DSG-Hall A ECAL Weekly Meeting

Date: January 11, 2024
Time: 09:30 – 10:30

Attendees: Jimmy Caylor, Lars Gustavson, *Nicholas Hunt, Donald Jones, Mark Jones, Simona Malice, Marc McMullen, Albert Shahinya, Bogdan Wojtsekhowski,*

1. DSG – ECAL controls development

1. The prototype circuit diagram for the power supply control pull-up circuit was presented

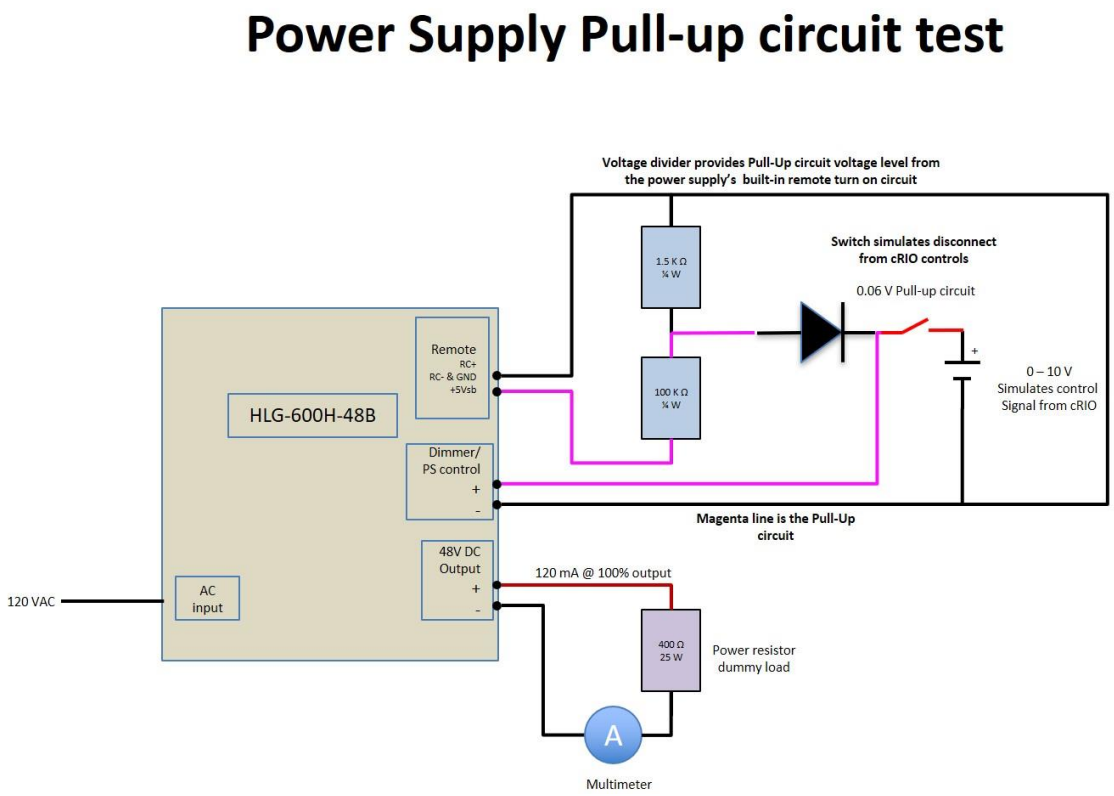

Figure 1. The pull-up circuit is designed to prevent the power supply from outputting full current to the heaters if the cRIO's control voltage has been unintentionally removed

2. DSG and detector lead need to discuss back end temperature sensing next week
3. The six-supermodule prototype is scheduled to run in April (GE-nrp)

2. Full system installation update

1. EPAS for detector assembly done; stacking of supermodules to restart
   - PMT installation – dark box testing after 1/18
2. Stacking supermodules is greater than halfway completed
3. PMT installation to begin after supermodule stacking is complete
   - PMT shielding procedure with mu-metal is under consideration
     - ECAL has ~1700 PMTs
     - Shielding is a mu-metal/Kapton tape assembly
     - Some of the shield assemblies need to be modified by stretching the shielding tube using an expansion tool
     - PMT shielding installation will be in EEL 122

Figure 2. An expansion tool is used on the mu-metal/Kapton shielding tube to increase the inner diameter so that it will fit on the light-guide and PMT

- After stretching, the mu-metal shield will be retested under magnetic field to ensure the properties stay the same
- Cookie fabrication procedure is being developed

4. Hall A is developing a database to catalog and qualify initial scans of the PMTs to determine which are good to use and in the good ones, what are the optimal HV and gain settings for each (gain, dark current, HV test voltage)
    - The PMTs will be numbered
    - PMTs have been tested previously for dark current
        - Retesting to be done to verify functionality after move to the Hall
5. The full system is scheduled to run in late October (GEp)