ParkSEIS HMA Quick Guide

The ParkSEIS HMA is the software package under development for the project we are currently executing. It is now ready for the 1D survey and subsequent pseudo-real-time analysis that will provide the shear-velocity (Vs) and thickness (H) information on a chart. Currently, no GPS coordination is used for the location information. Instead, a record number is used for the surface coordination that is assigned by the program in the order of recording (e.g., 1, 2, 3, etc.).

The software is protected by the USB dongle (a regular USB drive) inserted in the right-side USB port of this computer. This USB dongle must remain plugged when the software is running. The files on the USB should not be deleted or altered, otherwise the program will stop running.

The general procedure is briefly explained below.

On PXI computer:

1. Map 'C' drive of PXI computer as a "network drive" so that it is accessible from this computer as a different drive (e.g., 'Z' drive).

2. Make the PXI system ready for collecting data.

On this computer:

1. Run ParkSEIS HMA on desktop. Click "IN FIELD" button and then "New Survey" button.

2. Click "Set raw data (*.tdms) folder" button on the left side of "File Folders" tab.

   This is the folder in PXI computer where recorded raw data (*.tdms) files are saved. For example, it can be "C:\TDMS" in PXI computer, which is seen as "Z:\TDMS" on this computer.

3. Click "Set processed data (*.dat) folder" button on the right-side of the tab.

   This is a new directory to be created for each new survey in the designated folder in this computer (i.e., "C:\Seismic Data") where all types of ParkSEIS data will be saved. A dated folder name will be suggested in the dialog edit box (e.g., "...\Data2020_11_15"). If the new folder is created multiple times on the same day, it will have a hyphenated name (e.g., "...\Data2020_11_15-1").

4. Click "Back" button (an arrow button on the upper-left corner).

5. Click "ARM" button.

This will set the program on "detection-and-process" mode. Its internal timer will check the "raw data (*.tdms)" folder every 1 second for new files, which will be converted one by one, saved on the "processed data (*.dat)" folder, and then processed to display the results on the chart. It is recommended to "DISARM" this button when the survey is finished or paused for a prolonged time, especially when some testing files are collected at any stage of the survey.

Testing of Communication ("Intermediate Joint Field Testing")

The main purpose of this testing is to ensure the seamless communication between the two computers (i.e., "PXI computer" and "This computer") by running the file detection and conversion from "*.tdms" to "*.dat" without any further process applied. So, this must be done in the office before being headed for actual field production survey for the Joint Field Test (JFT). For this testing, follow the procedure outlined below:

(a) After the step 3 in "On this computer", select the "Data & Recording" tab on the left side.
(b) Make sure the "Data" tab is selected.
(c) Check "TDMS detection and conversion only" check box at the bottom. This will only allow the communication and conversion between the two computers without any further process.
(d) Continue from step 4 in "On this computer."

Data recording can be accomplished by snapping fingers. To confirm the result from the testing, go to "C:\Seismic Data" folder and select the directory used for this testing (e.g., "...\Data2020_11_15-1"). Locate "History.txt" file and data files (*.dat) in a sub folder ("...\Data2020_11_15-1\PS"). Please send them to me.

Joint Field Testing

Once above "Testing of Communication" is successfully accomplished, we can set up an actual production survey.