos pronosticados, sin el análisis adecuado.
- b) No utilizar los recursos tecnológicos disponibles para la detección de la actividad de desarrollo vertical, de acuerdo con la normativa vigente en la empresa explotadora.
- c) Inadecuada percepción del peligro meteorológico.

Condición latente causal probable:

Deficiencia en la empresa aérea para inducir las conductas operativas comprometidas con la gestión de la seguridad operacional en las tripulaciones.

#### 4 RECOMENDACIONES SOBRE SEGURIDAD

##### 4.1 A la Comisión de Investigación de Accidentes de Incidentes de Aviación Civil (CIAIAC) del Reino de España

Considere la necesidad de recomendar a la empresa explotadora adoptar las medidas de instrucción y adiestramiento que fueran adecuadas para que los pilotos que operen sus aeronaves adopten oportunamente las acciones adecuadas para la operación en zonas donde las condiciones meteorológicas hagan prever turbulencia severa y actividad de nubes de gran desarrollo vertical.

#### 5 REQUERIMIENTOS ADICIONALES

Las personas físicas o jurídicas a quienes vayan dirigidas las recomendaciones emitidas por la Junta de Investigación de Accidentes de Aviación Civil, deberán informar a la AUTORIDAD AERONÁUTICA en un plazo no mayor a sesenta (60) días hábiles, contados a partir que recibieran el Informe Final y la Resolución que lo aprueba, el cumplimiento de las acciones que hayan sido puestas a su cargo (Disposición N° 51/02 Comandante de Regiones Aéreas -19 JUL 02- publicada en el Boletín Oficial del 23 de Julio 2002).

La mencionada información deberá ser dirigida a:

Administración Nacional de Aviación Civil (ANAC)  
Av. Azopardo 1405, esquina Av. Juan de Garay  
(C 1107 ADY) Ciudad Autónoma de Buenos Aires  
ó a la dirección e-mail: "info@anac.gov.ar"

BUENOS AIRES,

**AEA A330-202 EC-JPF (MSN0733)**

**Hailstorm in descent**

**09-Sep-2014**

**Airbus Report**

**Prepared by: Thomas LEPAGNOT**

## **Introduction**

The sole objective of this report is to prevent reoccurrence. It is not aimed to apportion blame or liability.

This report has been compiled thanks to the information available at Airbus at the date of its publication and could be updated should new information becomes available.

**Synopsis**

On September 9<sup>th</sup>, 2014 the Air Europa (AEA) A330 MSN0733 (EC-JPF) experienced a severe hailstorm during descent to Buenos Aires (EZE). The aircraft suffered extensive damage on windshield and radome and minor structural damage on pylon, wings and horizontal stabilizer.

**Table of contents:**

<b>1. FACTUAL INFORMATION</b>	<b>5</b>
1.1 HISTORY OF THE FLIGHT	5
1.2 INJURIES TO PERSONS	6
1.3 DAMAGE TO AIRCRAFT	6
1.4 AIRCRAFT INFORMATION	7
1.5 METEOROLOGICAL INFORMATION	7
1.6 CAS MONITORING BY FMGEC AND FCPC	8
1.6.1 Monitoring	8
1.6.2 Consequence on system	9
1.7 RECORDING LOGIC IN DFDR	9
1.7.1 Calibrated Air Speed (CAS) parameters	9
1.7.2 Corrected Angle of Attack (CAOA) parameters	10
<b>2. SEQUENCE OF EVENTS</b>	<b>11</b>
2.1 INITIAL CONDITIONS	11
2.2 TURBULENCE AREA	11
<b>3. CONCLUSION</b>	<b>15</b>

## 1. FACTUAL INFORMATION

### 1.1 HISTORY OF THE FLIGHT

On September 9<sup>th</sup>, 2014 the A330-202 MSN0733 (EC-JPF) operated by Air Europa (AEA) was performing flight AEA041 from Madrid (MAD) to Buenos Aires (EZE).

During the descent to EZE, the aircraft entered a turbulent area and experienced a hailstorm. During this period, Recorded CAS dropped by more than 90kt in 1sec. In the same second, AP1, both FDs and ATHR disengaged, followed by a reversion in Alternate Law.

During the turbulence zone, the Vertical Acceleration (VRTG) varied between 0.05g and 2.2g and the Lateral Acceleration (LATG) between 0.06g (left) and 0.25g (right) and CAS increased up to 314kt.

FDs engaged automatically between 3 to 4 seconds after disengagement. On the same time, recorded CAS recovered. Normal Law was recovered 10s after reversion in Alternate Law.

Several pitch up orders on captain side resulted on slight pitch increase. Thrust levers were pulled to IDLE detent and then CAS decreased. AP1 was reengaged. The thrust levers were selected back to CLIMB and ATHR was reengaged.

Aircraft performed an uneventfully approach and landing to Buenos Aires (EZE).

## 1.2 INJURIES TO PERSONS

No injury has been reported.

## 1.3 DAMAGE TO AIRCRAFT

The following damages have been reported:

- LH and RH Windshields severely cracked (local maintenance technician reported that the outer ply was practically destroyed but the inner ply was found intact. The analysis of the intermediate ply could not be performed because the condition of the outer ply prevented from differentiating between layers)
- Radome severely damaged (but without passing holes),



- Panels 452CR LH Pylon – and 462CL RH Pylon damaged,
- LH Landing light lens cracked,
- All Pitot probes damaged,
- Panel over RH landing light damaged,
- Wing panels fin numbers 522RB , 523EB, 623CB and 622LB minor damage,
- Wing to body fairing Access door, minor damage,
- Spoiler #4 dented,
- Horizontal stabilizer leading edge tip, dent.



### 1.4 AIRCRAFT INFORMATION

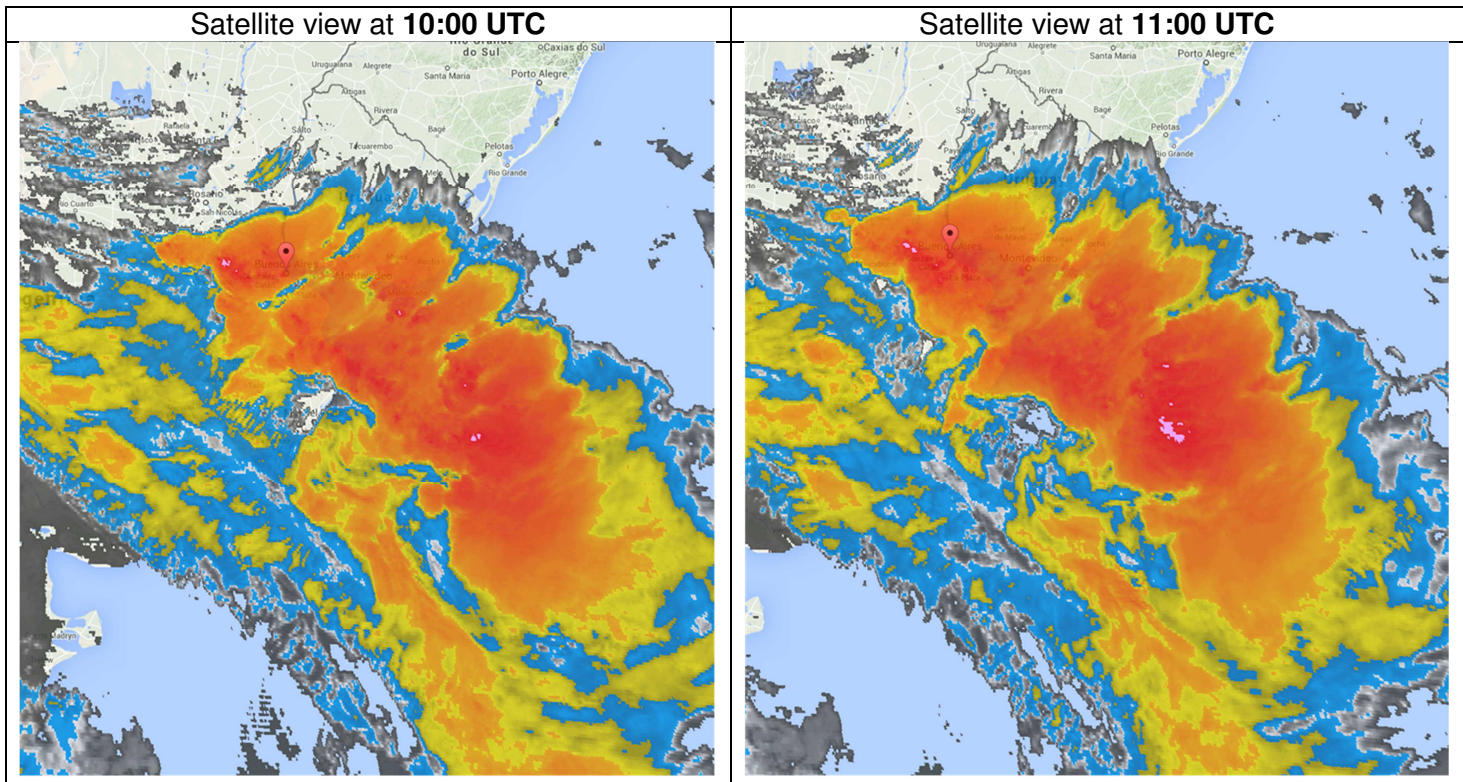
*MSN: 0733	A/C Registration: EC-JPF	
*Operator: AEA	Operator name: AIR EUROPA	
*A/C Type: A330	A/C Serie: 330-200	A/C Model: 330-202
A/C Flight Hours: 45552	A/C Flight Cycles: 6127	
Engine Type: CF6-80	Engine Serie: CF6-80E1	
Engine Model: CF6-80E1A4	Engine Version: CF6-80E1A4	Engine Supplier:

A/C Flight Hours and Cycles, here above, are the latest values known by Airbus at the time of the event.

### 1.5 METEOROLOGICAL INFORMATION

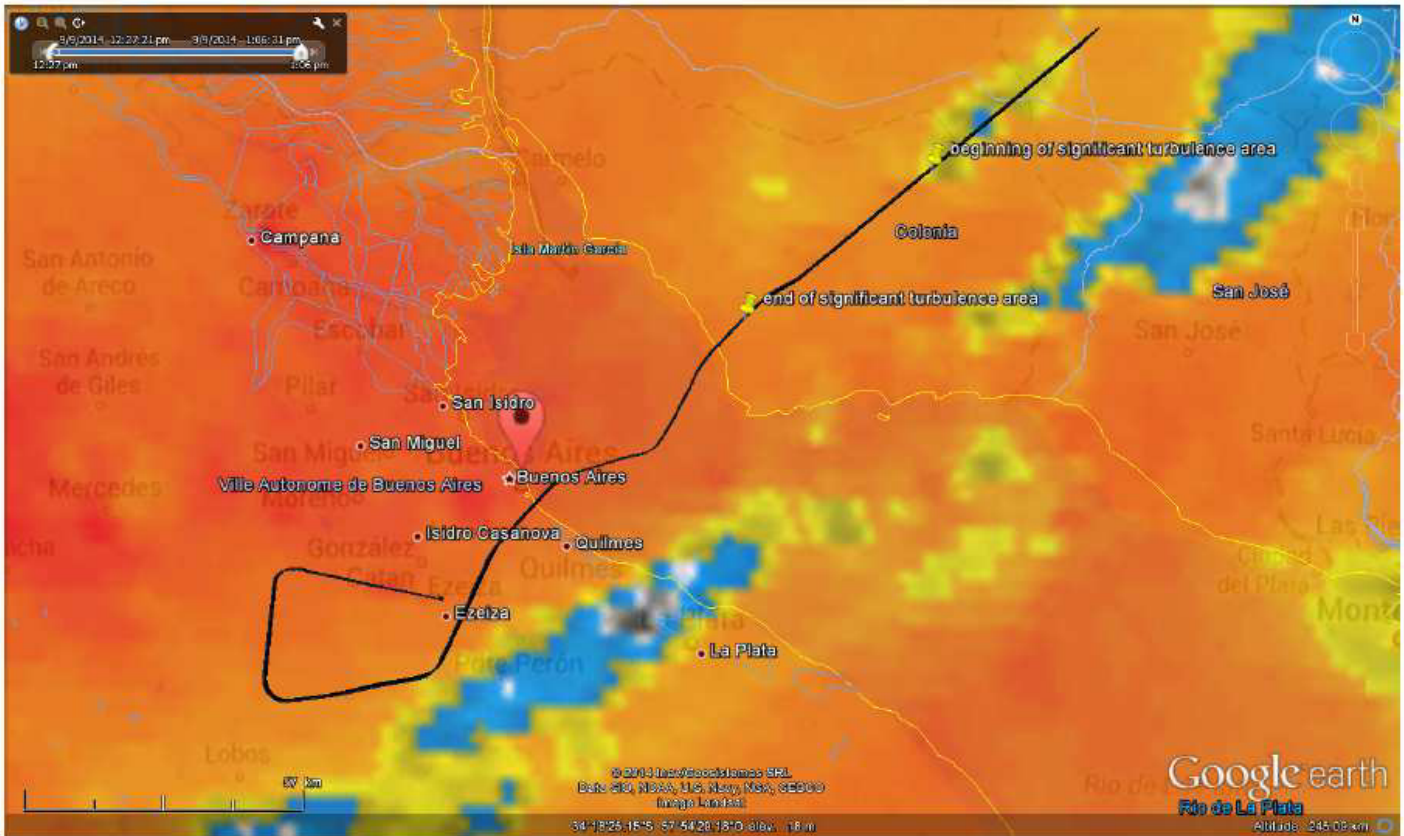
The METAR information at Buenos Aires airport (SAEZ / EZE) around the time of the turbulence event (that occurred between 10:30:30 and 13:35:21 UTC) is the following:

- SAEZ 091000Z 29007KT 230V320 9000 -TSRA BKN020 FEW050CB OVC080 20/19 Q1000
- SPECI SAEZ 091028Z 17014KT 140V210 5000 TSRA BKN007 FEW045CB OVC050 20/19 Q1001
- SPECI SAEZ 091040Z 18015G27KT 150V220 5000 TSRA BKN007 FEW045CB OVC050 20/19 Q1002
- SAEZ 091100Z 18020KT 5000 TSRA BKN010 FEW045CB OVC080 16/15 Q1002



Low Clouds High Clouds  
Warm Cold

**Aircraft trajectory from approach to landing with satellite view taken at 10:00 UTC:**



**1.6 CAS MONITORING BY FMGEC AND FCPC**

**1.6.1 Monitoring**

- **FMGEC CAS monitoring:**  
 FMGEC monitors the air data and in particular the CAS through a 2 by 2 comparison. The Threshold for an ADR rejection due to CAS monitoring is 20kt confirmed during 450ms.

Once a first ADR is rejected, there are two possibilities in case of additional failures:

- One ADR self-detected as Fault → 2 ADRs are rejected, 1 remains available for FMGEC,
- One ADR rejected by comparison (not self-detected) → the 3 ADRs are rejected (FMGEC being unable to determine the erroneous ADR).

Any ADR rejected by comparison by the FMGEC is latched in Fault condition as long as AP is engaged. As soon as AP is OFF, the Fault is unlatched and if the rejection condition is no longer valid, the ADR is used again by the FMGEC.

- **FCPC Icing monitoring:**  
 High density of ice crystals encountered at high altitude may lead to temporary obstruction of the Pitot inlet. This will result in a rapid drop of the Total Pressure (Pt) measured by the Pitot and therefore in an abrupt decrease of the associated CAS.

To detect any multiple CAS drops due to multiple Pitot obstructions (by ice crystals), an icing monitoring is performed by FCPC on CAS parameter using a “voted CAS” defined as followed:

- In case of 3 ADR valid, “voted CAS” is the median value,
- In case of 2 ADR valid, “voted CAS” is the mean of the two remaining CAS.
- In case of 1 ADR valid, “voted CAS” is the last CAS.

In case of Pitot obstruction, if voted CAS drops by more than 30kt within 1s (which could only happen if at least 2 Pitots are obstructed by ice crystals), the 3 ADRs are not used anymore by FCPC during 10s and F/CTL downgrades in Alternate 2B Law (normal longitudinal law + direct lateral law + loss of protections).

The triggering of this monitoring is associated with the following messages on PFR:

- “PROBE PITOT 1+2/2+3/1+3 (9DA)”, and
- On aircraft fitted with FCDC L21 standard and onwards with the ECAM CAUTION “NAV IAS DISCREPANCY”. For information the A330 MSN0733 was fitted at the time of the event with the FCDC L23 standard.

After 10s, current voted CAS is compared to the voted one recorded just before Pitot obstruction. If the difference is lower than 50kt, the 3 ADR are used again and the Normal law is available again. If not, the 3 ADRs are considered as lost by the FCPC and the Alternate 2B law is latched.

### 1.6.2 Consequence on system

<b>Triple ADR failure</b>	
<b>FMGEC</b>	Loss of AP + FD + A/THR and FE functions
<b>FCPC</b>	Alternate 2B Law (normal longitudinal law + direct lateral law + loss of protections)

## 1.7 RECORDING LOGIC IN DFDR

### 1.7.1 Calibrated Air Speed (CAS) parameters

If AIR DATA selector is set to “NORM”, DFDR CAS parameter is recorded from:

- ADR1 (CAS1, i.e. from CPT side), as long as CAS1 is valid, i.e. Normal Operation (NO) and
- ADR2 (CAS2, i.e. from F/O side), if CAS1 becomes invalid, i.e. Non Computed Data (NCD) of fault. CAS is NCD when below 30kt.

DFDR ISISCAS parameter is recorded from the same probe than CAS from ADR3 (i.e. is equivalent to CAS3).

### **1.7.2 Corrected Angle of Attack (CAOA) parameters**

When AIR DATA selector is set to "NORM":

- CAOA1 is invalid (NCD) when CAS1 < 60kt,
- CAOA2 is invalid (NCD) when CAS2 < 60kt.

*Note: AOA from IRS are also recorded in this DFDR data frame (AOAIRS parameters). For these parameters, a value is recorded from each ADIRU (3 different parameters recorded) independently of the AIR DATA selector position. AOAIRS corresponds to a pure copy of each CAOA but transmitted via the IRS part of the ADIRU*

## 2. SEQUENCE OF EVENTS

The following description and analysis have been carried out using data extracted from DFDR, Pilot Report (ref. **Annex N°1**) and Post Flight Report (ref. **Annex N°2**). The DFDR parameters' list is available in **Annex N°3**. The associated plots are available in **Annexes N°4 and 5**.

### 2.1 INITIAL CONDITIONS

According to the Pilot Report, before starting the descent, at FL360 the flight crew experienced some light turbulence in clear air, and decided to put the Seat Belt Sign to "ON".

They started the descent, and still according to Pilot Report, the weather radar showed areas of turbulences (magenta) on the right of their route, and areas of precipitations ahead which occupied an area of approximately 100NM to each side of their track and was 10 to 15NM deep. They saw areas of red colour clearly sided by areas of yellow and green towards they were heading.

- **At 10:30:30 UTC**, the aircraft was in the following initial conditions:
  - In descent passing 27700ft
  - AP1 was engaged in NAV/DES modes
  - FD1 and 2 were engaged
  - ATHR was engaged and active in THR IDLE mode
  - Speed was managed
  - Weather Radar was in WX+TURB mode
  - ND ranges were 80NM on both Captain and F/O sides
  - AIR DATA Selector was on the "NORM" position

It can be also mentioned that the TAT was increasing to 0°C, reaching -1.7°C at **10:29:01 UTC** then decreasing to -12°C but starting again to increase slowly towards 0°C (at **10:30:30 UTC** TAT is -8.6°C). This behaviour is typical of a TAT probe icing, revealing that aircraft was flying in ice crystal environment.

### 2.2 TURBULENCE AREA

- **From 10:30:30 UTC to 10:33:28 UTC**, between 27700ft and 23200ft, the Vertical Acceleration (VRTG) and the Lateral Acceleration (LATG) variations started to increase:
  - VRTG between 0.54g to 1.64g and
  - LATG between 0.06g (left) to 0.13g (right)
- **At 10:31:14 UTC**, speed control was changed to Selected and selected CAS was set at 280kt, then at 283kt at **10:32:06 UTC** and finally at 260kt (recommended turbulence speed) at **10:33:32 UTC**.
- **From 10:31:47 UTC to 10:36:23 UTC**, AOA3 reacted with a low sensitivity during several short periods.

*Note: Such behaviour has been already encountered and is likely due to transient ice crystal accumulation at the AOA3 vane base.*
- **At 10:33:26 UTC**, recorded TAT reached 0.17°C

*Note: A recorded TAT increasing and stabilizing at 0°C in flight is typical of a TAT probe icing.*

- **From 10:33:28 UTC to 10:34:33 UTC**, between 23200ft and 22200ft, the aircraft flew through a severe turbulence area and experienced large vertical (VTRG) and lateral (LATG) accelerations:
  - VTRG varied between 0.05g and 2.2g and
  - LATG varied between 0.13g (left) and 0.25g (right).
- **At 10:33:38 UTC**, the flight crew selected HDG-V/S (FCU V/S was at -1024ft/min).
- **From 10:34:31 UTC to 10:34:35 UTC**, between 22400ft and 22200ft recorded CAS dropped from 275kt to 156kt with a loss of more than 90kt in 1sec. During the event, the recorded CAS is CAS1.

*Note: As per DFDR logic, if AIR DATA selector is set on "NORM", the CAS recorded by the DFDR is the CAS from CPT side (i.e. CAS1) as long as the CAS1 is valid (NO). During the whole event period, the AIR DATA selector was in the "NORM" position and CAS1 remained valid (no fault or NCD).*

- **At 10:34:33 UTC**, the Rudder Travel Limit function was lost (TLU1V and TLU2V parameters switched to 1 = Not avail).

*Note: These two recorded parameters (TLU1V and TLU2V) correspond to the availability of the rudder Travel Limiter Unit which computes the available range of the rudder function of the speed. The loss of this function is the consequence of the loss of speed information by the FCPC.*

- **From 10:34:33 UTC to 10:35:21 UCT**, the aircraft continued to experience strong turbulences:
  - VTRG varied between 0.17g and 1.60g and
  - LATG varied between 0.10g (left) and 0.15g (right).
- **At 10:34:34 UTC**, loss of AP1, FD1&2 and A/THR and Normal Law reverted in Alternate Law. Master Warning (MW) triggered during 10sec and the message "THR LK" was displayed on the FMA until 10:34:57 UTC. ISISCAS dropped from 280kt to 241kt in 1sec and then re-increased to reach 300kt at 10:34:38 UTC.

According to the PFR, **at 10:34 UTC** the following ECAM alerts were triggered:

- A. ICE L WSHLD HEAT
- NAV IAS DISCREPANCY associated with the failure message PROBE PITOT 1+2/2+3/1+3 (9DA)
- A. ICE L+R WSHLD HEAT
- AUTO FLT A/THR OFF
- F/CTL ALTN LAW
- FLAG ON CAPT PFD SPD LIMIT
- FLAG ON F/O PFD SPD LIMIT

*Note: The triggering of the "A. ICE L WSHLD HEAT" followed by "A. ICE L+R WSHLD HEAT" could be explained by the hail impacts on the windshield.*

- **At 10:34:35 UTC**, Recorded CAS (i.e. CAS1) increased from 156kt and reached a maximum of 314kt at 10:34:40 UTC.
- **At 10:34:37 UTC**, the FD2 was recovered followed 1sec later by the FD1.

*Analysis: Since ADR failures are not latched by the FMGEC as long as AP is off, FD reengaged automatically as soon as at least 2 CAS are recovered by the FMGEC (difference less than 20kt during 450ms).*

- **At 10:34:43 UTC**, the Normal law and TLU function were recovered.

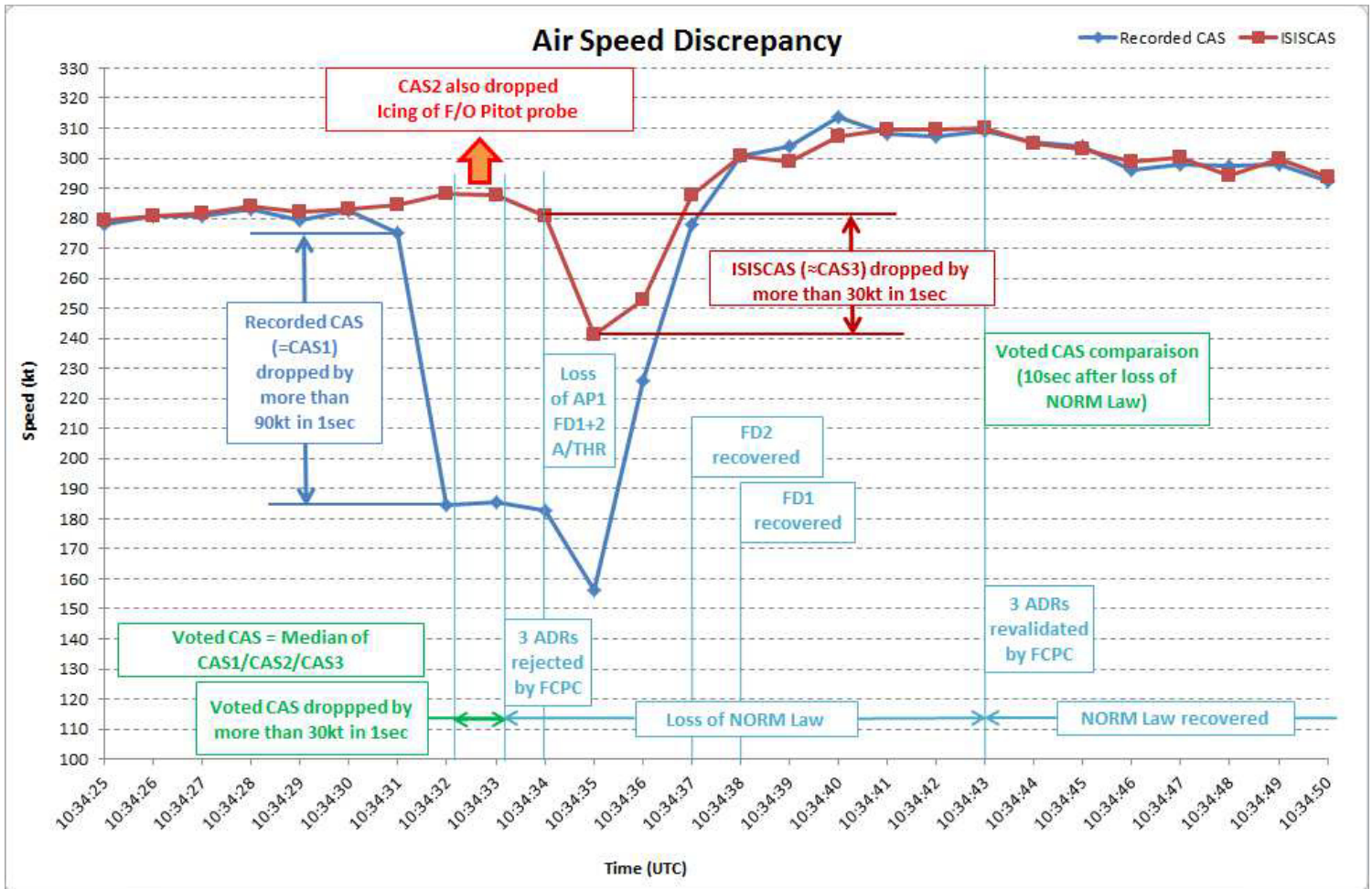
Analysis: The three ADRs were most likely rejected by the FMGEC leading to the loss of AP, FD, A/THR and SPD LIM (computed by the FE) on both PFDs.

“FLAG ON CAPT PFD SPD LIMIT” and “FLAG ON F/O PFD SPD LIMIT” messages on the PFR are explained by the loss of the FE function of the FMGEC following the 3 ADR rejections. In this case, the following PFD information is lost: VLS, S, F, Green Dot, Vtrend, VMAX, VFE next, VSW.

The reversion in ALTN law is explained by the triggering of the icing monitoring of the FCPC. Indeed, the ECAM message NAV IAS DISCREPANCY associated with the failure message PROBE PITOT 1+2/2+3/1+3 (9DA) are the signature of this triggering.

The icing monitoring is triggered when the Voted CAS (i.e. in that case the median of the three CAS) dropped by more than 30kt in 1sec. When looking at the CAS1 (=Recorded CAS) and CAS3 (≈ISISCAS) behaviours during the second before the rejection in ALTN law (see here below graph), CAS2 was most probably the median. In any case, as the CAS3 decreased by only 7kt in this second, CAS2 has necessarily dropped meaning that the F/O Pitot Probe has been also obstructed by ice crystal.

10 sec after the reversion in ALTN law, the NORM law is recovered. This also corroborates that the ALTN law was triggered by the icing monitoring of the FCPC. Difference between current Voted CAS and Voted CAS before the Pitot obstruction was most probably lower than 50kt at that time, leading the FCPC to use again the three ADRs and to the recovery of the NORM law.



- **At 10:34:48 UTC**, ALT reached a minimum of 22180ft and then increased after several pitch up orders recorded on Capt. side. Pitch increased to reach 2.11° at 10:34:53 UTC.
- **At 10:34:56 UTC**, a pitch up order (4.13° back stick) was recorded followed by a second one at **10:35:20 UTC** (6.33° back stick). The pitch increased to 3.52°. C AS reached 305kt and then decreased. ALT was increasing and reached 23150ft at 10:35:59 UTC before decreasing again.
- **At 10:34:57 UTC**, the Thrust Levers were retarded from CLIMB to IDLE detent.
- **At 10:35:21 UTC**, AP1 engaged (still HDG-V/S mode).
- **At 10:35:33 UTC**, the Thrust Levers were set back to CLIMB detent and A/THR was reengaged (in SPD mode).
- **At 10:35:55 UTC**, OP DES mode was engaged (lateral mode remained in HDG).

Then the aircraft proceeded to the approach and performed an uneventful landing in Buenos Aires airport (EZE).



### 3. CONCLUSION

On September 9<sup>th</sup> 2014, A330 MSN0733 (Reg. EC-JPF) operated by Air Europa (AEA) was performing a flight from Madrid (MAD, Spain) to Buenos Aires (EZE, Argentina). During the descent to EZE, passing FL230 the aircraft crossed a turbulence area and hailstorm conditions.

According to Pilot Report, the flight crew was aware of the vicinity of strong weather cells (weather radar was in WX+TURB mode) but did not expect such heavy precipitations.

The hailstorm severely damaged both windshields and radome. The turbulence zone lasted almost 5mn during which the Vertical Acceleration (VRTG) varied between 0.05g and 2.2g and the Lateral Acceleration (LATG) between 0.06g (left) and 0.25g (right).

There are some indications (TAT probe freezing and low AOA sensibility) that the aircraft was flying in ice crystal environment for at least few minutes before entering the turbulence area. When crossing 22350ft, the CAS1 dropped by more than 90kt in 1sec. 3sec after, ISISCAS (equivalent to CAS3) dropped by 30kt in 1sec. In the meantime, AP1, both FDs and A/THR were lost and F/CTL law reverted in Alternate law.

Loss of AP, FDs and A/THR is most likely due to the rejection of the three ADRs by the FMGEC (due to CAS monitoring). The transient reversion in Alternate law is due to the temporary rejection of the 3 ADR by FCPC (icing monitoring).

FD2 and FD1 were recovered respectively 3 and 4sec after their disengagement, meaning that at least two ADRs were revalidated by the FMGEC. 10sec after the reversion in Alternate law, the Normal law was recovered (as per FCPC icing monitoring logic in case of CAS recovery).

The Thrust Levers were selected on IDLE detent for 36sec, to reduce the speed according to the Pilot Report (at that time the CAS was 305kt). When the thrust levers were set back to CLIMB detent, A/THR was reengaged. In the meantime AP1 was reengaged in HDG-V/S mode and then in OP DES mode. Then the aircraft proceeded to the approach and performed an uneventful landing in Buenos Aires airport (EZE).

## ANNEXES

1. Pilot Report (PIREP)
2. Post Flight Report (PFR)
3. List of recorded parameters
4. FDR data plots – overall
5. FDR data plots – Zoom

# Annex N°1

## Pilot Report (PIREP)

## EZE A330 WEATHER ENCOUNTER – CAPTAIN'S REPORT

On last September 8<sup>th</sup>, I signed-in at 20:25 UTC in MAD for the AEA 041 flight. I had previously downloaded the flight plan at home and also inserted the route in the Jeppesen iPad app, and also updated weather information provided by this and thus have extra help.

We took off from Madrid, made the expected flight level changes during the flight, run the entire route without any impact initially, and carried out the planned rests for all members of the crew.

According the weather information obtained during the flight, we selected a VOR approach to runway 29, and loaded an ILS 25 in the secondary flight plan, giving the briefing in this way.

Once in contact with Montevideo Control, as we could not receive yet the ATIS-EZE by VHF (only means possible, having no D-ATIS), they told us the runway in use was the 35. We activated the secondary flight plan and re-programmed as a secondary RWY 29, again reviewing the briefing for this new plan.

Before the descent, at level 360 we experienced some light turbulence in clear air, and we decided to put the belts sign ON.

We started the descent, and the weather radar showed areas of turbulence (magenta) to the right of our route, and areas of precipitation in front of us which occupied an area of approximately 100 NM to each side of the track and 10-15 NM deep initially at that time. We saw areas of red color clearly sided by areas of yellow and green, that was where our path was directed. We began our descent aiming to that green/yellow narrow aisle, that couldn't predict high-intensity precipitation.

Passing through FL260, we receive hail impacts, cracking both windshield from the very beginning, and experiencing at the same time severe to extreme turbulence; as I mentioned, it did not show on the radar for this area we were flying, nor had been reported by radio, VOLMET ATIS, or the presence of storm or hail at these levels.

Just at the beginning of the descent we received the ATIS, which gave RWY 35 in use, but in the subsequent communication with EZE they said then that RWY in use was 11. Therefore, I asked the Copilot to load the ILS approach to runway 11, while I had controls and communications, and the relief Copilot assisted us with the QRH procedure "cockpit windshield/window cracked".

Due to that turbulence turbulence, the autopilot disengaged without crew action, so I set IDLE to reduce our airspeed, then selected 260Kts and connected back A/P and ATHR. They told us to proceed direct to point ARSOT and we told them back that we were to fly to a heading to the left of the route due to the weather conditions.

An ECAM Caution consistent to the cracked windshields arose: "L & R Windshield Heat Fail", getting help from the relief Copilot.

Once free of adverse weather (around FL150), we required priority for landing, telling them about what we just experienced in the aircraft and weather. At this time the Copilot had the communications back and I had the controls.

I gave another briefing for the new runway in use, preparing for CATIIIA at the prospect of poor visibility due to the damaged windshield. We made an uneventful approach from the South of the field towards ARSOT, and in final I decided to land manually, since although it was within limits for

autoland, the wind was strong enough to consider it the best option, and my window was less damaged than the one on the other side.

We taxied to the ramp and had to wait for the marshaller, since the ground personnel was not allowed to approach any aircraft under those storms at the airport. Once the technician climbed on board, he told us that we also had a damaged nose radome, as well as some damage on each engine pylon and the landing light, so I checked and took pictures of all damage before filling-in the logbook.

I called the Flight Manager and the Flight Following Captain on duty, telling them what had just happened, and reporting that pictures would be sent from the hotel.

We had to wait a while for the baggage at the claim area (until handling personnel were allowed to work on the ramp), which gave the opportunity to many passengers to congratulate us personally, which we thank them.

Once in the hotel, we called back the Flight Following Duty Captain, in order to arrange an interview with the National Authority (JIAAC) personnel, which we had at noon in the hotel lobby.

We were then told that another aircraft was on its way to EZE, with some spare parts, and that we would fly back to MAD as scheduled.

During the afternoon, the whole crew (pilots and cabin crew) had the opportunity to join for a long debriefing where we explained and discussed all that happened.

Signed,

Captain

## Annex N°2

## Post Flight Report (PFR)

A/C IDENT .EC-JPF DATE SEP08 FLT NBR AEA041 FROM/TO LEMD/SAEZ START/END 2204/1100	MAINTENANCE POST FLIGHT REPORT LEG 00  DB/N AEA		CMC1 PRINTING  PAGE 01/02 DATE SEP09 UTC 1235
14 COCKPIT EFFECTS	UTC FLIGHT PHASE	08 FAULTS	
ATA 2821  Not Displayed FUEL LEFT PUMP 1 LO PR	2205  Engine Start 02		
ATA 2821  Not Displayed FUEL RIGHT PUMP 1 LO PR	2205  Engine Start 02		
ATA 2840  Not Displayed FUEL ZFW ZFCG DISAGREE	2205  Engine Start 02		
ATA 3600  MAINTENANCE STATUS BMC 2	2205  Engine Start 02	ATA 362216 Class 2 Hard L WING LOOP A INOP	Source *BMC2
	2206  Engine Start 02	ATA 237334 Class 1 Hard DIR2(102RH)	Source FWS
	0502  Cruise 06	ATA 383141 Class 1 Hard LAV 34	Source VSC
ATA 7321  MAINTENANCE STATUS ECU1 CHAN A	0820  Cruise 06	ATA 752551 Class 2 Hard CCC VLV(E1-4057KS)/J7/J3	Source *ECU1A
ATA 3042  A. ICE L WSHLD HEAT	1034  Cruise 06	ATA 561111 Class 1 Hard L WSHLD(30G1)/ WHC1(20G1)	Source WHC1 Identifiers WHC2
CONTINUED			

A/C IDENT . EC-JPF DATE SEP08 FLT NBR AEA041 FROM/TO LEMD/SAEZ START/END 2204/1100	MAINTENANCE POST FLIGHT REPORT LEG 00  DB/N AEA		CMC1 PRINTING  PAGE 02/02 DATE SEP09 UTC 1235
14 COCKPIT EFFECTS	UTC FLIGHT PHASE	08 FAULTS	
ATA 3414  NAV IAS DISCREPANCY	1034  Cruise 06	ATA 341115 Class 1 Hard PROBE-PITOT 1+2 / 2+3 / 1+3 (9DA)	Source EFCS2 Identifiers EFCS1 AFS
ATA 3042  A. ICE L+R WSHLD HEAT	1034  Cruise 06		
ATA 2230  AUTO FLT A/THR OFF	1034  Cruise 06		
ATA 2791  F/CTL ALTN LAW	1034  Cruise 06		
ATA 2283  FLAG ON CAPT PFD SPD LIMIT	1034  Cruise 06		
ATA 2283  FLAG ON F/O PFD SPD LIMIT	1034  Cruise 06		
ATA 2262  AUTO FLT REAC W/S DET FAULT	1035  Cruise 06	ATA 270000 Class 1 Intermittent EFCS	Source AFS
ATA 2210  AUTO FLT AP OFF	1035  Cruise 06	ATA 279334 Class 1 Intermittent FCPC2+3(2CE2+3)	Source AFS
END OF REPORT			



## Annex N°3

### List of recorded parameters

MNEMO	LIBELLE	UNIT	SOURCE	PPS	RESOL Info	SIGN CONV
43011	E.G.P.W.S OPERATING MODE (NOT USED)	NA	DMC Label = 016/24-26	1/4	NA	1= TBD
43021	E.G.P.W.S OPERATING MODE (NOT USED)	NA	DMC Label = 016/24-26	1/4	NA	1= TBD
43051	E.G.P.W.S OPERATING MODE (NOT USED)	NA	DMC Label = 016/24-26	1/4	NA	1= TBD
43061	E.G.P.W.S OPERATING MODE (NOT USED)	NA	DMC Label = 016/24-26	1/4	NA	1= TBD
43071	E.G.P.W.S OPERATING MODE (NOT USED)	NA	DMC Label = 016/24-26	1/4	NA	1= TBD
73011	F/O PFD/DU (6) VALID	NA	DMC (F/O BUS) Label = 332/15	1/4	NA	1= VALID
73021	F/O ND/DU (5) VALID	NA	DMC (F/O BUS) Label = 332/17	1/4	NA	1= VALID
10NMC	10 NM RANGE ND ON CAPT (MATRIX 15)	NA	DMC Label = 215/23	1/4	NA	NA
10NMF	10 NM RANGE ND ON F/O	NA	DMC (MATRIX 15) Label = 215/23	1/4	NA	NA
121120	N1 ACTUAL ENG.1 FINE bits16-27	(%)	FADEC/EEC DMC Label = 346	1/1	NA	NA
125121	N1 ACTUAL ENG.2 FINE bits16-27	(%)	DEC(EEC or ECU) DMC Label = 3	1/1	NA	NA
131010	N1 ACTUAL ENG.1 COARSE bits 28	(%)	FADEC/EEC DMC Label = 346	1/1	NA	NA
135011	N1 ACTUAL ENG.2 COARSE bits 28	(%)	DEC(EEC or ECU) DMC Label = 3	1/1	NA	NA
160NMC	160 NM RANGE ND ON CAPT (MATRIX 15)	NA	DMC Label = 215/27	1/4	NA	NA
160NMF	160 NM RANGE ND ON F/O (MATRIX 15)	NA	DMC Label = 215/27	1/4	NA	NA
191110	FUEL FLOW ENG.1 MSB PART bits 27-28	(LBS/H)	DEC(ECU or EEC) DMC Label = 2	1/1	NA	NA
191111	FUEL FLOW ENG.2 MSB PART bits 27-28	(LBS/H)	DEC(ECU or EEC) DMC Label = 2	1/1	NA	NA
1DATBROAD	MMR1 MODE DATA BROADCAST MODE	NA	MMR Label = 033/11-14	1/4	NA	NA
1FLS	MMR1 MODE FLS	NA	MMR Label = 033/11-14	1/4	NA	NA
1GLS	MMR1 MODE GLS MODE	NA	MMR Label = 033/11-14	1/4	NA	NA
1GLSC	GLS OR MMR1 FREQUENCY 100 and 10 mhz	(MHZ)	ILS or MMR DMC Label = 033	1/4	4096.000	NA
1GLSC2	GLS OR MMR1 FREQUENCY	(MHZ)	ILS or MMR Label = 033	NA	1200.000	NA
1GLSCH	GLS OR MMR1 FREQUENCY	(MHZ)	ILS or MMR Label = 033	NA	1.000	NA
1GLSF	GLS OR MMR1 FREQUENCY 0.1 0.01 mhz	(MHZ)	ILS or MMR DMC Label = 033	1/4	1.000	NA
1GLSSC	GLS OR MMR1 FREQUENCY 100 and 10 mhz	(MHZ)	ILS or MMR DMC Label = 033	1/4	32768.000	NA
1ILS	MMR1 MODE ILS	NA	MMR Label = 033/11-14	1/4	NA	NA
1ILSFLS	MMR1 MODE COMBINED ILS/FLS	NA	MMR Label = 033/11-14	1/4	NA	NA
1ILSVC	MMR1 ILS/VOR FREQUENCY/CHANNEL 100 and 10 mhz COARSE bits 27-29	(MHZ)	ILS DMC Label = 033	1/4	10.000	NA
1ILSVF	MMR1 ILS/VOR FREQUENCY/CHANNEL 1 0.1 0.01 mhz FINE bits 15-26	NA	ILS DMC Label = 033	1/4	0.010	NA
1ILSVORF	MMR1 ILS/VOR FREQUENCY/CHANNEL ELAB bits 15-29	(MHZ)	ILS DMC Label = 033	NA	0.010	NA
1MLSAUTO	MMR1 MODE MLS AUTO MODE	NA	MMR Label = 033/11-14	1/4	NA	NA
1MLSBAZ	MMR1 MODE MLS BAZ MODE (MILITARY OPTION)	NA	MMR Label = 033/11-14	1/4	NA	NA
1MLSC	MMR1 MLS CHANNEL COARSE bits 26-29	NA	MMR DMC Label = 033	1/4	100.000	NA
1MLSCH	MMR1 MLS CHANNEL ELAB bits 18-29	NA	MMR DMC Label = 033	NA	1.000	NA
1MLSCOMP	MMR1 MODE MLS COMPUTED MODE (MILITARY OPTION)	NA	MMR Label = 033/11-14	1/4	NA	NA
1MLSF	MMR1 MLS CHANNEL FINE bits 18-25	(MHZ)	NA	1/4	1.000	NA
1PC1	DC1/DC BAT CONTACTOR CLOSED	NA	ECMU SDAC Label = 003/20	1/4	NA	1= CLOSED
1PC2	DC2/DC BAT CONTACTOR CLOSED	NA	ECMU SDAC Label = 003/20	1/4	NA	1= CLOSED
1PH	DC ESS/DC ESS SHED CONTACTOR OPEN	NA	ECMU SDAC Label = 005/20	1/4	NA	1= OPEN
1PP	DC1 BUS NO VOLTAGE	NA	ECMU SDAC Label = 003/14	1/4	NA	1= NO VOLTAGE
1RSVD	MMR1 MODE RSVD. FUTURE EXPANSION	NA	MMR Label = 033/11-14	1/4	NA	NA
1SPARE	MMR1 MODE SPARE	NA	MMR Label = 033/11-14	1/4	NA	NA
1VHFHYB	MMR1 MODE RSVD.VHF HYBRID MODE	NA	MMR Label = 033/11-14	1/4	NA	NA
1VORMODE	MMR1 MODE RSVD.VOR MODE	NA	MMR Label = 033/11-14	1/4	NA	NA
1XP1	1XP NO VOLTAGE	NA	ECMU SDAC Label = 055/19	1/4	NA	1= NO VOLTAGE
201120	FUEL FLOW ENG.1 LSB PART bits 15-26	(LBS/H)	DEC(ECU or EEC) DMC Label = 2	1/1	NA	NA
201121	FUEL FLOW ENG.2 LSB PART bits 15-26	(LBS/H)	DEC(ECU or EEC) DMC Label = 2	1/1	NA	NA
20NMC	20 NM RANGE ND ON CAPT (MATRIX 15)	NA	DMC Label = 215/24	1/4	NA	NA
20NMF	20 NM RANGE ND ON F/O	NA	DMC (MATRIX 15) Label = 215/24	1/4	NA	NA
2DATBROAD	MMR2 MODE DATA BROADCAST MODE	NA	MMR Label = 033/11-14	1/4	NA	NA
2FLS	MMR2 MODE FLS	NA	MMR Label = 033/11-14	1/4	NA	NA
2GLS	MMR2 MODE GLS MODE	NA	MMR Label = 033/11-14	1/4	NA	NA
2GLSC	GLS OR MMR1 FREQUENCY 100 and 10 mhz	(MHZ)	ILS or MMR DMC Label = 033	1/4	4096.000	NA
2GLSC2	GLS OR MMR1 FREQUENCY	(MHZ)	ILS or MMR Label = 033	NA	1200.000	NA
2GLSCH	GLS OR MMR1 FREQUENCY	(MHZ)	ILS or MMR Label = 033	NA	1.000	NA
2GLSF	GLS OR MMR1 FREQUENCY 0.1 0.01 mhz	(MHZ)	ILS or MMR DMC Label = 033	1/4	1.000	NA
2GLSSC	GLS OR MMR1 FREQUENCY 100 and 10 mhz	(MHZ)	ILS or MMR DMC Label = 033	1/4	32768.000	NA
2ILS	MMR2 MODE ILS	NA	MMR Label = 033/11-14	1/4	NA	NA
2ILSFLS	MMR2 MODE COMBINED ILS/FLS	NA	MMR Label = 033/11-14	1/4	NA	NA
2ILSVC	MMR2 ILS/VOR FREQUENCY/CHANNEL 100 and 10 mhz COARSE	(MHZ)	ILS or MMR DMC Label = 033	1/4	10.000	NA
2ILSVF	MMR2 ILS/VOR FREQUENCY/CHANNEL 1 0.1 0.01 mhz FINE	NA	ILS or MMR DMC Label = 033	1/4	0.010	NA
2ILSVORF	MMR2 ILS/VOR FREQUENCY/CHANNEL	(MHZ)	ILS or MMR DMC Label = 033	NA	0.010	NA
2MLSAUTO	MMR2 MODE MLS AUTO MODE	NA	MMR Label = 033/11-14	1/4	NA	NA
2MLSBAZ	MMR2 MODE MLS BAZ MODE (MILITARY OPTION)	NA	MMR Label = 033/11-14	1/4	NA	NA
2MLSC	MMR2 MLS CHANNEL COARSE	NA	MMR DMC Label = 033	1/4	100.000	NA
2MLSCH	MMR2 MLS CHANNEL	NA	MMR DMC Label = 033	NA	0.010	NA
2MLSCOMP	MMR2 MODE MLS COMPUTED MODE (MILITARY OPTION)	NA	MMR Label = 033/11-14	1/4	NA	NA
2MLSF	MMR2 MLS CHANNEL FINE	(MHZ)	NA	1/4	1.000	NA
2PP	DC2 BUS NO VOLTAGE	NA	ECMU SDAC Label = 003/14	1/4	NA	1= NO VOLTAGE
2RSVD	MMR2 MODE RSVD. FUTURE EXPANSION	NA	MMR Label = 033/11-14	1/4	NA	NA
2SPARE	MMR2 MODE SPARE	NA	MMR Label = 033/11-14	1/4	NA	NA
2VHFHYB	MMR2 MODE RSVD.VHF HYBRID MODE	NA	MMR Label = 033/11-14	1/4	NA	NA
2VORMODE	MMR2 MODE RSVD.VOR MODE	NA	MMR Label = 033/11-14	1/4	NA	NA
320NMC	320 NM RANGE ND ON CAPT (MATRIX 15)	NA	DMC Label = 215/28	1/4	NA	NA
320NMF	320 NM RANGE ND ON F/O (MATRIX 15)	NA	DMC Label = 215/28	1/4	NA	NA
385360	TCAS UP ADVISORY NOT USED (MATRIX 8) *****	NA	TCAS DMC Label = 270/24-26	1/1	NA	NA

385370	TCAS UP ADVISORY NOT USED *****	NA	TCAS DMC Label = 270/24-26	1/1	NA	NA
385460	TCAS DOWN ADVISORY NOT USED (MATRIX 9) *****	NA	TCAS DMC Label = 270/27-29	1/1	NA	NA
385470	TCAS DOWN ADVISORY NOT USED (MATRIX 9) *****	NA	TCAS DMC Label = 270/27-29	1/1	NA	NA
3ADRNVALID	3 ADR NOT VALID IN FLIGHT CONDITION	NA	DMC Label = 331/20	1/4	NA	1= 3 ADR NOT VALID
3PE	ESS TR CONTACTOR CLOSED	NA	ECMU SDAC Label = 003/18	1/4	NA	1= CLOSED
3PP	3PP DC BAT BUS NO VOLTAGE	NA	ECMU SDAC Label = 055/23	1/4	NA	1= NO VOLTAGE
3XC1	AC1/AC ESS CONTACTOR CLOSED	NA	ECMU SDAC Label = 003/24	1/4	NA	1= CLOSED
3XC2	AC2/AC ESS CONTACTOR CLOSED	NA	ECMU SDAC Label = 003/24	1/4	NA	1= CLOSED
40NMC	40 NM RANGE ND ON CAPT (MATRIX 15)	NA	DMC Label = 215/25	1/4	NA	NA
40NMF	40 NM RANGE ND ON F/O (MATRIX 15)	NA	DMC Label = 215/25	1/4	NA	NA
415332	TCAS COMBINATED CONTROL NOT USED (MATRIX 7) *****	NA	TCAS DMC Label = 270/18-20	1/1	NA	NA
451121	ADF2 FREQUENCY PART ONE bits 15-26	(KHZ)	ADF DMC Label = 032	1/4	1.000	NA
458120	ADF1 FREQUENCY PART ONE bits 15-26	(KHZ)	ADF DMC Label = 032	1/4	1.000	NA
461021	ADF2 FREQUENCY PART TWO bits 14&27	(KHZ)	ADF DMC Label = 032	1/4	0.500	NA
464100	VOR1 FREQUENCY FINE bits 15	NA	VOR1 DMC Label = 034	1/4	0.050	NA
467010	DME1 FREQUENCY FINE bits 18	(MHZ)	DME DMC Label = 035	1/4	0.050	NA
467011	DME2 FREQUENCY FINE bits 18	(MHZ)	DME DMC Label = 035	1/4	0.050	NA
467110	DME1 FREQUENCY COARSE bits 19-29	(MHZ)	DME DMC Label = 035	1/4	0.100	NA
467111	DME2 FREQUENCY COARSE bits 19-29	(MHZ)	DME DMC Label = 035	1/4	0.100	NA
468020	ADF1 FREQUENCY PART TWO bits 14&27	(KHZ)	ADF DMC Label = 032	1/4	0.500	NA
468031	VOR2 FREQUENCY FINE bits 15	NA	VOR DMC Label = 034	1/4	0.050	NA
468090	VOR1 FREQUENCY COARSE bits 19-27	(MHZ)	VOR1 DMC Label = 034	1/4	0.100	NA
468091	VOR2 FREQUENCY COARSE bits 19-27	(MHZ)	VOR DMC Label = 034	1/4	0.100	NA
4PC	DC BAT/DC ESS CONTACTOR CLOSED	NA	ECMU SDAC Label = 005/22	1/4	NA	1= CLOSED
4PP	DC ESS BUS NO VOLTAGE	NA	ECMU SDAC Label = 003/15	1/4	NA	1= NO VOLTAGE
575011	RED WARNING SPARE 3	NA	FWC Label = 124/28	1/1	NA	1=
5PB	APU BAT CONTACTOR CLOSED	NA	ECMU SDAC Label = 005/18	1/4	NA	1= CLOSED
5PU1	TR1 CONTACTOR CLOSED	NA	ECMU SDAC Label = 003/14	1/4	NA	1= CLOSED
5PU2	TR2 CONTACTOR CLOSED	NA	ECMU SDAC Label = 003/14	1/4	NA	1= CLOSED
601063	TCAS CREW SELECTION NOT USED (MATRIX 10) *****	NA	TCAS DMC Label = 016/15-17	1/1	NA	NA
601064	TCAS CREW SELECTION NOT USED (MATRIX 10) *****	NA	TCAS DMC Label = 016/15-17	1/1	NA	NA
601065	TCAS CREW SELECTION NOT USED (MATRIX 10) *****	NA	TCAS DMC Label = 016/15-17	1/1	NA	NA
601066	TCAS CREW SELECTION NOT USED (MATRIX 10) *****	NA	TCAS DMC Label = 016/15-17	1/1	NA	NA
601067	TCAS CREW SELECTION NOT USED (MATRIX 10) *****	NA	TCAS DMC Label = 016/15-17	1/1	NA	NA
6PB1	BAT.1 CONTACTOR CLOSED	NA	ECMU SDAC Label = 005/14	1/4	NA	1= CLOSED
6PB2	BAT.2 CONTACTOR CLOSED	NA	ECMU SDAC Label = 005/16	1/4	NA	1= CLOSED
7PU	APU TR CONTACTOR CLOSED	NA	ECMU SDAC Label = 003/16	1/4	NA	1= CLOSED
80NMC	80 NM RANGE ND ON CAPT (MATRIX 15)	NA	DMC Label = 215/26	1/4	NA	NA
80NMF	80 NM RANGE ND ON F/O (MATRIX 15)	NA	DMC Label = 215/26	1/4	NA	NA
9528045	HEIGHT VALUE MDA/MDH FINE ELAB	(FT)	FMGEC(FM) DMC	1/62	1.000	NA
9528046	HEIGHT VALUE MDA/MDH COARSE ELAB	(FT)	FMGEC(FM) DMC	1/62	4096.000	NA
9XP	9XP NO VOLTAGE	NA	ECMU SDAC Label = 003/25	1/4	NA	1= NO VOLTAGE
ACRGSWOW	AFT CARGO SMOKE	NA	FWC Label = 124/14	1/1	NA	1= SMOKE
ACT1QKG	ACT.1 FUEL QUANTITY	(KG)	FCMC DMC Label = 312	1/62	29.030	NA
ACT1QLB	ACT.1 FUEL QUANTITY	(LBS)	FCMC DMC Label = 312	1/62	64.000	NA
ACT1V	ACT.1 INSTALLED	NA	FCMC DMC Label = 313/11	1/62	NA	1= INSTALLED
ACT2QKG	ACT.2 FUEL QUANTITY	(KG)	FCMC DMC Label = 316	1/62	29.030	NA
ACT2QLB	ACT.2 FUEL QUANTITY bits 18-28	(LBS)	FCMC DMC Label = 316	1/62	64.000	NA
ACT2V	ACT.2 INSTALLED	NA	FCMC DMC Label = 313/12	1/62	NA	1= INSTALLED
ACTAIL	A/C TAIL NUMBER	NA	DCP FDIU	NA	NA	NA
ACTAIL1	A/C TAIL NUMBER C1	NA	DCP FDIU Label =	1/62	NA	NA
ACTAIL2	A/C TAIL NUMBER C2	NA	DCP FDIU Label =	1/62	NA	NA
ACTAIL3	A/C TAIL NUMBER C3	NA	DCP FDIU Label =	1/62	NA	NA
ACTAIL4	A/C TAIL NUMBER C4	NA	DCP FDIU Label =	1/62	NA	NA
ACTAIL5	A/C TAIL NUMBER C5	NA	DCP FDIU Label =	1/62	NA	NA
ACTAIL6	A/C TAIL NUMBER C6	NA	DCP FDIU Label =	1/62	NA	NA
ACTAIL7	A/C TAIL NUMBER C7	NA	DCP FDIU Label =	1/62	NA	NA
ACTYPE	A/C TYPE	NA	FDIU Label =	1/62	NA	53= A330-GE
ADFF1	ADF1 FREQUENCY ELAB.	(KHZ)	ADF DMC Label = 032	NA	0.500	NA
ADFF2	ADF2 FREQUENCY ELAB.	(KHZ)	ADF DMC Label = 032	NA	0.500	NA
ADR123F	ADR 1+2+3 FAULT	NA	FWC Label = 124/27	1/1	NA	1= FAULT
ADR1F	ADR.1 FAIL	NA	DMC Label = 360/14	1/4	NA	1= FAULT
ADR1PFDC	ADR1 SELECTED ON PFD (CAPT)	NA	DMC Label = 341/21	1/4	NA	1= SELECTED
ADR2F	ADR.2 FAIL	NA	DMC Label = 360/15	1/4	NA	1= FAULT
ADR2PFDF	ADR2 SELECTED ON PFD (F/O)	NA	DMC Label = 341/22	1/4	NA	1= SELECTED
ADR3F	ADR.3 FAIL	NA	DMC Label = 360/16	1/4	NA	1= FAULT
ADV1V1	ADV ENG.1 N1 VIBRATION	NA	EIVMU DMC Label = 300/13	1/1	NA	1= ACTIVE
ADV1V2	ADV ENG.2 N1 VIBRATION	NA	EIVMU DMC Label = 300/14	1/1	NA	1= ACTIVE
ADV2V1	ADV ENG.1 N2 VIBRATION	NA	EIVMU DMC Label = 300/17	1/1	NA	1= ACTIVE
ADV2V2	ADV ENG.2 N2 VIBRATION	NA	EIVMU DMC Label = 300/18	1/1	NA	1= ACTIVE
AFLOOR	FMA A/THR ALPHA FLOOR DISPLAYED	NA	FMGEC(FG) DMC Label = 150	1/1	NA	NA
AGC	AGC CLOSED	NA	ECMU SDAC Label = 055/13	1/4	NA	1= CLOSED
AIDLEAC	Auto idle activated	NA	FWC Label = 172	2/1	NA	NA
AIDRIVENWING	WING ANTI-ICE DRIVEN ON	NA	WHC1 SDAC Label = 003/18	1/2	NA	1= SELECTED ON
AILLI	LH INNER AILERON bits18-26+29	(DA)	FCPC-FCSC FCDC Label = 310	2/1	0.088	>0= AIL.DOWN
AILLIBV	INNER LH AILERON BLUE AVAILABILITY	NA	FCDC Label = 42/16	2/1	NA	1= AVAILABLE
AILLIGV	INNER LH AILERON GREEN AVAILABILITY	NA	FCDC Label = 42/17	2/1	NA	1= AVAILABLE
AILLO	LH OUTER AILERON bits18-26+29	(DA)	FCPC-FCSC FCDC Label = 320	1/1	0.088	>0= AIL DOWN

AILLOGV	OUTER LH AILERON GREEN AVAILABILITY	NA	FCDC Label = 42/21	1/1	NA	1= AVAILABLE
AILLOYV	OUTER LH AILERON YELLOW AVAILABILITY	NA	FCDC Label = 42/20	1/1	NA	1= AVAILABLE
AILRI	RH INNER AILERON bits18-26+29	(DA)	FCPC-FCSC FCDC Label = 330	2/1	0.088	>0= AIL.DOWN
AILRIBV	INNER RH AILERON BLUE AVAILABILITY	NA	FCDC Label = 42/18	2/1	NA	1= AVAILABLE
AILRIGV	INNER RH AILERON GREEN AVAILABILITY	NA	FCDC Label = 42/19	2/1	NA	1= AVAILABLE
AILRO	RH OUTER AILERON bits18-26+29	(DA)	FCPC-FCSC FCDC Label = 340	1/1	0.088	>0= AIL.DOWN
AILROGV	OUTER RH AILERON GREEN AVAILABILITY	NA	FCDC Label = 42/22	1/1	NA	1= AVAILABLE
AILROYV	OUTER RH AILERON YELLOW AVAILABILITY	NA	FCDC Label = 42/23	1/1	NA	1= AVAILABLE
AIRL1	AIRLINE IDENT CODE C1	NA	DCP FDIU Label =	1/62	NA	NA
AIRL2	AIRLINE IDENT CODE C2	NA	DCP FDIU Label =	1/62	NA	NA
AISEL	AUTO ANTI-ICE SELECTION	NA	P/B-COCKPIT SDAC Label = 001/2	1/2	NA	1= SELECTED ON
ALAW	ALTERNATE FLIGHT LAW	NA	FCPC-FCSC FCDC Label = 040/12	1/1	NA	1= ENGAGED
ALIGN	ALIGN MODE	NA	FMGEC(FG) DMC Label = 176/25	1/1	NA	1= ENGAGED
ALT	ALTITUDE ELAB Bits 14-27+29	(FT)	ADIRS(ADC) DMC Label = 203	NA	NA	NA
ALTACQCRZD	FMA LONGI. MODE ALT CRZ* DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
ALTACQCSTD	FMA LONGI. MODE ALT CST* DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
ALTACQD	FMA LONGI. MODE ALT* DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
ALTARM	ALT ARMED	NA	FMGEC(FG) DMC Label = 274/25	1/1	NA	1= ARMED
ALTBKPLHB	ALTERNATE PRESSURE ON LEFT SIDE	(Bar)	BSCU Label = 365	1/1	4.413	NA
ALTBKPLHP	ALTERNATE PRESSURE ON LEFT SIDE	(PSI)	BSCU Label = 365	1/1	64.000	NA
ALTBKPRHB	ALTERNATE PRESSURE ON RIGHT SIDE	(Bar)	BSCU Label = 364	1/1	4.413	NA
ALTBKPRHP	ALTERNATE PRESSURE ON RIGHT SIDE	(PSI)	BSCU Label = 364	1/1	64.000	NA
ALTBW	PRESSURE ALTITUDE WARNING (ALTBARO DISCREPANCY)	NA	FWC Label = 124/25	1/1	NA	1= WARNING
ALTC	STD ALTITUDE COARSE(ADC) Bits 23-27	(FT)	ADIRS(ADC) DMC Label = 203	1/1	NA	NA
ALTCRZD	FMA LONGI. MODE ALT CRZ DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
ALTCSTD	FMA LONGI. MODE ALT CST DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
ALTF	ALTITUDE FINE Bits 14-22	(FT)	ADIRS(ADC) DMC Label = 203	1/1	4.000	NA
ALTFUCGSTS	FCU SELECTED/CONSTRAINED ALTITUDE FG SELECTION	NA	FMGEC(FG) DMC Label = 274/20	1/1	NA	1= SEL.ALT 0= CST.ALT
ALTLOST	TCAS COMBINATED CONTROL.ALTITUDE LOST. (MATRIX 7)	NA	TCAS DMC Label = 270/18-20	1/1	NA	NA
ALTMODD	FMA LONGI. MODE ALT DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
ALTS	ALTITUDE FINE Bits 29	(FT)	ADIRS(ADC) DMC Label = 203	1/1	4.000	NA
ALTSTDW	PRESSURE ALTITUDE WARNING (ALTBARO STD DISCREPANCY)	NA	FWC Label = 124/24	1/1	NA	1= WARNING
AOAIRS1	AOA VALUE EMITTED BY IRS1	(DA)	ADIRS(IRS) DMC Label = 337	1/1	0.352	>0= UP
AOAIRS2	AOA VALUE EMITTED BY IRS2	(DA)	ADIRS(IRS) DMC Label = 337	1/1	0.352	>0= UP
AOAIRS3	AOA VALUE EMITTED BY IRS3	(DA)	ADIRS(IRS) DMC Label = 337	1/1	0.352	>0= UP
AP1E	A/P1 ENGAGED	NA	FMGEC(FG) DMC Label = 274/14	1/1	NA	1= ENGAGED
AP2E	A/P2 ENGAGED	NA	FMGEC(FG) DMC Label = 274/15	1/1	NA	1= ENGAGED
APOFFV	A/P OFF VOLONTARY	NA	FWC Label = 100/27	1/1	NA	1= ENGAGED
APOFFW	AUTO-PILOT OFF UNVOLUNTARY	NA	FWC Label = 124/23	1/1	NA	1= WARNING
APNAVD	FMA LATERAL MODE APP NAV DISPLAYED	NA	FMGEC DMC Label = 152	1/1	NA	NA
APU	A.P.U PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
APUBV	APU BLEED V. NOT FULLY OPEN	NA	BMC SDAC Label = 040/13	1/4	NA	1= NOT FULLY OPEN
APULEAK	APU LEAK MEMORIZED	NA	BMC FWC Label = 100/24	1/4	NA	1= LEAK
APUPB	APU BLEED PUSH BUTTON OFF	NA	BMC SDAC Label = 040/12	1/1	NA	1= OFF
ARCC	ARC MODE MODE DISPLAYED ON ND CAPT (MATRIX 16)	NA	DMC Label = 214/26-28	1/4	NA	NA
ARCF	ARC MODE MODE DISPLAYED ON ND F/O (MATRIX 16)	NA	DMC Label = 214	1/4	NA	NA
ASKIDF	ANTISKID FAULT	NA	BSCU Label = 026/24	1/1	NA	1= FAULT
ASKIDOFF	ANTISKID OFF	NA	BSCU Label = 026/29	1/1	NA	0= FALSE 1= TRUE
ATCLIGHT	ATC MESSAGE LIGHTS	NA	FWC Label = 262/14	1/4	NA	1= LIGHTS ON
ATHRA	A/THR ACTIVE	NA	FMGEC(FG) DMC Label = 274/16	1/1	NA	1= ACTIVE
ATHRE	A/THR ENGAGED	NA	FMGEC(FG) DMC Label = 274/17	1/1	NA	1= ENGAGED
ATHRTD	A/THR RETARD	NA	FMGEC(FG) DMC Label = 274/18	1/1	NA	1= ACTIVE
ATHRSUBM	A/P-A/THR SUB MODE MATRIX 5	NA	FMGEC(FG) DMC Label = 145	1/1	NA	NA
AUDIOTRF	AUDIO TRANSMITTER FAIL	NA	FDIU Label =	1/62	NA	NA
AUTBRKF	AUTOBRAKE FAULT	NA	BSCU Label = 026/20	1/1	NA	1= FAULT
AUTOLAND	AUTOLAND	NA	FWC Label = 126/16	1/1	NA	1= AUTOLAND ON
AVCCSMO	SMOKE AUTONOMOUS VCC	NA	FWC Label = 101/13	1/1	NA	1= WARNING
AVISMOW	AVIONICS SMOKE	NA	FWC Label = 124/11	1/1	NA	1= SMOKE
BAROD	BARO DISPLAYED MATRIX.12 (EIS2 ONLY)	NA	FMGEC(FM) DMC Label = 155	1/62	NA	NA
BCKPALTGPSACT	BACKUP ALTI GPS ACTIVE	NA	DMC Label = 331/16	1/4	NA	1= ACTIVATED
BCKPSPD	BACK UP SPEED VALUE DISPLAYED bits16-27	(KT)	DMC Label = 336	1/1	0.352	NA
BCKPSPDACT	BACKUP SPEED SCALE ACTIVE	NA	DMC Label = 331/17	1/4	NA	1= ACTIVATED
BCKPSPDV	BACKUP SPEED SCALE VALID	NA	DMC Label = 331/15	1/4	NA	1= VALID
BCRCSMO	BCRC SMOKE	NA	FWC Label = 101/12	1/1	NA	1= WARNING
BITE10	B.I.T.E CYCLE.10	NA	FDIU Label =	1/62	1.000	NA
BITE7	B.I.T.E CYCLE.7	NA	FDIU	1/62	1.000	NA
BITE8	B.I.T.E CYCLE.8	NA	FDIU	1/62	1.000	NA
BITE9	B.I.T.E CYCLE.9	NA	FDIU	1/62	1.000	NA
BLATG	BODY LATERAL ACCELERATION bits19-27+29	(G)	ADIRS(IRS) DMC Label = 335	1/1	0.004	>0= RH SIDESLIP
BLDLOWT	BLEED LOW TEMP.	NA	BMC SDAC Label = 100/23	1/1	NA	1= LOW TEMP
BLEED	BLEED PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
BRKLOW	AUTOBRAKE LOW ARMED	NA	BSCU Label = 027/20	1/1	NA	1= ARMED
BRKMAX	AUTOBRAKE MAX ARMED	NA	BSCU Label = 027/22	1/1	NA	1= ARMED
BRKMED	AUTOBRAKE MED ARMED	NA	BSCU Label = 027/21	1/1	NA	1= ARMED
BRKPD	LEFT BRAKE PEDAL POSITION bits 23-28	(DA)	BSCU Label = 331	1/1	2.000	NA
BRKPD	RIGHT BRAKE PEDAL POSITION bits 23-28	(DA)	BSCU Label = 330	1/1	2.000	NA
BSCUCHAN1A	BSCU CHANNEL 1 IN CONTROL	NA	CU SYSTEM 1 ONLY Label = 030	1/4	NA	1= ACTIVE
BSCUCHAN1F	BSCU CHANNEL 1 FAULT	NA	FWC Label = 100/25	1/4	NA	1= FAULT

BSCUCHAN2A	BSCU CHANNEL 2 IN CONTROL	NA	CU SYSTEM 2 ONLY Label = 030	1/4	NA	1= ACTIVE
BSCUCHAN2F	BSCU CHANNEL 2 FAULT	NA	FWC Label = 100/26	1/4	NA	1= FAULT
BTC1	BTC.1 CLOSED	NA	ECMU SDAC Label = 055/15	1/4	NA	1= CLOSED
BTC2	BTC.2 CLOSED	NA	ECMU SDAC Label = 055/16	1/4	NA	1= CLOSED
BULKSMOW	BULK AVIONIC SMOKE	NA	FWC Label = 126/29	1/1	NA	1= WARNING
CABALTW	EXCESS CABIN ALTITUDE	NA	FWC Label = 126/22	1/1	NA	1= EXCESS CABIN ALT.
CABRSMOW	CABIN REST SMOKE	NA	FWC Label = 124/12	1/1	NA	1= SMOKE
CAOA1	CORRECTED LH ANGLE OF ATTACK bits 20-27+29	(DA)	ADIRS(ADC) DMC Label = 241	1/1	0.352	>0= UP
CAOA2	CORRECTED RH ANGLE OF ATTACK bits 20-27+29	(DA)	ADIRS(ADC) DMC Label = 241	1/1	0.352	>0= UP
CAS	COMPUTED AIRSPEED bits16-27	(KT)	ADIRS(ADC) DMC Label = 206	1/1	0.125	NA
CB	CIRCUIT BREAKER PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
CDSSONSD	VIDEO SYSTEM CDSS SELECTION ON SD	NA	DMC Label = 333/16	1/4	NA	1= CDSS SELECTED
CEGNUL	CENTER GEAR NOT UP LOCKED (if Center not installed M36a07 = 0)	NA	LGCIU FWC Label = 021/17	2/1	NA	1= NOT UP LOCKED
CEGOPINST	CENTER GEAR OPTION INSTALLED	NA	LGCIU FWC Label = 022/27	2/1	NA	1= OPTION INSTALLED
CEGPWSI	CAPTAIN E.G.P.W.S INSTALLED	NA	DMC Label = 055/15	1/1	NA	1= INSTALLED
CEGPWSV	CAPTAIN E.G.P.W.S VALID	NA	DMC Label = 055/12	1/1	NA	1= VALID
CESQUAT	L/G CENTER SQUAT SWITCH	NA	LGCIU FWC Label = 020/17	4/1	NA	1= COMPRESSED
CG	CENTER OF GRAVITY	(%)	FCMC DMC Label = 076	1/62	0.080	NA
CGW	EXCESS AFT CG	NA	FWC Label = 124/16	1/1	NA	1= EXCESS AFT CG
CLATDEV	CAPTAIN LATERAL DEVIATION bits 17-25+29	(NM)	FMGEC(FM) DMC Label = 116	1/2	0.031	>0= RIGHT OF BEAM
CLATDEV D	CAPT LATERAL DEVIATION DISPLAYED ON PFD	NA	FMGEC(FM) DMC Label = 116/12	1/2	NA	1= DISPLAYED
CLATDEV R	CAPT LATERAL DEVIATION REQUIRED ON PFD	NA	FMGEC(FM) DMC Label = 116/11	1/2	NA	1= REQUIRED
CLATP	CAPTAIN LATITUDE POSITION	(DA)	FMGEC(FM) DMC Label = 310	NA	NA	>0= NORTH
CLATP_S	CAPTAIN LATITUDE POSITION Bits 9-19+29	(DA)	FMGEC(FM) DMC	1/2	NA	NA
CLATP_coarse	CAPTAIN LATITUDE POSITION Bits 20-27	(DA)	FMGEC(FM) DMC	1/2	0.352	NA
CLATP_fine	CAPTAIN LATITUDE POSITION Bits 9-19+29	(DA)	FMGEC(FM) DMC	1/2	NA	NA
CLBD	FMA LONGI. MODE CLIMB DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
CLIMB	TCAS UP ADVISORY CLIMB. (MATRIX 8)	NA	TCAS DMC Label = 270/24-26	1/1	NA	NA
CLOCKF	ARINC CLOCK NOT AVAILABLE	NA	FDIU Label = 125/150	1/4	NA	0= AVAILABLE 1= NOT AVAILABLE
CLOCKGPS	CLOCK SYNCHRONISED BY GPS	NA	GPS CLOCK Label = 150/11	1/4	NA	1= SYNCHRO. BY GPS
CLONP	LONGITUDE POSITION ELAB Bits 9-29	(DA)	FMGEC(FM) DMC Label = 311	NA	NA	>0= EAST
CLONP_S	LONGITUDE POSITION Bits 9-19+29	(DA)	FMGEC(FM)DMC	1/2	NA	NA
CLONP_coarse	LONGITUDE POSITION Bits 20-28	(DA)	FMGEC(FM) DMC	1/2	0.352	NA
CLONP_fine	LONGITUDE POSITION Bits 9-19+29	(DA)	FMGEC(FM)DMC	1/2	NA	NA
CLR CFL	TCAS COMBINATED CONTROL CLEAR OF CONFLICT. (MATRIX 7)	NA	TCAS DMC Label = 270/18-20	1/1	NA	NA
CLS BUTTON	CAPT LS PUSH-BUTTON	NA	FMGEC(FM) DMC Label = 275/21	1/2	NA	1= ACTIVE
CMACH	CALCULATED MACH NUMBER *****	NA	CALCULATED WITH ALT & Label =	NA	NA	NA
CMC1F	CMC1 FAIL	NA	DMC Label = 360/18	1/4	NA	1= FAULT
CMCTRF	CMC TRANSMITTER FAIL	NA	FDIU Label =	1/62	NA	NA
CNWS	CAPTAIN N/WS HANDWHEEL ORDER bits 22-28+29	(DA)	BSCU Label = 340	1/1	1.000	NA
COND	AIR COND PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
CPTMC1	CAPTAIN MASTER CAUTION ON	NA	FWC1 Label = 126/15	1/1	NA	1= ON
CPTMC2	CAPTAIN MASTER CAUTION ON	NA	FWC2 Label = 126/15	1/1	NA	1= ON
CPTMW1	CAPTAIN MASTER WARNING ON	NA	FWC1 Label = 126/14	1/1	NA	1= ON
CPTMW2	CAPTAIN MASTER WARNING ON	NA	FWC2 Label = 126/14	1/1	NA	1= ON
CREWAUTO	TCAS CREW SELECTION.AUTOMATIC. (MATRIX 10)	NA	TCAS DMC Label = 016/15-17	1/1	NA	NA
CREWSTBY	TCAS CREW SELECTION.STANDBY. (MATRIX 10)	NA	TCAS DMC Label = 016/15-17	1/1	NA	NA
CREWTA	TCAS CREW SELECTION.TA ONLY.(MATRIX 10)	NA	TCAS DMC Label = 016/15-17	1/1	NA	NA
CRGRSMOW	CARGO REST SMOKE	NA	FWC Label = 124/13	1/1	NA	1= SMOKE
CRUISE	CRUISE PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
CSASIN1	CSAS iso valve V1	NA	FWC Label = 25	1/1	NA	NA
CSASTEMP	CSAS temperature	NA	FWC Label = 25	1/1	1.280	NA
CSDBC	CAPTAIN SELECTED DATA BASE CYCLE	NA	FMGEC(FM) DMC Label = 230	1/62	NA	0= 1ST / 1= 2ND
CSDBD	CAPTAIN DATA BASE VALIDITY DAY	NA	FMGEC(FM) DMC Label = 230	1/62	NA	NA
CSDBM	CAPTAIN DATA BASE VALIDITY MONTH	NA	FMGEC(FM) DMC Label = 230	1/62	NA	NA
CSALT	CONSTRAINT ALTITUDE bits 19-28	(FT)	FMGEC(FG) DMC Label = 102	1/1	64.000	NA
CSWADR3C	CAPT SWITCHED ON ADR3 (CAPT)	NA	DMC Label = 340/21	1/4	NA	1= ADR3 0=ADR1
CSWADR3F	CAPT SWITCHED ON ADR3 (F/O)	NA	DMC Label = 340/21	1/4	NA	1= ADR3 0=ADR1
CSWFM2C	CAPT SWITCHED ON FM2 (CAPT)	NA	DMC Label = 340/25	1/4	NA	1= FM2 0=FM1
CSWFM2F	CAPT SWITCHED ON FM2 (F/O)	NA	DMC Label = 340/25	1/4	NA	1= FM2 0=FM1
CSWIRS3C	CAPT SWITCHED ON IRS3 (CAPT)	NA	DMC Label = 340/23	1/4	NA	1= IRS3 0=IRS1
CSWIRS3F	CAPT SWITCHED ON IRS3 (F/O)	NA	DMC Label = 340/23	1/4	NA	1= IRS3 0=IRS1
CTASSAT	CALCULATED TRUE AIRSPEED *****	NA	CALCULATED WITH SAT & CMACH La	NA	NA	NA
CTERC	CAPTAIN TERRAIN CAUTION	NA	DMC Label = 055/13	1/1	NA	1= CAUTION
CTERW	CAPTAIN TERRAIN WARNING	NA	DMC Label = 055/14	1/1	NA	1= WARNING
CTLU	COMPUTED TLU bits 21-26+29 (Enhanced)	(DA)	FCSC FCDC Label = 167	1/1	0.703	NA
CTLU1V	COMPUTED RUDDER LIMITATION AVAILABILITY USED BY FWC (Enhanced)	NA	FCDC Label = 041/11	1/1	NA	1= NOT AVAILABILITY
CTLU2V	COMPUTED RUDDER LIMITATION AVAILABILITY USED BY DMC (Enhanced)	NA	FCDC Label = 041/12	1/1	NA	1= NOT AVAILABILITY
CTQKG	CENTRAL TANK FUEL QUANTITY	(KG)	FCMC DMC Label = 262	1/62	29.030	NA
CTQLB	CENTRAL TANK FUEL QUANTITY	(LBS)	FCMC DMC Label = 262	1/62	64.000	NA
CVERTDEV	CAPTAIN VERTICAL DEVIATION bits 21-28+29	(DA)	FMGEC(FM) DMC Label = 124	1/2	0.004	>0= LEFT OF BEAM
CVERTDEV D	CAPT VERTICAL DEVIATION DISPLAYED ON PFD	NA	FMGEC(FM) DMC Label = 124/12	1/2	NA	1= DISPLAYED
CVERTDEV R	CAPT VERTICAL DEVIATION REQUIRED ON PFD	NA	FMGEC(FM) DMC Label = 124/11	1/2	NA	1= REQUIRED
CVMSONSD	VIDEO SYSTEM CVMS SELECTION ON SD	NA	DMC Label = 333/15	1/4	NA	1= SELECTED
CWXRABLE	CAPTAIN XFR TERR/RADAR DISPLAY ABLE	NA	DMC Label = 055/25	1/1	NA	1= ABLE
CWXR V	CAPTAIN W.X.R VALID	NA	DMC Label = 055/11	1/1	NA	1= VALID
D1SICDET1	DETECTOR.1 SEVERITY ICE DETECTED	NA	1DD FWC Label = 015/15	1/4	NA	1= SEV ICE DETECTED

D2SICEDET1	DETECTOR.2 SEVERITY ICE DETECTED	NA	1DD FWC Label = 015/15	1/4	NA	1= SEV ICE DETECTED
DA	DRIFT ANGLE bits 18-27+29	(DA)	ADIRS(IRS) DMC Label = 321	1/1	0.088	POSITIVE SENSE! CLOCKWISE
DALT	DISPLAYED ALTITUDE ELAB Bits 14-27+29	(FT)	ADIRS(ADC) DMC Label = 200	NA	NA	NA
DALTC	DISPLAYED ALTITUDE COARSE Bits 23-27	(FT)	ADIRS(ADC) DMC Label = 200	1/1	NA	NA
DALTF	DISPLAYED ALTITUDE FINE Bits 14to23+29	(FT)	ADIRS(ADC) DMC Label = 200	1/1	4.000	NA
DALTS	DISPLAYED ALTITUDE FINE Bits 29	(FT)	ADIRS(ADC) DMC Label = 200	1/1	4.000	NA
DAY	DAY OF DATE bits 24-29	NA	CLOCK/CMC Label = 260	1/62	NA	NA
DD1F	ICE DETECTOR.1 FAULT	NA	1DD FWC Label = 015/17	1/4	NA	1= FAULT
DD1ICEDET	DETECTOR.1 ICE DETECTED	NA	1DD FWC Label = 015/14	1/4	NA	1= ICE DETECTED
DD2F	ICE DETECTOR.2 FAULT	NA	1DD FWC Label = 015/17	1/4	NA	1= FAULT
DD2ICEDET	DETECTOR.2 ICE DETECTED	NA	1DD FWC Label = 015/14	1/4	NA	1= ICE DETECTED
DECKSMOW	LOWER DECK STOWAGE SMOKE	NA	FWC Label = 126/28	1/1	NA	1= WARNING
DESCEND	TCAS DOWN ADVISORY.DESPEND. (MATRIX 9)	NA	TCAS DMC Label = 270/27-29	1/1	NA	NA
DESD	FMA LONGI. MODE DESCENT DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
DETTAD	TCAS TA DETECTED	NA	TCAS DMC Label = 016/21	1/1	NA	1=AT LEAST ONE TA DISPLAYED
DFDRF	DFDR FAIL	NA	FDIU Label =	1/62	NA	NA
DFDRPLAYF	DFDR PLAYBACK RECEIVER FAIL	NA	FDIU Label =	1/62	NA	NA
DFDRTRF	DFDR TRANSMITTER FAIL	NA	FDIU Label =	1/62	NA	NA
DH	DECISION HEIGHT VALUE bits 16-25	(FT)	FMGEC(FM) DMC Label = 370	1/62	1.000	NA
DHD	DH DISPLAYED MATRIX.12	NA	FMGEC(FM) DMC Label = 155	1/62	NA	NA
DLAW	DIRECT FLIGHT LAW	NA	FCPC-FCSC FCDC Label = 040/13	1/1	NA	1= ENGAGED
DMED1	VOR/DME1 DISTANCE bits 20-27	(NM)	DME DMC Label = 202	1/4	1.000	NA
DMED2	VOR/DME2 DISTANCE bits 20-27	(NM)	DME DMC Label = 202	1/4	1.000	NA
DMEF1	DME.1 FREQUENCY bits 18-29	(MHZ)	DME DMC Label = 035	NA	0.050	NA
DMEF2	DME.2 FREQUENCY bits 18-29	(MHZ)	DME DMC Label = 035	NA	0.050	NA
DOOR	DOOR PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
DROPTRK	TCAS COMBINATED CONTROL.DROP TRACK. (MATRIX 7)	NA	TCAS DMC Label = 270/18-20	1/1	NA	NA
DTCLB	TCAS DOWN ADVISORY.DON'T CLIMB. (MATRIX 9)	NA	TCAS DMC Label = 270/27-29	1/1	NA	NA
DTCLB1000	TCAS DOWN ADVISORY.DON'T CLIMB >1000. (MATRIX 9)	NA	TCAS DMC Label = 270/27-29	1/1	NA	NA
DTCLB2000	TCAS DOWN ADVISORY.DON'T CLIMB >2000. (MATRIX 9)	NA	TCAS DMC Label = 270/27-29	1/1	NA	NA
DTCLB500	TCAS DOWN ADVISORY.DON'T CLIMB >500. (MATRIX 9)	NA	TCAS DMC Label = 270/27-29	1/1	NA	NA
DTDES	TCAS UP ADVISORY.DON'T DESCENT. (MATRIX 8)	NA	TCAS DMC Label = 270/24-26	1/1	NA	NA
DTDES1000	TCAS UP ADVISORY.DON'T DESCENT >1000. (MATRIX 8)	NA	TCAS DMC Label = 270/24-26	1/1	NA	NA
DTDES2000	TCAS UP ADVISORY.DON'T DESCENT >2000. (MATRIX 8)	NA	TCAS DMC Label = 270/24-26	1/1	NA	NA
DTDES500	TCAS UP ADVISORY.DON'T DESCENT >500. (MATRIX 8)	NA	TCAS DMC Label = 270/24-26	1/1	NA	NA
DTO1	DERATED T/O 1 LIMIT MODE SELECTED	NA	DEC(EEC or ECU) DMC Label = 15	1/1	NA	1=SELECTED
DTO2	DERATED T/O 2 LIMIT MODE SELECTED	NA	DEC(EEC or ECU) DMC Label = 15	1/1	NA	1=SELECTED
DTO3	DERATED T/O 3 LIMIT MODE SELECTED	NA	DEC(EEC or ECU) DMC Label = 15	1/1	NA	1=SELECTED
DTO4	DERATED T/O 4 LIMIT MODE SELECTED	NA	DEC(EEC or ECU) DMC Label = 15	1/1	NA	1=SELECTED
DTO5	DERATED T/O 5 LIMIT MODE SELECTED	NA	DEC(EEC or ECU) DMC Label = 15	1/1	NA	1=SELECTED
DTO6	DERATED T/O 6 LIMIT MODE SELECTED	NA	DEC(EEC or ECU) DMC Label = 15	1/1	NA	1=SELECTED
DTO7	DERATED T/O 7 LIMIT MODE SELECTED (EIS2 SPECIFICITY)	NA	DEC(EEC or ECU) DMC Label = 15	1/1	NA	1=SELECTED
DTO8	DERATED T/O 8 LIMIT MODE SELECTED (EIS2 SPECIFICITY)	NA	DEC(EEC or ECU) DMC Label = 15	1/1	NA	1=SELECTED
DU3OPER	DU3 OPER	NA	DMC Label = 352/23	1/4	NA	1= ACTIVE
DU4OPER	DU4 OPER	NA	DMC Label = 352/24	1/4	NA	1= ACTIVE
DUALINPUT	DUAL INPUT PILOT	NA	FCPC-FCSC FCDC Label = 046/25	1/1	NA	1= DUAL
DWNADVCC	CAS COMBINATED CONTROL.DOWN ADVISORY CORRECTIVE. (MATRIX 7)	NA	TCAS DMC Label = 270/18-20	1/1	NA	NA
ECAMADVV	SYSTEM PAGE CALLED FOR ADVISORY REASON (EIS1/EIS2)	NA	DMC Label = 276/23	1/4	NA	1= SYSTEM PAGE CALLED
ECAMCLEAR	DMC REQUEST ECAM CLEAR STATUS (EIS2)	NA	DMC Label = 276/26	1/4	NA	1= ECAM CLEAR STATUS
ECAMECP	ECP LIGHT BLINKING (EIS1/EIS2)	NA	DMC Label = 276/25	1/4	NA	1= ECP LIGHT BLINKING
ECAMFLTPH1	SYSTEM PAGE CALLED FOR FLIGHT PHASE REASON (EIS1)	NA	DMC Label = 276/24	1/4	NA	1= SYSTEM PAGE CALLED
ECAMFLTPH2	SYSTEM PAGE CALLED FOR FLIGHT PHASE REASON (EIS2)	NA	DMC Label = 276/24	1/4	NA	1= SYSTEM PAGE CALLED
ECAMMAN1	SYSTEM PAGE CALLED MANUALLY (EIS1)	NA	DMC Label = 276/26	1/4	NA	1= SYSTEM PAGE CALLED
ECAMMAN2	SYSTEM PAGE CALLED MANUALLY (EIS2)	NA	DMC Label = 276/24	1/4	NA	1= SYSTEM PAGE CALLED
ECAMWNG	SYSTEM PAGE CALLED DUE TO WARNING (EIS1/EIS2)	NA	DMC Label = 276/27	1/4	NA	1= SYSTEM PAGE CALLED
ECND1	ECAM REQUESTED ON ND1	NA	DMC Label = 330/25	1/4	NA	1= REQUESTED ON ND1
ECND2	ECAM REQUESTED ON ND2	NA	DMC Label = 330/26	1/4	NA	1= REQUESTED ON ND2
ECPF	ECP FAIL	NA	DMC Label = 360/23	1/4	NA	1= FAULT
EFACTC	EFIS ACTIVE ON CAPTAIN SIDE	NA	DMC (CPT BUS) Label = 330/27	1/4	NA	1= ACTIV. ON CPT SIDE
EFACTFO	EFIS ACTIVE ON FIRST-OFFICER SIDE	NA	DMC (F/O BUS) Label = 330/28	1/4	NA	1= ACTIV. ON F/O SIDE
EFAAEF2S	EFIS CAPTAIN SELECTOR ON EFIS.2	NA	DMC (CPT BUS) Label = 330/16	1/4	NA	1= CPT ON EFIS 2
EFAOOPPS	CAPTAIN EFIS SELECTED ON OPPOSITE SIDE	NA	DMC (CPT BUS) Label = 330/24	1/4	NA	1= SELECTED ON OPPOSITE SIDE
EFFOOPPS	F/O EFIS SELECTED ON OPPOSITE SIDE	NA	DMC (F/O BUS) Label = 330/24	1/4	NA	1= SELECTED ON OPPOSITE SIDE
EGPWSNO	E.G.P.W.S OPERATING MODE (NORMAL OPERATION) MATRIX 14	NA	DMC Label = 016/24-26	1/4	NA	1= NORMAL OPERATION
EGPWSPEAK	EGPWS PEAKS	NA	DMC Label = 055/16	1/1	NA	1= ACTIVE
EGPWSTER	E.G.P.W.S OPERATING MODE (TERRAIN)	NA	DMC Label = 016/24-26	1/4	NA	1= TERRAIN
EGPWSTEST	E.G.P.W.S OPERATING MODE (TEST)	NA	DMC Label = 016/24-26	1/4	NA	1= TEST
EGT1	EXHAUST GAZ TEMPERATURE ENG.1 bits 18-28	(DC)	DEC(ECU or EEC) DMC Label = 3	1/1	1.000	NA
EGT1W	EGT.1 OVER LIMIT	NA	FWC Label = 100/23	1/1	NA	1= OVER LIMIT
EGT2	EXHAUST GAZ TEMPERATURE ENG.2 bits 18-28	(DC)	DEC(ECU or EEC) DMC Label = 3	1/1	1.000	NA
EGT2W	EGT.2 OVER LIMIT	NA	FWC Label = 100/24	1/1	NA	1= OVER LIMIT
EIS2	EIS2 INSTALLED	NA	DMC Label = 330/29	1/4	NA	1= INSTALLED
ELECAC	ELEC AC PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
ELEDC	ELEC DC PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
ELVL	LEFT ELEVATOR POSITION bits18-26+29	(DA)	FCPC-FCSC FCDC Label = 314	2/1	0.088	>0= NOSE DOWN
ELVLBV	ELEVATOR LH BLUE AVAILABILITY	NA	FCDC Label = 42/24	2/1	NA	1= AVAILABLE

ELVLGV	ELEVATOR LH GREEN AVAILABILITY	NA	FCDC Label = 42/25	2/1	NA	1= AVAILABLE
ELVR	RIGHT ELEVATOR POSITION bits18-26+29	(DA)	FCPC-FCSC FCDC Label = 334	2/1	0.088	>0= NOSE DOWN
ELVRGV	ELEVATOR RH GREEN AVAILABILITY	NA	FCDC Label = 42/27	2/1	NA	1= AVAILABLE
ELVRYV	ELEVATOR RH YELLOW AVAILABILITY	NA	FCDC Label = 42/26	2/1	NA	1= AVAILABLE
EMERGW	EMERGENCY CONFIGURATION	NA	FWC Label = 124/22	1/1	NA	1= WARNING
EMPTY	FMA A/THR EMPTY	NA	FMGEC(FG) DMC Label = 150	1/1	NA	NA
ENERGYW	LOW ENERGY	NA	DMC Label = 040/18	1/1	NA	1= WARNING
ENG	SECONDARY ENGINE PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
ENG1BF	ENGINE.1 BLEED FAULT	NA	BMC SDAC Label = 100/15	1/1	NA	1= FAULT
ENG1PB	ENG.1 AIR BLEED PUSH BUTTON ON	NA	BMC SDAC Label = 066/18	1/1	NA	1= ON
ENG2BF	ENGINE.2 BLEED FAULT	NA	BMC SDAC Label = 100/16	1/1	NA	1= FAULT
ENG2PB	ENG.2 AIR BLEED PUSH BUTTON ON	NA	BMC SDAC Label = 067/18	1/1	NA	1= ON
ENGW	ENGINES OUT (1+2)	NA	FWC Label = 100/28	1/1	NA	1= WARNING
ENHANCED	ENHANCED FUNCTION INSTALLED	NA	FCPC-FCSC FCDC Label = 100/22	1/4	NA	1= INSTALLED
ESN1L	ENG.1 IDENT LSP	NA	DEC(ECU or EEC) EIVMU Label =	1/62	NA	NA
ESN1M	ENG.1 IDENT MSP	NA	DEC(ECU or EEC) EIVMU Label =	1/62	NA	NA
ESN2L	ENG.2 IDENT LSP	NA	DEC(ECU or EEC) EIVMU Label =	1/62	NA	NA
ESN2M	ENG.2 IDENT MSP	NA	DEC(ECU or EEC) EIVMU Label =	1/62	NA	NA
EVTMKR	EVENT MARKER	NA	EVENT P/B FDIU Label =	1/1	NA	1= EVENT
EWDIM	EWD IMAGE ON EWD/DU	NA	DMC Label = 313/17	1/4	NA	1= ON EWD-DU
EWDIMEWD	NONE EWD IMAGE ON THE DISPLAY (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
EWDIMND1D	EWD IMAGE ON CAPT ND DU	NA	DMC Label = 313/19	1/4	NA	1= ON CAPT-DU
EWDIMND2D	EWD IMAGE ON F/O ND DU	NA	DMC Label = 313/20	1/4	NA	1= ON F/O-DU
EWDIMSDD	EWD IMAGE ON SD/DU	NA	DMC Label = 313/18	1/4	NA	1= ON SD-DU
EWDINV	EWD FEEDBACK BUS INVALID (DU3)	NA	DMC Label = 314/13	1/4	NA	1= INVALID
EWDMSG	CHECK EWD MSG ACTIVATED	NA	DMC Label = 334/19	1/4	NA	1= ACTIVE
EWDNOTMONIT	EDW NOT MONITORED	NA	DMC Label = 051/25	1/4	NA	1= NOT MONITORED
EWDOFF	EWD/DU OFF	NA	DMC Label = 314/21	1/4	NA	1= OFF
FADEC1F	FADEC 1 FAULT	NA	FWC Label = 124/11	1/4	NA	1= FAULT
FADEC2F	FADEC 2 FAULT	NA	FWC Label = 124/12	1/4	NA	1= FAULT
FAPU	APU FIRE	NA	FWC Label = 124/15	1/1	NA	1= FIRE
FCMC1F	FCMC1 FAULT	NA	FWC Label = 376/19	1/4	NA	1= FAULT
FCMC2F	FCMC2 FAULT	NA	FWC Label = 376/20	1/4	NA	1= FAULT
FCPC1CL	FCPC 1 ON CONTROL LAW (MATRIX 20)	NA	FCDC Label = 040/19-23	1/4	NA	NA
FCPC1F	FCPC 1 FAULT	NA	FWC Label = 040/25	1/4	NA	1= FAULT
FCPC2CL	FCPC 2 ON CONTROL LAW (MATRIX 20)	NA	FCDC Label = 040/19-23	1/4	NA	NA
FCPC2F	FCPC 2 FAULT	NA	FWC Label = 040/26	1/4	NA	1= FAULT
FCPC3CL	FCPC 3 ON CONTROL LAW (MATRIX 20)	NA	FCDC Label = 040/19-23	1/4	NA	NA
FCPC3F	FCPC 3 FAULT	NA	FWC Label = 040/27	1/4	NA	1= FAULT
FCRGSOW	FWD CARGO SMOKE	NA	FWC Label = 124/15	1/1	NA	1= SMOKE
FCSC1CL	FCSC 1 ON CONTROL LAW (MATRIX 20)	NA	FCDC Label = 040/19-23	1/4	NA	NA
FCSC1F	FCSC 1 FAULT	NA	FWC Label = 040/28	1/4	NA	1= FAULT
FCSC2CL	FCSC 2 ON CONTROL LAW (MATRIX 20)	NA	FCDC Label = 040/19-23	1/4	NA	NA
FCSC2F	FCSC 2 FAULT	NA	FWC Label = 040/29	1/4	NA	1= FAULT
FCTL	FLIGHT CONTROL PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
FCTR	FRAME COUNTER	NA	FDIU Label =	1/4	1.000	NA
FCUFG1S	FG 1/2 PRIORITY	NA	FCU Label = 272/11	1/1	NA	1= FG1 SELECTED
FD1E	FD1 ENGAGED CONFIRMED	NA	FMGEC(FG) DMC Label = 274/12	1/1	NA	1= ENGAGED
FD2E	FD2 ENGAGED CONFIRMED	NA	FMGEC(FG) DMC Label = 274/13	1/1	NA	1= ENGAGED
FDESARM	FINAL DESCENT ARMED	NA	FMGEC(FG) DMC Label = 274/24	1/1	NA	1= ARMED
FDIUBSCU1F	FDIU BSCU SYSTEM 1 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUBSCU2F	FDIU BSCU SYSTEM 2 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIULOCKF	FDIU CLOCK INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUMCF	FDIU CMC INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUECHS1F	FDIU ECHS1 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUECHS2F	FDIU ECHS2 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUEFHS1F	FDIU EFHS1 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUEFHS2F	FDIU EFHS2 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUEIVMU1F	FDIU EIVMU1 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUEIVMU2F	FDIU EIVMU2 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUFDC1F	FDIU FCDC1 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUFDC2F	FDIU FCDC2 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUFUCF	FDIU FCU INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUFWC1F	FDIU FWC1 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUFWC2F	FDIU FWC2 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUMDDUF	FDIU MDDU INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUSDAC1F	FDIU SDAC1 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDIUSDAC2F	FDIU SDAC2 INPUT PORT FAILED	NA	FDIU Label =	1/62	NA	NA
FDRSTS	DFDR STATUS SIGNAL	NA	DFDR SDAC Label = 006/14	1/1	NA	1=SET / 0=NOT SET
FDTCMARM	AP/FD TCAS mode armed	NA	EFHS Label = 52	1/1	NA	NA
FDTCMENG	AP/FD TCAS mode engaged	NA	EFHS Label = 52	1/1	NA	NA
FE1V	FE1 VALIDITY	NA	DMC Label = 340/17	1/4	NA	1= VALID
FE2V	FE2 VALIDITY	NA	DMC Label = 340/18	1/4	NA	1= VALID
FEGPWSI	FIRST-OFFICER E.G.P.W.S INSTALLED	NA	DMC Label = 055/15	1/1	NA	1= INSTALLED
FEGPWSV	FIRST-OFFICER E.G.P.W.S VALID	NA	DMC Label = 055/12	1/1	NA	1= VALID
FENG1	ENGINE.1 FIRE	NA	FWC Label = 124/11	1/1	NA	1= FIRE
FENG2	ENGINE.2 FIRE	NA	FWC Label = 124/12	1/1	NA	1= FIRE
FFKG1	FUEL FLOW ENG.1 bits15-28	(KG/H)	DEC(ECU or EEC) DMC Label = 2	NA	1.814	NA

FFKG2	FUEL FLOW ENG.2 bits15-28	(KG/H)	DEC(ECU or EEC) DMC Label = 2	NA	1.814	NA
FFLB1	FUEL FLOW ENG.1 bits15-28	(LBS/H)	DEC(ECU or EEC) DMC Label = 2	NA	4.000	NA
FFLB2	FUEL FLOW ENG.2 bits15-28	(LBS/H)	DEC(ECU or EEC) DMC Label = 2	NA	4.000	NA
FG1DVPFDC	FG1 DV DATA SELECTION ON PFD (CAPT)	NA	DMC Label = 341/16	1/4	NA	1= FG1 0=FG2
FG1DVPFDF	FG1 DV DATA SELECTION ON PFD (F/O)	NA	DMC Label = 341/16	1/4	NA	1= FG1 0=FG2
FG1F	FG.1 FAIL	NA	DMC Label = 361/27	1/4	NA	1= FAULT
FG1PFDC	FG1 SELECTED ON PFD (CAPT)	NA	DMC Label = 341/24	1/4	NA	1= SELECTED
FG1PFDF	FG1 SELECTED ON PFD (F/O)	NA	DMC Label = 341/24	1/4	NA	1= SELECTED
FG2F	FG.2 FAIL	NA	DMC Label = 361/28	1/4	NA	1= FAULT
FINAPPA	FINAL APPROACH ACTIVE	NA	FMGEC(FG) DMC Label = 274/27	1/1	NA	1= ACTIVE
FLAGLSPFDC	CAPTAIN FLAG LS ON PFD	NA	MMR DMC Label = 50/24	1/4	NA	1= ACTIVE
FLAGLSPFDF	FIRST-OFFICER FLAG LS ON PFD	NA	MMR DMC Label = 50/24	1/4	NA	1= ACTIVE
FLALMO	Flare low manual order	NA	FCDC Label = 31	1/1	0.063	NA
FLAP	FLAP SURFACE ANGLE bits21-28	(DA)	SFCC/FWC DMC Label = 134	1/2	0.250	NA
FLARE	FLARE GREEN	NA	FMGEC(FG) DMC Label = 302/25	1/1	NA	1= HUD FLARE MODE ACTIVE
FLATDEV	FIRST-OFFICER LATERAL DEVIATION	(NM)	FMGEC(FM) DMC Label = 116	1/2	0.031	>0= RIGHT OF BEAM
FLATDEV D	F/O LATERAL DEVIATION DISPLAYED ON PFD	NA	FMGEC(FM) DMC Label = 116/12	1/2	NA	1= DISPLAYED
FLATDEV R	F/O LATERAL DEVIATION REQUIRED ON PFD	NA	FMGEC(FM) DMC Label = 116/11	1/2	NA	1= REQUIRED
FLATP	FIRST-OFFICER LATITUDE POSITION	(DA)	FMGEC(FM) DMC Label = 310	NA	NA	>0= NORTH
FLATP_S	FIRST-OFFICER LATITUDE POSITION Bits 9-19+29	(DA)	FMGEC(FM) DMC	1/2	NA	NA
FLATP_coarse	FIRST-OFFICER LATITUDE POSITION Bits 20-27	(DA)	FMGEC(FM) DMC	1/2	0.352	NA
FLATP_fine	FIRST-OFFICER LATITUDE POSITION Bits 9-19+29	(DA)	FMGEC(FM) DMC	1/2	NA	NA
FLEET	FLEET IDENT	NA	FDIU Label =	1/62	NA	NA
FLEXGA	FMA A/THR FLEX GO AROUND (EIS2 SPECIFICITY)	NA	FMGEC(FG) DMC Label = 150	1/1	NA	NA
FLEXT	FLEX TEMPERATURE bits22-28+29	(DC)	FADEC(ECU) DMC Label = 151	1/1	1.000	NA
FLONP	LONGITUDE POSITION ELAB Bits 9-29	(DA)	ADIRS FM DMC Label = 311	NA	NA	>0= EAST
FLONP_S	LONGITUDE POSITION Bits 9-19+29	(DA)	ADIRS FM DMC	1/2	NA	NA
FLONP_coarse	LONGITUDE POSITION Bits 20-28	(DA)	ADIRS FM DMC	1/2	0.352	NA
FLONP_fine	LONGITUDE POSITION Bits 9-19+29	(DA)	ADIRS FM DMC	1/2	NA	NA
FLOW1F	FLOW CTL VALVE 1 DISAGREE	NA	BMC SDAC Label = 006/19	1/2	NA	1= DISAGREE
FLOW2F	FLOW CTL VALVE 2 DISAGREE	NA	BMC SDAC Label = 006/19	1/2	NA	1= DISAGREE
FLP1F	FLAP 1 FAULT	NA	SDAC Label = 006/29	1/4	NA	1= FAULT
FLP2F	FLAP 2 FAULT	NA	SDAC Label = 006/29	1/4	NA	1= FAULT
FLPAUTOSET	FLAP AUTO SETTING	NA	SFCC Label = 50/15	1/1	NA	1= ENGAGED
FLPLOCK	FLAP LOCKED	NA	SFCC/FWC DMC Label = 46/14	1/2	NA	1= LOCKED
FLPLVRW	FLAP LEVER NOT ZERO	NA	FWC Label = 126/27	1/1	NA	1= WARNING
FLSBUTTON	F/O LS PUSH-BUTTON	NA	FMGEC(FM) DMC Label = 275/21	1/2	NA	1= ACTIVE
FLT	FLIGHT NUMBER	NA	FMGEC(FM) CMC Label = 237	NA	NA	NA
FLT1	FLIGHT NUMBER 1	NA	FMGEC(FM) CMC Label = 233	1/62	NA	NA
FLT10	FLIGHT NUMBER 10	NA	FMGEC(FM) CMC Label = 237	1/62	NA	NA
FLT2	FLIGHT NUMBER 2	NA	FMGEC(FM) CMC Label = 233	1/62	NA	NA
FLT3	FLIGHT NUMBER 3	NA	FMGEC(FM) CMC Label = 234	1/62	NA	NA
FLT4	FLIGHT NUMBER 4	NA	FMGEC(FM) CMC Label = 234	1/62	NA	NA
FLT5	FLIGHT NUMBER 5	NA	FMGEC(FM) CMC Label = 235	1/62	NA	NA
FLT6	FLIGHT NUMBER 6	NA	FMGEC(FM) CMC Label = 235	1/62	NA	NA
FLT7	FLIGHT NUMBER 7	NA	FMGEC(FM) CMC Label = 236	1/62	NA	NA
FLT8	FLIGHT NUMBER 8	NA	FMGEC(FM) CMC Label = 236	1/62	NA	NA
FLT9	FLIGHT NUMBER 9	NA	FMGEC(FM) CMC Label = 237	1/62	NA	NA
FLT_opt1	FLIGHT NUMBER Character 1	NA	FMGEC(FM) CMC	1/62	NA	NA
FLT_opt10	FLIGHT NUMBER Character 10	NA	FMGEC(FM) CMC	1/62	NA	NA
FLT_opt2	FLIGHT NUMBER Character 2	NA	FMGEC(FM) CMC	1/62	NA	NA
FLT_opt3	FLIGHT NUMBER Character 3	NA	FMGEC(FM) CMC	1/62	NA	NA
FLT_opt4	FLIGHT NUMBER Character 4	NA	FMGEC(FM) CMC	1/62	NA	NA
FLT_opt5	FLIGHT NUMBER Character 5	NA	FMGEC(FM) CMC	1/62	NA	NA
FLT_opt6	FLIGHT NUMBER Character 6	NA	FMGEC(FM) CMC	1/62	NA	NA
FLT_opt7	FLIGHT NUMBER Character 7	NA	FMGEC(FM) CMC	1/62	NA	NA
FLT_opt8	FLIGHT NUMBER Character 8	NA	FMGEC(FM) CMC	1/62	NA	NA
FLT_opt9	FLIGHT NUMBER Character 9	NA	FMGEC(FM) CMC	1/62	NA	NA
FM1F	FM.1 FAIL	NA	DMC Label = 362/11	1/4	NA	1= FAULT
FM2F	FM.2 FAIL	NA	DMC Label = 362/12	1/4	NA	1= FAULT
FM2PFDC	FM2 SELECTED ON PFD (CAPT)	NA	DMC Label = 341/25	1/4	NA	1= SELECTED
FM2PFDF	FM2 SELECTED ON PFD (F/O)	NA	DMC Label = 341/25	1/4	NA	1= SELECTED
FMAD	FMA DISPLAYED	NA	FMGEC(FG) DMC Label = 274/11	1/1	NA	1= FMA DISPLAYED
FNTO	FLAPS NOT IN T/O CONFIGURATION	NA	FWC Label = 124/16	1/1	NA	1= NOT IN T/O CONF
FNWS	FIRST-OFFICER N/WS HANDWHEEL ORDER bits 22-28+29	(DA)	BSCU Label = 341	1/1	1.000	NA
FOEF1	EFIS F/O SELECTOR ON EFIS1	NA	DMC (F/O BUS) Label = 330/17	1/4	NA	1= ON EFIS 1
FOMC1	FIRST-OFFICER MASTER CAUTION ON	NA	FWC1 Label = 126/23	1/1	NA	1= ON
FOMC2	FIRST-OFFICER MASTER CAUTION ON	NA	FWC2 Label = 126/23	1/1	NA	1= ON
FOMW1	FIRST-OFFICER MASTER WARNING ON	NA	FWC1 Label = 126/22	1/1	NA	1= ON
FOMW2	FIRST-OFFICER MASTER WARNING ON	NA	FWC2 Label = 126/22	1/1	NA	1= ON
FPAD	FMA LONGI. MODE FLIGHT PATH ANGLE DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
FPAIRS	FLIGHT PATH ANGLE bits 20-27+29	(DA)	ADIRS(IRS) DMC Label = 322	1/1	0.352	>0=UP
FPASPD	A/P-A/THR SUB MODE FPA/SPEED	NA	FMGEC(FG) DMC Label = 145/17	1/1	NA	NA
FPLANCV	FM FLIGHT PLAN VALID CAPTAIN	NA	DMC (CPT BUS) Label = 016/13	1/4	NA	0= FLT PLAN DISPLAYED
FPLANFV	FM FLIGHT PLAN VALID F/O	NA	DMC (F/O BUS) Label = 016/13	1/4	NA	0= FLT PLAN DISPLAYED
FROM	CITY PAIR FROM C1-4	NA	FMGEC CMC	NA	NA	NA
FROMC1	CITY FROM Character 1	NA	FMGEC(FM) CMC Label = 040	1/62	NA	NA
FROMC2	CITY FROM Character 2	NA	FMGEC(FM) CMC Label = 040	1/62	NA	NA



FROMC3	CITY FROM Character 3	NA	FMGEC(FM) CMC Label = 040	1/62	NA	NA
FROMC4	CITY FROM Character 4	NA	FMGEC(FM) CMC Label = 041	1/62	NA	NA
FROM_cpt1	CITY FROM Character 1	NA	FMGEC CMC Label = 040	1/62	NA	NA
FROM_cpt2	CITY FROM Character 2	NA	FMGEC CMC Label = 040	1/62	NA	NA
FROM_cpt3	CITY FROM Character 3	NA	FMGEC CMC Label = 040	1/62	NA	NA
FROM_cpt4	CITY FROM Character 4	NA	FMGEC CMC Label = 041	1/62	NA	NA
FSDBC	FIRST-OFFICER SELECTED DATA BASE CYCLE	NA	FMGEC(FM) DMC Label = 230	1/62	NA	0= 1ST / 1= 2ND
FSDBD	FIRST-OFFICER DATA BASE VALIDITY DAY	NA	FMGEC(FM) DMC Label = 230	1/62	NA	NA
FSDBM	FIRST-OFFICER DATA BASE VALIDITY MONTH	NA	FMGEC(FM) DMC Label = 230	1/62	NA	NA
FSWADR3C	F/O SWITCHED ON ADR3 (CAPT)	NA	DMC Label = 340/22	1/4	NA	1= ADR3 0=ADR2
FSWADR3F	F/O SWITCHED ON ADR3 (F/O)	NA	DMC Label = 340/22	1/4	NA	1= ADR3 0=ADR2
FSWFM1C	F/O SWITCHED ON FM1 (CAPT)	NA	DMC Label = 340/26	1/4	NA	1= FM1 0=FM2
FSWFM1F	F/O SWITCHED ON FM1 (F/O)	NA	DMC Label = 340/26	1/4	NA	1= FM1 0=FM2
FSWIRS3C	F/O SWITCHED ON IRS3 (CAPT)	NA	DMC Label = 340/24	1/4	NA	1= IRS3 0=IRS2
FSWIRS3F	F/O SWITCHED ON IRS3 (F/O)	NA	DMC Label = 340/24	1/4	NA	1= IRS3 0=IRS2
FTERC	FIRST-OFFICER TERRAIN CAUTION	NA	DMC Label = 055/13	1/1	NA	1= CAUTION
FTERW	FIRST-OFFICER TERRAIN WARNING	NA	DMC Label = 055/14	1/1	NA	1= WARNING
FTISFAIL	FTIS failure	NA	FWC Label = 25	1/1	NA	NA
FUEL	FUEL PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
FULDEP1	THR REVERSER FULLY DEPLOYED ENG.1	NA	FADEC(ECU) DMC Label = 274/11	1/1	NA	1= FULLY DEPLOYED
FULDEP2	THR REVERSER FULLY DEPLOYED ENG.2	NA	FADEC(ECU) DMC Label = 274/11	1/1	NA	1= FULLY DEPLOYED
FULSTW1	THR REVERSER FULLY STOWED ENG.1	NA	FADEC(ECU) DMC Label = 274/11	1/1	NA	1= FULLY STOWED
FULSTW2	THR REVERSER FULLY STOWED ENG.2	NA	FADEC(ECU) DMC Label = 274/11	1/1	NA	1= FULLY STOWED
FVERTDEV	FIRST-OFFICER VERTICAL DEVIATION bits 21-28+29	(DA)	FMGEC(FM) DMC Label = 124	1/2	0.004	>0= LEFT OF BEAM
FVERTDEV D	F/O VERTICAL DEVIATION DISPLAYED ON PFD	NA	FMGEC(FM) DMC Label = 124/12	1/2	NA	1= DISPLAYED
FVERTDEV R	F/O VERTICAL DEVIATION REQUIRED ON PFD	NA	FMGEC(FM) DMC Label = 124/11	1/2	NA	1= REQUIRED
FWC1F	FWC.1 FAIL	NA	DMC Label = 362/13	1/4	NA	1= FAULT
FWC1MESF	FWC.1 MESSAGE FAIL	NA	DMC Label = 362/14	1/4	NA	1= FAULT
FWC2F	FWC.2 FAIL	NA	DMC Label = 362/15	1/4	NA	1= FAULT
FWC2MESF	FWC.2 MESSAGE FAIL	NA	DMC Label = 362/16	1/4	NA	1= FAULT
FWC2S	FWC2 MESSAGE BUS SELECTION	NA	DMC Label = 315/11	1/1	NA	1= FWC2 MESS BUS SEL.
FWCF1	FWC1 FAULT FROM FWC1	NA	FWC Label = 124/17	1/4	NA	1= FWC1 FAULT
FWCF2	FWC2 FAULT FROM FWC2	NA	FWC Label = 124/17	1/4	NA	1= FWC2 FAULT
FWXRABLE	FIRST-OFFICER XFR TERR/RADAR DISPLAY ABLE	NA	DMC Label = 055/25	1/1	NA	1= ABLE
FWXR V	FIRST-OFFICER W.X.R VALID	NA	DMC Label = 055/11	1/1	NA	1= VALID
GDL	GEAR DOWN LOCKED	NA	LGCIU FWC Label = 024/17	2/1	NA	1= DOWN LOCKED
GLC1	GEN LINE CONTACTOR.1 CLOSED	NA	ECMU SDAC Label = 003/21	1/4	NA	1= CLOSED
GLC2	GEN LINE CONTACTOR.2 CLOSED	NA	ECMU SDAC Label = 003/22	1/4	NA	1= CLOSED
GLS1	GLIDESLOPE DEV. ILS1 bits 20-28+29	(óA)	ILS DMC Label = 174	1/2	1.339	>0= ABOVE BEAM
GLS1+2	GLIDESLOPE DEV. ILS 1+2 bits 20-28+29	(óA)	ILS DMC Label = 174	1/1	1.339	>0= ABOVE BEAM
GLS1DDM	GLIDESLOPE DEV. ILS1 bits 20-28+29	(DDM)	ILS DMC Label = 174	1/2	0.002	>0= ABOVE BEAM
GLS2	GLIDESLOPE DEV. ILS2 bits 20-28+29	(óA)	ILS DMC Label = 174	1/2	1.339	>0= ABOVE BEAM
GLS2DDM	GLIDESLOPE DEV. ILS2 bits 20-28+29	(DDM)	ILS DMC Label = 174	1/2	0.002	>0= ABOVE BEAM
GLSMESPFDC	CAPTAIN GLS MESSAGE DISPLAYED ON PFD	NA	MMR DMC Label = 50/27	1/4	NA	1= ACTIVE
GLSMESPFD	FIRST-OFFICER GLS MESSAGE DISPLAYED ON PFD	NA	MMR DMC Label = 50/27	1/4	NA	1= ACTIVE
GND	GEAR NOT DOWN	NA	FWC Label = 126/21	1/1	NA	1= RED ARROW ON L/G ON
GNDL	GEAR NOT DOWN LOCKED	NA	FWC Label = 126/25	1/1	NA	1= NOT DOWN LOCKED
GPSALT	GPS ALTITUDE EMITTED BY IRS SELECTED BY THE DMC (Bits 14to27+29)	(FT)	DMC Label = 076	NA	NA	NA
GPSALTC	GPS ALTITUDE EMITTED BY IRS SELECTED BY THE DMC (COARSE) Bits 24to27+29	(FT)	DMC Label = 076	1/1	NA	NA
GPSALTF	GPS ALTITUDE EMITTED BY IRS SELECTED BY THE DMC (FINE) Bits 14to23+29	(FT)	DMC Label = 076	1/1	4.000	NA
GPSALTS	GPS ALTITUDE EMITTED BY IRS SELECTED BY THE DMC (SIGN)	(FT)	DMC Label = 076	1/1	4.000	NA
GPWS14	G.P.W.S TERRAIN ALERTS	NA	GPWS FWC Label = 014/19	1/1	NA	1= WARNING
GPWS5	BASIC G.P.W.S MODE 5	NA	GPWS FWC Label = 014/18	1/1	NA	1= WARNING
GPWSF	G.P.W.S SYSTEM FAULT	NA	GPWS FWC Label = 004/14	1/4	NA	1= FAULT
GPWSOFF	G.P.W.S TERRAIN OFF	NA	GPWS SDAC Label = 004/27	1/1	NA	1= OFF
GPWSTF	G.P.W.S TERRAIN DETECTION FAULT	NA	GPWS FWC Label = 004/17	1/4	NA	1= FAULT
GS	GROUND SPEED bits 17-26	(KT)	ADIRS(IRS) DMC Label = 312	1/1	1.000	NA
GSCPTD	FMA LONGI. MODE G/S* DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
GSD	GEAR SELECTOR DOWN	NA	LGCIU FWC Label = 021/23	2/1	NA	1= DOWN
GSPA	GROUND SPOILER ARMED	NA	FCPC FCDC Label = 043/27	2/1	NA	1= ARMED
GSPO	GROUND SPOILER OUT	NA	FCPC FCDC Label = 043/28	2/1	NA	1= OUT
GSTRKD	FMA LONGI. MODE G/S DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
GSU	GEAR SELECTOR UP	NA	LGCIU FWC Label = 021/24	2/1	NA	1= UP
GWK	A/C GROSS WEIGHT bits 14-28	(KG)	FCMC DMC Label = 075	NA	18.144	NA
GWKC	A/C GROSS WEIGHT COARSE	(KG)	FCMC DMC Label = 075	1/62	NA	NA
GWKF	A/C GROSS WEIGHT FINE	(KG)	FCMC DMC Label = 075	1/62	NA	NA
GWL	A/C GROSS WEIGHT bits 14-28	(LBS)	FCMC DMC Label = 075	NA	40.000	NA
GWLC	A/C GROSS WEIGHT COARSE	(LBS)	FCMC DMC Label = 075	1/62	NA	NA
GWLF	A/C GROSS WEIGHT FINE	(LBS)	FCMC DMC Label = 075	1/62	NA	NA
HDG	HEADING	(DA)	ADIRS(IRS) DMC Label = 314	1/1	NA	NA
HDGD	FMA LATERAL MODE HDG DISPLAYED	NA	FMGEC DMC Label = 152	1/1	NA	NA
HDGS	TRUE OR MAGNETIC HEADING SELECTION	NA	DMC Label = 340/16	1/1	NA	1= TRUE HDG 0= MAGN HDG
HDGTRKS	HEADING/TRACK SELECTED	NA	FCU DMC Label = 274	1/1	NA	1= TRK-FPA SEL. 0= HDG-V/S SEL. (for EIS2) / 1= HDG-V/SVL=
HDGW	WARNING HEADING DISCREPANCY	NA	FWC Label = 126/18	1/1	NA	1= WARNING
HF1	H.F.1 MANUAL RADIO TRANSMITTER	NA	HF1 SDAC Label = 005/14	1/1	NA	1= EMITTING
HF2	H.F.2 MANUAL RADIO TRANSMITTER	NA	HF2 SDAC Label = 005/14	1/1	NA	1= EMITTING
HPFSOV1	HP FUEL VALVE ENG.1	NA	EIVMU Label = 275/21	1/1	NA	1= OPEN

HPFSOV2	HP FUEL VALVE ENG.2	NA	EIVMU Label = 275/21	1/1	NA	1= OPEN
HPUOFFC	HPU-CAPT OFF	NA	HUD FWC Label = 065/16	1/4	NA	1= POWER OFF
HPUOFFF	HPU-F/O OFF	NA	HUD FWC Label = 065/16	1/4	NA	1= POWER OFF
HPV1	HIGH PRES.VLV ENG.1 NOT FULLY CLOSED	NA	BMC DMC Label = 273/15	1/4	NA	1= NOT FULLY CLOSED
HPV2	HIGH PRES.VLV ENG.2 NOT FULLY CLOSED	NA	BMC DMC Label = 273/15	1/4	NA	1= NOT FULLY CLOSED
HUD1DECL1	HUD1 DECLUTTER 1	NA	HUD FWC Label = 065/14	1/4	NA	1= DECLUTTER 1
HUD1DECL2	HUD1 DECLUTTER 2	NA	HUD FWC Label = 065/15	1/4	NA	1= DECLUTTER 2
HUD1DON	HUD1 DISPLAY ON	NA	HUD FWC Label = 065/11	1/4	NA	1= ON
HUD1DUAL	SINGLE OR DUAL INSTALLATION PIN-PROGRAM HUD1	NA	HUD FWC Label = 065/24	1/4	NA	0= SINGLE INSTALLATION 1= DUAL INSTALLATION
HUD1FLT	HUD 1 - FLIGHT PHASE (MATRIX 22)	NA	HUD FWC Label = 065/19-22	1/4	NA	1= SELECTED
HUD1HEALTH	HUD1 HEALTHY	NA	HUD FWC Label = 014/21	1/4	NA	1= HEALTHY
HUD1ND	HUD1 NORMAL DISPLAY	NA	HUD FWC Label = 065/13	1/4	NA	1= NORMAL DISPLAY
HUD1NONE	HUD 1 - NONE (MATRIX 22)	NA	HUD FWC Label = 065/19-22	1/4	NA	1= SELECTED
HUD1ROLOUT	HUD 1 - ROLL-OUT PHASE (MATRIX 22)	NA	HUD FWC Label = 065/19-22	1/4	NA	1= SELECTED
HUD1SPARE	HUD 1 SPARE	NA	HUD FWC Label = 065/23	1/4	NA	NA
HUD1TAXI	HUD 1 - TAXI PHASE (MATRIX 22)	NA	HUD FWC Label = 065/19-22	1/4	NA	1= SELECTED
HUD1TO	HUD 1 - TAKE-OFF PHASE (MATRIX 22)	NA	HUD FWC Label = 065/19-22	1/4	NA	1= SELECTED
HUD2DECL1	HUD2 DECLUTTER 1	NA	HUD FWC Label = 065/14	1/4	NA	1= DECLUTTER 1
HUD2DECL2	HUD2 DECLUTTER 2	NA	HUD FWC Label = 065/15	1/4	NA	1= DECLUTTER 2
HUD2DON	HUD2 DISPLAY ON	NA	HUD FWC Label = 065/11	1/4	NA	1= ON
HUD2DUAL	SINGLE OR DUAL INSTALLATION PIN-PROGRAM HUD2	NA	HUD FWC Label = 065/24	1/4	NA	0= SINGLE INSTALLATION 1= DUAL INSTALLATION
HUD2FLT	HUD 2 - FLIGHT PHASE (MATRIX 22)	NA	HUD FWC Label = 065/19-22	1/4	NA	1= SELECTED
HUD2HEALTH	HUD2 HEALTHY	NA	HUD FWC Label = 013/27	1/4	NA	1= HEALTHY
HUD2ND	HUD2 NORMAL DISPLAY	NA	HUD FWC Label = 065/13	1/4	NA	1= NORMAL DISPLAY
HUD2NONE	HUD 2 - NONE (MATRIX 22)	NA	HUD FWC Label = 065/19-22	1/4	NA	1= SELECTED
HUD2ROLOUT	HUD 2 - ROLL-OUT PHASE (MATRIX 22)	NA	HUD FWC Label = 065/19-22	1/4	NA	1= SELECTED
HUD2SPARE	HUD 2 SPARE	NA	HUD FWC Label = 065/23	1/4	NA	NA
HUD2TAXI	HUD 2 - TAXI PHASE (MATRIX 22)	NA	HUD FWC Label = 065/19-22	1/4	NA	1= SELECTED
HUD2TO	HUD 2 - TAKE-OFF PHASE (MATRIX 22)	NA	HUD FWC Label = 065/19-22	1/4	NA	1= SELECTED
HUDINST	HUD INSTALLED PIN-PROGRAM	NA	HUD SDAC Label = 016/28	1/4	NA	0= HUD NOT INSTALLED 1= HUD INSTALLED
HYD	HYD. PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
HYDBP	BLUE HYDRAULIC PRESSURE bits 22-27	(PSI)	6JS2 SDAC Label = 174	1/2	64.000	NA
HYDBW	HYDRAULIC LOW PRESS BLUE	NA	FWC Label = 126/23	1/1	NA	1= LOW PRESSURE
HYDGP	GREEN HYDRAULIC PRESSURE bits 22-27	(PSI)	6JS1 SDAC Label = 174	1/2	64.000	NA
HYDGW	HYDRAULIC LOW PRESS GREEN	NA	FWC Label = 126/25	1/1	NA	1= LOW PRESSURE
HYDYP	YELLOW HYDRAULIC PRESSURE bits 22-27	(PSI)	6JS3 SDAC Label = 174	1/2	64.000	NA
HYDYW	HYDRAULIC LOW PRESS YELLOW	NA	FWC Label = 126/24	1/1	NA	1= LOW PRESSURE
IFECSMO	IFEC SMOKE	NA	FWC Label = 101/11	1/1	NA	1= WARNING
ILSMESPFDC	CAPTAIN ILS MESSAGE DISPLAYED ON PFD	NA	MMR DMC Label = 50/25	1/4	NA	1= ACTIVE
ILSMESPFD	FIRST-OFFICER ILS MESSAGE DISPLAYED ON PFD	NA	MMR DMC Label = 50/25	1/4	NA	1= ACTIVE
ILSVORCS	ILS/VOR SELECTION CAPTAIN	NA	DMC (CPT BUS) Label = 342/22	1/4	NA	0= VOR MODE SEL ON CPT(IF ROSE VOR/ILS=1) / 1= ILS MODEVL=
ILSVORFS	ILS/VOR SELECTION F/O	NA	DMC (F/O BUS) Label = 342/22	1/4	NA	0= VOR MODE SEL ON CPT(IF ROSE VOR/ILS=1) / 1= ILS MODEVL=
IMKR	INNER MARKER BEACON PASSAGE	NA	VOR1 DMC Label = 222/13	1/1	NA	1= PASSAGE
IMPFND1	PFD IMAGE ON ND1/DU (2)	NA	DMC Label = 332/19	1/4	NA	1= PFD IMAGE ON ND1 (2)
IMPFND2	PFD IMAGE ON ND2/DU (5)	NA	DMC Label = 332/21	1/4	NA	1= PFD IMAGE ON ND2/DU (5)
INPUTPITCH	COCKPIT TRIM CTL INPUT POS. PITCH INPUT SHAFT SENSOR bits 16-25+29	(DA)	FCPC FCDC Label = 016	1/1	0.022	>0= NOSE DOWN
IRS1F	IRS.1 FAIL	NA	DMC Label = 362/19	1/4	NA	1= FAULT
IRS1PFD	IRS1 SELECTED ON PFD (CAPT)	NA	DMC Label = 341/19	1/4	NA	1= SELECTED
IRS2F	IRS.2 FAIL	NA	DMC Label = 362/20	1/4	NA	1= FAULT
IRS2PFD	IRS2 SELECTED ON PFD (F/O)	NA	DMC Label = 341/20	1/4	NA	1= SELECTED
IRS3F	IRS.3 FAIL	NA	DMC Label = 362/21	1/4	NA	1= FAULT
ISIFWC1OFF	ISIS FWC 1 STATUS (MATRIX 24) - ISIS OFF	NA	ISIS Label = 270/27-28	1/1	NA	NA
ISIFWC1OUT	ISIS FWC 1 STATUS (MATRIX 24) - ISIS OUT OF ORDER	NA	ISIS Label = 270/27-28	1/1	NA	NA
ISIFWC1SFD	ISIS FWC 1 STATUS (MATRIX 24) - FLIGHT DISPLAY SELECTED (SFD)	NA	ISIS Label = 270/27-28	1/1	NA	NA
ISIFWC1SND	ISIS FWC 1 STATUS (MATRIX 24) - NAVIGATION DISPLAY SELECTED (SND)	NA	ISIS Label = 270/27-28	1/1	NA	NA
ISIFWC2OFF	ISIS FWC 2 STATUS (MATRIX 25) - ISIS OFF	NA	ISIS Label = 270/27-28	1/1	NA	NA
ISIFWC2OUT	ISIS FWC 2 STATUS (MATRIX 25) - ISIS OUT OF ORDER	NA	ISIS Label = 270/27-28	1/1	NA	NA
ISIFWC2SFD	ISIS FWC 2 STATUS (MATRIX 25) - FLIGHT DISPLAY SELECTED (SFD)	NA	ISIS Label = 270/27-28	1/1	NA	NA
ISIFWC2SND	ISIS FWC 2 STATUS (MATRIX 25) - NAVIGATION DISPLAY SELECTED (SND)	NA	ISIS Label = 270/27-28	1/1	NA	NA
ISIS1F	FDIU ISIS INPUT PORT FAILED ** For dual ISIS configuration **	NA	FDIU Label =	1/62	NA	NA
ISIS2F	FDIU ISIS 2 INPUT PORT FAILED ** For dual ISIS configuration **	NA	FDIU Label =	1/62	NA	NA
ISISALT	I.S.I.S ALTITUDE (Bits 14to27+29)	(FT)	ISIS Label = 203	NA	NA	NA
ISISALTC	I.S.I.S ALTITUDE COARSE Bits 23to27	(FT)	ISIS Label = 203	1/1	NA	NA
ISISALTF	I.S.I.S ALTITUDE FINE SCALE Bits 14to22	(FT)	ISIS Label = 203	1/1	NA	NA
ISISALTS	I.S.I.S ALTITUDE SIGNE Bits 29	(FT)	ISIS Label = 203	1/1	NA	NA
ISISANEMOF	FDIU ISIS ANEMOMETRIC INPUT PORT FAILED ** For single ISIS configuration **	NA	FDIU Label =	1/62	NA	NA
ISISCAS	I.S.I.S CALIBRATED AIRSPEED bits16-27	(KT)	ISIS Label = 206	1/1	0.125	NA
ISISDUAL	ISIS SINGLE/DUAL CONF	NA	ISIS CMC Label = 162/18	1/4	NA	1= DUAL CONF 0= SINGLE CONF
ISISINERTF	FDIU ISIS INERTIAL INPUT PORT FAILED ** For single ISIS configuration **	NA	FDIU Label =	1/62	NA	NA
ISISINST	ISIS INSTALLED	NA	ISIS CMC Label = 157/16	1/4	NA	1= INSTALLED
ISISLATG	I.S.I.S BODY LATERAL ACCELERATION bits19-27+29	(G)	ISIS Label = 332	1/1	0.004	>0= RH SIDESLIP
ISISPTCH	I.S.I.S PITCH ATTITUDE bits20-27+29	(DA)	ISIS Label = 324	4/1	0.352	>0= NOSE UP
ISISROLL	I.S.I.S ROLL ATTITUDE bits20-28+29	(DA)	ISIS Label = 325	2/1	0.352	>0= RH WING DOWN

ISSBARO	I.S.I.S BARO REFERENCE Bits 15-26	(MB)	ISIS Label = 234	1/4	NA	NA
K1K2S1	K1 K2 SELECTED ENG1	NA	FWC Label = 104/11	1/1	NA	1= SELECTED
K1K2S2	K1 K2 SELECTED ENG2	NA	FWC Label = 104/12	1/1	NA	1= SELECTED
K3S1	K3 SELECTED ENG1	NA	FWC Label = 104/14	1/1	NA	1= SELECTED
K3S2	K3 SELECTED ENG2	NA	FWC Label = 104/15	1/1	NA	1= SELECTED
K4K5K6S1	K4 K5 K6 SELECTED ENG1	NA	FWC Label = 104/17	1/1	NA	1= SELECTED
K4K5K6S2	K4 K5 K6 SELECTED ENG2	NA	FWC Label = 104/18	1/1	NA	1= SELECTED
LANDARM	LAND ARMED	NA	FMGEC(FG) DMC Label = 274/26	1/1	NA	1= ARMED
LANDTRK	LAND GREEN	NA	FMGEC(FG) DMC Label = 300/14	1/1	NA	1= ACTIVE
LATG	LATERAL ACCELERATION bits19-27+29	(G)	LA SDAC Label = 332	4/1	0.004	>0= RH SIDESLIP
LATGCHK	LAT ACCEL. CHECK NOT RUN	NA	FDIU	1/62	NA	NA
LATGCHKF	LAT ACCEL. CHECK FAIL	NA	FDIU	1/62	NA	NA
LAVSMORED	LAVATORY SMOKE ALERT	NA	FWC Label = 016/11	1/1	NA	1= AMBER WARNING / 0= RED WARNING
LAVSMOW	LAVATORY SMOKE	NA	FWC Label = 124/16	1/1	NA	1= SMOKE
LEVPOS0	SLAT-FLAP LEVER POSITION 0	NA	SFCC FWC Label = 137/11	1/1	NA	NA
LEVPOS1	SLAT-FLAP LEVER POSITION 1	NA	SFCC FWC Label = 137/12	1/1	NA	NA
LEVPOS2	SLAT-FLAP LEVER POSITION 2	NA	SFCC FWC Label = 137/13	1/1	NA	NA
LEVPOS3	SLAT-FLAP LEVER POSITION 3	NA	SFCC FWC Label = 137/14	1/1	NA	NA
LEVPOSF	SLAT-FLAP LEVER POSITION F	NA	SFCC FWC Label = 137/15	1/1	NA	NA
LGCIU1F	LGCIU.1 FAIL	NA	DMC Label = 362/22	1/4	NA	1= FAULT
LGCIU2F	LGCIU.2 FAIL	NA	DMC Label = 362/23	1/4	NA	1= FAULT
LHGNUL	LH GEAR NOT UP LOCKED	NA	LGCIU FWC Label = 021/13	2/1	NA	1= NOT UP LOCKED
LHSQUAT	L/G LEFT SQUAT SWITCH	NA	LGCIU FWC Label = 020/28	4/1	NA	1= ON GROUND
LHWGLEAK	LEFT WING LEAK MEMORIZED	NA	BMC FWC Label = 100/19	1/2	NA	1= LEAK
LH1TQKG	LEFT INNER 1 TANK FUEL QUANTITY	(KG)	FCMC DMC Label = 257	1/62	29.030	NA
LH1TQLB	LEFT INNER 1 TANK FUEL QUANTITY	(LBS)	FCMC DMC Label = 257	1/62	64.000	NA
LOC1	LOCALIZER DEV.ILS1 bits 18-28+29	(óA)	ILS DMC Label = 173	1/2	0.189	>0= LEFT OF BEAM
LOC1+2	LOCALIZER DEV.ILS 1+2 bits 18-28+29	(óA)	ILS DMC Label = 173	1/1	0.189	>0= LEFT OF BEAM
LOC1DDM	LOCALIZER DEV.ILS1 bits 18-28+29	(DDM)	ILS DMC Label = 173	1/2	NA	>0= LEFT OF BEAM
LOC2	LOCALIZER DEV.ILS2 bits 18-28+29	(óA)	ILS DMC Label = 173	1/2	0.189	>0= LEFT OF BEAM
LOC2DDM	LOCALIZER DEV.ILS2 bits 18-28+29	(DDM)	ILS DMC Label = 173	1/2	NA	>0= LEFT OF BEAM
LOCBCPTD	FMA LATERAL MODE LOC B/C* DISPLAYED	NA	FMGEC DMC Label = 152	1/1	NA	NA
LOCBCTRKD	FMA LATERAL MODE LOC B/C DISPLAYED	NA	FMGEC DMC Label = 152	1/1	NA	NA
LOCCTPD	FMA LATERAL MODE LOC* DISPLAYED	NA	FMGEC DMC Label = 152	1/1	NA	NA
LOCTRKD	FMA LATERAL MODE LOC DISPLAYED	NA	FMGEC DMC Label = 152	1/1	NA	NA
LONG	LONGITUDINAL ACCELERATION bits19-27+29	(G)	LA SDAC Label = 331	4/1	0.004	<0= ACCELERATION
LONGCHK	LONG ACCEL. CHECK NOT RUN	NA	FDIU	1/62	NA	NA
LONGCHKF	LONG ACCEL. CHECK FAIL	NA	FDIU	1/62	NA	NA
LOTQKG	LEFT OUTER TANK FUEL QUANTITY	(KG)	FCMC DMC Label = 256	1/62	29.030	NA
LOTQLB	LEFT OUTER TANK FUEL QUANTITY	(LBS)	FCMC DMC Label = 256	1/62	64.000	NA
LPFSOV1	LP FUEL VALVE FULLY CLOSED ENG.1	NA	400QG1 SDAC Label = 001/15	1/1	NA	1= Fully Closed
LPFSOV2	LP FUEL VALVE FULLY CLOSED ENG.2	NA	400QG2 SDAC Label = 001/17	1/1	NA	1= Fully Closed
LRELVF	LEFT + RIGHT ELEVATORS FAULT	NA	FWC Label = 124/21	1/1	NA	1= FAULT
LSDD	DISTANCE LS DISPLAYED bits 16-27	(NM)	DME DMC Label = 036	1/4	0.063	NA
MACHD	MACH (A/THR)	NA	FMGEC(FG) DMC Label = 274/25	1/1	NA	1= DISPLAYED
MACHFCUS	MACH SELECTION	NA	FCU Label = 270/19	1/1	NA	1= MACH SEL 0= SPEED SEL
MANDTOD	FMA A/THR MAN DTO DISPLAYED	NA	FMGEC(FG) DMC Label = 150	1/1	NA	NA
MANFLXD	FMA A/THR MAN FLEX DISPLAYED	NA	FMGEC(FG) DMC Label = 150	1/1	NA	NA
MANMCTD	FMA A/THR MAN MCT DISPLAYED	NA	FMGEC(FG) DMC Label = 150	1/1	NA	NA
MANTHRD	FMA A/THR MAN THR DISPLAYED	NA	FMGEC(FG) DMC Label = 150	1/1	NA	NA
MANTOGAD	FMA A/THR MAN TOGA DISPLAYED	NA	FMGEC(FG) DMC Label = 150	1/1	NA	NA
MATRIX1	FMA A/THR MODE MATRIX 1 BITS 24 to 28	NA	FMGEC(FG) DMC Label = 150	1/1	NA	NA
MATRIX10	TCAS CREW SELECTION MATRIX 10	NA	TCAS DMC Label = 016/15-17	1/1	NA	NA
MATRIX11	SELECTED SPEED ORIGIN MATRIX 11	NA	FCU/FG DMC Label = 274/21-22	1/1	NA	NA
MATRIX12	BARO DISPLAYED MATRIX.12 (EIS2 ONLY)	NA	FMGEC(FM) DMC Label = 155	1/62	NA	NA
MATRIX13	RADAR OPERATING MODE MATRIX 13	NA	DMC Label = 016/27-29	1/4	NA	NA
MATRIX14	E.G.P.W.S OPERATING MODE MATRIX 14	NA	DMC Label = 016/24-26	1/4	NA	NA
MATRIX15C	EFIS RANGE ND ON CAPT MATRIX 15	NA	DMC Label = 215/28	1/4	NA	NA
MATRIX15F	EFIS RANGE ND ON F/O MATRIX 15	NA	DMC Label = 215/28	1/4	NA	NA
MATRIX16C	MODE DISPLAYED ON ND CAPT MATRIX 16	NA	DMC Label = 214/26-28	1/4	NA	NA
MATRIX16F	MODE DISPLAYED ON ND F/O MATRIX 16	NA	DMC Label = 214	1/4	NA	NA
MATRIX17	ECAM DISPLAYED IMAGE MATRIX 17	NA	DMC Label = 251/24-28	1/4	NA	NA
MATRIX18	ECAM DISPLAYED IMAGE MODE MATRIX 18	NA	DMC Label = 276/23-27	1/4	NA	NA
MATRIX19C	CAPTAIN NAVIGATION MODE MATRIX 19	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	NA
MATRIX19F	FIRST-OFFICER NAVIGATION MODE MATRIX 19	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	NA
MATRIX2	FMA LATERAL MODE MATRIX 2 BITS 25 to 28	NA	FMGEC DMC Label = 152	1/1	NA	NA
MATRIX20	COMPUTER ON CONTROL LAW MATRIX 20	NA	FCDC Label = 040/19-23	1/4	NA	NA
MATRIX21	SLAT-FLAP LEVER POSITION MATRIX 21	NA	SFCC FWC Label = 137/11-15	1/1	NA	NA
MATRIX221	HUD 1 - MATRIX 22	NA	HUD FWC Label = 065/19-22	1/4	NA	NA
MATRIX222	HUD 2 - MATRIX 22	NA	HUD FWC Label = 065/19-22	1/4	NA	NA
MATRIX24	ISIS FWC 1 STATUS MATRIX 24	NA	ISIS Label = 270/27-28	1/1	NA	NA
MATRIX25	ISIS FWC 2 STATUS MATRIX 25	NA	ISIS Label = 270/27-28	1/1	NA	NA
MATRIX3	FMA LONGITUDINAL MODES MATRIX 3 BITS 25 to 28	NA	FMGEC DMC Label = 153	1/1	NA	NA
MATRIX50	MMR1 MODE	NA	MMR DMC Label = 033	1/4	NA	NA
MATRIX51	MMR2 MODE	NA	MMR DMC Label = 033	1/4	NA	NA
MATRIX6	DERATED T/O LIMIT MODE SELECTED MATRIX 6	NA	C(EEC or ECU) DMC Label = 154	1/1	NA	NA
MATRIX7	TCAS COMBINATED CONTROL MATRIX 7	NA	TCAS DMC Label = 270/18-20	1/1	NA	NA

MATRIX8	TCAS UP ADVISORY MATRIX 8	NA	TCAS DMC Label = 270/24-26	1/1	NA	NA
MATRIX9	TCAS DOWN ADVISORY MATRIX 9	NA	TCAS DMC Label = 270/27-29	1/1	NA	NA
MDADHD	MDA/MDH DISPLAYED MATRIX.12	NA	FMGEC(FM) DMC Label = 155	1/62	NA	NA
MDAMDH	HEIGHT VALUE MDA/MDH (BITS 12to26)	(FT)	FMGEC DMC Label = 367	NA	NA	NA
MDAMDHC	HEIGHT VALUE MDA/MDH COARSE	(FT)	FMGEC(FM) DMC Label = 367	1/62	2048.000	NA
MDAMDHF	HEIGHT VALUE MDA/MDH FINE bits 12-23	(FT)	FMGEC(FM) DMC Label = 367	1/62	1.000	NA
MDDUTRF	MDDU TRANSMITTER FAIL	NA	FDIU Label =	1/62	NA	NA
MICROSW1	MICROSWITCH DIGITAL ELECTRONIC MODULE.1	NA	FCPC FCDC Label = 100/26	1/1	NA	1= HOLD PRIORITY
MICROSW2	MICROSWITCH DIGITAL ELECTRONIC MODULE.2	NA	FCPC FCDC Label = 100/27	1/1	NA	1= HOLD PRIORITY
MICROSW3	MICROSWITCH DIGITAL ELECTRONIC MODULE.3	NA	FCPC FCDC Label = 100/28	1/1	NA	1= HOLD PRIORITY
MLSMESPFDC	CAPTAIN MLS MESSAGE DISPLAYED ON PFD	NA	MMR DMC Label = 50/26	1/4	NA	1= ACTIVE
MLSMESPFDF	FIRST-OFFICER MLS MESSAGE DISPLAYED ON PFD	NA	MMR DMC Label = 50/26	1/4	NA	1= ACTIVE
MMKR	MIDDLE MARKER BEACON PASSAGE	NA	VOR1 DMC Label = 222/12	1/1	NA	1= PASSAGE
MMOPT	MMO protection threshold	NA	FCDC Label = 33	1/1	0.008	NA
MNADC	MACH NUMBER bits 19-26	NA	ADIRS(ADC) DMC Label = 205	1/1	0.004	NA
MONTH	MONTH OF DATE bits 19-23	NA	CLOCK/CMC Label = 260	1/62	NA	NA
MSTLA1	ENG 1 MASTER LEVER OFF	NA	FWC Label = 015/22	1/1	NA	1= OFF
MSTLA2	ENG 2 MASTER LEVER OFF	NA	FWC Label = 017/22	1/1	NA	1= OFF
N1A1	N1 ACTUAL ENG.1 ELAB bits16-28	(%)	DEC(EEC or ECU) DMC Label = 3	NA	NA	NA
N1A2	N1 ACTUAL ENG.2 ELAB bits16-28	(%)	DEC(EEC or ECU) DMC Label = 3	NA	NA	NA
N1C1	N1 COMMAND ENG.1 bits 22-28	(%)	J or EEC) DMC Label = 341 or 254	1/2	2.000	NA
N1C2	N1 COMMAND ENG.2 bits 22-28	(%)	J or EEC) DMC Label = 341 or 254	1/2	2.000	NA
N1L1	N1 LIMIT ENG.1 bits17-28	(%)	DEC(EEC or ECU) DMC Label = 3	1/1	0.063	NA
N1L2	N1 LIMIT ENG.2 bits17-28	(%)	DEC(EEC or ECU) DMC Label = 3	1/1	0.063	NA
N1T	ENGINE THRUST TARGET N1 bits 21-28	(%)	FMGEC(FG) FCU Label = 343	1/4	1.000	NA
N1V1	N1 VIBRATION ENG.1 bits 20-26	(CU)	EIVMU Label = 135	1/1	0.100	NA
N1V2	N1 VIBRATION ENG.2 bits 20-26	(CU)	EIVMU Label = 135	1/1	0.100	NA
N2A1	N2 Actual Eng 1 bits 17-28	(%)	DEC(ECU or EEC) DMC Label = 3	1/1	0.063	NA
N2A2	N2 Actual Eng 2 bits 17-28	(%)	DEC(ECU or EEC) DMC Label = 3	1/1	0.063	NA
N2V1	N2 VIBRATION ENG.1 bits 20-26	(CU)	EIVMU Label = 136	1/1	0.100	NA
N2V2	N2 VIBRATION ENG.2 bits 20-26	(CU)	EIVMU Label = 136	1/1	0.100	NA
NA1F	ANTI-ICE VALVE FAULT ENG.1	NA	1DN SDAC Label = 001/26	1/2	NA	1= FAULT
NA1ON	ANTI-ICE PUSH-BUTTON ON ENG.1	NA	1DN SDAC Label = 001/17	1/2	NA	1= ON
NA1S	NACELLE ANTI-ICE ENG 1 SELECTED	NA	WHC1 SDAC Label = 013/16	1/2	NA	1= SELECTED ON
NAI2F	ANTI-ICE VALVE FAULT ENG.2	NA	1DN SDAC Label = 001/27	1/2	NA	1= FAULT
NAI2ON	ANTI-ICE PUSH-BUTTON ON ENG.2	NA	1DN SDAC Label = 001/18	1/2	NA	1= ON
NAI2S	NACELLE ANTI-ICE ENG 2 SELECTED	NA	WHC2 SDAC Label = 005/17	1/2	NA	1= SELECTED ON
NAVACCC	NAVIGATION ACCURACY CAPTAIN	NA	FMGEC DMC Label = 255/16	1/4	NA	1= HIGH
NAVACCF	NAVIGATION ACCURACY FIRST-OFFICER	NA	FMGEC(FM) DMC Label = 255/16	1/4	NA	1= HIGH
NAVD	FMA LATERAL MODE NAV DISPLAYED	NA	FMGEC DMC Label = 152	1/1	NA	NA
NAVHDG	NAV SUB MODE HEADING	NA	FMGEC(FG) DMC Label = 176/21	1/1	NA	NA
NAVHNONE	NAV SUB MODE NONE	NA	FMGEC(FG) DMC Label = 176	1/1	NA	NA
NAVHPATH	NAV SUB MODE HORIZONTAL PATH	NA	FMGEC(FG) DMC Label = 176/20	1/1	NA	NA
NAVLCSTATF	NAV L CAPT STATIC FAULT (AMBER ALERT)	NA	FWC Label = 101/19	1/1	NA	1= FAULT
NAVLFSTATF	NAV L F/O STATIC FAULT (AMBER ALERT)	NA	FWC Label = 101/20	1/1	NA	1= FAULT
NAVRCSTATF	NAV R CAPT STATIC FAULT (AMBER ALERT)	NA	FWC Label = 101/21	1/1	NA	1= FAULT
NAVRFSTATF	NAV R F/O STATIC FAULT (AMBER ALERT)	NA	FWC Label = 101/22	1/1	NA	1= FAULT
NAVSUBM	NAV SUB MODE (MATRIX-4)	NA	FMGEC(FG) DMC Label = 176	1/1	NA	NA
NAVTRK	NAV SUB MODE TRACK	NA	FMGEC(FG) DMC Label = 176/22	1/1	NA	NA
NBRKP1B	NORMAL BRAKE PRESSURE 1 bits 23-28	(Bar)	BSCU Label = 300	1/4	4.413	NA
NBRKP1P	NORMAL BRAKE PRESSURE 1 bits 23-28	(PSI)	BSCU Label = 300	1/4	64.000	NA
NBRKP2B	NORMAL BRAKE PRESSURE 2 bits 23-28	(Bar)	BSCU Label = 301	1/4	4.413	NA
NBRKP2P	NORMAL BRAKE PRESSURE 2 bits 23-28	(PSI)	BSCU Label = 301	1/4	64.000	NA
NBRKP3B	NORMAL BRAKE PRESSURE 3 bits 23-28	(Bar)	BSCU Label = 302	1/4	4.413	NA
NBRKP3P	NORMAL BRAKE PRESSURE 3 bits 23-28	(PSI)	BSCU Label = 302	1/4	64.000	NA
NBRKP4B	NORMAL BRAKE PRESSURE 4 bits 23-28	(Bar)	BSCU Label = 303	1/4	4.413	NA
NBRKP4P	NORMAL BRAKE PRESSURE 4 bits 23-28	(PSI)	BSCU Label = 303	1/4	64.000	NA
NBRKP5B	NORMAL BRAKE PRESSURE 5 bits 23-28	(Bar)	BSCU Label = 304	1/4	4.413	NA
NBRKP5P	NORMAL BRAKE PRESSURE 5 bits 23-28	(PSI)	BSCU Label = 304	1/4	64.000	NA
NBRKP6B	NORMAL BRAKE PRESSURE 6 bits 23-28	(Bar)	BSCU Label = 305	1/4	4.413	NA
NBRKP6P	NORMAL BRAKE PRESSURE 6 bits 23-28	(PSI)	BSCU Label = 305	1/4	64.000	NA
NBRKP7B	NORMAL BRAKE PRESSURE 7 bits 23-28	(Bar)	BSCU Label = 306	1/4	4.413	NA
NBRKP7P	NORMAL BRAKE PRESSURE 7 bits 23-28	(PSI)	BSCU Label = 306	1/4	64.000	NA
NBRKP8B	NORMAL BRAKE PRESSURE 8 bits 23-28	(BAR)	BSCU Label = 307	1/4	64.000	NA
NBRKP8P	NORMAL BRAKE PRESSURE 8 bits 23-28	(PSI)	BSCU Label = 307	1/4	64.000	NA
NBRRADET	TCAS NUMBER OF RA DETECTED	NA	TCAS DMC Label = 040/24-26	1/1	NA	NA
NCCL	NO COMPUTER ON CONTROL LAW (MATRIX 20)	NA	FCDC Label = 040/19-23	1/4	NA	NA
ND1C	CPT ND/DU (2) VALID	NA	DMC (CPT BUS) Label = 332/16	1/4	NA	1= VALID
ND1FEED	ND1/DU (2) FEEDBACK BUS INVALID	NA	DMC Label = 334/11	1/4	NA	1= INVALID
ND1MSG	CHECK ND1 MSG ACTIVATED	NA	DMC Label = 334/26	1/4	NA	1= ACTIVE
ND1OFF	CPT ND/DU (2) OFF	NA	DMC Label = 330/22	1/4	NA	1= OFF
ND2FEED	ND2/DU (5) FEEDBACK BUS INVALID	NA	DMC Label = 334/12	1/4	NA	1= INVALID
ND2FO	CPT ND/DU (2) VALID	NA	DMC (F/O) Label = 332/16	1/4	NA	1= VALID
ND2MSG	CHECK ND2 MSG ACTIVATED	NA	DMC Label = 334/27	1/4	NA	1= ACTIVE
ND2OFF	F/O ND/DU (5) OFF	NA	DMC Label = 330/23	1/4	NA	1= OFF
ND2V	F/O ND/DU (5) VALID	NA	DMC (CAPT BUS) Label = 332/17	1/4	NA	1= VALID
NIC	CAPTAIN NAVIGATION MODE.N IRS ONLY. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIDDC	CAPTAIN NAVIGATION MODE.N IRS/DME/DME. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE

NIDDF	FIRST-OFFICER NAVIGATION MODE.N IRS/DME/DME. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIDLC	CAPTAIN NAVIGATION MODE.N IRS/DME/LOC. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIDLF	FIRST-OFFICER NAVIGATION MODE.N IRS/DME/LOC. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIDMC	CAPTAIN NAVIGATION MODE.N IRS/DME/MLS. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIDMF	FIRST-OFFICER NAVIGATION MODE.N IRS/DME/MLS. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIF	FIRST-OFFICER NAVIGATION MODE.N IRS ONLY. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIGC	CAPTAIN NAVIGATION MODE.N IRS/GPS. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIGF	FIRST-OFFICER NAVIGATION MODE.N IRS/GPS. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIGLC	CAPTAIN NAVIGATION MODE.N IRS/GPS/LOC. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIGLF	FIRST-OFFICER NAVIGATION MODE.N IRS/GPS/LOC. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIGMC	CAPTAIN NAVIGATION MODE.N IRS/GPS/MLS. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIGMF	FIRST-OFFICER NAVIGATION MODE.N IRS/GPS/MLS. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIIVDC	CAPTAIN NAVIGATION MODE.N IRS/VOR/DME. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIIVDF	FIRST-OFFICER NAVIGATION MODE.N IRS/VOR/DME. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NILC	CAPTAIN NAVIGATION MODE.N IRS/LOC. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NILF	FIRST-OFFICER NAVIGATION MODE.N IRS/LOC. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIMC	CAPTAIN NAVIGATION MODE.N IRS/MLS. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIMF	FIRST-OFFICER NAVIGATION MODE.N IRS/MLS. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIVLC	CAPTAIN NAVIGATION MODE.N IRS/VOR/LOC. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIVLF	FIRST-OFFICER NAVIGATION MODE.N IRS/VOR/LOC. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIVMC	CAPTAIN NAVIGATION MODE.N IRS/VOR/MLS. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NIVMF	FIRST-OFFICER NAVIGATION MODE.N IRS/VOR/MLS. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NLAW	NORMAL FLIGHT LAW	NA	FCPC-FCSC FCDC Label = 040/1	1/1	NA	1= ENGAGED
NNC	CAPTAIN NAVIGATION MODE.NO NAV. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NNF	FIRST-OFFICER NAVIGATION MODE.NO NAV. (MATRIX 19)	NA	MGEC(FM) DMC Label = 255/11-1	1/4	NA	1= ACTIVE
NOADV	TCAS COMBINATED CONTROL.NO ADVISORY. (MATRIX 7)	NA	TCAS DMC Label = 270/18-20	1/1	NA	NA
NODHD	NO DH DISPLAYED MATRIX.12	NA	FMGEC(FM) DMC Label = 155	1/62	NA	NA
NODOWN	TCAS DOWN ADVISORY.NO DOWN ADVISORY. (MATRIX 9)	NA	TCAS DMC Label = 270/27-29	1/1	NA	NA
NODTO	NO LIMIT MODE SELECTED	NA	DEC(EEC or ECU) DMC Label = 1	1/1	NA	1=SELECTED
NOGNUL	NOSE GEAR NOT UP LOCKED	NA	LGCIU FWC Label = 021/15	2/1	NA	1= NOT UP LOCKED
NOISETHR1	FMA A/THR NOISE THR1 (EIS2 SPECIFICITY)	NA	FMGEC(FG) DMC Label = 150	1/1	NA	NA
NOISETHR2	FMA A/THR NOISE THR2 (EIS2 SPECIFICITY)	NA	FMGEC(FG) DMC Label = 150	1/1	NA	NA
NONED	NONE MATRIX.12 (EIS2 ONLY)	NA	FMGEC(FM) DMC Label = 155	1/62	NA	NA
NORBRKF	NORMAL BRAKE FAULT	NA	BSCU Label = 026/21	1/1	NA	1= FAULT
NOSQUAT	L/G NOSE SQUAT SWITCH	NA	LGCIU FWC Label = 020/15	4/1	NA	1= COMPRESSED
NOUP	TCAS UP ADVISORY.NO UP ADVISORY. (MATRIX 8)	NA	TCAS DMC Label = 270/24-26	1/1	NA	NA
NSRA1	RADIO HEIGHT NO.1 (NOT SIGNED) bits 16-26	(FT)	RA DMC Label = 164	1/2	1.000	NA
NSRA2	RADIO HEIGHT NO.2 (NOT SIGNED) bits 16-26	(FT)	RA DMC Label = 164	1/2	1.000	NA
NWSAP	N/W S AUTOPILOT ORDER bits 22-28+29	(DA)	BSCU Label = 342	1/1	0.250	NA
NWSDMD	N/W S DEMAND ANGLE bits 22-28+29	(DA)	BSCU Label = 153	1/1	1.000	NA
NWSMSTR	NOSE WHEEL ANGLE (CFM) bits 20-28+29	(DA)	BSCU Label = 334	1/1	0.250	NA
NWSRUDP	N/W S RUDDER PEDAL ORDER bits 22-28+29	(DA)	BSCU Label = 343	1/1	0.250	NA
NWSSLV	NOSE WHEEL ANGLE (CFM) bits 20-28+29	(DA)	BSCU Label = 336	1/1	0.250	NA
OIP1	OIL PRESSURE ENG.1 bits 17-27	(PSI)	FADEC(ECU) DMC Label = 317	1/1	0.125	NA
OIP2	OIL PRESSURE ENG.2 bits 17-27	(PSI)	FADEC(ECU) DMC Label = 317	1/1	0.125	NA
OIQ1	OIL QUANTITY ENG.1 bits 17-27	(USQG)	DEC(ECU or EEC) DMC Label = 0	1/1	0.016	NA
OIQ2	OIL QUANTITY ENG.2 bits 17-27	(USQG)	DEC(ECU or EEC) DMC Label = 0	1/1	0.016	NA
OIT1	OIL TEMPERATURE ENG.1 bits 18-27+29	(DC)	DEC(EEC or ECU) EIVMU Label =	1/1	0.250	NA
OIT2	OIL TEMPERATURE ENG.2 bits 18-27+29	(DC)	DEC(EEC or ECU) EIVMU Label =	1/1	0.250	NA
OLP1	ENG1 OIL LOW PRESS	NA	FWC Label = 124/17	1/1	NA	1= LOW PRESS
OLP2	ENG2 OIL LOW PRESS	NA	FWC Label = 124/18	1/1	NA	1= LOW PRESS
OMKR	OUTER MARKER BEACON PASSAGE	NA	VOR1 DMC Label = 222/11	1/1	NA	1= PASSAGE
OPCLBD	FMA LONGI. MODE OPEN CLIMB DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
OPDESD	FMA LONGI. MODE OPEN DESCENT DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
OVERN11	ENG.1 N1 OVER LIMIT	NA	FWC Label = 100/11	1/1	NA	1= OVER LIMIT
OVERN12	ENG.2 N1 OVER LIMIT	NA	FWC Label = 100/12	1/1	NA	1= OVER LIMIT
OVERN21	ENG.1 N2 OVER LIMIT	NA	FWC Label = 100/15	1/1	NA	1= OVER LIMIT
OVERN22	ENG.2 N2 OVER LIMIT	NA	FWC Label = 100/16	1/1	NA	1= OVER LIMIT
PAIDET	PRIMARY AUTO-ICE DETECTION SYSTEM INSTALLED	NA	AC (PIN-PROG SDAC) Label = 007	1/2	NA	1= INSTALLED
PAXBRBDSMO	SMOKE PAX BROADBAND	NA	FWC Label = 101/16	1/1	NA	1= SMOKE
PBRKON	PARK BRAKE ON	NA	BSCU SDAC Label = 005/24	1/1	NA	1= ON
PBRKW	PARKING BRAKE ON	NA	FWC Label = 124/27	1/1	NA	1= WARNING
PCK1OFF	PACK CONTROLLER.1 PUSH-BUTTON OFF	NA	BMC SDAC Label = 006/17	1/2	NA	1= P/B OFF
PCK2OFF	PACK CONTROLLER.2 PUSH-BUTTON OFF	NA	BMC SDAC Label = 006/14	1/2	NA	1= P/B OFF
PCP1	ENG.1 PRE COOLER INLET PRESSURE bits 19-28	(PSI)	BMC SDAC Label = 142	1/1	0.500	NA
PCP2	ENG.2 PRE COOLER INLET PRESSURE bits 19-28	(PSI)	BMC SDAC Label = 143	1/1	0.500	NA
PCT1	ENG.1 PRE COOLER OUTLET TEMPERATURE bits 19-28	(DC)	BMC SDAC Label = 140	1/4	0.500	NA
PCT2	ENG.2 PRE COOLER OUTLET TEMPERATURE bits 19-28	(DC)	BMC SDAC Label = 141	1/4	0.500	NA
PFD1C	CPT PFD/DU (1) VALID	NA	DMC (CPT BUS) Label = 332/14	1/4	NA	1= VALID
PFD1FEED	PFD1/DU (1) FEEDBACK BUS INVALID	NA	DMC Label = 334/13	1/4	NA	1= INVALID
PFD1MSG	CHECK PFD1 MSG ACTIVATED	NA	DMC Label = 334/23	1/4	NA	1= ACTIVE
PFD1OFF	CPT PFD/DU (1) OFF	NA	DMC Label = 330/20	1/4	NA	1= OFF
PFD2FEED	PFD2/DU (6) FEEDBACK BUS INVALID	NA	DMC Label = 334/14	1/4	NA	1= INVALID
PFD2FO	CPT PFD/DU (1) VALID	NA	DMC (F/O) Label = 332/14	1/4	NA	1= VALID
PFD2MSG	CHECK PFD2 MSG ACTIVATED	NA	DMC Label = 334/24	1/4	NA	1= ACTIVE
PFD2OFF	F/O PFD/DU (6) OFF	NA	DMC Label = 330/21	1/4	1.000	1= OFF
PFD2V	F/O PFD/DU (6) VALID	NA	DMC (CAPT BUS) Label = 332/15	1/4	NA	1= VALID
PFDPCPTMONIT	PFD CAPTAIN NOT MONITORED	NA	DMC Label = 051/24	1/4	NA	1= NOT MONITORED

PGPSC	GPS PRIMARY CAPT SIDE	NA	FMGEC(FM) DMC Label = 055/28	1/1	NA	1= PRIMARY
PGPSF	GPS PRIMARY F/O SIDE	NA	FMGEC(FM) DMC Label = 055/28	1/1	NA	1= PRIMARY
PH	FLIGHT PHASE bits 25-29	NA	FWC Label = 126	1/1	NA	NA
PINBCKPSPDACT	PIN PROG BACKUP SPEED SCALE ACTIVATED	NA	DMC Label = 331/14	1/4	NA	1= ACTIVATED
PINPROG	PIN PROG TCAS STATUS	NA	TCAS DMC Label = 154/26	1/1	NA	1= TCAS ACTIVE
PLANC	PLAN MODE DISPLAYED ON ND CAPT (MATRIX 16)	NA	DMC Label = 214/26-28	1/4	NA	NA
PLANF	PLAN MODE DISPLAYED ON ND F/O (MATRIX 16)	NA	DMC Label = 214	1/4	NA	NA
PLAYBACKF	PLAYBACK FAIL	NA	FDIU	1/62	NA	NA
PRESS	CAB. PRESS PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
PREVENT	TCAS COMBINED CONTROL.PREVENTIVE. (MATRIX 7)	NA	TCAS DMC Label = 270/18-20	1/1	NA	NA
PRI1	POSITIVE ENG.1 RELIGHT INDICATION	NA	DMC Label = 046/25	1/1	NA	1= DISPLAYED
PRI2	POSITIVE ENG.2 RELIGHT INDICATION	NA	DMC Label = 046/26	1/1	NA	1= DISPLAYED
PROBEPB	PROBE WINDOW HEAT P/B	NA	6DGA SDAC Label = 001/25	1/2	NA	1= P/B ON
PROGID	RECORD VERSION (PROG IDENT) MATRIX	NA	FDIU Label =	1/62	NA	4= A330-GE 256W/S
PRV1	PRES.REG.VLV ENG.1 NOT FULLY CLOSED	NA	BMC DMC Label = 273/17	1/4	NA	1= NOT FULLY CLOSED
PRV2	PRES.REG.VLV ENG.2 NOT FULLY CLOSED	NA	BMC DMC Label = 273/17	1/4	NA	1= NOT FULLY CLOSED
PS31	PS3 Eng 1 bits 19-28	(PSI)	DEC(EEC or ECU) DMC Label = 2	1/1	1.000	NA
PS32	PS3 Eng 2 bits 19-28	(PSI)	DEC(EEC or ECU) DMC Label = 2	1/1	1.000	NA
PTCH	PITCH ATTITUDE bits20-27+29	(DA)	ADIRS(IRS) DMC Label = 324	4/1	0.352	>0= NOSE UP
PTCHW	WARNING PITCH DISCREPANCY	NA	FWC Label = 126/20	4/1	NA	1= WARNING
PVIC	PVI P/B ON (CPT SIDE)	NA	PVI SDAC Label = 006/16	1/1	NA	1= ON
PWSAC	PREDICTIVE WINDSHEAR AMBER CAUTION	NA	ATHER_RADAR DMC Label = 055	1/1	NA	1= WARNING
PWSEF	PREDICTIVE WINDSHEAR EXTERNAL FAILURE	NA	ATHER_RADAR DMC Label = 055	1/1	NA	1= FAILURE
PWSIF	PREDICTIVE WINDSHEAR INTERNAL FAILURE	NA	ATHER_RADAR DMC Label = 055	1/1	NA	1= FAILURE
PWSOFF	PREDICTIVE WINDSHEAR OFF	NA	ATHER_RADAR DMC Label = 055	1/1	1.000	1= OFF
PWSPP	PREDICTIVE WINDSHEAR PIN-PROG	NA	ATHER-RADAR DMC Label = 055	1/1	1.000	1= INSTALLED
PWSRW	PREDICTIVE WINDSHEAR RED WARNING	NA	ATHER_RADAR DMC Label = 055	1/1	NA	1= WARNING
PYLLEAK1	ENG.1 PYLON LEAK MEMORIZED	NA	BMC FWC Label = 100/11	1/2	NA	1= LEAK
PYLLEAK2	ENG.2 PYLON LEAK MEMORIZED	NA	BMC FWC Label = 100/12	1/2	NA	1= LEAK
QARF	QAR FAIL	NA	FDIU Label =	1/62	NA	NA
QARTAPELOW	QAR MEDIA LOW	NA	FDIU Label =	1/62	NA	NA
QARTRF	QAR TRANSMITTER FAIL	NA	FDIU Label =	1/62	NA	NA
QFEC	ALT. BARO QFE SEL.CAPTAIN	NA	DMC Label = 275/15	1/4	NA	1= IN QFE
QFEF	ALT. BARO QFE SEL.F/O	NA	DMC Label = 275/15	1/4	NA	1= IN QFE
QNH	ALT. BARO QNH SEL.CAPTAIN	NA	DMC Label = 275/14	1/4	NA	1= IN QNH
QNH	ALT. BARO QNH SEL.F/O	NA	DMC Label = 275/14	1/4	NA	1= IN QNH
RA2PFDC	RA2 SELECTED ON PFD (CAPT)	NA	DMC Label = 341/23	1/4	NA	1= SELECTED
RA2PFD	RA2 SELECTED ON PFD (F/O)	NA	DMC Label = 341/23	1/4	NA	1= SELECTED
RADCONT	RADAR OPERATING MODE ( CONTOUR ) MATRIX 13	NA	DMC Label = 016/27-29	1/4	NA	1= CONTOUR
RADMAP	RADAR OPERATING MODE ( MAP ) MATRIX 13	NA	DMC Label = 016/27-29	1/4	NA	1= MAP
RADSTBY	RADAR OPERATING MODE ( STANDBY ) MATRIX 13	NA	DMC Label = 016/27-29	1/4	NA	1= STANDBY
RADTEST	RADAR OPERATING MODE ( TEST ) MATRIX 13	NA	DMC Label = 016/27-29	1/4	NA	1= TEST
RADTURB	RADAR OPERATING MODE ( TURBULENCE ONLY ) MATRIX 13	NA	DMC Label = 016/27-29	1/4	NA	1= TURB. ONLY
RADWEAT	RADAR OPERATING MODE ( WEATHER ONLY ) MATRIX 13	NA	DMC Label = 016/27-29	1/4	NA	1= WEATHER ONLY
RADWSHR	RADAR OPERATING MODE (PREDICTIVE WINDSHEAR ONLY) MATRIX 13	NA	DMC Label = 016/27-29	1/4	NA	1= PREDICTIVE WINDSHEAR ONLY
RADWXTURB	RADAR OPERATING MODE ( WXR + TURB. ) MATRIX 13	NA	DMC Label = 016/27-29	1/4	NA	1= WXR + TURB.
RALT1	RADIO HEIGHT NO.1 SIGNED AND CORRECTED (-96 TO 4000 FT)	(FT)	RA DMC Label = 164	1/2	1.000	NA
RALT1+2	RADIO HEIGHT NO.1+2 SIGNED AND CORRECTED (-96 TO 4000 FT)	(FT)	RA DMC Label = 164	1/1	1.000	NA
RALT2	RADIO HEIGHT NO.2 SIGNED AND CORRECTED (-96 TO 4000 FT)	(FT)	RA DMC Label = 164	1/2	1.000	NA
RCTQLB	RCT FUEL QUANTITY bits 18-28	(LBS)	FCMC DMC Label = 317	1/62	64.000	NA
RCTV	RCT INSTALLED	NA	FCMC DMC Label = 313/13	1/62	NA	1= INSTALLED
REFSPD	REF SPEED GLOBAL Bits 21-28	(KT)	BSCU Label = 332	1/1	1.000	NA
RENGC	ENGINE DISPLAYED ON ND CAPT (MATRIX 16)	NA	DMC Label = 214/26-28	1/4	1.000	NA
RENGF	ENGINE DISPLAYED ON ND CAPT (MATRIX 16)	NA	DMC Label = 214/26-28	1/4	1.000	NA
RESIDUALP	EXCESS RESIDUAL CABIN PRESSURE	NA	FWC Label = 124/26	1/1	NA	1= RESIDUAL CABIN PRESSURE
REVSEL1	REVERSE MODE SELECTED ENG.1	NA	FADEC(ECU) DMC Label = 274/22	1/1	NA	1= SELECTED
REVSEL2	REVERSE MODE SELECTED ENG.2	NA	FADEC(ECU) DMC Label = 274/22	1/1	NA	1= SELECTED
RHGNUL	RH GEAR NOT UP LOCKED	NA	LGCIU FWC Label = 021/11	2/1	NA	1= NOT UP LOCKED
RHSQUAT	L/G RIGHT SQUAT SWITCH	NA	LGCIU FWC Label = 020/29	4/1	NA	1= ON GROUND
RHWGLEAK	RIGHT WING LEAK MEMORIZED	NA	BMC FWC Label = 100/20	1/2	NA	1= LEAK
RI3TQKG	RIGHT INNER 3 TANK FUEL QUANTITY	(KG)	FCMC DMC Label = 265	1/62	29.030	NA
RI3QLB	RIGHT INNER 3 TANK FUEL QUANTITY	(LBS)	FCMC DMC Label = 265	1/62	64.000	NA
RMaint100	TCAS ALTITUDE RATE TO MAINTAIN 100 FT/MN	NA	TCAS DMC Label = 270/11	1/1	NA	1= 100 FT/MN
RMaint1600	TCAS ALTITUDE RATE TO MAINTAIN 1600 FT/MN	NA	TCAS DMC Label = 270/15	1/1	NA	1= 1600 FT/MN
RMaint200	TCAS ALTITUDE RATE TO MAINTAIN 200 FT/MN	NA	TCAS DMC Label = 270/12	1/1	NA	1= 200 FT/MN
RMaint3200	TCAS ALTITUDE RATE TO MAINTAIN 3200 FT/MN	NA	TCAS DMC Label = 270/16	1/1	NA	1= 3200 FT/MN
RMaint400	TCAS ALTITUDE RATE TO MAINTAIN 400 FT/MN	NA	TCAS DMC Label = 270/13	1/1	NA	1= 400 FT/MN
RMaint800	TCAS ALTITUDE RATE TO MAINTAIN 800 FT/MN	NA	TCAS DMC Label = 270/14	1/1	NA	1= 800 FT/MN
RMaintSIGN	TCAS ALTITUDE RATE TO MAINTAIN SIGN	NA	TCAS DMC Label = 270/17	1/1	NA	1= 0=+
RNAV	ROSE NAV DISPLAYED ON ND CAPT (MATRIX 16)	NA	DMC Label = 214/26-28	1/4	NA	NA
RNAV	ROSE NAV DISPLAYED ON ND F/O (MATRIX 16)	NA	DMC Label = 214	1/4	NA	NA
RNPmen	RNP manually enabled	NA	EFHS Label = 55	1/1	NA	NA
ROLL	ROLL ATTITUDE bits20-28+29	(DA)	ADIRS(IRS) DMC Label = 325	2/1	0.352	>0= RH WING DOWN
ROLLOUT	ROLL OUT GREEN	NA	FMGEC(FG) DMC Label = 176/26	1/1	NA	1= ACTIVE
ROLLW	WARNING ROLL DISCREPANCY	NA	FWC Label = 126/19	2/1	NA	1= WARNING
ROTQKG	RIGHT OUTER TANK FUEL QUANTITY	(KG)	FCMC DMC Label = 306	1/62	29.030	NA
ROTQLB	RIGHT OUTER TANK FUEL QUANTITY	(LBS)	FCMC DMC Label = 306	1/62	64.000	NA

RUDCTLF	RUDDER NORN CONTROL FAULT	NA	FWC Label = 100/28	1/4	NA	1= FAULT
RUDD	RUDDER POSITION bits 18-26+29	(DA)	FCPC-FCSC FCDC Label = 312	2/1	0.088	>0= TURN LEFT
RUDDBSERVE	RUDDER BLUE SERVO ELECTRICAL FAILURE (fly by wire)	NA	FCPC-FCSC FCDC Label = 041/13	1/1	NA	1= AVAILABLE
RUDDBSERVJ	RUDDER BLUE SERVO JAMMED (if not enhanced parm. M17a02=0)	NA	FCDC Label = 045/24	1/4	NA	1= JAMMED
RUDDBSNA	RUDDER BLUE SERVO NOT AVAILABLE (if enhanced parm. M17a02=1)	NA	FCDC Label = 045/24	1/4	NA	1= NOT AVAILABLE
RUDDBV	RUDDER BLUE AVAILABILITY (if M17a02=1)	NA	FCPC-FCSC FCDC Label = 100/14	2/1	NA	1= AVAILABLE
RUDDGSERVE	RUDDER GREEN SERVO ELECTRICAL FAILURE (fly by wire)	NA	FCPC-FCSC FCDC Label = 041/14	1/1	NA	1= AVAILABLE
RUDDGSERVJ	RUDDER GREEN SERVO JAMMED (if not enhanced parm. M17a02=0)	NA	FCDC Label = 045/25	1/4	NA	1= JAMMED
RUDDGSNA	RUDDER GREEN SERVO NOT AVAILABLE (if enhanced parm. M17a02=1)	NA	FCDC Label = 045/26	1/4	NA	1= NOT AVAILABLE )
RUDDGV	RUDDER GREEN AVAILABILITY (if M17a02=1)	NA	FCPC-FCSC FCDC Label = 100/15	2/1	NA	1= AVAILABLE
RUDDYSERVJ	RUDDER YELLOW SERVO JAMMED (if not enhanced parm. M17a02=0)	NA	FCDC Label = 045/26	1/4	NA	1= JAMMED
RUDDYSNA	RUDDER YELLOW SERVO NOT AVAILABLE (if enhanced parm. M17a02=1)	NA	FCDC Label = 045/25	1/4	NA	1= NOT AVAILABLE
RUDDYV	RUDDER YELLOW AVAILABILITY (if M17a02=1)	NA	FCPC-FCSC FCDC Label = 100/16	2/1	NA	1= AVAILABLE
RUDP	DER PEDAL POSITION bits 18-26+29 (M14a01:non fly by wire/M14b01:fly by	(DA)	FCPC-FCSC FCDC Label = 304	2/1	0.088	>0= LEFT=
RUDPF	RUDDER PEDAL INPUT FORCES bits 20-28+29	(DA)	FCDC Label = 030	1/1	4.000	
RUDT	YAW TRIM POSITION (INDICATOR) bits 18-28+29	(DA)	FCSC FCDC Label = 313	1/1	0.088	>0= TURN LEFT
RUDT1V	RUDDER TRIM ACTUATOR 1 AVAILABILITY	NA	FCSC FCDC Label = 044/24	1/1	NA	0= AVAILABLE 1= NOT AVAILABLE
RUDT2V	RUDDER TRIM ACTUATOR 2 AVAILABILITY	NA	FCSC FCDC Label = 044/25	1/1	NA	0= AVAILABLE 1= NOT AVAILABLE
RUDTW	RUDDER TRIM	NA	FWC Label = 124/19	1/1	NA	1= WARNING
RUDYSEF	Rudder Yellow servo electrical failure	NA	FCDC Label = 41/	1/1	NA	1=
RVORC	ROSE VOR/ILS DISPLAYED ON ND CAPT (MATRIX 16)	NA	DMC Label = 214/26-28	1/4	NA	NA
RVORF	ROSE VOR/ILS DISPLAYED ON ND F/O (MATRIX 16)	NA	DMC Label = 214	1/4	NA	NA
RWSPARE10	RED WARNING : SPARE 10	NA	FWC Label = 124/	1/1	NA	1=
RWSPARE11	RED WARNING : SPARE 11	NA	FWC Label = 124/	1/1	NA	1=
RWSPARE12	RED WARNING : SPARE 12	NA	FWC Label = 124/	1/1	NA	1=
RWSPARE13	RED WARNING : SPARE 13	NA	FWC Label = 124/	1/1	NA	1=
RWSPARE14	RED WARNING : SPARE 14	NA	FWC Label = 124/	1/1	NA	1=
RWSPARE15	RED WARNING : SPARE 15	NA	FWC Label = 124/	1/1	NA	1=
RWSPARE16	RED WARNING : SPARE 16	NA	FWC Label = 124/	1/1	NA	1=
RWSPARE17	RED WARNING : SPARE 17	NA	FWC Label = 124/	1/1	NA	1=
RWSPARE18	RED WARNING : SPARE 18	NA	FWC Label = 124/	1/1	NA	1=
RWSPARE19	RED WARNING : SPARE 19	NA	FWC Label = 124/	1/1	NA	1=
RWSPARE7	RED WARNING : SPARE 7	NA	FWC Label = 101/17	1/1	NA	1= WARNING
RWSPARE8	RED WARNING : SPARE 8	NA	FWC Label = 124/	1/1	NA	1=
RWSPARE9	RED WARNING : SPARE 9	NA	FWC Label = 124/	1/1	NA	1=
RWYLOCD	FMA LATERAL MODE RWY DISPLAYED	NA	FMGEC DMC Label = 152	1/1	NA	NA
RWYTRKD	FMA LATERAL MODE RWY TRACK DISPLAYED	NA	FMGEC DMC Label = 152	1/1	NA	NA
SALTFCU	SELECTED ALTITUDE bits 19-28	(FT)	FCU/FG Label = 102	1/1	64.000	NA
SAT	STATIC AIR TEMPERATURE bits 18-26+29	(DC)	DIRS(ADC) DMC or FWC Label = 2	1/1	0.250	NA
SAV1F	ENG.1 STARTER AIR/V FAIL OPEN	NA	BMC FWC Label = 276/28	1/2	NA	1= FAILED
SAV2F	ENG.2 STARTER AIR/V FAIL OPEN	NA	BMC FWC Label = 276/28	1/2	NA	1= FAILED
SBAROC	SELECTED BARO SETTING CAPTAIN Bits 15-26	(MB)	ADIRS DMC Label = 234	1/4	NA	NA
SBAROF	SELECTED BARO SETTING FIRST-OFFICER Bits 15-26	(MB)	ADIRS DMC Label = 234	1/4	NA	NA
SBC	SPEED BRAKE COMMANDED	NA	FCPC FCDC Label = 043/29	2/1	NA	1= COMMANDED
SBNR	SPEED BRAKES NOT RETRACTED	NA	FWC Label = 124/18	1/1	NA	1= NOT RETRACTED
SCASAPPS	APPROACH SPEED TARGET (MATRIX 11)	NA	FCU/FG DMC Label = 274/21-22	1/1	NA	NA
SCASFCUS	SELECTED SPEED ORIGINE.FROM FCU. (MATRIX 11)	NA	FCU/FG DMC Label = 274/21-22	1/1	NA	NA
SCASFGS	SELECTED SPEED ORIGINE.FROM FG. (MATRIX 11)	NA	FCU/FG DMC Label = 274/21-22	1/1	NA	NA
SCASFPD	SELECTED SPEED DISPLAYED bits 20-28	(KT)	FCU/FG DMC Label = 103	1/1	1.000	NA
SCRSV1	SELECTED COURSE VOR.1 bits 20-28+29	(DA)	VOR DMC Label = 100	1/1	0.352	NA
SCRSV2	SELECTED COURSE VOR.2 bits 20-28+29	(DA)	VOR DMC Label = 100	1/1	0.352	NA
SDAC11F	SDAC.1-1 FAIL	NA	DMC Label = 362/26	1/4	NA	1= FAULT
SDAC12F	SDAC.1-2 FAIL	NA	DMC Label = 362/27	1/4	NA	1= FAULT
SDAC1V	SDAC1 VALID	NA	FWC Label = 126/11	1/4	NA	1= VALID
SDAC21F	SDAC.2-1 FAIL	NA	DMC Label = 362/28	1/4	NA	1= FAULT
SDAC22F	SDAC.2-2 FAIL	NA	DMC Label = 362/29	1/4	NA	1= FAULT
SDAC2V	SDAC2 VALID	NA	FWC Label = 126/12	1/4	NA	1= VALID
SDIMEWDD	SD IMAGE ON EWD/DU	NA	DMC Label = 313/25	1/4	NA	1= ON EWD-DU
SDIMND1D	SD IMAGE ON CAPT/ND DU	NA	DMC Label = 313/27	1/4	NA	1= ON CAPT-DU
SDIMND2D	SD IMAGE ON F/O/ND	NA	DMC Label = 313/28	1/4	NA	1= ON F/O DU
SDIMSDD	SD IMAGE ON SD/DU	NA	DMC Label = 313/26	1/4	NA	1= ON SD-DU
SDINV	SD FEEDBACK BUS INVALID (DU4)	NA	DMC Label = 314/14	1/4	NA	1= INVALID
SDMSG	CHECK SD MSG ACTIVATED	NA	DMC Label = 334/18	1/4	NA	1= ACTIVE
SDOFF	SD/DU OFF	NA	DMC Label = 314/20	1/4	NA	1= OFF
SDUCHN1	SATCOM SDU CHANNEL.1	NA	SDU FWC Label = 372/26	1/1	NA	1= COMM.THROUGH CHAN.1
SDUCHN2	SATCOM SDU CHANNEL.2	NA	SDU FWC Label = 372/27	1/1	NA	1= COMM.THROUGH CHAN.2
SFCTR_116_1	NA	NA	NA	1/4	NA	NA
SFLP	SLAT-FLAP LEVER POSITION (MATRIX 21)	(NOTCH)	SFCC FWC Label = 137/11-15	1/1	NA	NA
SFPA	SELECTED FLIGHT PATH ANGLE bits 18-24+29	(DA)	FCU Label = 115	1/1	0.088	>0=UP
SHDG	SELECTED HEADING bits 21-28+29	(DA)	FCU DMC Label = 101	1/1	0.703	NA
SIC	SIC CLOSED	NA	ECMU SDAC Label = 055/14	1/4	NA	1= CLOSED
SLAT	SLAT SURFACE ANGLE bits 21-27	(DA)	SFCC/FWC DMC Label = 124	1/1	0.250	NA
SLDGANT1	SELECT LANDING ANTENNA.1	NA	MMR DMC Label = 271/20	1/2	NA	1= ACTIVE
SLDGANT2	SELECT LANDING ANTENNA.2	NA	MMR DMC Label = 271/20	1/2	NA	1= ACTIVE
SLT1F	SLAT 1 FAULT	NA	SDAC Label = 006/28	1/4	NA	1= FAULT
SLT2F	SLAT 2 FAULT	NA	SDAC Label = 006/28	1/4	NA	1= FAULT
SLTLOCK	SLAT LOCKED	NA	SFCC/FWC DMC Label = 46/12	1/1	NA	1= LOCKED



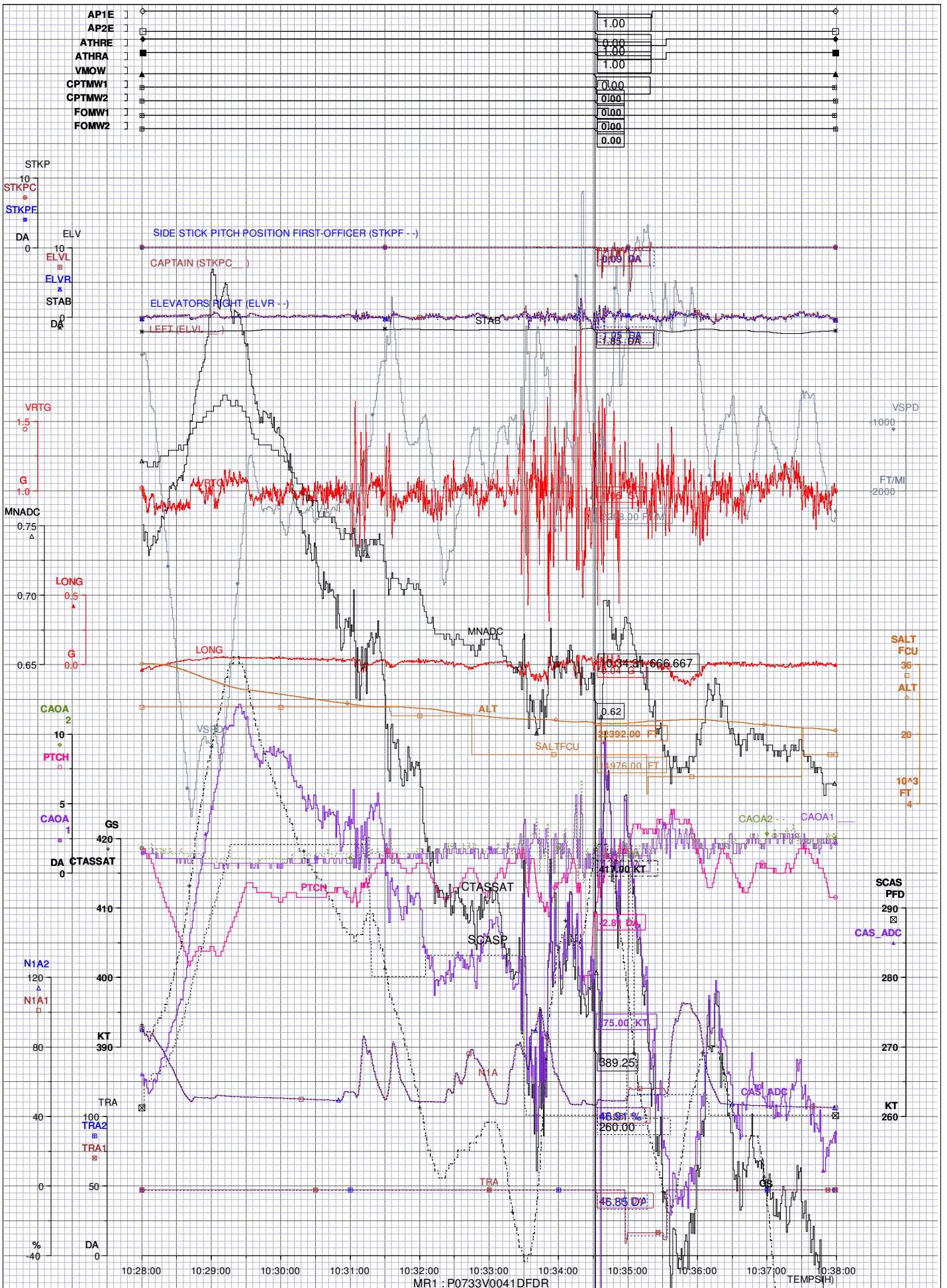




VHF3	V.H.F.3 MANUAL RADIO TRANSMITTER	NA	VHF3 SDAC Label = 005/16	1/1	NA	1= TRANSMITTING
VIDCLEARC	CAPT VIDEO CLEAR	NA	HUD FWC Label = 065/18	1/4	NA	1= CLEARED
VIDCLEARF	F/O VIDEO CLEAR	NA	HUD FWC Label = 065/18	1/4	NA	1= CLEARED
VIDEO	VIDEO PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
VIDEOOFFC	CAPT VIDEO OFF	NA	HUD FWC Label = 065/17	1/4	NA	1= OFF
VIDEOOFFF	F/O VIDEO OFF	NA	HUD FWC Label = 065/17	1/4	NA	1= OFF
VIDFORPFD1	VIDEO DISCRETE FOR PFD1	NA	TACS Label = 333/11	1/4	NA	1= ACTIVE
VIDFORPFD2	VIDEO DISCRETE FOR PFD2	NA	TACS Label = 333/12	1/4	NA	1= ACTIVE
VIDFORSD	TACS SELECTION ON SD	NA	TACS Label = 333/13	1/4	NA	1= TACS SELECTED
VIDNOTAVAIL	"VIDEO NOT AVAIL" MESSAGE DISPLAYED ON SD	NA	DMC Label = 333/25	1/4	NA	1= MESSAGE DISPLAYED ON SD
VIDONPFD1	VIDEO ON PFD1	NA	TACS Label = 333/28	1/4	NA	1= ACTIVE
VIDONPFD2	VIDEO ON PFD2	NA	TACS Label = 333/27	1/4	NA	1= ACTIVE
VIDONSD	VIDEO AUTHORIZED ON SD	NA	TACS Label = 333/26	1/4	NA	1= AUTHORIZED ON SD
VIDSPARE1ONSD	VIDEO SPARE N°1 SELECTION ON SD	NA	DMC Label = 333/17	1/4	NA	1= SELECTED
VIDSPARE2ONSD	VIDEO SPARE N°2 SELECTION ON SD	NA	DMC Label = 333/18	1/4	NA	1= SELECTED
VIDSPARE3ONSD	VIDEO SPARE N°3 SELECTION ON SD	NA	DMC Label = 333/19	1/4	NA	1= SELECTED
VLEW	VLE OVERSPEED	NA	FWC Label = 126/18	1/1	NA	1= WARNING
VMOW	VMO/MMO OVERSPEED	NA	FWC Label = 126/26	1/1	NA	1= OVERSPEED
VOR1BG	VOR.1 BEARING bits 20-28+29	(DA)	VOR1 DMC Label = 222	1/1	0.352	NA
VOR2BG	VOR.2 BEARING bits 20-28+29	(DA)	VOR2 DMC Label = 222	1/1	0.352	NA
VORF1	VOR1 FREQUENCY bits 15+19-27	(MHZ)	VOR1 DMC Label = 034	NA	0.050	NA
VORF2	VOR2 FREQUENCY ELAB. bits 15+19-27	(MHZ)	VOR DMC Label = 034	NA	0.050	NA
VPATHNONE	A/P-A/THR SUB MODE NONE	NA	FMGEC(FG) DMC Label = 145/12	1/1	NA	NA
VPATHSPD	A/P-A/THR SUB MODE VERT.PATH/SPEED	NA	FMGEC(FG) DMC Label = 145/12	1/1	NA	NA
VPATHTHR	A/P-A/THR SUB MODE VERT.PATH/THRUST	NA	FMGEC(FG) DMC Label = 145/13	1/1	NA	NA
VRTG	NORMAL ACCELERATION bits 18-28+29	(G)	LA SDAC Label = 333	8/1	0.004	>0= UP
VRTGCHK	NORM ACCEL. CHECK NOT RUN	NA	FDIU	1/62	NA	NA
VRTGCHKF	NORM ACCEL. CHECK FAIL	NA	FDIU	1/62	NA	NA
VSD	FMA LONGI. MODE V/S DISPLAYED	NA	FMGEC DMC Label = 153	1/1	NA	NA
VSPD	VERTICAL SPEED bits 18-27+29	NA	IR or ADR DMC Label = 365	1/1	16.000	NA
VSS	VERTICAL SPEED SELECTED FROM ADR	NA	IR/ADR DMC Label = 341	1/1	NA	1= ADR 0=IR
VSSPD	A/P-A/THR SUB MODE V/S/SPEED	NA	FMGEC(FG) DMC Label = 145/14	1/1	NA	NA
WAION	WING ANTI-ICE SYSTEM ON	NA	5DL SDAC Label = 001/24	1/2	NA	1= SYSTEM ON
WAISEL	WING ANTI-ICE SYSTEM SELECT ON	NA	3DLA SDAC Label = 001/23	1/2	NA	1= SELECT ON
WAIVLI	WING A-I LH INNER VALVE CLOSED	NA	SDAC Label = 001/26	1/2	NA	1= CLOSED
WAIVLO	WING A-I LH OUTER VALVE CLOSED	NA	SDAC Label = 001/28	1/2	NA	1= CLOSED
WAIVRI	WING A-I RH INNER VALVE CLOSED	NA	SDAC Label = 001/27	1/2	NA	1= CLOSED
WAIVRO	WING A-I RH OUTER VALVE CLOSED	NA	SDAC Label = 001/29	1/2	NA	1= CLOSED
WD	WIND DIRECTION TRUE bits 21-28+29	(DA)	ADIRS(IRS) DMC Label = 316	1/1	0.703	NA
WHC1F	FAULT DETECTED ON WHC1 *** VALID IF M72a16=1 ***	NA	WHC1 SDAC Label = 013/15	1/2	NA	1= FAULT
WHC2F	FAULT DETECTED ON WHC2 *** VALID IF M72a16=1 ***	NA	WHC2 SDAC Label = 005/16	1/2	NA	1= FAULT
WHEEL	WHEEL PAGE SELECTED (MATRIX 17)	NA	DMC Label = 251/24-28	1/4	NA	1= SELECTED
WHLSPD1	WHEEL SPEED.1 Bits 21-28	(KT)	BSCU Label = 320	1/4	1.000	NA
WHLSPD2	WHEEL SPEED.2 Bits 21-28	(KT)	BSCU Label = 321	1/4	1.000	NA
WHLSPD3	WHEEL SPEED.3 Bits 21-28	(KT)	BSCU Label = 322	1/4	1.000	NA
WHLSPD4	WHEEL SPEED.4 Bits 21-28	(KT)	BSCU Label = 323	1/4	1.000	NA
WHLSPD5	WHEEL SPEED.5 Bits 21-28	(KT)	BSCU Label = 324	1/4	1.000	NA
WHLSPD6	WHEEL SPEED.6 Bits 21-28	(KT)	BSCU Label = 325	1/4	1.000	NA
WHLSPD7	WHEEL SPEED.7 Bits 21-28	(KT)	BSCU Label = 326	1/4	1.000	NA
WHLSPD8	WHEEL SPEED.8 Bits 21-28	(KT)	BSCU Label = 327	1/4	1.000	NA
WS	WIND SPEED bits 21-28	(KT)	ADIRS(IRS) DMC Label = 315	1/1	1.000	NA
WSHRW	WARNING WINDSHEAR	NA	FWC Label = 126/18	1/1	NA	1= WARNING
WXRNDCF	WXR DU ND CAPTAIN FAIL	NA	DMC Label = 363/26	1/4	NA	1= FAULT
WXRNDFF	WXR DU ND FIRST-OFFICER FAIL	NA	DMC Label = 363/27	1/4	NA	1= FAULT
WXRPFDCF	WXR DU PFD CAPTAIN FAIL	NA	DMC Label = 363/25	1/4	NA	1= FAULT
WXRPFDF	WXR DU PFD FIRST-OFFICER FAIL	NA	DMC Label = 363/28	1/4	NA	1= FAULT
XBV	X BLEED VALVE NOT FULLY CLOSED	NA	BMC SDAC Label = 040/16	1/2	NA	1= NOT FULLY CLOSED
YAWFD	YAW FD bits 18-26+29	(DA)	FMGEC(FG) DMC Label = 143	1/1	0.088	NA
YDGV	YAW DAMPER GREEN AVAILABLE (non fly by wire)	NA	FCPC-FCSC FCDC Label = 041/13	1/1	NA	1= AVAILABLE
YDO	YAW DAMPER ORDER bits 18-26+29 (non fly by wire)	(DA)	FCPC-FCSC FCDC Label = 021	2/1	0.088	>0= LEFT=
YDYV	YAW DAMPER YELLOW AVAILABLE (non fly by wire)	NA	FCPC-FCSC FCDC Label = 041/14	1/1	NA	1= AVAILABLE

## Annex N°4

### FDR data plots – Overall



A/C : A330- MSN 0733 FLIGHT No 0041 MR1 : P0733V0041DFDR

CG (%) 31.36  
 GWL (LBS) 347320  
 GWK (KG) 157542

### CRUISE(LONGITUDINAL AXIS)

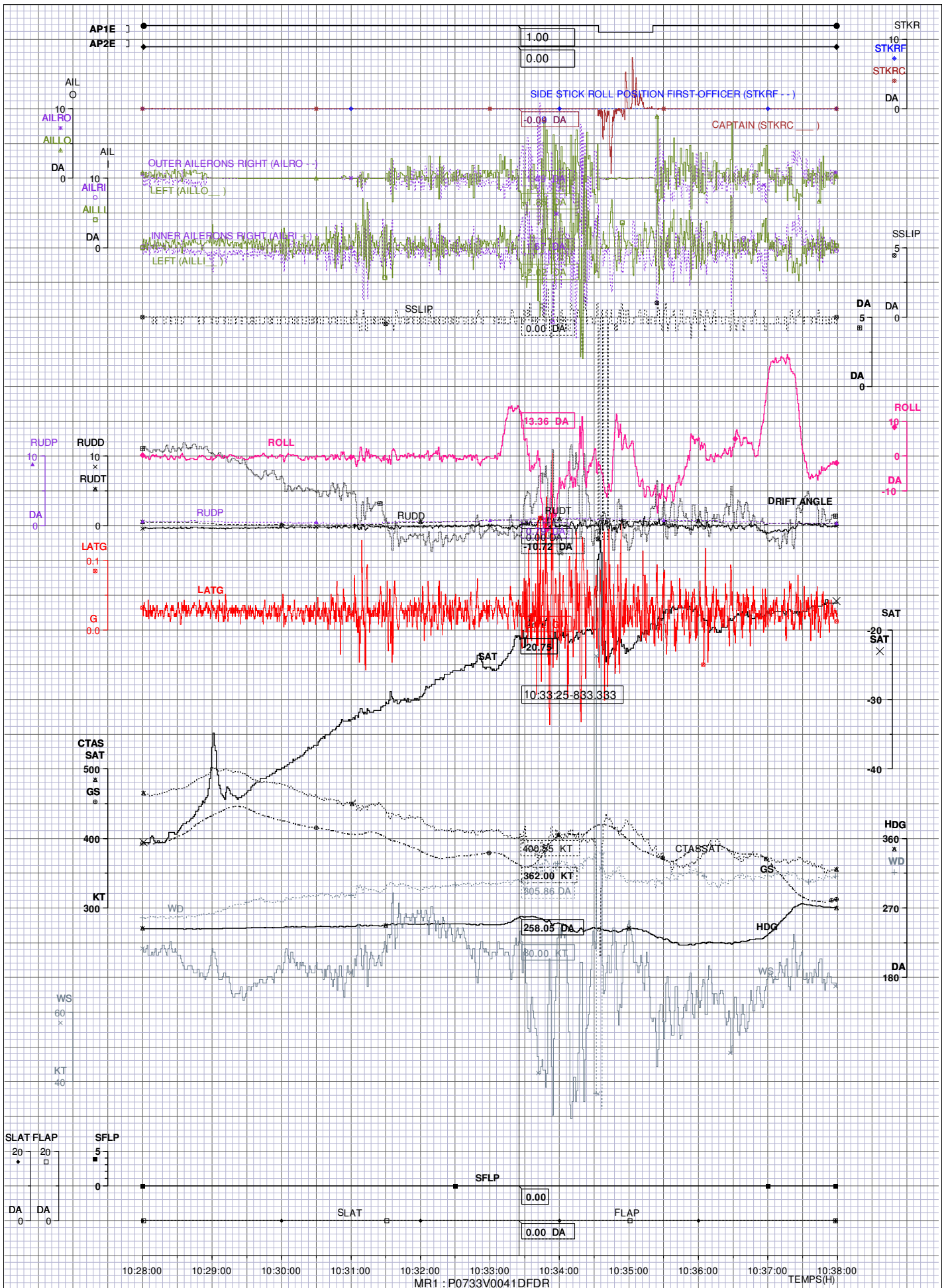
/workgroup/operation/dfdr/visage/bertille/2014/P0733V0041-Hailstorm/T1-cruise-longi.ilv




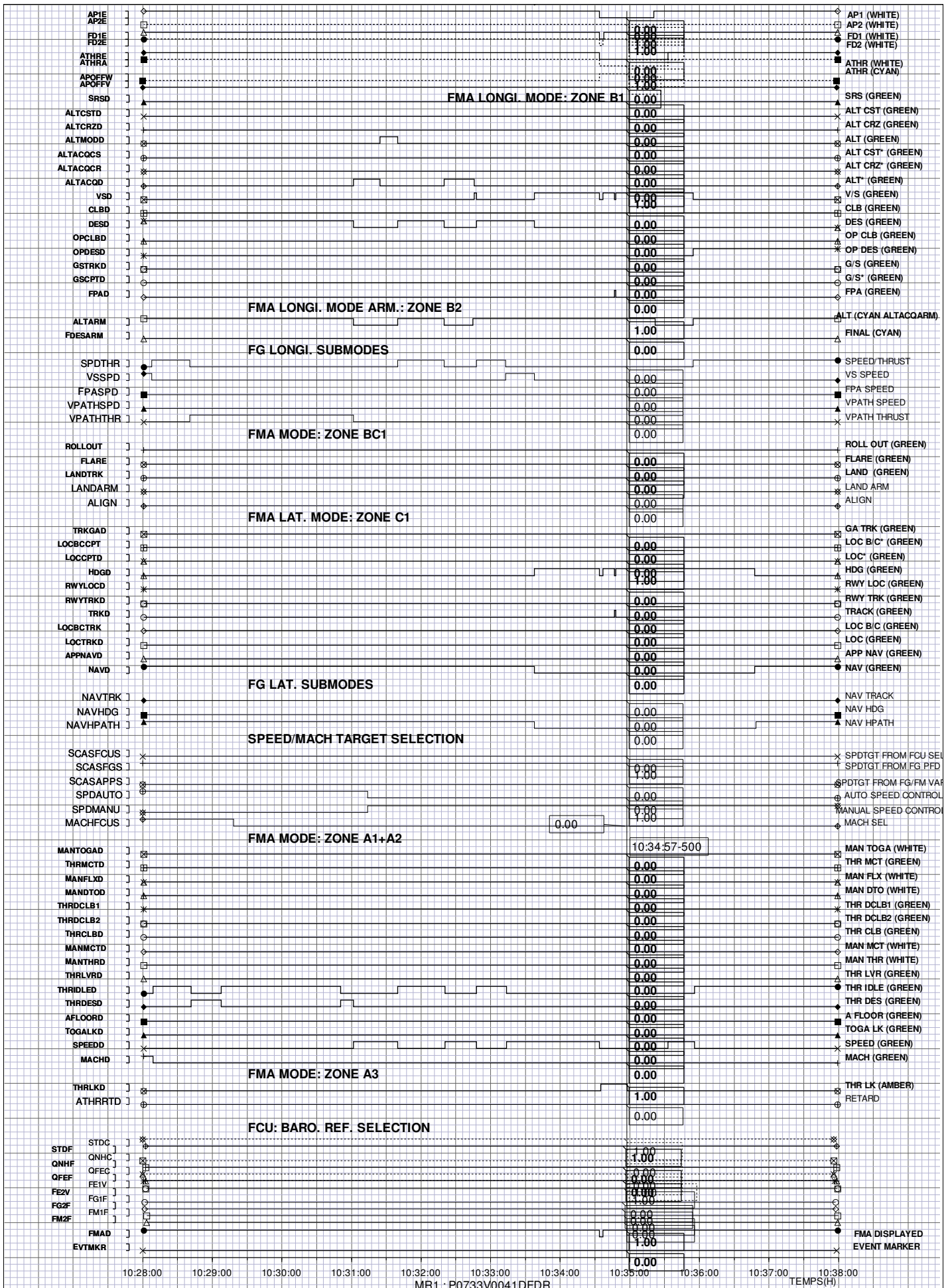
Edited : 8/10/2014

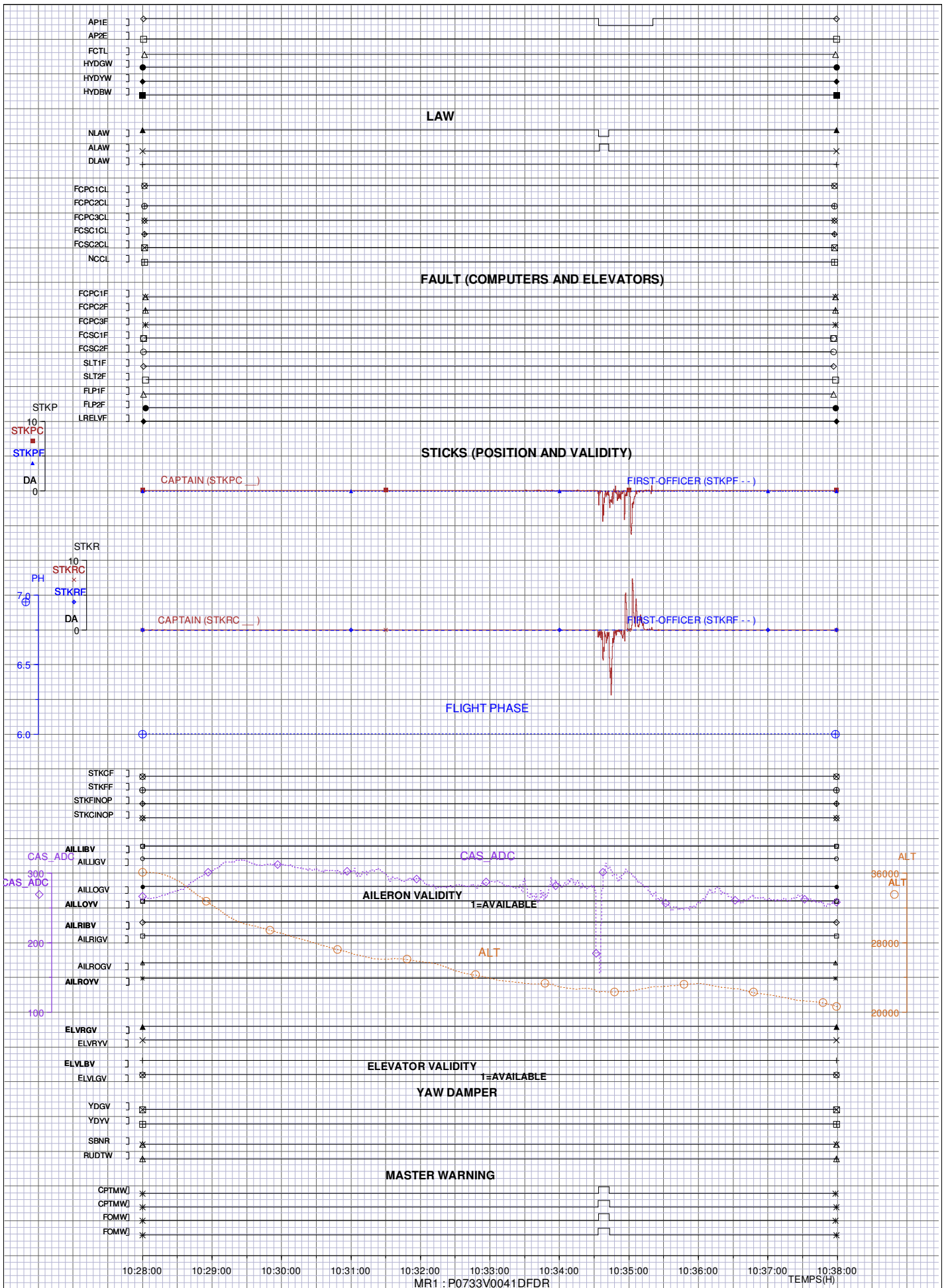
Figure

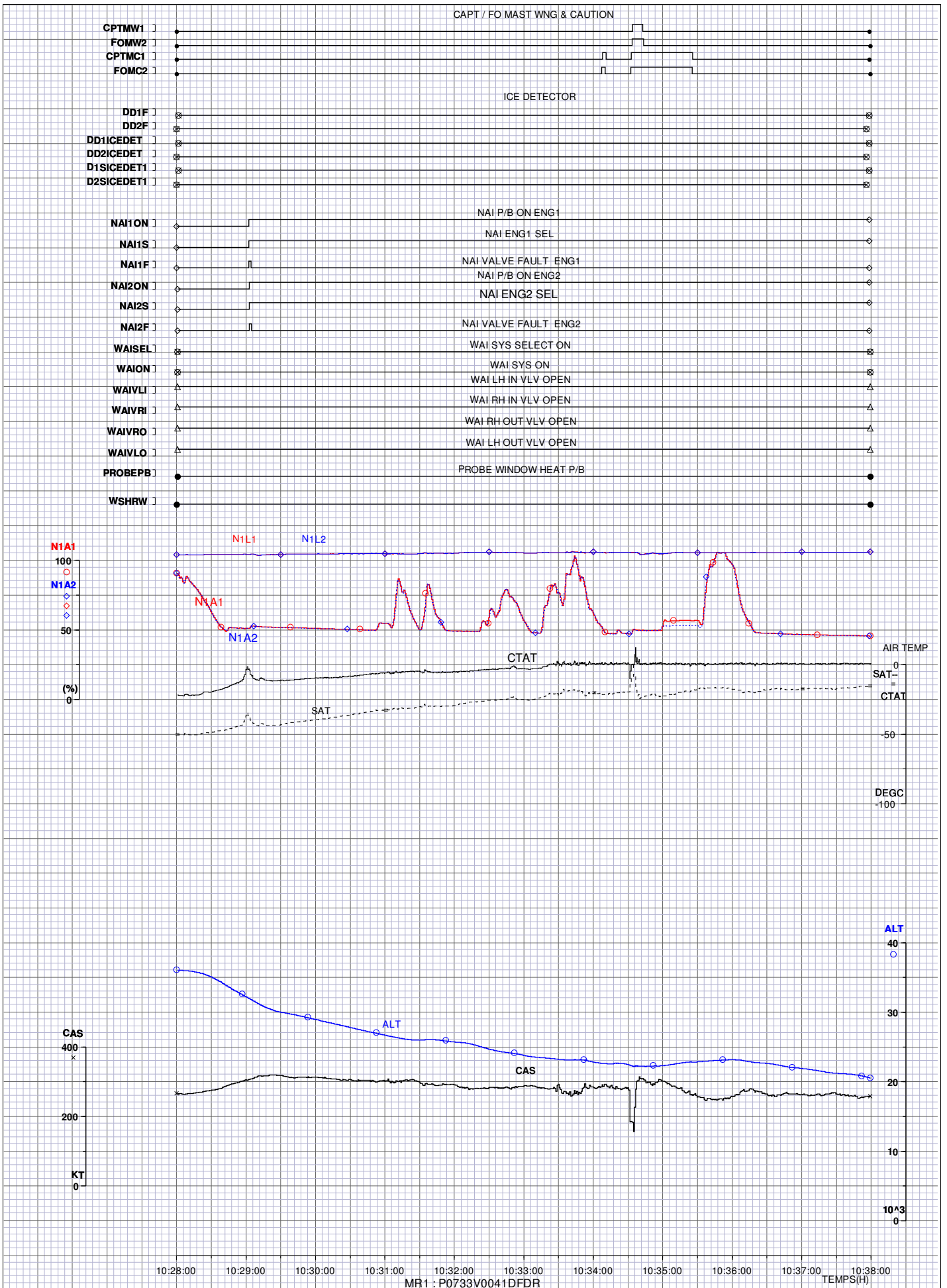
1.1.1




A/C : A330-		MSN 0733		FLIGHT No 0041		 <b>Flight and Integration Tests Centre</b>
<p style="text-align: center;"><b>CRUISE (LATERAL AXIS)</b></p>						
CG (%)	31.36	GWL (LBS)	347320	GWK (KG)	157542	
/workgroup/operation/dfdr/visage/source/dfdr/dfdr/LR/cruise_lat.ilv <p style="text-align: center; color: red;">Electronically validated - Released on 20 Oct 2014</p>						

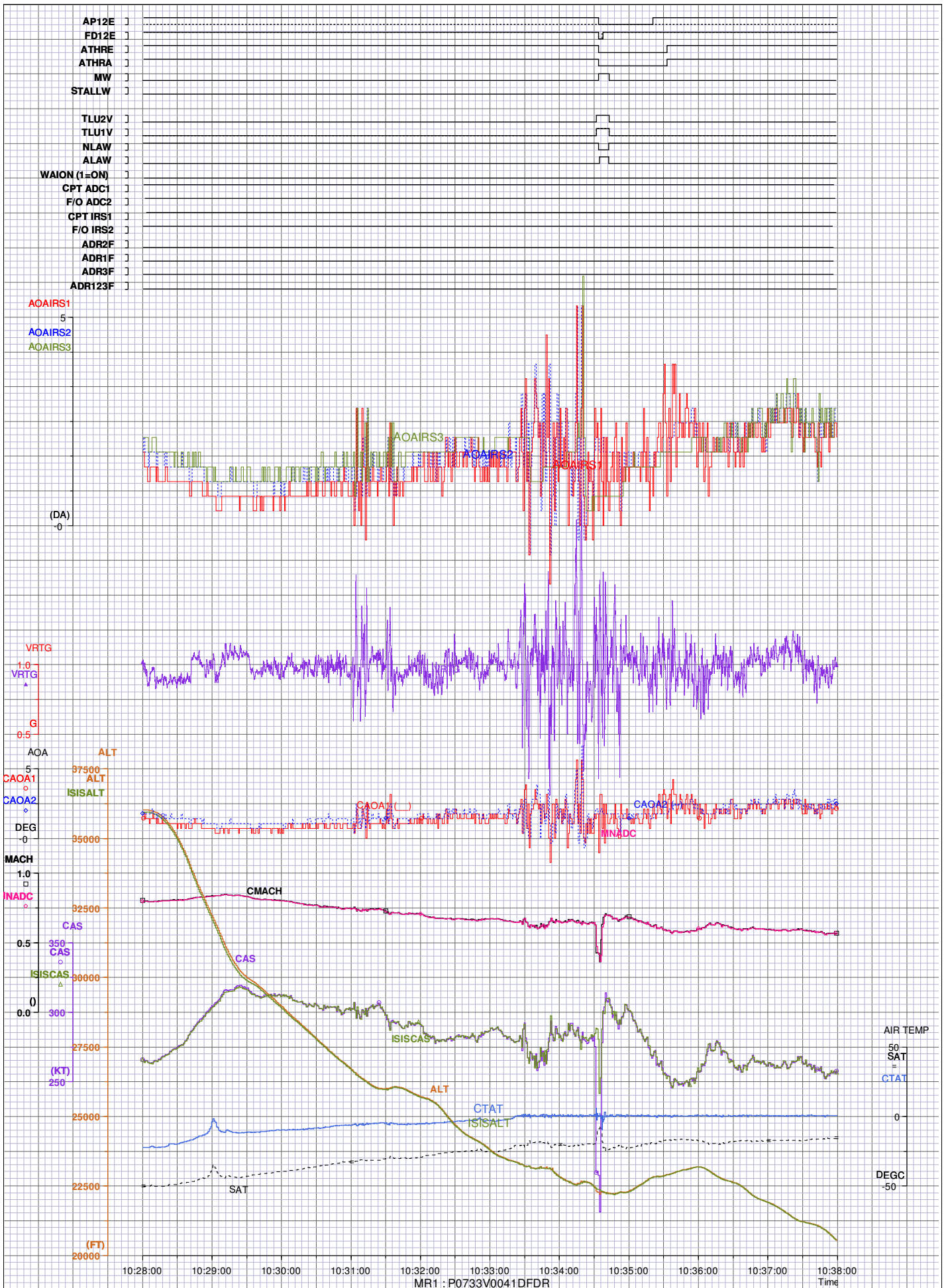




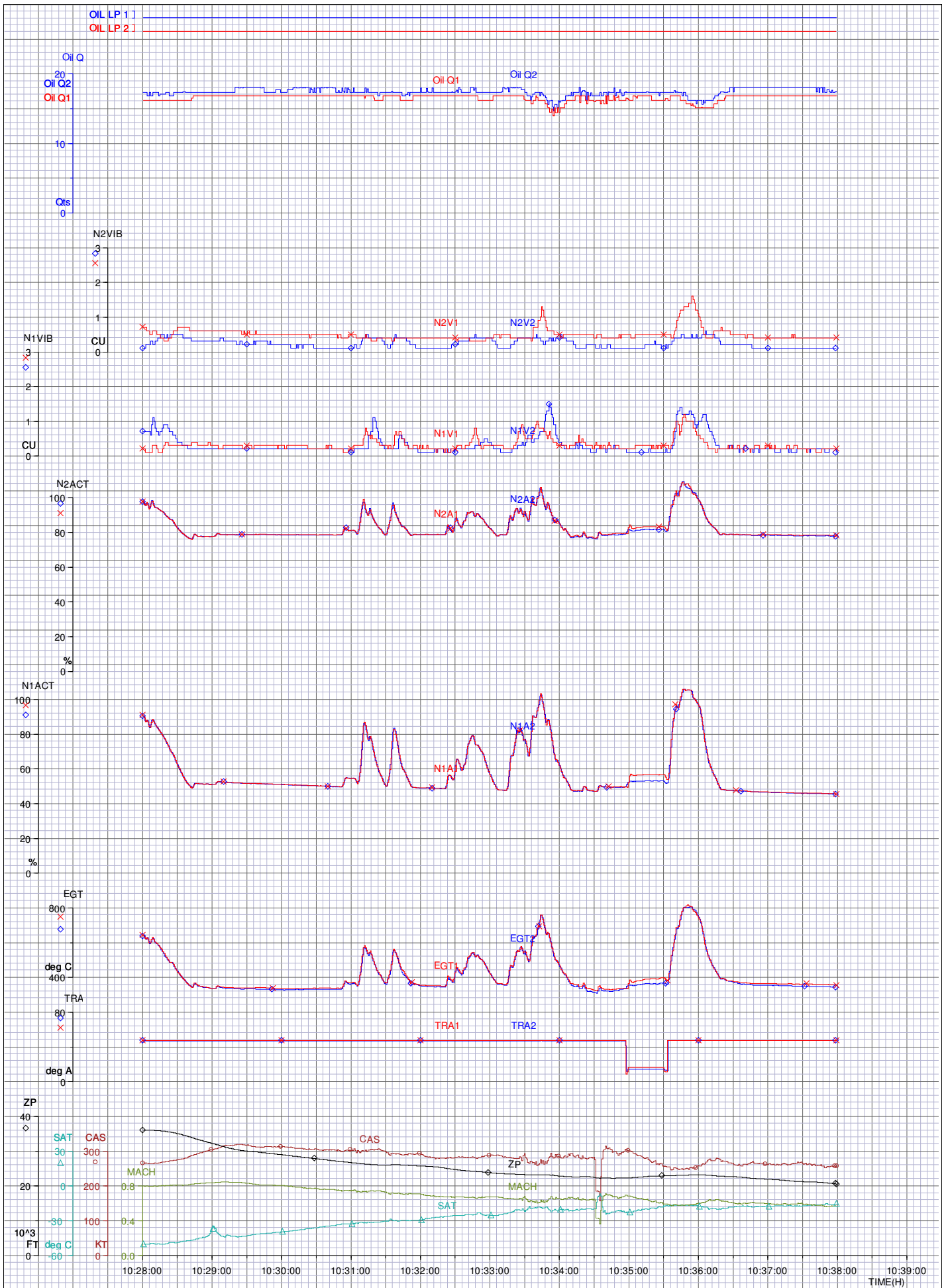


A/C : A330-	MSN 0733	FLIGHT No 0041	Immat : EC- J P F
Airline: X F	Type:	Flight: A EA 0 4 1	From: LEMD To: SAEZ
CG (%) 31.12	<b>ICE</b>		
WGT (kg) 347320.00			
OVERVIEW 376.41	<b>ICE</b>		 <b>Flight And Integration Tests Centre</b>
/workgroup/operation/dfdr/visage/source/dfdr/dfdr/LR/Ice.ilv			Edited : 8/10/2014      Figure 1.1.5



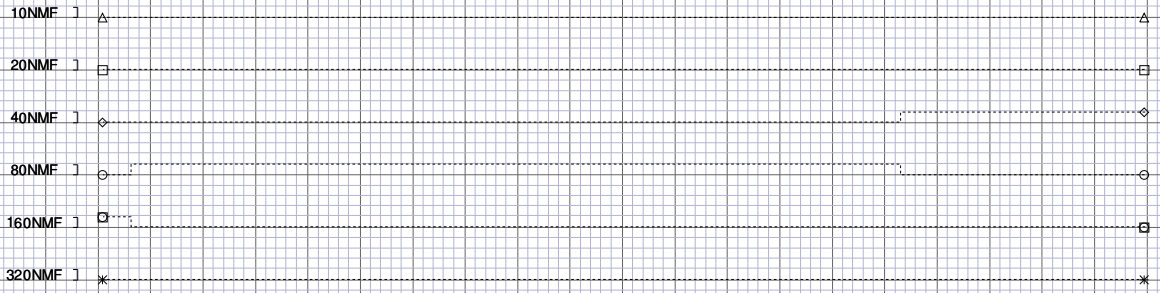


A/C : A330-		MSN 0733	FLIGHT No 0041	MR1 : P0733V0041DFDR	
CG (%) 31.4		<b>AIR DATA DISCREPANCY</b>			
WGT(LBS) 347320					
WGT(KG) 157542					
/workgroup/operation/dfdr/visage/bertille/2014/P0733V0041-Hailstorm/ADR-DISAGREE.ilv		 <b>Flight And Integration Tests Centre</b>		Edited : 8/10/2014      Figure 1.1.6	
Electronically validated - Released on 20 Oct 2014					

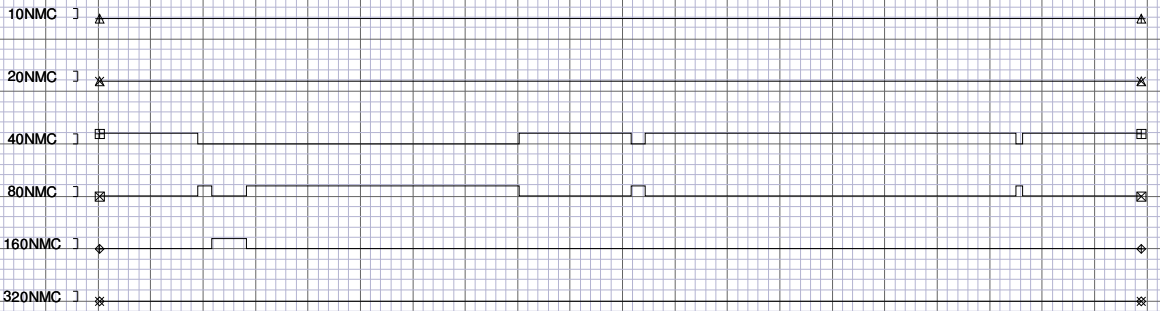


A/C : A330- MSN 0733 FLIGHT No 0041 MR1 : P0733V0041DFDR		<b>Flight And Integration Tests Centre</b>	
DFDR Data - A330 MSN 0486 - GE - Oil and Vibrations parameters		AT GMT START ZP = 35980 FT CAS = 266 KT MACH = 0.80 SAT = -50 DC	
<b>OVERVIEW</b>		<b>ENG 1</b> <b>ENG 2</b>	
/workgroup/operation/dfdr/visage/source/engs/Long_Range/GE/DFDR_plots/DFDR-LR-GE-VibrationMain-Eng12.ilv		Edited : 8/10/2014      Figure 1.1.7	

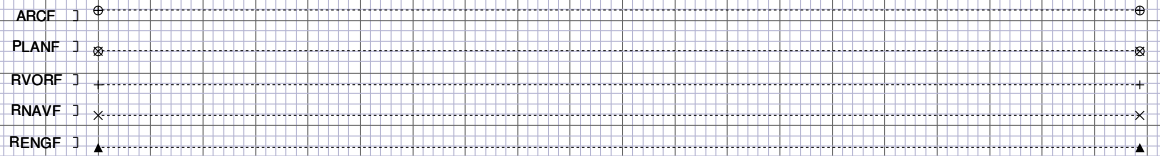
ND FIRST OFFICER RANGE



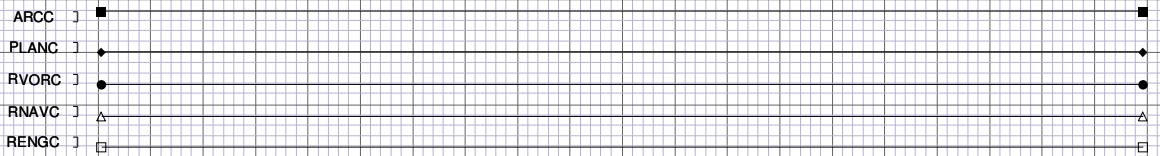
ND CAPTAIN RANGE



ND FIRST OFFICER MODE

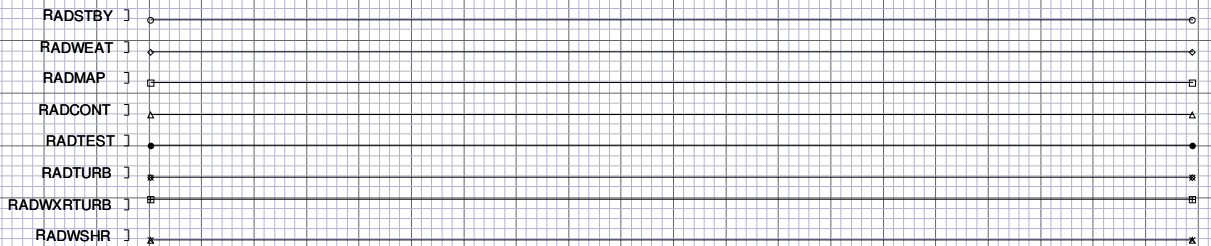


ND CAPTAIN MODE



RADAR OPERATING MODE

0=STBY, 1=WXR ONLY, 2=MAP, 3=CONTOUR, 4=TEST  
5=TURB ONLY, 6=WXR+TURB



10:28:00 10:29:00 10:30:00 10:31:00 10:32:00 10:33:00 10:34:00 10:35:00 10:36:00 10:37:00 10:38:00  
MR1 : P0733V0041 DFDR TEMPS(H)

A/C : A330- MSN 0733 FLIGHT No 0041



OVERVIEW

DMC\_MODE\_RANGE

Edited : 8/10/2014

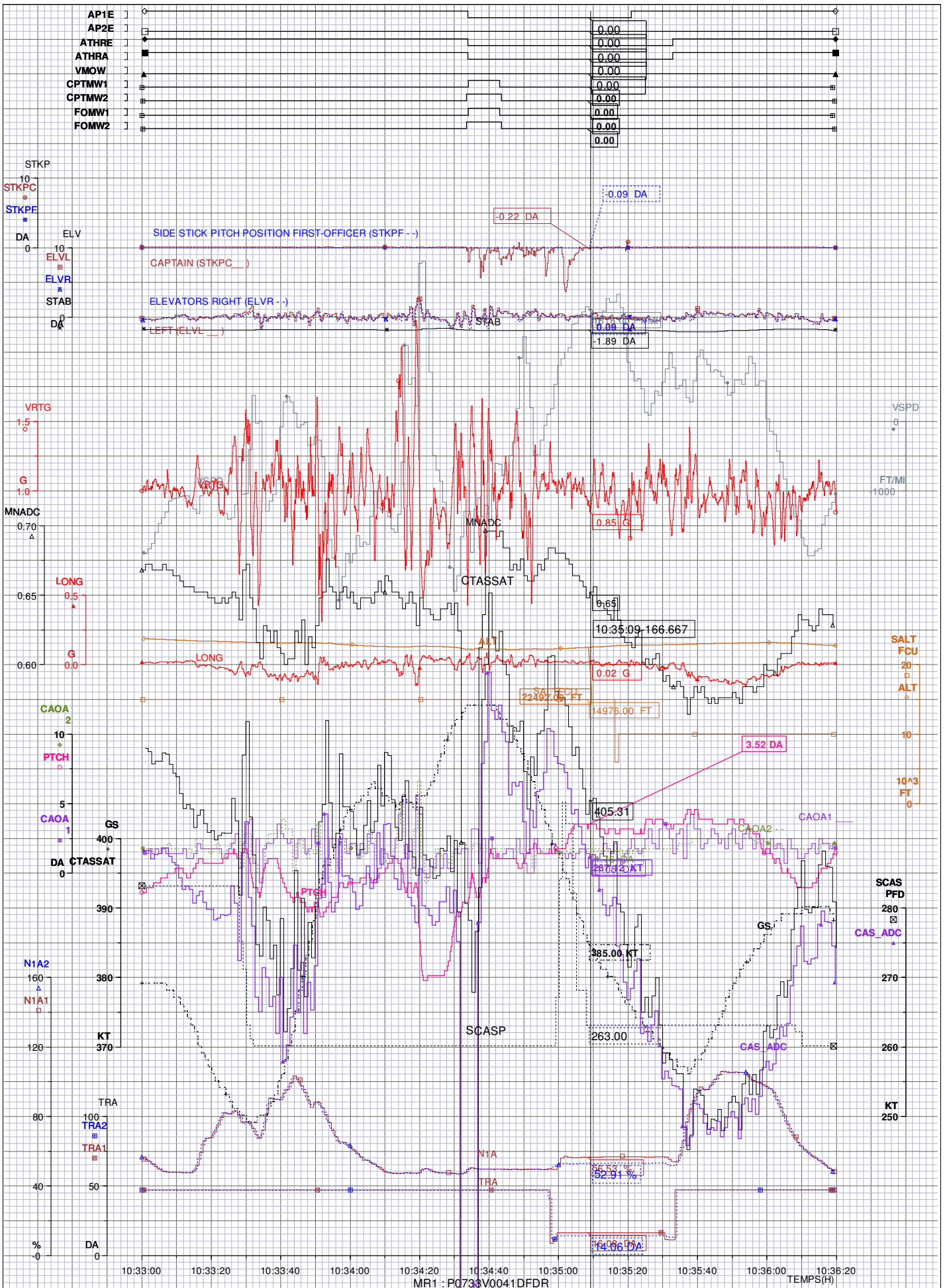
Figure

/workgroup/operation/dfdr/visage/source/dfdr/dfdr/LR/DMC\_mode\_range.ilv

1.1.8

## Annex N°5

### FDR data plots – Zoom

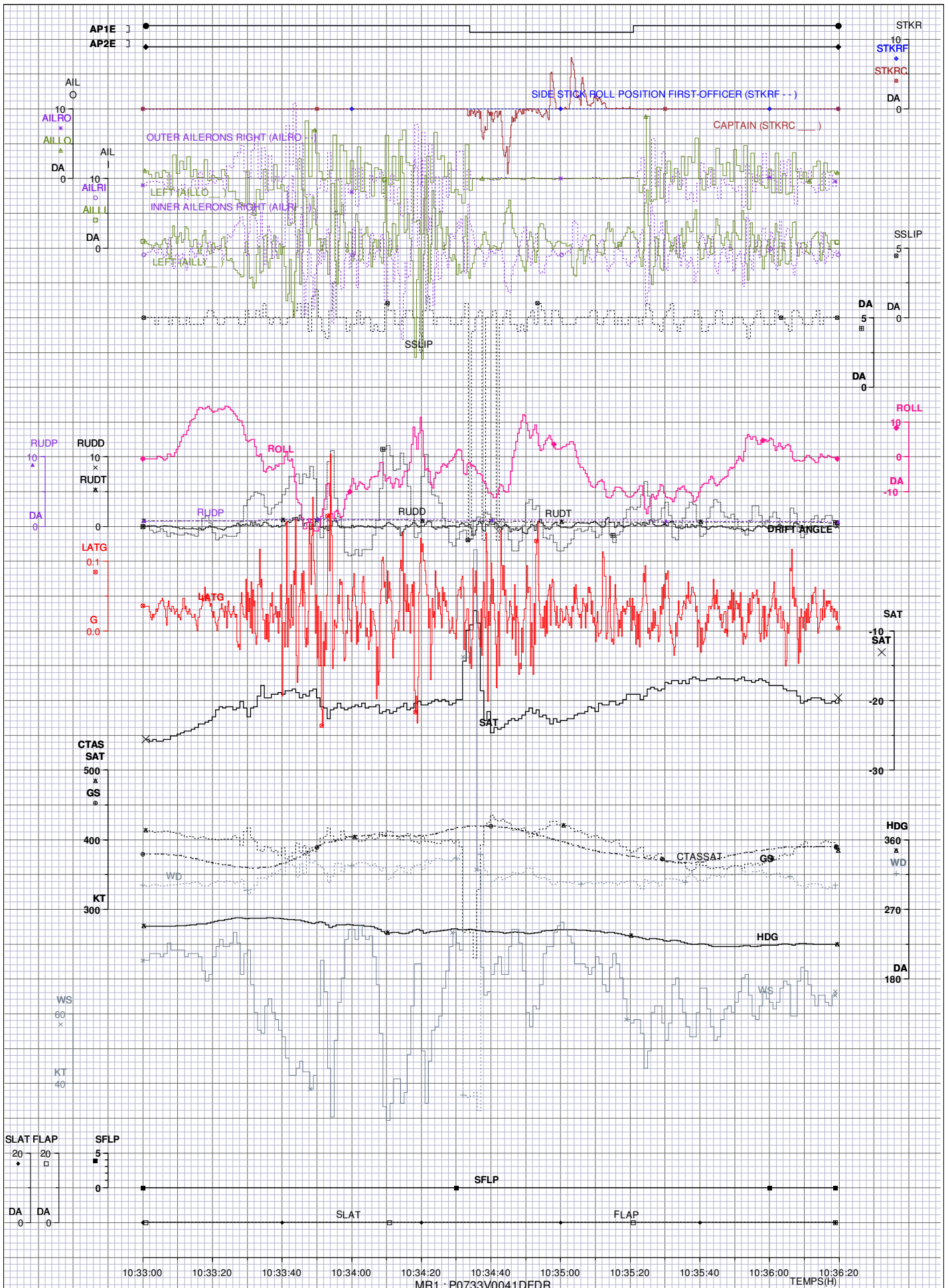


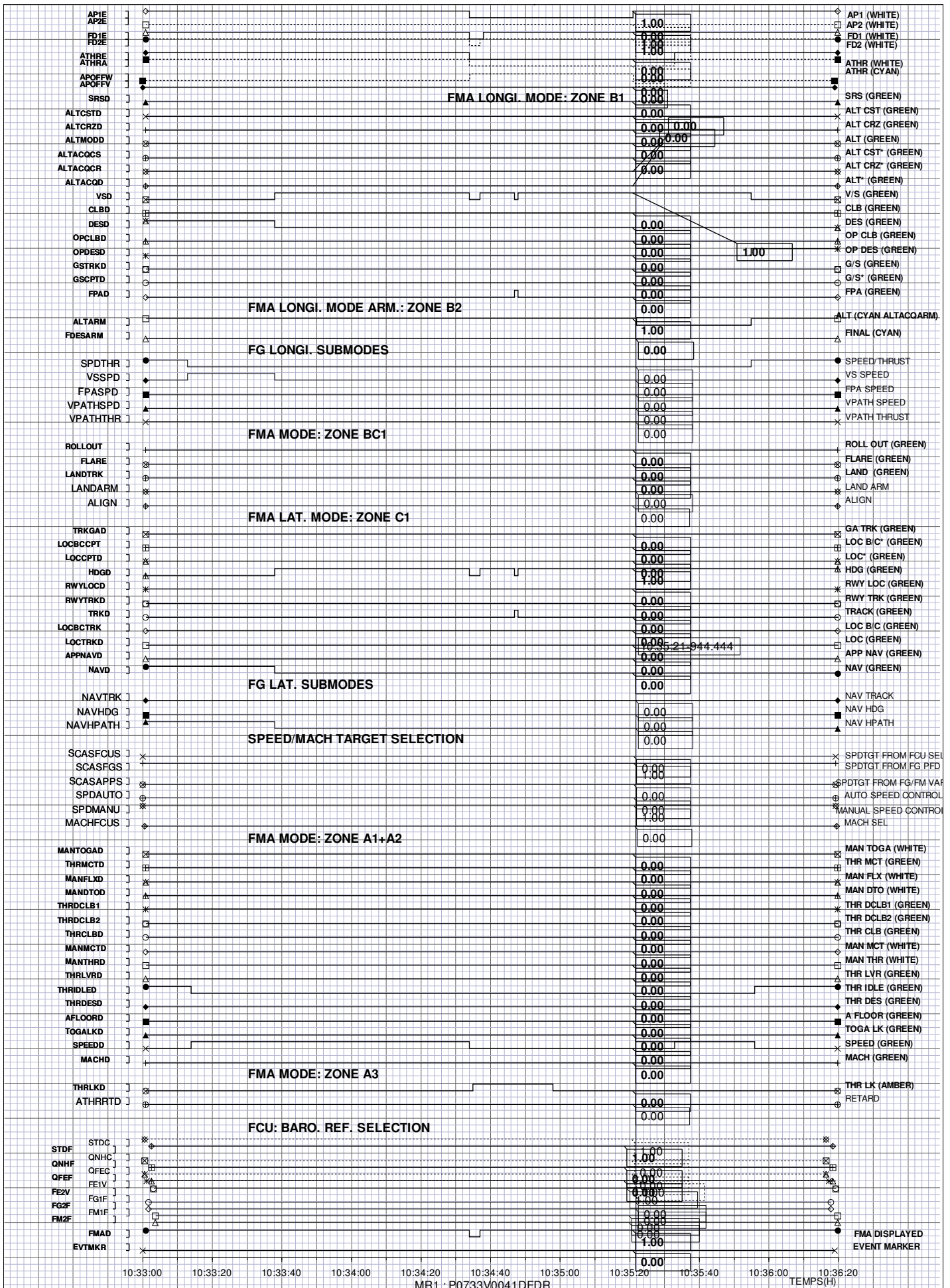
A/C : A330- MSN 0733 FLIGHT No 0041 MR1 : P0733V0041DFDR

CG (%) 31.20  
 GWL (LBS) 346960  
 GWK (KG) 157378

### CRUISE(LONGITUDINAL AXIS)

**Flight and Integration Tests Centre**  
 Airbus  
 Edited : 8/10/2014 Figure 1.2.1





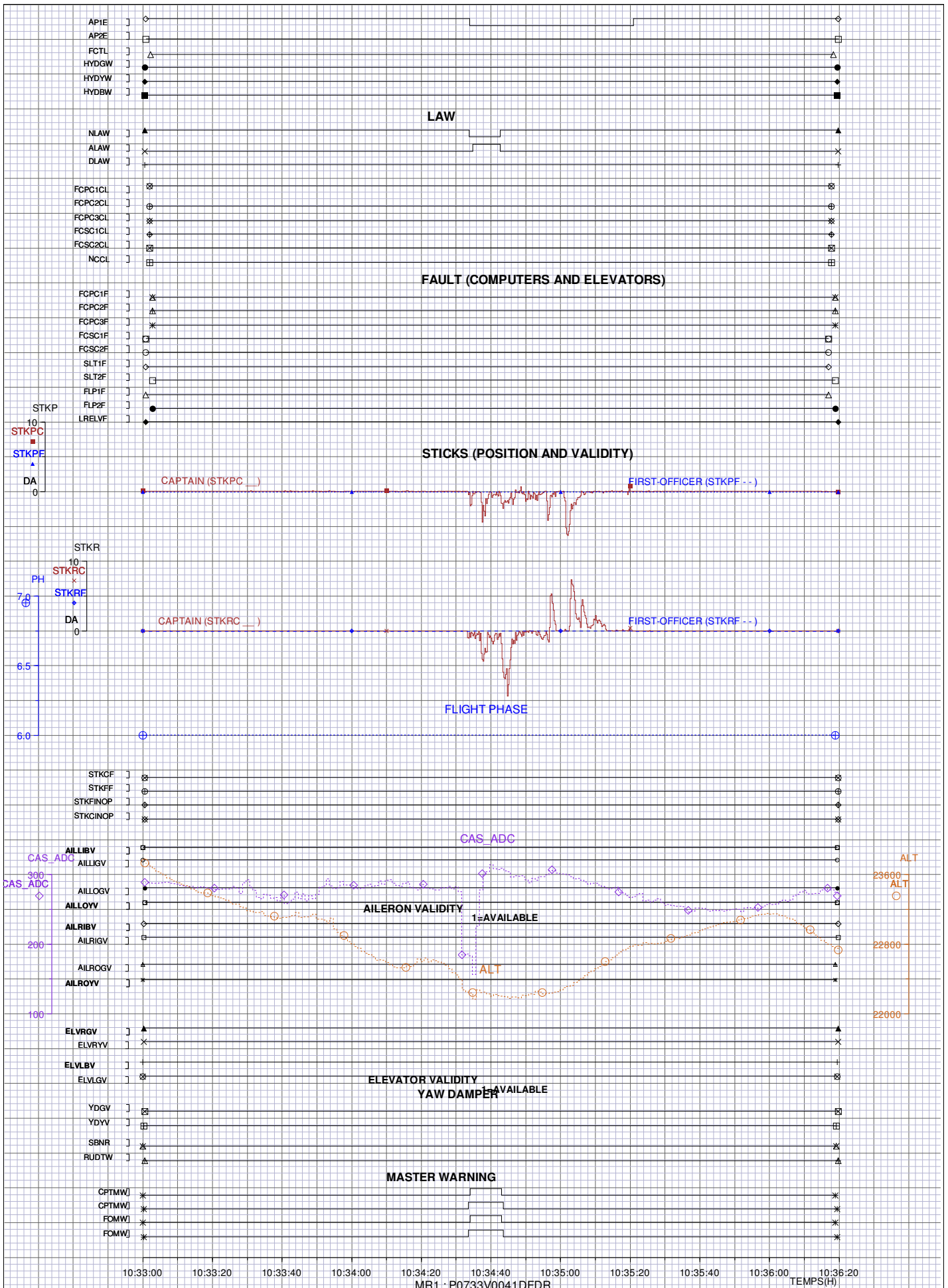
A/C : A330- MSN 0733 FLIGHT No 0041 MR1 : P0733V0041DFDR

# FMA DISPLAYS-AP MODES

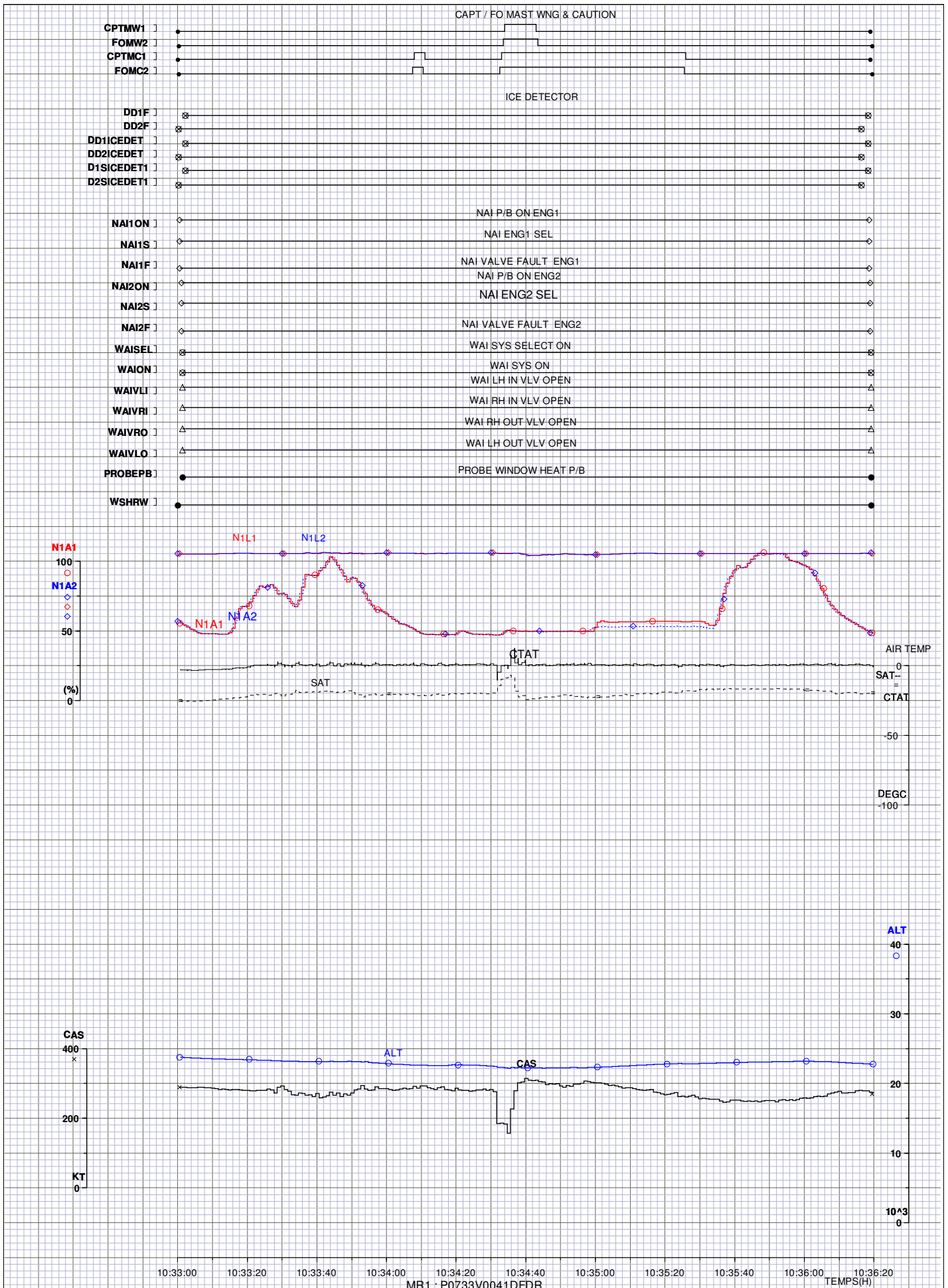
**Flight And  
Integration  
Tests Centre**

Edited : 8/10/2014      Figure


Electronically validated - Released on 20 Oct 2014





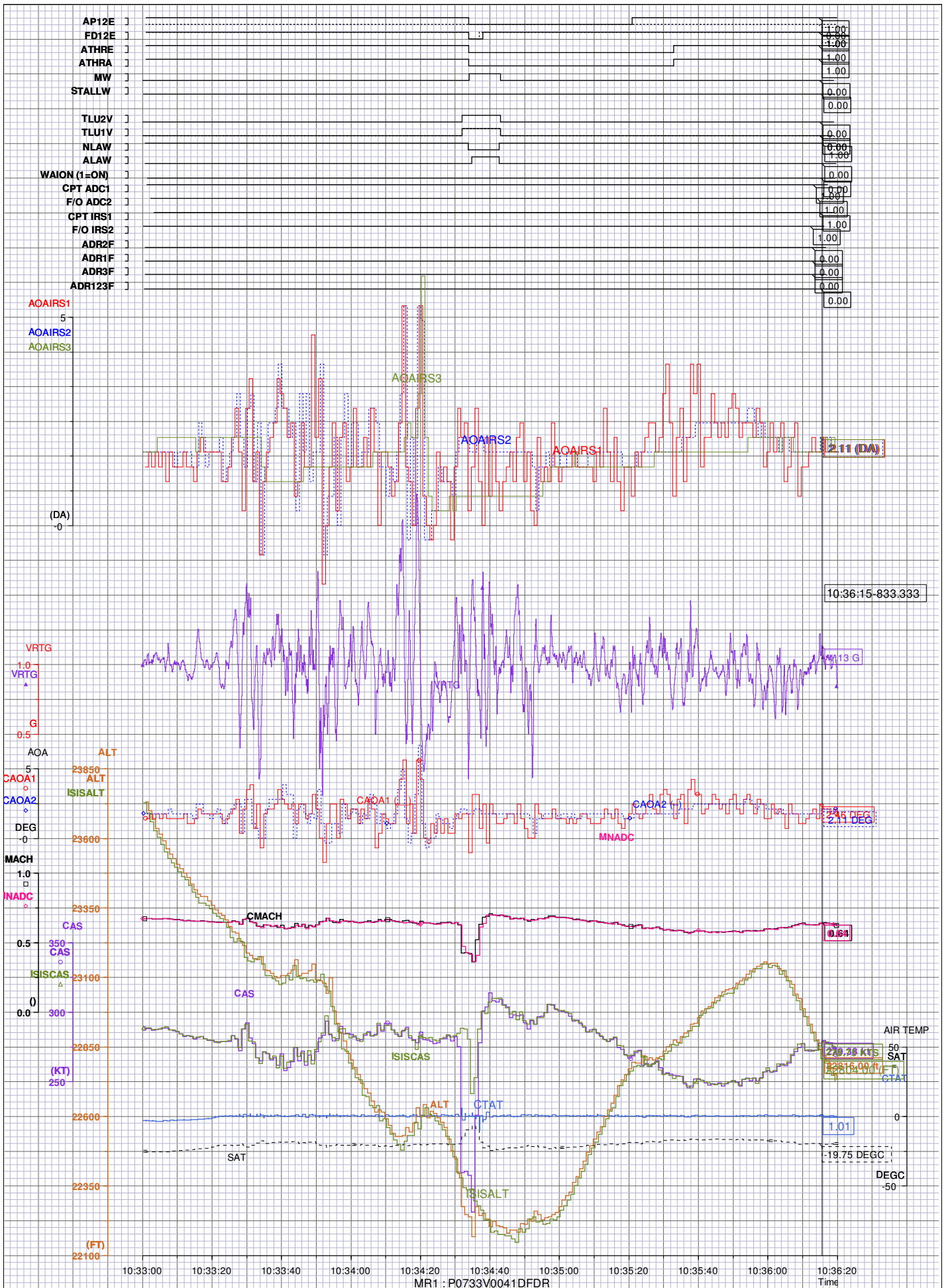


A/C : A330-	MSN 0733	FLIGHT No 0041	Immat: . EC- J P F
Airline: X F	Type:	Flight: A EA 0 4 1	From: LEMD To: SAEZ
CG (%) 31.36	<b>ICE</b>		
WGT (LBS) 346860.00			
WGT (LBS) 157180.55			

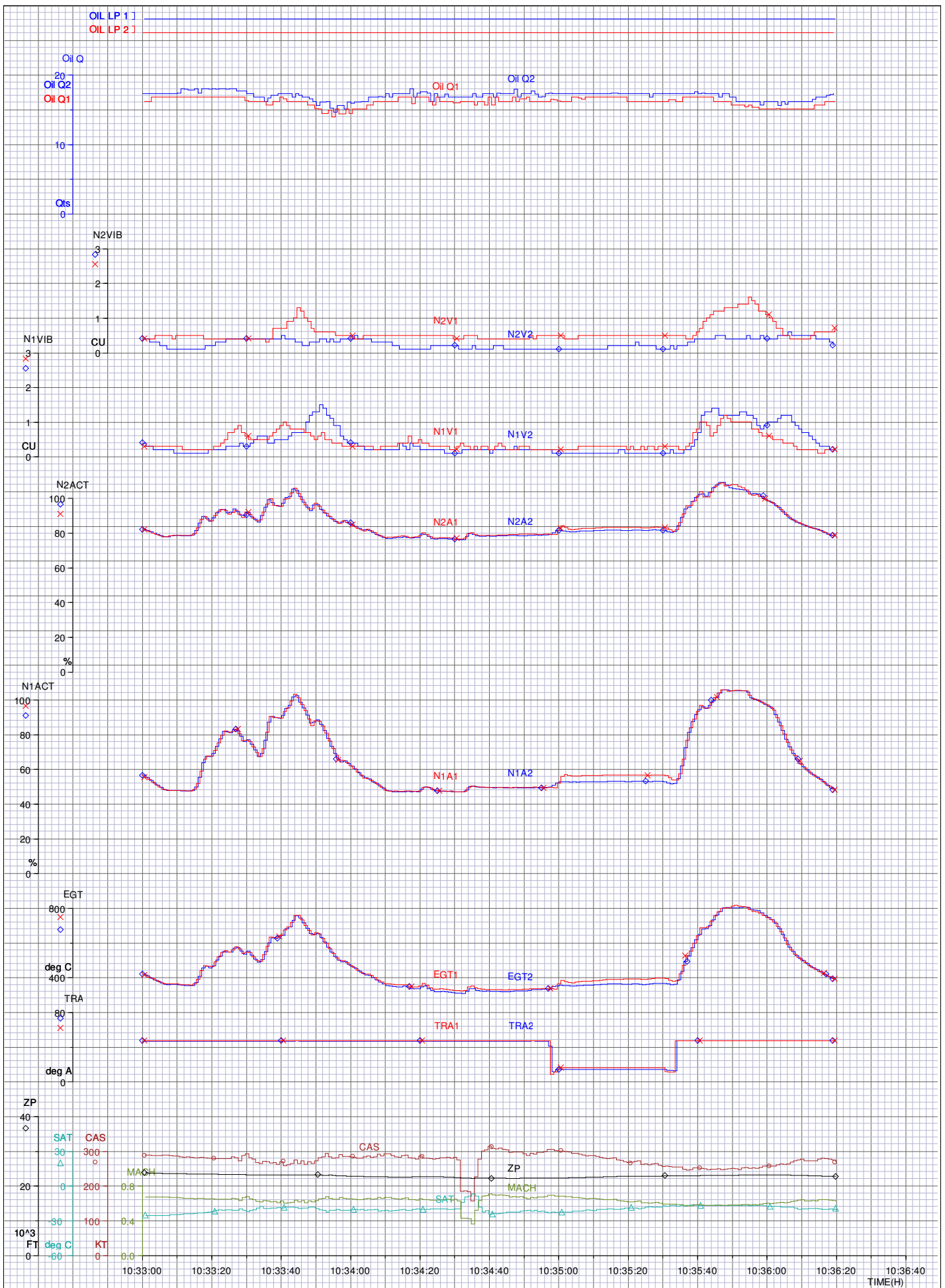


**Flight And Integration Tests Centre**

Edited : 8/10/2014      Figure 1.2.5

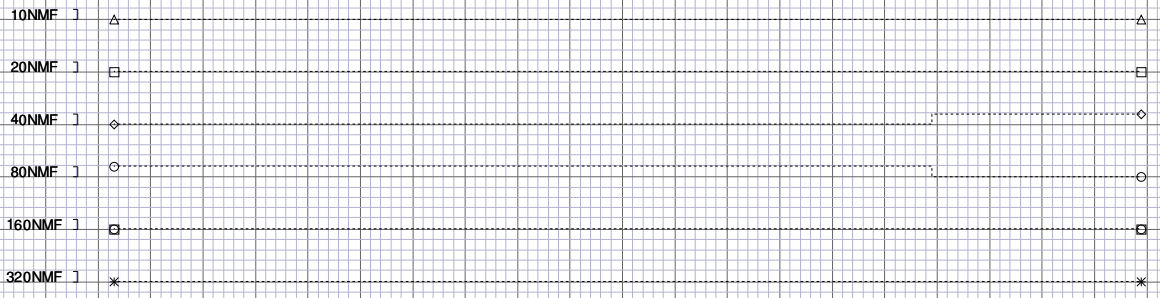


A/C : A330-		MSN 0733		FLIGHT No 0041		MR1 : P0733V0041DFDR	
CG (%) 31.2		WGT(KG) 157378		WGT(LBS) 346960		<b>Flight And Integration Tests Centre</b> Edited : 8/10/2014      Figure 1.2.6	
<b>AIR DATA DISCREPANCY</b>							
/workgroup/operation/dfdr/visage/bertille/2014/P0733V0041-Hailstorm/ADR-DISAGREE.ilv							
Electronically validated - Released on 20 Oct 2014							

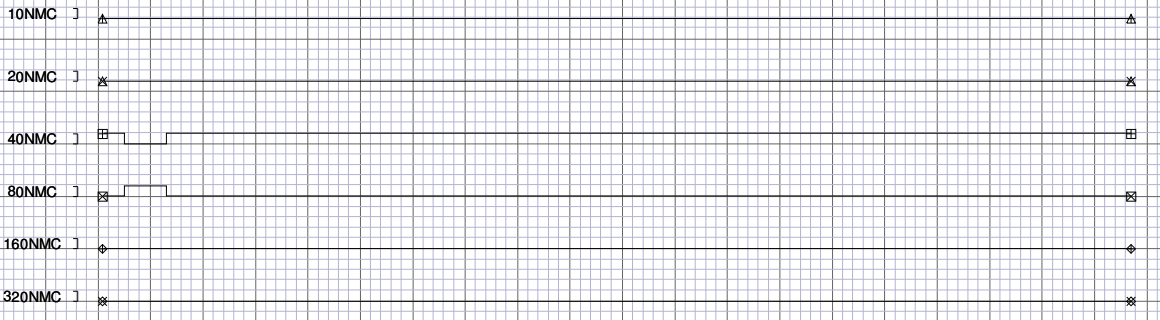


A/C : A330- MSN 0733 FLIGHT No 0041 MR1 : P0733V0041DFDR		<b>Flight And Integration Tests Centre</b> Edited : 8/10/2014 Figure 1.2.7
DFDR Data - A330 MSN 0486 - GE - Oil and Vibrations parameters		
ZOOM	<b>ENG 1</b> <b>ENG 2</b>	AT GMT START ZP = 23728 FT CAS = 288 KT MACH = 0.67 SAT = -26 DC
/workgroup/operation/dfdr/visage/source/engs/Long_Range/GE/DFDR_plots/DFDR-LR-GE-VibrationMain-Eng12.ilv <b>Electronically validated - Released on 20 Oct 2014</b>		

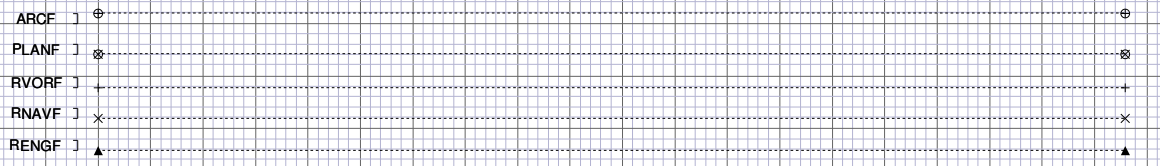
ND FIRST OFFICER RANGE



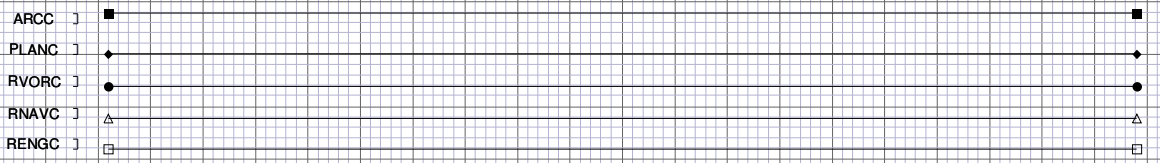
ND CAPTAIN RANGE



ND FIRST OFFICER MODE

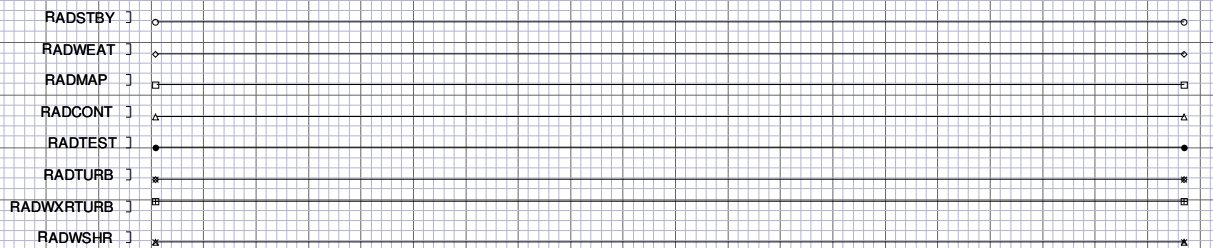


ND CAPTAIN MODE



RADAR OPERATING MODE

0=STBY, 1=WXR ONLY, 2=MAP, 3=CONTOUR, 4=TEST  
 5=TURB ONLY, 6=WXR+TURB



10:33:00 10:33:20 10:33:40 10:34:00 10:34:20 10:34:40 10:35:00 10:35:20 10:35:40 10:36:00 10:36:20  
 MR1 : P0733V0041 DFDR TEMPS(H)

A/C : A330- MSN 0733 FLIGHT No 0041

**Flight And Integration Tests Centre**

ZOOM

DMC\_MODE\_RANGE

Edited : 8/10/2014

Figure