STANDARD DEPARTURE ROUTES – INSTRUMENT (SID)

FRANKFURT MAIN
RWY 07L/07R
SIDs with Route Designator ECHO

1. **Between 0600 (0500) and 2100 (2000):**
   1.1 SIDs with designator **ECHO** may be used by all **MEDIUM** and **LIGHT** aircraft **able to comply** with the climb restrictions;
   1.2 SIDs with designator **DELTA** shall be used by:
   - all **HEAVY** aircraft and
   - all aircraft **unable to comply** with the climb restrictions in SIDs with designator **ECHO**.
2. **Between 2100 (2000) and 0600 (0500) ALL AIRCRAFT** shall use SIDs with designator **DELTA**.
3. **NON-RNAV (enroute only)** equipped aircraft shall use SIDs with designator **CHARLIE**.

Nur für Simulationszwecke zu verwenden!
Mit freundlicher Genehmigung der DFS
Deutsche Flugsicherung GmbH
für IVAO Deutschland.

Designator	Route	After Take-Off		Remarks
		Climb to	Contact	
1	2	3	4	5
AMUGI 1E	**AMUGI ONE ECHO** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM); RT, on track 099°; on R086 FFM to AMUGI (△). **GPS/FMS RNAV:** [A800+] - DF149[R] - DF151[L] - AMUGI.	4000 ft	Langen Radar 120.150*	1. Only for flights terminating within EDDN Area. 2. Cross 40.0 DME FFM at FL 90 or above. (Lost COM only).
ANEKI 8E	**ANEKI EIGHT ECHO** On RWY track to 1.6 DME FRD (1.5 DME inbound FFM) or 800, whichever is later; RT (MAX IAS 220 KT until established on R199 FFM), on R199 FFM to 10.3 DME FFM; LT, on R357 RID to RID; RT, on R184 RID to ANEKI (△). Cross 4.0 DME FFM at 2500 or above. Cross 4.4 DME RID south of RID at 4500 or above. Cross 6.9 DME RID south of RID at 5000 or above. Cross 11.9 DME RID south of RID at 6000 or above. **GPS/FMS RNAV:** [A800+] - DF144 (07L)[R] / DF145 (07R)[R] - DF154 [A2500+; K220-; L] - DF160[L] - RID[R] - ANEKI.		Langen Radar 136.125*	PDG 5.4% / 330ft/NM until passing 2500 due to airspace structure. If unable to comply, advise EDDF DELIVERY prior to start-up.
BIBOS 7E	**BIBOS SEVEN ECHO** On RWY track to 1.6 DME FRD (1.5 DME inbound FFM) or 800, whichever is later; LT, on R357 FFM to ODAGA; LT, on track 288° to KUSOM; LT, on track 252° to GUBAX; RT, on track 294° to RAVKI; RT, on track 335° via DITAM to ABAXA; LT, on track 328° to BIBOS (△). Cross 2.8 DME FFM north of FFM at 2000 or above. **GPS/FMS RNAV:** [A800+] - DF139 (07L)[L] / DF140 (07R)[L] - DF146[A2000+] - ODAGA[L] - KUSOM[L] - GUBAX[R] - RAVKI[R] - DITAM - ABAXA[L] - BIBOS.	5000 ft	Langen Radar 120.150*	1. PDG 6.3% / 380 ft/NM until passing 2000 due to obstacle. If unable to comply, advise EDDF DELIVERY prior to start-up. 2. Flights via BIBOS and UZ28/UZ29 to UK or beyond, except for flights terminating within LONDON TMA. 3. Flights via UZ29 have to cross BIBOS at FL 250 or above. If unable to comply, request routing via UZ28 crossing BIBOS at FL 210 or above. 4. Also for flights destination EDDK or continuing VFR after ABAXA/BIBOS. In case of radio communication failure, flights with DEST EDDK shall proceed BIBOS - COL or BIBOS - WYP depending on RWY in use. 5. After ODAGA BRNAV equipment necessary.
DKB 4E	**DINKELSBÜHL FOUR ECHO** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM) (MAX IAS 220 KT until established on R192 MTR); RT, on R192 MTR to 10.8 DME FFM ; LT, on track 106° to KNG (△); LT, on track 103° KNG to AKONI(△); RT, on R130 FFM/R310 DKB to DKB (△). **GPS/FMS RNAV:** [A800+] - DF152[R] - DF150[K220-; L] - DF153[L] - KNG[L] - AKONI[R] - DKB.	4000 ft	Langen Radar 136.125*	Only for flights terminating within EDMM FIR.
MARUN 2E	**MARUN TWO ECHO** On RWY track to 1.6 DME FRD (1.5 DME inbound FFM) or 800, whichever is later; LT, on R357 FFM to ODAGA; RT, on track 359° to TESGA; RT, on track 004° via ALIDI to MARUN (△). Cross 2.8 DME FFM north of FFM at 2000 or above. **GPS/FMS RNAV:** [A800+] - DF139 (07L)[L] / DF140 (07R)[L] - DF146[A2000+] - ODAGA[R] - TESGA[R] - ALIDI - MARUN.	5000 ft	Langen Radar 120.150*	1. PDG 6.3% / 380ft/NM until passing 2000 due to obstacle. If unable to comply, advise EDDF DELIVERY prior to start-up. 2. After ODAGA BRNAV equipment necessary.
NEKOM 2E	**NEKOM TWO ECHO** On RWY track to 1.6 DME FRD (1.5 DME inbound FFM) or 800, whichever is later; RT (MAX IAS 220 KT until established on R199 FFM), on R199 FFM to 10.3 DME FFM; LT, on R357 RID to RID; LT, on R163 RID to NEKOM (△). Cross 4.0 DME FFM at 2500 or above. Cross 4.4 DME RID south of RID at 4500 or above. Cross 6.9 DME RID south of RID at 5000 or above. Cross 11.9 DME RID south of RID at 6000 or above. **GPS/FMS RNAV:** [A800+] - DF144 (07L)[R] / DF145 (07R)[R] - DF154 [A2500+; K220-; L] - DF160[L] - RID[L] - NEKOM.	4000 ft	Langen Radar 136.125*	1. PDG 5.4% / 330 ft/NM until passing 2500 due to airspace structure. If unable to comply, advise EDDF DELIVERY prior to start-up. Only for flights terminating within EDDS Area and destination LSZH, LSZR and EDNY with access to N850 at FL 90 or below.

(Sample: DF144 fly-over way point)

* Departure frequency may deviate from the frequency published. Check ATIS for current departure frequency.

Contact LANGEN RADAR immediately after take-off!

FRANKFURT MAIN
RWY 07L/07R
SIDs with Route Designator ECHO

STANDARD DEPARTURE
ROUTES – INSTRUMENT
(SID)

1. **Between 0600 (0500) and 2100 (2000):**
   1.1 SIDs with designator **ECHO** may be used by all **MEDIUM** and **LIGHT** aircraft **able to comply** with the climb restrictions;
   1.2 SIDs with designator **DELTA** shall be used by:
   - all **HEAVY** aircraft and
   - all aircraft **unable to comply** with the climb restrictions in SIDs with designator **ECHO**.
2. **Between 2100 (2000) and 0600 (0500) ALL AIRCRAFT** shall use SIDs with designator **DELTA**.
3. **NON-RNAV (enroute only)** equipped aircraft shall use SIDs with designator **CHARLIE**.

Nur für Simulationszwecke zu verwenden!
Mit freundlicher Genehmigung der DFS
Deutsche Flugsicherung GmbH
für IVAO Deutschland.

Designator	Route	After Take-Off		Remarks
		Climb to	Contact	
1	2	3	4	5
NOMBO 4E	**NOMBO FOUR ECHO** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM) (MAX IAS 220 KT until established on R192 MTR); RT, on R192 MTR to 10.8 DME FFM; LT, on track 106° to KNG (△); LT, on track 103° KNG to AKONI (△); RT, on R130 FFM outbound FFM to HAREM (△); RT, on track 148 to LAMPU (△); LT, on track 134° to NOMBO (△). **GPS/FMS RNAV:** [A800+] - DF152[R] - DF150[K220-; L] - DF153[L] - KNG[L] - AKONI[R] - HAREM[R] - LAMPU[L] - NOMBO.	4000 ft	Langen Radar 136.125*	1. After HAREM BRNAV equipment necessary. 2. Not for flights terminating within EDDN Area or EDMM FIR. 3. Not for propeller-driven aircraft. These flights shall file SID RATIM.
RATIM 2E	**RATIM TWO ECHO** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM) (MAX IAS 220 KT until established on R192 MTR); RT, on R192 MTR to 10.8 DME FFM; LT, on track 106° to KNG (△); LT, on track 103° KNG via AKONI (△) to RATIM (△). **GPS/FMS RNAV:** [A800+] - DF152[R] - DF150[K220-; L] - DF153[L] - KNG[L] - AKONI - RATIM.		Langen Radar 136.125*	1. Only for propeller-driven aircraft (MAX RFL 230) instead of SID NOMBO. 2. Not for flights terminating within EDDN Area or EDMM FIR.
SOBRA 2E	**SOBRA TWO ECHO** On RWY track to 1.6 DME FRD (1.5 DME inbound FFM) or 800, whichever is later; RT (MAX IAS 220 KT until established on R199 FFM), on R199 FFM to 17.3 DME FFM; RT, on track 283° via ROSIG and DONAB to SOBRA (△). Cross 4.0 DME FFM at 2500 or above. Cross 10.3 DME FFM at 4000. Cross ROSIG at FL 90 or above. Cross DONAB at FL 110 or above. **GPS/FMS RNAV:** [A800+] - DF144 (07L)[R] / DF145 (07R)[R] - DF154 [A2500+; K220-] - DF160[A4000] - DF198[R] - ROSIG[F090+] - DONAB[F110+] - SOBRA.			1. PDG 6.3% / 380 ft/NM until passing 2500. PDG 6.6% / 405 ft/NM after 10.3 DME FFM until passing FL 90 due to airspace structure. If unable to comply, advise EDDF DELIVERY prior to start-up. 2. For flights intending to proceed at FL 250 or above via Y180/Y181. Flights have to be able to cross RUDOT at FL 240 or above. If unable to comply, flight plan shall read RUDOT FL 220 - Y180 - DIK RFL. 3. After 17.3 DME FFM BRNAV equipment necessary.
SULUS 2E	**SULUS TWO ECHO** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM); RT on track 099°; on R086 FFM to AMUGI (△); RT, on track 090° to SULUS (△). **GPS/FMS RNAV:** [A800+] - DF149[R] - DF151[L] - AMUGI[R] - SULUS.		Langen Radar 120.150*	1. Cross 40.0 DME FFM at FL 90 or above (Lost COM only). 2. After AMUGI BRNAV equipment necessary. 3. Not for flights destination EDDN.
TOBAK 2E	**TOBAK TWO ECHO** On RWY track to 800; then direct to FR; at FR (5.0 DME FRD / 2.0 DME outbound FFM) immediate LT, on R203 MTR to MTR (△); LT, on track 351° to TOBAK (△). **GPS/FMS RNAV:** [A800+] - DF149[L] - MTR[L] - TOBAK.	5000 ft		1. After MTR BRNAV equipment necessary. 2. Not for flights continuing via Z10 GIN N850 WRB.

(Sample: DF144 fly-over way point)

* Departure frequency may deviate from the frequency published. Check ATIS for current departure frequency.

Contact LANGEN RADAR immediately after take-off!

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STANDARD DEPARTURE ROUTES – INSTRUMENT (SID)

FRANKFURT MAIN
RWY 07L/07R
SIDs with Route Designator DELTA

1. **Between 0600 (0500) and 2100 (2000):**
   1.1 SIDs with designator **ECHO** may be used by all **MEDIUM** and **LIGHT** aircraft **able to comply** with the climb restrictions;
   1.2 SIDs with designator **DELTA** shall be used by:
   - all **HEAVY** aircraft and
   - all aircraft **unable to comply** with the climb restrictions in SIDs with designator **ECHO**.
2. **Between 2100 (2000) and 0600 (0500) ALL AIRCRAFT** shall use SIDs with designator **DELTA**.
3. **NON-RNAV (enroute only)** equipped aircraft shall use SIDs with designator **CHARLIE**.

Nur für Simulationszwecke zu verwenden!
Mit freundlicher Genehmigung der DFS
Deutsche Flugsicherung GmbH
für IVAO Deutschland.

Designator	Route	After Take-Off		Remarks
		Climb to	Contact	
1	2	3	4	5
AMUGI 1D	**AMUGI ONE DELTA** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM); RT, on track 099°; on R086 FFM to AMUGI (△). **GPS/FMS RNAV:** [A800+] - DF149[R] - DF151[L] - AMUGI.	4000 ft	Langen Radar 120.150*	1. Only for flights terminating within EDDN Area. 2. Cross 40.0 DME FFM at FL 90 or above. (Lost COM only).
ANEKI 6D	**ANEKI SIX DELTA** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM) (MAX IAS 220 KT until established on R192 MTR); RT, on R192 MTR to 15.0 DME FFM/R074 RID; RT, on R194 MTR to ANEKI (△). Cross 20.0 DME FFM at 4500 or above. Cross 24.0 DME FFM at 5000 or above. Cross 28.0 DME FFM at 6000 or above. **GPS/FMS RNAV:** [A800+] - DF152[R] - DF150[K220-; L] - DF157[R] - ANEKI.		Langen Radar 136.125*	
BIBOS 7D	**BIBOS SEVEN DELTA** On RWY track to 800; then direct to FR; at FR (5.0 DME FRD / 2.0 DME outbound FFM) immediate LT, on R203 MTR inbound MTR to 13.1 DME FFM; LT, on R288 MTR via ODAGA to KUSOM; LT, on track 252° to GUBAX; RT, on track 294° to RAVKI; RT, on track 335° via DITAM to ABAXA; LT, on track 328° to BIBOS (△). **GPS/FMS RNAV:** [A800+] - DF149[L] - MTR[L] - ODAGA - KUSOM[L] - GUBAX[R] - RAVKI[R] - DITAM - ABAXA[L] - BIBOS.	5000 ft	Langen Radar 120.150*	1. Flights via BIBOS and UZ28/UZ29 to UK or beyond, except for flights terminating within LONDON TMA. 2. Flights via UZ29 have to cross BIBOS at FL 250 or above. If unable to comply, request routing via UZ28 crossing BIBOS at FL 210 or above. 3. Also for flights destination EDDK or continuing VFR after ABAXA/BIBOS. In case of radio communication failure, flights with DEST EDDK shall proceed BIBOS - COL or BIBOS - WYP depending on RWY in use. 4. After ODAGA BRNAV equipment necessary.
DKB 6D	**DINKELSBÜHL SIX DELTA** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM) (MAX IAS 220 KT until established on R192 MTR); RT, on R192 MTR to 10.8 DME FFM; LT, on track 106° to KNG (△); LT, on track 103° KNG to AKONI (△); RT, on R130 FFM/R310 DKB to DKB (△). **GPS/FMS RNAV:** [A800+] - DF152[R] - DF150[K220-; L] - DF153[L] - KNG[L] - AKONI[R] - DKB.	4000 ft	Langen Radar 136.125*	Only for flights terminating within EDMM FIR.
MARUN 2D	**MARUN TWO DELTA** On RWY track to 800; then direct to FR; at FR (5.0 DME FRD / 2.0 DME outbound FFM) immediate LT, on R203 MTR to MTR (△); LT, on track 351° to TOBAK; LT, on track 343° via APROX to MARUN (△). **GPS/FMS RNAV:** [A800+] - DF149[L] - MTR[L] - TOBAK[L] - APROX - MARUN.	5000 ft	Langen Radar 120.150*	After MTR BRNAV equipment necessary.
NEKOM 2D	**NEKOM TWO DELTA** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM) (MAX IAS 220 KT until established on R192 MTR); RT, on R192 MTR to 15.0 DME FFM; LT on R174 FFM to NEKOM (△). Cross 20.0 DME FFM at 4500 or above. Cross 24.0 DME FFM at 5000 or above. Cross 28.0 DME FFM at 6000 or above. **GPS/FMS RNAV:** [A800+] - DF152[R] - DF150[K220-; L] - DF157[L] - NEKOM.	4000 ft	Langen Radar 136.125*	Only for flights terminating within EDDS Area and destination LSZH, LSZR and EDNY with access to N850 at FL 90 or below.
NOMBO 5D	**NOMBO FIVE DELTA** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM) (MAX IAS 220 KT until established on R192 MTR); RT, on R192 MTR to 10.8 DME FFM; LT, on track 106° to KNG (△); LT, on track 103° KNG to AKONI (△); RT, on R130 FFM outbound FFM to HAREM (△); RT, on track 148° to LAMPU (△); LT, on track 134° to NOMBO (△). **GPS/FMS RNAV:** [A800+] - DF152[R] - DF150[K220-; L] - DF153[L] - KNG[L] - AKONI[R] - HAREM[R] - LAMPU[L] - NOMBO.			1. After HAREM BRNAV equipment necessary. 2. Not for flights terminating within EDDN Area or EDMM FIR. 3. Not for propeller-driven aircraft. These flights shall file SID RATIM.

(Sample: DF152 fly-over way point)

* Departure frequency may deviate from the frequency published. Check ATIS for current departure frequency.

Contact LANGEN RADAR immediately after take-off!

FRANKFURT MAIN
RWY 07L/07R
SIDs with Route Designator DELTA

STANDARD DEPARTURE
ROUTES – INSTRUMENT
(SID)

Designator	Route	After Take-Off		Remarks
		Climb to	Contact	
1	2	3	4	5
RATIM 2D	**RATIM TWO DELTA** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM) (MAX IAS 220 KT until established on R192 MTR); RT, on R192 MTR to 10.8 DME FFM; LT, on track 106° to KNG (△); LT, on track 103° KNG via AKONI (△) to RATIM (△). **GPS/FMS RNAV:** [A800+] - DF152[R] - DF150[K220-; L] - DF153[L] - KNG[L] - AKONI - RATIM.	4000 ft	Langen Radar 136.125*	1. Only for propeller-driven aircraft (MAX RFL 230) instead of SID NOMBO. 2. Not for flights terminating within EDDN Area or EDMM FIR.
SOBRA 2D	**SOBRA TWO DELTA** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM) (MAX IAS 220 KT until established on R192 MTR); RT, on R192 MTR to 15.0 DME FFM; RT, on R083 RID to RID; on R263 RID to 5.8 DME RID; RT, on track 283° via ROSIG and DONAB to SOBRA (△). Cross 9.0 DME FFM at 4000. Cross ROSIG at FL 90 or above. Cross DONAB at FL 110 or above. **GPS/FMS RNAV:** [A800+] - DF152[R] - DF150[K220-; L] - DF155[A4000] - DF157[R] - RID - ROSIG[F090+; R] - DONAB[F110+] - SOBRA.			1. PDG 3.7% / 225 ft/NM until 4000 due to airspace structure. After 9.0 DME FFM PDG 4.3% / 260 ft/NM until passing FL 90 due to airspace structure. If unable to comply, advise EDDF DELIVERY prior to start-up. 2. For flights intending to proceed at FL 250 or above via Y180/Y181. Flights have to be able to cross RUDOT at FL 240 or above. If unable to comply, flight plan shall read RUDOT FL 220 - Y180 - DIK RFL. 3. After 5.8 DME RID BRNAV equipment necessary.
SULUS 3D	**SULUS THREE DELTA** On RWY track to 800; via FR to 6.0 DME FRD (3.0 DME outbound FFM); RT, on track 099°; on R086 FFM to AMUGI (△); RT, on track 090° to SULUS (△). **GPS/FMS RNAV:** [A800+] - DF149[R] - DF151[L] - AMUGI[R] - SULUS.		Langen Radar 120.150*	1. Cross 40.0 DME FFM at FL 90 or above (Lost COM only). 2. After AMUGI BRNAV equipment necessary. 3. Not for flights destination EDDN.
TOBAK 2D	**TOBAK TWO DELTA** On RWY track to 800; then direct to FR; at FR (5.0 DME FRD / 2.0 DME outbound FFM) immediate LT, on R203 MTR to MTR (△); LT, on track 351° to TOBAK (△). **GPS/FMS RNAV:** [A800+] - DF149[L] - MTR[L] - TOBAK.	5000 ft		1. After MTR BRNAV equipment necessary. 2. Not for flights continuing via Z10 GIN N850 WRB.

(Sample: DF152 fly-over way point)

* Departure frequency may deviate from the frequency published. Check ATIS for current departure frequency.

Nur für Simulationszwecke zu verwenden!
Mit freundlicher Genehmigung der DFS
Deutsche Flugsicherung GmbH
für IVAO Deutschland.

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© DFS Deutsche Flugsicherung GmbH

STANDARD DEPARTURE CHART - INSTRUMENT (SID)

TRANSITION ALTITUDE 5000
VAR 1° E

ATIS	118.725	APRON	121.700	GROUND	121.800
DELIVERY	121.900		121.850	TOWER	119.900
(Initial Call)			121.950	LANGEN RADAR	120.150

FRANKFURT MAIN (NORTH)
RWY 07L/07R
ECHO

STANDARD DEPARTURE CHART - INSTRUMENT (SID)

TRANSITION ALTITUDE 5000
VAR 1° E

ATIS	118.725	APRON	121.700	GROUND	121.800
DELIVERY (Initial Call)	121.900		121.850	TOWER	119.900
			121.950	LANGEN RADAR	136.125

FRANKFURT MAIN (SOUTH) RWY 07L/07R ECHO

Correction: FRD DME renamed to FRED, Procedure.

STANDARD DEPARTURE CHART - INSTRUMENT (SID)

TRANSITION ALTITUDE 5000
VAR 1° E

ATIS	118.725	APRON	121.700	GROUND	121.800
DELIVERY	121.900		121.850	TOWER	119.900
(Initial Call)			121.950	LANGEN RADAR	120.150

FRANKFURT MAIN (NORTH)
RWY 07L/07R
DELTA

Correction: FRD DME renamed to FRED, Procedure.

STANDARD DEPARTURE CHART - INSTRUMENT (SID)

TRANSITION ALTITUDE 5000
VAR 1° E

ATIS	118.725	APRON	121.700	GROUND	121.800
DELIVERY (Initial Call)	121.900		121.850	TOWER	119.900
			121.950	LANGEN RADAR	136.125

FRANKFURT MAIN (SOUTH)
RWY 07L/07R
DELTA

Correction: FRD DMR renamed to FRED, Procedure.