

HDice Controls Meeting Minutes

09/22/2015

Present: Amrit Yegneswaran, Peter Bonneau, Brian Eng, Mary Ann Antonioli, and Sahin Arslan.

⤴ Hardware Status

⤴ Test station hardware

- ⤴ Completed installing software to support the test station on the 1st replacement computer.
- ⤴ Installed GPIB board in test computer. Also Installed and tested GPIB device drivers.
- ⤴ Delivery on 2nd replacement computer is overdue. Revised delivery date is 9/29/15.

⤴ RF Cable

- ⤴ The test cable has been disassembled to examine the cable construction.
- ⤴ The outer braid shield is soldered to the connector and is the only thing holding the cable in.
- ⤴ The cable assembly has a plastic spacer around the center conductor.
- ⤴ Better tooling or process of cutting the cable will be required instead of wire cutters.
- ⤴ Next, we'll try to fabricate a few cables with type N connectors for the cables that go between instruments in the rack.

⤴ Software Status

⤴ NMR Program - CAENels CT-Box System

- ⤴ Completed development of 46 LabVIEW device driver VI's to support all currently working CT-Box commands.
- ⤴ The commands for setup of the communication ports, readback of the system status, calibration of the head, and the SD memory card options have been tested.
- ⤴ The device driver files will be used to build the application for the NMR program.
- ⤴ Tested newly develop device driver files on the prototype CT-Box.
- ⤴ Installed new revision of the CT-Box CAENels firmware.

▪ Resolved Issues

- ⤴ New firmware supports CT-Box "Oscilloscope" mode which is needed for HDice.
- ⤴ Developed rudimentary Oscilloscope mode Data acquisition program. Program is now able to acquire binary data at the maximum CT-box rate of 100 kHz.
- ⤴ The CT-box does not have internal buffering commands for the "Oscilloscope" mode. The supporting Daq program must be able to accept the data stream at the rate determined by the acquisition sample rate.

▪ Next Steps

- ⤴ Development of data processing sub-VI's for the binary CT-Box data.
- ⤴ Add file storage capabilities to the Daq Program.

⤴ Rotation of Target Polarization Program

- ⤴ Reprogrammed and tested the firmware controlled upper limits on the Oxford power supply to support testing of the Rotation of Target Polarization program.
- ⤴ Completed revision of Rotation of Target Polarization Program to support testing with a single supply.
- ⤴ Testing has started on the support VI's for the Program. Revisions to support the sweep hold function will be needed on the 120-10 Oxford Power Supply device drivers.

⤴ Mathematica analysis code

- ⤴ Brian received addition files from Craig last week. Brian has files to work on two of the seven notebooks.

- Next meeting: Tuesday, October 6th at 11:00 AM in DSG Control Room (EEL R121C).