

X-PLANE

DIGITAL TERMINAL PROCEDURES (CIFP/\$ICAO.DAT) FILE SPECIFICATION

VERSION 1250

REVISION HISTORY

12 Sep 2016	Spec introduced for X-Plane 11
05 Feb 2017	Runway specification amended for X-Plane 11.00 beta 10
09 Jan 2019	Runway fields 9, 10 and 11 are no longer optional, but required
05 Jun 2026	Helicopter procedure records added (X-Plane 12.5)

APPLICABILITY

This specification (XP CIFP1102) is supported in X-Plane 11.30 and later. Compared to the previous version, three optional fields have been made mandatory on the runway record. Helicopter procedures are available starting with X-Plane 12.5.

OVERVIEW & SCOPE

!STOP!

This specification is not intended to facilitate creating CIFP/\$ICAO.dat files by hand. It exists merely as a formal specification of the encoding process implemented by the **convert424toxp** command line tool. Never try to create or alter these files by hand, or by using any other tool than **convert424toxp**.

This specification defines all terminal procedures (departure and arrival procedures and approaches) in X-Plane. The effect of this data is to:

- Allow these procedures to be loaded in X-Plane's GPS and FMC systems.

BASIC CONCEPTS

- The format is a simplified, reorganized, slightly abbreviated representation of ARINC 424.18+ records. Some fields not necessary for the simulator have been omitted, other fields reorganized for logical coherence.
- Field definitions are according to the ARINC 424.20 document
- Each line represents either
 - one leg of a procedure as defined by an ARINC424.18 PD, PE or PF record
 - one leg of a procedure as defined by an ARINC424.18 HD, HE or HF record
 - one procedure data continuation record of an ARINC 424.18 PF record
 - one procedure data continuation record of an ARINC 424.18 HF record
 - a runway record containing data from an ARINC 424.18 PG record

FILE CHARACTERISTICS

The CIFP/\$ICAO.dat files are plain text files:

- Row codes are separated from the payload by a colon “:” character
- Fields are separated by the comma “,” character
- Optional field groups are separated by the semicolon “;” character
- Lines are terminated by the semicolon “;” character
- Spaces are the only whitespace allowed
- Leading spaces in multi-column fields cannot be collapsed, alignment of characters in the specific multi-column field of the record must be preserved

FILE STRUCTURE

Records must be grouped by columns 1-26, and then numerically sorted by column 27-29 (sequence no).

ROW CODES

Each line in the file must start by the row code defining the remainder of the line

Row	Meaning	
SID	Departure Procedure	Designates line belongs to a PD record
HSID	Helicopter Departure Procedure	Designates line belongs to a HD record
STAR	Arrival Procedure	Designates line belongs to a PE record
HSTAR	Helicopter Arrival Procedure	Designates line belongs to a HE record
APPCH	Approach procedure	Designates line belongs to a PF record
HAPPCH	Helicopter Approach Procedure	Designates line belongs to a HF record
RWY	Runway data	Designates line belongs to a PG record
PRDAT	Procedure data	Designates line belongs to a PF procedure data continuation record
HPRDAT	Helicopter procedure data	Designates line belongs to a HF procedure data continuation record

DEFINITION OF DATA FIELDS

Each row consists of comma separated fields corresponding to the following fields as defined by ARINC 424.20

SID/STAR/APPCH record:

Col	Field	Reference
1	4.1.9.1.27-29	5.12
2	4.1.9.1.20	5.7
3	4.1.9.1.14-19	5.9&5.10
4	4.1.9.1.21-25	5.11
5	4.1.9.1.30-34	5.13
6	4.1.9.1.35-36	5.14
7	4.1.9.1.37	5.4
8	4.1.9.1.38	5.5
9	4.1.9.1.40-43	5.17
10	4.1.9.1.44	5.20
11	4.1.9.1.45-47	5.211
12	4.1.9.1.48-49	5.21
13	4.1.9.1.50	5.22
14	4.1.9.1.51-54	5.23
15	4.1.9.1.55-56	5.14
16	4.1.9.1.79	5.4
17	4.1.9.1.80	5.5
18	4.1.9.1.57-62	5.204
19	4.1.9.1.63-66	5.24
20	4.1.9.1.67-70	5.25
21	4.1.9.1.71-74	5.26
22	4.1.9.1.75-78	5.27
23	4.1.9.1.83	5.29
24	4.1.9.1.85-89	5.30
25	4.1.9.1.90-94	5,30
26	4.1.9.1.95-99	5.53
27	4.1.9.1.118	5.261
28	4.1.9.1.100-102	5.72
29	4.1.9.1.103-106	5.70
30	4.1.9.1.121-123	5.293
31	4.1.9.1.107-111	5.144/5.271
32	4.1.9.1.113-114	5.14
33	4.1.9.1.115	5.4
34	4.1.9.1.116	5.5
35	4.1.9.1.112	5.130/5.272
36	4.1.9.1.117	5.222
37	4,1.9.1.119	5.7
38	4.1.9.1.120	5.7

RWY record:

Col	Field	Reference
1	4.1.10.1.14-18	5.46
2	4.1.10.1.52-56	5.212
3	4.1.10.1.61-66	5.225
4	4.1.10.1.76-71	5.68
5	4.1.10.1.81	5.270
6	4.1.10.1.82-85	5.44
7	4.1.10.1.86	5.80
8	4.1.10.1.96-98	5.67
9	4.1.10.1.33-41	5.36
10	4.1.10.1.42-51	5.37
11	4.1.10.1.72-75	5.69

PRDAT record:

Col	Field	Reference
1	4.1.9.5.41	5.276
2	4.1.9.5.42-51	5.275
3	4.1.9.5.52	5.276
4	4.1.9.5.53-62	5.275
5	4.1.9.5.63	5.276
6	4.1.9.5.64-73	5.275
7	4.1.9.5.89	5.276
8	4.1.9.5.90-92	5.296
9	4.1.9.5.93	5.276
10	4.1.9.5.94-96	5.296
11	4.1.9.5.97	5.276
12	4.1.9.5.98-100	5.296
13	4.1.9.5.101	5.276
14	4.1.9.5.102-104	5.296
15	4.1.9.5.119	5.7
16	4.1.9.5.120	5.7