

9 Sept 2005

P. Smith, Scribe

## Minutes from GlueX Electronics conference call

### Participants:

JLab	IU	Alberta
Chris Cuevas	Paul Smith	Jim Pinfold
Simon Taylor	Matt Shepherd	Lars Holm
Elliott Wolin		

Chris Cuevas reported on the JLab Flash ADC status. Specifications/Requirements are being finalized. The inputs will be lemo connectors. There was some discussion of using a high density connector which would connect to a patch panel. This was felt to be undesirable from a cost and reliability standpoint. The conclusion was that cables from the detectors would be directly routed to the module front panel. Rack space must be allocated for cable management; something like the RadPhi “cages” above and below the crates would organize the cabling. There are 2 VXS crates at JLab; Dave Doughty and his student are evaluating this type of backplane for implementing the energy sum connections.

Jim Pinfold reported on the possibility of fabricating chamber preamps through the Canadian Microelectronics Consortium. There has been one phone conference with Mitch Newcomer at UPenn regarding a modified version of the Atlas ASD8 chip. Jim will contact Mitch to organize another call within the next few weeks. Lars Holm reported on a new comparator chip from Analog Devices, the ADCMP582. They will be building a new CFD prototype based on this chip.

Chris Cuevas described a 16 channel time-over-threshold discriminator in use at JLab. Documentation has been posted to the GlueX portal as doc-530. This module could be used for the GlueX channels that don't need CFDs, for example the DIRC, BCal, and possibly the Tagger. Chris also pointed out that discriminators don't need a fast backplane. Perhaps the CFDs could be housed in a custom rack mount box with RS232

communication. This could help with the front panel space needed as well as the high power dissipation of the ECL components.

Simon Taylor reported on tests of the FDC. He has been able to read some channels with a Struck SIS3300 12 bit, 100 Msps FADC. Preliminary results are in GlueX-doc-526. There is still some question as to the gas gain; calculations indicate the prototype may be operating with a gain of  $5 \times 10^5$ ; this seems to be an order of magnitude too high. Even if the gain really is this high we want to operate at a lower gain to maximize chamber lifetime.

Paul reported that Curtis Meyer had told him the CDC is now gas tight, but hasn't been operated yet. More Struck FADC modules have been requested in the FY06 GlueX R&D budget for the CDC and FDC tests. Simulations are still needed to optimize the tracking chamber electronics.

The next GlueX electronics conference call will be in about a month (early October).