Transcript of Original Tape Recording

Subject: Accident DHX611 / BTC2937 of July 2, 2002 (midair collision)

<table>
<thead>
<tr>
<th>Call Signs</th>
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<tbody>
<tr>
<td>611</td>
<td>→</td>
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<tr>
<td>6497</td>
<td>→</td>
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<tr>
<td>933</td>
<td>→</td>
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<td>4575</td>
<td>→</td>
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<td>286</td>
<td>→</td>
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<td>305</td>
<td>→</td>
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<tr>
<td>935</td>
<td>→</td>
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<tr>
<td>256</td>
<td>→</td>
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<td>7791</td>
<td>→</td>
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<td>6073</td>
<td>→</td>
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<td>5621</td>
<td>→</td>
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<td>505</td>
<td>→</td>
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<td>1135</td>
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<tr>
<td>2937</td>
<td>→</td>
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<tr>
<td>5177</td>
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S RE      Zurich South Sector Radar Executive
AR RE     Zurich Arfa Sector Radar Executive (also A RE)
TSRP      Telephone Zurich South Sector Radar Planner
TFHA      Telephone Friedrichshafen Tower

Frequency
Zurich South Sector / S RE 128.050 MHz
Zurich Arfa Sector / AR RE 119.920 MHz

<table>
<thead>
<tr>
<th>To</th>
<th>From</th>
<th>Time UTC</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>S RE</td>
<td>611</td>
<td>21:20:08</td>
<td>Zurich äh..Radar, ah.. good evening, DHX611, I’m climbing flight level 260, direct to*…..</td>
</tr>
<tr>
<td>T***?</td>
<td>TSRP</td>
<td>:09</td>
<td>*unreadable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>go ahead?</td>
</tr>
<tr>
<td>TSRP</td>
<td>T***?</td>
<td>:10</td>
<td>du hast noch den Exjet noch, 6497</td>
</tr>
<tr>
<td>T***?</td>
<td>TSRP</td>
<td>:12</td>
<td>ja, er kommt rüber</td>
</tr>
<tr>
<td>TSRP</td>
<td>T***?</td>
<td>:13</td>
<td>ja, danke</td>
</tr>
</tbody>
</table>

611      S RE    :16      say again, sorry

6497     S RE    :19      EXS6497, contact rhine 120 93

S RE  6497  :24      Rhine 127 93, 6497, correction, 120 93

S RE  933   :31      control, THA933, good evening

933      S RE    :34      THA933, good evening, route Trasadingen – ALGOI

Frequency
Zurich South Sector / S RE 128.050 MHz
Zurich Arfa Sector / AR RE 119.920 MHz
THA933, did you copy?

äh...copied THA933, please, say again

proceed Trasadingen – ALGOI

“transang” to ALGOI, THA933

Tango – Romeo – Alpha then ALGOI

roger, Tango – Romeo – Alpha and then ALGOI

TAR4575, direct Trezzo

direct to Trezzo. 4575, thank you

NMB286, proceed direct Genua

direct Genova, NMB286

BVR305, descend flight level 220

descending flight level 220, BVR three o five

EZS äh..935, äh.. proceed direct TORPA

direct to Hochwald, EZS935, confirm?

TORPA

ah, to TORPA, 935, thank you

CRX256, maintaining flight level 270

thank you, for further contact Padua 120 decimal 72. bye bye

20 72. bye-bye, thank you

äh... Swiss Radar, good evening, DHX611, just levelling flight level 260, direct ABESI

DHX611, squawk 7524

7524, 611

and BVR305, Initially cleared level 270

cleared level 270, BVR three o five

DHX611, Identified, climb flight level 320, direct TGO

roger, climb flight level 320, direct TGO, and requesting 360, thanks if it’s available

roger, expect äh... further climb in äh... four to five minutes
611 S RE :06 611 thanks

7791 S RE :11 LTU7791, now direct Tango, descend level 120

S RE 7791 :20 direct Tango, level 120, confirm for LTU7791?

7791 S RE :25 LTU7791, you’re cleared flight level 120, and you may proceed
direct Tango

S RE 7791 :31 thank you, direct to Tango, level 120, LTU7791

6073 S RE :35 SRR6073, contact Rhine 120 decimal 930, good-bye

S RE 6073 :40 120 930, SRR6073

5621 S RE :51 MON5621, after Hochwald direct Luxeuil

S RE 5621 :55 Hochwald – Luxeuil, MON5621

7791 S RE :24:16 LTU7791, rate two thousand feet a minute or more now, until
passing level 150

S RE 7791 :23 two thousand or more, until out of 150, LTU7791

TRHA TSRP :25:43 ***.......... (dead phoneline) end :25:49
*** first try to reach EDNY

S RE 935 :52 and the EZS935 is reaching level 240, for higher

935 S RE :56 thank you, Sri, contact Reims 134 4, good-bye

S RE 935 :59 134 4, EZS935, bye-bye

305 S RE 26:06 BVR305, descend level 220

S RE 305 :09 descending level 220, BVR three o five

305 S RE 21:26:12 right, what ist your rate of climb, äh rate of descend now?

S RE 305 :14 two thousand, BVR three o five

305 S RE :17 roger, maintain to thousand or more, out of flight level äh… 250

S RE 305 :21 will maintain two thousand or more, out of 250, BVR three o five

286 S RE :25 NMB286, climb flight level 350

S RE 286 :29 climb level 350, NMB286

611 S RE :36 DHX611, climb flight level 360

S RE 611 :39 climb flight level 360, DHX611

4575 S RE :44 TAR4575, contact Rome 132 decimal 9, bye-bye
S RE 4575 :49 132 decimal 9, TAR4575

505 S RE :27:00 PGT505, contact Reims 133 decimal 830, bye-bye
S RE 505 :07 133 830, bye-bye, 505

286 S RE :34 NMB286, contact Roma 132 decimal 9, bye-bye
S RE 286 :38 132 9, thanks, NMB286

7791 S RE :28:04 LTU7791, contact Stuttgart 125 05, bye-bye
S RE 7791 :13 25 05, LTU7791, bye-bye

S RE 305 :56 BVR three o three*, äähm… approaching flight level 220
"says “three o three”

305 S RE :29:01 BVR305, contact Frankfurt 127 05, bye-bye
S RE 305 :06 127 05, BVR three o three, five, bye-bye

TFHA TSRP :29:25 *******
"second try to reach EDNY, first time via by pass-nr., it rings and….

TFHA TSRP :37 ******
"Tape: "tü-tü-tüüt, die gewünschte Verbindung ist nich möglich, bitte überprüfen Sie
die Rufnummer” and the same once in French and….

TFHA TSRP :44 ....“hel”.... ******* end :29:50
"....once in Italian

AR RE 1135 21:30:07 “Zürich grüezi", äh… AEF äh…1135, descending flight level 80
S RE 2937 :11 Zurich, good evening, BTC2937

1135 A RE :18 AEF1135, roger, äh… call you back
S RE 2937 :26 station calling say again, please

S RE 2937 :28 äh, Zurich, good evening, BTC2937, level 360
2379 S RE :33 BTC2937, squawk äh.. 7520

AR RE 1135 :34 and AEF äh..1135 is inbound the final approach fix for ILS
runway 24

1135 A RE :44 “ja” expect so, call you back shortly

933 S RE 31:15 THA933, contact now Munich 132 decimal 140, good-bye
132 140, THA933, good-bye

MON5621, contact Reims 133 decimal 830, bye-bye

133 830, MON5621

and AEF äh…1135, request lower

AEF1135, descend flight level 70

descending flight level 70, AEF1135

correct, what is your present heading?
present heading is 265

roger, right turn heading 280, vectors ILS 24

right heading 280, for.. to expect ILS 24, AEF1135

****** third try to reach EDNY, second time via by pass-nr., handdialing, it rings and...

****** Tape:"tü-tü-tüüt, die gewünschte Verbindung…” etc

“du das geht auch nicht” end :33:15

AEF1135?

AEF1135, go ahead, Sir?

“ja”, I lost my phone connection to Friedrichshafen, äh…could you please call them on your second set äh… 124 decimal 35 and äh.. tell them you’re coming ILS 24, with äh... twenty miles now?

okay, will do

thank you

and AEF1135, descend five thousand five hundred

descending five thousand five hundred, AEF1135

ONH is 1008

1008, five thousand five hundred, AEF1135

the BTC2937, äh descend flight level äh… 350, expedite, I have crossing traffic end :34:57

BTC2937, descend level 350, expedite descent end :35:07

expedite descent level 350, BTC2937 end :35:12
AR RE 1135 :09 and “Zürich” from the AEF1135?

2937 S RE :13 “ja”, we have traffic at your... 2 o’clock now at 360 end :35:17

S RE 611 :19 *.........six hundred..äh TCAS-descent unreadable, probably 35 canadian pilot on R/T, other pilot’s voice coming through open mike

AR RE 1135 :21 “Zürich” from the AEF1135?

1135 A RE :25 “ja” go ahead?

AR RE 1135 :27 we have āh… positive contact with āh... Friedrichshafen āh… Radar

1135 A RE :31 ah okay, turn left heading 240, intercept ILS 24, descend four thousand feet

S RE 5177 :31 Zurich, XLA5177, maintaining flight level 360

21:35:32 Kollision beider Flugzeuge (Anmerkung der Redaktion)

AR RE 1135 :37 left 240, cleared ILS 24, AEF āh...1135

:37 **........ / / / /
morse on frequency
ATTN = attention

:44 ***........
***first windy noise

AR RE 1135 :45 can we go āh… Friedrichshafen?

:47 ****......
****second loud windy noise

1135 A RE :50 affirm, bye-bye

AR RE 1135 :51 bye-bye

2937 S RE 21:36:01 BTC2937?

2937 S RE :23 BTC2937?

-end-

there aren’t any coordination calls between Friedrichshafen and Zurich, due to nonfunction of the phone connection