Meeting Date: 16-Feb-2006

Participants: Australia: USA: Bill, Keiichi, Pierre, Ted, CT, Johnson, Fabi, Johnny Taiwan: Homin, Edwin, Eugene, Paul S., Chia-Hao, Hiroaki, Kyle USA Dial-in = 1-877-505-6247; passcode 8339148 #; mod_code 2917771 # Outside USA Dial-in = 1 630 693 3224 Minutes Recorder: Kyle

I. <u>New Action Items:</u>

II. Previous Action Items (still open):

Kyle - Detailed test plan.
Philippe - Summary report of photogrammetry measurement.
Keiichi/Patrick - Mount testing.
Bill/Ted/Pierre - Modification of shelter.

III. <u>Closed Action Items (as of this meeting):</u>

IV. <u>Miscellaneous Discussions:</u>

<u>Platform:</u>

(09/Feb/06)
MT - Philippe sent in his summary to me. I will ask him to circulate it.
(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:

Ted - Pierre is working on the shelter control. Ted - We found the motor M3's anchor bolt being pulled out from the concrete, probably due to overloading. We've fixed it and put some epoxy to reinforce. Short term operation should be ok. In the long run, we plan to put more anchor bolt and to raise the stand of M3 by about 1 ft. (09/Feb/06) Pierre - About the load cells, the vendor can not ship earlier. So it will be shipped on Mar/4. (13/Oct/05) Pierre - One year are we asked Manfred to add a few relays and software in PIC to

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.

Mount:

Keiichi - The timeout problem seems to be solved with new ACU software. Michael ran tcpdump test and did not find any further timeout. There were two types of timeout as described in previous meeting. Stephan explained the disappearance of type (2). However, type (1) is still a mystery. Michael suggests to still keep monitoring the network communication.

Keiichi - The minor problem of software pre-hard limit problem is solve. **Keiichi** - We have took 12 sets of 100-star automatic pointing. Vertex has provided the interpolation table based on our analysis of these data. We will try it next. The interpolation table is obtained with OT tilt signature removed from the pointing error. There is still a quadrapole signature left in the error. Once I included the feature into the fitting formula, the residual got further reduced to 0.6 arcmin. The quadrapole pattern may be related to platform deformation.

Keiichi - One remaining issue is the velocity dependent error in program track mode. Vertex has suggested us to check the star tracking accuracy after the interpolation table correction is ON. Keiichi - Hiroaki and Michael are working on automatic polarized pointing procedure in a boss. Kyle - The quadrapole signature in the pointing error may be related to the local platform deformation, and not part of the mounting pointing error. I suggest that we try hard to put a second OT on different locations of the platform and measure pointing error. And the common mode may be the mount pointing error. Homin - I think first you can try to remove the OT tilt angle and see how it improves. Keiichi - If we have time tomorrow, we will try to change the Hx and Hy value. (09/Feb/06) Pierre - I compared the network diagram from Homin and what's inside the container and found one extra switch. There are cables everywhere. I want to install a more professional 19" switch and clean up everything. MT - I agree we should try to make the container more professional. Pierre, please send your idea to Homin. (25/Aug/05) Patrick - Some temperature sensors have loose wires that need to be soldered. Someone onsite or in Hilo can do it. <u>Site:</u> Bill - The work on support cone cover is almost done. We can finish it tomorrow. Ted - I asked Aloha machinery to proceed on I-beam and H-beam. The delivery time is 4 weeks. Before that, we will do some preparation work on site. Ted - The living container is proceeding. We will receive it in early March and I will visit the vendor next week. (26/Jan/06) MT - Keiichi could you start thinking about the observing plan for the year based on some information and assumption of hardware availability and put it in writing to show people? (19/Jan/06)MT - I asked Philipe to start design an insulating wrap around the cone and hope to reduce thermal deformation. That's a long term plan. (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? (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 (6) accommodation on site -> 2nd container for sleeping. (7) a new car (2) helium lines and cables routing to the platform (5) how do people access the platform. Cherry-picker, ladder?

Receiver:

Johnson - Rx3 and Rx4 on platform are cooled down and the baseline now is 1.4m. When I decrease the drain current to reduce gain of 2nd stage LNA, the broad band noise temperature is still about 60K. I'll check narrow band property next. And according to the shipping schedule, Rx7 should be shipped out by Mar/1. (09/Feb/06) MT - By end of March, we should be able to have seven receivers. Tod Gier has sent out the rest of LNA and we should get them in these two days.

Kyle - We only have seven pieces of production feedhorn and one of them is being used for beam pattern measurement. Since all seven of them will be used in the receiver, I suggest we make a new fixture to hold the prototype feedhorn in the center of dish for beam pattern measurement. MT - Patrick, please summarize the preparation work for 1.2m beam pattern measurement, and we'll also need the schedule for 1.2m dish. Let's discuss this issue offline or later. (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 - The test report for IF/LO module 5 and 6 will be finished and circulate to you. Next we'll test module 7 and 8. Correlator: CT - I checked the new corr PC in Taipei and it looks ok but haven't finished yet. So I will ship it out next time. As for the prototype data board, they are compatible with the new system. So I can set up another system down in Hilo some time. I am still working with Warwick to solve the data transfer process problem. CT - I will start installing correlator modules starting next Monday. Also we will install the translation stage to check out the system. Johnny has put together the translation stage and needs to check out how it works. (26/Jan/06) CT - As for parts for expansion, I haven't heard from Warwick because he just got back from vacation. I will contact him again. (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: (09/Feb/06)MT - The next pacing item is the calibration system. Pierre - I think the thing to start could be the mechanical structure Chia-Hao designed. (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.

<u>Dish:</u>

Paul S. - The 1.2m primary will be sent for surface measure tomorrow. Li, Huan-Hsin will be there to observe the procedure. (12/Jan/06)
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.

<u>Testing:</u>

(09/Feb/06)MT - Kyle, please work with CT and Johnson to produce a more detailed test plan. <u>Misc:</u> Paul S. - The university review will be held in Hilo on Mar/9-10. (26/Jan/06) Keiichi - Mark Birkinshaw and Katy Lancaster are planning to come to Hilo. When will we be doing fringe? MT - We will have first light with dish, and it will happen after the shelter elevation is done. And by the time we have a successful fringe, we may want to have a dedication, also for the NSC review. Paul H. - For the review, I think it is better held in Hawaii where they can see the actual thing and a successful fringe. We'll try to arrange a good time for it. (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.