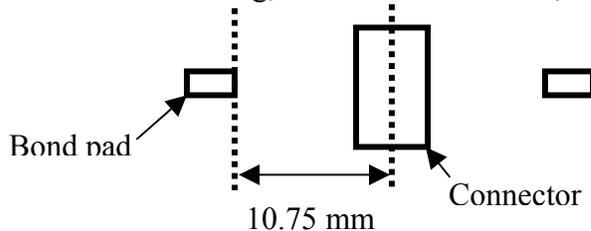


## Summary of electronics Meeting of February 11, 2002

In this 1-hour shortened meeting, a discussion was made of the five K-State Run 2b projects: L0-1 and L2-5 digital jumper cables, junction, adapter and “purple” cards will be discussed in that order, concentrating on relevant comments and decisions.

### Digital Jumper Cables:

- 1) The goal for the digital jumper cables was to distribute L0-1 and L2-5 cables of varying lengths to Honeywell, (a DOE Lab) and to Basic, Inc. (a private company). Details were given in handouts and files e-mailed to video-conferencers. Everything appeared in good shape except that no money is in place. The Interlab work order (IWO) transfer had been converted to a P.O. by Fermilab, which doesn't work. Basic was to be paid by an MOU to K-State, also not in place.
- 2) Marcel raised the point that the cable ends near the hybrid may require redesign. After the meeting, I talked to Mike Utes, and we measured the following picture:



From the center of the connector to the inside edge of the bond pad is  $10.75 \pm 0.1$  mm by measurement on a 5X life-size drawing. However, it is 11.5 mm from the connector center to the edge of the DJC. Several folks stated that this is too long. After investigating, Noel stated that reducing 11.5 to 10.5 mm was easy, but more was quite difficult. However, there are wire bonds on both sides, and the body of the cable can just as easily flop down onto a wire bond on the right-hand side as can the edge of the cable wreck a wire bond on the left-hand side. Yours truly believes that we need a physical step or some other way, such as potting, to protect bonds on both sides.

### Junction Card:

- 1) The 3-connector junction card is well underway, and there were no comments on the top layer of its layout. Several boards stuffed by May 1 will be in time for the SVX4. In answer to Alice's question, there is no effort on the 2-connector card. However, Russell pointed out that it is fairly easy to go from a 3- to a 2-connector version.
- 2) There was some discussion of whether attaching the twisted-pair cables had been tested. Significant partial testing had been completed, but not with the final cables as designed.

### **Adapter Card:**

- 1) The 4-channel adapter card layout is well underway. Even with a large amount of schedule padding by yours truly, prototypes should be available by June 15. This is, of course, subject to parts availability. Though Alice would prefer a quicker start, work on the 6-channel card will not commence until the 4-channel card PCB is submitted.

### **“Purple” test card:**

- 0) By initial electronics meeting choice, the purple card was started later than the other cards, so is behind. At present, we are still attempting to fix on a single set of specifications. During this meeting, most of the uncertainties were removed, though 1 or 2 still remain. The following decisions were made:
  - 1) The Leflat “between-the-sensors” layout was chosen.
  - 2) Five LEDs are to be used per channel, indicating DVDD, AVDD, analog (12 volts), board power (5 volts) and HDI enable. The 12-volt extra voltage was also accepted.
  - 3) SVX4 voltages can be read out on test points, and do not have to be brought out to remote locations for ease of reading.
  - 4) A small temperature offset was accepted. One cannot reach zero volts without an additional power supply to provide an offset.
  - 5) Socket fuses for power were approved for installation on the backside where the power comes into the card.
  - 6) Two Cal-SR lemo connectors will be installed, one for each hybrid. However, yours truly is supposed to talk to Petros about this one.
  - 7) Power will be separately provided for A and B channels, and also separately for AVDD and DVDD within each channel, with provision for jumpers.
  - 8) The 2-inch clear zone behind the AVX connector on Leflat’s drawing was provided for making a connection. Vertically short components could be installed inside this 2-inch area.
  - 9) It was decided that board protection was required against all scenarios such as when the DVDD line blows a fuse, but AVDD and transceiver power are still on. There appeared to be less concern about switching off the high voltage (detector bias).

