

Tracker Run Sheet

Before data taking with the tracker ensure that it is in a healthy state with a calibration. The first three sections of this document describe how to achieve this. The final section gives some hints to debugging. If in doubt call an expert.

Verify that all boards are powered on and configured

- 1) On the Controls Menu / Tiered Application Launcher follow: Spectrometer Tracking → Trackers → Tracker Control and launch the program.
- 2) **Check** the lights by the cassettes and AFEIIt section are green, as displayed in Figure 1. If not refer to the “debugging hints section A” below.

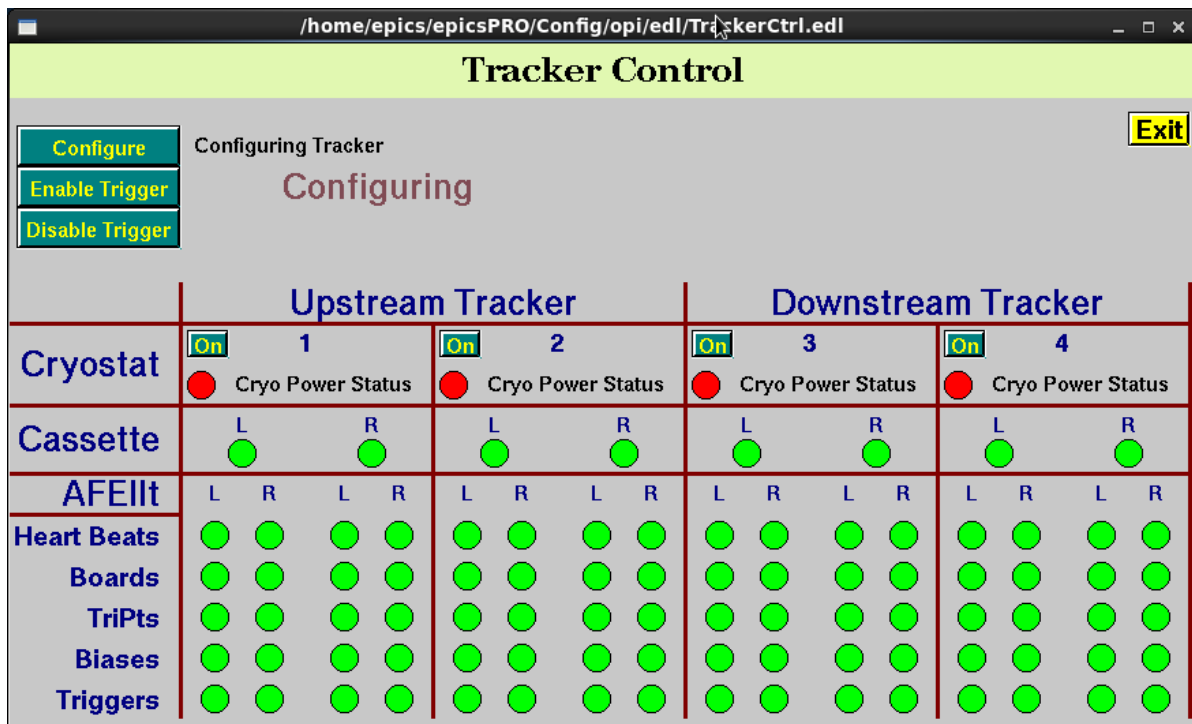


Figure 1: Normal Display for the Controls GUI.

Verify all Photon Counter temperatures are OK.

- 1) From the controls menu, load the temperature displays follow: Spectrometer Tracking → Trackers → Tracker Monitoring
- 2) The temperatures of the VLPC's should be 9.00 +/- 0.05 K, so check:
 - The temperatures in the rows next to the AFE Temps look OK.
 - The display is live and updating every 10 seconds or so. If the display is not live, it is possible the entire control system is not updating.

An example of a normal configuration is shown in Figure 4. If the display does not look like this please see debugging hints, section B.

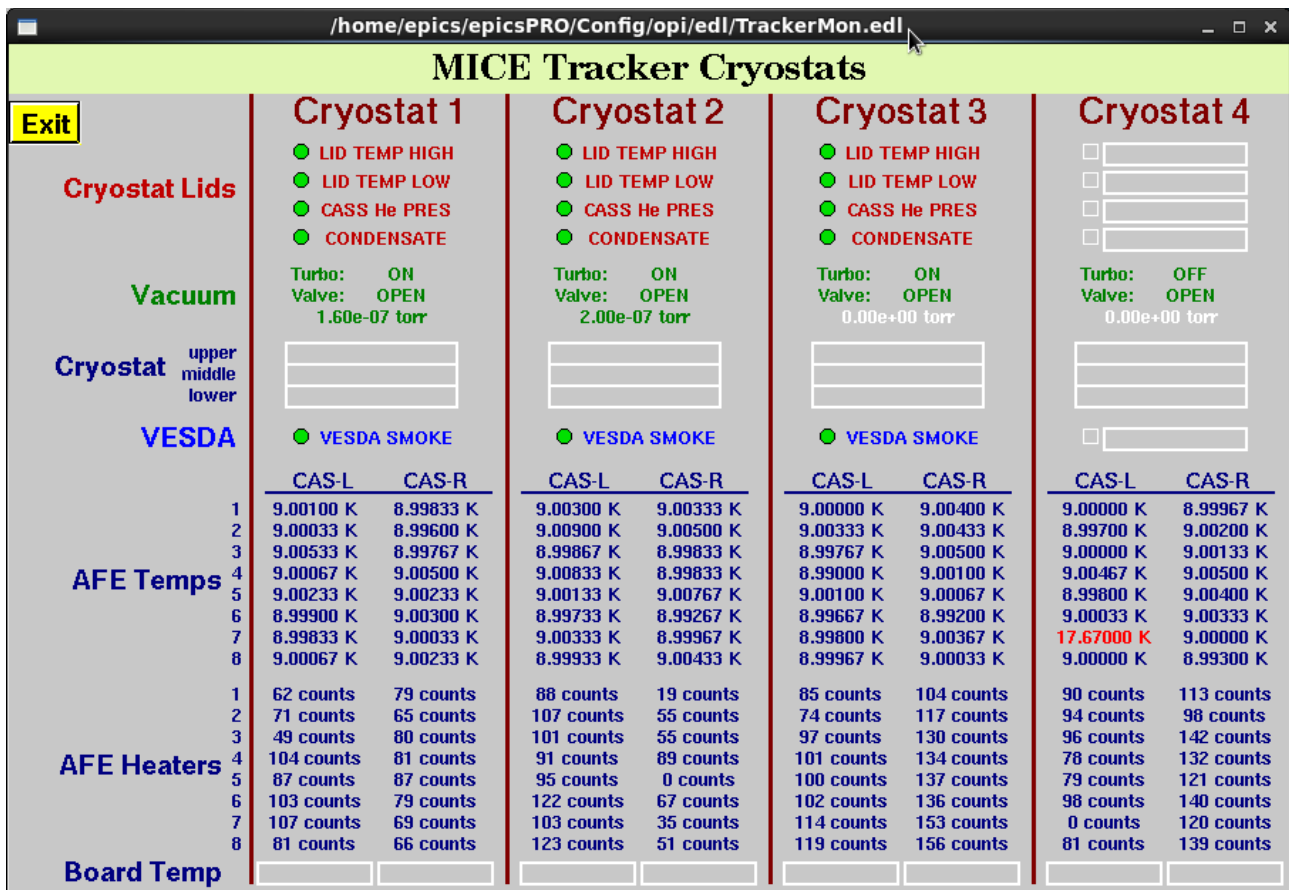


Figure 4: Normal monitoring of tracker cryostats. Note that a single VLPC module is over temperature in cryostat 4. This is a known problem, probably a broken contact.

Record Calibration Data

It is recommended at the start of every shift to record calibration data. Note that at present this is a standalone application which is run without DATE or RunControl. While this process is running the main DAQ should not be started. Ensure that no data taking is happening before running this application.

The process for this is simple:

1. SSH into one of the MICE DAQ machines (password-less)
ssh miceacq16
2. Launch the calibration process:
~/tracker/scripts/RunPedCalib.py
3. Wait for script to complete (~20 mins). If the script indicates that errors were reported contact an expert, since the timing for beam could have been corrupted.

Debugging Hints...

These are hints and guides for solving problems. If these do not help, call an expert.

A) Debugging bad configuration issues

1) Check that all the Heart Beat row is green. This indicates that the front end boards are alive and communicating. If an entire section of lights are red, then it is likely that a power supply is turned off in the hall. These are located beneath the cryostat, and can be powered on by lifting the red switch upwards. An example of a powered off cryostat is shown in Figure 2. It will not be possible to configure the boards until they are communicating, so consult an expert as necessary.

2) If the rows containing Boards/Biases/TriPts/Triggers are Yellow, then these parts of the boards need configuring. Click the configure button to start the configure process. A green configured light should begin on Boards for the left side of each cryostat and move downwards. Once the whole column is configured, the software will proceed on the next board to the right. See Figure 3 for an example of the first boards completing configuration. The process should take ~ 10 minutes.

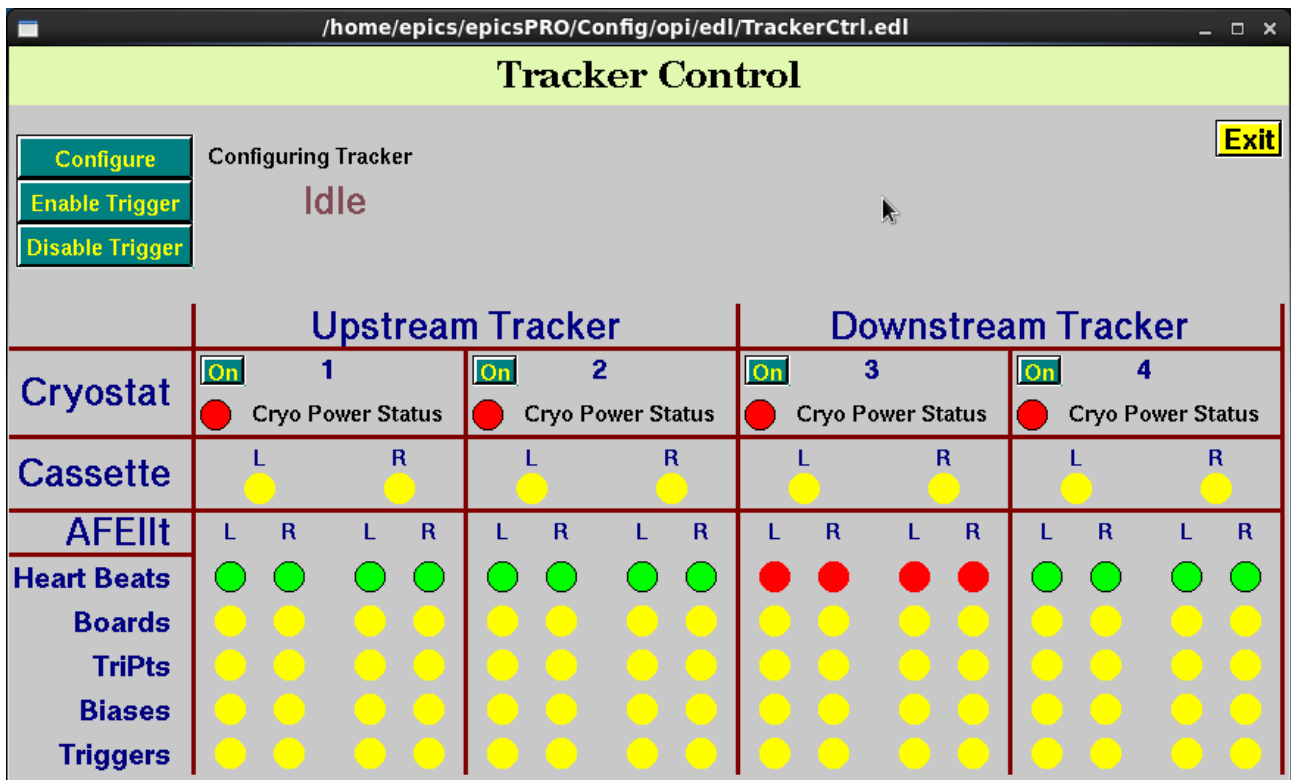


Figure 2: No heartbeats delivered from cryostat 3, and with no boards configured.

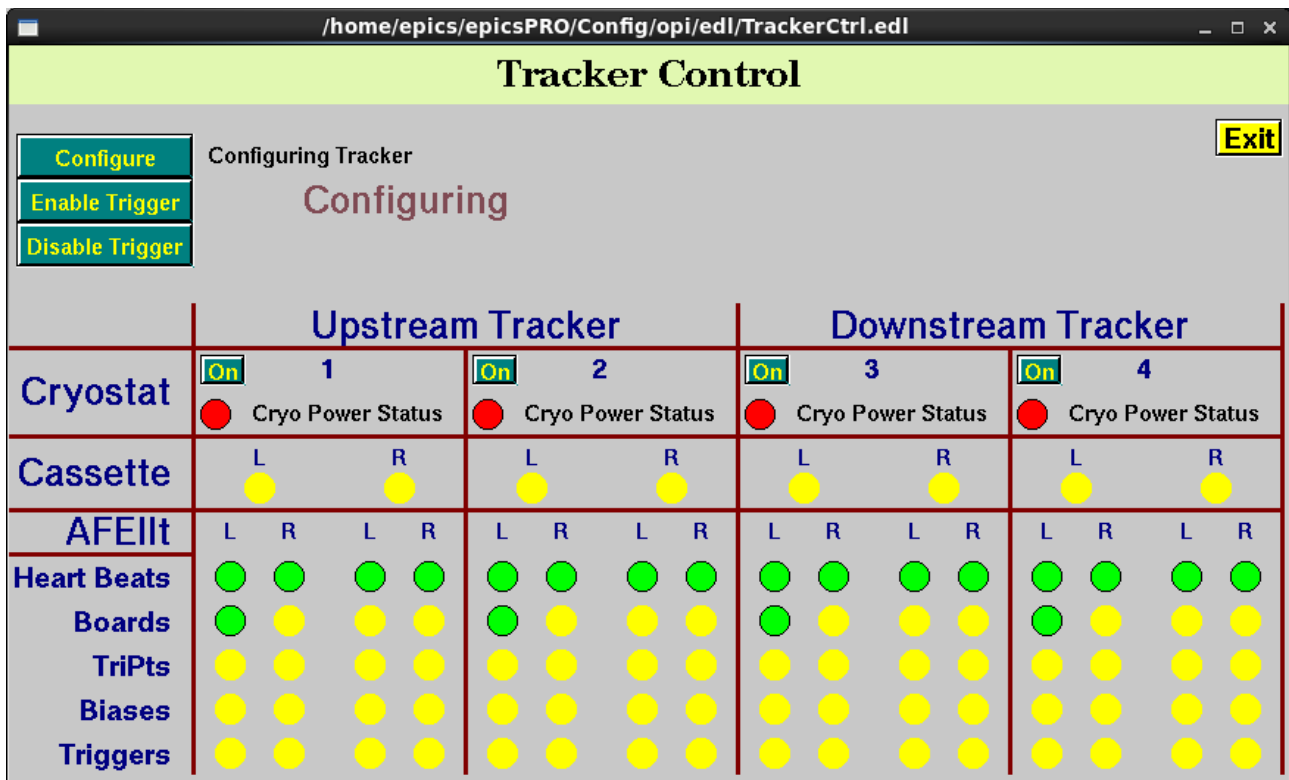


Figure 3: All boards alive and beginning configuration the left hand boards of the left hand cassette.

B) Debugging Temperatures

If the cryostats are reading just above 9K, then it is likely the cryostats are running a little warm. Contact an expert. If the numbers are around 17K then the temperature monitors are not configured, so see the previous section. Try pressing the configure button on the control GUI and waiting ~ 10 minutes for the configuration process to complete.

C) Re-Download Timing information:

This is to ensure that the beam timing is optimal (for TOF1 triggers only).

1. SSH into one of the MICE DAQ machines (password-less)
ssh miceacq16
2. Move to the correct directory:
cd ~/tracker/gate_generator_config/
3. Launch the gate generator configuration:
python ConfigDownloadT560.py