



Detector Support Group

Weekly Report, 2016-09-07

Ongoing Projects

Hall B

Solenoid instrumentation and PLC programming

- Heaters' signals added to PLC signal lists.
- Module and channel assignment conflicts resolved.
- *No decision made on PLC- Point I/O.*
- *Vacuum signals for the PLC system not defined.*

Gas System

MVT

- Isolation valves added for gas lines in EEL.

DC Test Station

- New OSP being written by Mac Mestayer.

SVT

- Detector and electronics re-installed in EEL 124 (clean room).
- Eight-module test stand set up.
- Calibration performed on eight modules that were previously tested.
 - ★ These modules are candidates for R4 replacement.
- VXS/VSCM crate map updated.
- Five modules removed from R4 for debugging.

RICH

- CMM measurements completed for mirrors 1, 2, 5, and 6.
- Visual inspection of mirrors 5 and 6 completed.
- Fabrication of National Instruments cRIO interlock chassis completed.
- LabVIEW 2016 downloaded on interlock system development computer and cRIO controller chassis; and tested.

FT

- MKS 647 gas controller reconnected.

HDIce

- LabVIEW code being developed for testing of RF Attenuation/Switching Unit.
- *Waiting on OSP to work in lab.*

Hall D

- PXI spares list generated.
- PXI chassis ordered.
- Increased solenoid software current limit to 1360 A.
<https://logbooks.jlab.org/comment/8505#comment-8505>

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Antonioli, Mary Ann

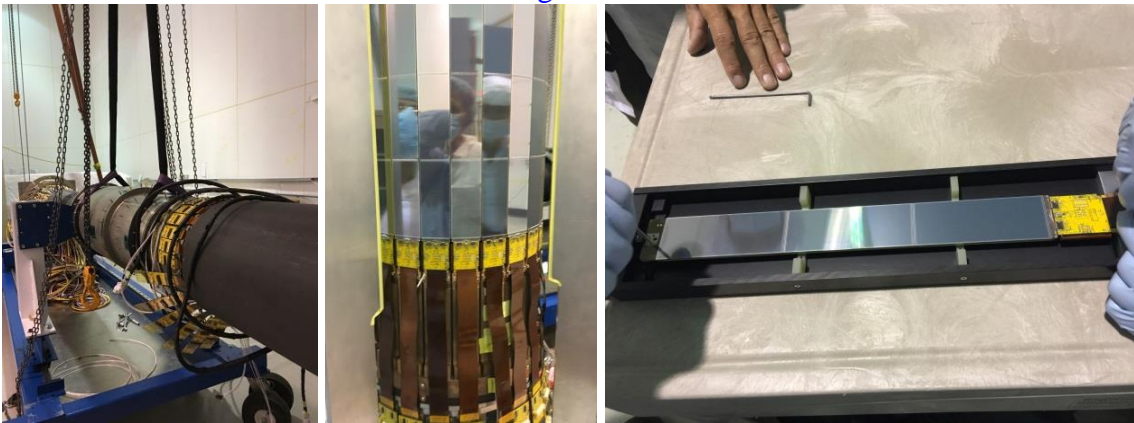
- Continued work on LabVIEW code for testing of **HDice** RF Attenuation/Switching Unit.
 - * Adding capability to stop full test after each individual test.
 - * Began code to add LCD screen readback.
- Edited 'Review of Gas System Hardware' for posting on DSG website.

Arslan, Sahin

- Staged **DC** test chamber in clean room.

SVT

- Reinstalled detector and associated equipment in EEL 124 cleanroom.
 - * Organized clean room.
 - * Took out R4 and placed on optical table.
 - * Removed five modules to debug.



Bonneau, Peter

- Researching instrumentation required for monitoring **FT** Calorimeter gas flow.
- Investigating, with regards to triggering, analog voltage output from **HDice** CT-BOX as a possible alternative to CT-BOX firmware modification.

Magnet Systems

- Solenoid instrumentation and PLC programming.
 - * Heaters signals added to the PLC signal lists.
 - * Module and channel assignment issues regarding SV8622.
 - * No decision has been made on PLC- Point I/O for the solenoid.
 - * Vacuum signals for the PLC system have not been defined.
- Monitored Torus cool-down status.
 - * Cool-down halted as investigation continues into unexpected force readings.

RICH

- Downloaded and installed LabVIEW 2016 on to interlock system development computer.
- Installed and tested base LabVIEW 2016 software on cRIO controller chassis.
- Set up and participated in video inspection conference with Marco Mirazita for RICH mirrors 5 and 6.
- Completed National Instruments cRIO interlock chassis.



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Campero, Pablo

Magnet

- Worked on communication configuration for PLC solenoid.
 - * Discussed implementation of POINT I/O system to control solenoid's vacuum system.
 - *POINT I/O system has not been defined.*
 - * Researched functionality and communication protocols for CryCon-Monitor-Temperatures devices.
 - * Began generating new spreadsheet with networking data for all the controls systems (Solenoid, Torus and D.Box) of the magnets.
- Set up PLC and cRIO communications in Solenoid control systems.
 - * Generated new file project for PLC program for testing.
 - * Only FastDAQ processing program was included.
- Began modifying PID_Controls program and routines to set up control over cryo valves (EV and PV) and heaters in Solenoid PLC code.
- Analyzed spreadsheets and drawings of Solenoid control system.
 - * Solved mismatch in drawing 0638.
 - Signal SV8622_Open was deleted from this drawing it corresponds only to drawing 0641 in slot 2 remote chassis PLC.
- Added
 - * Four readback signals for heaters 8620 and 8672 in local PLC solenoid.
 - Spreadsheet and drawing modified.
 - * Current Source Polarity signal in drawing 0639 and slot 1 remote PLC spreadsheet.
- Monitored EPICs screen for Cryo Distribution Systems (LN2 and LHE) on a daily basis.
 - * Cool-down stopped due to large force readings.

RICH

- Participated to set up video conference with Marco Mirazita and make visual inspection of mirrors 5 and 6 in small clean room.

Eng. Brian

SVT

- Completed detector move, and equipment and rack setup in EEL/124.
- Finished setting up eight-module test stand.
 - * Ran calibration on eight previous modules that were tested (candidates for R4 replacement).
- Updated VXS/VSCM crate map.

Hall D

- Generated PXI spares list; ordered PXI chassis per Eugene's request (only item with 0 spares).
- Increased solenoid software current limit to 1360 A.
 - * Done via PLC tags since that's all I have access to remotely.
<https://logbooks.jlab.org/comment/8505#comment-8505>



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Hoebel, Amanda

- Installed 15 preamp boards in **ET** hodoscope mezzanine crate and connected read-out cables.

RICH

- Inspected mirrors 5 and 6.
 - ★ Due to holes in shipping bags, both mirrors appeared to have scratches.
- Provided webcam assistance and attended mirror-inspection meeting with collaborators.
- Unpacked and repacked mirrors for CMM measurements.

Jacobs, George

- Explained procedure to remove broken wires from R2 **DC** to Mac Mestayer and Morgan Cooke.
- Added isolation valves for **MVT** gas lines in EEL.
- **RICH** air cooling and N₂ purge valve panel assembly in progress.
- Completed SAF111, Hall B Safety Awareness.

Leffel, Mindy

RICH

- Completed National Instruments cRIO interlock chassis.
 - ★ Fabricated, labeled, and tested breakout cable.

Lemon, Tyler

RICH

- Coordinated CMM measurements for mirrors 1, 2, 5, and 6.
- Set up PC with webcam in small clean room for video call with INFN collaborators.
- Visually inspected mirrors 5 and 6.
 - ★ Both mirror's outer shipping bag ripped during shipment.
 - ★ Showed mirrors to INFN collaborators via webcam.

McMullen, Marc

- Installed power supplies to the **RICH** chassis base and populated rear panel.
- Reconnected **ET** MKS 647 gas controller.
 - ★ Ensured settings were ready to flow gas.

SVT

- Worked on reinstalling equipment in EEL 124 clean room.
 - ★ Conducted safety walk down of job to ensure additional measures would not be required beyond Task Hazard Analysis used to install equipment on insertion cart.
- Completed 'Review of Hall B Gas System Software' presentation.