

12GeV Trigger meeting notes:

26 July 2013: C. Cuevas, A. Somov, B. Raydo, S. Kaneta, J. Wilson, H. Dong, W. Gu, B. Moffit

19 July 2013: C. Cuevas, A. Somov, H. Dong N. Nganga, B. Raydo, S. Kaneta, J. Wilson, E. Jastrzembski

12 July 2013: C. Cuevas, A. Somov, H. Dong N. Nganga, B. Raydo, S. Kaneta, J. Wilson, E. Jastrzembski, B. Moffit

5-July-2013: No meeting

1. [Trigger/Clock/Sync – TI/TD](#)

26-July-2013

- Small issue with assembly kit in that one of the resistors was 10K rather than 100 Ohm.
- 8 RTM boards are in assembly at Sierra

19-July-2013

- Assembly kits have been sent to the CM for the production TS boards.
- RTM boards and kits have been sent out also.
- No significant issues with the testing in the Hall D CH so far.
- TI Master boards have been configured, tested and distributed to the hall groups.

12-July-2013

- TS production boards are on schedule.
- Rear transition boards have been received. These boards can be assembled here, and are the interface between the Densi-shield cables from the GTP.
- No update on the final firmware changes that will be needed for the initial Hall D commissioning.

1. [SUB-SYSTEM PROCESSOR \(SSP\)](#)

26-July-2013

- Development work is progressing

→Micromegas? No news is good news, and some work has started with using an embedded controller within the SSP.

19-July-2013

- >Firmware development progresses and new features for scalers will be added. There will be CODA driver work to be completed also, but this work will need to be done anyway.
- Configure the Hall D global trigger crate in EEL109 with 8 SSP and the production GTP.

12-July-2013

- Supporting Alex and the Hall D global test stand testing. Alex has two of the pre-production CTP and a single SSP. Plenty of development work in progress.
- Hall A will receive their SSP in the near future. Not a priority, but Ben will deliver a board soon.

2. CUSTOMERS

26-July-2013

- Detector groups will use FADC250 with the new “Mode 6” to verify the operation.
- Discussion about pedestal method for “Mode 6” and the ability to change modes within a run.

12-July-2013

- Still waiting for DOE approval to send the SBC to CEA Saclay.
- PCAL for CLAS12 will be testing the new Mode 6 firmware for the FADC250 board. TDC and pedestal information is captured for every pulse and is included in the data stream as Vmin.

14-June-2013

- We are waiting for approval from DOE to send the SBController to CEA Saclay. Bryan has the SBC and will have it ready by the time approval is received.
- No news from detector groups regarding the detector testing with the new Mode 6 FADC250 firmware. Mode 6 will be used for high rate Physics production running because the data will only include the integral value plus the high resolution threshold crossing time. (LSB=62.5ps)

7-June-2013

- Discussion about boards NOT in the Level 1 trigger started, and there are some concerns. The basic trigger/sync/token functions should be checked for all of these boards in a full crate. The FCAT development for these boards is an activity in progress.
- Mode 6 will be tested on several detectors. Mode 7 (Raw and TDC only) has been stable for over a year, so we know it works.

3. “B” Switch - Signal Distribution Module (SD)

19-July-2013

- PLL testing firmware is still in progress. We will have to coordinate which crate to use for this PLL test.

12-July-2013

- PLL testing in progress.

4. System Diagrams/Fiber Optics

14-June-2013

- Create a PR and the goal is to submit a purchase order before the end of FY13!!

15-Mar-2013

- No action until cable trays are installed in the halls.

8-Mar-2013

- No report.

8-Feb-2013

- Patch panels and patch cables are being checked in now, and will be distributed to the hall groups
- START procurement for trunk cables in D and B by May??

5. Global Trigger & Trigger Distribution Testing

26-July-2013

- Focus has been the 5Gbps testing with a full crate of FADC250 boards.
- All GTP documentation is wrapped up and plenty of testing remains (Ben).

19-July-2013

- A few I/O ports still need to be functionally tested.

→Densi-shield cable test should be completed with the production TS.
→16 payload board test for 5Gbps has been built. We can use one of the crates to perform this test and characterize the backplane and check BER. There are a significant number of parameters that Scott's firmware will measure and record.

12-July-2013

→DC power testing is complete for both boards!
→Complete functional testing is progressing well.

20-JAN-2012 (Keep this date to reference full DAq crate procedure)

3-June-2011

→ Successful testing with the two crates each with a single FADC250-V2, CTP, TI, SD and one SSP!!

16-July-2010 (Keep this note because it needs to be implemented and tested at some point) See older notes for the list of items.

6. Crate Trigger Processor (CTP)

26-July-2013

-->VME firmware download routine has been completed. This has been tested only in the local test stand crate. Will need to verify on another crate.
→Production CTPv2 passed FCAT testing!

19-July-2013

→All indications from the PCB and assembly companies are positive so we expect the CTPV2 boards to meet the delivery schedule.
→Automatic testing firmware and remote firmware download routines are complete. Hai is documenting the test routine procedure for the acceptance testing activities.

12-July-2013

→Remote firmware download is 95% complete. All other acceptance test firmware is ready for the production boards.

ACTION ITEMS: Next meeting - Friday 16 August 2013 @10:30AM in TBD