



## Detector Support Group

### Weekly Report – September 23, 2015

#### Antonioli, Mary Ann

##### Hall B

###### DC

- Reviewing 2004 LabVIEW code to test CAEN HV cards.
  - ★ Located box and cable needed for test stand.
- Documented test data and new names of signal cables.
- R1 signal cable labeling completed

###### HDICE

- Edited flowchart of LabVIEW target polarization rotation program.

#### Arslan, Sahin

##### Hall B

###### DC

- Moving, labeling, and testing signal cables
  - ★ Labelled 26 bundles of signal cables

#### Bonneau, Peter

##### Hall B

###### HDICE

- Installed new version of the CAENels Current Transducer Shunt (CCTS) firmware sent by CAENels.
- Tested device driver file with new firmware to confirm proper operation of commands already developed.
  - ★ New firmware supports CCTS "Oscilloscope" mode – needed for HDice.
- Developed rudimentary Oscilloscope mode data acquisition program.
  - ★ Program able to acquire binary data at the maximum CCTS rate of 100 [kHz].
    - CCTS does not have internal buffering commands for the "Oscilloscope" mode. Supporting DAq program must be able to accept data stream at rate determined by acquisition sample rate.

###### Outstanding issues

- ★ OFFSET: ZERO command freezes the DAq.
- ★ Error "CT-box Not Ready" is always on. "Reset" has no effect on the error.
- Testing support VI's for Target Polarization Rotation program.
  - ★ Revisions to support sweep hold function will be needed for the 120-10 Oxford Power Supply device drivers.

##### Hall D

- Reviewed steps to aid warm-up of solenoid in preparation for chimney modifications.
  - ★ Steps include heated nitrogen purge and adding an additional power supply to increase the ohmic heating process.

#### Butler, Dave

##### Hall B

- Added MKS 226 pressure transducer to LabVIEW code for PID test.
- Configuring MKS flow controllers via built in web server.



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- \* Configuration includes setting controller to MODBUS control mode, running internal diagnostic tests (raw flow and temperature) and verifying serial number.
- \* Controller then tested with the LabVIEW driver to verify proper communication and control.
- \* Updating Gas System Hardware spreadsheet with MAC addresses of flow controllers in progress.

#### Hall D

- Attended FDC/CDC meeting.
  - \* Discussion on CDC straw sagging issue.
- Attended controls meeting. Topic discussed:
  - \* Solenoid PXI upgrade (Beni, Dave)
    - [Accelerometers with cheap Knocking sensor](#)(Beni)
    - Bandwidth test for PXI ROOT file.
  - \* FDC gas system problems (Dave)
  - \* FCAL and PS LED pulsers (Hovanes)
  - \* Status of FCAL HV voltage controls (Hovanes)
  - \* Alarms for FDC/CDC voltages (Nerses)
  - \* Other business
    - Mechanical on-call text/pager issues

#### Eng. Brian

##### Hall B

###### SVT

- Meeting to go over software progress.
- Micromegas (B6 [outer layer]) scheduled to be at JLAB ~Thanksgiving.
- GUI programmed in EDM crashed again.
  - \* Sent email to ACC, as one couldn't reboot IOCs via GUI. Problem fixed by Sue.

###### HDICE

- Teleconference with Craig, says he sent some more files via email. Hopefully, now have all files for the Inductance Target Reference notebooks (two of them).
- Took apart Molex air-dielectric flexible cable for feasibility of fabricating in-house.
  - \* So far looks promising: [https://userweb.jlab.org/~beng/HDIce/Molex\\_141-1701/](https://userweb.jlab.org/~beng/HDIce/Molex_141-1701/)

#### Hall D

##### Solenoid PXI System

- Testing evaluation board for an IC accelerometer (ADXL001-70).
  - \* When connected to an oscilloscope it has several noise peaks at internal clock frequencies, need to see if one can filter them out or if PXI will even detect them.

#### Jacobs, George

##### Hall B

###### Gas System

- Re-organized control cables that run from the 96B gas shed to Hall B.
- Determined critical path steps for relocating the DCGAS components in Hall B.
- Pre-job planning for re-routing DCGAS lines to new location.



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- Disconnected and removed the five one-inch nylon lines to the DCGAS solenoid valve panel.
- Removed all lines and components from the 55 [gal] pressure control tanks.

#### Meetings

- Discussions with Mac about DC testing, monitor plots, HV current draws, HV connections, signal cable connections, gas purging, commissioning, and DCRB.
- Provided guidance to Nick Markov in troubleshooting the Panametrics series 3 moisture monitor.

#### Leffel, Mindy

##### Hall B

###### DC

- Signal cable repairs
  - ★ On each one of eight cables, replaced one damaged connector
  - ★ On each one of two cables, replaced one connector because wires were transposed
  - ★ Attempted to repair one cable with a short, replaced both connectors; it didn't fix the problem
- Labeled 31 bundles of signal cables.

#### Mann, Tina

##### Hall D

- Worked on solenoid.

#### McMullen, Marc

##### Hall B

###### Gas System

- Completed assembly and wiring of the LTCC/RICH gas controls chassis.
- Assembled and configured touchscreen monitor.
- Evaluated SFL2\_south location for cable run and installation of the DC mix tanks in preparation for the next PID loop test of the DC gas system.

##### Hall D

- Went over FDC gas flow meter display with Dave and Brian.
- Verified display concurred with display value on the Brooks controller in hall.
- Went over LV distribution for FDC and CDC.
- Discussed safety control air flow meter for forced air blower on upstream side of CDC.
  - ★ Flow meter will send shutdown signal to PLC governing the system's power supplies.

#### Sitnikov, Anatoly

##### Hall B

###### DC

- Tested 27 cable bundles.
- Cleaned 72 cables and 72 connectors