



# **Final Report of the Aircraft Accident Investigation Bureau**

concerning the incident (Airprox)

between DLH5818 and F-GNMA

on 3<sup>RD</sup> May 2001

at Geneva area control center

AIRCRAFT ACCIDENT INVESTIGATION BUREAU

# FINAL REPORT

## AIR TRAFFIC INCIDENT REPORT (ATIR)

### AIRPROX (NEAR COLLISION)

THIS REPORT HAS BEEN PREPARED FOR THE PURPOSE OF ACCIDENT/INCIDENT PREVENTION. THE LEGAL ASSESSMENT OF ACCIDENT/INCIDENT CAUSES AND CIRCUMSTANCES IS NO CONCERN OF THE INCIDENT INVESTIGATION  
(ART. 24 OF THE AIR NAVIGATION LAW)

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<b>PLACE</b>	Geneva area control centre
<b>DATE/TIME</b>	3 May 2001 / 06:25 UTC
<b>AIRCRAFT</b>	1. DLH5818, CRJ1, Lufthansa, Düsseldorf – Lyon/Satolas  2. F-GNMA, BE9L, Oyonair, Lyon/Bron - Pardubice

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<b>ATC SERVICE</b>	Area control centre (ACC)
<b>CONTROLLER</b>	Radar controller, INI NORD sector
<b>AIRSPACE</b>	C

## HISTORY

On Thursday 3 May at 06:15 UTC, an aircraft Type CRJ1, DLH5818 – a regular commercial flight from Düsseldorf to Lyon Satolas, descending to flight level 250 was authorised by the radar controller of the INI NORD sector direct to MILPA, flight level 250 for an MILPA 5 arrival. Four minutes later, Flight DLH5818 was authorised to descend to flight level 200 and subsequently to flight level 190. The pilot of the flight DLH5818 responded by twice replying flight level 180. The radar controller did not draw attention to these acknowledgements indicating erroneous reception. One minute later, the radar controller requested the pilot of the flight DLH5818 to confirm his flight level. The latter confirmed flight level 180, as authorised, and announced a TCAS alert. He had just crossed with an aircraft Type BE9L aircraft, F-GNMA - a commercial flight from Lyon Bron to destination Pardubice - at flight level 180.

## FINDINGS

- The DLH5818 flight route was MOROK-MILPA-OTKOL.
- The F-GNMA flight route was RONLA-MOLUS-KORED.
- The incident took place 4 nautical miles north of MILPA, in airspace Category C, at flight level 180, in the jurisdiction zone of Geneva area control centre.
- Instrument flight rules were in force.
- At the time of the incident, both Flight DLH5818 and Flight F-GNMA were in contact and under radar control with the INI NORD sector on the 134.02 MHz frequency.
- There was a change of radar controller five minutes before the incident.
- Flight DLH5818 was twice authorised to flight level 190 by the radar controller, the first time without reply.
- The pilot of the flight DLH5818 twice acknowledged flight level 180.
- Neither the radar controller nor the co-ordinator drew attention to the error.
- At 06:25:03, the STCA "Short Time Conflict Alert" indicated a proximity alert.
- At 06:25:49, the pilot of the flight DLH5818 announced that it had a TCAS "Traffic Collision Avoidance System" alert.
- Despite an RA "Resolution Advisory" alert, Flight DLH5818 did not modify either its flight level or its heading.
- The F-GNMA aircraft, Type BE9L, was not equipped with TCAS.
- Flight DLH5818 and Flight F-GNMA crossed 4 nautical miles north of MILPA with a minimum vertical separation of 0 ft and horizontal separation of 1.6 nautical miles.

- The pilots of Flight DLH5818 and Flight F-GNMA did not deposit ATIR reports.
- Both the radar controller and the co-ordinator were in possession of a valid licence.
- The radio communications between Flight DLH5818 and the radar controller were in English.
- The radio communications between Flight F-GNMA and the radar controller were in French.
- The judgement of the radar controller was that the traffic load was average (15 aircraft in radio contact during 15 minutes).
- Geneva Meteorological Office 06:20 :
  - Wind : 220° 11 knots. Variable between 170° and 260°
  - Visibility: 10 km
  - Cloud: few at 800 ft, broken at 3500 ft, broken at 9000 ft
  - QNH 1009
  - Nosig (No significant change)

## **ANALYSIS**

At 06:14:55, Flight DLH5818 - destination Lyon Satolas – announced, on the frequency 134.02 MHz of the INI NORD sector, that it was descending to flight level 250. The radar controller identified and authorised it for an MILPA 5 arrival, flight level 250.

At 06:16:44, Flight F-GNMA – destination Pardubice – announced, on the frequency of 134.02 MHz, that it was at flight level 180. The radar controller identified it and authorised MOLUS-KORED direct, flight level 180.

At 06:19:30, the radar controller authorised Flight DLH5818 to descend to flight level 200. The latter responded with a correct acknowledgement of reception.

At 06:24:01, the radar controller authorised the Flight DLH5818 to flight level 190. No acknowledgement followed.

At 06:24:14, the radar controller repeated the authorisation.

At 06:24:18, Flight DLH5818 responded with flight level 180. The radar controller did not draw attention to this incorrect acknowledgement and replied "affirm".

At 06:24:25, Flight DLH5818 confirmed its authorisation with "OK, descending level one eight zero, thank you". Unfortunately, neither the radar controller nor the co-ordinator drew attention to this acknowledgement indicating erroneous reception.

At 06:25:03, the radar controller was alerted by the STCA and requested Flight DLH5818 to confirm its flight level. The pilot of the Flight DLH5818 replied that he was maintaining flight level 180 and reported a TCAS (RA) alert.

In fact, he had just crossed the trajectory of F-GNMA 4 nautical miles north of MILPA with a minimum vertical separation of 0 ft and horizontal separation of 1.6 nautical miles.

At 06:26, the radar controller informed Flight DLH5818 that he had been authorised to flight level 190. The latter replied that he had acknowledged flight level 180 as authorised.

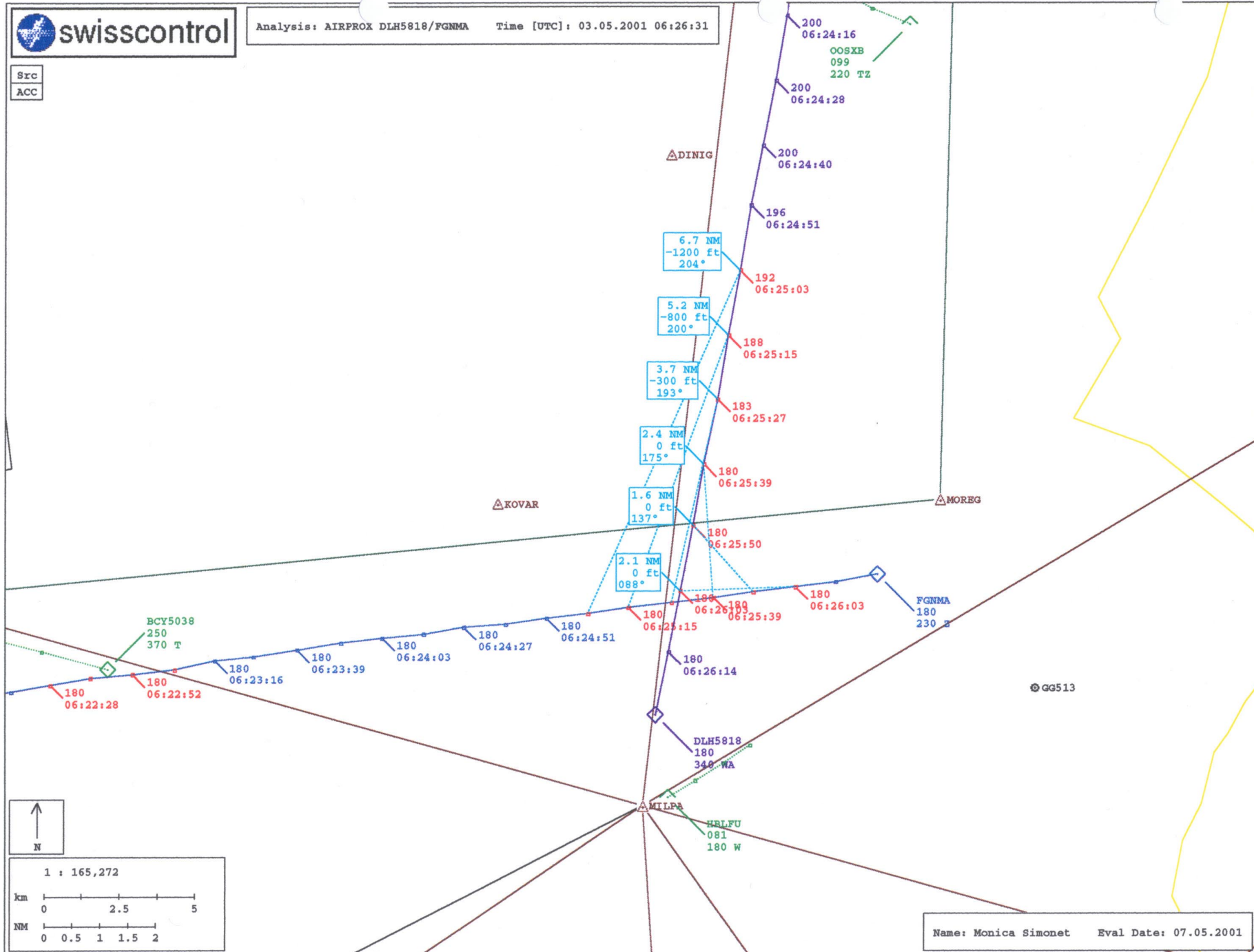
### **CAUSE**

The incident was due to two erroneous acknowledgements between the crew of DLH5818 and the radar controller.

Berne, 15 January 2003

Aircraft Accident Investigation Bureau

Src  
ACC





**TRANSCRIPT OF TELEPHONY  
OR RADIOTELEPHONY COMMUNICATIONS TAPE-RECORDING**

Investigation into the **incident** that occurred on **May 3<sup>rd</sup> 2001**

- Subject of transcript: **DLH5818 / FGNMA**
- Centre concerned: Geneva
- Designation of unit: ACC
- Frequency: 134.02 MHz
- Date and period covered by attached extract: May 3<sup>rd</sup> 2001  
06:14 - 06:29 UTC
- Date of transcript: May 28<sup>th</sup> 2001
- Name of official in charge  
of transcription service: Monica Simonet

- Certificate by official in charge of Analysis Department:

I hereby certify:

- That the accompanying transcript of the telephony or radiotelephony communication tape-recording, retained at the present time in the premises of Analysis Department, has been made under my supervision.
- That it was examined and checked by me.
- That no changes have been made to the entries in columns 2, 3 and 4, which contain only clearly understood indications in their original form.

Geneva, May 28<sup>th</sup> 2001

M. Simonet

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Abbreviations

ACC - Geneva Area Control Centre

<b>5818</b>	-	<b>Lufthansa 5818</b>	<b>CRJ1</b>	<b>IFR flight</b>	<b>EDDL</b>	-	<b>LFLL</b>
93KK	-	Speedbird 93KK	B733	IFR flight	LSGG	-	EGKK
OXB	-	OOSXB	E121	IFR flight	EBAW	-	LSGG
723	-	Speedbird 723	B752	IFR flight	LSGG	-	EGLL
762	-	Crossair 762G	SB20	IFR flight	LFSB	-	LFBO
<b>FMA</b>	-	<b>FGNMA</b>	<b>BE9L</b>	<b>IFR flight</b>	<b>LFLY</b>	-	<b>LKPD</b>
840	-	Crossair 840	RJ85	IFR flight	LSGG	-	EGLC
501	-	Rubens 501	F50	IFR flight	EBAW	-	LSGG
362	-	TAG Aviation 362	LJ35	IFR flight	LSGG	-	EGWU
752	-	Cigogne 752	SF34	IFR flight	LFSB	-	LFML
243	-	Air France 243Y	A320	IFR flight	LSGG	-	LFPG
1721	-	Air Liberté 1721	F100	IFR flight	LFPO	-	LSGG
5038	-	City Ireland 5038	B462	IFR flight	LFPG	-	LIRQ
PJI	-	PHCJI	C56X	IFR flight	LFPB	-	LSGG
5797	-	Lufthansa 5797	CRJ2	IFR flight	LFLL	-	EDDM

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## TRANSCRIPT SHEET

To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
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**Frequency 134.02 MHz: Geneva Area Control Centre, Sector INN**

ACC	5518	06:14:55	Geneva Control bonjour, Lufthansa five eight one eight ... pa, passing flight level two six two, descending flight level two five zero, inbound ODIGA.	unreadable
5818	ACC	06:15:03	Lufthansa five eight one eight bonjour, identified, MILPA, Milpa 5 Arrival, flight level two five zero.	
ACC	5818	09	Direct MILPA for Milpa 5 Arrival, flight level two five zero, Lufthansa five eight one eight.	
93KK	ACC	15	Speedbird Kilo Kilo climb to flight level two three zero.	
ACC	93KK	18	Climbing flight level two three zero, Speedbird nine three Kilo Kilo.	
ACC	OXB	45	????? the Oscar Oscar Sierra X-ray Bravo request fur..., further descent.	unreadable
OXB	ACC	50	Descent in ten miles.	
ACC	OXB	52	Ten miles, Oscar... Sierra X-ray Bravo.	
ACC	723	06:16:16	Radar bonjour, Speedbird seven two three passing level one two zero for one five zero.	
723	ACC	23	Speedbird seven two three bonjour, fly heading three two zero, climb to flight level one six zero.	
ACC	723	28	Heading three two zero degrees, climbing flight level one six zero, Speedbird seven two three.	
762	ACC	35	Crossair seven six two Golf for further climb, Geneva, one three four decimal eight five, good-bye.	
ACC	762	40	One three four eight five, have a nice day, six..., Crossair seven six two Golf.	
ACC	FMA	06:16:44	<b>Genève bonjour, Fox Golf November Mike Alfa.</b>	
FMA	ACC	49	<b>Fox Mike Alfa bonjour, identifié, maintenez le niveau cent quatre-vingts, direct MOLUS - KORED.</b>	
ACC	FMA	54	<b>Un huit zéro, MOLUS - KORED, Mike Alfa.</b>	

Signature of  
person in charge:



## TRANSCRIPT SHEET

<u>To</u> <u>Col.1</u>	<u>From</u> <u>Col.2</u>	<u>Time</u> <u>Col.3</u>	<u>Communications</u> <u>Col.4</u>	<u>Observations</u> <u>Col.5</u>
93KK	ACC	06:16:58	Speedbird Kilo Kilo climb to flight level ... two four zero.	
ACC	93KK	06:17:02	Climbing flight level two four zero, Speedbird nine three Kilo Kilo.	
93KK	ACC	08	And Kilo Kilo resume own navigation direct to Dijon.	
ACC	93KK	11	To Dijon, Speedbird nine three Kilo Kilo.	
723	ACC	37	Speedbird seven two three climb to flight level two two zero.	
ACC	723	41	Climb flight level two two zero, Speedbird seven two three.	
OXB	ACC	49	Oscar X-ray Bravo descend to flight level one six zero.	
ACC	OXB	52	Recleared to flight level one six zero, Oscar X-ray Bravo.	
93KK	ACC	06:18:00	Speedbird Kilo Kilo climb to flight level two six zero.	
ACC	93KK	03	Climbing flight level two six zero, Speedbird nine three Kilo Kilo.	
93KK	ACC	07	And contact Paris, one three two six seven, good-bye.	
ACC	93KK	10	Paris, one three two six seven, Speedbird nine three Kilo Kilo, au revoir.	
840	ACC	15	Crossair eight four zero climb to flight level two four zero.	
ACC	840	19	Climbing flight level two four zero, Crossair eight four zero.	
840	ACC	22	And call Paris, one three two six seven, good-bye.	
ACC	840	27	One three two decimal six seven, Crossair eight four zero, heu... with a heading three three five ?	
840	ACC	32	Now own navigation to Dijon, sorry.	
ACC	840	35	Resuming to Dijon, Crossair eight four zero and now one three two six seven, au revoir Madame.	

Signature of  
person in charge:



## TRANSCRIPT SHEET

<u>To</u> <u>Col.1</u>	<u>From</u> <u>Col.2</u>	<u>Time</u> <u>Col.3</u>	<u>Communications</u> <u>Col.4</u>	<u>Observations</u> <u>Col.5</u>
OXB	ACC	06:18:40	Oscar X-ray Bravo continue descent to flight level one three zero.	
ACC	OXB	44	Descend to flight level one three zero, Oscar X-ray Bravo.	
501	ACC	48	Rubens five zero one descend to flight level one seven zero.	
ACC	501	52	Descend one seven zero, Rubens five zero one.	
723	ACC	58	Speedbird seven two three own navigation to Dijon, climb to flight level two six zero.	background noise
ACC	723	06:19:04	To Dijon, climb to flight level two six zero, Speedbird seven two three.	
5018	ACC	13	Lufthansa five zero one eight descend to flight level two zero zero.	no reply
5018	ACC	24	Lufthansa five zero one eight, Geneva ?	no reply
<b>5818</b>	<b>ACC</b>	<b>06:19:30</b>	<b>Lufthansa five eight one eight descend to flight level two hundred.</b>	
<b>ACC</b>	<b>5818</b>	<b>34</b>	<b>Descend flight level two hundred, Lufthansa five eight one eight.</b>	
ACC	362	40	Geneva good morning, TAG Aviation three six two flight level one five zero, inbound Dijon.	
362	ACC	46	Three six two bonjour, climb to flight level one seven zero.	
ACC	362	49	Recleared to flight level one seven zero, TAG Aviation three six two.	
OXB	ACC	06:20:15	Oscar X-ray Bravo call Arrival, one three one decimal three two, good-bye.	Another controller is taking over
ACC	OXB	20	One three one three two, Oscar X-ray Bravo.	
<b>5818</b>	<b>ACC</b>	<b>06:20:23</b>	<b>Lufthansa five eight one eight to MILPA, please.</b>	
<b>ACC</b>	<b>5818</b>	<b>27</b>	<b>Direct MILPA, Lufthansa five eight one eight.</b>	
752	ACC	29	Cigogne sept cinquante-XXXXX, Marseille cent trente-trois décimal quarante-deux, bonne journée.	I understand: "trois"

Signature of  
person in charge:



## TRANSCRIPT SHEET

<u>To</u> <u>Col.1</u>	<u>From</u> <u>Col.2</u>	<u>Time</u> <u>Col.3</u>	<u>Communications</u> <u>Col.4</u>	<u>Observations</u> <u>Col.5</u>
ACC	752	06:20:34	Cent trente-trois quarante-deux avec Marseille, Cigogne sept cent cinquante-deux, bonne journée, merci.	
501	ACC	39	Rubens five zero one set course to Golf Golf five one four.	
ACC	501	43	Golf Golf five one four, Rubens five zero one.	
501	ACC	46	And Rubens five zero one descend level one six zero.	
ACC	501	49	Descend to one six zero, Rubens five zero one.	
ACC	243	53	Genève bonjour, Air France deux cent quarante-trois Yankee, on passe vers cent cinquante, cap trois cent dix.	
243	ACC	58	Deux cent quarante-trois Yankee bonjour, identifié, continuez au cap et montez au unité sept zéro.	
ACC	243	06:21:04	On poursuit au cap vers le niveau cent soixante-dix, Air France deux cent quarante-trois Yankee.	
ACC	362	10	Heu TAG Aviation three six two maintaining flight level one seven zero.	
362	ACC	15	Three six two climb flight level two zero zero.	
ACC	362	18	Climbing flight level two zero zero, TAG Aviation three six two.	
1721	ACC	24	Liberté dix-sept vingt et un, Genève ?	no reply
ACC	5038	29	Genève bonjour, City Ireland five zero three eight at flight level two five zero, direct to GERBI.	
5038	ACC	35	Five zero three eight good morning, identified, cleared Geneva - Torino, level two five zero.	
ACC	5038	40	Cleared Geneva - Torino up two five zero, City five zero three eight.	
243	ACC	45	Air France deux cent quarante-trois Yankee à droite sur... cap trois cent trente-cinq.	
ACC	243	51	A droite, cap trois cent trente-cinq, Air France deux cent quarante-trois Yankee.	
ACC	1721	58	Genève Liberté dix-sept vingt et un bonjour, en descente vers deux cent trente.	

Signature of  
person in charge:



## TRANSCRIPT SHEET

<u>To</u> <u>Col.1</u>	<u>From</u> <u>Col.2</u>	<u>Time</u> <u>Col.3</u>	<u>Communications</u> <u>Col.4</u>	<u>Observations</u> <u>Col.5</u>
1721	ACC	06:22:02	Dix-sept vingt et un bonjour, identifié, descendez niveau deux cent dix, LUSAR six Romeo Arrivée.	
ACC	1721	07	LUSAR six Romeo, deux cent dix ????? ?	unreadable
1721	ACC	11	Affirme.	
501	ACC	15	Rubens five zero one call Arrival, one three one decimal three two, good-bye.	
ACC	501	19	Three one three two, Rubens five zero one, bye.	
723	ACC	28	Speedbird seven two three, Paris, one three two decimal six seven, good-bye.	
ACC	723	32	One three two six seven, Speedbird seven two three, good-bye.	
ACC	362	06:23:01	TAG Aviation three six two maintaining flight level two zero zero.	
362	ACC	04	Higher in one minute, traffic above.	
243	ACC	08	Air France deux quarante-trois Yankee montez au niveau deux cent quarante maximum taux, s'il vous plaît.	
ACC	243	13	Alors... on monte niveau deux quarante et taux de monté max, Air France deux quarante-trois Yankee.	
362	ACC	43	TAG three six two climb level two six zero.	
ACC	362	46	We're cleared to flight level two six zero, TAG Aviation three six two.	
362	ACC	50	And Paris, one three two decimal six seven, good-bye.	
ACC	362	54	One three two six seven, ????? three six two, bye.	unreadable
<b>5818</b>	<b>ACC</b>	<b>06:24:01</b>	<b>Lufthansa five eight one eight descend to flight level one niner zero.</b>	<b>no reply</b>
<b>5818</b>	<b>ACC</b>	<b>14</b>	<b>Lufthansa five eight one eight descend level one niner zero.</b>	

Signature of  
person in charge:



## TRANSCRIPT SHEET

<u>To</u> <u>Col.1</u>	<u>From</u> <u>Col.2</u>	<u>Time</u> <u>Col.3</u>	<u>Communications</u> <u>Col.4</u>	<u>Observations</u> <u>Col.5</u>
ACC	5818	06:24:18	Heu... descending level one eight zero, Lufthansa five eight one eight.	
5818	ACC	23	Affirm.	
ACC	5818	25	Okay, descending level one eight zero, thank you.	
1721	ACC	32	Liberté dix-sept vingt et un descendez au niveau cent trente. Faites deux mille pieds par minute mini, s'il vous plaît.	
ACC	1721	39	Heu, vous pouvez répéter le niveau ? Vous étiez coupé par le TCAS.	
1721	ACC	43	Dix-sept vingt et un, niveau cent trente avec deux mille pieds minimum, s'il vous plaît.	
ACC	1721	47	Deux mille pieds minimum vers le cent trente.	
243	ACC	06:25:00	Air France deux quarante-trois Yankee reprenez votre navigation Dijon.	
ACC	243	03	Navigation Dijon, Air France deux cent quarante-trois Yankee.	
ACC	PJI	21	Heu Geneva good morning, Papa Hotel Charlie Juliett India flight level two three zero.	
PJI	ACC	26	Papa Juliett India good morning, identified, follow LUSAR six Romeo Arrival, flight level two three zero.	
ACC	PJI	33	Doing two three zero, Papa... Juliett India.	
5818	ACC	06:25:46	Lufthansa five eight one eight confirm your level ?	
ACC	5818	49	We are level now, Lufthansa five eight one eight, and we had a TCAS... resolution advisory.	
5818	ACC	54	Confirm one niner zero, your level ?	Another station calling in between: "deux quarante"
ACC	5818	58	One eight zero, Lufthansa five eight one eight.	
5818	ACC	06:26:00	You were cleared level one niner zero !	

Signature of  
person in charge:



## TRANSCRIPT SHEET

<u>To</u> <u>Col.1</u>	<u>From</u> <u>Col.2</u>	<u>Time</u> <u>Col.3</u>	<u>Communications</u> <u>Col.4</u>	<u>Observations</u> <u>Col.5</u>
ACC	5818	06:26:06	Heu... we read back one eight zero, Lufthansa five eight one eight; so you cleared us to flight level one eight zero.	
5818	ACC	13	Five eight one eight descend now flight level one six zero.	
ACC	5818	17	Cleared flight level one six zero, Lufthansa five eight one eight.	
ACC	243	24	Niveau deux cent quarante, Air France deux cent quarante-trois Yankee.	
243	ACC	28	Air France deux quarante-trois Yankee montez au niveau deux cent soixante.	
ACC	243	32	Et on poursuit vers l'niveau deux cent soixante, on sera preneur de deux huit zéro croisière, deux cent quarante-trois Yankee.	
243	ACC	37	Avisez ça à Paris, cent trente-deux soixante-sept, au revoir.	
ACC	243	40	Et les Parisiens, cent trente-deux soixante-sept, le deux cent quarante-trois Yankee, au revoir.	
PJI	ACC	55	Papa Juliett India descend to flight level one six zero.	
ACC	PJI	59	One six zero, Papa Juliett India.	
<b>FMA</b>	<b>ACC</b>	<b>06:27:27</b>	<b>Fox Mike Alfa passez avec Genève, cent vingt-huit décimal neuf, bonne journée.</b>	
<b>ACC</b>	<b>FMA</b>	<b>31</b>	<b>Cent vingt-huit neuf, au revoir Monsieur, merci.</b>	
5818	ACC	34	Lufthansa five eight one eight descend to flight level niner zero.	
ACC	5818	38	Descend flight level niner zero, Lufthansa five eight one eight.	
5038	ACC	54	City Ireland five zero three eight call Geneva, one two five decimal five five, good-bye.	
ACC	5038	06:28:00	One two five decimal five five, City five zero three eight, au revoir.	
1721	ACC	08	Liberté dix-sept vingt-deux, l'Arrivée cent trente et un décimal trente-deux, bonne journée.	

Signature of  
person in charge:



## TRANSCRIPT SHEET

<u>To</u> <u>Col.1</u>	<u>From</u> <u>Col.2</u>	<u>Time</u> <u>Col.3</u>	<u>Communications</u> <u>Col.4</u>	<u>Observations</u> <u>Col.5</u>
ACC	1721	06:28:12	Cent trente et un trente-deux, dix-sept vingt et un au revoir.	
ACC	5797	52	Genève bonjour, Lufthansa five seven nine seven ????? level... one seven seven, climbing level one nine zero.	unreadable
5797	ACC	06:29:00	Lufthansa five seven niner seven good morning, identified, cleared RONLA - MOLUS - KORED, call you back for higher.	
ACC	5797	07	Heu... Gland MOLUS - KORED confirm, Lufthansa five seven nine seven ?	
5797	ACC	12	RONLA, Romeo Oscar November Lima Alfa.	
ACC	5797	16	RONLA, Lufthansa five seven nine seven, MOLUS - KORED.	
<b>5818</b>	<b>ACC</b>	<b>06:29:20</b>	<b>Lufthansa five eight one eight descend to flight level eight zero.</b>	
<b>ACC</b>	<b>5818</b>	<b>24</b>	<b>Descend to flight level eight zero, Lufthansa five eight one eight.</b>	
<b>5818</b>	<b>ACC</b>	<b>27</b>	<b>And call Lyon Approach, one two five decimal eight, tschüss.</b>	
<b>ACC</b>	<b>5818</b>	<b>31</b>	<b>One two five decimal eight, tschüss, Lufthansa five eight one eight.</b>	

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Signature of  
person in charge:

