

Final Report of the Aircraft Accident Investigation Bureau

concerning the incident (Airprox)

between SAS615 and F-BPKI

on 1 October 2002

at 10 NM on the axis of runway 05 at Geneva

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)

PLACE/DATE/TIME At 10 NM on the axis of runway 05 at Geneva,
1 October 2002, 16:30 UTC

AIRCRAFT SAS 615, Embraer ERJ145, SE-DZC, Skyways
Stockholm Arlanda - Geneva

F-BPKI, DR221, private
Bourg – Bourg (LFHS), circular flight

ATC UNIT Geneva Approach Control

CONTROLLER ARRIVAL

DELTA

AIRSPACE D and C

HISTORY

On Tuesday 1 October 2002, at about 15:50 UTC, aircraft DR221 registered F-BPKI took off from Bourg aerodrome with three people on board for a circular flight around the CTR, Geneva airport control area, and a return to its point of departure.

It made contact with Geneva Terminal on the TMA frequency and informed control of its intentions.

Because of heavy traffic at Geneva Approach, TMA control was closed and the TMA frequency was being served, following the request of the Control Tower supervisor, by DELTA control, which coupled the two frequencies.

DELTA control relayed to the pilot of F-BPKI the Approach control instruction to avoid the TMA as well as the Geneva control area and to remain in ECHO airspace.

The pilot of F-BPKI informed DELTA control that he would follow a route over the Jura, as far as the la Faucille pass and that he would then fly towards Divonne and Annemasse, while remaining below the TMA and outside the control area.

Twelve minutes later, in the region of Annemasse, the pilot, still on the TMA control frequency, called DELTA control and informed them of his intention to continue the flight towards Passeiry in the direction of Bellegarde. DELTA control then asked him to call Bellegarde.

The route which the pilot of F-BPKI was following caused him to cut the approach axis of the runway which was in service, 05, which was being used by constant traffic.

Following doubts concerning his authority to handle the TMA frequency, the DELTA controller, after consulting a superior at Payerne, advised the Control Tower supervisor that he was not authorised to control Geneva TMA. He then decoupled the DELTA control frequency from the TMA frequency.

Whilst aircraft F-BPKI was in the region to the south of PAS, the pilot twice called control on the TMA frequency and received in reply only an automatic message broadcast on that frequency. This message indicated that the frequency was not in use and advised pilots that it was necessary to contact the DELTA control frequency before entering the Geneva TMA.

The pilot then immediately changed frequency and called Geneva DELTA, notifying the controller of this hitch. The latter apologised and authorised the pilot of F-BPKI to continue his northward flight.

The pilot acknowledged receipt of the message, proposing that he should leave the frequency, which the controller confirmed to him, adding that he should switch his transponder to stand-by.

The turn made by aircraft F-BPKI caused it to intercept in the opposite direction the converging route of an aircraft on its final approach.

Indeed, at the time at which the pilot of F-BPKI was calling DELTA control, an aircraft of type ERJ145, flight SAS615, was engaged on its ILS descent to runway 05.

The Arrival controller informed the pilot of flight SAS615 several times of the conflicting traffic.

The pilot of flight SAS615 had a TCAS proximity alert followed by an RA (Resolution Advisory) instructing him to climb.

The pilot informed radar control that he was climbing to avoid the conflicting traffic.

The two aircraft crossed with a minimum separation of 1 NM and 400 ft.

The pilot of SAS615 lodged an FSR (Flight Safety Report) with his airline.
An ATIR airprox was submitted by the Control Tower operations manager.

FINDINGS

- The runway in service at Geneva was runway 05.
- The limitation on speed was active.
- ATIS was informing VFR pilots that they were to avoid Geneva TMA.
- Weather: Geneva 16:20 UTC
Wind: 060 / 2 KT
Visibility: 10 KM
Cloud: little at 4000 FT, sparse at 30000 FT
Temperature: 17°C
QNH 1022 hPa
- At 15:05:00, annotation in the FIC Logbook: *TMA CLSD UFN* (TMA closed until further notice).
- At 15:15:00, annotation in the Control Tower Logbook: *TMA frequency taken over by DELTA to get traffic to avoid TMA.... Peak IFR traffic on APP.*
- According to the statements of the Control Tower operations manager, operational coupling of the TMA and DELTA frequencies is not provided for.
- At 15:30:00, annotation in the DELTA Control Logbook: *STR is asking me to take over monitoring and control of the TMA frequency (119.52 MHz) for traffic reasons. (TMA closed).*
- According to the statements of the Control Tower operations manager, the DELTA position cannot be tasked with taking over TMA control.
- At 15:59:18, first call from the pilot of aircraft F-BPKI on the TMA frequency, 119.52 MHz.
- The TMA control frequency 119.52 MHz and the DELTA frequency 119.17 MHz were coupled.
- Aircraft F-BPKI was above Oyonnax at an altitude of 5000 ft.
- The pilot requested clearance to transit via la Faucille then overhead the airport in the direction of Annemasse.
- The DELTA controller assigned transponder code A4536, incorrectly correlating registration F-GUKI.
- The flight progress strip created by the system (DLT) at 16:00 bore the registration F-GUKI.
- The incorrect correlation F-GUKI was never corrected throughout the entire flight duration of F-BPKI .
- At 16:01:57, the DELTA controller relayed the following message to F-BPKI: *"Geneva Terminal requests you avoid Geneva TMA, remain in ECHO airspace, which route do you wish to take?"*.
- The pilot of F-BPKI replied: *" ... la Faucille pass at 500 ft/ground then descent towards Divonne passing your CTR to the north, towards Annemasse "*.

- The DELTA controller requested that the pilot remain strictly below the TMA and outside the CTR. He asked him to call Annemasse.
- The pilot of F-BPKI acknowledged receipt of this message.
- According to the radar trace, between 16:13:00 and 16:18:00 aircraft F-BPKI entered the CTR at an altitude of 3000 ft.
- Aircraft F-BPKI entered class D airspace without clearance.
- At 16:16:06, flight SAS615, on the Geneva Arrival frequency 131.32 MHz, was cleared by the radar controller on route DINIG 2 NOVEMBER transition, for runway 05.
- There was heavy arrival traffic. Eleven aircraft were in the approach sequence within a space of 15 minutes.
- At 16:20:24 aircraft F-BPKI reported to the DELTA controller, still on the TMA frequency, 119.52 MHz, that he had passed Annemasse and that he wished to pass to the south of Passeiry, in the direction of Bellegarde at an altitude of 3000 ft.
- The DELTA controller acknowledged receipt and requested the pilot to call Bellegarde.
- Following a telephone call to his superior at Payerne, the DELTA controller received confirmation that he was not cleared to handle the 119.52 MHz TMA frequency.
- According to the statements of the Control Tower operations manager, the DELTA controllers have not received any specific training to exercise TMA control in the TMA Geneva airspace.
- The DELTA controller transmitted the information to the Control Tower supervisor and decoupled the TMA and DELTA frequencies. At 16:25 he entered in the DELTA Logbook: *Frequency given up on instruction from MAP*, plus the name of the person responsible.
- At 16:23:57, the Arrival radar controller asked the pilot of flight SAS615 if he wanted to make an instrument approach or a visual approach for runway 05.
- At 16:24:02, the pilot of flight SAS615 asked for a visual approach.
- At 16:24:37, the Arrival radar controller authorised the pilot of flight SAS615 to make a visual approach for runway 05 "*to be established not later than PASSEIRY*". The pilot acknowledged receipt of this message.
- Aircraft SAS615 descended, during its left base turn trajectory, to an altitude of 4000 ft, as far as interception of the axis of runway 05, at 13 NM in the final approach.
- At 16:25:00, a change of operator took place at the DELTA position.
- According to the radar trace, between 16:25:00 and 16:27:00, aircraft F-BPKI entered the CTR at an altitude of 2800 ft, climbing towards 3600 ft.
- Aircraft F-BPKI entered class D airspace without clearance.
- The trajectories of aircraft F-BPKI and aircraft FPG650, which was aligned on the axis of runway 05, approached each other, with a minimum separation of 2.6 NM and 800 ft.
- At 16:25:49, the Arrival radar controller advised the pilot of SAS615 that he could turn left to come onto the runway axis, indicating to him that the preceding traffic was over PASSEIRY.
- At 16:25:59, the Approach co-ordinator telephoned the supervisor of the Control Tower to inform him that Approach could not handle the TMA frequency because of heavy incoming traffic. He informed him that he had to switch off the TMA frequency or to activate the tape recording for the automatic message.
- The Control Tower supervisor then authorised him to activate the tape recording.

- A 16:26:57, the pilot of F-BPKI called on the TMA frequency, 119.52 MHz.
- A recorded message was activated on this frequency: "*The Geneva terminal frequency is not in service. Contact Geneva DELTA on 119.17 MHz ten minutes before entering Geneva TMA*".
- According to an internal service order (O.S. G 31/02) dated 7 June 2002, it is stipulated: *the recorded message on 119.52 MHz is no longer being broadcast.*
- At 16:27:01, the Arrival radar controller informed the pilot of SAS615 of VFR traffic intersecting the runway axis under ILS at an altitude of 3000 ft, adding its position: 10 NM on the axis, at an altitude of 3300 ft.
- The pilot of SAS615 asked the radar controller to confirm that the traffic was climbing.
- The radar controller confirmed to the pilot of SAS615 that this traffic was climbing.
- According to the radar trace, from 16:26:40 aircraft F-BPKI was climbing from 3100 ft to 3800 ft.
- Aircraft F-BPKI entered class C airspace without clearance.
- At 16:27:20, the pilot of SAS615 informed the radar controller that the traffic was 500 ft below him at his eleven o'clock.
- The radar controller acknowledged receipt, indicating that this traffic was no longer in contact with him.
- At this time, aircraft F-BPKI was on the 119.52 MHz TMA frequency which was not in service.
- At 16:27:23, the pilot of F-BPKI repeated his call on the TMA frequency, 119.52 MHz.
- At 16:27:28, the recorded message was reactivated.
- At 16:27:34, the pilot of F-BPKI called DELTA control on frequency 119.17 MHz.
- At 16:27:35, after asking the pilot of SAS615 if he had the conflicting traffic in sight, the Arrival radar controller suggested that he maintain an altitude of 4000 ft, informing him that he would have only 500 ft vertical separation from this traffic.
- The pilot of SAS615 replied that he was reaching an altitude of 4000 ft.
- At 16:27:38, the DELTA controller replied to the call from the pilot of F-BPKI: "*Kilo India?*".
- At 16:27:40, the pilot of F-BPKI informed the DELTA controller that he was previously on frequency 119.52 MHz, adding: *« and the ... area deactivation answering device started, so I am contacting you to maintain the frequency ».*
- At 16:27:44, the Arrival radar controller asked the pilot of SAS615 to maintain his altitude.
- At 16:27:48, the Arrival radar controller informed the pilot of SAS615 that it seemed to him that the traffic was climbing to 3800 ft, asking him if he had it in sight.
- At 16:27:49, the DELTA controller replied to the message from the pilot of F-BPKI: "*Yes, sorry, we... forgot to tell you that... it's no longer current, the TMA's no longer active, but you can continue, you turn right direction north..."*.
- This suggested turn caused aircraft F-BPKI to intersect perpendicularly the converging route of flight SAS615.
- Aircraft F-PBKI was at this time 6 NM north-east of the *VFR route transit west*.

- A notification of malfunction of the STCA (short term conflict alert) was completed by the Arrival radar controller. "*The STCA did not function*".
- According to the SYMA technical report, the STCA alert is not active from 0 to 4000 ft.
- According to the SYMA technical report, the STCA alert was activated from 16:27:50 to 16:28:27.
- The pilot of SAS615 informed the Arrival radar controller that he did not have the conflicting traffic in view.
- At 16:27:59, the pilot of F-BPKI informed the DELTA controller that he was continuing his route on a heading of 300 degrees in the direction of Bellegarde and that he would pass behind the relief. He proposed quitting the frequency.
- At **16:28:05**, the DELTA controller authorised the pilot of F-BPKI to leave the frequency and to set the transponder to stand-by.
- At **16:28:05**, the radar controller informed the pilot of SAS615 that the altitude of the traffic was oscillating between 3600 ft and 3800 ft and that its position was at his "one o'clock, opposite, at 1.5 NM".
- The pilot of SAS615 replied that he did not have it in sight and that he was climbing.
- According to report of the commander of SAS615 (PF) pilot flying, the TCAS alert tripped, followed by an RA (resolution advisory). He then disengaged the autopilot and started a climb.
- Aircraft SAS615 climbed to an altitude of 4700 ft.
- According to the radar trace, the minimum separation between the two aircraft before they crossed was 1.4 NM and 400 ft.
- At 16:28:24, the pilot of SAS615 indicated that he had the traffic in view.
- According to the radar trace, the two aircraft crossed at **16:28:30** with a separation of 0.6 NM and 600 ft, at 10.5 NM above the axis of runway 05. Aircraft SAS615 was passing an altitude of 4200 ft and aircraft F-BPKI, 3600 ft.
- According to the statement given to the investigator by telephone, the pilot of F-BPKI stated that he had not seen the conflicting traffic, probably because of the sun in his eyes. He stressed that he had followed exactly the notified route, under the TMA and that he had never received any traffic information. He added that he had not placed the transponder on stand-by, as he could have done.
- At 16:28:31 the radar controller authorised the pilot of SAS615 to resume his approach normally.
- Skyguide lodged an ATIR ATC report.
- The pilot of SAS615 lodged an internal company report (Flight Safety Report).

ANALYSIS

The closure of the TMA because of the heavy incoming traffic load caused a series of incidents which are at the origin of the airprox which took place at 10.5 NM on the axis of runway 05 in Geneva.

Private aircraft VFR F-BPKI

On the occasion of the first call from aircraft F-BPKI, the pilot clearly gave the route he intended to take. Since the DELTA controller had asked him to avoid the TMA as well as the Geneva control area, the pilot revised his route and gave Divonne and Annemasse as new waypoints, a route he did in fact follow.

Having received transponder code A4536, the pilot displayed this code but as a result of a programming error, the correlation gave the registration as F-GUKI. This error was not subsequently corrected and this correlation remained displayed throughout the flight of F-BPKI. Apparently, this fact did not have any consequences in the subsequent events. Despite repeated injunctions from control to remain below the TMA and to avoid the Geneva control area, aircraft F-BPKI twice entered the Geneva control area and finally continued its route in class C airspace. The pilot of F-BPKI never received traffic information and did not see the conflicting traffic. He wisely kept the transponder set to the assigned code; this enabled the Arrival radar controller to provide traffic information and allowed the pilot of aircraft SAS615 to receive a TCAS alert.

Aircraft SAS615

Aircraft SAS615 received clearance to make a visual approach for runway 05. He descended from 7000 ft to 4000 ft when he was in a left base turn for runway 05. He intercepted the axis of runway 05 at approximately 13 NM in his final approach, about 1600 ft below the ideal descent path. *During a visual approach, the pilot is free to choose his trajectory, subject, however, to noise abatement procedures.* The aircraft was established on the axis of runway 05 when he entered the noise abatement zone. The phraseology for visual approach clearance for runway 05 does not mention a minimum altitude to be maintained, nor at which altitude PAS interception must take place. At the point at which the incident occurred, i.e. at 10.5NM, the glide path (ILS) is at 4804 ft.

DELTA control

According to his statement, the DELTA controller hesitated before coupling the DELTA frequency with the TMA frequency, at the insistent request of the Control Tower supervisor. He sought to ascertain the opinion of his superior at Payerne concerning his competency to carry out this control task.

He was perfectly aware that he did not have the required training to use the TMA control position, being acquainted with neither the Geneva approach procedures nor the geography of the approach sector. He also cites the large radar scale which is used to carry out DELTA control, which covers the entire Geneva CTA, including the delegated airspace.

The fact that a VFR flight has been requested to avoid or remain below the TMA does not dispense control from following and, if necessary, correcting the route of an aircraft (navigational assistance). In order to carry out this task, only active radar control, in an operational environment which is familiar to the controller, can be effective.

After receiving confirmation from his superior at Payerne that he was not authorised to exercise TMA control, he warned the Control Tower supervisor and decoupled the DELTA and TMA frequencies. Consequently, he transferred the TMA control frequency to Approach control.

The Approach co-ordinator controller (APC) informed the Control Tower supervisor that he could not handle the TMA control position because of the heavy traffic load. The supervisor then authorised him to broadcast the automatic message on the TMA frequency. Since aircraft F-BPKI had not been informed of this fact, it remained on the TMA frequency; hence the confusion which followed.

The DELTA controller who took over the control position, after a change of operator, did not react when aircraft F-BPKI first entered the CTR and then class C airspace, just before the incident, when the pilot of aircraft F-BPKI had just resumed contact with him. Nor did he issue traffic information on the conflicting traffic. At the time of his interview, he stated that the radar scale used for DELTA control did not allow him to notice the conflict. Furthermore, the lack of training conforming to OFAC directives to exercise control at the TMA position did not enable him to evaluate the situation. The absence of active radar control, coordination with Arrival radar and traffic information corroborate the fact that he was not aware of the situation. The unfortunate instructions given shortly before the airprox show that the DELTA controller did not notice the conflict situation on his radar screen.

Arrival radar control

The Arrival radar controller had the conflicting traffic continuously in view on his radar screen and was aware of its intrusion into controlled airspace. He correctly issued precise traffic information and even suggested to the pilot of aircraft SAS615 that he should take avoiding action.

In his statement, the Arrival radar controller insisted on the fact that the DELTA controller might not have seen the problem, taking into account the radar scale in use and his lack of training.

The closure of the TMA control position depends on the commitment of personnel to other operational positions. In view of a chronic shortage of personnel, peak traffic times are not compensated for by sufficient operators in Approach control.

CAUSE

Unauthorised entry of a VFR aircraft into controlled class C airspace.

Factors which may have affected incident sequence:

- the closure of the TMA control position.
- the erroneous control instructions issued by the DELTA controller.
- the absence of training for the DELTA controller to perform the function of a TMA controller.

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

Investigation into the **incident** that occurred on **1 October 2002**

- Subject of transcript: **FBPKI / SAS615**
- Centre concerned: Swiss Radar Area West
- Designation of unit: APP, DELTA & TMA
- Frequencies: 131.32 MHz
119.52 MHz
119.17 MHz
- Date and period covered by attached extract: 1 October 2002
15:59 - 16:30 UTC
- Date of transcript: 5 November 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, 18 November 2002

on behalf of M. Simonet



I. Rochat

Abbreviations

APP - Swiss Radar Area West, Geneva Approach Control
 TMA - Swiss Radar Area West, Geneva Terminal Control
 DEL - Swiss Radar Area West, Geneva DELTA Control

615	-	Scandinavian 615	E145	IFR flight	ESSA	-	LSGG
650	-	TAG Aviation 650	LJ31	IFR flight	LFPB	-	LSGG
598	-	TAG Aviation 598	F2TH	IFR flight	LFBD	-	LSGG
2505	-	Swiss 2505	RJ1H	IFR flight	GMMN	-	LSGG
12KJ	-	Swiss 12KJ	A321	IFR flight	LSZH	-	LSGG
3692	-	Lufthansa 3692	F50	IFR flight	EDDS	-	LSGG
906	-	Topswiss 906	B733	IFR flight	EGGW	-	LSGG
100	-	Jetaviation 100	C550	IFR flight	LSZH	-	LSGG
447	-	Swiss 447	SB20	IFR flight	EGLC	-	LSGG
974	-	Topswiss 974	B733	IFR flight	EGKK	-	LSGG
3666	-	Lufthansa 3666	B733	IFR flight	EDDF	-	LSGG
FKI	-	FBPKI	DR22	VFR flight	LFHS	-	LFHS
HNL	-	HBVNL	C525	Z flight plan	LSGC	-	LIMF
FXX	-	FGMXX	DR40	VFR flight	LFMQ	-	LFQM

TRANSCRIPT SHEET

To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
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Frequency 131.32 MHz: Geneva Approach Sector

APP	?	16:15:57	XXXXX six zero.	Unreadable due to simultaneous transmission
?	APP	16:16:05	Blocked.	
615	APP	06	Scandinavian six one five, bonjour, speed two five zero, proceed DINIG two November transition, ILS zero five, descend to flight level one five zero.	
APP	615	15	Roger, will proceed with speed two fifty, DINIG two November ... transition, ILS zero five and ... and descending flight level one five zero, Scandinavian six one five.	
650	APP	27	TAG six cent cinquante, descendez niveau cent trente.	
APP	650	29	Autorisé cent trente, six cent cinquante.	
598	APP	31	TAG five niner eight, descend seven thousand feet, QNH one zero two two, cleared straight in ILS zero five.	
APP	598	36	Seven thousand feet, one zero two two, straight for... zero five, XXXXX.	Probably "thanks"
2505	APP	40	Swiss two five zero five, reduce one eighty to Passeiry, confirm established localizer?	
APP	2505	45	Affirm, and, Swiss two five zero five.	
2505	APP	47	Roger, contact Tower, one one eight seven, au revoir.	
APP	2505	50	One one eight seven, good-bye, Swiss two five zero five.	
12KJ	APP	53	Swiss one two Kilo Juliett is calling?	
APP	12KJ	55	Affirmative, level one three zero, on course VADAR, and we have three two zero indicated.	
12KJ	APP	16:17:00	Heu, roger, heu..., re, reduce speed two five zero knots, maintain level one three zero.	
APP	12KJ	04	Maintain one three zero, reducing two fifty, Swiss one two Kilo Juliett.	

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>
12KJ	APP	16:17:08	Yeah, speed limitation is active.	
APP	12KJ	10	Okay, one two.	Transmission cut
3692	APP	16	Lufthansa three six nine two, descend to flight level eight zero.	
APP	3692	20	Descending flight level eight zero, Lufthansa three six nine two.	
650	APP	54	TAG six five zero, turn right Golf Golf five zero three, descend to level nine zero.	
APP	650	16:18:00	That's for TAG Aviation six five zero?	
650	APP	02	Affirm, right Golf Golf five zero three, descend level nine zero.	
APP	650	05	Golf Golf five zero three and XXXXX flight level nine zero, TAG Aviation six five zero.	Probably "releared"
615	APP	09	Scandinavian six one five, descend level one three zero.	
APP	615	12	Down flight level one three zero, Scandinavian six one five.	
906	APP	16	Topswiss nine zero six, descend seven thousand feet, one zero two two and turn right by five degrees, track correction.	
APP	906	21	Seven thousand, one zero two two, heading one nine zero, Topswiss heu... nine zero six.	
12KJ	APP	52	Swiss one two Kilo Juliett, descend level one two zero.	
APP	12KJ	54	Level one two zero, leaving one three zero, Swiss one two Kilo Juliett.	
APP	100	16:19:01	Genève, Arrival, good ... evening, Jetaviation one hundred, level one three zero ... approaching ESEVA, information Yankee.	
100	APP	11	Jetaviation one hundred, bonjour, maintain level one three zero, and... follow the ... VADAR two November transition, ILS runway zero five.	
APP	100	20	Maintaining level one three zero, VADAR two November transition for ILS zero five, Jetaviation one hundred.	

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>
906	APP	16:19:27	Topswiss nine zero six, speed now two ten.	
APP	906	29	Two ten the speed, Topswiss nine zero six.	
598	APP	37	TAG five niner eight, report speed?	
APP	598	39	Heu..., reducing now ??????	Unreadable
598	APP	43	Roger, maximum two twenty knots, contact Tower one one eight seven, au revoir.	
APP	598	46	One eighteen seven, merci, bonne soirée.	
650	APP	55	TAG six cent cinquante, descendez sept mille pieds, mille vingt-deux le QNH.	
APP	650	59	Autorisé sept mille, mille vingt-deux, TAG six cent cinquante.	
12KJ	APP	16:20:08	Swiss one two Kilo Juliett, descend to flight level one zero zero.	
APP	12KJ	11	Descend level one zero zero, Swiss one two Kilo Juliett.	
12KJ	APP	14	Correct and reduce speed two three zero knots.	
APP	12KJ	16	Reducing two thirty, Swiss one two ... Kilo Juliett.	
906	APP	23	Topswiss nine zero six, turn left heading one four zero, base, descend six thousand feet.	
APP	906	27	Left turn one four zero, six thousand, Topswiss nine zero six.	
APP	12KJ	36	And just confirm, Swiss one two Kilo Juliett is descending one zero zero?	
12KJ	APP	41	That is correct Sir, one zero zero.	
APP	12KJ	42	Merci, merci.	
615	APP	46	Scandinavian six one five, turn right heading one niner five.	
APP	615	49	Right turn heading one niner five, Scandinavian six one five.	
906	APP	56	Topswiss nine zero six, left heading zero eight zero, intercept localizer zero five, cleared ILS, report established.	

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>
APP	906	16:21:01	Zero eight zero, cleared for the ILS zero five, call you established, Topswiss nine zero six.	
3692	APP	06	Lufthansa three six nine two, descend seven thousand feet, QNH one zero two two.	
APP	3692	10	Descending seven thousand feet, QNH one zero two two, Lufthansa three six nine two.	
615	APP	14	Scandinavian six one five, descend level eight zero.	
APP	615	17	Descend flight level eight zero, Scandinavian six one five.	
650	APP	29	TAG six cent cinquante, quel est votre cap ?	
APP	650	32	Cap deux cents.	
650	APP	33	Compris, prenez à gauche un cap cent quatre-vingt-cinq.	
APP	650	36	A gauche, cap cent quatre-vingt-cinq.	
APP	906	53	????? established on the ILS... runway zero five, speed two ten, Topswiss nine zero... six.	Unreadable
906	APP	59	Topswiss nine zero six, roger, contact Tower, one one eight seven, au revoir.	
APP	906	16:22:02	Seven, au revoir, Topswiss nine zero six.	
APP	447	11	Genève Arrivées, bonsoir, Swiss four four seven, we're passing one nine one, descending one six zero to LIRKO, information Yankee.	
447	APP	19	Swiss four four seven, bonsoir, follow DINIG two November transition, ILS zero five, descend level one three zero.	
APP	447	24	DINIG... two November transition, ILS zero five, descending flight level one three zero, Swiss four four seven.	
650	APP	30	TAG six cent cinquante, vous avez le sol en vue ?	
APP	650	32	Affirmatif, on est prêt pour une visuelle.	
650	APP	34	D'accord, le précédent vient de passer BELKA, cinq mille cinq cents pieds inbound sur l'ILS, vous l'avez en vue ?	

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>
APP	650	16:22:38	Affirmatif, on l'a en vue.	
650	APP	39	Suivez le trafic, autorisé approche visuelle piste zéro cinq, et... il faudra être établi au plus tard à Passeiry.	
APP	650	45	Oui, en fonction du précédent..., autorisé approche à vue zéro cinq pour être établi au plus tard à Passeiry, TAG six cent cinquante, merci.	
APP	974	53	Geneva, good afternoon, Topswiss niner seven four, main, descending flight level one six zero, information Yankee.	
974	APP	59	Topswiss nine seven four, bonjour, proceed DINIG two November transition, ILS zero five, flight level one three zero.	
APP	974	16:23:05	DINIG two November transition, runway zero five, recleared flight level one three zero, Topswiss niner seven four.	
447	APP	09	Swiss four four seven, descend to flight level niner zero.	
APP	447	13	Descending flight level niner zero, Swiss four four seven.	
447	APP	15	That's correct and proceed Golf Golf five zero three direct.	
APP	447	18	Direct Golf Golf five zero three, Swiss four four seven.	
12KJ	APP	23	Swiss one two Kilo Juliett, descend to flight level nine zero.	
APP	12KJ	26	Descend level nine zero, Swiss one two Kilo Juliett.	
650	APP	29	TAG six cent cinquante, votre vitesse ?	
APP	650	31	Six cent cinquante, on a deux cent dix.	
650	APP	33	D'accord, réduisez vers cent quatre-vingts nœuds maxi, et la Tour, cent dix-huit sept, au revoir.	
APP	650	37	Cent quatre-vingts maximum et cent dix-huit sept, au revoir, merci.	
615	APP	41	Scandinavian six one five, descend seven thousand feet, one zero two two.	

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>
APP	615	16:23:45	Down to seven thousand feet, QNH one zero two two, Scandinavian six one five.	
100	APP	49	Jet one hundred, descend level one zero zero.	
APP	100	52	Leaving level one three zero, descending level one hundred, Jetavation one zero zero.	
615	APP	57	Scandinavian six one five, do you wish full ILS or visual approach?	
APP	615	16:24:02	Oh, heu..., go for a visual, Scandinavian ... six one five.	
615	APP	06	Roger, your preceding traffic is a Lear Jet, eleven o'clock..., which is... seven miles ahead at five thousand feet. Do you have it in sight?	
APP	615	14	Negative.	
?	?	16	?????	Unreadable
615	APP	18	You have it in sight confirm?	
APP	615	20	Negative, not yet.	
615	APP	22	Your speed?	
APP	615	23	Two fifty.	
615	APP	24	Roger, reduce two ten.	
APP	615	25	Two ten.	
615	APP	37	Scandinavian six one five, you are cleared for visual approach runway zero five, to be established not later than Passeiry, and for information, the preceding traffic is joining now at... eight miles on final.	
APP	615	50	Roger, cleared visual and... established late but Passeiry, Scandinavian... six one five. We'll ... look out.	
615	APP	58	It's four thousand feet now.	
APP	615	16:25:00	Yeah.	
447	APP	01	Swiss four four seven, descend seven thousand feet, one zero two two.	

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>
APP	447	16:25:04	Seven thousand, one zero two two, Swiss four four seven.	
3692	APP	13	Lufthansa three six niner two, requesting visual approach or full ILS?	
APP	3692	18	Heu..., appreciate a visual, Lufthansa three six nine two, field in sight.	
3692	APP	22	Roger, turn right by five degrees, descend six thousand feet, call you back shortly for visual approach, number four to the runway.	
APP	3692	28	Okay, right by five degrees heading two three zero, descending six thousand feet, number four, Lufthansa three six nine two.	
12KJ	APP	35	Swiss one two Kilo Juliett, descend to flight level eight zero, and reduce speed two one zero.	
APP	12KJ	40	Descending level eight zero, two one zero the speed, Swiss one two Kilo Juliett.	
615	APP	49	Scandinavian six one five, you may turn left, inbound.	
APP	615	52	Will do.	
615	APP	53	The preceding is at Passeiry.	
APP	615	55	Yeah, . . . ?????? I have him in..., on the TCAS.	Unreadable
974	APP	16:26:24	Topswiss nine seven four, speed two five zero.	
APP	974	28	We have... two fifty, Topswiss nine seven four.	
974	APP	31	Thank you.	
615	APP	56	Scandinavian six one five, are you intercepting?	
APP	615	59	Affirmative, . . . six one five.	
615	APP	16:27:01	Roger, for information..., VFR traffic is passing below the ILS at three thousand feet. It is heu... now position... ten miles on final, at three thousand three hundred feet.	
APP	615	14	Roger, and he's climbing, confirming, confirm?	
615	APP	18	Standby, he's climbing.	

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>
APP	615	16:27:20	Yeah, he's five hundred feet below us now, at eleven o'clock, Scandinavian six one five.	
615	APP	26	Roger, it is not on, in contact with us.	
APP	615	29	Okay.	
615	APP	31	Do you have it, do you have the traffic in sight?	
APP	615	34	Negative.	
615	APP	35	Okay, suggest you maintain... four thousand feet, you are... you are separated by five hundred feet only.	
APP	615	41	Roger, we are at four thousand now, Scandinavian six one five.	
615	APP	44	Roger, maintain.	
APP	615	45	Roger.	
615	APP	48	The traffic... it seems to climb at three thousand eight hundred feet, do you have it, do you have it in sight?	
APP	615	57	Heu, we are still looking, it's a little bit bellow us, but one o'clock, we don't have him in sight.	
615	APP	16:28:05	Roger, three... three thousand six hundred feet, oscillating between three six and three eight, one o'clock, one mile and a half mile, opposite.	
APP	615	13	Yeah, we are climbing here, heu... we don't get him in sight, so ... we are climbing.	
615	APP	19	XXXXX climb.	Probably "Yes,"
615	APP	22	It's at three six.	
APP	615	24	Heu, we got him in sight now, it's a helicopter ... bellow us at..., oh, it's not a helicopter, it's a small aeroplane, got him in sight.	
615	APP	31	Okay, thank you, and resume normal approach.	
APP	615	34	Will do, we're established on ILS now.	
615	APP	36	Okay.	
447	APP	37	Swiss four four seven, reduce two ten.	

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>
APP	447	16:28:39	Reducing two one zero knots, Swiss four four seven.	
3692	APP	41	Lufthansa three six nine two, turn right heading three two zero.	
APP	3692	44	Turning right heading three two zero, Lufthansa three six nine two.	
12KJ	APP	47	Swiss one two Kilo Juliett, continue on present heading.	
APP	12KJ	50	Present heading, Swiss one two Kilo Juliett.	
APP	3666	53	Arrival, good evening, Lufthansa three triple six, passing two hundred, descending level one six zero, NEMOS two Papa.	
3666	APP	59	Lufthansa, three triple six, bonjour, roger, descend to flight level one three zero.	
APP	3666	16:29:02	Lufthansa three triple six, descend level one three zero.	
APP	974	12	Topswiss... niner seven four, approaching flight level one three zero.	
974	APP	16	Nine seven four, descend level one zero zero.	
APP	974	17	Recleared flight level one hundred, Topswiss nine seven four.	
447	APP	19	Swiss four four seven, continue present heading.	
APP	447	22	Maintaining heading one nine one, Swiss four four seven.	
100	APP	33	Jetaviation one hundred, continue present heading, descend level nine zero.	
APP	100	36	Maintain present heading, leaving level one hundred descending level niner zero, Jetaviation one hundred.	
3692	APP	41	Lufthansa three six nine two, turn right heading zero two zero, intercept localizer zero five, cleared ILS, report established.	
APP	3692	47	Okay, right heading zero two zero, intercept localizer runway zero five, cleared ILS, call you established, three six nine two.	

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>
447	APP	16:29:56	Swiss four four seven, left one four zero, base.	
APP	447	58	Left heading one four zero, base, Swiss four four seven.	
615	APP	16:30:01	Scandinavian six one five, confirm you can do the approach now?	
APP	615	04	Affirmative.	
615	APP	06	Okay, contact Tower, one one eight seven, good-bye.	
APP	615	07	One one eight seven, Scandinavian six one five, so long!	

Coupled Frequencies 119.52 & 119.17: Geneva Terminal Control & Geneva Delta

<i>TMA</i>	<i>FKI</i>	15:59:18	<i>Heu, Terminal du Foxtrot Bravo Papa Kilo India, bonsoir.</i>
<i>FKI</i>	<i>TMA</i>	26	<i>Le Bravo Papa Kilo India, bonjour.</i>
<i>TMA</i>	<i>FKI</i>	28	<i>Le Foxtrot Kilo India..., DR deux cent vingt et un, heu..., trois personnes à bord, pour un vol circulaire de Bourg vers Bourg, et nous sommes actuellement... cinq mille pieds vertical de Oyonnax, en direction de la Faucille, pour un transit votre verticale puis Annemasse.</i>
<i>FKI</i>	<i>TMA</i>	47	<i>Reçu Kilo India, QNH... Genève mille vingt-deux, maintenez VFR, je vous rappelle.</i>
<i>TMA</i>	<i>FKI</i>	53	<i>Heu, mille vingt-deux, maintient VFR, Foxtrot Kilo India.</i>
<i>FKI</i>	<i>TMA</i>	16:01:03	<i>Fox Kilo India, transpondeur quarante-cinq trente-six.</i>
<i>TMA</i>	<i>FKI</i>	07	<i>Heu, quarante-cinq trente-six, Foxtrot Kilo India.</i>
<i>FKI</i>	<i>TMA</i>	57	<i>Fox Kilo India, Genève Terminal vous demande de..., d'éviter la TMA de Genève, maintenez de, en espace Echo et quelle route souhaitez-vous suivre ?</i>

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>
TMA	FKI	16:02:08	<i>Eh bien, on passera le col de la Faucille, donc... à cinq cents pieds sol, et on souhaiterait ensuite descendre... vers... Divonne, et passer au nord de... votre... CTR, vers Annemasse.</i>	
FKI	TMA	24	<i>Reçu..., restez bien sous la TMA et rappelez vers Annemasse.</i>	
TMA	FKI	29	<i>Donc, on maintient cinq mille pieds QNH pour l'instant et on passera le col cinq cents pieds sol, Foxtrot Kilo India.</i>	
FKI	TMA	34	<i>Merci, Kilo India.</i>	
TMA	FKI	16:08:13	<i>Le Foxtrot Kilo India, on passe légèrement au sud de la Faucille et... transit en votre... fonction pour... Annemasse.</i>	
FKI	TMA	23	<i>Reçu, Kilo India..., maintenez strictement, heu..., sous la TMA de Genève et en dehors de la CTR, et rappelez Annemasse.</i>	
TMA	FKI	30	<i>Donc, sous la TMA et en dehors de la CTR, on rappelle Annemasse, Foxtrot Kilo India.</i>	
DEL	HNL	16:13:26	Genève DELTA, bonsoir, Hotel Bravo Victor November Lima ?	
HNL	DEL	32	Hotel Bravo Victor... November Lima, bonsoir, heu..., identifié, maintenez... VFR en direction de BANKO, et... vers quel niveau souhaitez-vous monter initialement ?	
DEL	HNL	46	Alors mon programme... va être un peu différent. Je vais faire du VFR, tour du Cervin et ensuite direction Mont-Blanc, pour le "joining" à BANKO, heu..., si ça joue pour vous.	
HNL	DEL	56	Reçu November... Lima, heu..., initialement maximum ... niveau nonante pour traverser la G cinq, et je vous rappellerai pour plus haut.	
DEL	HNL	16:14:07	Alors on monte à neuf mille pieds... pour traverser la G cinq, November Lima.	
HNL	DEL	13	Et November Lima, pour votre information, les secteurs militaires sont... actifs... ce soir. Je pense la montée dans... l'espace aérien suisse en dessus de cent trente est compromise.	

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>
DEL	HNL	16:14:24	Oui, alors je vais rester, cent vingt-cinq, cent trente maximum, d'après le KOSIF, j'ai le Sepey actif, est-ce que il y a d'autres zones ?	
HNL	DEL	38	Un instant.	
HNL	DEL	47	Y'a une zone au Simplon aussi... jusqu'à dix-neuf mille sept cents pieds, active jusqu'à vingt et une heures.	
DEL	HNL	55	Ouais, Simplon est noté, moi je veux rester dans le secteur Cervin, ensuite Mont-Blanc, donc, pas de problème pour moi, merci. Et, je garde neuf mille pieds pour traverser la G cinq.	
HNL	DEL	16:15:04	Merci, November Lima.	
DEL	HNL	06	Et Payerne, pas de problème ?	
HNL	DEL	08	Je coordonne.	
DEL	HNL	10	Merci beaucoup. Je vais passer à l'est du lac de Morat.	
HNL	DEL	15	Contact.	
DEL	HNL	16:19:51	Et Hotel November Lima, je quitte neuf mille pieds pour douze mille cinq cents pieds, je vous agréee.	
HNL	DEL	57	November Lima, douze mille cinq cents pieds approuvés, heu... vous avez un trafic dans vos douze heures... pour trois nautiques, altitude inconnue, direction est.	
DEL	HNL	16:20:07	Oui, trafic copié, on regarde, November Lima.	
HNL	DEL	11	Et... douze mille cinq cents pieds approuvés, rappelez au Cervin.	
DEL	HNL	15	Oui, j'ai douze mille cinq cents pieds approuvés pour le Cervin, et... mon trafic passe à ma gauche, à l'est ... maintenant à mes neuf heures.	
TMA	FKI	24	<i>Foxtrot Kilo India, on a passé ????? Annemasse, et on souhaiterait passer maintenant au sud de Passeiry vers Bellegarde à trois mille pieds.</i>	Unreadable due to simultaneous transmission
HNL	DEL	25	C'est correct.	
DEL	HNL	26	C'est celui là ?	

Signature of
person in charge:



TRANSCRIPT SHEET

To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
FKI	TMA	16:20:35	Kilo India..., reçu, rappelez Bellegarde.	
TMA	FKI	38	Rappelons Bellegarde, Foxtrot Kilo India.	
TMA	FXX	16:25:26	Genève de X-ray deux fois ?	Change of controller
FXX	TMA	34	C'est qui qui appelle Genève DELTA ?	
TMA	FXX	38	X-ray deux fois, Fox X-ray deux fois, Genève, bonsoir ?	
FXX	TMA	49	Fox X-ray deux fois ?	
TMA	FXX	51	DR quatre cents, Fox Golf Mike X-ray deux fois, en provenance du Castelet, à destination de Besançon, actuellement en sortie de zone de Chambéry, demande l'autorisation de transit, heu... niveau soixante-quinze, transpondeur en mode Charlie sur sept mille.	
FXX	TMA	16:26:18	Fox X-ray deux fois, je suis désolé, heu..., le QNH c'est mille vingt-deux, voi... la ... t, Terminal de Genève vous... ot, vous... oblige de ... circumnaviguer la TMA, ils veulent pas les prendre, les avions.	
TMA	FXX	37	Okay, reçu, je me dérouté sur l'ouest.	
FXX	TMA	39	Merci, au revoir.	

Frequency 119.17: Geneva Delta

DEL	HNL	16:26:56	Et Hotel November Lima, à travers Sion, niveau cent vingt-cinq, le cap pour le Cervin.
DEL	FKI	16:27:34	Heu, Genève, du Foxtrot Kilo India ?
FKI	DEL	38	Kilo India ?
DEL	FKI	40	Oui, j'étais en fréquence sur cent dix-neuf cinquante-deux, et le répondeur... désactivation des zones c'est mis en route, donc je vous contacte pour maintenir la fréquence.

Signature of
person in charge:



TRANSCRIPT SHEET

To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
FKI	DEL	16:27:49	<i>Ouais, désolé, on a... oublié de vous dire..., maintenant c'est plus actuel, c'est plus actif la TMA, mais vous pouvez continuer encore, vous tournez à droite direction nord, c'est bien compris ça ?</i>	
DEL	FKI	59	<i>Ouais, on va prendre maintenant le cap trois cents vers Bellegarde et on va passer maintenant derrière le relief, donc je propose de quitter la fréquence.</i>	
FKI	DEL	16:28:05	<i>Exactement, vous pouvez quitter, et après le squawk standby, au revoir Monsieur.</i>	
DEL	FKI	08	<i>Bonne soirée, merci.</i>	

Frequency 119.52: Geneva Terminal Control

TMA	?	16:26:57	La fréquence de Genève Terminal n'est pas desservie. Contactez Genève DELTA sur cent dix-neuf décimal dix-sept, dix minutes avant de pénétrer dans la TMA de Genève. Geneva Terminal frequency closed. Please contact Geneva DELTA, one one nine decimal one seven, one zero minutes prior entering Geneva Terminal area.
TMA	FKI	16:27:23	Heu, Genève du Foxtrot Kilo India ?
FKI	TMA	28	La fréquence de Genève Terminal n'est pas desservie. Contactez Genève DELTA sur cent dix-neuf décimal dix-sept, dix minutes avant de pénétrer dans la TMA de Genève. Geneva Terminal frequency closed. Please contact Geneva DELTA, one one nine decimal one seven, one zero minutes prior entering Geneva Terminal area.

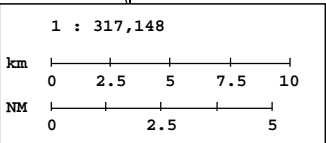
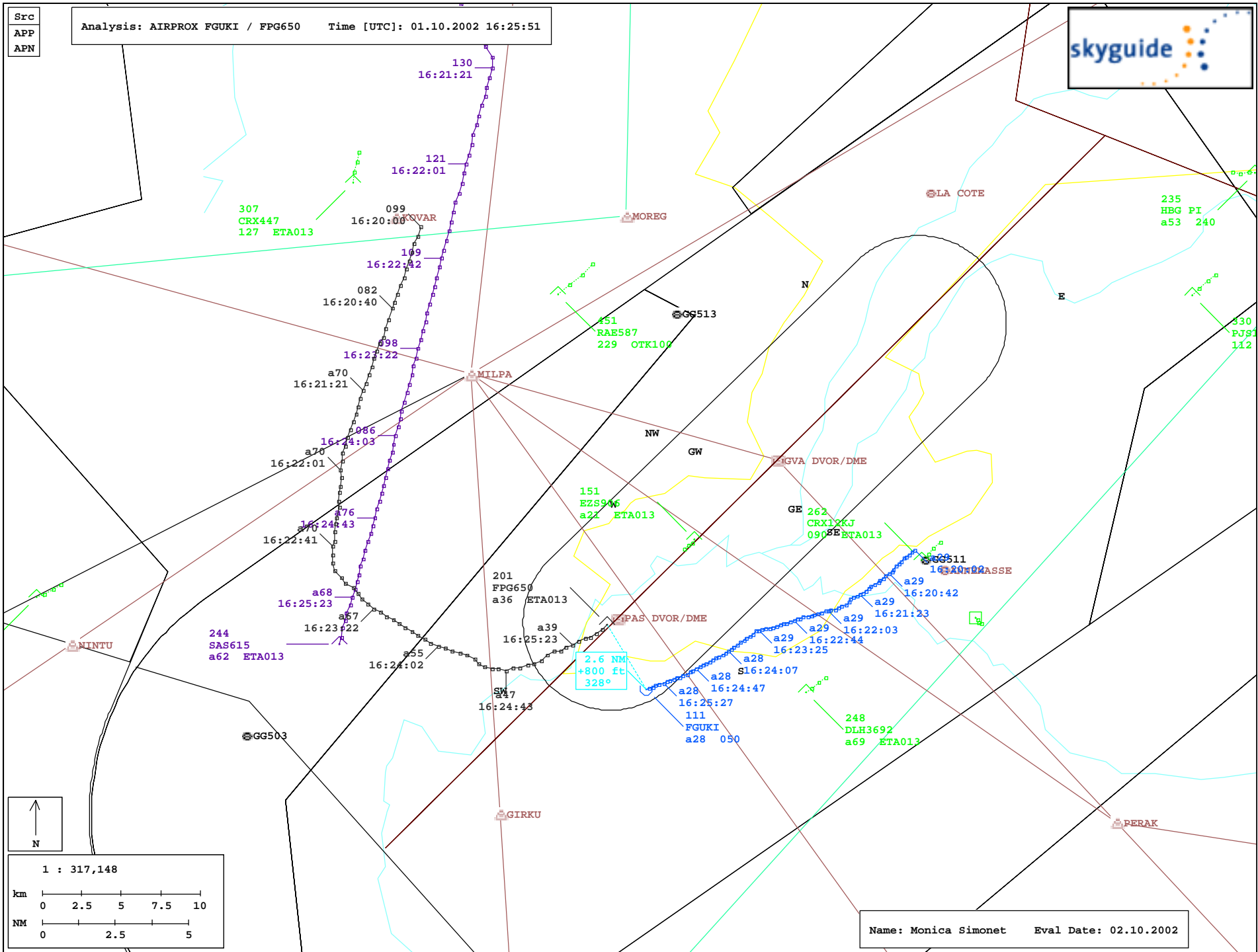
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Signature of
person in charge:



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APP
APN

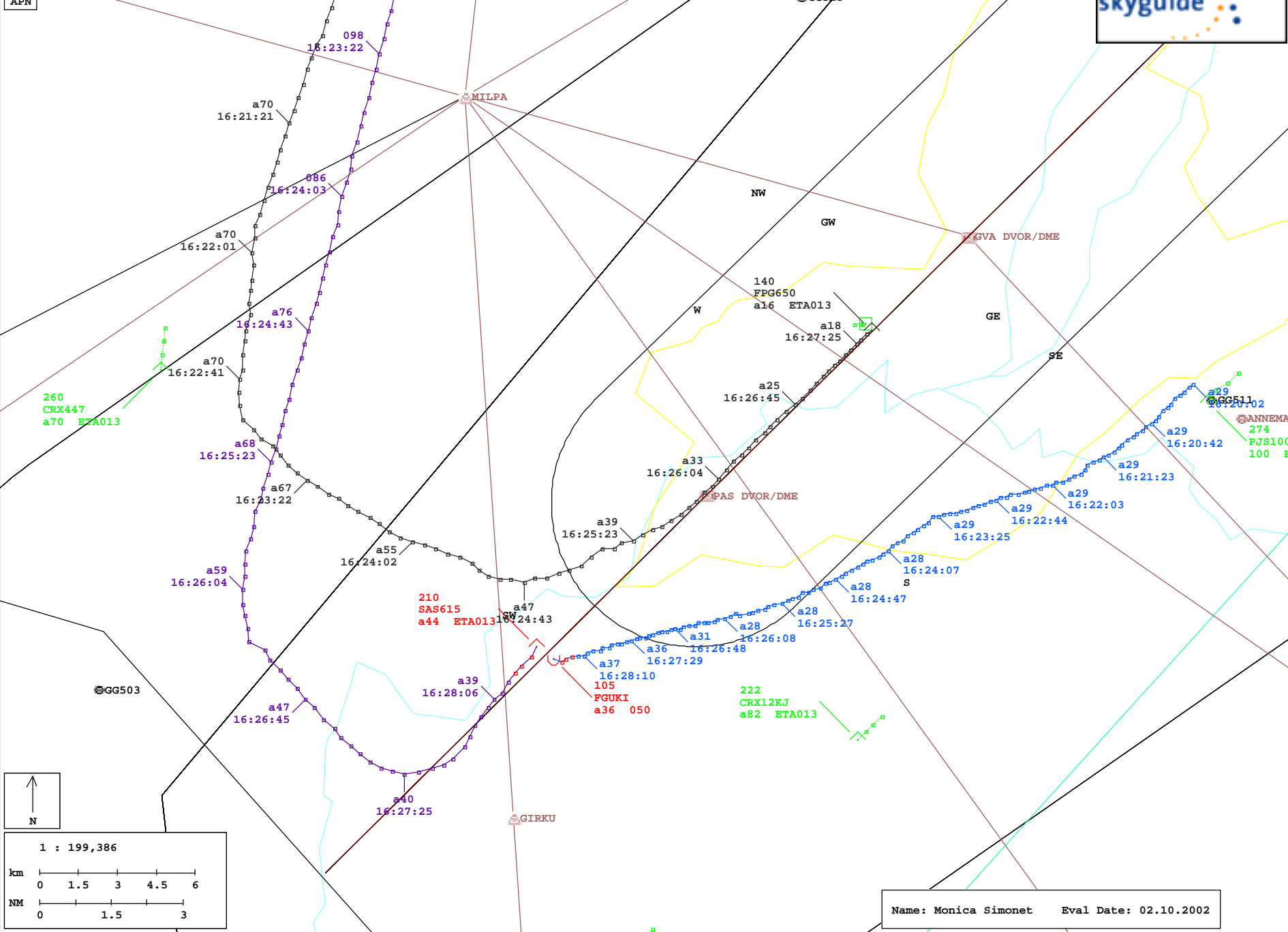
Analysis: AIRPROX FGUKI / FPG650 Time [UTC]: 01.10.2002 16:25:51



Name: Monica Simonet Eval Date: 02.10.2002

Src
APP
APN

Analysis: AIRPROX FGUKI / SAS615 Time [UTC]: 01.10.2002 16:28:31



260
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a70 ETA013

ANNEMA
274
PJS100
100 E

210
SAS615
a44 ETA013

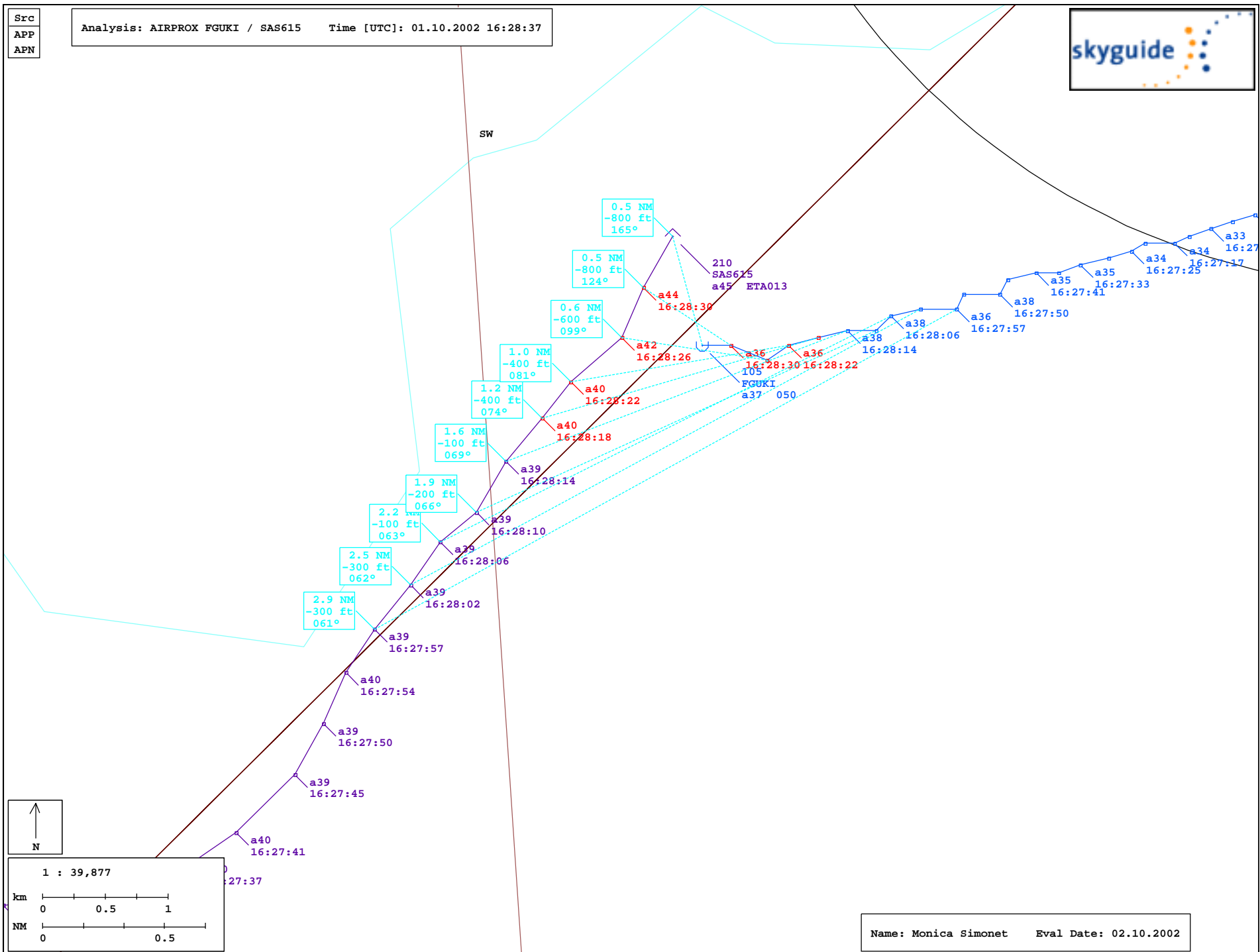
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a36 050

222
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a82 ETA013

Name: Monica Simonet Eval Date: 02.10.2002

Src
APP
APN

Analysis: AIRPROX FGUKI / SAS615 Time [UTC]: 01.10.2002 16:28:37



Name: Monica Simonet Eval Date: 02.10.2002