October 20, 2004 Barrel Electronics Meeting.

Agenda items:
1) signoff on pre-series stuffing of 3B
2) report on preliminary testing of 2B pre-series
3) work plans for the week in SR

Issues arising between the Endcap and barrel parts of the meeting

there are more statistics now on the ASDBLRs which have the failing test pulse capacitor (usually referred to here as “no gain” chips). so far the number for this effect seems to be about 2-3%. the current plan is to filter these out for the barrel and to investigate replacing the test pulse resistors that are usually stuffed on the endcap boards (10 ohms) with a capacitor. this should save these channels. mitch is looking at this at PENN.

A discussion of where the barrel boards should be tested came up. particularly, this is a question of whether the production lots of barrel boards should be tested at CERN or NBI. Mogens mentions that if detailed debugging is required, there may not be enough time for NBI to do this. Ben and Alex aren't sure if they will have enough time to do this even without debugging. This will be discussed in more detail at a later date.

Sign-off on pre-series stuffing of AR3B

Brig put together a power-point presentation about proving that the AR3B boards work based on results from the test beam. This can be found at http://atlas-trt-barrel-integration.web.cern.ch/atlas-trt-barrel-integration/electronics-mtg-minutes/AR3B_signoff_19oct04.ppt The straws were scanned and broken channels were listed on plots shown at the trt collaboration meeting at the end of august. there are two locations with problems that appear on both boards. these will need to be investigate further. the noise levels are comparable to what has been seen for types 1 and 2. there are 3 particularly noisy straws, 2 of which might be the same channel on two different boards. there are high threshold anomalies and in both cases, the problems commute. the high and low threshold efficiencies are similar to types 1 and 2.

the proposal after looking at the presentation was to do tests at PENN and look at the layout to be sure that the few problems that were seen on two instances of the same board are not design/layout problems and then proceed with pre-series on a timescale of 2-3 days if no such problems are found.

update on AR2F

Nandor is now happy with the design for AR2F. Bjorn has been

asked to put together a final package. PENN is trying to get mitch to go to Sweden after his vacation (in Athens) to finish up AR3F.

Report on testing of type 2 pre-series

4 panels of AR2B boards were received from ACAMAS and have all been tested once. our of those 8 boards, there are 4 that are perfectly working and there are 4 that have problems. those problems are:

-one board has non-sensical read-out.

-one board has two positions with zero gain

-one board has one position with strange test pulse response (8 channels very high response, 8 channels no response)

-one board has one chip that is reading out OK, but is reading back constant data values (inputs not switching).

these problems have not been investigated further at this point. it was decided that the good boards would be shipped on for burn in, Ben should spend a moderate amount of time trying to fix one of the less obvious boards, and the rest should be sent to PENN for de-bug.

Plans for work in SR for the week

These are the electronics priorities for the week in SR:

-investigate/fix AR2B boards

-finish building a second set of cables for AR2B

-package and send AR2B boards to respective places

-study the differences between the AR1BL board that mitch has been working on and the ones currently at CERN in regards to noise levels.

-finish re-testing the boards that have already been installed on the BSS.

-continue with board installation.

miscellaneous items

PENN will make the order for bare 3B boards at the same time as the order for pre-production stuffing.

Mitch notes that he saw anomalously large 300kHz rates in some AR2B positions but did not see corresponding clock noise. this will be investigated further.