

Working Package

DAQ and FEE slow-control

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1. MBS

- 1.1. Decision on readout electronics (i.e. ASIC or Mesytec) and the additional modules (ADC, TDC, scaler etc.)
- 1.2. Check for possibility and need of time stamping
- 1.3. Programming of the f_user.c readout function
- 1.4. Programming of the Go4 online-analysis (in coincidence with 1.2.)
- 1.5. Testing the online analysis with a GEANT4 event-generator

2. Slow-control for the FEE

- 2.1. Run the NI cRIO with LabView and establish connection via RS232 to the Mesytec control-bus (i.e. shaper, discriminator, HV-supply)
- 2.2. Program routines for remote setup and logging of the modules
- 2.3. Integration with Oleg's slow-control and logging
- 2.4. List modules to be included into slow-control
- 2.5. Modules which cannot be connected via Mesytec control-bus or RS232 will need different approach (i.e. VME HV-supply via MBS)
- 2.6. Establish possibility to read the log files together with the main data-stream
- 2.7. RS232 connection for the RIO3/4 to reset it remotely if necessary
- 2.8. Ethernet connection to the VME crate for diagnostics and remote restart
- 2.9. Guarantee remote signal-diagnostics with oscilloscope
- 2.10. Include parameters for the positioning of the moving mechanisms
- 2.11. Include ESR machine-states

3. Both

- 3.1. Placement of the crates at the ESR.
- 3.2. General decision which parameters are read via the DAQ or via slow-control (i.e. target-parameter, PMT)
- 3.3. Routing of cables and connections (Ethernet for DAQ and Slow-Control, USB if needed, target-diagnostics to scaler)