



Date: December 2, 1998

DRAFT

To: Hank Crawford

From: Leo Greiner

Re: CTB testing

Hank,

I believe that the following testing regimen is appropriate for the CTB sub assemblies and further that the tests of the components of the trays has been adequately planned. Thus, the focus of this document will be on the tray, CDB and system level tests.

Assembled CTB Trays:

This procedure or some reasoned variation thereof seems appropriate

1. Apply HV and use a light source to look for light leaks in the tray.
2. Use a source and set the HV to give a standard signal pulse height at a measured spot on the slat.
3. Let tray remain at HV for 24 hours.
4. At that HV setting, measure 3 fixed places on the slat comparing the relative pulse height and shape to the standard sample.
5. Record results.
6. Use pulse generator to drive LEDs as per agreement with Bob Minor.
7. Examine pulse height and pulse shape from analog signal output.
8. Compare to approved prototype and record results.
9. At BNL before installation; trays should be held at nominal HV level for 1 week and functionality re-checked before installation.

CDB:

See CDB testing document.

System Tests:

For these tests we will need a CTB tray (agreed with Geary to be delivered to LBL by November 1, 1998), a completed CDB board with associated system hardware, VME crate, slow controls link and control station and miscellaneous test equipment. It is likely that we will not have a DSM/DSMI board to interface nor will we have a TCD module with associated driving hardware. This will require that we test functionality that we can use using scopes and logic analyzers and pulse generators for these early system tests. We should test all functionality of the board possible using the correct length cables and in as close to the final environment as we can. As the associated electronics hardware becomes available we can test the functionality that we missed in the earlier tests and continue the integration as a system.

