Minutes for AMiBA Engineering Telecon

Meeting Date: 04-November-2004

Participants:
Australia: Michael
USA: Ted, Kyle, Jeff, Philippe
Taiwan: Ming-Tang, Pierre, C.T., Steven, West, Patrick, Johnson

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Minutes Recorder: C.T. Li
previous weeks comments

I. New Action Items:

II. Previous Action Items (still open):

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

IV. Miscellaneous Discussions:

MMIC:

Receiver:
Johnson – It seems that receiver temperature fluctuation (from 10 to 12K in 5 to 10 minutes) is not related to the bias. Right now all 3 receivers have this problem regardless of bias. We can not tune the Id (drain current) of Rx #3. Tashun is checking the wiring inside the dewar. We need to replace a broken adapter on Rx #2. Tashun will fix the leakage of Rx #1 by replacing the Kapton.
Pierre / Jeff – There is some maintenance for the compressor that needs to be carried out regularly, e.g. changing the absorber. The contamination in the Helium lines might be the cause for the fluctuations.

Johnson – We will put on the translation stage for the receivers, and leak check on Rx#1. Rx#2 still has the 3K temperature variation in few minutes even when the bias is off. It might be due to its cold head. We can try to put on a new one when the spare arrives (shipped with correlator).
Homin – I've tried the communication between Vertex's computers, and set up a webcam for the hexapod. We have ordered 100-meter optical fibers and two transceivers for the network. I am going to try connection with the optical telescope.

LO/IF:
Steven – The vendor of the variable gain amplifiers suggested we test them with a series resistor along with the control voltage. The other possibility is to use fixed-gain amplifiers with variable attenuators. Their attenuation flatness looks very good. But the unit price is about 2,600 US dollars.

Steven – I have tested the variable gain amplifiers. It seems their gain flatness, phase stability, and gain variation with the control voltages are marginal. I've asked the vendor for explanation. We may need to look for another solution.

Calibration System:
Kyle – The YIG oscillator has arrived. We're still waiting for other components from Wisewave.

Correlator:
C.T. – I'll be in Hilo next week to install it.
Kyle – The shipment is still in Honolulu. If we can get the custom clearance today, the shipment should arrive in Hilo within this week.

C.T. – Equipments were shipped on Tuesday. I plan to arrive in Hilo on Nov. 8. We received the revised total power circuit boards. We will assemble one and test it in Taipei first.

Platform/Mount:
Philippe – Yesterday we did the grouting on the cone inner ring. We will work on the outer ring on Friday if the grouting has arrived today. We have to think

about thermal insulation of the cone, otherwise we won't get a decent pointing because the top of the cone will move about 200 um more on one side than the other if exposed to the sun. In the original design, the cone is supposed to be buried into the ground, not exposed to the sun.
Ted – The shelter contain has been released from the customs. The installation will begin next Monday. People from the shelter company will arrive during the 2nd week of installation to work on the fabric installation and overall checking. We have placed the order for the materials for the dummy ring. It should be done by end of Nov.
Philippe – The jack screws will be installed by 1st week of Dec. Starting Dec. 1st, Vertex electrical engineer will be in Hilo to do all the cabling. Hexapod assembly should be done by 2nd week of Dec. We can start with test on 20th of Dec. with the dummy ring. In the mean time we'll be in Tucson for platform acceptance, between 13th and 17th of Dec. If the platform shipped in time, we should be able assemble it during the last week of Jan. Vertex servo and software engineers could come here in mid to end of Feb. We will check with Vertex about our plan of testing the hexapod with the dummy ring.

Ming-Tang – Philippe and Ted have finished the cone installation. The Vertex engineer will come by end of this week to check on the leveling and alignment. Then we will begin the grouting in next week. The shelter should also arrive in next week.
West – I am waiting for quotes for the flexible Helium lines. I will do some modifications on Helium hard line layout and design the fixture.

Dish:

Jeff – The receiver components have come through the customs, but haven't arrived yet. We have machined a mount for an ultra-bright LED (Luxeon), which we can put at the vertex, and point toward the secondary mirror. The LED will illuminate the secondary mirror. From 100 yards away, we should be able to see the entire primary filled with light. That allows us to check the optical alignment.
Ming-Tang – We should ask Along not to do the assembly of 60-cm dishes (with the revised secondary mirrors) until we verify the dish temperature.

Jeff – We have received the importation notice about the receiver components used to test the 1.2-meter dish.
Patrick – One 60-cm dish was shipped to Hilo with correlator on Tuesday. Michael will be on site during the pointing testing. His program can accommodate the orientation limitation with the dummy ring.

Site:

Ming-Tang – Pierre and the contractor are working on the electrical wiring around the site, especially for the shelter.