



Making XYZ Corrections after Post-Processing your RTK Base Station's Position

By Joe Burnett

All too often, you don't have the time, prior to an upcoming survey, to set up and collect data for your RTK Base Station and must use the Here function.

Using the Here function allows you to set up the RTK Base Station over an arbitrary point and collect data, at the same time that it sends corrections to your Rover GPS on the boat.

Once you post-process your RTK Base Station data in its proprietary software, it will give you the XYZ or NEZ shift from its original Here XYZ / NEZ Position.

Now, the question is "In HYPACK, how do you apply the shift to the data already collected?"

EDIT DATA

1. **Edit your original RTK-corrected "Here" position data in the appropriate editor** (SBMAX for single beam and MBMAX for multibeam).

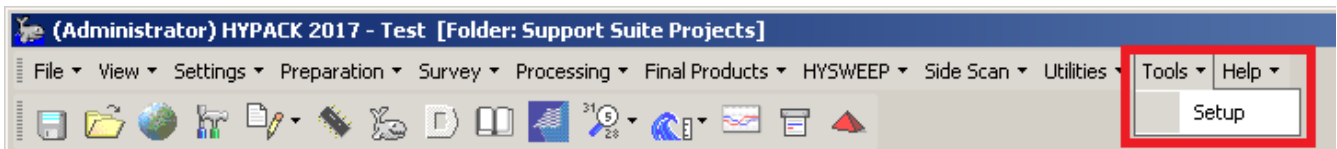
IMPORTANT: You will not apply the post-processed RTK during the editing process. This is because we will apply a straight XYZ / NEZ shift to the data, in the same way that the RTK Base Station original XYZ / NEZ location received its shift after the post-processing.

2. **Save your data to its respective edited format.** (EDT All Format for single beam and HS2 or HS2x format for multibeam).
3. Save your edited data to XYZ / NEZ Format.

LOAD THE XYZ UTILITY PROGRAM TO THE TOOLS MENU

In HYPACK®, the XYZ Utility program allows you to Apply a shift to either the X (E), Y (N), and/or Z values of an XYZ / NEZ file. It does not appear in the menu by default, but you can add it to the Tools menu:

1. **Select TOOLS-SETUP.**



2. Click [Add] and enter the menu parameters and click [OK].

- Title will appear in the Tools menu.
- **Program:** Click [...], select the XYZUtil.exe file in the \HYPACK 2017\Support\Utilities folder and click [Open].

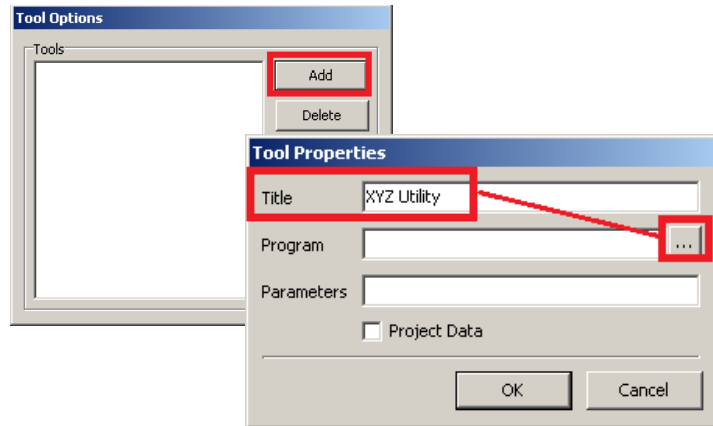
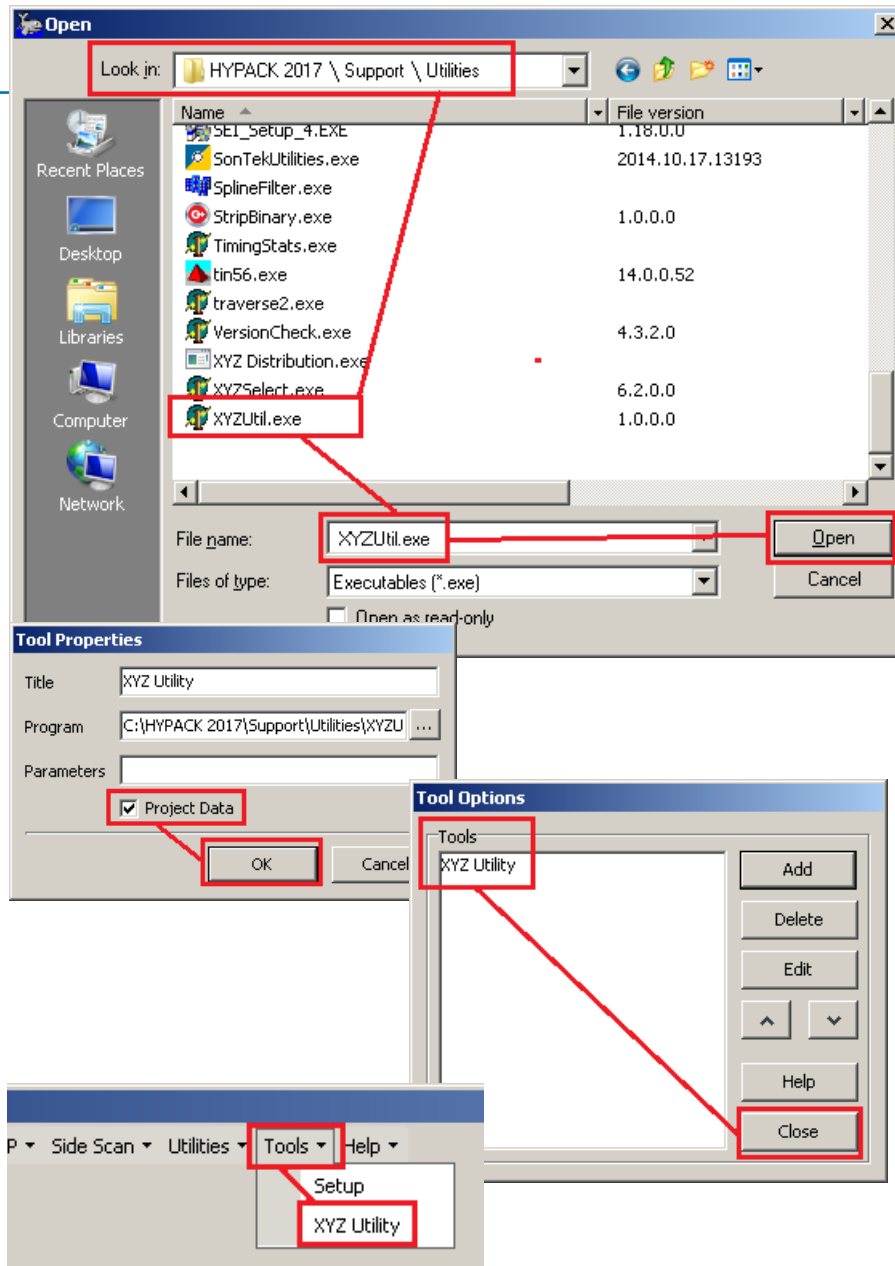


FIGURE 1. Selecting the XYZ Utility Program

- **Project Data** should default to the current project directory. (In my testing, it did not default to the project directory. I will look into having this fixed.)

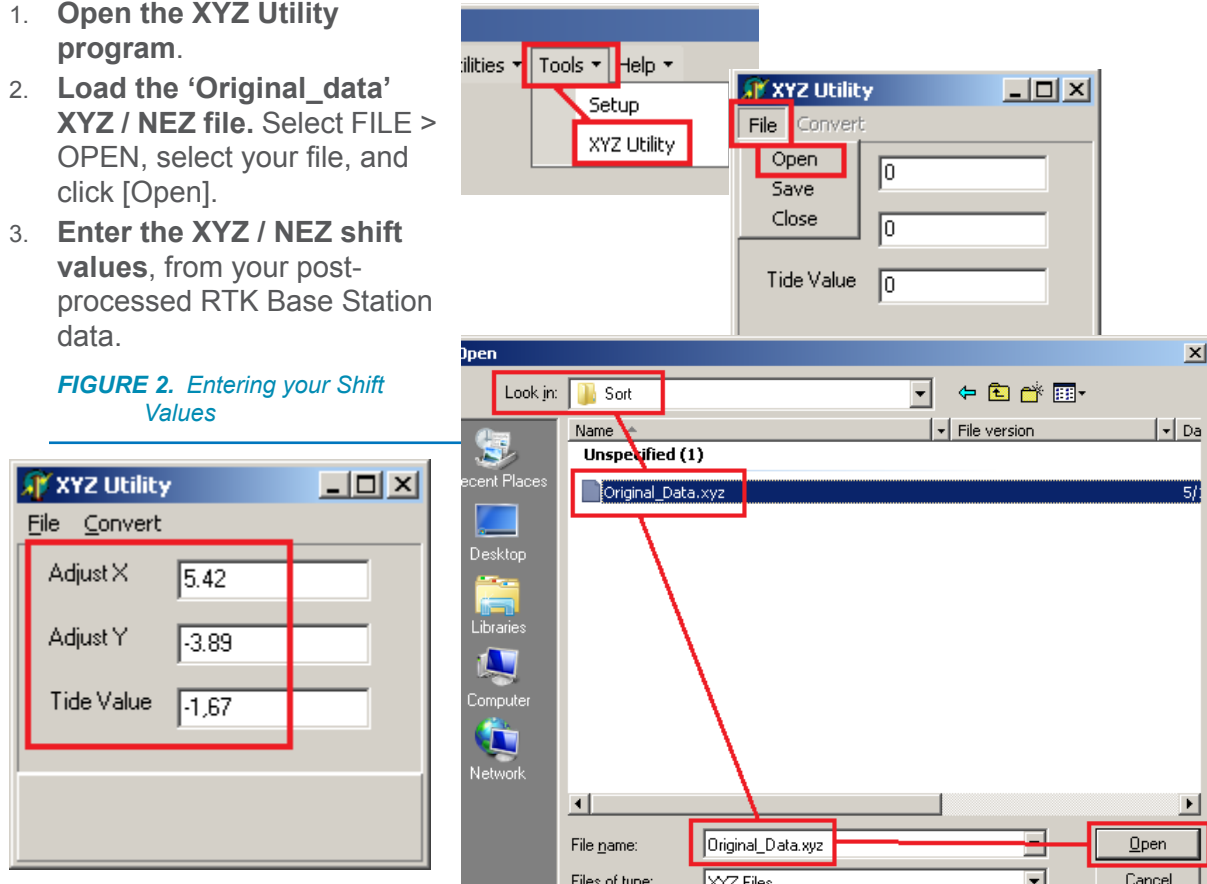
3. Close the Tool Options dialog. The XYZ Utility has been added to the Tools list.



APPLY THE XYZ / NEZ 'SHIFT' TO YOUR DATA

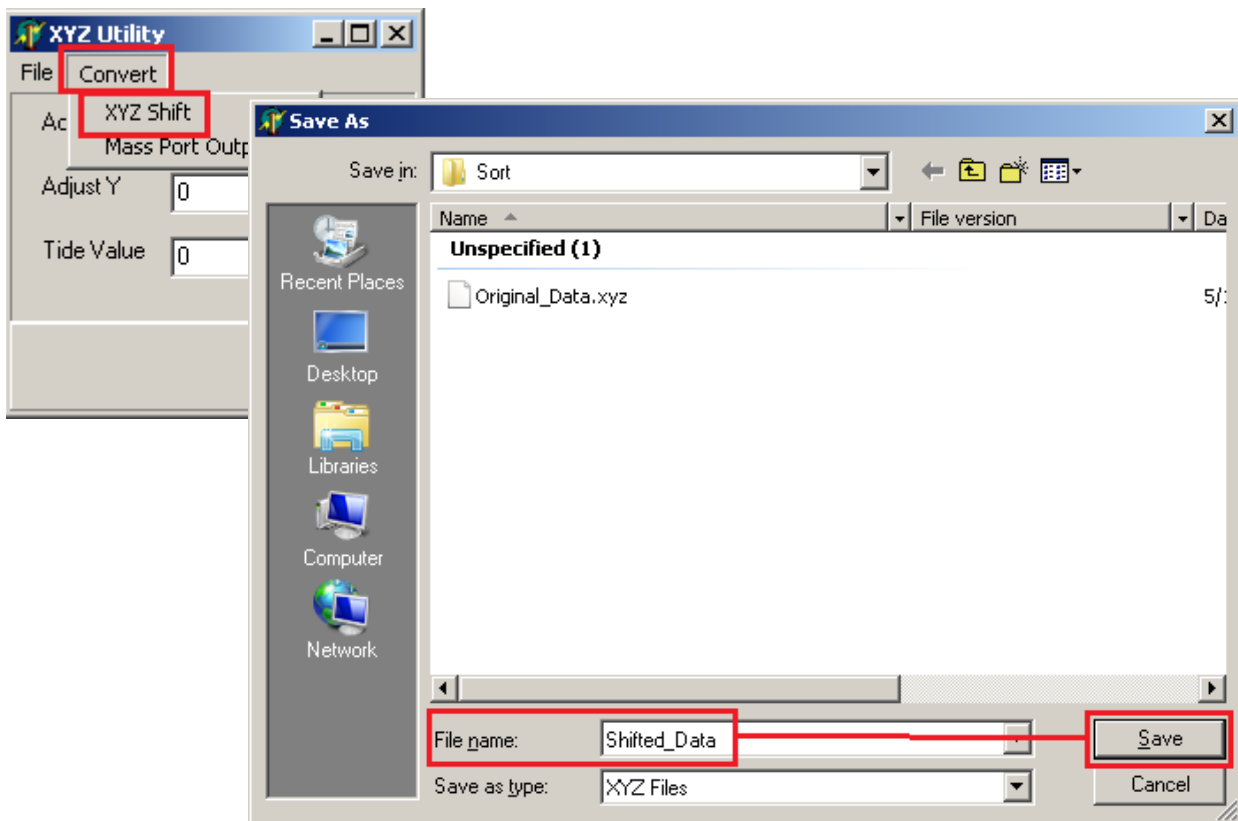
1. Open the XYZ Utility program.
2. Load the 'Original_data' XYZ / NEZ file. Select FILE > OPEN, select your file, and click [Open].
3. Enter the XYZ / NEZ shift values, from your post-processed RTK Base Station data.

FIGURE 2. Entering your Shift Values



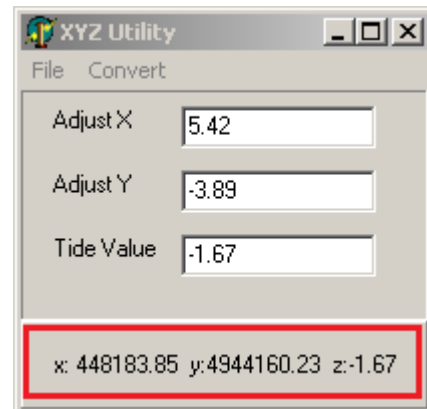
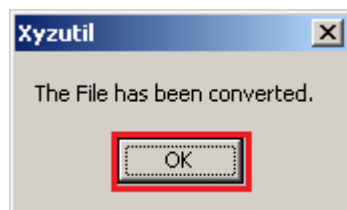
- **Adjust X:** the X (E) shift value
 - **Adjust Y:** the Y (N) shift value
 - **Tide Value:** the Z shift value
4. Select CONVERT > XYZ SHIFT, enter the file name for the shifted data, and click [Save].

FIGURE 3. Converting the Data



The XYZ Utility program will now start applying the 'shift' values to the 'Original' file. You will see the X, Y, and Z values being applied to the data.

The program will let you know when the conversion is complete.



Your data is now shifted to the correct positioning, just as if the RTK Base Station had been set up with the correct XYZ / NEZ position, to start with.