



Text to XYZ Utility

By Bill Bergman

More than once I have heard in the office: "What is this TEXT TO XYZ program?", "Is it included in the HYPACK® software?" and so on. How mysterious is it? It is not even documented in the HYPACK® help system! This article will explain how the program works and why you might want to keep it in mind as a useful tool.

The program was born in the DG2 Editor. We can import XY or XYZ data from a text file and create corresponding DG2 elements in a single step. This is such a time saver we created this utility to produce the ubiquitous XYZ file. If you run the DG2 import routine and the TEXT TO XYZ programs side-by-side you will see the heritage.

Purpose: Extract positional and depth information from a text file. Produce an XYZ file with the result.

Location: HYPACK® Shell. Menu: UTILITIES->GEODESY->TEXT TO XYZ.

INPUT FORMATS

The program reads each line one "field" at a time. It recognizes fields by what separates them, in this case, spaces or commas.

The number of fields and the required format in the input text file is determined by the **Positional Units** settings.

- **XY on Projection** requires a minimum of 3 fields. The first will be treated as X, the second as Y and the third as Z. It's not very exciting but useful for extracting the XYZ elements from an XYZ-date-time file.
- For the two **Latitude/Longitude options** the number of fields is determined as follows:
 - The last field is Z.
 - The rest of the fields are equally divided between Lat and Lon.

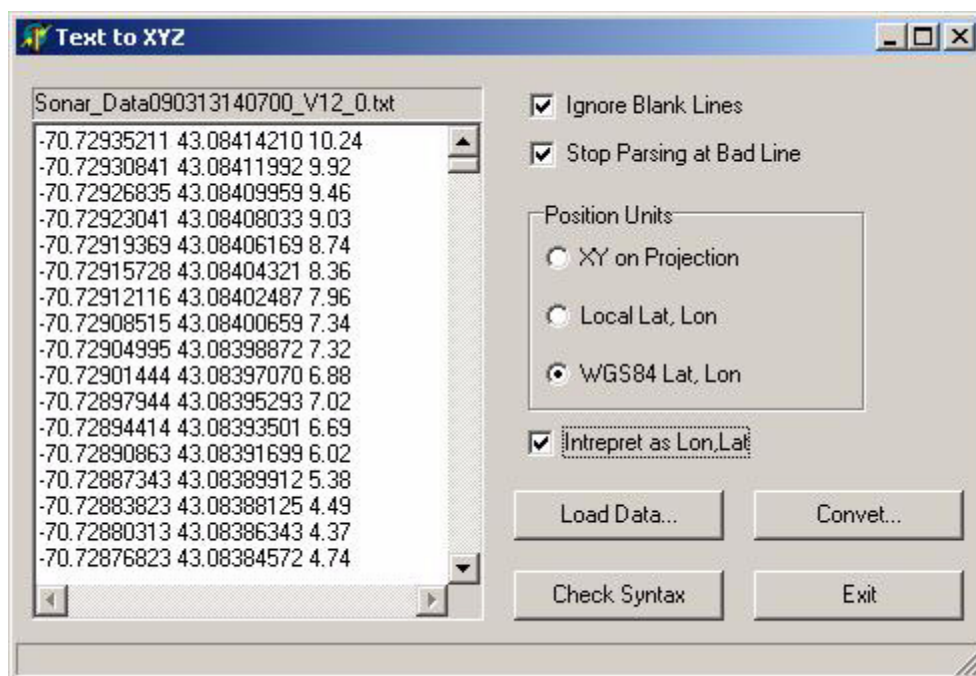
This may seem odd at first but allows the parser to handle the standard Latitude Longitude input styles used in much of the HYPACK® package. As a review, HYPACK® will generally allow Latitude or Longitude input as follows:

70 or 70.2	decimal degrees
70 20 or 70 20.3	degrees decimal minutes
70 20 15 or 70 20 15.3	degrees minutes decimal seconds
N70 20 or N 70 20.2 or 70 20.2 N etc.	N/S or E/W modifier at start or end, with or without space
+70 20 or -70 20.3	N/S or E/W modifier in magnitude form

NOTES: The caveat is that both the Latitude and Longitude fields should be encoded in the same format. *Don't mix Decimal Degrees Lat with Degrees Minutes Decimal Seconds Lon.* This would be very strange input in any case.

When converting Latitude and Longitude values to XY, the program uses the geodesy in the current HYPACK® project.

FIGURE 1. *Text to XYZ User Interface.*



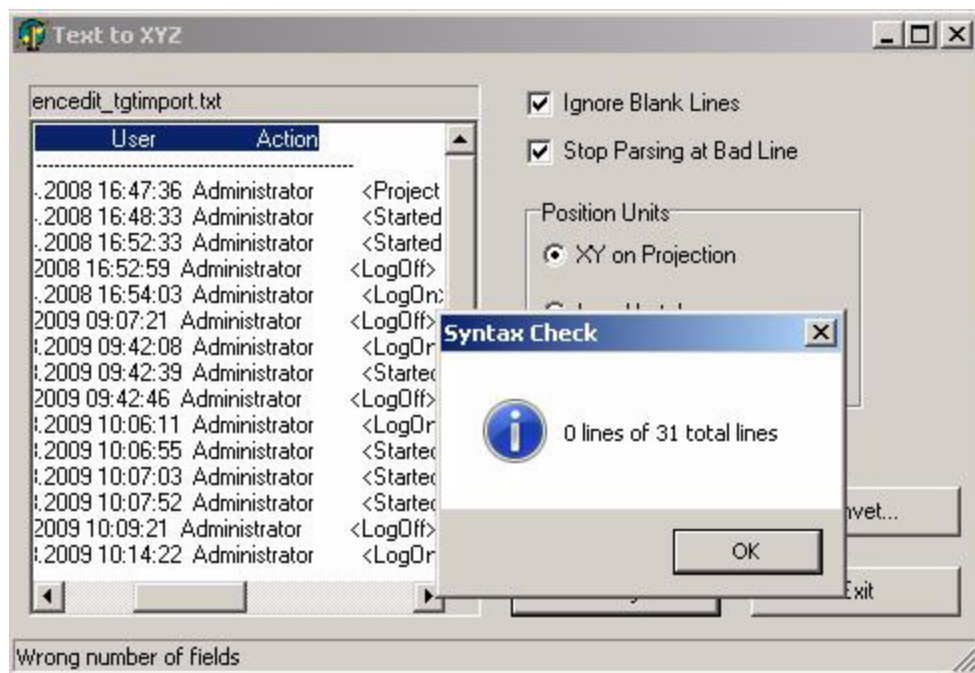
LOADING THE DATA

1. **Enter your options on the right.**
 - **Position Units** are described under Input Format
 - **"Stop Parsing at Bad Line"**: This means on the first line the program can't decode, it will highlight the offender and show a description of what caused the parse to fail in the status bar. Here we see the first line highlighted and the error "Wrong number of fields". If this option is unchecked, the program will move to the next line and parse again. At the end the program will report how many of the input lines are convertible out of the total found.
 - **Ignore Blank Lines**: A blank line (no fields) will always fail. To suppress any messages from such cases, you can check the this option.
2. **Load your text file.** The Load Data button provides a File Select dialog for you to choose your input text file.

After loading the data into the program, it will be displayed line-by-line on the left side of the dialog. The parser works with 1 whole line per parsing pass. This visual display of the data is great for quickly spotting problems. If it doesn't look right to your eye, the chances are the parser won't have much luck either.

For example, we load a file called "encedit_tgimport.txt". It sounds promising but it is not formatted in such a way that the TEXT TO XYZ program can read it. Let's try to parse it and see what happens. The results are in figure 2.

FIGURE 2. Results of importing text of unacceptable format



3. **The final step is to click [Convert] and enter an output filename.** Pretty standard stuff so enough said.