Minutes 19-May-04 Electronics/System test meeting

Note: last combined Barrel and Endcap mtg.

As of 26-May-04, two back to back one hour meetings.1) Wednesdays 16:00 – 17:00 CCERN time) Endcap electronics and integration. Mar and Ole will send around an agenda. 2) 17:00 -18:00 Barrel electronics Toni and Doug will send around an agenda.. (Ultimately, Toni will chair the meeting, send around an agenda and write the minutes)

Action items:

- Do not cannibalize the electronics in SR-1 to the point of not having a working system in SR just to provide DAQ elements for the testbeam. Anatoli can not have it all right away.
- Need a new signle board computer
- Atuocad files to Nandor for type 3 barrel boards.
- Cables for the for the barrel front end boards
- Jig (Penn) or tension plate (Harold from 154) for testing the pin alignment of the protection boards.
- Crate with two TTC back planes

Endcap section:

Nabil is trying to use some of the techniques from the Barrel for the study of connectivity in the Endcap wheels. Once the power supplies are working he will work on the external injection for determining connectivity besides using the noise

Brig commented on the need to explore the limits of the noise measurements. He wants a couple of different people to study the noise measurements and understand the applicability in the Endcap (and ultimately the barrel).

Brig requested two independent test stands in SR-1 (to separated the barrel and Endcap communities – Since we behave the like the Hatfield's and McCoy's ;-). Current inventory 5 new TTC's , 5 old TTC's and 5 Rods. Henrik reported that NBI has ordered the last 3 PC boards for the TTC's and has compents for 5 PCBs/
Peter has enough components to get 3 additional RODs built. Should have enough crates, but will need another single board computer. Need a 2nd TTC back plane. Peter is investigating putting two TTC Back planes into a crate. This is possible but never tried.

A question was raised (by Ole I think) “who is going to finalize the performing of the jumper?”
Ole will provide feedback to Francis(?) from the tests in Copenhagen. Ole hopes to get help from TAI. NBI reported that they have a clever idea to hold the boards when they are out of the panels. This implies that there is no reason to change the tester.

Rick suggested to do tests on the functionality of the jumpers before and after breaking the boards out the panels.

If NBI has to bend the jumpers then they would like a gauge to check the mechanical dimensions of the bend.

Board test program status –
The program is very close to working. Expect have the test pulse section of the software working shortly. Once test pulse software is working, they will concentrate on the injector software. Estimated the board test software to be 90% complete. Software expected to be complete by .26-May-04. Brig requested that the software be made available to Penn so that Gabe can learn to use it and so that Gabe and Paul can help with integrating the results into the database.

Barrel section of meeting:

Protection boards-

SEI is making 100 parts and they should be at CERN or shipped to CERN by the time you get these minutes. After successful inspection and test of these parts SEI will make 900 more. Bjorn has received another role of resistors so his Swedish company can continue making some protection boards. Penn has the gerber files and Rick is looking into getting a drawing into the Penn shop to make a jig for testing and straightening the pins. Harold is investigating getting a tension plate or tension plate fragment from 154 for this purpose. (As of 26-May he had not informed me that he got the plate.

AR boards-

Penn has received (during the meeting no less) 8 AR3B bare boards. It will take two weeks to stuff and test them. Penn needed a type 3 module ASAP. Doug relayed the message to Seog (see I am good for some thing, besides bad puns.;-)). Duke sent a module and Penn has installed it already!

AR3F design – has been some convergence. Curt and Bjorn are communicating and exchanging IGES files so the cooling plate design is done. Nandor needs the latest AutoCad file. It should be noted that the IU shop is going to make both the front and back type 3 cooling plates at the same time. The first 2 plates of each type are due June 8th to June 23rd. (Is this a problem for the test beam?)

Ben has 4 boards of each type of type 1 front end boards and is testing them. Gabe needs to look at the chips to help in the decision about releasing the read fo the type one bards for assembly.

Godwin is stuffing AR2B boards now. They will be tested right away. After completing the type 2 boards Godwin will start on the type 3 boards.

Cables-

Type 1 right now two different types of cables (front and back). As Soon as possible Herve needs the pin outs. Nandor is making drawings for 16 different paddle cards.

Penn has the wires cut for the cable harness that it needs and the crimp leads are done. Penn will start soldering once verifying the pin out.

Ole commented on the LV cables at CERN. Herve has the parts and the type 2 cables are almost complete.

Pulsing the HV kaptons for barrel module connectivity-

Ben used a setup like he used at Penn, he put a pulse through copper tape clipped to the HV Kaptons and got results similar to his previous results. When he used the HV test fuse boxes (they use resistors instead of fuses to limit the current), he got muddied results. So, the plan is to use copper tape. The barrel connectivity testing will be both pulsed kaptons and the noise procedure. This will be slightly different than the endcap plans.

Information not discussed in the meeting but discovered afterwards:

Ben tested the feasibility of putting the barrel type 1 (front and back) and the type 2 active roof boards with their corresponding cooling plates attached onto modules in the space frame with the active gas cooling tubes and fittings already attached to the modules. He was successful in all cases. It is a little difficult for the type 1 back side because the inlet and outlet of the active gas is in the same triangle unlike everywhere else. This is excellent news because we can now install all of the services and test them independent of the electronics. Previously finding leaks in the active plumbing was going to be extremely difficult. Now it is only merely difficult.

Duke has produced the first production fuse box mounting brackets and Chiho Wang will bring them with him when he comes to CERN 7-June-04.