FLIGHT ONE ATR 72-500 FLIGHT MANAGEMENT SYSTEM NAVIGATION DATA FILE FORMAT

© 2004 Hans Hartmann

Version 1.05 final   October 30th, 2004   = Recent Changes

NOTES

All fields in the records are separated by pipe symbols "|"
All string fields MUST contain at least one character (blank)
ISO country codes are 3-letter codes except where not available

FILE OVERVIEW

1	Airports.txt	Airports and Runways
2	Navaids.txt	VOR, DME and NDB
3	Waypoints.txt	Fixes
4	ATS.txt	ATS-Routes
5	SID*.txt	SID
6	STAR*.txt	STAR

1. AIRAC CYCLE INFORMATION

used in Airports.txt

1	X	Record identifier	string
2	0405	Current AIRAC cycle	string
3	13MAY9JUN/04	Effective from/to	string
4	0404	Previous AIRAC cycle	string
5	15APR12MAY/04	Effective from/to	string

2. AIRPORT

used in Airports.txt

1	A	Record identifier	string	
2	EDDF	ICAO code	string	
3	FRANKFURT MAIN	Airport name	string	
4	50.02642	Latitude	integer	degrees * 1,000,000
5	8.54312	Longitude	integer	degrees * 1,000,000
6	364	Elevation	integer	feet

3. RUNWAY

used in Airports.txt

1	R	Record identifier	string	
2	07L	Runway ID	string	
3	69	Runway heading	integer	degrees
4	13123	Runway length	integer	feet
5	1	ILS available	boolean	1 if ILS available
6	110100	ILS frequency	integer	frequency * 1,000
7	69	ILS heading	integer	degrees
8	50.03261	Threshold latitude	integer	degrees * 1,000,000
9	8.53463	Threshold longitude	integer	degrees * 1,000,000
10	329	Elevation at threshold	integer	feet
11	3.00	Glideslope angle	integer	degrees * 100
12	49	Threshold overflying height	integer	feet

4. NAVAID

used in Navaids.txt

1	HMM	Navaid identifier	string	
2	HAMM	Navaid name	string	
3	115650	Navaid frequency	integer	frequency * 1,000
4	1	VOR flag	boolean	1 if VOR
5	1	DME flag	boolean	1 if DME available
6	195	Range	integer	nautical miles
7	51.85686	Latitude	integer	degrees * 1,000,000
8	7.70829	Longitude	integer	degrees * 1,000,000
9	237	Elevation	integer	feet
10	DEU	Country code	string	ISO code

5. WAYPOINT

used in Waypoints.txt

1	BOMBI	Waypoint identifier	string	
2	50.0566	Latitude	integer	degrees * 1,000,000
3	8.80027	Longitude	integer	degrees * 1,000,000
4	DEU	Country code	string	ISO code

6. ATS ROUTE

used in ATS.txt

1	A	Record identifier	string
2	N850	ATS route identifier	string
3	9	Number of segments	integer

7. ATS ROUTE SEGMENT

used in ATS.txt

1	S	Record identifier	string	
2	BOMBI	Waypoint 1 identifier	string	
3	50.05666	Waypoint 1 latitude	integer	degrees * 1,000,000
4	8.80027	Waypoint 1 longitude	integer	degrees * 1,000,000
5	ABUMO	Waypoint 2 identifier	string	
6	50.14166	Waypoint 2 latitude	integer	degrees * 1,000,000
7	8.92333	Waypoint 2 longitude	integer	degrees * 1,000,000
8	43	Inbound course	integer	degrees
9	43	Outbound course	integer	degrees
10	7	Distance	integer	nm * 100

8. TERMINAL PROCEDURE

used in SIDs and STARs

1	P	Record identifier	string	
2	DOM4Y	Procedure identifier	string	
3	07	Runway identifier	string	
4	DOM	Transition identifier	string	
5	0	Default procedure flag	bool	1 = true
6	3	Number of procedure legs	integer	

used in SIDs and STARs

1	S	Record identifier	string	
2	RW07	Waypoint identifier	string	
3	52.13151	Latitude	integer	degrees * 1,000,000
4	7.6700	Longitude	integer	degrees * 1,000,000
5	HMM	Navaid identifier	string	
6	FA	Procedure type	string	see ARINC424 procedure types
7	0	Turn direction	integer	see Turn directions
8	71	Heading/Bearing	integer	
9	16.6	Navaid distance	integer	nm * 100
10	355.1	Navaid bearing	integer	degrees * 100
11	0	Distance	integer	nm * 100
12	0	Speed restriction	integer	knots
13	1	Altitude restriction	integer	See restrictions
14	600	Altitude 1	integer	feet
15	0	Altitude 2	integer	feet
16	0	Overfly waypoint	boolean	1 if overfly
17	0	Initial Approach Fix	boolean	1 if IAF
18	0	Final Approach Fix	boolean	1 if FAF
19	0	Missed Appraoch Fix	boolean	1 if MAP

ARINC 424 PROCEDURE TYPE CODES

1	AF	Constant DME arc to a fix
2	CA	Course to an altitude
3	CD	Course to a DME distance
4	CI	Course to next leg
5	CF	Course to a fix
6	CR	Course to a radial termination
7	DF	Computed track direct to a fix
8	FA	Course from a fix to an altitude
9	FC	Course from a fix to a distance
10	FD	Course from a fix to a DME distance
11	FM	Course from a fix to manual termination
12	IF	Initial Fix
13	PI	Procedure turn followed by course to a fix*
14	RF	Constant radius to a fix
15	TF	Track between two fixes (great circle)
16	VA	Heading to an altitude
17	VD	Heading to a DME distance
18	VI	Heading to next leg
19	VM	Heading to manual termination
20	VR	Heading to radial termination
21	HF	Automatically hold at a fix after one full circuit
22	HA	Automatically hold at a fix after reaching and altitude
23	HM	Hold manually
24	RF	Radius to a fix*

*   not yet supported

TURN DIRECTIONS

0	Use shortest turn
1	Turn left
2	Turn right

RESTRICTIONS

0	No restriction
1	Above Altitude1
2	Below Altitude1
3	Between Altitude1 and Altitude2