

# Minutes of ATLAS Level-1 Calorimeter Trigger Phone Conference – 20<sup>th</sup> April 2006

**Birmingham:** Richard Staley

**Heidelberg:** Florian Föhlich, Eike-Erik Kluge, Kambiz Mahboubi\*, Pavel Weber

**RAL:** Bruce Barnett\*, Ian Brawn, Tony Gillman, Viraj Perera, Weiming Qian\*

**Stockholm:** Christian Bohm, Attila Hidvégi, Sam Silverstein

*\*at CERN*

## 1. Birmingham

- Completion of the full-crate CPM tests is awaiting delivery of a 5V power supply to replace the first unit which was faulty. Once received, it will take a few days to install as the LVDS cables will need to be removed and then re-connected.
- The readout paths on all pre-production CPMs have been tested. Two TTCdec cards showed unstable BCReset operation, which is almost certainly caused by faulty TTCrx chips.
- It was also observed that going from a Broadcast Start to a Broadcast Stop, with the TTCrx bus disabled, causes the Des1 clock phase to jump by several nsec. This should be explored further.
- Gilles has managed to remove one extra clock tick of latency from the CP chip real-time path.
- Richard has verified that the JTAG tester works fine with the RPPPs, so he will now be able to test all of the production modules in Birmingham.
- An alternative make of straight-through D-sub 37-pin connector, which doesn't buckle, has been obtained for the Types 4 & 5 RPPPs, but its use still requires some assembly problems to be solved.
- There are also still problems with the screwlocks loosening on many of the right-angle D-sub 37-pin connectors used on the RPPPs (and TCPPs), and Simon is looking into finding a solution.
- Richard will send information on the HOLA Interposer design to Stefan Haas at CERN.

## 2. Heidelberg

- PCB manufacture for the 20 pre-production PPMs is scheduled to start during the first week of May.
- The first PPM will then be hand-assembled at KIP, with assembly of the remaining 19 modules at a commercial company scheduled for the first week of June.

## 3. Mainz

- Rohde & Schwarz have produced 16 Input Modules with incorrect connectors, preventing their mounting on to a JEM motherboard or even connecting to a test adaptor. They have been returned to the company for re-work, but the lead time for obtaining the correct replacement connectors is currently unknown.

## 4. RAL

- The two pre-production VMMs have been tested, and one will be sent to Birmingham for use in the full-crate CPM tests.
- Manufacture of two pre-production VME64x TCMs has begun, with completion of the PCBs scheduled for 24<sup>th</sup> April and module assembly on 28<sup>th</sup> April.
- It may be efficient to order extra VME64x ALCs, which would enable more of the prototype TCMs to be used during the time that the pre-production TCMs are being manufactured and tested. This may involve paying for the NRE costs again, which could be expensive; Viraj will check.

- The design of the CP/JEP TCM should be completed by 28<sup>th</sup> April. All components have been ordered and an order for pre-production modules should be placed before the end of April. To satisfy possible short-term demand, the number of pre-production modules may be increased from two to three or four.
- A quote has been obtained for a first batch of 50 production TTCdecs, and the order will be placed once Kambiz *et al* can verify that the modified design using a pre-PLL Des1 clock is satisfactory, hopefully next week.
- A quote for RGTm production is available. Once approved, pre-production of four modules will be followed by the full production of 156 modules.
- Testing of the first of the latest two RODs has begun, and it is hoped that the first module should be available after another week or so.
- Of the two pre-production CMMs, the first module has been fully tested (with the exception of the TTC interface), and testing of the second module should be complete by 21<sup>st</sup> April. The PCB layout for the corresponding RTM is currently in the Drawing Office and should be completed next week.
- Ian was asked to check whether the latest CMM design was backward-compatible with the prototype design.

## 5. *Stockholm*

- Erni has still not completed the assembly of the first Processor Backplane in Germany, apparently because they require more information about the location of some components. Sam will contact them urgently. Once the completed Backplane is delivered to Stockholm, final assembly of the first CP/JEP crate and power supply should take only about one week.
- There was some discussion about the possible ongoing mechanical problems with module insertion in the prototype CP/JEP crate, that had been identified by Uli. It is clearly very important to ensure as soon as possible that the final CP/JEP crate/backplane assembly is mechanically correct, so it was suggested that, if Uli is in agreement, a pre-production JEM (with TripleEase ejector handles) should be sent to Stockholm as soon as the first CP/JEP crate assembly is ready. This would enable Sam to check for correct mechanics, before shipping the crate to Birmingham for the final phase of the full-crate CPM tests. Ideally, all pre-production modules should be checked mechanically (and electrically) in the Wiener crate before the remaining Processor Backplanes are assembled by Erni.
- Sam has identified a supplier (Kaparel) of keys which are fully compatible with the hole sizes of the TripleEase ejector handles.

## 6. *CERN*

- TileCal calibration signals should again be available before the end of this week, for use by both ourselves and the LAr group for their loop-back Receiver tests. To reduce the demands on the temporary TileCal front-end electronics cooling, it is probable that we will be supplied with signals on only four cables rather than eight. However, with the addition of some custom software it is hoped that better control over the calibration signal parameters will be available.
- During next week (w/b 24<sup>th</sup> April), the TileCal group will be installing the full cooling system for their front-end electronics, so there will probably be no TileCal calibration signals available to us in USA15, although it is possible that there may be calibration signals from the LAr calorimeter.

**Next Phone Conference – Thursday 4<sup>th</sup> May 2006 at 12:00 (11:00 in UK)**

***Tony Gillman***