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Aircraft Accident Investigation Bureau AAIB

Final Report No. 1927 by the Aircraft Accident Investigation Bureau

concerning the serious incident (airprox)

between HB-PHU, Piper PA28-181, VFR private flight

and OE-KRT, Piper PA28R-201T, IFR private flight

on 31 March 2005

runway 14 ILS, Zurich

Final report

This report has been prepared solely 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). The masculine form is used in this report regardless of gender for reasons of data protection.

Place/date/time	Zurich, runway 14 ILS, 31.03.2005, 11:48 UTC		
Aircraft	HB-PHU, PA28-181, Piper Archer Pro Altenrhein flying group		
	Birrfield (LSZF) – Birrfield (LSZF)		
	OE-KRT, PA28R-201T, Piper Arrow PhoeniXperience Innovations GmbH		
	Stockerau (LOAU) – Zurich (LSZH)		

Crews	HB-PHU	Pilot in command under supervision (PICUS) (VFR – trainee pilot)	
		Flying instructor (on the ground)	
	OE-KRT	Flying instructor (IFR flying instructor)	
		Trainee pilot	(IFR – trainee pilot)

ATC unit	Zurich Control Tower		
Air traffic controller	Aerodrome Control (ADC)		
Airspace	D		

1. History

1.1 Pre-flight history

At the time of the incident, the pilot of HB-PHU was in the final phase of his private pilot training and was in possession of a trainee (A) licence, issued by the Federal Office for Civil Aviation. Since the practical examination to obtain his private pilot's licence (PPL/A) was impending, by way of preparation he had completed a training week in Raron (VS) with the Pro Altenrhein flying group, with his instructor, on HB-PHU.

On conclusion of this training week, on 31 March 2005, the return flight took place to St. Gallen-Altenrhein (LSZR), HB-PHU's home aerodrome. According to information from the trainee pilot, this return flight was to be a preparatory flight for the impending practical examination. He flew the aircraft, accompanied by his flying instructor, from Raron (LSTA) as far as Birrfeld (LSZF). Here the flying instructor, who had parked his car in Birrfeld, disembarked; the trainee pilot in the aircraft was to continue flying solo to St. Gallen-Altenrhein. The flying instructor stated that the weather situation was not optimal, but it should be possible for a PPL pilot to fly the route. Apparently, the possibility of a return to Birrfeld had also been discussed. In addition, he had already flown the Birrfeld – St. Gallen-Altenrhein route via TRA once before with the trainee pilot. He further stated: *"On the way from Raron to Birrfeld, the weather was not optimal. On the basis of the trainee's performance on this leg I came to the conclusion that the solo onward flight to St. Gallen-Altenrhein was feasible for him."* The trainee pilot stated: *"As the weather was not optimal and it was not clear whether I could make my flight to Altenrhein, my instructor waited in Birrfeld, where he awaited my telephone call or my possible return with the aircraft."*

1.2 History of the flight

Aircraft HB-PHU

The flight preparations for the flight from Raron to Birrfeld and on to St. Gallen-Altenrhein were made by the trainee pilot and his flying instructor in Raron. No ATC flight plan was submitted for any of the legs. In Birrfeld they also studied the weather conditions once more, using the selfbriefing flight advice system AMIE (AIS MET information environment) for the onward flight to St. Gallen-Altenrhein. The trainee pilot stated: *"We ascertained that the weather conditions were critical with regard to visibility. However, my flying instructor left the decision to me, on the basis of my training status. I decided to make the flight to Altenrhein."*

At 11:20 UTC, the trainee pilot took off in HB-PHU from runway 26 in Birrfeld. He climbed to 3000 ft and flew directly to the Trasadingen (TRA DVOR/DME) beacon, in order to fly from there along the Rhine via Kreuzlingen to St. Gallen-Altenrhein. According to his statements, the trainee pilot had set on the VOR receiver 1 (NAV1) the TRA DVOR frequency 114.30 MHz active (use) and in the stand-by window he had pre-selected the frequency of WIL DVOR 116.90 MHz.

The trainee pilot stated: *"From Birrfeld to TRA I had continuous ground contact and the visual conditions were VMC. Later I passed TRA VOR. I turned my aircraft east and at the Rhine Falls I saw the Rhine, which I followed."*

In the Schaffhausen region, he had set frequency 123.775 MHz of the St. Gallen-Altenrhein automatic terminal information service (ATIS). Although he did not have reception, this did not worry him as he had assumed that the distance to St. Gallen-Altenrhein was still too great. The trainee pilot later expressed the assumption that he might have pressed the NAV1 button by mistake, instead of the COM1 use/standby button. This action would explain why he had the WIL frequency active on the NAV1 but was unable to receive the St. Gallen ATIS.

He further stated: *"After passing Steckborn, both the cloud and weather conditions deteriorated markedly. A wall of cloud loomed up in front of me. To give myself more time to consider things, I performed a few 360° turns. I realised that it was impossible to continue on to Altenrhein."*

The trainee pilot then decided to turn round and fly back via TRA VOR to Birrfeld. According to his statements, he had considered whether he should again fly along the Rhine or on the VOR radial to TRA. At this time he was between Stein a. Rhein and Diessenhofen and saw the Rhine. He then resolved to fly the radial to TRA.

The trainee pilot stated: *"I was of the opinion that I had set frequency 114.30 MHz (TRA VOR) as the active frequency. In actual fact, I had set the active frequency to 116.90 MHz (WIL VOR). I had not noticed this constellation."*

Because of the cloud base, he then descended to 2500 ft and maintained this altitude up to the encounter with the Austrian private aircraft.

He later realised that he was flying on a heading of 225°. On his VOR display, he was subsequently able to read a radial of 060°. From this he concluded that because of this display he had to be north of Singen, over German territory, which he had doubted. However, observation of the topography gave him no indication of his current location. He was alarmed and worried by this situation.

The trainee pilot made a heading correction to 240°, believing that this heading would take him to TRA VOR. However, because of the erroneous VOR setting, he subsequently flew in the direction of WIL instead of TRA as intended. This eventually brought him into the Zurich control zone. The trainee pilot stated: *"Shortly afterwards, I caught sight of the threshold of runways 14 and 16 at Kloten airport. I was to the north/north-east of the thresholds of the two runways. I was horrified and temporarily shocked when I suddenly realised where I was."*

Once the trainee pilot had realised that he was in the Zurich control zone, according to his statements he wanted to leave it as quickly as possible by making a right turn to the north. He was still maintaining an altitude of 2500 ft. At the same time, he also noticed the approaching aircraft on the runway 14 ILS for the first time. It was in front to the left, about 1000 ft higher.

He selected the Zurich control tower frequency. On that frequency, he heard the air traffic controller (ATCO) issuing traffic information to an approaching aircraft concerning an unknown aircraft. He realised that his aircraft had to be the unknown aircraft. Shortly afterwards, he identified himself to the air traffic controller, who requested him to call the control tower after landing.

The trainee pilot further mentioned that after seeing the other aircraft for the first time, he was able to maintain visual contact with it for approximately 30 seconds, until

it had passed him. He further stated: *"I never had the feeling that it came close to me"*.

According to the radar recording and the trainee pilot's statement, the two aircraft crossed at 11:47:42 UTC, 4 NM from the threshold of runway 14, with an altitude difference of 400 ft and a lateral separation of 0.3 NM.

The trainee pilot then flew via TRA to Birrfeld, where the aircraft landed on runway 26 at 12:10 UTC and where his instructor, with whom he subsequently discussed the incident, also took care of him.

The trainee pilot stated that he had never experienced such a situation and had had to cope with such an unusual situation for the first time. This had put him under pressure and he had been overtaxed.

Aircraft OE-KRT

On 31 March 2005, the crew of OE-KRT were making a training flight under instrument flight rules (IFR) from Stockerau to Zurich. The blue and white Piper Arrow took off at 09:40 UTC from Stockerau and had to fly under visual flight rules (VFR) for a short time until the competent air traffic control unit granted IFR clearance after they had left the Stockerau aerodrome zone.

Two crew members and one passenger were on board. The flying instructor was the responsible commander and was sitting in the right-hand seat. As pilot not flying (PNF) he conducted radiocommunications with the air traffic control units. The trainee pilot in the left-hand seat controlled the aircraft (pilot flying - PF). The passenger flying with them was also an IFR flying instructor.

The aircraft entered Zurich airspace on route KPT – NEGRA – SAFFA at FL 80. At 11:29:40 UTC, contact was made with Zurich approach control. The approach controller guided the aircraft by radar to the runway 14 ILS. At 11:46:05 UTC, the crew were requested to switch to the aerodrome control (ADC) frequency.

A little later, the commander of OE-KRT made contact with the ADC ATCO and informed him that the aircraft was established on the localizer for runway 14. The ADC ATCO then gave him landing clearance at 11:46:26 UTC. The commander stated: *"The runway was partially in sight, but we were continually flying through cloud on the approach. The cloud was broken up into several strata, but extended well below us, with occasional light rain."*

At 11:46:58 UTC, OE-KRT was about 5.3 NM from the runway threshold and was passing 3500 ft in descent; the ADC ATCO issued the following traffic information: *"Oscar Echo Kilo Romeo Tango, I've got primary target presently about eleven o'clock, two miles, left right, no further details."*

At 11:47:30 UTC, a second traffic information followed: *"Oscar Romeo Tango, now one mile, twelve o'clock, left right"*. The commander replied that they would not see the aircraft. At 11:47:50 UTC, OE-KRT was passing 2800 ft, but informed the ADC ATCO that they had passed the aircraft in question and that it was a light aircraft.

Approximately one minute later, the trainee pilot of the light aircraft disclosed his identity as HB-PHU. According to the radar recording, at this time the aircraft was flying north-north-west and was just about to leave the control zone. The ADC-ATCO

subsequently repeated the landing clearance for OE-KRT, which still had to cover about 1 NM to the runway threshold and which landed on runway 14 at 11:52 UTC.

Air traffic control

At 11:46:30 UTC, a primary radar symbol appeared for the first time on the ADC ATCO's radar screen about 2 NM east of the runway 14 approach line, moving in a south-westerly direction towards the approach line. The ADC ATCO twice issued OE-KRT with traffic information about the unknown aircraft, which turned right just before the approach line and was moving parallel to the line in a north-north-westerly direction. After approximately 90 seconds, just before leaving the control zone, this primary symbol disappeared from the radar screen and a few seconds later the call from the trainee pilot in HB-PHU was made.

1.3 Weather according to MeteoSwiss

General weather situation

Switzerland was on the edge of a major high-pressure area over the Baltic and an extended low-pressure area over south-east Europe. Because of a convergence zone which extended from the Jura to southern England, the weather on the north side of the Alps was changeable, with some cloud and occasional rain showers.

Synoptic reports (Synop)

Synoptic observations 12z at stations Leibstadt, Würenlingen, Zurich/Kloten and Schaffhausen:

<i>Würenlingen 1200z</i>	<i>334 m AMSL, 1095 ft AMSL</i>	<i>Schaffhausen 1200z</i>	<i>437 m AMSL, 1433 ft AMSL</i>
<i>Wind (kt)</i>	<i>-</i>	<i>Wind (kt)</i>	<i>090/05kt</i>
<i>Cloud</i>	<i>8/8 at 1200 ft AGL</i>	<i>Cloud</i>	<i>8/8 at 3300 ft AGL</i>
<i>Weather</i>	<i>-</i>	<i>Weather</i>	<i>moderate rainfall</i>
<i>Visibility (km)</i>	<i>8 km</i>	<i>Visibility (km)</i>	<i>4 km</i>
<i>Temp./dewpt. (°C)</i>	<i>-</i>	<i>Temp./Dewpt. (°C)</i>	<i>10/08</i>
<i>Leibstadt 1200z</i>	<i>341 m AMSL, 1118 ft AMSL</i>	<i>Zurich/Kloten 1200z</i>	<i>436 m AMSL, 1431 ft AMSL</i>
<i>Wind (kt)</i>	<i>-</i>	<i>Wind (kt)</i>	<i>360/02</i>
<i>Cloud</i>	<i>8/8 at 3300 ft AGL</i>	<i>Cloud</i>	<i>1/8 at 1400 ft AGL</i>
<i>Weather</i>	<i>-</i>		<i>3/8 at 2500 ft AGL</i>
<i>Visibility (km)</i>	<i>18 km</i>		<i>7/8 at 5000 ft AGL</i>
<i>Temp./dewpt. (°C)</i>	<i>-</i>	<i>Weather</i>	<i>damp mist</i>
		<i>Visibility (km)</i>	<i>6 km</i>
		<i>Temp./Dewpt. (°C)</i>	<i>11/08</i>

METAR

ST GALLEN ALTENRHEIN

31.3.2005 09:50z LSZR Metar 310950 05002KT 9999 SCT010 09/08 Q1021 NOSIG H

*31.3.2005 11:50z LSZR Metar 311150 35003KT 4500 SCT004 OVC020 09/08 Q1021
NOSIG I*

GAMET:

Gamet valid 09-15 UTC for the region of Eastern Switzerland:

clد: 12/15 isol tcu

Wind/temperature at 10,000 ft AMSL: VRB/05kt MS07

Wind/temperature at 5,000 ft AMSL: 050/05kt PS02

0°: FL060

MNM QNH: 1020 hPa

GAFOR

GAFOR valid 09-15 UTC for the route from Basel to Schaffhausen:

Route 01: 000

Weather according to skyguide Infonet data

ATIS ZURICH

INFO VICTOR

LDG RWY 14 ILS APCH. DEP RWY 28

QAM LSZH 1120Z 31.03.2005

310 DEG 4 KT

VIS 6 KM

CLOUD FEW 1200 FT. SCT 2500 FT. BKN 5000 FT

+10 / +08

QNH 1021 TWO ONE

QFE THR 14 970

QFE THR 16 971

QFE THR 28 970

NOSIG

TRL 70 DAY 0441 NGT 1829 QNH TICINO 0840Z: 1018 HPA

TROPO: 32000 FT, MS59

2. Analysis

After the trainee pilot and his flying instructor had arrived in Birrfeld, they established that the weather conditions for an onward flight to St. Gallen-Altenrhein were indeed critical but did permit such a flight, on the basis of the available weather data. The GAFOR route weather forecast for the planned flight – D (difficult) – meant that the main cloud base may descend to 1500 ft above the reference altitude and that visibility may be 5 km. The trainee pilot, who was evidently full of self-confidence after concluding his week's training in the Valais, decided after a lengthy discussion about the weather situation to make the onward flight without the flying instructor. It may also have been a factor that he wanted to show his flying instructor what he had learned in the past week.

The flying instructor, for his part, wanted to leave the decision about the onward flight to the trainee pilot, given the latter's level of training. Obviously, however, he was not sure whether his trainee would reach St. Gallen-Altenrhein or whether he would have

to return to Birrfeld. He therefore intended to remain in Birrfeld until the flight had been completed.

After take-off from Birrfeld, the trainee pilot flew direction TRA VOR and climbed to 3000 ft/QNH, in order not to fly into the Zurich terminal area (TMA). Later, after passing Steckborn, when he realised that it was not possible to continue the flight, he decided to turn back. He decided to fly back via TRA VOR to Birrfeld. The fact that on the Birrfeld – TRA leg and vice versa he would have to fly over German territory, for which an ATC flight plan would have been necessary, was neglected by both the trainee pilot and the flying instructor.

In view of the poor weather conditions, the trainee pilot was under considerable pressure. During his training, he had never been confronted with such bad weather. Nor had he ever had to fly an alternative route. Although he was clearly not sufficiently acquainted with VOR navigation – which eventually led to his navigational errors – he relied exclusively on this information. In addition, he omitted to verify his position on the basis of geographical observations. Low cloud also forced him to leave his previous altitude and descend to 2500 ft.

For the subsequent history of the flight, it was critical that in this phase the trainee pilot did not notice that he had selected the WIL VOR frequency on his navigation equipment instead of the TRA VOR frequency. He clearly failed to identify the VOR station. He then used 045° in an attempt to intercept the radial 090° of the assumed pre-set TRA VOR and turned onto a heading of 225°.

For a short time he was able to check the heading which he had chosen. On his navigation equipment he then read off a radial of 060°. This caused him to make a correction to the left onto heading 240°, which lead him towards the south-west into the Zurich region.

When he suddenly recognised the Zurich-Kloten runways on his left, he realised that he was already inside the Zurich control zone. Since he wished to leave this area as quickly as possible, he turned his aircraft to the right in a north/north-westerly direction. However, this right turn caused the aircraft to continue to approach the runway 14 approach line, so that it was now only a little to the east of the ILS. HB-PHU then flew, with a slight offset, on a opposite heading to the approaching OE-KRT.

After the ADC ATCO suddenly detected the primary radar symbol of an unknown flying object about 2 NM to the east of the runway 14 ILS, which was slowly nearing the approach line, he issued initial traffic information to the approaching OE-KRT. The trainee pilot in the left-hand seat and the passenger flying with him then scanned the airspace. The commander in the right-hand seat was busy with landing preparations during this phase.

After 30 seconds, this symbol disappeared from the radar screen. A little later, when it re-appeared near the ILS, the ADC ATCO issued traffic information a second time. However, the crew of OE-KRT were not able to establish visual contact with the other aircraft because of the weather conditions.

According to his statements, the trainee pilot suddenly saw a light aircraft appear below a cloud at about his 10 or 11 o'clock position, flying approximately 300 ft lower, which disappeared from his field of vision below his aircraft after about 3-5 seconds. The light aircraft was never visible to the commander in the right-hand seat.

A little later, OE-KRT landed on runway 14 and HB-PHU left the control zone in a northerly direction.

Behaviour of the flying instructor

It is reasonable and customary in this training phase for a flying instructor to allow a trainee pilot to make many decisions for himself. However, in the event of doubt, the weather situation should have led the flying instructor not to accept the decision of the trainee pilot, for whom he is responsible. In addition, extensive flight preparations with detailed planning in the event of an aborted flight with a return to Birrfeld should have been undertaken. The difficult weather situation, together with the challenging airspace structure, the CTR boundary which followed a curve and the low limit of the TMA Sector 1 constituted an assignment for which the trainee's flying experience was not adequate.

Behaviour of the trainee pilot

It must remain an open question why the trainee pilot did not make contact with Zurich Information, even though the flying instructor designated this as standard procedure for this route. The fact that the trainee pilot, after deciding to turn back and after being confronted with such weather conditions for the first time, was no longer able to systematically apply radio navigation and therefore entered the Zurich CTR can be attributed to the stress situation in which he found himself.

Transponders

A transponder in HB-PHU switched to VFR code 7000 and transmitting its altitude would have enabled the ATCO to detect the impending conflict situation at an earlier stage. At the time of the incident it was neither required nor recommended that the transponder be switched on with code 7000 in class G and E airspace. Since the spring of 2006, in Swiss airspace it has been recommended that a transponder also be switched on in class G and E airspace and set to code 7000 with altitude transmission.

TCAS

TCAS was not required for the aircraft involved.

3. Conclusions

3.1 Findings

- OR-KRT was flying according to instrument flight rules and was in contact with Zurich control tower on the 118.100 MHz frequency.
- HB-PHU was flying according to visual flight rules and only made contact with air traffic control just before flying out of the Zurich control area.
- The pilots and air traffic controllers were in possession of the licences necessary to exercise their activities.
- The flying instructor was directing the flight with HB-PHU under the auspices of the Pro Altenrhein flying group flying school.
- The trainee pilot was at the end of his training and would shortly be taking the practical examination to acquire his private pilot's licence (PPL/A).

- Before the incident, the trainee pilot had completed a one-week preparatory course for his forthcoming examination.
- The trainee pilot had 58:28 hours of flying experience.
- In view of the prevailing weather conditions, a flight under visual flight rules from Birrfeld to St. Gallen-Altenrhein would have been difficult.
- No ATC flight plan was submitted for the flight from Birrfeld to St. Gallen-Altenrhein.
- The trainee pilot of HB-PHU was alone on board.
- After passing Steckborn, the trainee pilot decided to return to Birrfeld because of the markedly deteriorating weather conditions.
- HB-PHU entered the Zurich control zone without clearance.
- According to his statements, the trainee pilot had activated the WIL VOR frequency on his navigation equipment instead of TRA VOR.
- The crew of OE-KRT were making an IFR training flight from Stockerau to Zurich.
- At the time of the incident, OE-KRT was on final approach to runway 14.
- The trainee pilot in HB-PHU stated that he had visual contact with OE-KRT for approximately 30 seconds.
- According to his statements, the trainee pilot in the left-hand seat of OE-KRT had visual contact with HB-PHU for 3-5 seconds. The commander in the right-hand seat never had visual contact with the light aircraft.
- According to their statements, the crew of OE-KRT flew through several rain showers and cloud strata during their approach.
- HB-PHU was visible on the ADC ATCO's radar screen for approximately two minutes as a primary radar symbol. The representation of the track was imprecise.
- The ADC ATCO twice issued traffic information to OE-KRT.
- After the incident, the trainee pilot in HB-PHU identified himself to the ADC ATCO on the 118.100 MHz frequency.
- According to the radar recording and the trainee pilot's statement, the two aircraft crossed at 11:47:42 UTC, 4 NM from the threshold of runway 14, with an altitude difference of 400 ft and a lateral separation of 0.3 NM.

- *General weather situation*

Switzerland was on the edge of a major high-pressure area over the Baltic and an extended low-pressure area over south-east Europe. Because of a convergence zone which extended from the Jura to southern England, the weather on the north side of the Alps was changeable, with some cloud and occasional rain showers.

- *Synoptic reports (Synop)*

<i>Schaffhausen 1200z</i>	<i>437 m AMSL, 1433 ft AMSL</i>
<i>Wind (kt)</i>	<i>090/05kt</i>
<i>Cloud</i>	<i>8/8 at 3300 ft AGL</i>
<i>Weather</i>	<i>moderate rainfall</i>
<i>Visibility (km)</i>	<i>4 km</i>
<i>Temp./dewpt. (°C)</i>	<i>10/08</i>

- *GAFOR*

*GAFOR valid 09-15 UTC for the route from Basel to Schaffhausen:
Route 01: 000*

*GAFOR valid 09-15 UTC:
Route 02 Schaffhausen – Altenrhein: DDO
Route 12 Grenchen- Zurich: DDO
Route 22 Bern – Zurich: DDO
Route 13 Zurich – Altenrhein: DDO*

- *TAF*

*31.3.2005 06:00z TAF SHORT LSZR 310716 VRB03KT 9999 FEW030 BKN070
TEMPO 0716 6000 SHRA BKN030*

*31.3.2005 09:00z TAF SHORT LSZR 311019 VRB03KT 9999 FEW010 BKN050
TEMPO 1019 SHRA SCT010 BKN025*

- *METAR*

ZUERICH

*31.3.2005 10:20z LSZH Metar VRB02KT 9999 VCSH FEW012 SCT027 BKN050
10/06 Q1021 TEMPO RA*

*31.3.2005 10:50z LSZH Metar 02004KT 320V070 5000 RA FEW012 SCT027
BKN050 09/08 Q1021 NOSIG*

- *METAR*

ST GALLEN ALTENRHEIN

*31.3.2005 09:50z LSZR Metar 310950 05002KT 9999 SCT010 09/08 Q1021 NOSIG
H*

*31.3.2005 11:50z LSZR Metar 311150 35003KT 4500 SCT004 OVC020 09/08
Q1021 NOSIG I*

3.2 Cause

The serious incident is attributable to the fact that in difficult weather conditions the trainee pilot of HB-PHU lost his orientation and consequently entered the Zurich control zone without clearance, leading to a dangerous encounter with an aircraft approaching on the runway 14 ILS.

A contributory factor was the inappropriate decision of the flying instructor to allow the trainee pilot to undertake a challenging navigation task in complex airspace, under the prevailing weather conditions, alone on board.

Berne, 11 September 2006

Aircraft Accident Investigation Bureau

This report has been prepared solely 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). The masculine form is used in this report regardless of gender for reasons of data protection

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

Investigation into the **incident** that occurred on **31.03.2005**

- Subject of transcript:	OEKRT / HBPHU
- Centre concerned:	Swiss Radar Area East
- Designation of unit:	Zurich ADC
- Frequency / Channel:	118.1 MHz
- Date and period (UTC) covered by attached extract:	31.03.2005 11:46-11:52 UTC
- Date of transcript:	13.04.2005
- Name of official in charge of transcription:	Nicholas SCHERRER

- 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.

Zürich, 13.04.2005

Nicholas SCHERRER

Abbreviations

Sector Designation of sector
 ADC - Zurich ADC / TWR

<u>Aircraft</u>	-	<u>Callsign</u>	<u>Type of acft</u>	<u>Flight rules</u>	<u>ADEP</u>	-	<u>ADES</u>
ORT	-	OEKRT	P28R	IFR	LOAU	-	LSZH
<i>HHU</i>		<i>HBPHU</i>	<i>PA28</i>	<i>VFR</i>			

DMO / 13.04.2005

TRANSCRIPT SHEET

Occurrence: OEKRT / HBPHU of 31.03.2005



To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
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Frequency: Zurich ADC 118.1 MHz

ADC	ORT	11:46:21	"Ah", Zurich Tower, "schönen guten Tag", die Oscar Echo Kilo Romeo Tango, established one four	
ORT	ADC	:26	Oscar Echo Kilo Romeo Tango, Zurich Tower, hello, wind zero one zero degrees four knots, runway one four, cleared to land	
ADC	ORT	:31	Cleared to land and thank you for the wind, Oscar Romeo Tango	
ORT	ADC	:58	Oscar Echo Kilo Romeo Tango, I've got primary target presently about eleven o'clock, two miles, left right, no further details	
ADC	ORT	:47:08	Ah, we take a look, thank you, Oscar Romeo Tango	
ORT	ADC	:10	Roger	
ORT	ADC	:30	Oscar Romeo Tango, now one mile, twelve o'clock, left right	
ADC	ORT	:34	Okay, Sir, Oscar Romeo Tango	
ADC	ORT	:39	Negative contact	
ORT	ADC	:41	Roger	
ADC	ORT	:50	I think, we have, we have passed the traffic, Sir	
ORT	ADC	:52	Roger, what did it look like?	
ADC	ORT	:48:00	A small airplane, I don't know exactly	
ORT	ADC	:02	Okay, vielen Dank 1 station in between	
ADC	HHU	:59	<i>Zurich Tower, Hotel Bravo Papa Hotel Uniform</i>	
HHU	ADC	:49:04	Hotel Bravo Papa Hotel Uniform, Tower, go ahead	
ADC	HHU	:11	<i>Ah, it's me, the uncontrolled airplane in your area</i>	
HHU	ADC	:16	Hotel Hotel Uniform, roger	

TRANSCRIPT SHEET

Occurrence: OEKRT / HBPHU of 31.03.2005



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>
ORT	ADC	11:49:18	Oscar Echo Kilo Romeo Tango, wind check zero three zero degrees, three knots, I confirm, runway one four cleared to land	
ADC	ORT	:24	XXX, thank you for the wind, and, no problem, cleared to land one four, Oscar Romeo Tango	unreadable
HHU	ADC	:32	Hotel Bravo Papa Hotel Uniform, after landing, could you kindly contact the Tower via telephone on Zurich phone number XXXXXXXX	DOM -tel.nr
<i>ADC</i>	<i>HHU</i>	<i>:51</i>	<i>Say again, Hotel Hotel Uniform</i> <i>1 station in between</i>	
HHU	ADC	:50:04	Hotel Hotel Uniform, "Können Sie sich eine Telefonnummer aufschreiben?"	
<i>ADC</i>	<i>HHU</i>	<i>:10</i>	<i>Hotel Hotel Uniform, I'm writing, but I didn't understand, say again</i>	
HHU	ADC	:13	Okay, no problem, in Zurich, phone number XXXX	DOM tel-nr
<i>ADC</i>	<i>HHU</i>	<i>:25</i>	<i>XXXX</i>	DOM tel-nr
HHU	ADC	:30	Hotel Hotel Uniform, that is correct, that's Tower phone number and "ja", I appreciate a phone call later on	
<i>ADC</i>	<i>HHU</i>	<i>:37</i>	<i>Hotel Hotel Uniform</i>	
ADC	ORT	:45	Oscar Romeo Tango, on ground	
ORT	ADC	:48	Ja, Oscar Echo Kilo Romeo Tango, "danke schön", first right, Apron one two one decimal eight five	
ADC	ORT	:56	Ah, one two one eight five, and thank you	
ORT	ADC	:58	"und Oscar Romeo Tango, nur zur Info, wir werden und müssen einen Bericht schreiben, eh, über die Sache, Sie können auch gerne zur Absprache uns noch kontaktieren. Wenn Sie sich die Telefonnummer aufschreiben möchten"	
ADC	ORT	:51:09	"I glaub mal , es war für uns net wirklich a Problem, also, wan's woll'n, kann I Ihnen gern sagen, aber der war so gschwind vorbei,also da, es, es war ja auch scattered, i hab ja net sehr vül gsehn, es war ja in Woken, ne. Ich war da an so an Meer drin"	

TRANSCRIPT SHEET

Occurrence: OEKRT / HBPHU of 31.03.2005

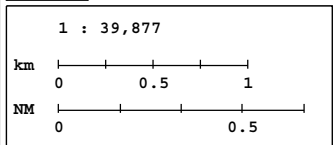
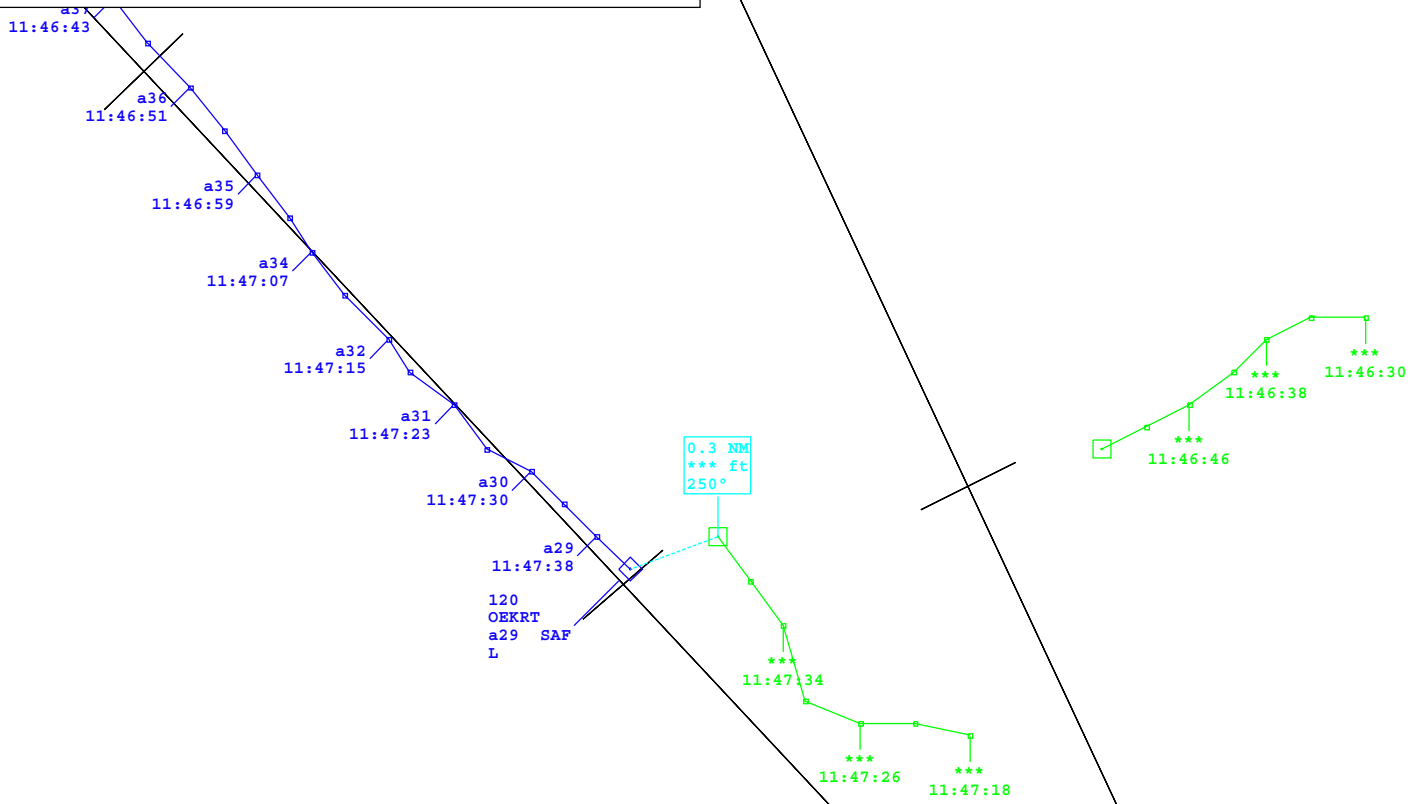


<u>To</u> <u>Col.1</u>	<u>From</u> <u>Col.2</u>	<u>Time</u> <u>Col.3</u>	<u>Communications</u> <u>Col.4</u>	<u>Observations</u> <u>Col.5</u>
ORT	ADC	11:51:20	"Oscar Romeo Tango, okay, verstanden, Ich danke Ihnen vielmals. Und, ja, wir müssen da was machen. Aber kein Problem. Nur dass falls Sie irgend wie ein Bericht zurückgeschickt kriegen. Dass Sie es nur wissen"	
ADC	ORT	:31	"Okay, danke, also ich geh auf eins zwo eins punkt acht fünf"	
ORT	ADC	:35	"das ist genau richtig"	
ADC	ORT	:36	"Servus"	

- end-

Src
APN

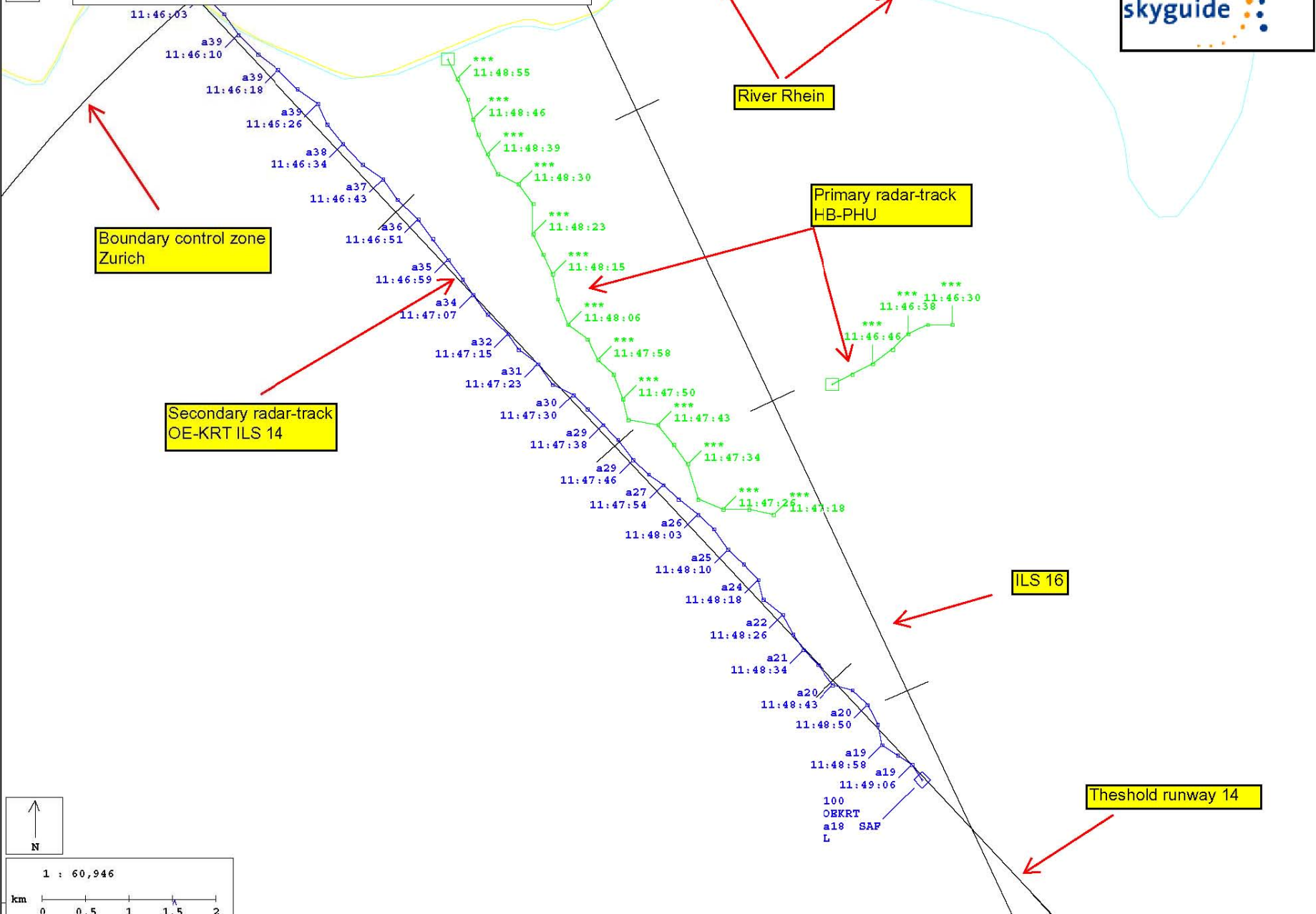
Analysis: atir oekrt of 31.03.2005 Time [UTC]: 31.03.2005 11:47:46



Name: nicky scherrer DMOsn Eval Date: 10.04.2006

Src
APN

Analysis: atir oekrt of 31.03.2005 Time [UTC]: 31.03.2005 11:49:13



Name: nicky scherrer DMOsn Eval Date: 10.04.2006