**Basic Instructions for Data Collection with polarisCollectGUI.m**Compiled by Mike Kokko  
Updated 11-May-2021

**Tool Tip Identification**

1. Click “Select Tool Def. File” and navigate to the ROM file for the markers on the tool you want to calibrate. Only one ROM file may be loaded for this procedure.
2. Check output file name, adjust as necessary. Your eventual tip file will have the same name, but with .tip extension instead of .csv.
3. Select COM port
4. Click “Connect”
5. Have someone hold tool with tip touching an immobile, rough surface. When ready to calibrate hit “Continuous”
6. Have the other person rotate the tool about the tip – WITHOUT SLIDING THE TIP – to present many different views of marker array to tracker.
7. Hit “Stop”
8. Hit “Disconnect”
9. Hit “Generate Tip File”
10. Examine results of calibration. Repeat process as necessary.

**Basic Tracking**

1. Add tool definition files, and tip files if you are using them, for up to 9 tools. Tools are selected from the drop down with letters.
2. Set the name of the output file. This should have a .csv extension. If the file ends in a number (e.g. trial001.csv), it will be incremented automatically each time you connect to the tracker. If the file already exists, the number will be incremented to the next available number.
3. Select COM port
4. Click “Connect”
5. Hit “Preview” to show tracker data on screen but not save to file, then “Stop” to end preview mode.
6. Enter a capture comment if desired (i.e. what do you want to call the point(s) that you are capturing now? These will show up as the last field in the CSV file)
7. Hit “Single” to make one capture (i.e. a single point). You will get a pop-up error if no tools were identified in the capture.
8. Hit “Continuous” to capture a continuous stream of data (nominally at 20Hz), and “Stop” to end recording.
9. “Cont. + Sync.” enters continuous mode as above, but also sends a TCP “record” command to two Blackmagic HyperDeck SSD recorders on 192.168.10.50 and 192.168.10.60. The PC should be set to a static IP of 192.168.10.10 or something similar on the same subnet.
10. Hit “Disconnect” to end capture and close the output file. You can now add/remove tool definition files. If you choose to reconnect the program will start a different output file.

**ROM File Generation**

* Not documented yet, see Mike for assistance. The “Generate ROM” button is configured specifically for Mike’s da Vinci Xi scope tracker at the moment.