



TileCal Patch-Panel

Tony Gillman

Background



- ◆ Patch-panel needed to separate muon trigger signals from calorimeter trigger signals, which share the same cables from the Tile Calorimeter

- ◆ *Barrel cables:*
 - ◆ 9 calo trigger signals
 - ◆ 6 muon trigger signals

- ◆ *Extended Barrel cables:*
 - ◆ 6 calo trigger signals
 - ◆ 4 muon trigger signals
 - ◆ 2 “gap” scintillator signals

- ◆ “Patch-panel” consists of 64 9U modules in four unpowered crates

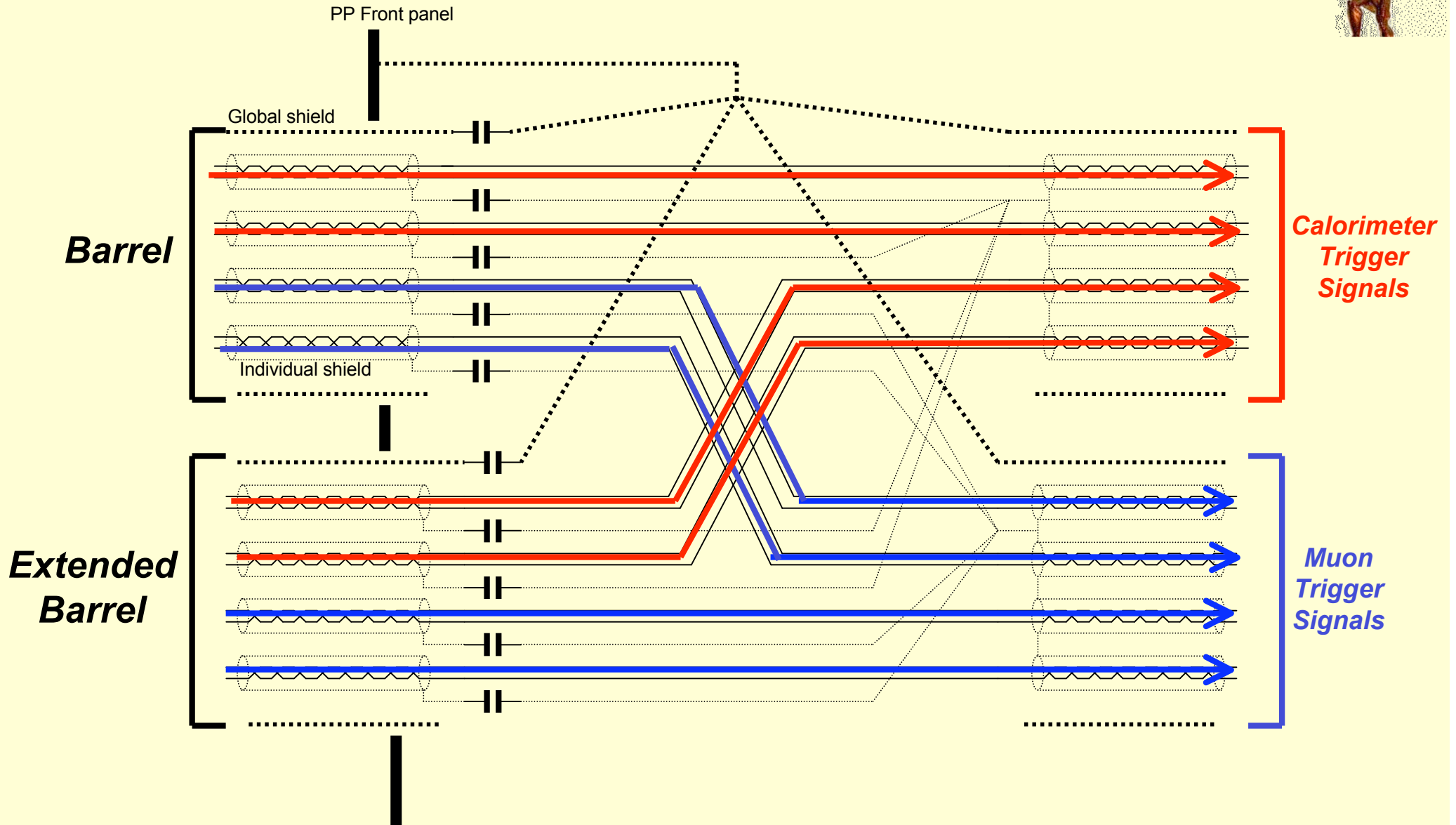
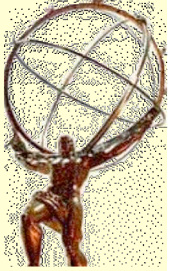
TCP modules



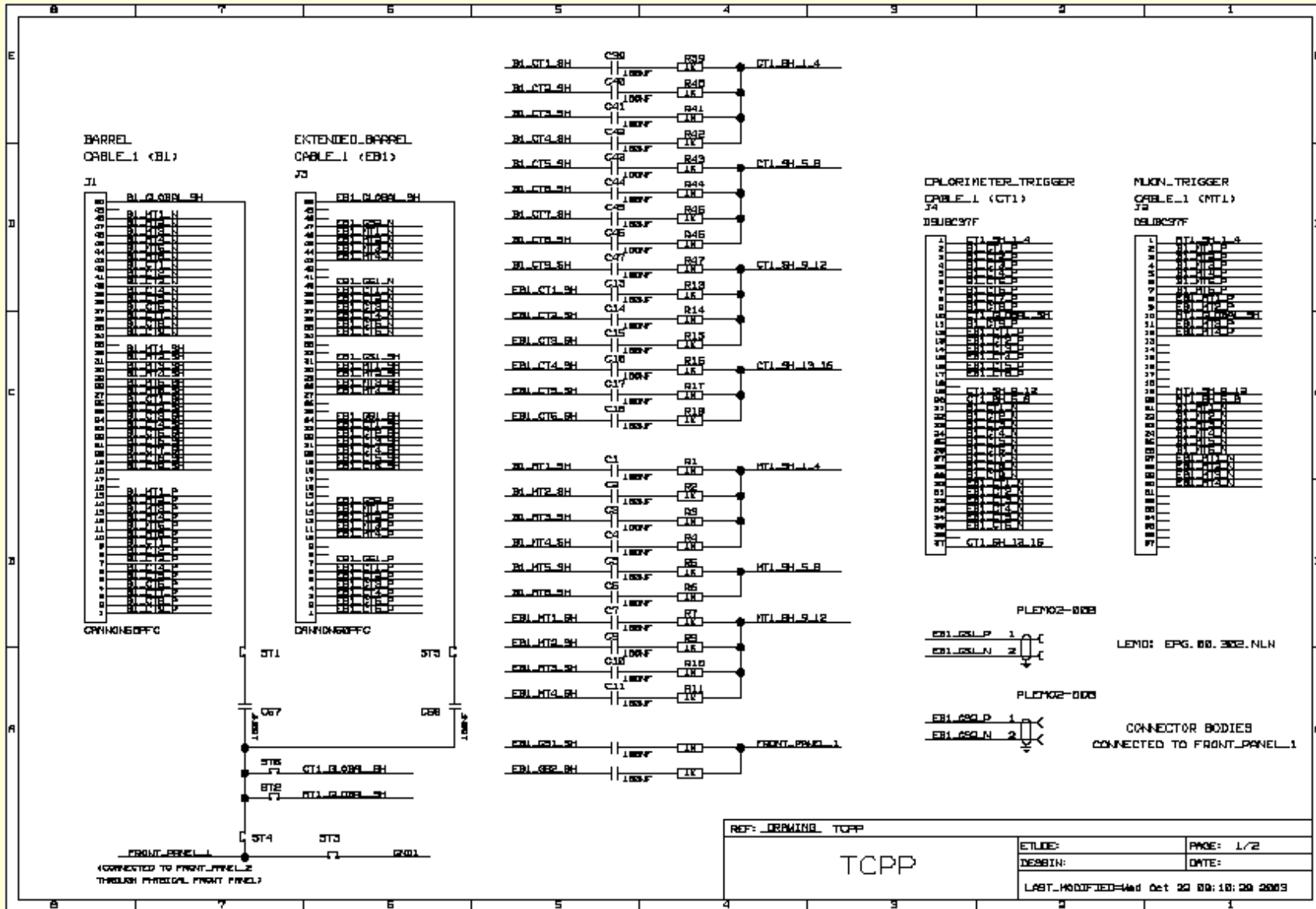
◆ Each module will:

- ◆ receive 4 TileCal cables (2 from Barrel, 2 from Ext Barrel) on front-panel 50-pin connectors
- ◆ re-order the channels via controlled-z pcb tracking
- ◆ output the following groups of signals:
 - ◆ 2 * 15-channel calorimeter trigger cables on 37-pin rear connectors
 - ◆ 2 * 10-channel muon trigger cables on 37-pin rear connectors
 - ◆ 4 * 1-channel “gap” scintillator trigger cables on 2-pin front-panel connectors

Signal crossovers



Module schematics



x2

Current status



- ◆ Yuri Ermoline (*CERN*) designed schematics and pcb layout
 - ◆ Manufacture of prototype boards has been organised *via CERN*
 - ◆ Assembly of first three prototype modules has been organised *via RAL and Birmingham (Roger Harris)*
- ◆ First three assembled boards now available – front-panels soon
- ◆ Will prepare a plan for testing them (*check for correct connectivity, measure crosstalk, grounding noise, ...*)
- ◆ Production to follow ...
- ◆ Will need to buy four basic 9U crates (*mechanics only*)