



Technical Note

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PRECISE EPHEMERIS ISSUE IN POSPAC

Document Description	Revision	Author
Downloading precise ephemeris manually	04	Nico Jaeger

ISSUE

POSPac uses IGS server to obtain the Precise Ephemeris. Old IGS website has been decommissioned. Current POSPac users may face issues with the downloading of Precise Ephemeris right after import of the raw data. Same may occur when using "Find Base" tool. Figure 1 below depicts the error "File not found" when no Precise Ephemeris data was available to download.

Download	Date	Station	Distance	Data Type	Data Rate	Database	Status	Progress	KBytes	Service
<input type="checkbox"/>	9/1/2017	NYMC	165.93			Smart Base	File not found			ALTCOR...
<input type="checkbox"/>	9/1/2017	PARY	171.44	GPS	30	Smart Base	Imported	100%	3006	CORS (d...
<input type="checkbox"/>	9/1/2017	NYPF	173.2	GNSS	30	Smart Base	Imported	100%	5263	CORS (d...
<input type="checkbox"/>	9/1/2017	GODR	189.15			Smart Base	File not found			ALTCOR...
<input type="checkbox"/>	9/1/2017	GOD2	189.15	GPS	30	Smart Base	Imported	100%	3121	CORS (d...
<input type="checkbox"/>	9/1/2017	NYSM	193.25	GNSS	30	Smart Base	Imported	100%	3285	CORS (d...
<input type="checkbox"/>	9/1/2017	Precise	Ephemeris				File not found			IGS (ultra-r...
<input type="checkbox"/>	9/2/2017	Precise	Ephemeris				File not found			IGS (ultr...
<input type="checkbox"/>	8/31/2017	Precise	Ephemeris				File not found			IGS (ultr...
<input type="checkbox"/>	9/1/2017	Broadcast GL...	Ephemeris				Imported	100%	349	TRMBL...
<input type="checkbox"/>	9/2/2017	Precise GLON...	Ephemeris				File not found			IGS (final...
<input type="checkbox"/>	8/31/2017	Precise GLON...	Ephemeris				File not found			IGS (final...
<input type="checkbox"/>	9/1/2017	Precise GLON...	Ephemeris				File not found			IGS (final...
<input type="checkbox"/>	9/1/2017	Broadcast	Ephemeris				Imported	100%	256	TRMBL...

Figure 1: Screen-shot of "Find Base Stations" window

SOLUTION

1. Automatic Download

Especially for SmartBase processing, Ephemeris are important, whether ultra-rapid, rapid or precise ephemeris. The latter one will obviously provide the best result for SmartBase concept.

Download this [file](#) and replace in your installation directory.

C:\Program Files\Applanix\POSPac MMS 8.5\

You may want to rename the original file before (*GnssDataServices.ini* > *GnssDataServices_ori.ini*). This will ensure to obtain at least rapid ephemeris. Unfortunately, if precise ephemeris are preferred, a specific workaround is required until this gets fixed permanently.

- 1) *Import raw data.*
- 2) *Save the project and close POSPac.*
- 3) *Reopen POSPac and reload the project.*
- 4) *Continue with Find Base Stations, Quality Check and SmartBase.*

There is no such workaround for batch processing. Batch processing would rely on rapid ephemeris.

2. Manual Download

Especially for SmartBase processing, Ephemeris are important, whether ultra-rapid, rapid or precise ephemeris. The latter one will obviously provide the best result for SmartBase concept.

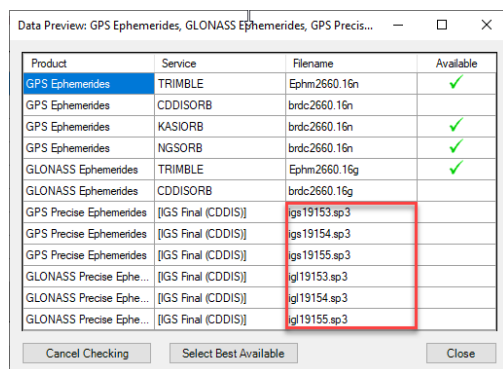
As an interim solution you can proceed and download the ephemeris manually from:

IGN: <ftp://igs.ensg.ign.fr/pub/igs/products/>

The products are organized by GPS week.
How do you know the GPS week of your data?

Option #1:

- Watch the window right after raw data import and look at the required file name



Product	Service	Filename	Available
GPS Ephemerides	TRIMBLE	Ephm2660.16n	✓
GPS Ephemerides	CDDISORB	brdc2660.16n	
GPS Ephemerides	KASIORB	brdc2660.16n	✓
GPS Ephemerides	NGSORB	brdc2660.16n	✓
GLONASS Ephemerides	TRIMBLE	Ephm2660.16g	✓
GLONASS Ephemerides	CDDISORB	brdc2660.16g	
GPS Precise Ephemerides	[IGS Final (CDDIS)]	igs19153.sp3	
GPS Precise Ephemerides	[IGS Final (CDDIS)]	igs19154.sp3	
GPS Precise Ephemerides	[IGS Final (CDDIS)]	igs19155.sp3	
GLONASS Precise Ephemerides	[IGS Final (CDDIS)]	igl19153.sp3	
GLONASS Precise Ephemerides	[IGS Final (CDDIS)]	igl19154.sp3	
GLONASS Precise Ephemerides	[IGS Final (CDDIS)]	igl19155.sp3	

- The first 4 digits are presenting the GPS Week (*igs19154.sp3*)
- Browse to the according week folder on the FTP site
- Digit number 5 (*igs19154.sp3.Z*) represents the Day of the week
- Download this file and the files for the day before and after (e.g. *igs19153.sp3.Z* & *igs19155.sp3.Z*) – these are GPS Eph
- Repeat the same for the GLONASS Eph (*igl19154.sp3.Z*, *igl19153.sp3.Z*, *igl19155.sp3.Z*)
- Of course, it cannot harm to download all SP3 for the entire week
- Import the files into POSPac by drag & drop or through the “Import” button
- Proceed as usual

Option #2:

- Check the date of the mission (e.g. *GNSS-Inertial Processor/Timing/uncheck "Second of start week"*)
- Go to <http://navigationservices.agi.com/GNSSWeb/>
- Browse to the date of the missing in the calendar and obtain the GPS Week and Day of the Week (e.g. Sept 22, 2016)

September 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 1912:4 888:345600 245	2 1912:5 888:432000 246	3 1912:6 888:518400 247
4 1913:0 889:0 248	5 1913:1 889:86400 249	6 1913:2 889:172800 250	7 1913:3 89:259200 251	8 1913:4 889:345600 252	9 1913:5 889:432000 253	10 1913:6 889:518400 254
11 1914:0 890:0 255	12 1914:1 890:86400 256	13 1914:2 890:172800 257	14 1914:3 890:259200 258	15 1914:4 890:345600 259	16 1914:5 890:432000 260	17 1914:6 890:518400 261
18 1915:0 891:0 262	19 1915:1 891:86400 263	20 1915:2 891:172800 264	21 1915:3 891:259200 265	22 1915:4 891:345600 266	23 1915:5 891:432000 267	24 1915:6 891:518400 268
25 1916:0 892:0 269	26 1916:1 892:86400 270	27 1916:2 892:172800 271	28 1916:3 892:259200 272	29 1916:4 892:345600 273	30 1916:5 892:432000 274	

- Example: 1915:4 > GPS week is 1915 and day of the week is 4
- Browse to the according week folder on FTP and download the SP3 files for day 4 and the day before/after, for this example it would be the files: *igs19154.sp3.Z, igs19153.sp3.Z, igs19155.sp3.Z, igl19154.sp3.Z, igl19153.sp3.Z, igl19155.sp3.Z*
- Of course, it cannot harm to download all SP3 for the entire week
- Import the files into POSPac by drag & drop or through the "Import" button
- Proceed as usual