Minutes for AMiBA Engineering Telecon

Meeting Date: 10-June-2004

Participants:
Australia:
USA: Ming-Tang, T.H. Chiueh, Jeff, Ferdinand
Taiwan: Ted, Johnson, Kyle, Paul Shaw, C.T., Homin, Steven, West, Patrick

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Minutes Recorder: C.T. Li
previous weeks comments

I. New Action Items:

AI-June10-1: Philippe/Ted – To check the results of previous acceptance measurements for the 30 and 60-cm dishes.

AI-June10-2: Philippe/Ted/Paul – To discuss the items that CMA has not fulfilled according to the contract. Then Ming-Tang will follow up to discuss those issues with Bob Romeo.

II. Previous Action Items (still open):

AI-Apr22-1: Philippe/Ted – To form a solution about how to deal with Bob Romeo, and decide whether he is responding to the components that we need.
Ted – We had a telecon with Bob Romeo on Monday to discuss with him about the modifications that we want. He will come up with a proposal and quotation. He has sent an email to Ming-Tang regarding the payment.

Ted – The photogrammetry testing is done. We're waiting for the result. We have sent the modification plan we have so far to Bob Romeo to give us a quote.

AI-Apr22-2: Philippe/Ted – To check on Along's analysis and come up with a conclusion on how to repair the platform.
Ted – We have received Along's analysis. However, the result is not applicable because the unit is few orders of magnitude different. They have to re-calculate it again. Also they used best-fitted curve model, not the best-fitted plane model that we need.

Ted – Along will deliver the model by next Monday.

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

IV. Miscellaneous Discussions:

MMIC:
Ming-Tang – Will call Prof. Wang to discuss continuing support of MMIC work.

Ming-Tang – We need to resolve some administration issues - how we plan to use those MMICs they develep, e.g. how to package them. I will make a suggestion to P.I. for them to continue their work for another year.

Receiver:
Homin – We plan to ship Rx #3 by the end of this month.
Ming-Tang – Rx #2 has arrived in Hilo. Rx#1 has warmed up due to the leakage. Johnson will come over the weekend to work on them. We also need to fix the vacuum window of one of prototype receiver.

Homin – Rx #2 should be in Hilo custom right now. We're working on Rx #3 and 4.

LO/IF:
Steven – Prof. Chu will not be in Taiwan until next week. We haven't discussed with him about another IF amplifier yet. We're working on IF/LO module #4.

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C.T. - The IF power from Rx is about 10dB lower. The possible solution is to use two IF amplifiers along each channel in IF/LO module.

Calibration System:
Ferdinand – I got the mock-up for the sub-reflector that I can design a translation stage fixture in this week. I received parts from Taipei, e.g. photo-couplers, power dividers, and some bias circuitry for photonic detectors. Still lots of work to do.

Ferdinand – Got the translation stage for the calibration system. I will need to design some fixture for it. I can put together some report.

Correlator:
C.T. – We're working on some minor modifications and mechanical designs. Plan to ship the system in July.

C.T. – Johnson swept the IF gain profile of correlator system. We can find out the new slope equalizers that we need. We're wrapping up the system, checking every module, for the shipment.

Platform/Mount:
Ming-Tang – The mount acceptance test will take place in the week of June 22.

Ferdinand – The mount finally moved at half speed, up to the limit of 30-degree elevation. Before I left last week, they started to install the laser tracker to measure the platform. We should be able to perform the acceptance test in Vertex by end of this month.

Dish:
T.H. Chiueh – The dish temperature is about 25 degrees additional to the sky. Their shielding is not plated with metal.
Ming-Tang – We had a discussion before about whether the shielding should be reflective or absorptive.
Ferdinand – If the shielding is reflective, you could have standing waves or pick-up. If it looks like a semi-transparent absorber, you add more noise to the system due to the radiation at the ambient temperature.
Ming-Tang – For the large (2.4m diameter) dishes, we need to do some feasibility study and work out the detailed specs.

Site:
Ferdinand – I will send some blue prints of the site to the company for the shelter design. They're working on the engineering design. The container should be in Hilo by end of the month, shipped up to the mountain, then the electrical can be finished.
Paul Shaw – We will need to the inspection record to release the payment, which has been sent out by Ferdinand.

Ferdinand – For the shelter, the P.O. was placed yesterday. The shelter should be delivered in 8 weeks. The P.O. for equipment container was placed. It should take about 2 weeks for delivery.
Ming-Tang – We're ready to pay the first 70% of payment.

2-Element Prototype Testing:
T.H. Chiueh – We went up last night to look into the moon. The purpose is to check the antenna efficiency. The temperature of moon is about 300K, compared to 150K of system temperature. We should expect 3 or 4 dB change in IF output when the moon passes by. We only observed 1dB. We put a white board on the bottom of the primary dish while looking at the moon. The image is not sharp, about 3.5 cm diameter, compared to feedhorn diameter of 2cm. Only 50% of light is collected by the feedhorn.

Administration:
Paul Shaw – Per funding agency's request, we will have a news conference for Cospa and AMiBA project in mid Sept to present our research results to the public. Hopefully platform and mount should be installed by then. I will follow up the shipping documents.