

Minutes for AMiBA Engineering Telecon

Meeting Date: 30-July-2003

Participants:

Australia: W. Wilson, M. Kesteven

USA: D. Kubo, B. Martin, J. Peterson, K.Y. Lin, F. Patt

Taiwan: H. Jiang, J. Han, W. Ho, T. Huang, P. Shaw, H. Wang, C.T. Li, P. Ho

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Minutes Recorder: D. Kubo

[comments from this week](#), [previous weeks comments](#)

I. New Action Items:

AI-24July03-1: Bob/Ferdinand: Resolve site bidding issue.

II. Previous Action Items (still open):

AI-17July03-1: Chao-Te/Derek: Finalize the backplane details for the 1st Section and begin detailed design.

Derek, Homin, and Ferdinand to discuss this before the next meeting.

CT - Planning to modify Homin's backplane board for the correlator. Derek - wanted to stay involved with the electrical/mechanical details. Bob suggested that Derek, Homin (presently in Hilo for SMA) and Ferdinand discuss these details before the next meeting.

III. Closed Action Items (as of this meeting):

AI-24July03-1: Bob: Inquire with Ferdinand/John Payne's about their noise generation approach and the possible integration with Ming-Tang's 2 new receivers sometime in middle to late September.

Ferdinand - Will begin tests of photonics approach (to generate noise) sometime in Sept with John Payne. Plan to use NEL photo detector. Need the use of Ming-Tang's receivers at that time. It would be nice to have receivers with the noise couplers but that may not be possible (due to schedule). Alternate plan would be to put the photonics device at the secondary (3mm hole).

Mike commented that the original concern about the noise spilling over to an adjacent dish may not be a problem because it falls outside of the lag range of the correlator (25ps/lag, +/- 2 lags). Dish spacing is 60cm (2000ps)

IV. Miscellaneous Discussions:

MMIC: Huei - Did not receive a status e-mail from NGC this week. Bob will follow up with an e-mail to Paul Clintworth.

Bob - Has arranged for a weekly status to be sent (by NG?) on Tue or Wed. Had to cancel the TRW PO and reissue a new one to NG because too much time has passed by.

Receiver: Chao-Te - Still waiting for W/G parts (should be ready 1st week of Aug) to perform the tests on the phase shifter. Receiver assembly is still in progress in the receiver lab.

Minutes for AMiBA Engineering Telecon

Ming-Tang - Status - problem with plating (of cryo chambers?), waveguide parts have been in customs since Monday. Noise injection - tried Warwick's suggestion but ran into a problem with the physical orientation. Need to make another custom waveguide for the VNA (and receiver).

Schedule - current estimate is provide 2 new receivers with new noise injection scheme approx 2 months from now (late Sept). Should not bother with trying to upgrade the 2 prototype receivers. These 2 receivers will be installed into the prototype and Bob will try to mesh this with Ferdinand/John Payne's noise sources.

Paul S. - Received e-mail from John Payne about the shipment of 10 OMTs from NRAO this week. This should bring the total number of OMTs to 14 (13+1 spare). Should we ask John about the possibility of them making 6 more for the 19-element system?

LO/IF: none

Correlator: Derek - Sent Data Acquisition board to Warwick on Monday.

1st Section: Kyle started characterizing the first 11 (of 16) 1st Section IF modules using CSO's VNA. Amplitude and phase look quite consistent between modules even though there is a lot of parabolic phase. Max delay difference seen so far is 16ps (~3mm in Teflon). SN012-016 are still missing parts borrowed for the prototype, expect these to come in within 2 weeks.

2nd Section: Waiting for Peter to return from supporting the SMA to complete the 2nd Section assemblies. Peter has been gone for almost 2 weeks.

Correlator Frame: Waiting for Peter to return to modify the mockup frame. There is a problem with one of the dimensions.

3rd Section PD: ETC mid September.

Readout Board: Sent out schematics for review by the correlator team.

Kyle/Cheng-Jiun presently debugging a new problem with the Data Acquisition board which began sometime last Friday after departed the mountain. This issue has stopped all planned tests for now. Cheng-Jiun, Kyle, and Derek will try to resolve this with the remote assistance of Chao-Te (and hopefully Warwick).

Derek - Finally was able to sweep the first 4 1st Section IF Distribution modules last Thursday. Distributed the data via e-mail. Confirmed with Jeff P. that large parabolic phase (smile down) is not a concern since they are all the same. Also swept our first prototype 2nd Section assembly. Response looks good as well.

Derek - Lost Peter's help to the SMA again this week. This continues to hurt the correlator schedule. Derek stuffing the 1st final DC amp board before subcontracting the rest.

Platform/Mount: Ferdinand - Vertex mount - Saw jackscrew testing for 1 day. They had to interrupt the tests to cool their small test motor. Setup looked generally good. Next tests will be the U-joints. Philippe visited recently (after Ferdinand's visit) and said these tests have begun but no results yet. ETC is about 2 weeks. Ferdinand went to Poland and saw the giant support cone. This cone should be in Duisberg right now. Asked that a video-cam be installed (~1 frame/2 secs) to record how they handle the large metal pieces. Visited the assembly hall which is close to Vertex. They have an ISDN line for Mike to control the mount remotely. Motors are tilted inwards - Don't want cables tangled. Drive cabinet looks OK.

Minutes for AMiBA Engineering Telecon

Bob - CMA platform is currently in assembled state. Final gluing today, inspection and testing tomorrow. Thereafter painting, then ship from Tucson to Duisberg. Estimated arrival in Duisberg is end of August. Integrate platform onto mount 1st week in September. Cable wrap - Viola is building cable wrap in France. No tax will be charged.

Bob - summarized status and distributed via e-mail. Estimates that CMA will ship platform to Germany Aug 4 (slipped from July 22) but this shouldn't affect the integration with Vertex (because they slipped too). Platform should arrive in Germany on Aug 29. The Vertex mount schedule has slipped by 3 weeks. Bob thinks that the mount (and platform) will ship from Germany sometime in early November (originally early Oct). Paul S. believes it will be closer to the end of the year. Paul Ho EXPRESSED his concern about these slips, in particular with Vertex.

DC Power Distribution: none

Enclosures: none

Site Issues/Network: Bob - Received only 1 bid for the site work and it was much higher than expected. More on this issue later.

Ferdinand - Wallace Oki, electrical consultant, will have the 1-wire diagram and permits complete at the end of next week.

Dishes: none

Ted - Alone (Dr. Ong's company) started the 5 60cm dishes and will send the schedule to him next week. The 2 dishes will be shipped to Hilo next week after he receives the boxes.

2-Element Prototype Issues: Shipped Data Acquisition board to Warwick for FPGA replacement.

Ran into a major problem last Friday evening. See discussion under correlator section.

Schedule: Paul Ho - Schedule performance will be an important parameter for our upcoming proposal.

Paul S. - Will be sending out a formal proposal (to NSC?) in late August for the expansion of AMiBA. Need to show: a) that we can control our budget; and b) how much progress was made. Paul will be distributing the current draft proposal for review by others. Paul wants others to provide an accurate budget estimate (for expansion) and photos to show progress.