

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

**concerning the incident (Airprox)**

between EZS994 and AFR343U

on 4 May 2003

LIRKO, ACC Geneva

# FINAL REPORT

## AIR TRAFFIC INCIDENT REPORT (ATIR)

### AIRPROX (NEAR MISS)

THIS REPORT SERVES EXCLUSIVELY TO PREVENT ACCIDENTS. 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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**PLACE/DATE/TIME**

LIRKO, 04.05.2003,  
16:43 UTC

**AIRCRAFT**

EZS994, Boeing 737-33, HB-IIB,  
EASYJET Switzerland  
Flight from Paris Orly to Geneva

AFR343U, Boeing 737-35, not communicated,  
AIR FRANCE  
Flight from Geneva to Paris Orly

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**ATC UNIT**

Swiss Radar Area West, Terminal Control Geneva

**CONTROLLERS**

INN/INE     Radar Controller

Coordinator

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**AIRSPACE**

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## HISTORY

On Sunday 4 May 2003 at 16:35 UTC, the pilot of an aircraft type Boeing 737-33 of the Easyjet Switzerland company, EZS994, a scheduled flight from Paris Orly to Geneva, called on the INN sector frequency 134.02 MHz reporting that he was descending towards flight level 230. The radar controller cleared it on arrival route LUSAR 6 ROMEO, at flight level 230.

At 16:40, the pilot of an aircraft type Boeing 737-35 of the Air France company, AFR343U, a scheduled flight from Geneva to Paris Orly, called on the INN sector frequency 134.02 MHz reporting that he was climbing towards flight level 150. The radar controller cleared him on direct route DIJON and informed him that he would call him back for a higher level.

A few seconds later, flight EZS994 was cleared to continue its descent to flight level 200 and flight AFR343U was cleared to continue its climb to flight level 180. The pilot read back flight level 190, an incorrect level which was detected neither by the radar controller nor by the coordinator.

A minute later, flight EZS994 was cleared to continue its descent to flight level 190.

At 16:42:26, the STCA (Short Term Conflict Alert) indicated a proximity alert to the radar controller. According to the radar plots, flight AFR343U was maintaining flight level 190 and flight EZS994 was at flight level 198. The radar controller asked the pilot of flight EZS994 to stop his descent at flight level 200. The pilot reported that his TCAS (onboard anti-collision system) had issued an RA (resolution advisory to climb) and that he was stopping his descent at flight level 200.

The radar controller then asked the pilot of flight AFR343U for his cleared flight level. The latter indicated flight level 190 to him.

The minimum distance between the two aircraft was a lateral separation of 2.1 NM and an altitude difference of 700 FT.

As soon as the two aircraft had crossed, the radar controller cleared flight AFR343U to climb to flight level 260. The latter read back flight level 260 and made the following remark *"That was a bit tight... the separation from the Easyjet, there"*.

At 16:43, flight EZS994 was cleared to follow direct route SPR and to descend to flight level 160. Two minutes later it was cleared to descend to flight level 100 and was handed over to the arrival sector frequency 136.25 MHz. Flight AFR343U was handed over to the Paris frequency, 132.67 MHz.

## FINDINGS

- The incident took place at 16:42:50, at LIRKO, in class C airspace, at flight level 190.
- Instrument flight rules were being applied.
- Standard French phraseology concerning the assignment of flight levels was not used by either the pilot or the controller.
- Sectors INN and INE were conjoined and their frequencies coupled.
- At the time of the incident, flight EZS994 as well as flight AFR343U were in contact with and under radar control of Sector INN.

All times indicated in the report are in UTC format (local time -2)

- The route of flight EZS994 was ATN SPR with an arrival LUSAR 6 ROMEO.
- The route of flight AFR343U was P1A DJL.
- The radar controller as well as the coordinator were in possession of a valid licence.
- Radio communications between the crew of flight EZS994 and the radar controller took place in English.
- Radio communications between the crew of flight AFR343U and the radar controller took place in French.
- The call sign of flight EZS994 was TOPSWISS.
- At 16:42:26, the STCA indicated a proximity alert to the radar controller. The radar plots indicated that flight EZS994 was passing flight level 198, at 16:42:38 FL196, at 16:42:50 FL197, at 16:43:02 FL199 and at 16:43:14 it was maintaining flight level 200.
- At 16:42:49, the pilot of flight EZS994 reported that his TCAS had issued a climb resolution advisory (RA).
- At 16:42:50, the minimum distance between flight EZS994 and flight AFR343U was a lateral separation of 2.1 NM and an altitude difference of 700 FT.
- No incident report was submitted on the frequency.
- In the radar controller's estimation, the traffic load was high (15 aircraft in 10 minutes = 104 radio communications).
- The crew of flight AFR343U did not report an RA on the frequency nor did they report that they would submit a report.
- The crew of flight EZS994 reported an RA on the frequency.
- Weather: Geneva 16:20  
Wind: 070, 1 KT  
Visibility: 10 KM  
Cloud: few 8000 FT  
Temperature: 24°C  
QNH 1017 hPa  
NOSIG (no significant change).  
Winds at altitude: FL100 250/015, FL180 260/025, FL240 230/030.

## ANALYSIS

On Sunday 4 May 2003 at 16:35:22, the pilot of a B737-33, EZS994, a scheduled flight from Paris Orly to Geneva, called on the INN sector frequency 134.02 MHz, reporting that he was descending towards flight level 230. He was cleared by the radar controller on route LUSAR 6 ROMEO, at flight level 230.

At 16:38:49, the pilot of a B737-35, AFR343U, a scheduled flight from Geneva to Paris Orly, called on the INN sector frequency 134.02 MHz, reporting that he was climbing towards flight level 150. The radar controller cleared him on direct route DIJON and informed him that he would call him back for a higher level. It should be noted that between these calls there had been 18 radio communications.

All times indicated in the report are in UTC format (local time -2)

At 16:40:20 the radar controller cleared flight EZS994 to continue its descent to flight level 200 and flight AFR343U was cleared to continue its climb to flight level 180. The pilot of flight AFR343U read back flight level 190. This incorrect flight level was detected neither by the radar controller nor by the coordinator.

At 16:41:11, flight EZS994 was cleared to continue its descent to flight level 190.

At 16:42:45, the radar controller, after responding to 15 radio calls, instructed the pilot of flight EZS994 to stop his descent at flight level 200. In fact, the STCA had indicated a proximity alert to him at 16:42:26. The pilot read back *"We're stopping at 200"* and stated that his TCAS had issued a climb resolution advisory. According to the radar plots, at 16:42:38 he was at flight level 196 and 36 seconds later he was maintaining flight level 200. In view of the heavy traffic, one might ask if it might not have been prudent to have sectors INN and INE open separately.

At 16:42:50 the two aircraft crossed with a minimum lateral separation of 2.1 NM and an altitude difference of 700 FT.

At 16:42:55, the radar controller asked the pilot of flight AFR343U for his cleared flight level. The latter indicated flight level 190 to him; this was not disputed by the radar controller.

At 16:43:14, flight AFR343U was cleared to climb to flight level 260. The pilot read back flight level 260 and made the following remark: "That was a bit tight... the separation with the Easyjet there."

At 16:43:40, flight EZS994 was cleared onto a direct route SPR and to descend to flight level 160.

At 16:45:16, flight EZS994 was cleared to descend to flight level 100 and handed over to the arrival sector frequency 136.25 MHz.

At 16:45:31, flight AFR343U was handed over to the Paris frequency, 132.67 MHz.

No pilot stated on the INN frequency that he was going to submit a report.

The question is raised whether the use of English phraseology might have avoided this incident.

## **CAUSE**

The incident is due to an incorrect read-back by the crew of flight AFR343U which was corrected neither by the radar controller nor by the coordinator of the intermediate sector (INN/INE).

Moreover, the reciprocal monitoring (closed loop) procedure between the two members of the crew did not function.

### **Factor contributing to the incident**

The lack of attention on the part of the controllers involved as a result of a heavy workload attributable to the conjoining of intermediate sectors INN and INE.

**SAFETY RECOMMENDATION NR. 356****Safety deficit**

Two intermediate control sectors were grouped and were being managed by two controllers despite a heavy workload necessitating 104 radio communications in 10 minutes, i.e. on average one communication every six seconds. If they had not been grouped, the volume of traffic would have been shared between two sectors, each managed by two controllers, on two different frequencies. This heavy workload caused a lack of attention on the part of the controllers.

Sector capacities for each control sector are calculated according to Eurocontrol standards. These capacities are expressed in number of movements per hour and are available at the positions FMP (Flow Management Position) and Operational Supervision. At the time of the incident, the capacity of the two grouped sectors INI East and INI North, was 37 movements per hour.

**Safety recommendation**

The Federal Office for Civil Aviation should ensure that at times of a heavy traffic load, different airspace control sectors are not grouped.

Berne, 30 March 2005

Aircraft Accident Investigation Bureau

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AND CIRCUMSTANCES IS NO CONCERN OF THE INCIDENT INVESTIGATION  
(ART. 24 OF THE AIR NAVIGATION LAW)

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**TRANSCRIPT OF TELEPHONY  
OR RADIOTELEPHONY COMMUNICATION TAPE-RECORDINGS**

Investigation into the **incident** that occurred on **4 May 2003**

- Subject of transcript: **EZS994 / AFR343U**
- Centre concerned: Swiss Radar Area West
- Designation of unit: Terminal Control Geneva Sector INI North
- Frequency / Channel: 134.02 MHz MHz
- Date and period (UTC) covered by attached extract: 4 May 2003  
16:35 - 16:45 UTC
- Date of transcript: 13 June 2003
- Name of official in charge of transcription: Didier Javet

- Certificate by official in charge of transcription:

I hereby certify:

- That the accompanying transcript of the telephony or radiotelephony communication tape-recordings, retained at the present time in the premises of the Analysis Department, has been made, 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, 13 June 2003



Didier Javet

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## Abbreviations

<u>Sector</u>	<u>Designation of sector</u>
INI	- Terminal Control Geneva Coupled Sectors INI North & East

<u>Aircraft</u>	<u>Callsign</u>	<u>Type of acft</u>	<u>Flight rules</u>	<u>ADEP</u>	<u>ADES</u>
<b>994</b>	- <b>Topswiss 994</b>	<b>B733</b>	<b>IFR</b>	<b>LFPO</b>	- <b>LSGG</b>
EC	- Britair 783EC	F100	IFR	LFST	- LFLL
RD	- Régional 415RD	E145	IFR	LFSD	- LFLL
831	- Britair 831	CRJ1	IFR	EDDM	- LFLL
3443	- Air France 3443	CRJ1	IFR	LKPR	- LFLL
3477	- Air France 3477	E135	IFR	LSZH	- LFLL
HVP	- HB-EVP	SIAI	IFR	LSGG	- LSZF
<b>343U</b>	- <b>Air France 343U</b>	<b>B735</b>	<b>IFR</b>	<b>LSGG</b>	- <b>LFPG</b>
55N	- Estail 55N	RJ1H	IFR	LFML	- EBBR
WB	- Swiss 47WB	RJ1H	IFR	LSZH	- LSGG
879	- Britair 879	CRJ1	IFR	EDDL	- LFLL
3719	- Lufthansa 3719	B733	IFR	LSGG	- EDDF
356E	- Swiss 356E	A319	IFR	LSGG	- EGLL
883	- Britair 883	CRJ1	IFR	EDDF	- LFLL
442	- Swiss 442	SB20	IFR	LSGG	- EGLC



# TRANSCRIPT SHEET

Occurrence: EZS994 / AFR343U



Date: 4 May 2003

To <u>Col.1</u>	From <u>Col.2</u>	Time <u>Col.3</u>	Communications <u>Col.4</u>	Observations <u>Col.5</u>
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## Coupled Frequencies: 134.02 / 128.9 MHz Terminal Control Geneva Sectors INN / INE

INI	994	16:35:22	Radars, bonjour, Topswiss nine nine four, descending flight level two three zero.
994	INI	27	Topswiss niner niner four, bonjour, cleared LUSAR six Romeo, flight level two three zero.
INI	994	31	LUSAR six Romeo, Topswiss nine nine four.
EC	INI	34	Britair Echo Charlie, l'Approche de Lyon, cent vingt-cinq décimal huit, bonne journée.
INI	EC	37	Vingt-cinq huit, bonne journée, Echo Charlie.
RD	INI	39	Régional quatre cent quinze Romeo Delta, descendez vers le niveau de vol cent soixante.
INI	RD	43	On descend au niveau unité six zéro, Régional Romeo Delta.
831	INI	47	Britair huit trente et un, la vitesse trois cents nœuds max.
INI	831	50	Ouais, trois cents nœuds max, de toute façon on a deux cent quatre vingt-dix nœuds, Monsieur.
831	INI	54	Reçu.
INI	3443	56	Swiss Radar..., Air France..., trente-quatre quarante-trois, bonjour.
3443	INI	16:36:00	Air France trente-quatre quarante-trois, bonjour, descendez vers le niveau de vol deux cinq zéro, direct MILPA pour la MILPA sept Arrivée.
INI	3443	07	Ouais, on descend... deux cinq zéro..., pour MILPA... l'Arrivée..., Air France trente-quatre quarante-trois.
3443	INI	13	Correct et la vitesse trois cents nœuds mini.
INI	3443	16	Ouais, trois cents nœuds mini, on a bien copié..., Air France trente-quatre quarante-trois.
3477	INI	16:38:04	Air France trente-quatre soixante-dix-sept, descendez vers le niveau de vol cent.
INI	3477	08	On descend au niveau cent, Air France trente-quatre soixante-dix-sept.

Signature of person  
in charge of transcription:

# TRANSCRIPT SHEET

Occurrence: EZS994 / AFR343U



Date: 4 May 2003

To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
INI	HVP	16:38:59	Geneva Radar from Hotel Bravo Echo Victor Papa, good afternoon, flight level one hundred, on course to SOSAL - KORED.	
HVP	INI	16:39:06	Hotel Victor Papa, bonjour, identified.	
3477	INI	09	Air France trente-quatre soixante-dix-sept..., Lyon Approche cent vingt-cinq décimal huit, au revoir.	
INI	3477	14	L'Approche, vingt-cinq huit, trente-quatre soixante-dix-sept, au revoir.	
<i>INI</i>	<i>343U</i>	<i>49</i>	<i>Radar, Air France... trois cent quarante-trois Uniform, bonjour, en montée vers le niveau cent cinquante.</i>	
<i>343U</i>	<i>INI</i>	<i>55</i>	<i>Trois quarante-trois Uniform, bonjour, je vous rappelle pour plus haut, faites route direct Dijon.</i>	<i>Change of controller</i>
<i>INI</i>	<i>343U</i>	<i>16:40:02</i>	<i>En route sur Dijon de la position, Air France trois quarante-trois Uniform, vers le cent cinquante, XXXXX.</i>	<i>Could be "toujours"</i>
INI	55N	09	Swiss, bonjour, Estail five five November, level two four zero to PENDU.	
55N	INI	14	Five five nine, rebonjour, radar contact, maintain flight level two four zero.	
INI	55N	18	To maintain level two four zero, Estail five five November.	
994	INI	20	Topswiss nine nine four, descend flight level two zero zero.	
INI	994	25	Descending level two zero zero, Topswiss nine nine four.	
<i>343U</i>	<i>INI</i>	<i>28</i>	<i>Air France trois quarante-trois Uniform, montez au niveau cent quatre-vingts.</i>	
<i>INI</i>	<i>343U</i>	<i>31</i>	<i>Vers le niveau cent quatre-vingt dix, Air France cent quarante-trois U, trois quarante-trois Uniform.</i>	
RD	INI	44	Régional quatre cent quinze Romeo Delta, descendez vers le niveau cent.	
INI	RD	49	On descend au niveau cent, Régional Romeo Delta.	
INI	WB	56	Genève, bonjour, Swiss four seven Whiskey Bravo, approaching one four zero to KORED.	

Signature of person in charge of transcription:

# TRANSCRIPT SHEET

Occurrence: EZS994 / AFR343U



Date: 4 May 2003

To <u>Col.1</u>	From <u>Col.2</u>	Time <u>Col.3</u>	Communications <u>Col.4</u>	Observations <u>Col.5</u>
WB	INI	16:41:00	Roger, bonjour four seven Whiskey Bravo, radar contact.	
INI	WB	03	XXXXX.	Could be "Merci"
994	INI	11	<b>Topswiss nine nine four, descend flight level one nine zero.</b>	
INI	994	16	<b>Descending flight level one niner zero, Topswiss nine nine four.</b>	
INI	879	30	Swiss... Radar, bonsoir, le Britair huit cent soixante-dix-huit, en descente deux cinquante.	
879	INI	35	Huit sept neuf, bonjour, contact radar, maintenez deux cinquante, direct MILPA pour une MILPA sept Arrivée.	
INI	879	40	Direct MILPA pour une MILPA sept..., huit sept neuf.	
3443	INI	44	Air France trente-quatre quarante-trois, vous réduisez à deux cent cinquante nœuds, descendez vers le niveau deux cent dix.	
INI	3443	51	On réduit à deux cent cinquante nœuds et on descend vers le niveau deux cent dix..., Air France trente-quatre quarante-trois.	
3443	INI	55	HAP cinquante-huit.	
INI	3443	58	Une HAP à cinquante-huit.	
831	INI	16:42:00	Britair huit trente et un, vous réduisez à deux cent cinquante nœuds, HAP zéro trois et vous descendez vers le niveau deux cent dix.	
INI	831	07	Heu... deux cent cinquante nœuds, l'HAP à zéro trois et on descend vers le deux cent dix, Britair... huit cent trente et un.	
INI	3719	15	Radar ..., bonjour, Lufthansa three seven one niner, level one three zero, climbing one five zero.	
3719	INI	22	Three seven one nine, bonjour, radar contact..., climb to flight level one eight zero.	
INI	3719	27	Continue climb level one eight zero, Lufthansa three seven one niner.	
INI	356E	30	Genève, bonjour, Swiss three five six Echo, flight level one three zero climb flight level one five zero.	

Signature of person  
in charge of transcription:

# TRANSCRIPT SHEET

Occurrence: EZS994 / AFR343U



Date: 4 May 2003

To <u>Col.1</u>	From <u>Col.2</u>	Time <u>Col.3</u>	Communications <u>Col.4</u>	Observations <u>Col.5</u>
356E	INI	16:42:36	Three five six Echo, bonjour, direct Dijon, climb flight level one six zero.	
INI	356E	41	Direct Dijon, flight level one six zero, Swiss three five six Echo.	
994	INI	45	Topswiss nine nine four, stop descent flight level two hundred.	
INI	994	49	Ah yes, we had a TCAS climb, we stop at two hundred, Topswiss nine nine four.	
343U	INI	55	<i>Air France trois quarante-trois Uniform, quel est votre id, niveau autorisé.</i>	
INI	343U	16:43:00	<i>Trois quarante-trois Uniform, on est au cent quatre-vingt-dix actuellement.</i>	
343U	INI	04	<i>Reçu.</i>	
INI	3443	07	Air France trente-quatre quarante-trois..., on poursuit la réduction vers deux cents nœuds, pour l'HAP.	
3443	INI	11	Reçu.	
343U	INI	14	<i>Air France trois quarante-trois Uniform, montez au niveau deux six zero.</i>	
INI	343U	18	<i>Oui, on monte vers le niveau deux soixante, Air France trois quarante-trois Uniform et c'était un peu juste... l'espacement avec le Easyjet, là.</i>	
343U	INI	25	<i>Répétez.</i>	
INI	343U	27	<i>Je dis c'était un peu juste l'espacement avec le Easyjet.</i>	
343U	INI	30	XXXXX.	Noise of microphone.
WB	INI	32	Swiss four seven Whiskey Bravo, contact Radar, one three five six seven, goodbye.	
INI	WB	36	One three five six seven..., Swiss four... seven Whiskey Bravo, au revoir.	
994	INI	40	Topswiss nine nine four set course direct to Saint-Prex.	
INI	994	43	Direct to Saint-Prex now, Topswiss nine nine four, maintaining two hundred.	

Signature of person  
in charge of transcription:



# TRANSCRIPT SHEET

Occurrence: EZS994 / AFR343U

skyguide

Date: 4 May 2003

To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
994	INI	16:43:48	Nine nine four, descend flight level one six zero.	
INI	994	51	Descending level one six zero, Topswiss nine nine four.	
INI	883	56	Swiss Radar, bonjour, Britair huit cent quatre-vingt trois, stable au niveau deux cinquante sur BENOT.	
883	INI	16:44:02	Huit huit trois, bonjour, contact radar, je vous rappelle.	
INI	883	06	XXXXX.	Noise of microphone.
HVP	INI	08	Hotel Victor Papa, contact Radar on one two seven three two, goodbye.	
INI	HVP	13	One two seven three two, Hotel Victor Papa, goodbye.	
RD	INI	17	Romeo Delta, descendez vers le niveau cent.	
INI	RD	22	On est au niveau cent, Régional Romeo Delta.	
RD	INI	25	Reçu, Lyon cent vingt-cinq huit, au revoir.	
INI	RD	27	Cent vingt-cinq huit, bonne soirée.	
356E	INI	31	Swiss three five six Echo, climb flight level one eight zero.	
INI	356E	35	Up to flight level one eight zero, Swiss three five six Echo.	
3719	INI	46	Lufthansa three seven one niner, climb to flight level two six zero.	
INI	3719	51	Lufthansa three seven one niner, leaving level one eight zero, climbing level two six zero, confirm?	
INI	442	54	Swiss Radar, bonsoir, Swiss four four two, passing flight level... one zero five.	
442	INI	59	Bonjour Swiss four four two, direct Dijon, flight level one five zero.	
INI	442	16:45:04	Direct Dijon, flight level one five zero, Swiss four four two.	
3443	INI	06	Air France, trente-quatre quarante-trois, descendez vers le niveau cent soixante, unité six zéro.	
INI	3443	12	Descend vers le niveau cent soixante..., Air France trente-quatre quarante-trois.	

Signature of person  
in charge of transcription:



# TRANSCRIPT SHEET

Occurrence: EZS994 / AFR343U

Date: 4 May 2003



<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>
994	INI	16:45:16	Topswiss nine nine four, contact Arrival on..., correction, descend flight level one zero zero.	
INI	994	21	Descending level one zero zero, Topswiss nine nine four.	
994	INI	24	Nine nine four, contact Arrival one three six two five, goodbye.	
INI	994	28	Three six two five, Topswiss nine nine four, bye-bye.	
343U	INI	31	<i>Air France trois quarante-trois Uniform, contactez Paris, cent trente-deux soixante-sept, au revoir.</i>	
INI	343U	36	<i>Avec Paris, cent trente-deux soixante-sept, Air France trois quarante-trois Uniform, au revoir.</i>	

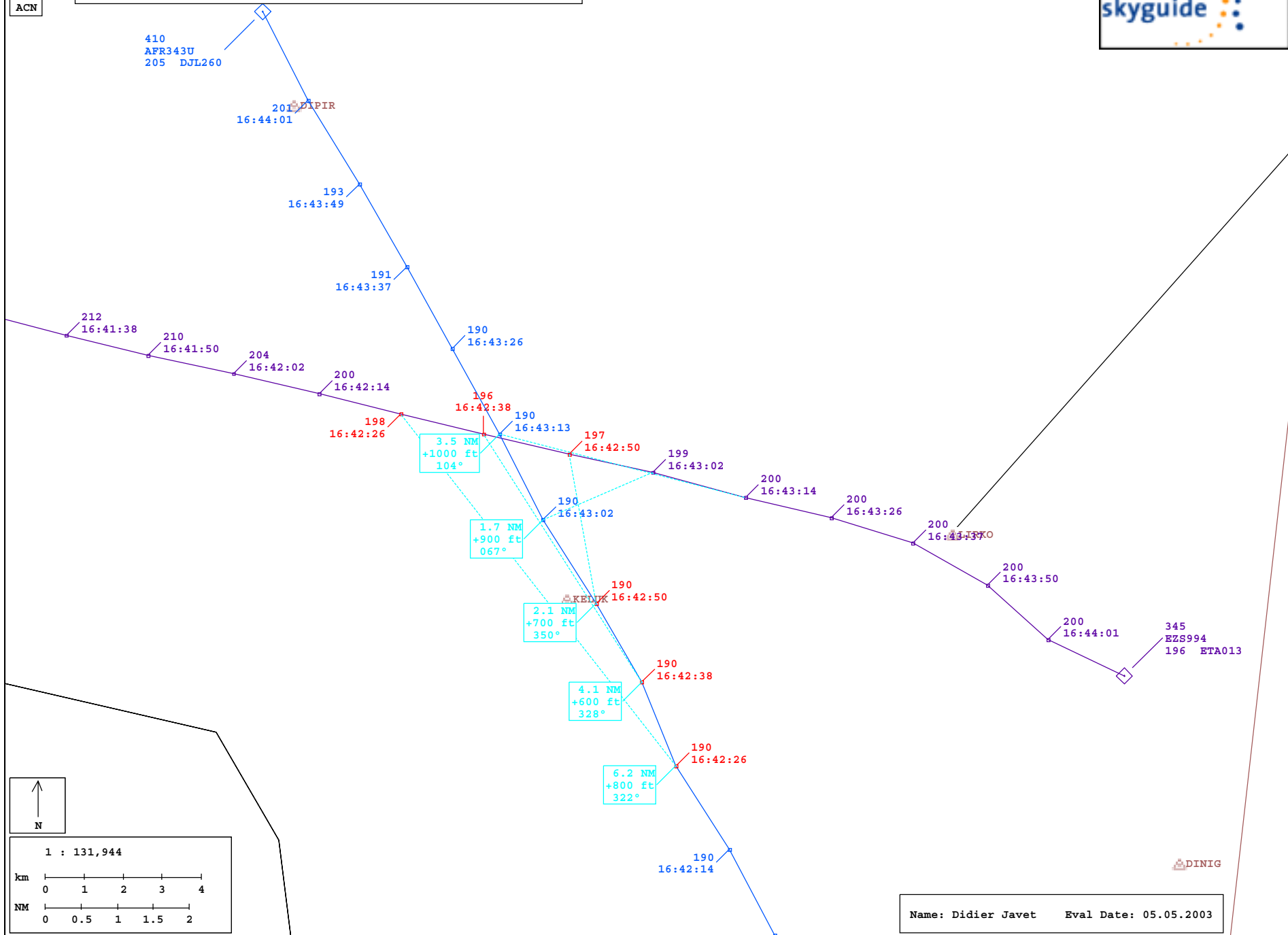
Signature of person  
in charge of transcription:

A handwritten signature in blue ink, appearing to be "D. J. A." with a stylized flourish at the end.



Src  
ACC  
ACN

Analysis: Airprox EZS994 / AFR343U Time [UTC]: 04.05.2003 16:44:17



Name: Didier Javet Eval Date: 05.05.2003

