Notes from the 07/11/06 MI BPM Upgrade Meeting
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These notes can be found in Beams docDB #1526.

Agenda as announced:

MI operation status, status of MI BPM upgrades.
Discussion of replacement and installations:
MI40,MI30,MI20 DAWN VME crate replacements
MI60S installation
Transition board recalibration
Transition crate modifications
Remaining work:
Transition board controller
Board by board gain control
Gain settings for 53 MHz
Diagnostic mode
Other?
Validation
AOB

- The official installation order is:

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

- Steve W. will be away the next two weeks. Some combination of Bob, Manfred, Dave, others will keep the project moving along, call or cancel the Tuesday meetings, help to organize the installations, etc.

- Dave is gone Monday and Friday of next week.
- Manfred is gone at least part of next week.
- It is summer, people are gone a lot.

1. MI operation status, status of MI BPM upgrades.

- According to Dave the three installed systems are working well. There are a couple of issues that still need to be dealt with:

- Raw mode causes some confusion. This is not a major issue as it almost always happens in the control room and so is easy to identify and clarify what is going on.

- The reverse injection of protons from Tevatron to MI is a real issue having to do with triggers, timing, data collection and applications. Dave is working with others on various schemes to get this to work, especially as we get closer to installing MI60N and MI10.

2. Discussion of replacement and installations:
   MI40,MI30,MI20 DAWN VME crate replacements
   MI60S installation
   Transition board recalibration
   Transition crate modifications
   Remaining work:
   Transition board controller
   Board by board gain control
   Gain settings for 53 MHz
   Diagnostic mode
   Other?

- In the past week and a half quite a few issues/problems have been found and in most cases resolved.

- The DAWN VME crate had a fan change in manufacturing that required a change to the crate (a small wire had to replace a fuse). This correction has been made to 8 crates so far (of the 11 for MI BPM). The other 3 are in the service buildings. All of the MI8 crates are also done by this time.

- The transition board calibration for 2.5 MHz A/B channel gain equalization. Andrea has re-calibrated 27 boards (as of Tuesday morning 7/11/06). This gives us enough to start on the replacement of VME and transition boards.

- The transition board crate has some power distribution that needs to be modified. The modifications are described in more detail in Stefano's slides.

- After a lot of discussion we decided on the following plan:

- Replace MI40 DAWN crate and transition boards 7/11/06.
- Install MI60S system 7/12/06.
- Replace MI30 and MI20 DAWN crate and transition boards 7/13/06.

- The transition crates' power distribution changes will be done at a later time or whenever it is convenient to do so. It is a simpler, quicker job in any case.

- Other DAWN crate status from Tim Kasza. One new crate has an F6 fan failure problem and this will be sent back to DAWN as a warranty repair. One of the TeV crates is being repaired by DAWN. One other TeV crate has an issue with monitoring that needs to be looked at. One of the new DAWN crates has a firmware difference and will be modified once we get word from DAWN about what to do here.

- Peter Prieto has a quote for a different VME crate ust in case we find that we need to pursue something else.

- Charlie is looking into crate monitoring, especially in the case that the fans fail and the crates overheat.

- Stefano's slides can be found in beams-doc-1526. Highlights include work being done on the controller cards, changes to the cable harness and power supplies (see photos for details), and the proposal to set the addresses on the transition boards for future board-by-board gain setting capability. We agreed to have the board addresses set as part of the transition board replacement.

3. AOB

- Bob Webber presented data taken with Bob Dysert, Peter Prieto and Steve Foulkes last Friday. The motivation is to understand raw mode and to use it to help with pbar timing. Various quantities were examined including signal amplitudes, computed positions, relative timing. There were many plots and these will be documented in a future beams-doc note.

- One feature unexplained was some large amplitude variations in the sum signal from BPM to BPM. (Since the meeting it has been found that some of the BPM signals are split and this could be an explanation for the behavior seen.)

- Some timing has been changed based on the results seen so far (mainly pbar timing so far).