

12GeV Trigger meeting notes:

14-June-2013: C. Cuevas, A. Somov, J. Gu, N. Nganga

7-June-2013: C. Cuevas, B. Raydo, A. Somov, J. Gu, N. Nganga, H. Dong, B. Moffit, S. Kaneta, E. Jastrzembski

31-May-2013: No meeting

24-May-2013: C. Cuevas, B. Raydo, A. Somov, J. Gu, N. Nganga

1. Trigger/Clock/Sync – TI/TD

14-June-2013

-->TS production order includes the rear transition board for the GTP inputs, and the order has been approved.

→TI Master boards are expected to be received soon from Sierra. These boards were modified from original TI boards for applications where multiple crates will be controlled from a TI Master.

7-June-2013

→Conversion rework for TI Masters is complete for Hall B boards. (10) The Hall D folks need four boards converted from TI to TI Masters. The TI Master boards will require a few days to test before distributing to the groups.

→TS production order needs an account number from Hall B

24-May-2013

→The PR for the production TS boards has not been sent but will be submitted next week.

→New front panels for master TI boards will be ordered.

→Secret TS meeting within the DAQ group and there will be firmware changes forthcoming.

→Review the Hall D layout and plan for grouping readout crates in order to come up with a count of required TI-Master boards.

1. SUB-SYSTEM PROCESSOR (SSP)

14-June-2013

→Latest firmware revision has been released for the various boards that have been distributed to Physics detector groups.

→CEA Saclay group has received their SSP for continued development of the readout/control of the MicroMegas detector. (DREAM chip)

7-June-2013

→Final firmware? This is a trick question but the Hall D SSP firmware is ready and there will be updates for the data streams coming from the Tagger crates. The specification document is in good shape, so the development work will continue whenever the Tagger CTP application is done.

Additional features for scalers and diagnostics are forthcoming.

24-May-2013

→SSP boards can be delivered to the hall groups, but further testing and firmware changes will be on hold for some time.

→SSP firmware has been modified so that the SSP can act a CTP generator so that the SSP to GTP data streams can be realistically delayed to simulate different front end crate data delays.

→Investigate transceiver laser class hazards and IF mitigation is needed.

2. CUSTOMERS

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.

24-May-2013

→FCAT development for every full crate setup is progressing and Bryan will be very busy with this activity for the remaining DAq boards. (i.e. F1TDC, FADC125, Discriminator)

→SBC that will be shipped to CEA Saclay is ready for loading the bootRom.

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

14-June-2013

-->Nick will have some time to run a test to measure the effects of running the clock distribution with the PLL ON for the SD. Present testing uses the default SD setting which is PLL OFF.

7-June-2013

→GTS testing with PLL can be started soon. Presently other projects take priority.

24-May-2013

→Test GTS with SD PLL enabled.

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

14-June-2013

→The production GTP boards have been received and will need the backplane connectors and a few other hardware peripheral components. Luckily these items are stock and Scott has prepared an order.

7-June-2013

→No news is good news and the two production assemblies are still on track to meet delivery.
→Acceptance test routines ready for bench testing and then Scott can check it on the GTS.
→Advanced Trigger Processor – ATP is the new acronym for the CLAS12 trigger processor. Design concept and details presented at the HPS collaboration meeting and there is ‘approval’ to begin the board design to produce prototypes by end of 2013.

24-May-2013

GTP boards have been sent to Advanced Assembly in CO. Expect full assemblies by July.

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 dates for the list of items.

6. [Crate Trigger Processor \(CTP\)](#)

14-June-2013

→No update but activities are progressing on schedule.

7-June-2013

→Approval is ratified and delivery will begin end of July. 32 production boards will be delivered by 23Aug2013!!

→Acceptance testing will need to be added to the schedule.

→Hall D firmware is loaded and runs in FCAT

→Fiber transceiver link works properly and has been tested in the GTS with the SSP.

→Peripheral components can be ordered now!

→Development of firmware to manage the remote download of new firmware is the highest priority. Automatic acceptance testing firmware is the next priority, then the scalers, then the trigger application, and last but not least, is the diagnostic firmware.

24-May-2013

→Phone conference yesterday and the CTP are ready for production!

→Not ready for testing in the GTS but refinements to the automatic test code for production acceptance will be the focus.

→Production delivery schedule will be updated by the contract manufacturing.

ACTION ITEMS: Next meeting - Friday 28 June 2013 @10AM in F224