December 1, 2004 Barrel Electronics VC Minutes

Agenda Items:
-Status of Designs
-Progress on board repair
-Plans for test beam studies when Mitch and Rick and Mike arrive

Status of Designs:
AR3F is finally finished. There are a few "nit-picky details" that will be left in. These are mostly possibly noise-inducing things, like ground planes encroaching on inputs (in ~8 spots) but Mitch feels confident that this will only cause a few extra counts of clock noise based on the experience from previous designs.
AR2F: need to get a quote for stuffing. Boards should have shipped from Coretec already but Rick has not heard anything. He will check on this.
AR2B: production lot of boards should arrive at CERN no later than December 13th.
AR3B: pre-series should arrive at CERN around that same time as the AR2B production lot.

Progress on type 1 board repair:
At meeting time, 4 more boards are close to done. Mitch reports that his "bone pile" (meaning boards that are severely messed up) now contains 2 salvageable 1FS boards, the 1 1FS board that de-laminated, and 3 1FL boards. Ben reports that PENN needs to send out 2 more 1FS boards, 4 more 1FL boards, and 2 more 1BL boards in order to have 32 of each type 1 board type available for installation.

Plans for Test-beam studies:
Mitch mostly wants to look at the fast-or functionality (with cosmics). He will do this by looking for signals on the patch panel. We are not really capable of getting a real trigger out of this with the current setup. Ole mentions that he tried this in the past week on the endcap integration setup and saw "nice 10-15ns signals" coming out. Anatoly wants to make a new study of the timing.
Brig brings up 4 issues that he things need to be addressed.
-Anomalies in the TTC (parameter read-back) timing scans (i.e. the dead regions in constant data-out delay)
-Anomalies in the ROD (data read-back) timing scans.
-DTMROC ground potentials (specifically offsets between digital ground planes from board to board).
-update the list of malfunctioning chips.

Anatoly re-raises the question of how we are going to prove that the clock edges are synchronized in the final detector. Rick says that he thinks we should be able to calculate this as long as we know the lengths of all the cables. And even if we can only get 3-4ns accuracy, we should still try this at least once as an exercise. Ole mentions that this is particularly important for the endcap because while it will be possible to take an oscilloscope down into the pit and make a physical measurement of the clock times on the face of the barrel once the services are installed (though whether we would really want to do this or not is another question), this will not be possible for the endcap. The discussion sort of died out from there.