

Minutes for AMiBA Engineering Telecon

Meeting Date: 19-Jan-2006

Participants:

Australia: Michael

USA: Bill, Keiichi

Taiwan: Homin, Edwin, Eugene, CT, Paul S., Chia-Hao, Joshua, Johnny, Paul H., Hiroaki, MT, Ted

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Minutes Recorder: Kyle (from recording)

I. New Action Items:

Philippe - Summary report of photogrammetry measurement.

Ted/Bill - Replace the damaged motor for shelter.

Keiichi - Summarize dish configuration issue.

Keiichi/Patrick - Mount testing.

II. Previous Action Items (still open):

(29/Dec/05)

Bill/Ted/Pierre - Modification of shelter.

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

IV. Miscellaneous Discussions:

Platform:

MT - I talked to Philippe about the photogrammetry report. He's having some difficulty in finding out a fitting function for all the data we've taken. Nevertheless he will circulate the report in this week. I am hoping someone in Taipei can help him on the fitting. Last time Ted sent the data to Prof. Chiueh and some people. We haven't heard anything yet.

(29/Sep/05)

Philippe - I will spend some time to look into the safety issues of operation.

C.T. - I would like to ask the science team to finalize the configuration of 7-element receiver locations.

Shelter:

Bill - The front motor M1 still has noise when large load is put on it. I plan to open the cover and take a look. Could Ted help me find the drawing?

MT - Ted has placed and Debbie is processing an order for a pair of more powerful motors (50% more powerful). They are in stock so we should get them pretty soon.

Bill - Pierre will be here next week. He can check on the motor first. If ok, then we can replace them.

Ted - We have finished the design for shelter elevation. Now we are contacting different vendor to make the parts. The basic design is to use H-beam and I-beam to elevate and support the entire shelter by 1.2m. We would prefer 1.6m but it would block the fov on the south side (mountain slope side) by 40cm.

Bill - I am also designing the skirt of the elevated shelter. I need to measure some information on summit.

(08/Dec/05)

Pierre - I rewire the motor control and it is working. Now I am working on software. Also I'm waiting for some parts for hand panel and other things.

(13/Oct/05)

Pierre - One year ago we asked Manfred to add a few relays and software in PLC to indicate mount is in parking position. We need to test its function whether the relay is closed when the mount is parked when next time I am in Hilo.

Pierre - I have sent a mail to ASFI for calculations and detailed drawings.

Mount:

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MT - We asked Keiichi to install the optical telescope bracket next week when I am back in Hilo. Patrick and I came up with an installation procedure. We'll figure out what shim to use.

Keiichi - First I had some problem getting information from the log file of data taken yesterday. This did not happen to data taken before, so I would like to ask Hiroaki to help analyze the data.

Keiichi - We have a new software this week PTC v2.6. It should fix the problem of PTC corrections not recognized by the ACU, and the correction seems to be activated with the new version. However, I could not further analyze the data. As for testing on ACU 2.4, I don't see oscillation problem with interpolation table, the (az el) jump while skypol rotates seems improved, and there's no problem at azimuth zero-crossing.

Keiichi - About the error reading the binary log file, it showed some DOY error. On the other hand, we encountered severe ACU disconnections, and test_va has to be terminated and a new fastlog is created after test_va restart. Sometimes the disconnection is not severe and test_va will resume after some time. It seems I start to have problem reading the log file since test_va resumes after disconnection.

Michael - I have spent some time looking into the timeout problem and made some changes. If you could run TCPdump at the same time while testing and record the messages on the screen in addition to what's logged, that would be helpful. And you can restart test_va if there's some problem and avoid reset the TCS.

MT - I will discuss with Patrick and setup a meeting with Vertex to solve the timeout problem.

(16/Dec/05)

Michael - Repeatability needs to be checked. I think we can observe the same star several nights in a row. If they agree with each other, then it's probably good enough. For longer period, like a month, change in pointing model, we have to live with it. We will change the interpolation table regularly. On the other hand, there aren't many factors to change the pointing.

(25/Aug/05)

Patrick - Some temperature sensors have loose wires that need to be soldered. Someone onsite or in Hilo can do it.

Site:

MT - Last week Keiichi was asked to summarize a report why we would choose 1.4m separation. It has come out. Please read and give feedback.

MT - Bill has made some nice doors for the cone. Putting some paint would be even better.

Bill - For the central hole on the cone, I will use some wood to support a cover of aluminum.

MT - I also asked Philipe to start design an insulating wrap around the cone and hope to reduce thermal deformation. That's a long term plan.

Ted - We have postponed the installation of sleeping container to mid Mar because it will interfere with crane operation for the shelter elevation.

(08/Dec/05)

Pierre - I got a quote for the 2ndhand generator. It's about 10k including shipping to site. I'll also look for some comparison.

(24/Nov/05)

Pierre - Is there a coax cable for 10MHz clock from GPS time server to correlator on the platform?

(27/Oct/05)

MT - As for a new car, we seem to have reached a consensus. We also need emergency generator and lightning protection.

(11/Aug/05)

M.T. - Open issues in general on site:

(1) spare parts for the mount. Philippe will be in charge of it.

(3) lightning protection

(4) emergency generator

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(6)accommodation on site -> 2nd container for sleeping? Or visitor building for sleeping and 2nd container for office?

(7)a new car

(2)helium lines and cables routing to the platform

(5)how do people access the platform. Cherry-picker, ladder?

Receiver:

Eugene - Johnson sent a test report about receivers on the platform. It basically is ok except for the sky temperature analysis. We can talk about it later.

MT - I will ask Johnson when he comes back to talk to Kyle about the procedure and spec for the on site testing.

Homin - We tried to reinstall the monitor PC with the standard OS for other AMiBA PC (RedHat 9.0) but glish (to be used by Grxmon) failed to be installed. I have gathered some error messages.

Michael - glish is power scripting language but we almost only used for its GUI. I will talk to Homin to see if there's something I can help.

(08/Dec/05)

Pierre - I found that the LNA bias comes from a 7805 regulator which is sensitive to temperature change. I ordered a 8588 chip which is programmable and more stable. I plan to use hair dryer to test it.

(10/Nov/05)

Kyle - The first two Rx on the platform can accept one polarization of calibration when the cal source is ready.

(09/Jun/2005)

Pierre - Two quick fixes to the LNA power supply card.

1. Reverse the protection diode instead of removing it should provide a protection at 3V.
2. The polarized capacitor at output is reversed and I suspect it is dead. They should be replaced.

LO/IF:

Eugene - We almost finished testing of IF/LO 6. We have found some space possible to put more heat sinks to reduce the heat dissipation problem. And we are aiming to ship out #5 and #6 next week.

MT - The two IF/LO take about two weeks to arrive Hilo. And starting early Feb, we'll do some test on them in the lab and then install them to receiver 1 and 2. By mid Feb, we should be able to have four receivers on the platform.

Joshua - I plan to ship out all seven sets of electrical cables today because next week I will be on Lulin.

(05/Jan/06)

CT - I will ask Johnson to monitor the (DRO) frequency drift on platform with temperature variation.

(27/Oct/05)

Johnson - We also tested the phase switch in IF/LO5. The result is different from Steven's. I used 2.4mm cable but Steven used 3.5mm cable. 2.4mm should give the correct result. I will use 3.5mm to double check the consistency.

Correlator:

Po-I - I will pack and ship all five gas spring today or next Mon.

Chia-Hao - We should receive the translation stage today. I will check it and ship it to Hilo next week.

CT - The X-window problem is resolved. If we activate the X from remote machine, then it should be fine. And I will get the new computer next week. I will install software and bring the boards to Hilo on Feb/12. If I have enough time to check the new computer, then it can be packed and ship to Hilo before I go. And later I can swap them.

(10/Nov/05)

CT - I am looking into the backup plane of readout system. Simulation shows the FPGA should work. I will continue this after I get back from Hilo. I will depart next week.

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(06/Oct/05)

C.T. - I want to test one baseline with electronically-tuned attenuator for LO to balance the power between phase states. One concern is if the control has some delay (like we found in prototype testing with a PIN attenuator in 21GHz LO), then the scheme would not work.

Calibration System:

(12/Jan/06)

Kyle - Before Pierre went on vacation last week, we contacted a few vendors about the Linux version and driver for the motion control compatibility. One of the vendors had good response but the other did not answer yet. I will keep pushing them to find an answer.

MT - I will try to find someone to help you.

(13/Oct/05)

Kyle - I will put together a schedule when the calibration should be online and when we should really push to finish the system.

(29/Sep/05)

Kyle - I will circulate the test results presented in the workshop for more comments. And we also need to discuss the next step of the calibration system.

Dish:

(12/Jan/06)

Paul S. - Dr. Ong updated the schedule that they are planning to have the primary for surface measurement on Jan/19. The next item was indicated as beam pattern, correct?

Ted - I have asked Cotech to add some design to hold the dish cover. I don't know if they did.

Paul S. - The small telescope holder is in the design but the fabric holder is probably not. I will ask them to clarify.

Ted - About the 60cm dish cover, Dayton said he can only finish the structure early next week. By that time, I will be gone. The fabric from GORE will come in early Feb.

MT - Bill, can you help on this issue? Just check how it looked like and maybe if you have some other idea.

(10/Nov/05)

Patrick - Locutus is designing the interface with beam pattern measurement setup.

Misc:

(12/Jan/06)

MT - I think we really need to solve the Vertex problem and close the contract. RF test will begin in Feb. Now we are lacking manpower for the test. Johnson has done some testing regarding freq drifting and noise temperature. Let's wait for his report.

(16/Dec/05)

Patrick - MT mentioned that we should have a place to collect all the important information and factors of the system, different from the everyday communication of problems.

CT - I think for what Patrick said, people can request such information in the weekly meeting and the responsible person will come up with the information and be collected somewhere. The important information does not change very often.