Minutes for AMiBA Engineering Telecon

Meeting Date: 17-October-2002

Participants:
Australia: absent
USA: D. Kubo, M.T. Chen, J. Peterson, T. Huang, K. Lin, F. Patt
Taiwan: H.M. Jiang, C.T. Li, C.J Ma, E. Hwang, H. Wang, J. Han

Minute Recorder: D. Kubo
comments from this week, previous weeks comments

I. New Action Items:

16oct02-1: Switching Power Supplies >> Homin: to find a switching power supply and run a quick test to see how much the regulator suppresses the power supply noise. Jeff suggest to use a 12V supply from a PC which is typically very noisy. Measurement should initially be done with an oscilloscope, should easily be able to see 10 mV of switching noise.

16oct02-2: Low Dropout Regulators >> Derek: Homin asked Derek to look at regulators and select a standard one for all of use (where appropriate). Ferdinand suggested some LDO regulators to look at.

16oct02-3: ML Network >> Derek: Ming-Tang asked Derek to see if we can get a mail router working at the summit so that he can send e-mails from there.

II. Previous Action Items (still open):

03oct02-1: Site Clock >> Bob, Ferdinand: Identify and order site clock.

Ferdinand is still waiting for quotes. He knows what we need and plans to place the order within a few weeks. This AI will be closed when the order is placed.

Ferdinand also asked whether the prototype correlator computer needs a timing signal input (I.e., date, time, 1pps, etc.). Both C.T. and Homin believed that there was no external input necessary when the equipment was setup in Taipei.

03oct02-3: Test Schedule >> Bob: Expand schedule to include retrofitting of the following: new version 2 receiver, 4-lag correlators, 60 cm dishes, new DC amplifier and readout boards.

Awaiting Bob's return on November 4.

20sept02-2: Platform/Mount >> Bob: Mike and Bob had some discussions about the calibration for the base. It was suggested that Bob begin a dialog with Vertex regarding this issue. It was also suggested to generate an interface document describing the drive of 3 rotational axis (look at draft interface doc from ALMA). This all has to be ironed out before the CDR on December 10th in Taipei.

No discussion.

12sept02-1: DC Power Routing on Platform >> Homin, Derek: Generate a spreadsheet of DC voltages and current necessary for each box.

Warwick commented that they have been using switching power supplies at ATNF without problems. Derek sent out an e-mail earlier this week asking others to take a look at the Agilent 66000 series supply (module w/ 8 plug-in switcher modules, low switching noise output). Homin suggested that we buy one and try it out with the prototype.

Derek – Received current draw numbers for the readout chip from professor Chiueh. Derek will recalculate the total current for the Correlator system and give this to Homin.

12sept02-5: 60 cm Dish >> Ted, Philippe: Prepare contract to Dr. Ong.

The PO will go out next week. Delivery is expected to be 100 days ARO.

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

03oct02-2: JPL's LNA Test >> Ming-Tang: Generate schedule for the noise temperature test in Hilo with receiver #3.

Ming-Tang sent this out via e-mail last week. He has received no feedback.

03oct02-4: Correlator Readout Chip >> Derek: Reconfirm delivery date and quantity of 4-lag readout chip.

Prof. Chiueh informed Derek that the initial 4-lag readout chip will be available for testing around the middle of November. He said that it always takes 4 months to fabricate/package the chips. The last run of this year will be November 20, which is probably not enough time to evaluate the chip. Prof. Chiueh has some uncertainties about the 1st run in 2003 due to some changes in fab center.

12sept02-4: Prototype Mount >> Ted, Ferdinand: Ted to finish/send the counter weight drawing, Ferdinand to have it fabricated at Dayton Jackson in Hilo.

Ted has pickup the counter weights and installed it onto the prototype mount.

Ted had to modify the counter weights for interference clearance(?). Modifications are complete and weights are on the mount.

IV. Miscellaneous Discussions:

MMIC: Huei Wang – TRW InP wafer will be done in 1 to 2 weeks. He needs to discuss the issue of testing these chips with Bob, Todd G. & Paul S. Cost is around $10 or $15k

Receiver:..Plan to begin installation of both receivers on the prototype mount on Monday. Can't cool down until the 3 phase power is made available to us.

LO/IF: No discussion

Correlator: Derek – Calculated the total cable slope (receiver out to correlator module input) to be 8 dB. Added an additional 5 dB slope for all the cascaded components (2 Celeritek amps, LPF, coupler, 2 PDs, switch, 2 Triquint die amps, custom 4-way on Duriod, and 9 pads) for a total slope calculation of 13 dB. Ordered 5 13 dB slope equalizers from Inmet (tubular

style, slightly longer than pads). Also ordered all of the male/male pads as well as the 4-hole flange mount pads for the 1st section.

Dishes: No discussion.

Platform/Mount: Ted mentioned that he is currently making some updates to the platform to accommodate the cable harness (RF coax, DC power, & data cables) and cryo-lines. Derek suggested to add screw inserts into the graphite structure spaced about 1m apart. This will allow us to put cable clamps where ever we want.

Ted has also fixed (or is in the process of fixing) the platform drawing which had the inner ring positioned incorrectly (drawing in RFP was correct).

Prototype Mount: Ted mentioned that there has been some discussion (by Jeff?) to motorize the hour angle drive. He measured the torque without the receivers and measured 5 nm. He will repeat the measurement after the platform is populated.

Site Issues/Network: Kyle – Jeff P., Ted, and Kyle have aligned the prototype platform with a shim and tested the pointing alignment using the optical telescope. Kyle reduced the data and found that the polar axis is off by only 5 or 6 arc minutes (too high and too far to the East). Ming-Tang mentioned that our beam-width is around 30 arc minutes so 5 or 6 is not bad. Ming-Tang suggested that we repeat this test after the receivers and other hardware is installed on the mount.

Derek – Received an e-mail from Darryl saying that we will have access to a VPN shortly so that we can connect from the outside. Darryl asked for usernames and passwords and also mentioned that we will have to load some type of client software.

Ted – Joshua is nearly finished with the electrical wiring, however, we still do not have access to the 3-phase power yet.

Hilo Facilities: Derek – RCUH contract for new office space near the SMA office hit a snag due to some unexpected clause in the contract. We will probably not be moving in until next week at the earliest. Derek will still work the installation of phones and network access.

Ming-Tang – Our new Hilo visitors can use the CSO office which can accommodate around 3 people. This office is located about 2 or 3 miles away from the SMA building.

Schedule: No discussion.

V. Other Inputs:

Revised correlator schedule for 7 & 13 elements provided to Paul S. from Derek.

Revised correlator material costs for 7, 13, & 19 elements provided to Paul S. from Derek.