

Notes from the 07/25/06 MI BPM Upgrade Meeting
Bob Webber
These notes can be found in Beams docDB #1526.

Agenda as announced:

Status reports from -

Steve/Luciano --- software including the "Greychip problem"
reported last week
Andrea --- transition boards
Stefano --- individual board addressing/gain setting/readback
Brian --- Anything from ACNETland? Crate monitoring and alarms?
Marv --- Transition Board-to-EchoTek cable testing plan, VP121 fix
Bob D. --- Measurements to establish 53MHz transition board gain
high, medium, low parameters
Bob W. --- pbar measurements
AOB

- The official installation order is:

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*      MI40, MI30, MI20, MI60S, MI60N, MI10, MI50      *  
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0. Announcements.

- None

1. Steve F. - The "Greychip problem" is now understood to be the result of choosing a sample point out of the Greychip not sufficiently delayed from the trigger to allow data to propagate entirely through the Greychip pipeline. Steve presented data listings and plots to demonstrate what goes on. Steve has identified on the test stand a proper sample point that should be used. We will try this change in one house at a convenient opportunity before making the change ring-wide. This change will likely require re-adjustment of house delay values (both proton and pbar) when implemented.

2. Andrea - Transition boards
66 now re-calibrated
2 with burned power traces still in FCC
2 in FCC repair
2 in Andrea's area with remaining manufacturing problems

3. Stefano - Control Board firmware enhancements still in process, no estimate for completion. He notes that the single module addressing feature will be relatively easy to achieve and the readback feature will be considerably more effort. New FPGA's are being procured to replace a couple non-functional ones.

4. Brian - No news on ACNET front.

5. Marv/Bill/Bill - Cable connector problem that affects up to 25% of the short transition board to EchoTek cables has been determined to be caused by bad crimp connections. Marv has identified crimp tool that

can be used to correct the problem. The 'bad' cables appear to be in good condition except for the inadequate crimp. Marv will head effort to re-crimp all these connectors, including those already installed in the ring.

6. Bob Dysert - He and Dave C. have made measurements of transition board 53MHz channel outputs under different beam bunch configurations (7 bunches, 30 bunches, and single coalesced bunches). He has not yet analyzed the data to be able to propose values for the different gain setting ranges.

7. Bob Webber - Showed more 'movies' of 2.5MHz pbar raw data signals that demonstrate the noise possible on those signals. More noise investigation is required.

8. Discussion of replacement and installations:

- MI-60 North installation planned for Wednesday, 7/27. This will have new power cable harness.

9. Other discussion

- Problem reported last week at VP121 (no signal on one channel) was cured by re-seating the transition board.

- Marv reported that building temps at MI-60 North are sufficiently high to cause the crate staged for installation there to go into temperature alarm. Alberto agreed to talk with Ioanis to see if cooling might be improved in that area.

- Deploying the new control card features of single transition module addressing and readback will require careful coordination whenever upgrades are ready. Transition boards, control boards, and timing boards will require firmware updates and the front-end software will need modification also. Current thinking is to update transition board firmware in-situ so that these boards and cables need not be removed and to update timing and control board firmware off-line and then swap boards when the time comes. All transition boards require DIP switch settings to indicate location (address) within the crate to accommodate the single module addressing function; it is believed that this has already been done as part of the transition board re-calibration effort.

No update on Maintenance and Test Signal Exercising Online software specification efforts.