OPUS with ProMark500, ProFlex500, & ProMark200

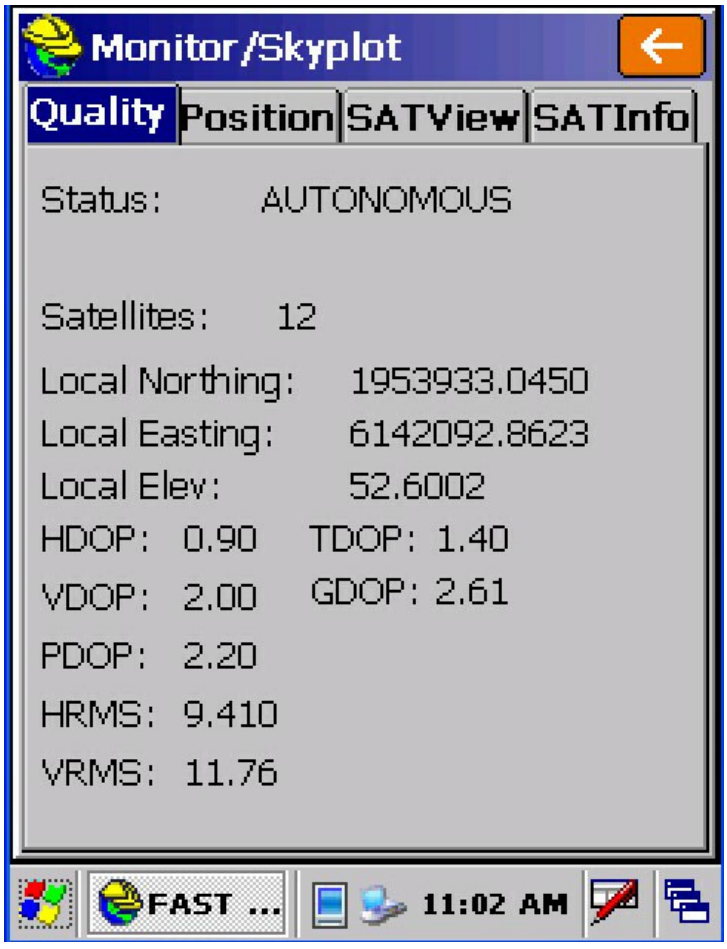
OPUS is wonderful! The price is right. It must be used with proper field and office procedures or the file will be rejected. Take advantage of the resources on the OPUS web page to learn about how it works and make effective use of it. This document does not replace the tutorial information available from the OPUS web page.

http://www.ngs.noaa.gov/OPUS/

This document will focus on the use of OPUS Static with a ProMark500, ProFlex500 or ProMark200 .

Use the instructions in chapter 7 of the ProMark500 Reference Manual to help with site selection and for general information about the operation of a GPS receiver. OPUS will reject poor quality data. If the GPS antenna is moving, or if it appears to be moving because of a poor solution OPUS will reject the data.

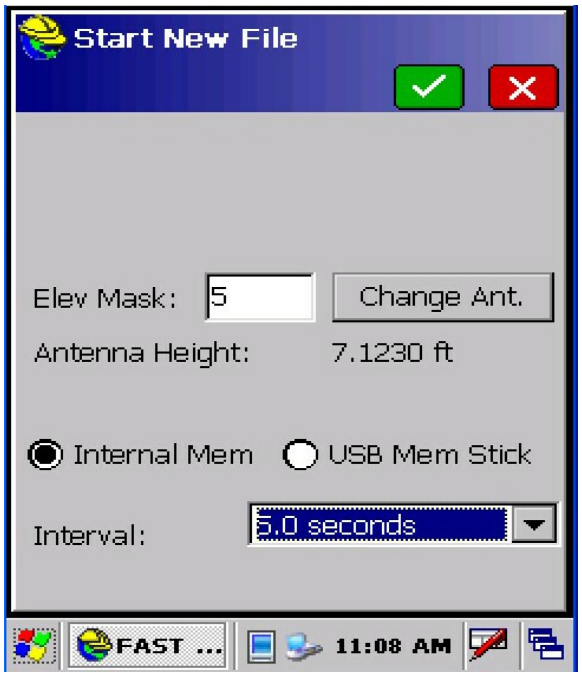
After the GPS receiver is set up use the Monitor / Skyplot in FAST Survey to make sure there is a good solution and a reasonably stable position.



After the receiver has been set up as an RTK base or whatever other job it will do use the Log Raw GPS menu selection to configure it for the OPUS session.

Click on Start File

Some settings specific to the OPUS session are about to be made but additional data entry will make processing in GNSS Solutions easy if OPUS rejects the file.

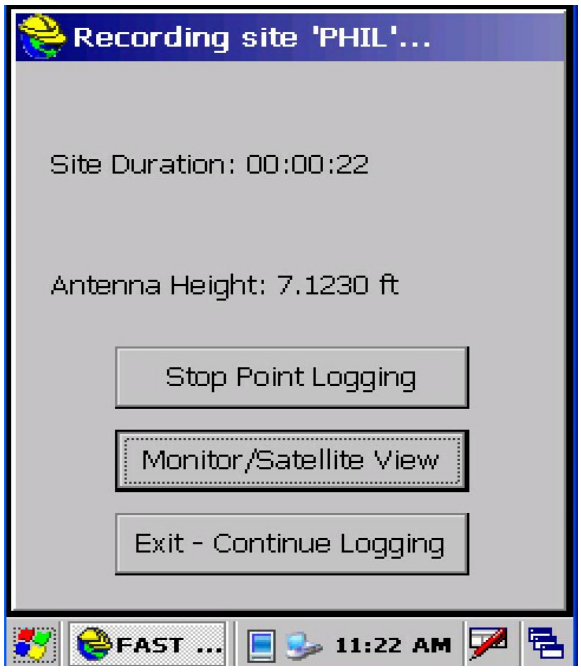


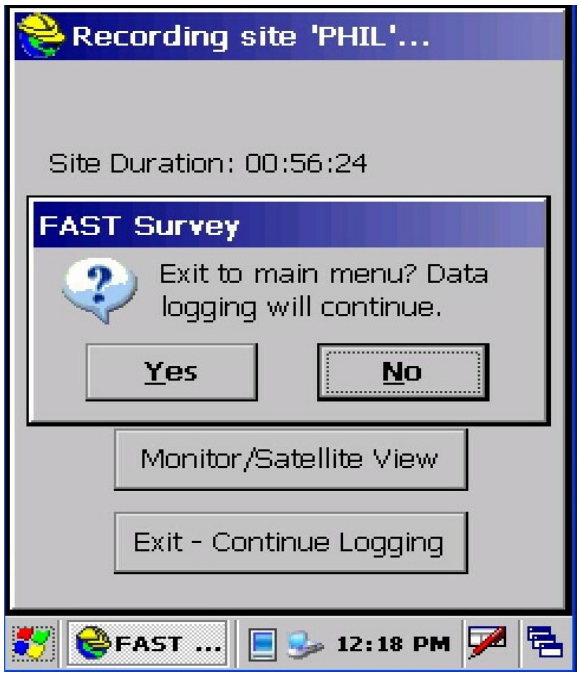
A five second recording interval provides more than enough data for a long static session. The elevation mask and antenna height shown here come from previous settings. OPUS requires manual entry of the vertical height to the Antenna Reference Point. The antenna height entered here is for the RTK work or data processing in GNSS Solutions. Click the check box to accept the settings.

Then tap Tag New Site.

Use a four character alpha-numeric Site Name. Avoid punctuation. The Site Attribute is there for GNSS Solutions. Tap the dot to Stop Logging Manually at the end of the session. Tap the check box to accept the settings.

Tap Exit - Continue Logging.





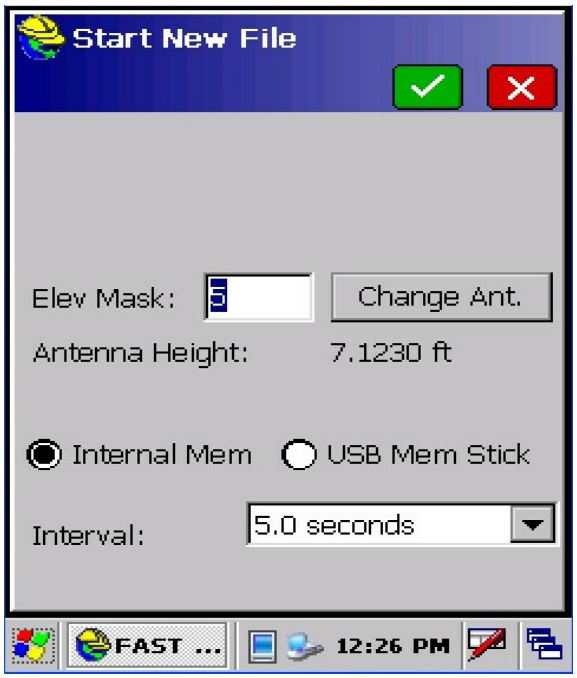
Tap Yes to continue data logging.

The settings have been made but a new file must be started with all of the settings just as they are. Tap Log Raw GPS to return to the menu to close the file and begin a new one. Alternatively close the file and start it again with the log button on the front panel of the receiver. This question takes several forms in different places in FAST Survey. If a screen like this one appears. Tap Yes to continue Logging.

Next is another example of the question about stopping the log. Tap Yes to continue recording the Site that was entered.

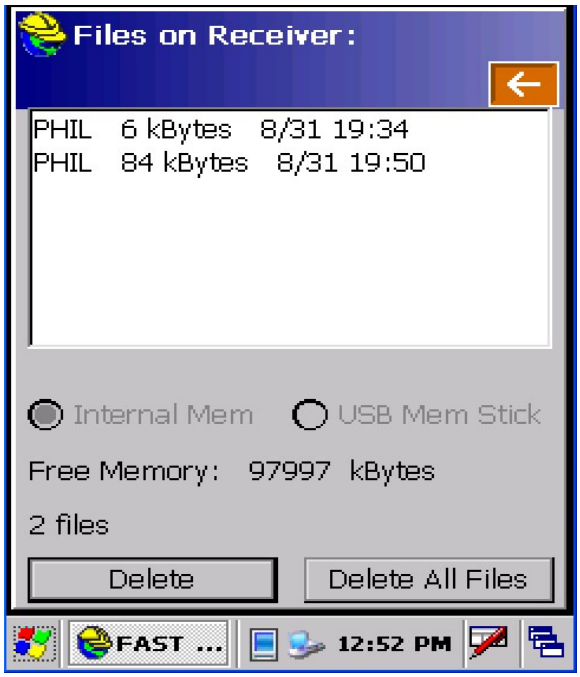
Tap Close File to close the file that was used to set the parameters in the receiver.

Tap Start File to begin a new file.



Do not make changes in the settings. Click the check box.

Use File Manager, if desired, to confirm that the first file was closed and a new file is being recorded.

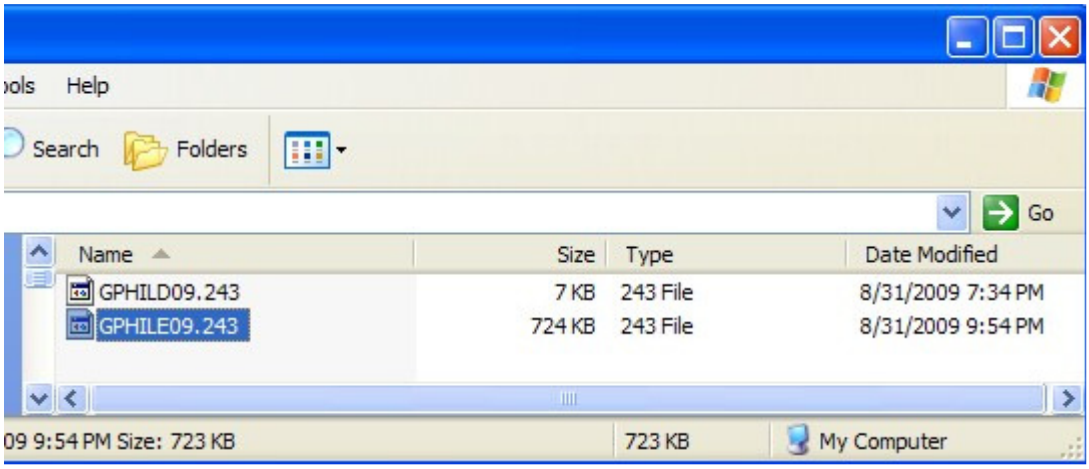


The first file that was used to configure the settings will not be used for the processing.

This is the beginning of at least two hours of raw data recording to create a file that will be used by OPUS. When the session is finished return to the Log Raw GPS menu. Remember to respond with Yes to the questions illustrated on pages 5 and 6.

Close file and turn off the receiver if this is the last session of the day.

With the receiver connected to the PC with the long USB cable it is a simple matter to copy the large G file to a folder on the PC. The small file with the configuration settings in it can be left behind.

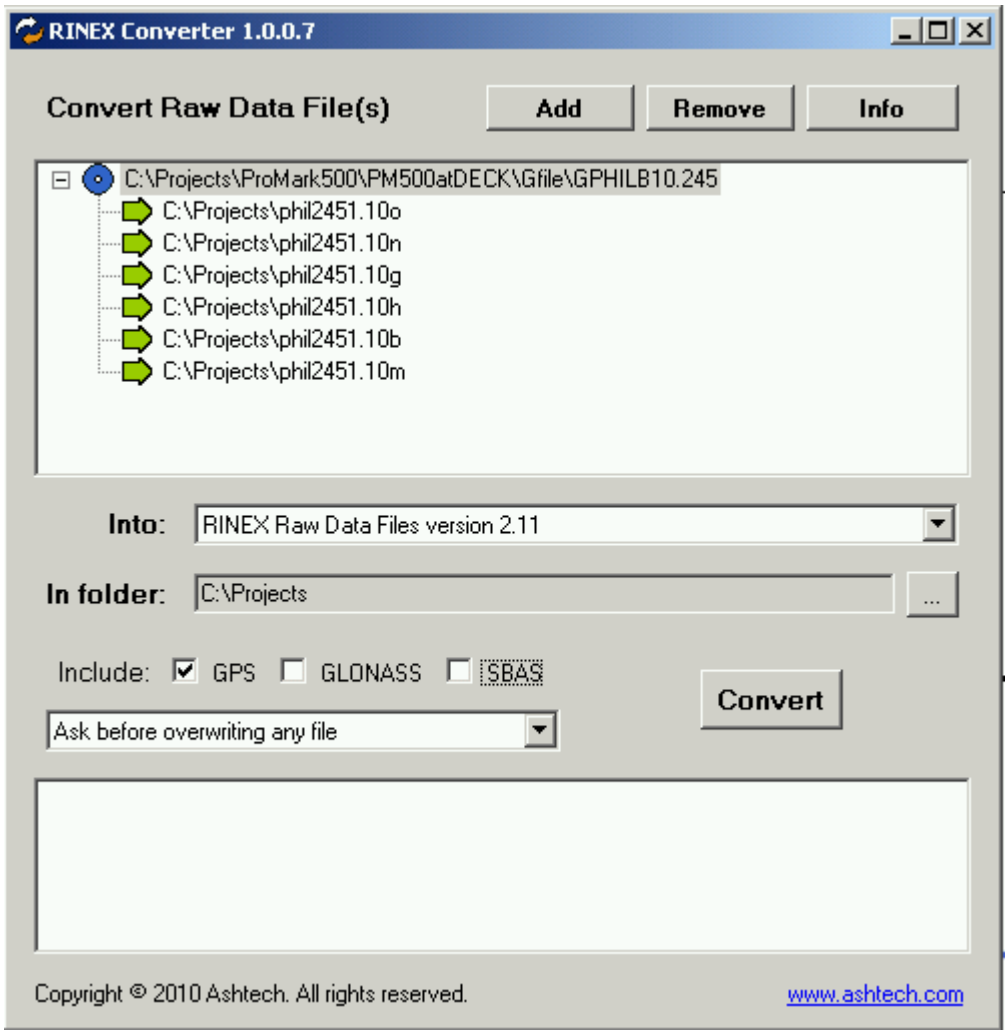


RINEX Converter 1.0.0.7 that comes with GNSS Solutions 3.60.1 will convert the ATOM file (G file) to the RINEX format for OPUS.

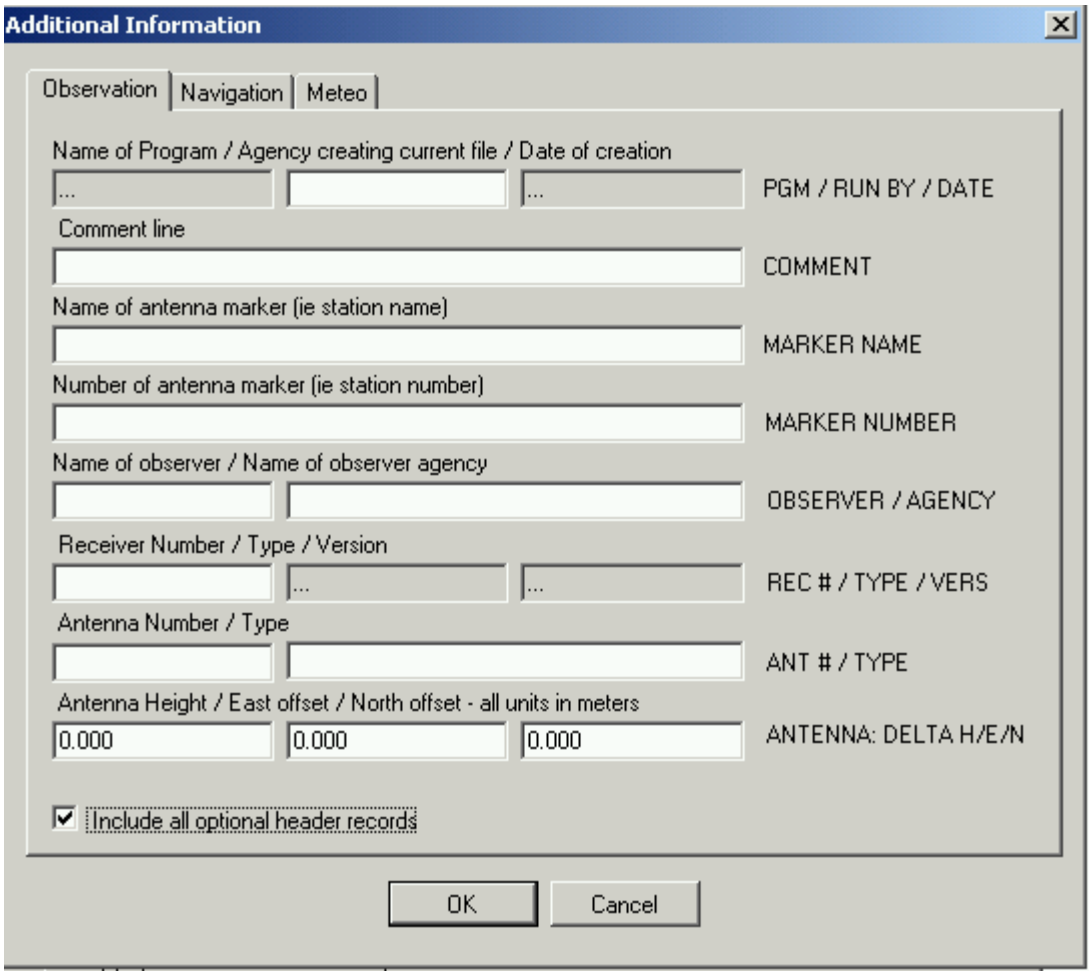
Click the Add button and select the raw data G file that was copied from the receiver.

Choose the input directory and the output directory where the G file will be input and the RINEX file will be output.

In the Use box remove the check marks from GLONASS and SBAS.



Click the Info button near the top right of the screen and check the box near the bottom left of the screen where it says: Include all optional header records



With all the settings done press the Convert button to create the file.

Upload the o file to OPUS.

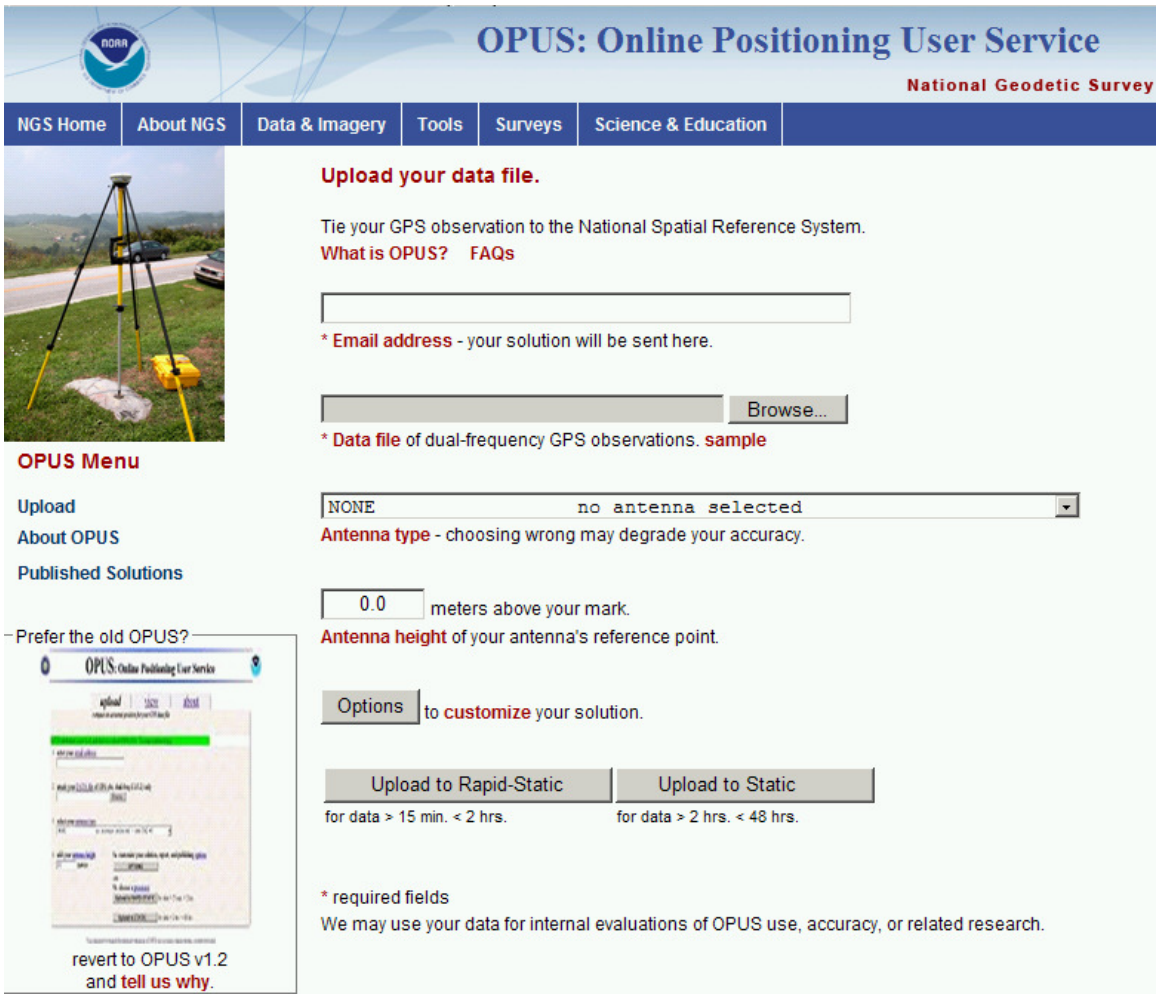
While waiting for OPUS to return the results there may be time to watch a video about OPUS.

http://www.youtube.com/watch?v=nJYyed0GErk&feature=channel_page

A variety of Ashtech videos are available at

http://www.youtube.com/user/MagellanProfessional

http://www.youtube.com/ashtechvideos



Please dig deeper than the OPUS home page to learn more about how it works.

Questions? Errors? Need some additional details? Send an email to pstevenson@ashtech.com

Phil Stevenson
March 1, 2011