Cables

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http://www.hep.ph.qmul.ac.uk/∼landon/talks

Overview

- TileCal Cables
- Cabling Document

TileCal Cables (1)

Background

- TileCal will pay, but we are supposed to be “responsible”.
- Calo trigger needs 9 signals from the barrel, 6 from extended barrel. TileCal would like to allow 1 extra pair in case we ever want to sum the 0.8-1.0 overlap regions off the detector.
- Aim has been to use cables as similar to those from LAr as possible, but with fewer than their 16 pairs.
- The barrel muon trigger also needs signals (7 and 6) from the back sampling of barrel and extended barrel. These were expected to come on separate cables (from separate adders and connectors on the TileCal drawers).

TileCal Cables (2)

Discussion at CERN

- Steve, Nick and I talked to Rupert Leitner and Richard Teuscher. This was partly in preparation for a review of signal cables to be held at CERN this week(?)
- We asked for details of the signal cable pinout at their end.
- They have provided a short note describing the requirements for the signal cable. However no pinouts are included yet.
- We were asked to specify which racks in USA15 the cables are destined for. This is now done. We have also given feedback on the cable database to Chris Parkman.
- Can we consider tests of our electronics with theirs next year, before and at the test beam?
- Rupert asked about the schedule for buying the cables. But first...

TileCal Cables (3)

Combined calorimeter and muon signal cables?

- Mark Hatch is worried there may be a space problem in the cable trays from the extended barrel. No room for two 16 pair cables. Maybe not even room for two smaller cables.
- Can we consider using just one 16 pair cable which carries both calorimeter and muon signals? This could be just for the extended barrel, or for the barrel as well.
- This cable would go to the calo receivers where a patch panel would be needed to split off the muon signals.

TileCal Cables (4)

Considerations

- Nick is not worried about the extra latency for the barrel muon trigger.
- We were anyway considering a patch panel for merging the two cables from barrel and extended barrel to make one input into the receivers.
- We can just order more of the LAr specification cables. No more investigation, testing, etc required.
- TileCal has enough money to buy one set of cables, not two.
- The cables would need to be split into two connectors at the TileCal end.
- A single cable for the calo and muon signals from the barrel would preclude any future splitting of the 0.8-1.0 region of the barrel into two towers.

Cabling Document

Recent developments

- Bill Cleland has commented on our spreadsheets.
- He has now produced a detailed document for the HEC and FCAL signals which were not described in detail before and where consequently we had made many wrong assumptions.
- We have started updating our spreadsheets to match.
- But little or no work has been done on the text of a document to wrap around spreadsheet tables. (Babies and software development have taken precedence).