

Final Report of the Aircraft Accident Investigation Bureau

concerning the incident (Airprox)

between DLH4161 and HB-VMV

on 22nd August 2002

TELNO, UAC, Geneva

FINAL REPORT

AIR TRAFFIC INCIDENT REPORT (ATIR)

AIRPROX (NEAR MISS)

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)

PLACE/DATE/TIME	TELNO, UAC, Geneva, 22 August 2002 13:38 UTC	
AIRCRAFT	Deutsche Lufthansa DLH4161, Airbus A319, from Nice to Frankfurt Sonnig SA HB-VMV, Cessna Citation C560, from Geneva to Salzburg	
ATC UNIT	Swiss Radar Area West UAC	
CONTROLLERS	MOLUS3	Radar op. Coord.
	INI E	Radar op. Coord.
	U1 RE	Trainee rad. Coach Trainee co. Coach
AIRSPACE	C	

HISTORY

Flight HB-VMV

On Thursday 22 August 2002 at 13:25, an aircraft, type Cessna Citation C560, HB-VMV, on a commercial flight from Geneva to Salzburg, took off and climbed to flight level 150. A few minutes later, the pilot reported on the sector INI E frequency of 128.9 MHz. The radar operator cleared him for flight level 260 after identifying him. Two minutes later, the radar operator asked the pilot for his rate of climb. The latter responded 1500 FT per minute. The radar operator asked the pilot to maintain this rate of climb until leaving flight level 240. The pilot of flight HB-VMV answered that he was increasing his rate of climb to 2000 FT per minute. At 20 NM from the TELNO waypoint, flight HB-VMV was transferred to the Zurich frequency of 132.815 MHz.

The pilot of flight HB-VMV reported on frequency 132.815 MHz that he was at flight level 240 and climbing towards flight level 260. The radar operator, a pupil in training, identified him and cleared him for BERSU-KUDES-BAMUR, at flight level 260 and informed him that he would call back for a higher level. The pilot of flight HB-VMV read back with an incorrect route and flight level 280, which was also incorrect. The radar operator repeated the route twice to him, but not flight level 260. At 13:38, the STCA (Short Term Conflict Alert) indicated a proximity alert to the radar operator.

The radar operator asked the pilot to confirm that he was maintaining flight level 270. The pilot of flight HB-VMV responded to him "negative, climbing towards flight level 280, I will descend back to flight level 270". The radar operator asked him to speed up his descent and 30 seconds later the pilot stated that he was maintaining flight level 270. Flight HB-VMV was then cleared for flight level 300 with a rate of climb of 1500 FT per minute or more and was transferred to Swiss radar frequency 134.605 MHz one minute later.

Flight DLH4161

At 13:22 UTC, the pilot of an aircraft Airbus type A319, DLH4161, a scheduled Deutsche Lufthansa flight from Nice to Frankfurt, reported on the sector MOLUS3 frequency of 126.05 MHz. He stated that he was crossing flight level 268 and climbing to flight level 280. The radar operator identified him and asked him to maintain flight level 280. At 13:27, for traffic reasons, he asked the pilot of flight DLH4161 to continue on his current heading. A few minutes later, he authorised him to re-assume his own navigation on the direct route SOSAL-BERSU and asked him to contact Zurich on frequency 132.815 MHz. At 13:38, the pilot of flight DLH4161 reported back on the Geneva frequency 126.05 MHz and notified a TCAS (Traffic Collision Avoidance System) climb. The radar operator authorised him to climb to flight level 310 and informed him that he was going to obtain information on the lower sector. The pilot stated that he would be obliged to make a report. The radar operator replied that he would be making one too. At 13:41, the pilot of flight DLH4161 was authorised to descend again to flight level 280 and was transferred to the Zurich frequency 132.815 MHz.

A few seconds later, the pilot of flight DLH4161 reported on the Zurich frequency that he was descending towards flight level 280. The radar operator, a trainee, identified him and authorised him on the route BERSU-KUDES-NELLI, flight level 280. Twenty seconds later, he asked the pilot of flight DLH4161 to stop his descent at flight level 300. The pilot read back flight level 300 and asked for the position of the traffic which had caused his TCAS/RA (Resolution Advisory), if the traffic was climbing to an incorrect altitude or if he had received an incorrect clearance.

All times are specified in the universal time coordinated (UTC) format (local time – 2 hours)

The radar operator informed him that the traffic was in front of him and climbing, flying more slowly, and that he would obtain information. At 13:46, he cleared flight DLH4161 for a left turn towards LADOL and 5 minutes later, he informed the pilot that the traffic which had caused his TCAS climb had been cleared correctly, but that the pilot made an incorrect read back.

FINDINGS

- The runway in service at Geneva was runway 05.
- Winds in altitude were 250° 15 to 20 KT between flight levels 180 and 300.
- Flying conditions were VMC (Visual Meteorological Conditions).
- The route of flight HB-VMV was L1N-KORED-BERSU-KUDES-BAMUR.
- The route of flight DLH4161 was IRMAR-MOLUS-KORED-BERSU-NELLI.
- The incident occurred at TELNO, in class C airspace, between flight level 270 and 280, in the area of jurisdiction of UAC W Geneva.
- Instrument flight rules were being applied.
- Flying conditions were VMC (Visual Meteorological Conditions) according to the reports from the CMD of flights DLH4161 and HB-VMV.
- The radar operators as well as the coordinators were in possession of a valid licence.
- At the time of the incident, flight HB-VMV was in contact with and under radar control of Zurich sector U1 RE on frequency 132.815 MHz and flight DLH4161 was in contact with and under radar control of Geneva sector MOLUS3 on frequency 126.05 MHz.
- At Zurich sector U1 RE, the radar operator as well as the coordinator were under training and under supervision.
- The Cessna Citation, flight HB-VMV, was not equipped with a TCAS.
- The Airbus A319, flight DLH4161, was equipped with a TCAS.
- Radiocommunications between the pilots of flights HB-VMV, DLH4161 and the radar operators were conducted in English.
- At 13:29:26, flight HB-VMV was cleared to flight level 260.
- At 13:35:42, flight HB-VMV was transferred to the Zurich sector U1 RE frequency 132.815 MHz.
- At 13:45:55, flight DLH4161 was 12 NM behind flight HB-VMV, following the same route.
- At 13:36:13, the pilot of flight HB-VMV reported on frequency 132.815 MHz that he was at flight level 240 and climbing towards flight level 260.
- The radar operator identified him and cleared him for BERSU-KUDES-BAMUR, flight level 260.
- The pilot of flight HB-VMV read back with an incorrect route and flight level 280, which was also incorrect.
- The radar operator repeated the route to him twice but not the flight level.
- At 13:38:36, the STCA indicated to the Zurich radar operator a proximity alert with a minimum altitude difference of 600 FT and a lateral separation of 1.5 NM between flight HB-VMV and flight DLH4161.

All times are specified in the universal time coordinated (UTC) format (local time – 2 hours)

- At 13:38:37, the radar operator asked the pilot of HB-VMV if he was maintaining flight level 270. The pilot answered "negative, climbing towards flight level 280, I will descend back to flight level 270."
- At 13:38:48, flight HB-VMV was at flight level 274.
- At 13:39:00, flight HB-VMV was at flight level 271.
- At 13:38:12, flight DLH4161 was transferred to the Zurich sector U1 RE frequency of 132.815 MHz.
- At 13:38:41, the STCA indicated to the Geneva radar operator a proximity alert with a minimum altitude difference of 800 FT and a lateral separation of 1.9 NM between flight DLH4161 and flight HB-VMV.
- At 13:38:44, the pilot of flight DLH4161 reported back on frequency 126.05 MHz and announced a TCAS climb.
- According to the report of the CMD of flight DLH4161, his TCAS informed him of traffic in the opposite direction.
- At 13:38:56, the radar operator cleared flight DLH4161 to climb to flight level 310.
- The pilot of flight DLH4161 as well as the radar operator of sector MOLUS3 announced on the frequency that they were going to submit a report.
- At 13:41:03, the radar operator, after coordination with Zurich sector U1 RE, cleared flight DLH4161 to descend to flight level 280 and transferred it to frequency 132.815 MHz.
- At 13:41:25, the pilot of flight DLH4161 reported on frequency 132.815 MHz that he was leaving flight level 310 and descending towards flight level 280.
- At 13:41:31, the radar operator identified him and cleared him on route BERSU-KUDES-NELLI and flight level 280.
- At 13:41:51, the radar operator asked the pilot of flight DLH4161 to stop his descent at flight level 300.
- At 13:51:19, flight DLH4161 was transferred to Rhine sector frequency 132.405 MHz.
- Weather: 13:20 UTC
 - Wind: 050°, 6 KT
 - Variable between 010° 110°
 - Visibility: 10KM
 - Cloud: few, 4800 FT
 - Temperature: 24°C
 - QNH 1015 hPa
 - NOSIG (no significant change)

ANALYSIS

Flight HB-VMV took off from Geneva for Salzburg and was cleared by the radar operator of sector INI E to flight level 260 at a rate of climb of 1500 FT per minute. The pilot reported that he was increasing his rate of climb to 2000 FT per minute.

Flight HB-VMV was then transferred to the Zurich sector U1 RE frequency 132.815 MHz.

All times are specified in the universal time coordinated (UTC) format (local time – 2 hours)

At the same time, flight DLH4161, from Nice to Frankfurt, was at flight level 280 and in contact with sector MOLUS3. It was positioned some 12 NM behind HB-VMV and flying on the same route.

When the pilot of flight HB-VMV reported on the sector U1 RE frequency that he was climbing to flight level 260, the radar operator, a trainee who was working under supervision, identified him and cleared him on the route BERSU-KUDES-BAMUR, flight level 260. The pilot read back an incorrect route and flight level 280, which was also incorrect. The trainee radar operator did not notice the incorrect flight level, likewise the radar operator who was supervising him, the trainee coordinator and the coordinator who was supervising him (4 people on this sector). The trainee radar operator had to repeat the route twice, but unfortunately he did not repeat the correct flight level. Following an STCA proximity alert, the controller asked the pilot to confirm that he was maintaining flight level 270. "Negative", replied the pilot, "we are climbing to flight level 280, we are correcting and descending back to flight level 270." Actually, flight HB-VMV had climbed to flight level 274, which resulted in an RA alert on the TCAS of flight DLH4161. Minimum separation between these two aircraft was 600 FT (altitude) and 1.5 NM (distance).

After flight DLH4161 had been transferred to the Zurich sector U1 RE frequency 132.815 MHz, the pilot reported back on the frequency and notified a TCAS climb. At the same time, the STCA indicated a proximity alert to the Geneva radar operator. The radar operator immediately cleared flight DLH4161 to climb to flight level 310, which was free, and told the pilot that he would obtain information. Following coordination with sector U1 RE, flight DLH4161 was cleared to descend back to flight level 280 and was transferred to their frequency.

A few seconds later, the pilot of flight DLH4161 reported on frequency 132.815 MHz that he was leaving flight level 310 for flight level 280. The trainee radar operator identified him and cleared him for route BERSU-KUDES-NELLI at flight level 280. Twenty seconds later, he asked the pilot to stop his descent at flight level 300. The pilot read back flight level 300 and asked for information on the traffic which had triggered an RA on his TCAS. The trainee radar operator told him that the traffic was in front of him, flying slower, climbing and that the pilot had been cleared correctly but that he had read back incorrectly.

CAUSE

The incident is due to incorrect read back by the crew of flight HB-VMV and the lack of read back verification by the radar operator.

Berne, 1 March 2004

Aircraft Accident Investigation Bureau

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INVESTIGATION
(ART. 24 OF THE AIR NAVIGATION LAW)

All times are specified in the universal time coordinated (UTC) format (local time – 2 hours)

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

Investigation into the **incident** that occurred on **22 August 2002**

- Subject of transcript: **HBVMV / DLH4161**

- Centre concerned: Swiss Radar Area West

- Designation of unit: MS3 / INE

- Frequencies: 126.05 MHz
128.9 MHz

- Date and period covered by attached extract: 22 August 2002
13:21 - 13:41 UTC

- Date of transcript: 4 September 2002

- Name of official in charge
of transcription service: Monica Simonet

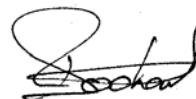
- Certificate by official in charge of Analysis Department:

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, 4 September 2002

on behalf of M. Simonet



I. Rochat

Abbreviations

MS3 - Swiss Radar Area West, MOLUS 3 Sector
 INE - Swiss Radar Area West, INI East Sector

4161	-	Lufthansa 4161	A319	IFR flight	LFMN	-	EDDF
30C	-	Alitalia 30C	MD82	IFR flight	LIMC	-	LFPG
NRK	-	N888RK	C525	IFR flight	LIMC	-	EHRD
4537	-	Iberia 4537	A320	IFR flight	EDDM	-	LEBL
8254	-	Luxair 8254	E145	IFR flight	LFMN	-	ELLX
2349	-	Eurofly 2349	A332	IFR flight	EIDW	-	LIMC
435U	-	Air France 435U	E135	IFR flight	EDDF	-	LFML
462	-	Ryanair 462	B738	IFR flight	EGSS	-	LIMF
7582	-	Saudia 7582	GLF4	IFR flight	LIMC	-	LFPB
502	-	Cirrus 502	P180	IFR flight	LEZG	-	LSZR
HMV	-	HBVMV	C560	IFR flight	LSGG	-	LOWS
3661	-	Lufthansa 3661	F50	IFR flight	LSGG	-	EDDL
HJR	-	HBGJR	B350	IFR flight	LSGL	-	LOWS
91	-	Bristol 91	BE20	IFR flight	EGHH	-	LIMJ

TRANSCRIPT SHEET

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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Frequency 126.05 MHz: Swiss Radar Area West MS3 Sector

MS3	4161	13:21:57	Swiss Radar ..., good afternoon, Lufthansa four one six one, passing level two six eight, climbing level two eight zero.	
4161	MS3	13:22:03	Lufthansa four one six one, bonjour, identified, maintain two eight zero.	
MS3	4161	07	Lufthansa four one six one, maintaining level two eight zero.	
MS3	30C	57	Swiss... bon, good day, it's Alitalia three zero Charlie, is climbing level three zero zero, radar heading three one zero.	
30C	MS3	13:23:05	Alitalia three zero Charlie, bonjour, identified and continue climb to level three two zero.	
MS3	30C	11	Continue up level... three two zero, Alitalia three zero Charlie.	
MS3	30C	16	If it's possible, we prefer to maintain level three zero zero for cruising.	
30C	MS3	22	Stand-by.	
30C	MS3	38	Alitalia three zero Charlie, maintain three zero zero when reaching and proceed direct to TINIL.	
MS3	30C	43	Direct TINIL, three zero zero level... for the cruising, Alitalia three zero Charlie.	
MS3	NRK	52	Radar, the November triple eight Romeo Kilo, for your information, we request three six zero as final.	
NRK	MS3	59	Roger.	
4537	MS3	13:24:40	Iberia four five three seven, contact Marseilles on one three three decimal four two.	
MS3	4537	46	One three three four two, Iberia four five three seven, au revoir.	
MS3	8254	13:25:14	Heu, Swiss Grü, good afternoon, Luxair eight two five four, climbing level two six zero, cleared IRMAR-MOLUS-PENDU.	
8254	MS3	22	Luxair eight two five four, bonjour, identified and continue climb to level two eight zero.	
MS3	8254	28	Cleared now level two eight zero, Luxair eight two five four.	

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>
NRK	MS3	13:26:39	November Romeo Kilo, for further, contact... Radar on channel one two four decimal zero three zero.	
MS3	NRK	45	One two four zero three zero, Romeo Kilo.	
NRK	MS3	48	Au revoir.	
MS3	2349	49	Geneva, the Eurofly... two three forty-nine, good afternoon.	
2349	MS3	53	Eurofly two three four nine, good afternoon.	
4161	MS3	13:27:08	Lufthansa four one six one, continue on present heading until further advised.	
MS3	4161	13	Lufthansa four z..., one six one, continue present heading.	
MS3	435U	24	Swiss Radar, from Air France four three five Uniform, good evenin, good afternoon, flight level two seven zero on course to ULMES.	
435U	MS3	32	Air France four three five Uniform, bonjour, identified, maintain two seven zero and for time proceed MILPA-BALSI.	
MS3	435U	38	Maintain two seven zero, MILPA-BALSI, four three five Uniform.	
2349	MS3	52	Eurofly two three four nine, descend to level two seven zero, to reach at least... three zero miles before TORINO.	
MS3	2349	59	Heu, descend to level two seven zero, Eurofly two three four nine.	
MS3	462	13:28:57	Radar... good afternoon, Ryanair four six two, flight level three zero zero, descend flight level two niner zero, inbound MOBLO.	
462	MS3	13:29:04	Heu, four six two, bonjour, identified, maintain two niner zero for a while due to crossing traffic.	
MS3	462	09	Roger, Ryanair four six two.	
2349	MS3	29	Eurofly two three four nine, Milano one two five decimal two seven.	
MS3	2349	34	Milano, twenty-five twenty-seven, two three forty-nine, bye-bye.	
2349	MS3	38	Bye.	
462	MS3	13:30:37	Ryanair four six two, descend to level two one zero.	

Signature of
person in charge:



TRANSCRIPT SHEET

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>
MS3	462	13:30:40	Down level two one zero, Ryanair four six two.	
462	MS3	13:32:14	Ryanair four six two, Milano one two five decimal two seven.	
MS3	462	17	One two five two seven, Ryanair four six two, thank you.	
462	MS3	20	Bye.	
30C	MS3	35	Alitalia three zero Charlie, Paris one three two decimal six seven.	
MS3	30C	39	One three two six seven, three zero Charlie, ciao.	
30C	MS3	41	Bye-bye.	
4161	MS3	44	Lufthansa four one six one, own navigation to SOSAL then BERSU.	
MS3	4161	49	Lufthansa four one six one, direct SOSAL then BERSU.	
435U	MS3	13:33:02	Air France four three five Uniform, set course to BALSI.	
MS3	435U	06	Course to BALSI, four three five Uniform.	
MS3	7582	13:35:13	Heu, Radar, Saudia seven five eight two..., bonjour, ... level two six zero.	
7582	MS3	19	Saudia seven five eight two, bonjour, ... identified and... continue climb to level three zero zero.	
MS3	7582	26	Three zero zero, Saudia seven five eight two.	
MS3	7582	33	Any chance for three four zero, Saudia seven five eight two?	
7582	MS3	36	Expect, call you back.	
MS3	502	13:36:27	Swiss Radar, Grüezi, Cirrus five zero two, maintaining flight level two eight zero, on course OMASI.	
502	MS3	35	Bonjour, Cirrus five zero two, identified, maintain two eight zero, proceed MOLUS-BERSU.	
MS3	502	42	MOLUS-BERSU, Cirrus five zero two.	
8254	MS3	55	Luxair eight two five four, you may set course to PENDU.	
MS3	8254	58	Direct to PENDU, Luxair eight two five four.	

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>
7582	MS3	13:37:29	Saudia seven five eight two, climb to level three two zero.	
MS3	7582	34	Three two zero, final level for Saudia seven five eight two.	
7582	MS3	44	Saudia seven five eight two, for further contact Radar on one two four decimal zero three zero.	
MS3	7582	50	Heu, one two four... zero three zero, Saudia seven five eight two.	
7582	MS3	54	Au revoir.	
4161	MS3	13:38:12	Lufthansa four one six one, contact Radar on channel one three two decimal eight one five.	
MS3	4161	18	Lufthansa four one six one, one three two decimal eight one five, good-bye.	
4161	MS3	22	Bye.	
MS3	4161	44	Lufthansa four one six one, TCAS climb.	
4161	MS3	49	Heu, Roger.	
4161	MS3	56	Roger, you may climb to three one zero, no traffic above you.	
MS3	4161	13:39:01	Lufthansa four one six one, climbing level three one zero.	
4161	MS3	04	Heu, and for information with the traffic, descending now below, heu..., we will look with... the sector below us.	
MS3	4161	14	Okay, Lufthansa four one six one, is it a military traffic, now on TCAS two thousand six hundred feet below.	
4161	MS3	20	It's a civil one I think.	
MS3	4161	28	And Lufthansa four one six one, we'll have to write a report about that.	
4161	MS3	32	Of course, we will do... one, heu... also one.	
MS3	4161	35	Okay, thanks.	
4161	MS3	13:41:05	Lufthansa four one six one, descend again to level two eight zero.	
MS3	4161	08	Lufthansa four one six one, descending level two eight zero.	

Signature of
person in charge:



TRANSCRIPT SHEET

To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
4161	MS3	13:41:12	And four one six one, for further, contact... Radar on one three two decimal eight one five.	
MS3	4161	17	Okay, Lufthansa four one six one, one three two eight one five. Tschüss.	
4161	MS3	20	Bye.	

Frequency 128.9 MHz: Swiss Radar Area West INE Sector

INE	HMV	13:29:20	Geneva Radar, good afternoon, Hotel Bravo Victor Mike Victor, climbing to level one five zero.	
HMV	INE	26	Hotel Bravo Victor Mike Victor, bonjour, you're identified, climb to flight level two six zero.	
INE	HMV	33	Continue climbing to level two six zero, Hotel Mike Victor.	
INE	3661	37	????? bonjour, Lufthansa three six six one, climbing flight level ??????	Unreadable
3661	INE	42	Lufthansa three six six one, bonjour, identified, climb flight level two two zero.	
INE	3661	46	Climb level two two zero, ??????	Unreadable
3661	INE	51	Lufthansa three six six one, you are unreadable, I confirm, cleared level is two two zero.	
INE	3661	56	Level two two zero, ??????	Unreadable
INE	HJR	13:30:19	Radar, Hotel Bravo Golf Juliett Romeo, good afternoon, passing... niner zero, climbing one five zero.	
HJR	INE	26	Hotel Juliett Romeo, bonjour, identified.	
HMV	INE	13:31:26	Hotel Mike Victor, report rate of climb.	
INE	HMV	30	Fifteen hundred, Hotel Mike Victor.	
HMV	INE	32	Roger, keep it out of two four zero, please.	
INE	HMV	38	Increasing to... two thousand feet, Hotel Mike Victor.	
HMV	INE	43	Roger.	
HJR	INE	13:32:34	Hotel Juliett Romeo, climb flight level one six 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>
INE	HJR	13:32:38	Continue climbing one six zero, Juliett Romeo.	
HJR	INE	13:33:35	Hotel Juliett Romeo, climb flight level one eight zero.	
INE	HJR	38	Continue climbing one eight zero, Juliett Romeo.	
INE	91	13:34:25	Geneva Radar, Bristol nine one, level two five zero, on course to MOKIP.	
91	INE	34	Charlie Lima Fox nine one, identified, cleared Geneva - Torino, level two five zero.	
INE	91	39	Direct Geneva - Torino, level two five O, Bristol nine one.	
INE	608	45	Radar, bonjour, Swiss... six zero eight, level one zero three, climbing one five zero to... Dijon.	
608	INE	51	Swiss six zero eight, bonjour, identified, climb flight level two six zero.	
INE	608	56	????? level two six zero, Swiss six zero eight.	Unreadable
HJR	INE	13:35:04	Hotel Juliett Romeo, climb to flight level two one zero.	
INE	HJR	07	Climbing two one zero, Juliett Romeo.	
HMV	INE	42	Hotel Mike Victor, contact Swiss Radar, on one three two decimal eight one five, good-bye.	
INE	HMV	48	Three two eight one five, good-bye, Hotel Mike Victor.	

02/03/2004 / GEY/ri
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Signature of
person in charge:

Transcript of Original Tape Recording

Subject **AIRPROX HB-VMV of August 22, 2002**

Call Signs H-MV → HB-VMV → private
 4161 → DLH4161 → Lufthansa
 U1 RE → Zurich Upper1 Sector Radar Executive

Frequency Zurich Upper1 Sector / U1 RE 132.815 MHz

The signer certifies the completeness of the present transcript

skyguide
Flugsicherungsbetrieb Zürich

ZZDA

sig. Bettina Comte

To	From	Time UTC	Communication	Observation/various 2
U1 RE	H-MV	13:36:13	Swiss äh Radar, good afternoon, HBVMV, level 24, climbing at 260	
H-MV	U1 RE	:20	good afternoon HBVMV, identified, cleared BERSU-KUDES-BAMUR, maintain flight level 260, call you back for higher level	
U1 RE	H-MV	:30	cleared to BERSU-B.*...-Bamur, level 280, H-MV	*unreadable
H-MV	U1 RE	:36	just to confirm, it's BERSU-KUDES-BAMUR	
U1 RE	H-MV	:43	and äh... „Kured“-BE.....KUDES-BAMUR, H-MV	
H-MV	U1 RE	:49	negative, first point is BERSU; BRAVO, ECHO, ROMEO, SIERRA, UNIFORM, then KUDES-BAMUR	
U1 RE	H-MV	:56	I got it, thank you, BERSU-KUDES-BAMUR, H-MV	
H-MV	U1 RE	:37:00	that's correct	
4 stations in between				
H-MV	U1 RE	:38:37	H-MV, confirm maintaining flight level 270?	
U1 RE	H-MV	:41	oh, negative Sir.....climbing at 280, correcting back to level 270, H-MV	
H-MV	U1 RE	:48	roger, expedite	
U1 RE	H-MV	:49	MV, wilco	
U1 RE	H-MV	:39:08	Swiss Radar, H-MV is maintaining at 270	
H-MV	U1 RE	:11	roger, thank you	
3 stations in between				
U1 RE	4161	:41:25	Swiss Radar, good afternoon, DLH4161, leaving level 310 descending level 280	
4161	U1 RE	:31	DLH4161 „grüezi“, identified, BERSU-KUDES-NELLI, flight level 280	
U1 RE	4161	:39	DLH4161, BERSU-KUDES-NELLI, flight level 280	
4161	U1 RE	:51	DLH4161, stop descent flight level three hundred	
U1 RE	4161	:54	DLH4161, stop descent flight level three hundred	
1 station in between				
U1 RE	4161	:42:36	and DLH4161, we had a relo... Resolution Advisory äh.. couple of minutes ago, and äh..*...., do you know of our traffic came from right to left or from the back?	*unreadable

To From Time UTC Communication Observation/various 3

4161 U1 RE 13:42:45 it was in front of you, slower climbing
U1 RE 4161 :48 DLH4161, thanks
U1 RE 4161 :54 and just for our information, äh.... did he climb to a
wrong altitude or äh.. was it, was it äh... a wrong climb
clearance?
4161 U1 RE :43:02 we check it
U1 RE 4161 :04 „ja“ because it was äh just coming opposite, and we
had a maximum of five hundred feet and that is pretty
close
4161 U1 RE :11 yes, I know thanks

4 stations in between

H-MV U1 RE :44:47 H-MV, climb to flight level three hundred now
U1 RE H-MV :51 leaving 27, climbing three hundred, H-MV
H-MV U1 RE :57 and H-MV, rate of climb fifteen hundred feet per min-
ute, or more
U1 RE H-MV :45:00 we set fifteen hundred feet or, or more, H-MV

4161 U1 RE :59 DLH4161, turn left to LADOL
U1 RE 4161 :46:02 DLH4161, left turn to LADOL
H-MV U1 RE :08 H-MV, contact now Swiss Radar 134 decimal 605
U1 RE H-MV :13 134 605, H-MV

9 stations in between

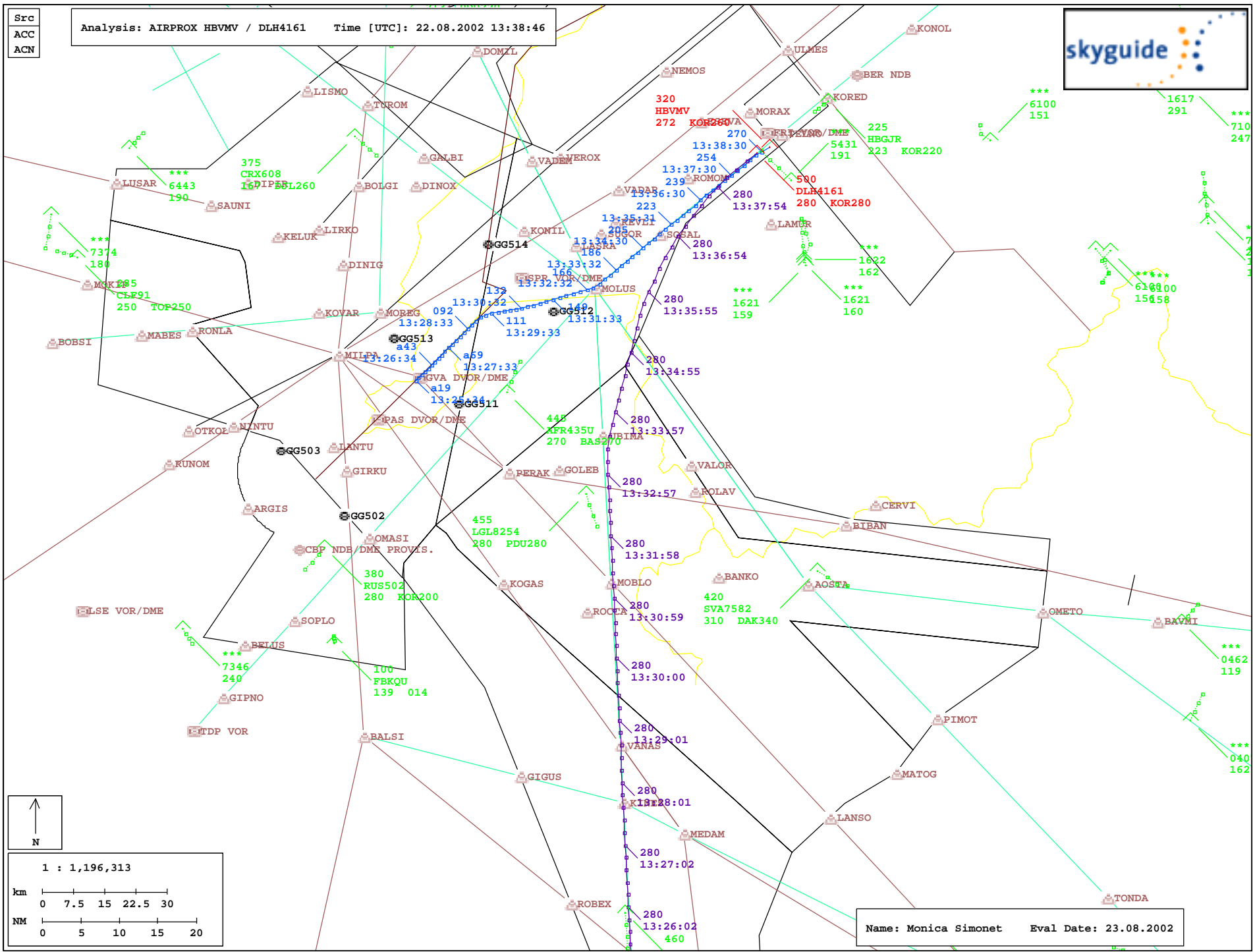
4161 U1 RE :50:54 DLH4161?
U1 RE 4161 :57 DLH4161, go ahead?
4161 U1 RE :59 the traffic that caused your TCAS-climb, was cleared
correctly, but, rate... äh read it back the wrong way
and did the wrong thing
U1 RE 4161 :51:08 okay, DLH416...61, thank you..... and äh, do you know
wi... it's a military or a civil traffic?
4161 U1 RE :16 civil

To	From	Time UTC	Communication	Observation/various 4
U1 RE	4161	:17	okay, thanks	
4161	U1 RE	13:51:19	yeah, and DLH4161, contact now Rhine 132 decimal 405, tschüss	
U1 RE	4161	:25	DLH4161, 132 decimal 405, tschüss, „schönen Tag“	

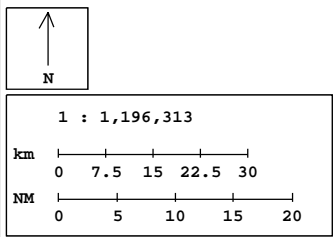
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Src
ACC
ACN

Analysis: AIRPROX HBVMV / DLH4161 Time [UTC]: 22.08.2002 13:38:46

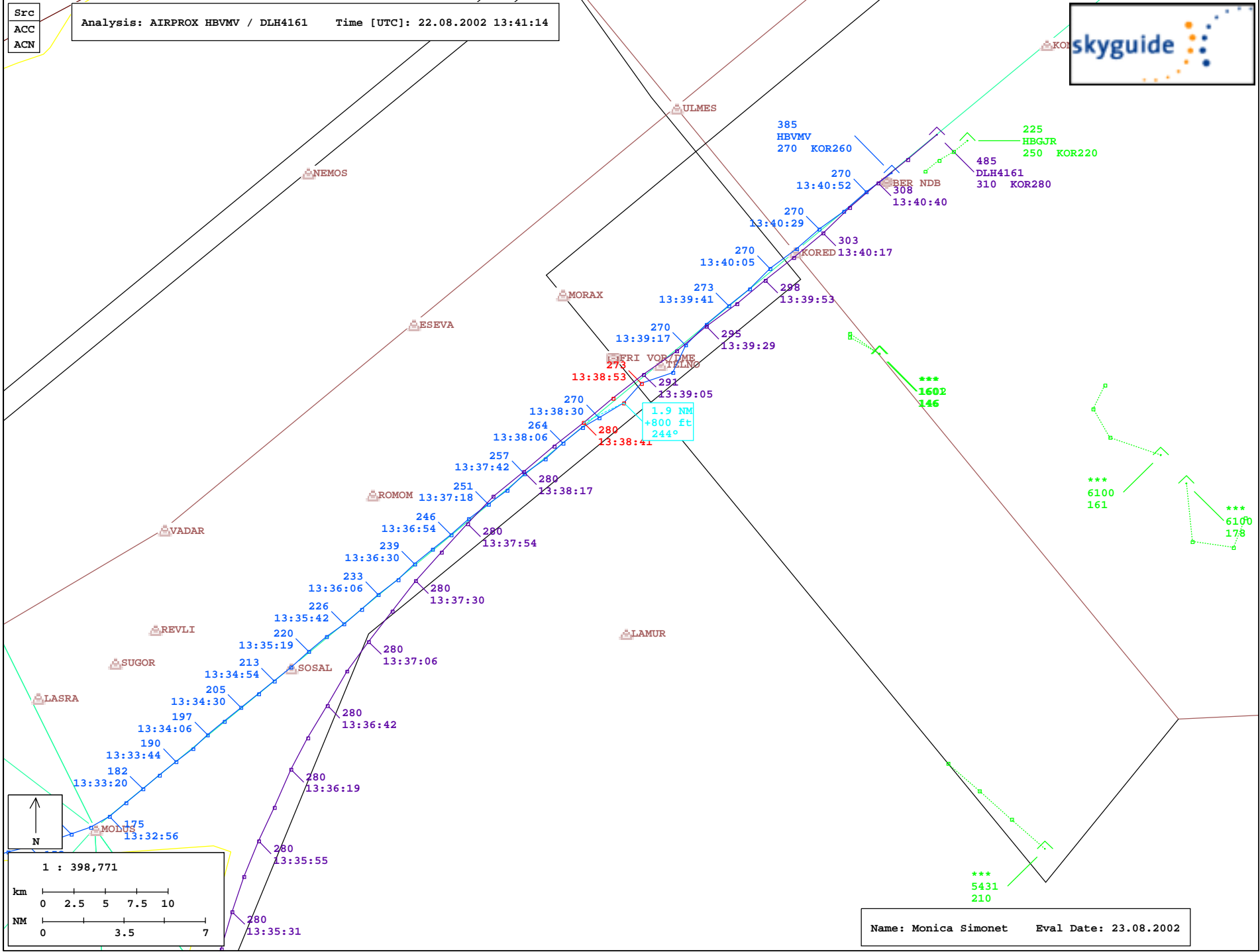


Name: Monica Simonet Eval Date: 23.08.2002



Src
ACC
ACN

Analysis: AIRPROX HBVMV / DLH4161 Time [UTC]: 22.08.2002 13:41:14



ULMES

NEMOS

ESEVA

MORAX

VADAR

REVLI

SUGOR

LASRA

LAMUR

ROMOM

SOSAL

MODUS

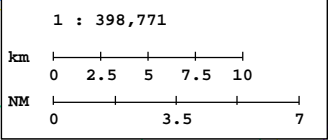
FRI VOR DME
TELMO

BER NDB

385
HBVMV
270 KOR260

225
HBGJR
250 KOR220
485
DLH4161
310 KOR280

1.9 NM
+800 ft
244°



Name: Monica Simonet Eval Date: 23.08.2002