

Minutes for AMiBA Engineering Telecom 20060504

Meeting Time: UTC 1:00, 04-May-2006, (Taipei 9:00am, 20060504) (HST: 3:00pm, 20060503)

Regular Meeting Time: UTC 1:00 Every Thursday

Participants:

Australia:

USA: Kyle, Su-Wei, Peter, Fabi, Chia-Hao, Kyle, MTC (minutes)

Taiwan: Homin, Eugene, Hiroaki, Keiichi, Patrick, Johnny, Johnson, Locutus, Protty, Pierre, Ted

USA Dial-in = 1-877-505-6247; passcode 8339148 #; mod_code 2917771 #

Outside USA Dial-in = 1 630 693 3224

- AMiBA current status:
 - A much brighter second light. (see Correlator)
 - Path length alignment.
 - Path length differences from some receiver channels are measured up to several cm.
 - Further tests with cables of various lengths associate the problem with individual receivers (rx-3 & rx-6). Kyle has gotten the data and he needed some more time to reach a conclusion.
 - Possible resolution is to insert external cable for path length compensation.
 - Grxmon does not function properly. Can not monitor multiple receivers under the correlator PC, nor the monitor PC.
 - Homin reports that the problem is mostly the hardware, particularly some I/O ports on F82 & F83 boards.
 - The boards in Rx2, Rx2, and Rx7 electronic box tend to crash monitoring program once been turned on.
 - Homin & Chia-Hao are on the topic. May need to disable some ports on the boards to isolate the problem.
 - MT notes that if the problem is indeed on the boards, need new replacements.
 - Rx2 warms up during the weekend. Cause unknown. Under observation
 - Ted to organize and schedule regular maintenance for various site instruments, including cryogenic.
- Pointing:
 - Star pointing OK.
 - Tracking OK.
 - Polarization test, under test.
 - Tests on hexapod polarization indicate no serious problem. Some drifting in the center of rotation (CoR). The magnitude is consistent with current pointing error.
 - However, "random" star traces & arcs obtained from polarization test. There seems no clear conclusion from this meeting. Ken and Patrick will continue their analysis to seek a convergence of the problem.
 - Interpolation table working?
- RX/IF/LO:
 - MTC reports that two LNA arrived from JPL, S210 & S226. For 2nd stage use only per Todd's advice. CT notes that tests the LNA as the 1st stage one for performance data.
 - Rx-7, pending on Johnson's arrival
 - Su-Wei and Chia-Hao will conduct an overnight stability test in the coming week.
- Correlator:
 - CT reports that GPS signal is fed into ATDC. The daily drifting from ATDC is reduce from 20 some seconds to almost none.
 - CT reports activity in thermal measurement on correlator frame.
 - CT reports that after frequencies (700Hz) of the phase switch and the signal demodulation are aligned, the correlation signal strength (from the Sun) is enhanced by factor of 25 in S/N. Consistent with the calculation.
 - Cha-Hao will continue the design work on the correlator cover door.
- Software update:
 -
- Site:

- Shelter improvement, electronic, pending on Pierre's return to Hilo.
- No update on firewall (John & Homin)
- No update on emergency power generator (Pierre & Ted)
- Few more tasks or issues need to be discussed or taken care of:
 - A Site PA system (Over internet?)
 - Light inside the shelter (For day time worker)?
 - Control container, water leakage need to be fixed?
 - Lighting protection?
 - Sleeping container, need to install a door stopper to prevent further door damage
 - Need discussion regarding move out the transformer? Pierre's comment.
 - A shelter operation procedure.
 - Fabric replacement (Long term, but important.)
 - Ground shield, feasibility study, may contract to Bill and ARL
 - Supporting cone insulation?
 - Platform covers for drop-thru holes (CFRP, strong structure)?
 - A stair way up to the platform – might have to order an off-the-shelf model and modify it?
 - Crane?
- Testing:
 - MT reports getting several response for second hand CCD sellers. Will make a purchase in the coming week.
 - Testing Schedule (Kyle)
 - Determine delay difference and order IF compensation cable. (Kyle) – *Early May, three weeks.*
 - Test, assemble and install Ant7 (Rx7). (Johnson) – *Mid May, two weeks.*
 - Install compensation cable and measure Ant7 delay with translation stage. (Johnson?) – *Late May or early June, one week.*
 - After compensation, measure fringe of each baseline as reference. (Johnson, Patrick, Hiroaki) – *June, two weeks.*
 - IF, LO monitoring. And phsw power difference, DC offset, noise property investigation. (CT) – *May, three weeks?*
 - 2nd OT installation and verification. (Patrick, Ken) – *Late May? Two weeks?*
 - Remove 1st OT and install 60cm dishes. Dish/Rx alignment with TP from sun. (??) – *Late June or early July? Two weeks.*
 - Planets! (??) – *July.*
- Dish:
 - Proty reports his analysis from the measurement of the 7th 60 cm. From his analysis, it shows the consequence of 2mm de-focus on the feedhorn will cause the lost of 5% aperture efficiency, with 15% increase in the first side-lob. It s agreeable that we accept the result and ship the dish to MLO. MTC notes that the result might be different with the real receiver configuration. Proty is confident that there should be the same.
 - No news on 1.2m dish (Paul Shaw). MTC notes that 1.2 M dish is becoming a very critical and pacing item in the task.
 - MT reports that he met Dr. Ong last week and address the criticality to Ong. Ong promised to support our effort.
 - Proposed Schedule (Ong, 4/20/2006)
 1. Mold modification: April 27
 2. New dish surface
 - May 2: dish surface preparation(machinning and polishing)
 - May 4: surface aluminum palting(Taipin, Taichung)
 - May 5: dish surface measurement(ITRI)
 3. Dish RMS calculation (Patric?) May 10
 4. Assembly and measurement May 12
 5. Delivery: May 15
 - 1.2 M dish structural support. MTC expresses concern on 1.2M dish mounting mechanism. MTC to ask Philippe to look into this issue.
 - No update on dish cover.

Traveling Schedule to Hilo

| | |
|----------------------|---|
| Chia-Hao Chang | May 2 - June 16 (Hilo) |
| Ted Huang | May 11 - June 12 (June 13 – 24 to NRAO VLA) |
| Johnson Han | May 11 - June 19 |
| Su-Wei Chang | March 2 - May 9 |
| Kyle Lin | March 7 - May 4 |
| Ken Chen | February 9 - May 9, return to Hilo a week after |
| Chao-Te Li | March 27 - May 23 |
| Patrick Koch | May 17 - June 12 (June 13 – 24 to NRAO VLA) |
| Hiroaki Nishioka | May 17 - June 12 |
| Pierre Martin-Cocher | Mid May – June |
| Homin Jiang | June 1 – 8 (May 28 – 31 to Orlando) |

ASIAA Hawaii: <http://pmo.asiaa.sinica.edu.tw/Hilo%20office/>

AMiBA Website: <http://amiba.asiaa.sinica.edu.tw/>

AMiBA Blog: <https://rxblog.asiaa.sinica.edu.tw/index.html>

Distribution List:

kylin@asiaa.sinica.edu.tw, cti@asiaa.sinica.edu.tw, dkubo@sma.hawaii.edu, homin@asiaa.sinica.edu.tw, cchan@asiaa.sinica.edu.tw, shchang@asiaa.sinica.edu.tw, pmkoch@asiaa.sinica.edu.tw, pierre@asiaa.sinica.edu.tw, ydhuang@asiaa.sinica.edu.tw, chiuehth@phys.ntu.edu.tw, kyl@asiaa.sinica.edu.tw, nishioka@asiaa.sinica.edu.tw, jhpw@phys.ntu.edu.tw, keiichi@asiaa.sinica.edu.tw, r91222042@ntu.edu.tw, mkesteve@atnf.csiro.au, raffin@asiaa.sinica.edu.tw, hueiwang@ew.ee.ntu.edu.tw, pshaw@asiaa.sinica.edu.tw, yjhwang@asiaa.sinica.edu.tw, f87026@ew.ee.ntu.edu.tw, ho@cfa.harvard.edu, jbp@cmu.edu, swchang@asiaa.sinica.edu.tw, thc@ew.ee.ntu.edu.tw, chchang@asiaa.sinica.edu.tw, ken@asiaa.sinica.edu.tw, fabi@asiaa.sinica.edu.tw, poshiro@asiaa.sinica.edu.tw, jlim@asiaa.sinica.edu.tw, wwilson@atnf.CSIRO.AU,

Please contact MTC for managing this mailing list