

If You Cannot or Have Not Logged BIN94

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THE ISSUE:

The following workflow works for users anywhere in the world with access to the Internet. Although the website is American, the data contained on it will work for data collected in any country in any location worldwide.

When logging data for post processing, sometimes software does not offer the option to log BIN94 data, which contains the broadcast UTC to GPS time offset and a few terms for the ionosphere model. This is not a problem – that data is all available on the Internet. Simply download a broadcast ephemeris file for the day, load that into your post processor and ignore the NAV file that comes from the Hemisphere RINEX converter.

I'M AN EXPERT:

- On Crescent, log **BIN95** and **BIN96** messages to a file.
- On Eclipse, log **BIN95** and **BIN76** messages to a file.
- Convert the file to RINEX.
- Go to <https://www.ngs.noaa.gov/CORS/download2/>
You can get there from www.ngs.noaa.gov/CORS/ then select Downloads, Standard Files.
- Enter the **Year**, **Month**, and **Day** that your raw data was logged on.
- Click on and highlight **Global Navigation** under the **Non Site-Specific** options.
- Click **Find Files**
- Save the zipped file
- Unzip the file (resulting file will have **.09N** or **.10N** –style extension)
- Use this RINEX NAV file in the post processing software in place of the one from the RINEX converted data.

I'M A NOVICE:

- A. Log raw data from your receiver to a file:
 - On Crescent, log **BIN95** and **BIN96** messages.
 - On Eclipse, log **BIN95** and **BIN76** messages (you must have a valid subscription)

code to log raw L1/L2 data on an Eclipse:

- Check **\$JK** to ensure the subscription code is ready to generate raw L1/L2 data (**3004, 3005, 3008, 3009**)
- If your system has a menu system, you can see under **System Setup, Software Display, Authorizations**, you should see **RAW Data: YES**

B. If using PocketMax software to log your raw data:

- Select the **LOGS** menu
- Select the **RAW DATA** tab
- Enter a filename and station ID (if desired)
- Select the desired data rate
- Click **START** to begin logging and **STOP** once finished.

C. Convert the file to RINEX. If the **BIN94** messages are not in the data file, the convert tool will still work correctly. However, there will be no UTC offset or Ionosphere data in the NAV file. This may present problems for the post processing software.

- **Note:** You MUST have **BIN95** data in the file for the converter to work correctly. If you only have **BIN96** or **BIN76** data, you will not be able to convert it to RINEX.

D. Go to <https://www.ngs.noaa.gov/CORS/download2/>

- The National Geodetic Survey division reserves the right to restructure their website. If the link above does not work, you can still access it through their main website at www.ngs.noaa.gov/CORS/ then select Downloads, Standard Files.

E. Enter the **Year, Month, and Day** that your raw data was logged on into the area on the right of the screen.

F. Click on and highlight **Global Navigation** under the **Non Site Specific** options. You will be downloading the same information that was transmitted by the satellites you recorded in your raw data file, but it will include the proper UTC to GPS time offset and the proper Ionosphere model information.

G. Click **Find Files**

National CORS-Daily Files Download - Windows Internet Explorer

https://www.ngs.noaa.gov/CORS/download2/

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[CORS ftp in Silver Spring, MD](#) | [CORS ftp in Boulder, CO](#)

Please choose SITE, OPTION (and if necessary) DATE

sort by state or country code - sort by city - sort by site ID

SITE (sorted by state)	OPTION	YEAR
AF Herat, AFHT	RINEX2 Data	2009
AF Kabul, AFKB	Data Availability	Month*
AG Aguascalientes, INEG	Data Sheet	
AI KANDI, BJKA	Coordinates (NAD83 & ITRF)	December
AI Nikki, BJNI	Logfile (Site logs)	Day*
AK Anchorage, TBOA	Local Map	
AK Anchorage, TSEA	Photo	30
AK Anchorage, UAAG	Time Series (60-day)	
AK Anchorage, ZAN1	Time Series (longterm)	
AK Annette Island, AIS5	Non Site Specific	
AK Annette Island, AIS6	Global Navigation	
AK Barrow, BRW1	IGS Ephemeris (precise, rapid or ultra-rapid)	
AK Bethel, BET1	NGS Rapid Ephemeris	
AK Biorka Island, BIS5		
AK Biorka Island, BIS6		
AK Cape Hinchinbrook, CHI5		

OR*

Enter Day of Year (e.g. 2, 93, 365)

This will override the Month and Day boxes if selected!

Find Files

Do not be confused by the times listed to the right of the next page. They are the times the files were posted. The 8th character in the file name indicates the data range: "a" 0:00 UT - 0:59 UT, "b" 1:00 UT - 1:59 UT, ..., "x" 23:00 UT - 23:59 UT. The files with 24 hours worth of data have a 0 (zero) in the 8th place.

H. You will be asked to save a compressed file to your PC – click **Save** to define where to save the file.

File Download

Do you want to open or save this file?

Name: brdc3640.09n.gz
 Type: WinZip File, 63.4KB
 From: **www.ngs.noaa.gov**

- I. Once the file has been saved to your PC, you will need to unzip the file. If you have trouble doing this, consult your computer technicians for how to unzip files on your computer system. Programs such as WinZip can unzip compressed files for you.
- J. The file extension will be **.09n** or **.10n** –style naming. This convention is often used for RINEX files where the first 2 digits represent the year that the data is from, and the “n” stands for Navigation information. Other file extensions like **.09o** (representing Observation data) are used to help bring some order to file naming. Other times people may still use **.NAV** and **.OBS** file extensions for their data files. NGS uses the “**.yy n**” convention, as described.
- K. Once the file has been unzipped, launch your post processing software
- L. In your project, import the RINEX NAV file that you have just downloaded and unzipped as an Orbit or Ephemeris file.
- M. Now in the same project, import the RINEX OBS file that you converted using the RINEX conversion software as an Observation file.
- N. You are ready to continue with your post processing project.

NOTES:

Some general information on RINEX can be found by searching for RINEX on the web or in Wikipedia. As it is an independent, non-manufacturer specific file format, there are many sources of information. As a result, some post-processing software packages may not interpret every feature and aspect of RINEX files, and there may still be compatibility issues to address. In such situations, consult both the Hemisphere GNSS Technical Support and the technical support department from your post processing software company for further information.

FURTHER INFORMATION:

Consult www.HemisphereGNSS.com for the latest information, or contact your dealer.

For support via email, please contact TechSupport@HemisphereGNSS.com

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