

## October 13, 2004 Barrel Electronics Video-Conference

agenda items:

- 1) status of designs
- 2) sign-off for AR2BL
- 3) progress bringing up AR2BS at PENN
- 4) update from SR/investigation of broken boards.

### status of designs:

Bjorn and Nandor are still working on AR2F. It was only recently realized that Bjorn was using an outdated cooling-plate design so his boards were not in mechanical compliance with the cooling plates (all of which have already been produced). Nandor expects that that problem has been changed by now.

For AR3B, PENN is waiting for a schematic change from Thurston to indicate the correct component values for stuffing. Once this is checked, a package can be put together for ACAMAS.

No news currently on AR3F. Nandor reports that Bjorn has been taking all of the changes that have been suggested for AR2F and applying them to AR3F, so hopefully AR3F is quite close to being ready as well. PENN is asked whether plans have been made for Bjorn to travel to PENN, as was discussed the week before, to finish the designs. Rick replies that they are going to do that for AR3F.

The AR2B pre-series shipped from ACAMAS today. None of the chips had any "no gain" channels when they were sent, so special attention should be paid to whether any new ones develop.

### Sign-off for AR2B:

the sign-off list was run through and orally checked off. There were a few outstanding details that needed to be checked. They are outlined below:

- Data Read-out noise
- Check old test pulse measurements from Toni
- Check old Toni data for Vdd, Vee, Vcc read-back on 2BS
- Check old Toni data for shaper select control on 2BS
- Verify power draw on 2BS

The pre-series will act as the final verification for the production order. PENN requests that one of the pre-series boards be shipped to them after all the panels have been tested. Mitch also requests 10-15 protection boards so that he has enough to plug both type 2 boards on a module at once.

### Progress Bringing up AR2BS:

There had been some trouble at PENN getting the newest AR2BS board to work reliably. in particular the problem is with getting the

test pulse to show up for all chips at once. Mitch was asked how that was going. He replied that the data on the patch panel was good and that the command lines were good (both on the scope) and that more investigation is still needed.

#### Update from SR:

Ben made a report on a set of broken boards and the problems that they had. First of all, an attempt was made to remove the cooling plates that had been mounted too close to the boards (based on the discussion from the previous week) but none of the suggested methods (using heat and/or an exact-o-knife or a wire to separate the cooling plate from the RTV) were very effective. Two plates were removed by slowly prying and using a knife to get between the cooling plate and the RTV around the edges, but both boards had problems afterwards. One board had a chip that stopped working but would work again if squeezed against the board. This was taken as an indication that this chip was somehow separated from the board (broken ball? broken pad/trace?) in the process of trying to pull the plate off. Suggestions were made from PENN to try getting a high temperature heat gun and using that to soften up the RTV before removing.

A further investigation was also done on the boards that had new failing channels after burn-in. It was previously thought that these channels were not functioning at all, but a further investigation showed that while the low threshold was never switching, the high threshold was. Also, the high threshold was responding in a way that would be much more characteristic of a low threshold than a high threshold. PENN suggested that this could possibly be a result of only one of the two ternary lines being connected but indicated that they would need to think about it more.

#### Miscellaneous Business:

John ask for the cables for the mock-up and is told that they are being finished. Alex asks for the repaired protection board tester to be sent. Harold notes that "people" at Fribourg (ATLAS week) had the opinion that the TRT Barrel electronics is currently late enough to possibly be holding up all of ATLAS. Fido interjects that all of the Barrel and the first endcap need to be done by the end of February.