

INTViewer Transposing Tutorial

This tutorial illustrates how to use the Transposing feature of INTViewer. Transposed data (or reading the entire volume into memory) is required for displaying seismic time slices in Map Windows.

Transposing is a data reordering process so that time slices can be read efficiently. The input to Transposing is the master indexed file “.xgy” from the Indexing process or the original data file for non-indexed data types, such as SEGY, SU, SEP, SVF, ProMAX, and JavaSeis. The input file must define a seismic volume. There are two output files:

1. A reordered binary data file, with no extension
2. A master XML file with extension *.xts*


Even though the transpose files must be present for creating time slices, it is the indexed master file (or the original data file for non-indexed formats) that must be denoted as the Time Slice input file. The indexed master file is the output from the indexing process and the input to the transpose process.

Transposing can also be done as a batch process. See the section **Additional Notes on Transposing** at the end of this tutorial for information on how to run transposing in batch mode.

Step 1 – Starting the Transposer Application

To run the Transposer wizard, start the *SeismicTransposer* command located in the main folder of the INTViewer distribution or run *INTViewer* and select **Tools->Transpose Seismic...**

Note: on Linux/Unix/MacOS the installer may not always restore the execute permission for the command files. Make sure you change the permission of all “.sh” files in the main distribution directory using the following command: ***chmod +x *.sh***

Select the master index file (or the original data file for non-indexed formats) as input using the file chooser () button.

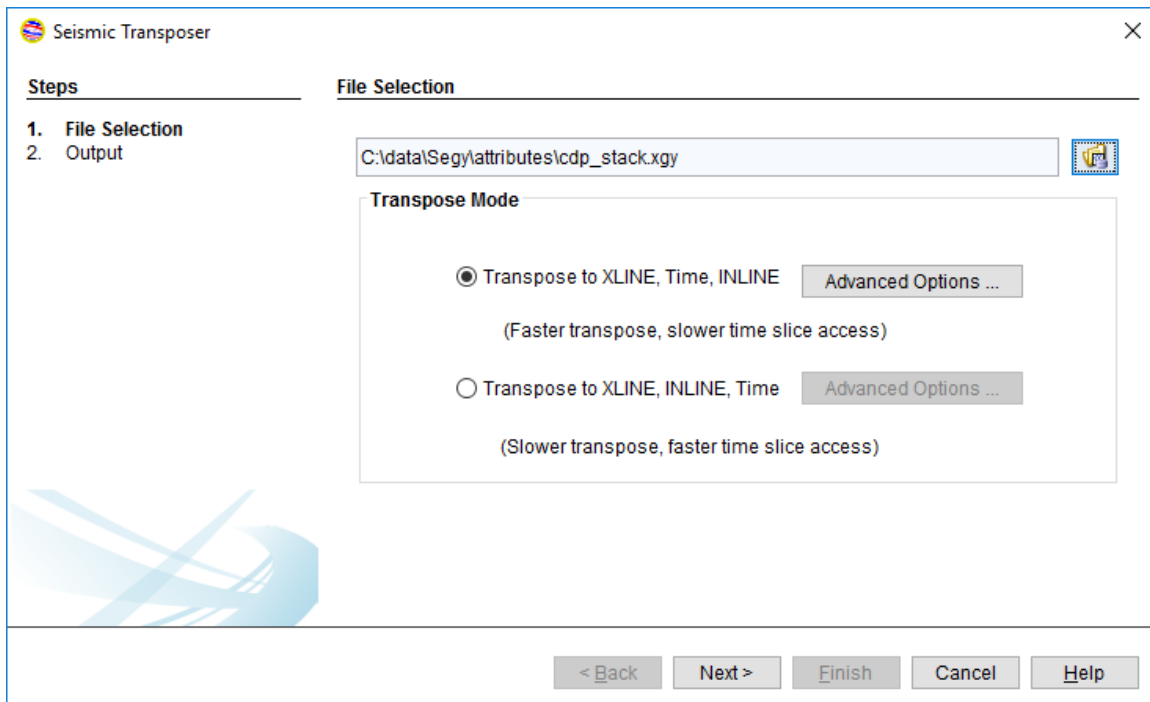


Figure 1: Verifying Input and Selecting the Transpose Mode

Next select the **Transpose mode**. There are two options:

1. **Transpose to XLINE, TIME, INLINE, (Faster transpose, slower time slice access)** is a partial reordering which has a shorter transpose time but may slow access time to the data.
2. **Transpose to XLINE, INLINE, TIME (Slower transpose, faster time slice access)** is a full reordering of the data which takes longer to transpose, but provides the fastest access times to the data.

Clicking on the **Advanced Options** button next to Transpose to XLINE, TIME, INLINE brings up the following dialog:

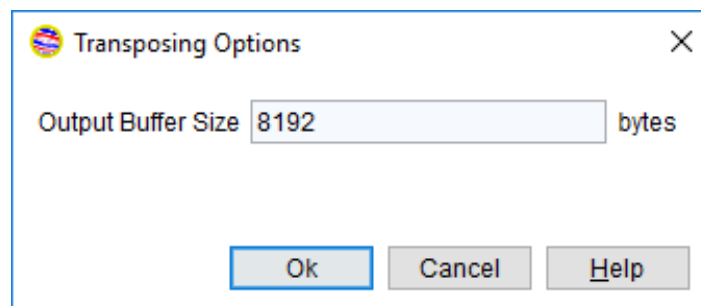


Figure 2: Advanced Option Dialog for Transpose to XLINE, TIME, INLINE

This dialog permits the user to set the **Output Buffer Size**. This is the number of bytes read from the seismic file before they are reported to the transposed file. Use a large buffer size when the directory where the transposed file resides has high latency, for example when this is remote directory in the network. However, do not use a value that exceeds the amount of memory (RAM) available to INTViewer

Clicking on the **Advanced Options** button next to Transpose to XLINE, INLINE, TIME will bring up the following dialog:

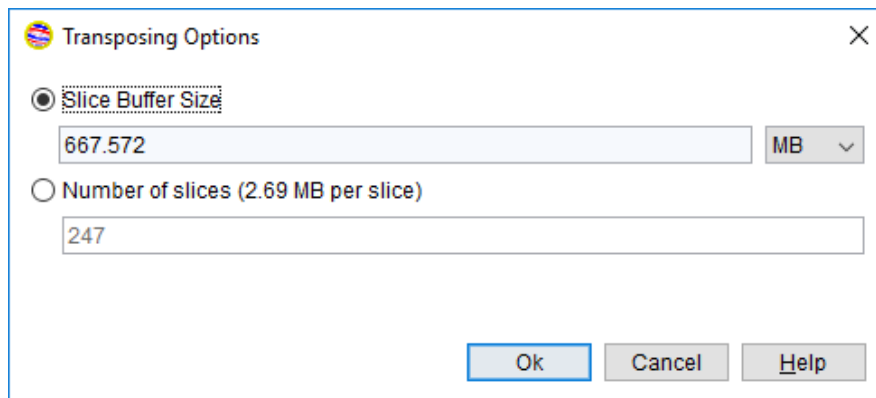


Figure 3: Advanced Options Dialog for Transpose to XLINE, INLINE, TIME

This dialog permits the user to set the size of the **Slice Buffer**, either in memory units or in number of slices. This affects the number of bytes read from the seismic file before they are reported to the transposed file. Use a large buffer size when the directory where the transposed file resides has high latency, for example when this is remote directory in the network. However, do not use a value that exceeds the amount of memory (RAM) available to INTViewer

After selecting your **Transpose mode**, select **Next** to continue.

Step 2 – Output Transposed Filename

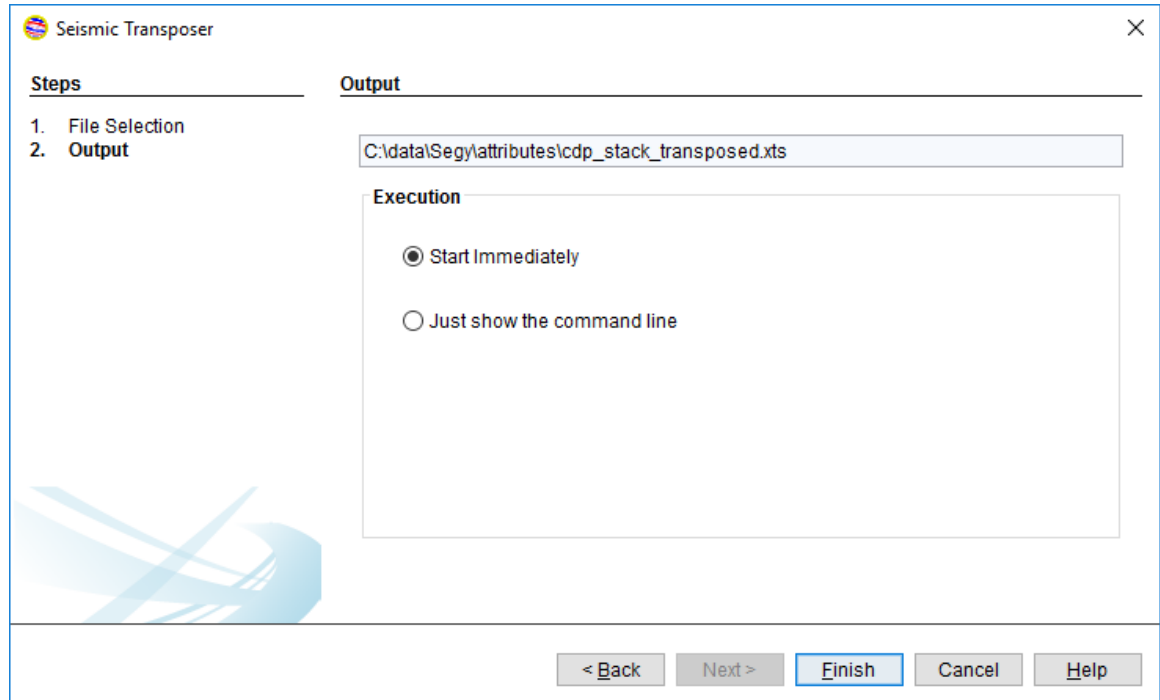


Figure 4: The Output Path and File Name.

The **Output Transposed Filename** dialog presents the default path and filename of the output transposed master file. The associated reordered file (with no extension) and the master transpose XML-file with extension “.x_ts“ will be output in the same folder as the original file. Select **Finish** .

Step 3 – Transposer Status

The final page shows the status of the run. It shows the progress through the data reordering and the writing of the binary files. A progress bar is shown at the bottom left of INTViewer.

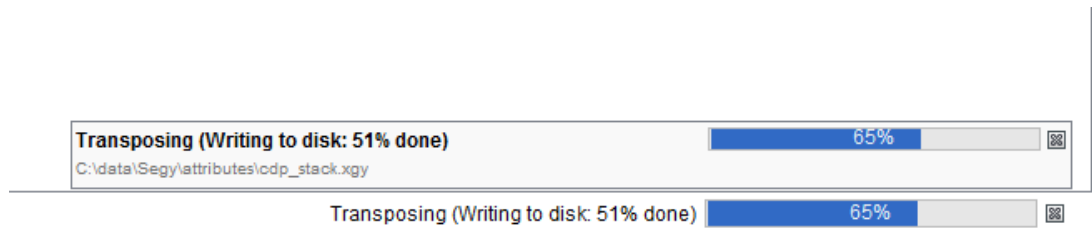


Figure 5: Transposing the data, showing a Progress Bar

Step 4. Closing

When completed a “Transpose is Done” notification is presented.

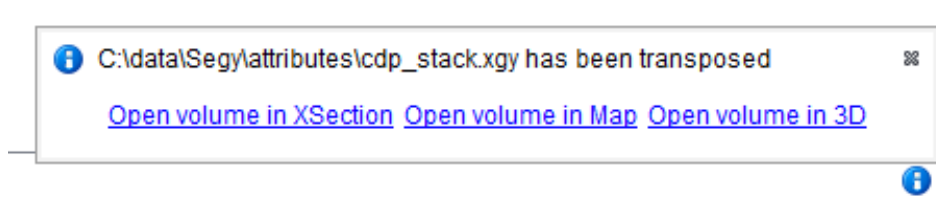


Figure 6: Transpose Wizard Completion Notification

Additional Notes on Transposing

Batch Mode Transposing

By default, the transposing occurs inside INTViewer, requiring INTViewer to be running until the transposing completes. For large datasets, this is not practical.

You have the option to start the transposing immediately, or view the command line that would perform the same indexation.

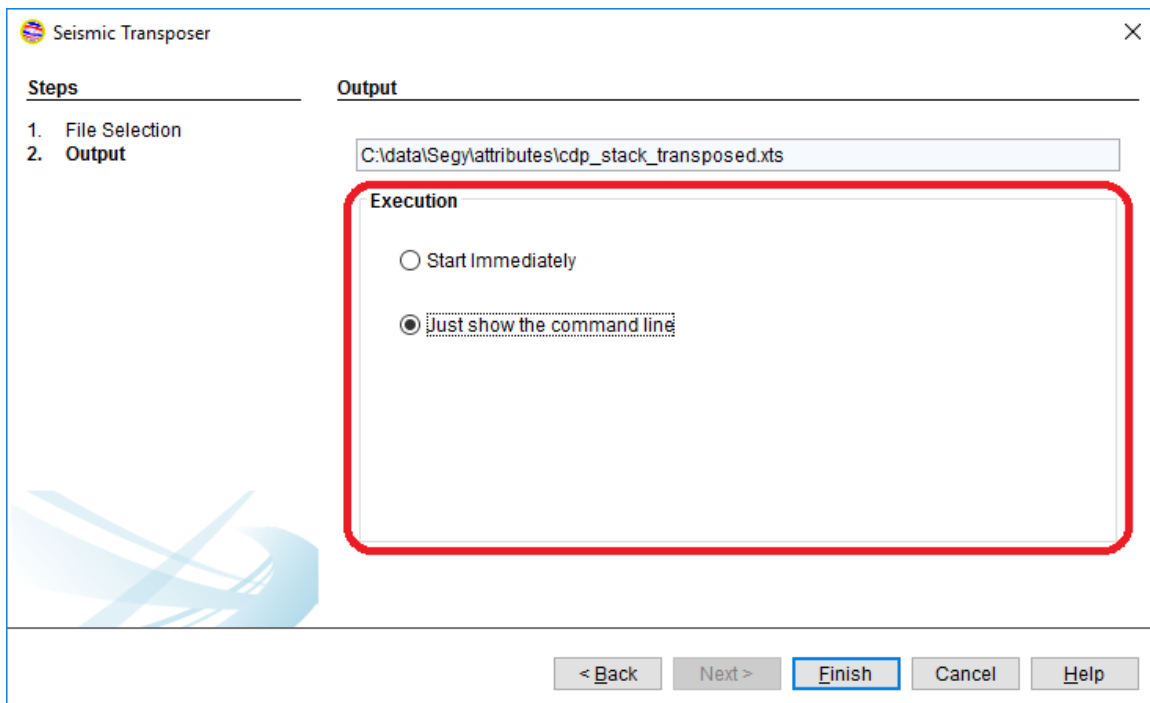
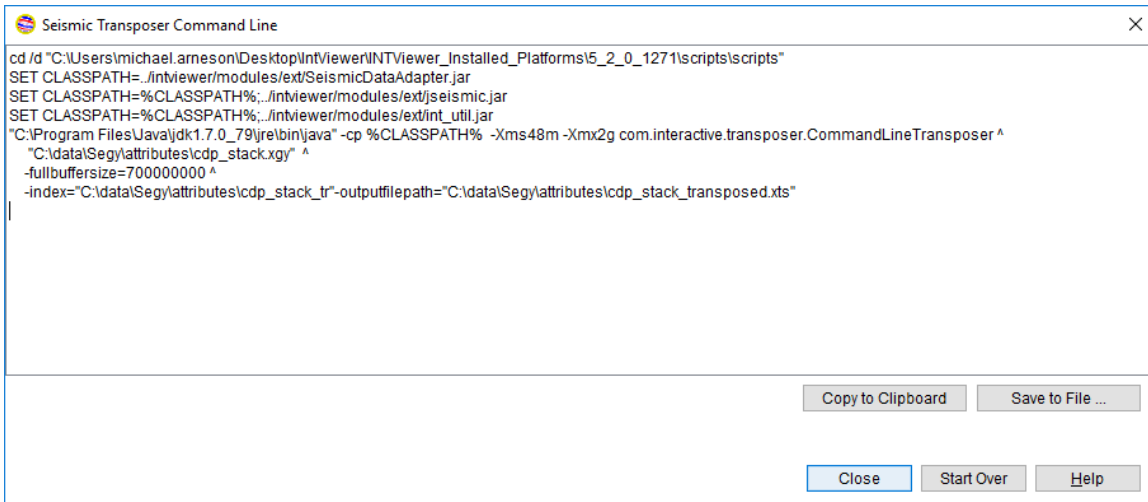


Figure 7: Execution section for the Output step

Select **Just show the command line** to transpose as a batch. The dialog shown in Figure 12 will appear.



```
Seismic Transposer Command Line
cd /d "C:\Users\michael.arneson\Desktop\IntViewer\IntViewer_Installed_Platforms\5_2_0_1271\scripts\scripts"
SET CLASSPATH=../intviewer/modules/ext/SeismicDataAdapter.jar
SET CLASSPATH=%CLASSPATH%;../intviewer/modules/ext/seismic.jar
SET CLASSPATH=%CLASSPATH%;../intviewer/modules/ext/int_util.jar
"C:\Program Files\Java\jdk1.7.0_79\jre\bin\java" -cp %CLASSPATH% -Xms48m -Xmx2g com.interactive.transposer.CommandLineTransposer ^
"C:\data\Segy\attributes\cdp_stack.xgy" ^
-fullbuffersize=700000000 ^
-index="C:\data\Segy\attributes\cdp_stack_tr"-outputfilepath="C:\data\Segy\attributes\cdp_stack_transposed.xts"
```

Copy to Clipboard Save to File ...

Close Start Over Help

Figure 8: Command Line

To launch the transposition in batch mode, save this command line as a file.

- On Windows, create a .bat file.
- On Linux/Unix/MacOS, create a .sh file and change the permissions to execute that file

Then, execute that script file from the command line of the operating system.

You can monitor the progress of the transposing from the standard output, as shown in Figure 7.

The first command line parameter is the absolute path of the file to transpose. Example:
"F:\Data\Segy\attributes\cdp_stack.xgy"

A mandatory parameter is **-outputfilepath**, representing the full path of the output file.
Example: F:\Data\Segy\attributes\cdp_stack_transposed.xts.

When the *fast* keyword is specified, the transposing will be faster but time access will be slower.

An optional parameter is **-index**, representing the full path of the binary index that will be created. By convention, this file should have the *_tr* suffix. The *_tr* file is a large file and is often stored in the same directory as the *.xts* file, but this is not required. If this parameter is not specified, a *_tr* file will be created in the same directory as the *.xts* file.

The **-fastbuffersize** and **-fullbuffersize** optional parameters represent the number of bytes read from original seismic dataset before they are reported to the transposed file. Use a large buffer size when the directory where the transposed file resides has high latency, for example when this is remote directory in the network. **-fastbuffersize** should be used with the *fast* option. **-fullbuffersize** should be used with the default option.