Chapter 4

SBF Converter

4.1 Introduction

SBF Converter is a conversion utility which allows users to convert SBF logged files of the Septentrio Receiver to other formats such as RINEX, ASCII, GPX and KML. The commands, if logged in a file, can also be converted to a readable text format. Once SBF Converter 15.0.0 is installed, it can be launched by clicking the `SBF Converter` short-cut icon created by the installation program. Please consult the HTML help pages of SBF Converter 15.0.0 for more information on this program.

4.1.1 SBF Converter compatibility

SBF Converter 15.0.0 can convert data logged using any Septentrio Receiver however, some older SBF blocks particular to the PolaRx2/2e may not be fully compatible with SBF Converter.

4.1.2 Launching SBF Converter

SBF Converter can be launched in several ways: using the RxLauncher GUI, from the Start menu on a Window's PC, a shortcut to the SBF Converter executable can be found under

'Septentrio RxTools'. You can also launch SBF Converter via the 'Tools' menu of any of the GUI tools, for example from RxControl as shown in Figure 4-2. Users who prefer to use the command line are advised to use the SBF Tools and are directed to Section 11 on page 164 for more information.
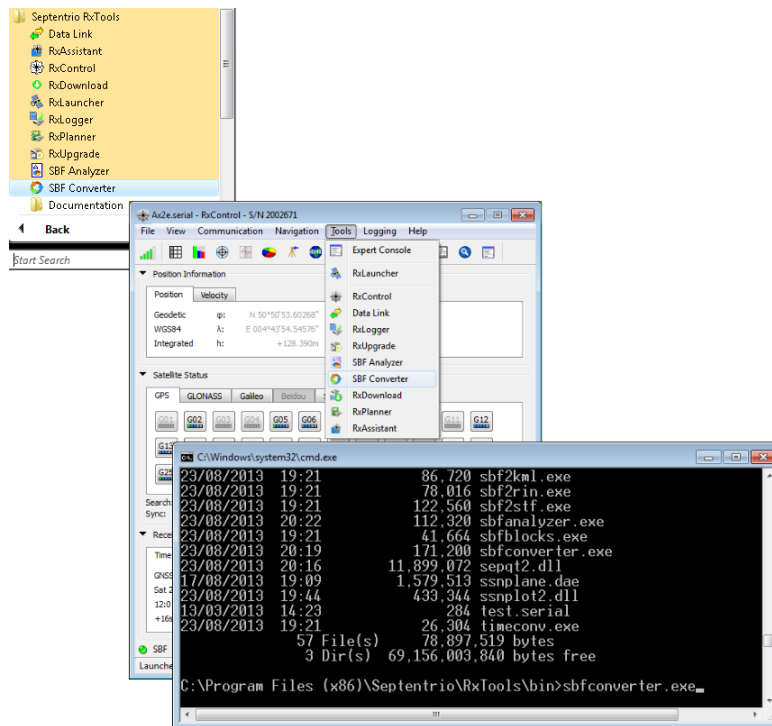

Figure 4-2: Launching the SBF Converter GUI

4.2   Using SBF Converter: a worked example

4.2.1   Conversion to RINEX

SBF files can be opened in SBF Converter by clicking on either the folder icon next to the *Single file* field or the *Choose file* button next to the *Multiple files* field as Figure 4-3 shows.
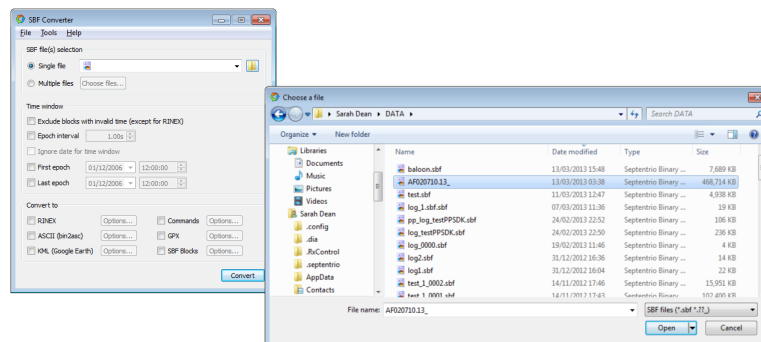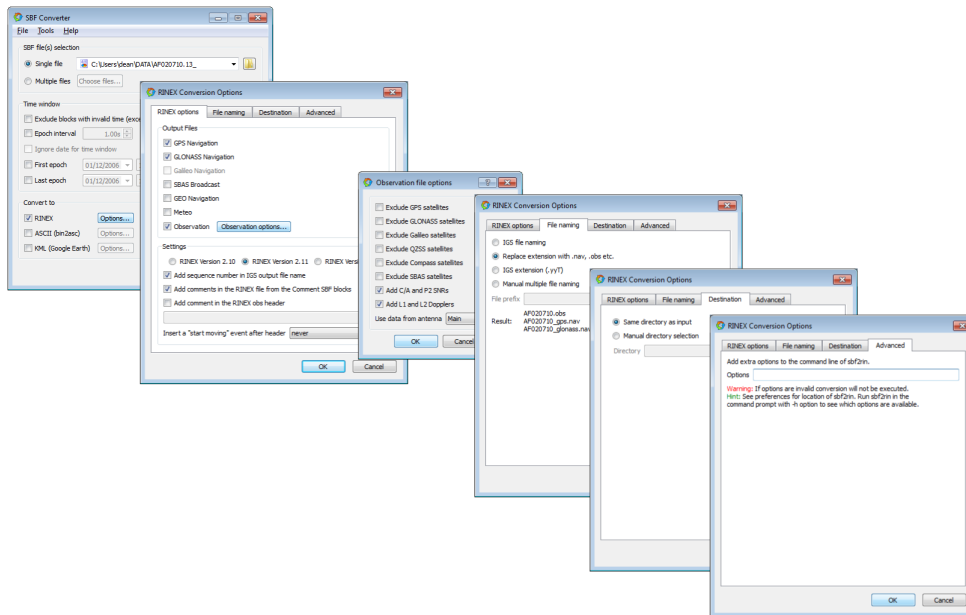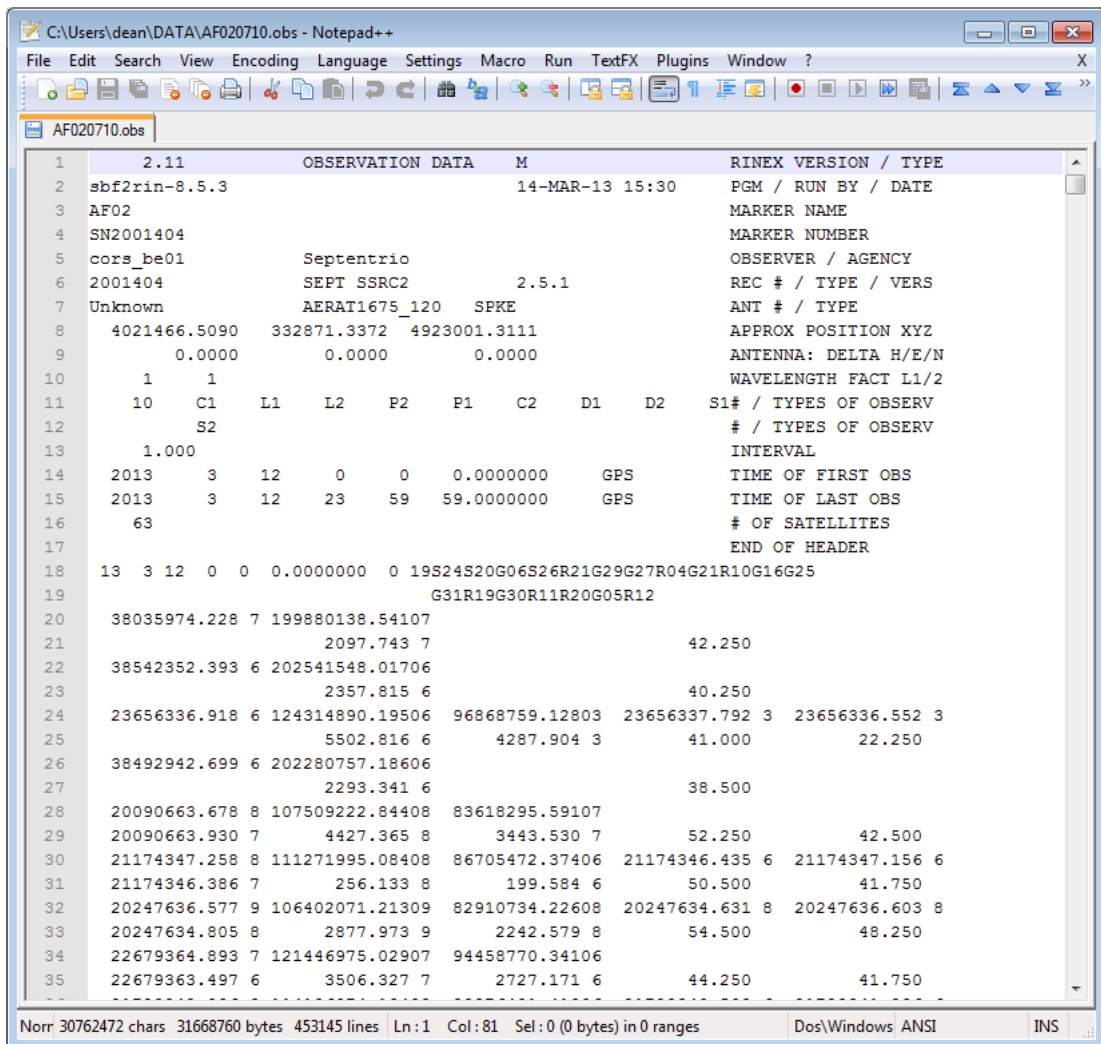

Figure 4-3: Opening a file with SBF Converter

The sequence of screenshots in Figure 4-4 on the following page show the steps involved in configuring SBF Converter to convert SBF data to the RINEX format.

Figure 4-4: Configurations for RINEX conversion

Having made the configuration for RINEX conversion, you can then click on the *Convert* button which will produce a RINEX file similar to the example shown in Figure 4-5 on the next page.

Figure 4-5: Example of a RINEX file

Note that, in order to generate RINEX files, the SBF file must contain the relevant data for RINEX. The necessary blocks are selected automatically when checking the *Rinex* box in the *SBF* tab of either RxControl logger or RxLogger as shown in Figure 6-6 on page 128. If the SBF file does not contain the necessary blocks for the required conversion, SBF Converter will give an error such as that reported in Figure 4-6.
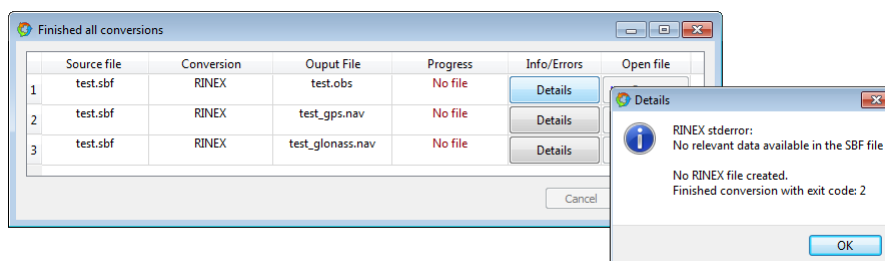

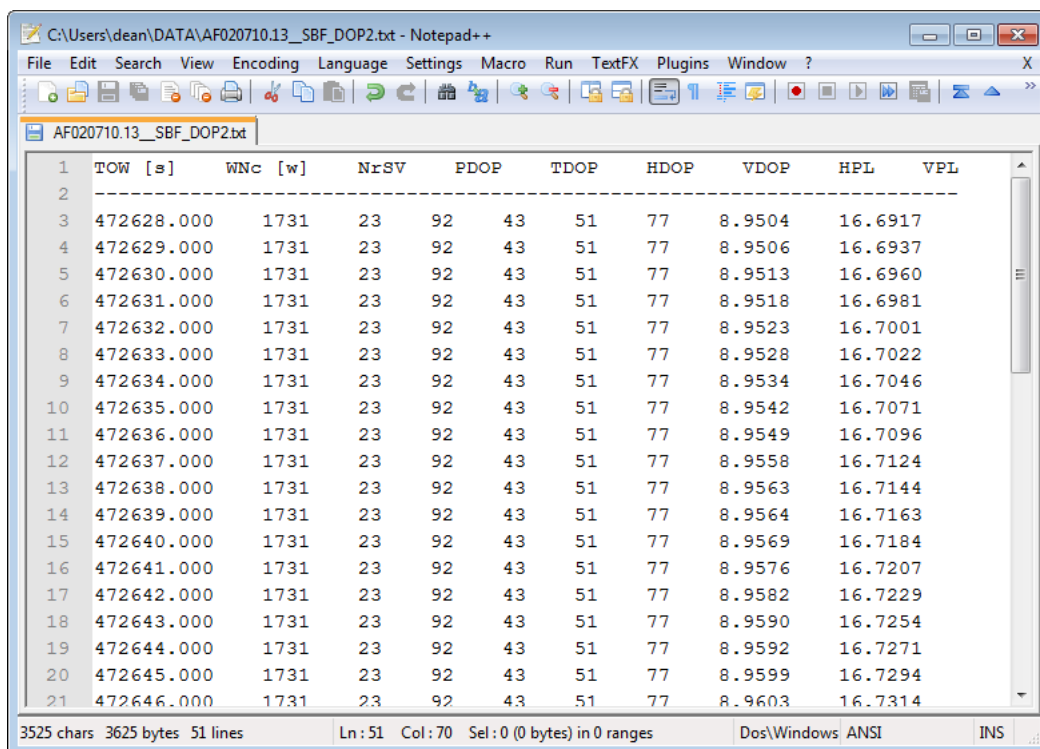**Figure 4-6:** Error message when RINEX cannot be generated

4.2.2 Conversion to ASCII

The contents of an SBF file can be converted to the more readable ASCII format as shown in the sequence of screenshots in Figure 4-7. There are various options that can be selected for ASCII generation two of the most useful being *Show column titles* and, in order to have the output in a format compatible with other analysis tools; the *Change field delimiter to* option.
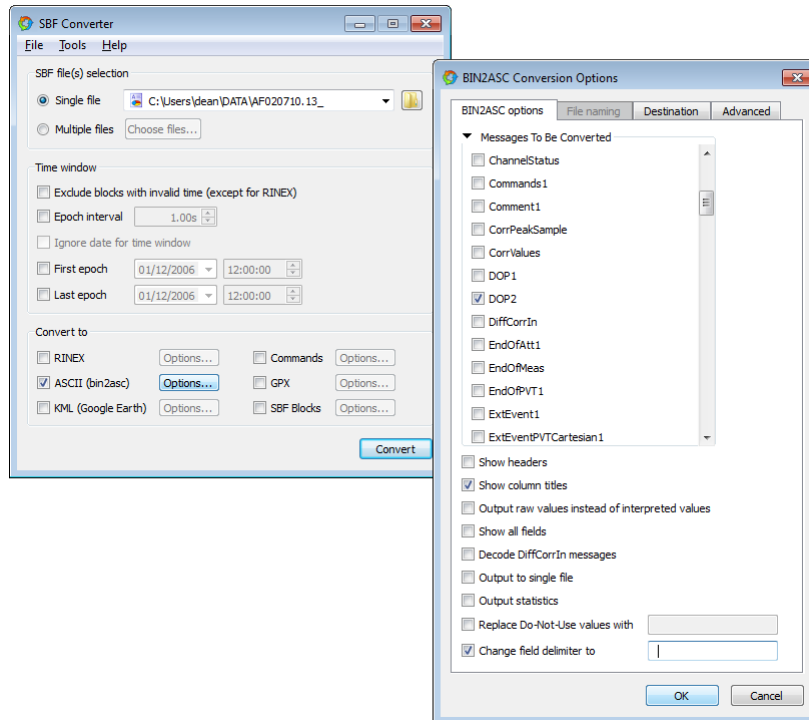
Figure 4-7: Example of a converted DOP SBF block

Figure 4-8 on the next page show the ASCII conversion of the DOP SBF block where *Show column titles* has been selected and the field delimiter has been changed from the default comma to a double space.

Figure 4-8: Configuration for ASCII conversion

In addition to **bin2asc**, you can find in the preferences menu of SBF Converter that there are two other possibilities for conversion to text format: **sbf2asc** which was created primarily as a sample application to assist users in developing their own conversion tools and the older **sbf2stf** which is being phased out in favour of **bin2asc**. These tools can also be used in the command line as is explained in Section 11 on page 164.

4.2.3   Conversion to Google Earth KML

Logged data files containing any of the SBF positioning blocks (i.e. PVTCartesian, PVTGeodetic, IntPVCart and IntPVGeod) can be converted to KML format which can be displayed on Google Earth. By clicking on the 'Options...' button next to the KML checkbox, you can select various settings for KML generation. Standard settings are shown in Figure 4-9.
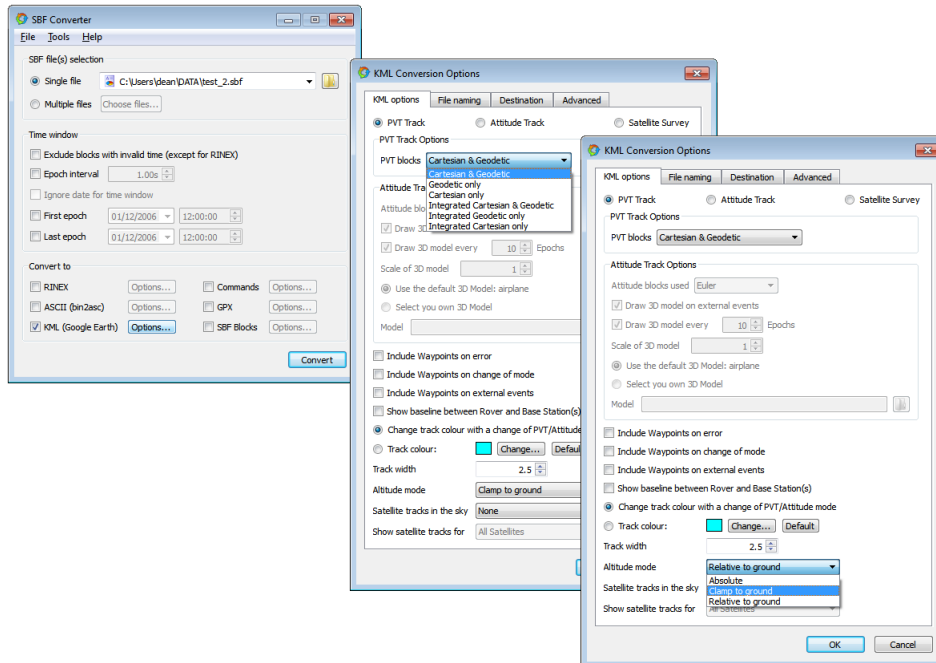

Figure 4-9: Configuration for KML conversion

When the conversion has finished, the file can be opened in Google Earth by clicking on the 'Open' button as shown in Figure 4-10.
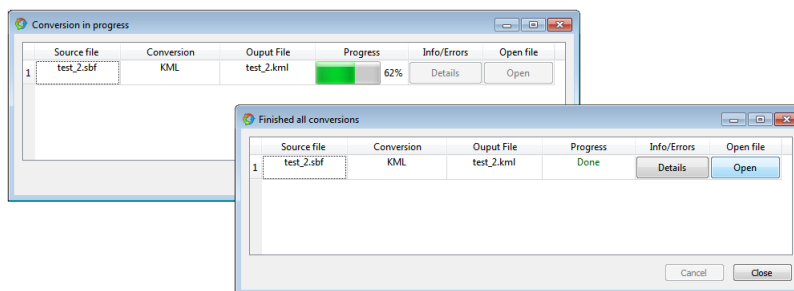

Figure 4-10: Opening the converted file

The results of the KML conversion are given in Figure 4-10 which shows the trajectory of a car test. The color of the trajectory indicates the positioning mode as given in the legend. The zoomed panel shows a fall-back from RTK fixed positioning mode to differential then RTK float which is due to the car going under a bridge.

For the AsteRx2eH and AsteRx2i receivers that can additionally output attitude, selecting 'Attitude Track' in the KML options tab will show the vehicle trajectory where the color indicates the attitude mode.

The color of the track when selecting the 'Satellite Survey' option indicates the satellite tracking status: no tracking, tracked or tracked and PVT.
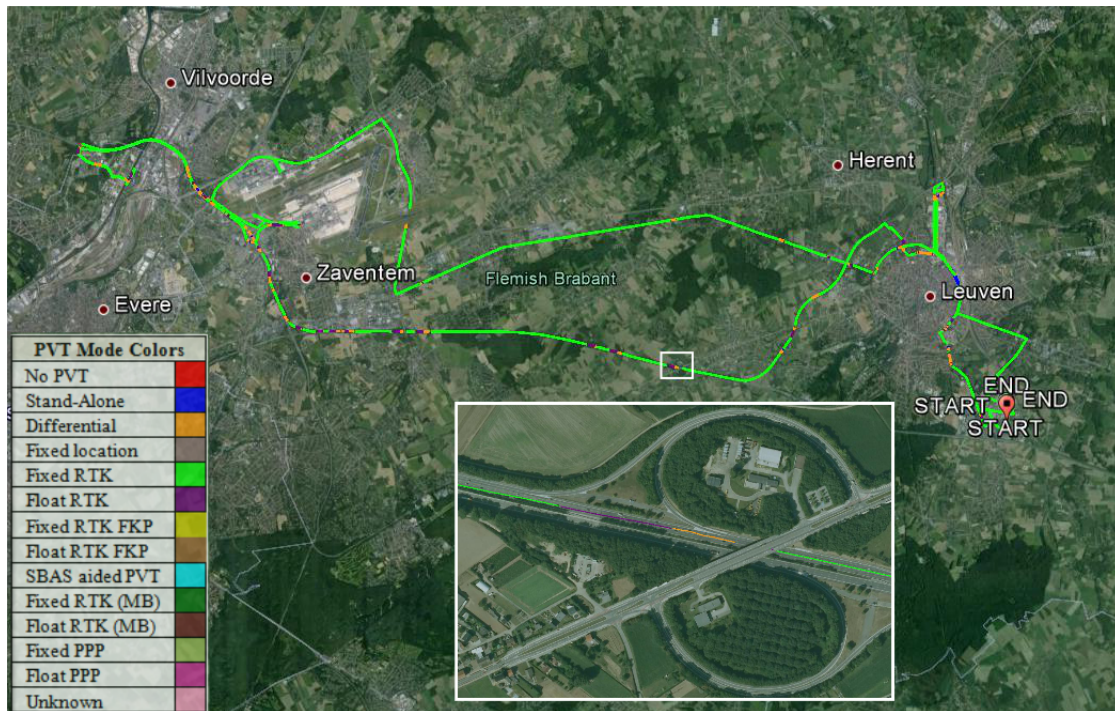

Figure 4-11: KML file displayed in Google Earth