Planevision SYSTEMS

PlaneTRack Data Formats and Protocols

Ed. June 2016

	Common name	Protocol	Port	Decoded	Sample	Comment	Links to documents	
Event driven data output								
1	Raw data	TCP/IP	10002	no	0x1a,0x31 : 6 byte MLAT, 1 byte signal level, 2 byte Mode-AC 0x1a,0x32 : 6 byte MLAT, 1 byte signal level, 7 byte Mode-S short frame 0x1a,0x33 : 6 byte MLAT, 1 byte signal level, 14 byte Mode-S long frame 0x1a,0x34 : 6 byte MLAT	This is a CRC-checked mirror of the data as it comes from the FPGA, DF-11, DF-17 and DF-18. Includes Mode-A/C data with respect to the configuration setting.	Manual	
2	Verified Raw Data	TCP/IP + UDP/IP	10003	no	0x1a,0x31 : 6 byte MLAT, 1 byte signal level, 2 byte Mode-AC 0x1a,0x32 : 6 byte MLAT, 1 byte signal level, 7 byte Mode-S short frame 0x1a,0x33 : 6 byte MLAT, 1 byte signal level, 14 byte Mode-S long frame 0x1a,0x34 : 6 byte MLAT	Binary formatted raw data with all Mode-S data formats CRC-prechecked (eliminates transmission of the erroneous frames, reduces load on the network). All data from the FPGA is disassembled into messages and verified if correct. Includes Mode A/C data.	Manual	
3	ADS-B Raw Data	TCP/IP + UDP/IP	10004	no	0x1a,0x32 : 6 byte MLAT, 1 byte signal level, 7 byte Mode-S short frame 0x1a,0x33 : 6 byte MLAT, 1 byte signal level, 14 byte Mode-S long frame 0x1a,0x34 : 6 byte MLAT	Binary formatted raw data, pre-checked DF-11, DF-17 and DF-18 only: minimum load for the transmission path but contains most information. No Mode-A/C data.	Manual	
4	Non ADS-B Raw Data	TCP/IP + UDP/IP	10005	no	0x1a,0x32 : 6 byte MLAT, 1 byte signal level, 7 byte Mode-S short frame 0x1a,0x33 : 6 byte MLAT, 1 byte signal level, 14 byte Mode-S long frame 0x1a,0x34 : 6 byte MLAT	Binary formatted raw data, only raw data frames of those aircraft where the location (latitude and longitude) is unknown. Used for special MLAT purposes. No Mode-A/C data.	Manual	
5	Verified Mode-S Raw Data	TCP/IP + UDP/IP	10006	no	0x1a,0x32 : 6 byte MLAT, 1 byte signal level, 7 byte Mode-S short frame 0x1a,0x33 : 6 byte MLAT, 1 byte signal level, 14 byte Mode-S long frame 0x1a,0x34 : 6 byte MLAT	Binary formatted raw data with all Mode-S data formats CRC-prechecked (eliminates transmission of the erroneous frames, reduces load on the network). All data from the FPGA is disassembled into messages and verified if correct. No Mode A/C data.	Manual	
6	Port 30003 format (Pseudo NMEA)	TCP/IP + UDP/IP	30003	yes	SEL,,496,2286,4CA4E5,27215,2010/02/19,18:06:07.710,2010/02/19,18:06:07.710,RYR1427 ID,,496,7162,405637,27928,2010/02/19,18:06:07.115,2010/02/19,18:06:07.115,EZY691A AIR,,496,5906,400F01,27931,2010/02/19,18:06:07.128,2010/02/19,18:06:07.128 STA,,5,179,400AE7,10103,2008/11/28,14:58:51.153,2008/11/28,14:58:51.153,RM CLK,,496,-1,,-1,2010/02/19,18:18:19.036,2010/02/19,18:18:19.036 MSG,1,145,256,7404F2,11267,2008/11/28,23:48:18.611,2008/11/28,23:53:19.161,RJA1118,,,,,,,,,,	ASCII output format for different types of packets received. No Mode A/C data.	Format definition	Analyzer
7	Asterix CAT 021 (V0.23) + CAT 023 + CAT 247	UDP/IP		yes	binary, according to Eurocontrol Specification	available as an option	Eurocontrol CAT021 V0.23	Application Note
8	Asterix CAT 021 (V1.8) + CAT 023 + CAT 247	UDP/IP		yes	binary, according to Eurocontrol Specification	available as an option	Eurocontrol CAT021 V1.8	
9	Asterix CAT 021 (V2.4) + CAT 023 + CAT 247	UDP/IP		yes	binary, according to Eurocontrol Specification	available as an option	Eurocontrol CAT021 V2.4	
State driven data output								
10	HTML Aircraft Table (caller: http://[PlaneTRack]/aircraftlist.html)	HTTP (HTML)	80	yes	see GUI	A list of received aircraft can be fetched via a built-in Web server. This list can be sorted ascending and descending in each column by simply clicking on the arrows. Distances are automatically calculated from aircraft positions and home coordinates.	Manual	

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11	Google Maps 2D view (caller: http://[PlaneTRack]/gmap.html	HTTP (HTML)	80	graphics	see GUI	A 2D view with underlaid Google Maps display, to be used with a Web Browser		
12	Live 3D view (Google Earth)	HTTP (KML/KMZ)	80	graphics	see GUI	A 3D live view to be played in Google Earth		
13	CSV output (caller: http://[PlaneTRack]/deltadb.txt<?since=[unixtime]&loc=[1]>	HTTP (txt)	80	yes	1432966387,4CA569,RYR95AF,35000,480,91,52.48,11.0802,0,3456	The DeltaDB service can be accessed via http://[PlaneTRack]/deltadb.txt. It outputs a comma separated list of all changes in the internal aircraft list since the last call or a specified time.	Time,ID,CALLSIGN,ALT,GS,TRK,LAT,LON,VS,SSR	
14	JSON output (caller: http://[PlaneTRack]/aircraftlist.json)	HTTP (txt)	80	yes	[{"uti":1436514281,"dat":"2015-07-26 07:44:41.498734984","tim":"07:44:41.498734984","hex":"3C6602","fli":"","lat":"51.14497","lon":"11.09085","gda":"A","src":"A","alt":38025,"spd":406,"trk":356,"cat":"","org":"","dst":"","opr":"DLH","typ":"A320","reg":"D-AIPB","dis":"274.2","cou":"Germ","squ":"7666","tru":48,"tsa":1,"tsm":0,"vrt":0,"lla":31}] Live Demo see last column	All data contained in the aircraft list can also be downloaded in JavaScript Object Notation (JSON). The file format can be used by other applications to access aircraft list data using the Hyper Text Transfer Protocol (HTTP) protocol.	Manual	
15	Extended CSV output (caller e.g. http://[PlaneTRack]/extflightdata.txt?bds&age&ehs&yngr=10	HTTP (txt)	80	yes	47836E,0,0,,,0,5,0,0,0762,,54.0324,10.641,,7,2,0,40000,40000,0,1,1,+375,40375,,0,,-64,215,,408,,,0,0,0,0,0,0,0,0,76,0,** (no option) 45AC33,0,1,A0,SAS2691,0,5,0,1,2723,,54.2644,11.4585,,8,0,0,34900,34900,0,1,1,+375,35275,,0,,+1344,202,,429,,,0,0,0,0,0,0,0,0,243,6,*D,Denm,,,,,,*A,2,1,10,1,1,6,,,1,2,1,1,,,1,,1,,,,,,,,,,,,,1,1,*T,0,1,0,7,*E,11,SAS2691,0,390,,,1009,0,1,444,0,0,430,1,210,260,768,3,+1248,3,+1376,3,*V,,*I,,,1.37,,,,,4.1,,,29.1,,,,,,1.37,,,2.9,,,,,,,,1.9,,,,6.4,,,,** (option all)	**available as option**	Application note	Data dictionary
16	Asterix CAT 021 (V0.23) + CAT 023 + CAT 247	HTTP (txt)	80	yes		**This is a CSV output of Asterix data for test purposes; available as option**	Eurocontrol CAT021 V0.23	Application Note
17	Asterix CAT 021 (V1.8) + CAT 023 + CAT 247	HTTP (txt)	80	yes		**This is a CSV output of Asterix data for test purposes; available as option**	Eurocontrol CAT021 V1.8	
18	Asterix CAT 021 (V2.4) + CAT 023 + CAT 247	HTTP (txt)	80	yes		**This is a CSV output of Asterix data for test purposes; available as option**	Eurocontrol CAT021 V2.4	
Other data interfaces								
19	GPS binary data	binary	10685	no		GPS raw data	GPS data sheet	
20	GPS ASCII data	ASCII	10686	no		GPS raw data	GPS data sheet	

Remarks:

Date/time values in output formats require Option MLAT or NTP server access

Asterix output requires Option ASTX

GPS data require Option MLAT

Aircraft and flight route database information are derived from public domain software and is not installed when delivered.

Revised: Jul 01, 2015: links, JSON format; port 8080 chgd to 80

Revised: Jul 26, 2015: JSON format

Revised: Feb 19, 2016: UDP

Revised: Jun 01, 2016: Links