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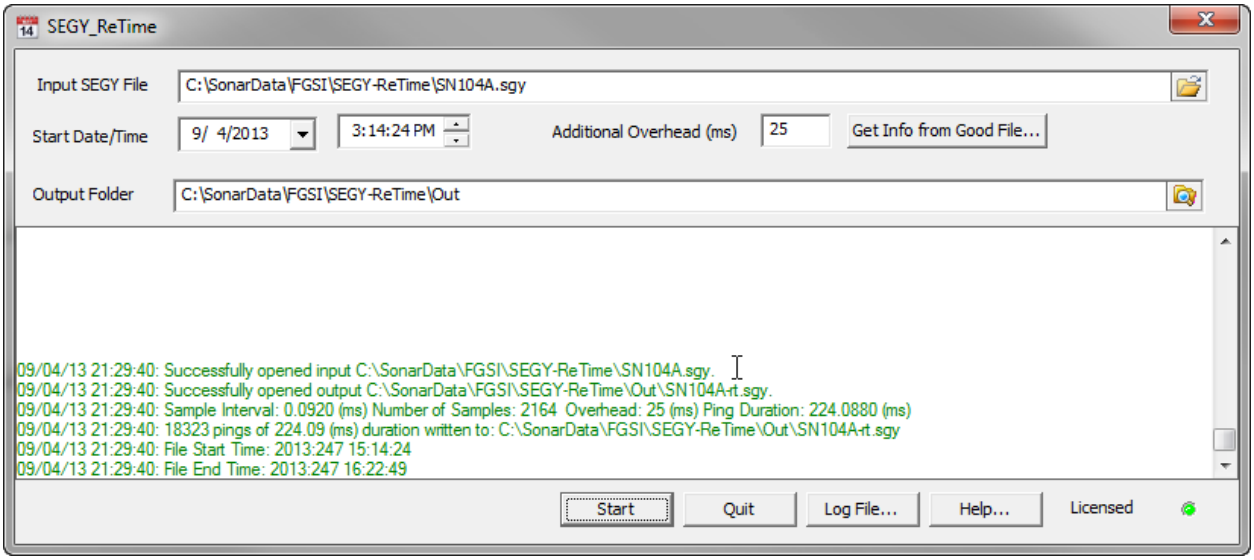
1 SEGY Re-Time Utility – SEGY_ReTime.exe

1.1 User Interface Description



The Chesapeake Technology Re-Time utility is a tool that can be used to assign a complete date and time stamp to each SEG-Y trace in a conforming SEG-Y file. The interval between pings will be estimated, based upon the sample duration. The sample duration will be computed as trace header bytes 117-118 (SAMPLE INTERVAL in microseconds) x trace header bytes. E.g. 100 usecs x 2500 samples = 250 msecs, or a 4 hz ping rate. To slow down the ping rate, add “Additional Overhead” in msecs.

1.2 User Input Fields

Input SEGY File – Browse for and select a single file to use as the input file. This file will not be changed, but a second output file will be created, if the SEGY_ReTime.exe run is successful. The utility looks for a SEGY file with the SGY extension in file-name format *.SGY.

Start Date/Time-The user must enter the start date and time for the first trace of the file. The utility then will increment each trace by the two way acoustic travel time detected by multiplying the number of samples in the trace by the time interval between each sample.

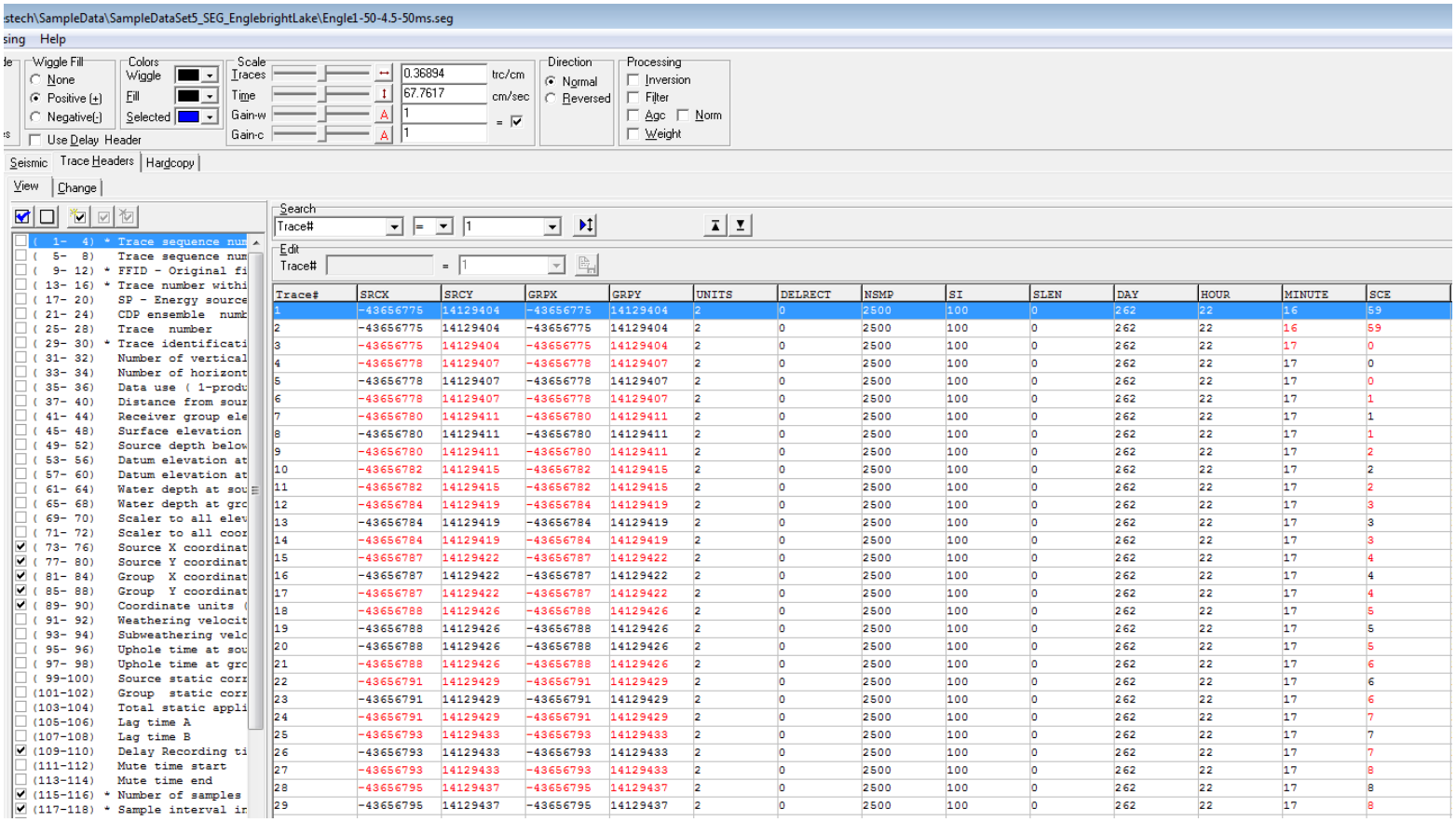
Additional Overhead (ms)-Some digital systems do not actually ping at the two way travel time defined by the sample count and sample interval. The Edgetech Chirp profiler for example will always add additional time between transmit pulses. The amount of overhead is determined by the selected pulse in the chirp system but is constant for a given selected pulse. Use this parameter to add overhead time to each ping to match the recorded ping rate.

Get Info from Good File-This button allows users to read a 'good' segy file with valid time stamps and a similar record length as the problem file for the purposes of working out what the Additional Overhead in seconds should be. The Additional Overhead is computed by reading a few hundred pings and observing what the actual ping interval is and then subtracting out the two way travel time. This function then updates the Addition Overhead field automatically.

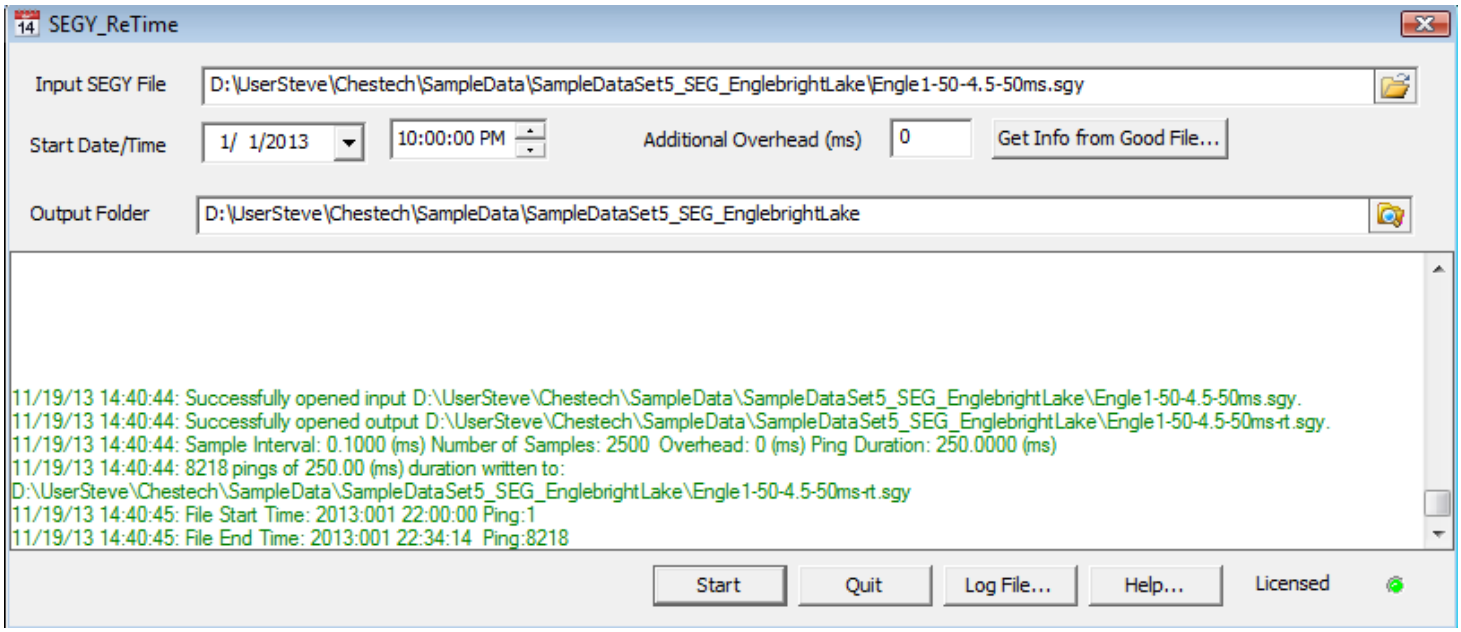
Output Folder-Specify an output folder where (new) SEG-Y files will be written. The re-timed SEGY files will always be named the same as the original file but with the "-rt" for re-timed suffix appended to the file name.

1.3 Example 1 – Sample Data Set 5 – Englebright Lake SEG file

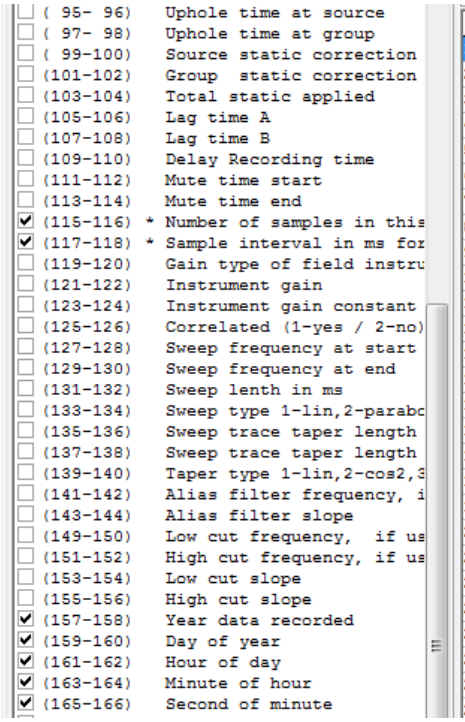
This example SEG file comes from the www.chestech-support.com Sample Data area, and you can experiment with it yourself. Using the free utility SEISEE, you can see that the initial file contents show a 3-hz ping rate, sample interval (SI column) of 100 usec, and 2500 (NSMP column) samples per trace (works out to 250 msec per trace). A ping rate of 333 msec inter-ping-interval was what was actually used in the recording, and you can see the SCE column showing 3 secs in a row with the same value.



Here's an example **SEGY_ReTime** run on this file, using these settings. We'll set the start date to 1/1/2013, 10pm.



The results, and we will just show the date/time columns, are like this, when viewed in SEISEE. The file Engle1-50-4.5-50ms-rt.SGY has been written:



Trace#	NSMP	SI	YEAR	DAY	HOUR	MINUTE	SCE
1	2500	100	2013	1	22	0	0
2	2500	100	2013	1	22	0	0
3	2500	100	2013	1	22	0	0
4	2500	100	2013	1	22	0	0
5	2500	100	2013	1	22	0	1
6	2500	100	2013	1	22	0	1
7	2500	100	2013	1	22	0	1
8	2500	100	2013	1	22	0	1
9	2500	100	2013	1	22	0	2
10	2500	100	2013	1	22	0	2
11	2500	100	2013	1	22	0	2
12	2500	100	2013	1	22	0	2
13	2500	100	2013	1	22	0	3
14	2500	100	2013	1	22	0	3
15	2500	100	2013	1	22	0	3
16	2500	100	2013	1	22	0	3
17	2500	100	2013	1	22	0	4
18	2500	100	2013	1	22	0	4
19	2500	100	2013	1	22	0	4
20	2500	100	2013	1	22	0	4
21	2500	100	2013	1	22	0	5
22	2500	100	2013	1	22	0	5
23	2500	100	2013	1	22	0	5
24	2500	100	2013	1	22	0	5
25	2500	100	2013	1	22	0	6
26	2500	100	2013	1	22	0	6
27	2500	100	2013	1	22	0	6

Note that because we did not ass any “additional overhead”, the 250 msecs/ping translated into an output ping rate of 4 hz. If we wanted to reduce this to 3 hz again, we could add 80 msec or so to the transform and do it again. Note that DAY=1 now, HOUR = 22 (10pm), and all the year, day, time etc fields have been re-written.