

12GeV Trigger meeting notes:

22-Mar-2013: C. Cuevas, N. Nganga, B. Raydo, J. Gu, S. Kaneta, B. Moffit, H. Dong

15-Mar-2013: C. Cuevas, N. Nganga, B. Raydo, A. Somov, S. Kaneta, B. Moffit, H. Dong

8-Mar-2013: C. Cuevas, W. Gu, B. Raydo, A. Somov, S. Kaneta, B. Moffit, H. Dong, E. Jastrzembski

1-Mar-2013: C. Cuevas, W. Gu, B. Raydo, A. Somov, D. Abbott, S. Kaneta, B. Moffit, H. Dong

1. Trigger/Clock/Sync – TI/TD

22-Mar-2013

→The production TS has been tested and is ready to be installed in the 3 crate global trigger test setup in EEL-109.

→The firmware for the production board is the same as the previous version, so there should be no significant issues when testing in the global crate setup.

15-Mar-2013

→No issues identified with the 1st production TS board. Firmware is not completely updated, and the new receivers on the board that accept the signals from the GTP via the RearTransitionModule have been tested.

8-Mar-2013

→First TS production board has arrived and William will begin testing.

→It will be a good idea to test the production version in the 3-crate global trigger test station.

→New (final) TS firmware will need to be completed soon so Bryan can begin CODA library.

1-Mar-2013

→On schedule to receive the TS assembly next week. This is a production board 1st article.

→No questions/feedback on the new TI “link” method.

1. SUB-SYSTEM PROCESSOR (SSP)

22-Mar-2013

→CTP to production SSP communications are working properly with updated firmware.

→VXS testing of SSP to GTP links is in progress. These links are defaulted to 5Gbps and no issues to discuss yet.

15-Mar-2013

→1 SSP is ready for the 3 crate ‘global’ test stand.

-->Production boards can be tested in the next few weeks.

8-Mar-2013

→All the production boards have front panels and transceivers populated. There will be some SSPs that do not need to be fully populated. These are stored in the EEL109 locker.

→Preparing one production board to be part of the global test station, and some firmware will need to be modified.

1-Mar-2013

→Acceptance testing routines ready to use on the boards.

- Front panels have been received.
- Adjustments to firmware to conform to the DAQ output data format.
- Prepare a production SSP to be used in the Global Crate test station.

2. CUSTOMERS

22-Mar-2013

- The FCAT system is being used and there are a few issues that need to be investigated.
- The goal is to test the full crates and move them to the Hall D CH for the large scale DAQ testing. (D. Abbott, et al)

8-Mar-2013

- I know there will be significant work activity for the Hall D large scale DAQ test plan that will take place in the Hall D counting room area. I think we should keep a section in these notes for any issues related to the trigger boards/firmware that are identified during the testing.
- FCAT activity continues in F112 with no significant issues reported.

1-Mar-2013

- Crypto keys will be available for pick-up at the HelpDesk. DAQ subnet will be located behind the Hall firewall by next week.

3. "B" Switch - Signal Distribution Module (SD)

22-Mar-2013

- Discussion about TI→SD and CTP 'link'. Sounds like its time for a requirements document before spending any time developing firmware.
- Hall A SD?

8-Mar-2013

- No report this week, and no high priority activities exist for the SD board. The "SD to TI Link" firmware development and testing activities remain open, but not at a high priority.

1-Mar-2013

- The SD-link firmware will be propagated to the TI boards in the EEL109 test setup area and switch card developers can begin to test.

4. System Diagrams/Fiber Optics

15-Mar-2013

- No update

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

22-Mar-2013

- GTP is sitting in procurement office.
- New SSP to GTP configuration is being worked on, and the Ethernet development is taking a lower priority.
- 2nd prototype board is ready to run and has been tested. Currently used as a development board in Scott's office.

15-Mar-2013

- GTP purchase requisition has been signed and approved. We are waiting for quotations from selected vendors. Three contract manufacturers were suggested, so hopefully some action by procurement will happen soon.
- 2nd prototype GTP has been repaired and Scott is working on finishing GUI and other firmware features.
- Ethernet interface work is progressing nicely, and there will be further discussions I'm sure. Methods to handle the GigE data need further definition also.

8-Mar-2013

- GTP production board has been reviewed. Procurement specification and other fabrication documents have been completed. The PR will be sent for signature approval next week.
- 2nd prototype board is at the rework vendor. Expected delivery next week.
- Global test station work will resume next week.

1-Mar-2013

- Production board fabrication and assembly files have been reviewed.
- Scott shows the O'scope picture of the full latency of the three crate global crate test. There are a few issues that need to be verified, and the test can be performed again. The total latency for the setup is 3.0us. There is a wide distribution though, and this should not be the case.
- PCIe test boards have arrived and tests can be arranged.

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 note dates for the list of items.

6. Crate Trigger Processor (CTP)

22-Mar-2013

- Cost adjustment and updated delivery for the 1st article was transmitted to us by MTEQ on Wed 20—Mar. The cost increase is \$77/board and the full assembly will be at JLAB on 19-April!
- CTP Acceptance test board will need to be sent out soon. There is a backup plan to verify the 1st article board, and we have 15 business days to send approval.
-

15-Mar-2013

- We are expecting a final cost adjustment from the CM. The reason for the cost adjustment is due to the extra layers. Vendor reports are due today 15-March-2013.
- Initial front panel has been ordered
- Acceptance test board (B-Switch card) will be completed soon, and ordered ASAP.(Jeff)

8-Mar-2013

- Need to confirm that board has been fabricated and assembly is on schedule for 1st article.
- Hai reports that there will be very few changes to firmware for the production units.
- Stand-alone acceptance test procedure for the 1st article and the 1st article can be used in the global test stand to verify full crate operation.
- Front panel design is almost ready for 1st article and after approval the remaining panels can be ordered.
- New CTP acceptance testing support board (B-Switch card) needs to be finalized and sent for fabrication. Assembly and test will be completed at JLAB.

1-Mar-2013

- No news is good news, and the BOM has been ordered. No feedback from the CM or circuit board fab house, so the latest files are error free!!
- The new CTP test board is not ready to order yet, but there is time before the 1st article board is delivered.
- Armen can begin the final front panel layout and prepare an order for the production panels.

ACTION ITEMS: Next meeting - Friday 29 March 2013 @10AM in F224