

Instructions for Collecting (T)CRDC Pedestal Data

N.T. Islam, J. McGugan, R. Kaye

1. Using the Sweeper Trigger GUI (Mac computer in Data-U5), select the "Sweeper" option in the "Trigger Box" list, found on the "Trigger" menu tab, and de-select the "Ext2" check box. Then press the "Save to File" button in the Sweeper Trigger window.
2. Open a terminal window on the computer adjacent to the Mac ("u5pc4"), then type "godaq" at the command prompt. (The keystroke shortcut for opening a terminal window is Control-Alt-t.) This starts the Sweeper Readout data acquisition, indicated by a window labeled "Run Control".
3. Select the "XLMs" tab in the Sweeper Trigger GUI window. Then set the thresholds to zero for the *pair* of detectors (typically CRDC1 and 2 or TCRDC1 and 2) for which you wish to measure the pedestals. Click on the "Write" button in the "Configuration File:" box to save the changes to the thresholds.
4. Turn on the Time Calibrator (TC) NIM module in the Data U and unplug the Stop signal cable so as not to disrupt other concurrent calibrations that may also be running. Typical TC settings are: Period = 0.04 μ s, Range = 0.32 μ s, Max. dispersion.
5. Start a new Pedestal Run using the Run Control window on the u5pc4 computer.
 - a. Type a descriptive title in the "Title" field.
 - b. Check that the desired run number appears in the "Run Number" field. Change the number as needed.
 - c. Ensure that the "Record" box is checked if you wish to save the run to disk. Uncheck this box if you simply wish to perform a test run without saving to disk.
 - d. Press the "Begin" button within the "Run Controls" box.
6. The incoming data can be examined real-time in the SpecTk window of the SweeperSpecTcl program on the Mac. The spectra are updated by pressing the "Update Page" button near the bottom of the window.
7. Collect data for about 5 minutes.
8. Stop the run by clicking on the "End" button within the "Run Controls" box in the Run Control window. (The "Begin" button becomes the "End" button once a run begins.)
9. Inspect the summary spectra in the SpecTk window to determine an approximate average pedestal value for each detector. Then raise the thresholds for these two detectors so that they are above this value in the "XLMs" tab of the Sweeper Trigger GUI window. Click on the "Write" button in the "Configuration File:" box to save the changes to the thresholds.
10. Clear the spectra in the SpecTk window by clicking on the "Clear Spectra" button in the SweeperSpecTcl window.
11. Repeat step 3, then steps 5-9 for the other pair of detectors.
12. Using the Sweeper Trigger GUI, select the "Ext2" option in the "Trigger Box" list, and de-select the "Sweeper" check box. Then press the "Save to File" button in the Sweeper Trigger window.
13. Plug the Stop signal cable back in to the TC and turn it off if it is no longer being used.