

## Minutes for AMiBA Telecon 20070419, UTC 1:00

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Regular Meeting Time: UTC 1:00 Every Thursday

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- Mount operation:
  - Backward transformation error:
    - Need to consult Vertex.
  - On-source flag (OSF):
    - Nishioka reported the new ACU software solved the problems of az=0 crossing and high-el OSF determination algorithm.
    - Nishioka also found a new problem: ACU progttrack stack emptiness which means it loses progttrack info and causes missing OSF.
    - Time lags between TCS and ACU still persist.
  - ACU-HPC stop:
    - MTC proposes to repeat the problem by placing the hub or cable back. Just to identify the source. (low priority)
  - General:
    - We should put together a troubleshooting guide. (Procedures for network problems, etc.)
- Testing on site:
  - Rx status
    - Ant6 was re-pumped and cooled down. Still need watch and check of its service record.
    - SW and CH installed temperature sensors in Ant5, all of IF/LO, and LL box.
  - Observations:
    - Start observation of SZ clusters, Abell 2218 and 2142.
    - 14 hrs of 2-patch observing Saturn and Jupiter was done for gain/phase stability study in day-night transition, which will compare with temperature record as well.
    - Outliers show up in rpfits-converted ascii. More data sets are taken.
    - Jupiter scans were done for radio alignment and SNR analysis. LL SNR increased by almost factor of 2 compared to previous data (etd0).
  - Ground pickup:
    - KU analyzed the ground pickup and it shows definite elevation dependence.
  - Noise spectrum:
    - HN reported spectra of 5 hour noise data. Most baselines show white spectrum above 0.001Hz. More discussions offline.
  - CCC time sync:
    - About 10sec lag is found on CCC due to ATDC incorrect setting.
    - GPS and ATDC would be competing if both involved in the time synchronization of CCC.
    - Is SYNC LOSS temperature related? Consider cooling down CCC and Chia-Hao will open CCC enclosure.
  - IF power alignment:
    - Tuning VGA does not improve the SNR of RR. Changing VGA power doesn't affect SNR much either. Suggest to see SNR reaction if remove pads to the corr box.

- Variance of Jupiter angular size should be taken into consideration in evolution of SNR.
  - Need to contact the vendor for the spec of Marki module since its optimistic input might not be -12dBm.
- Radio alignment:
  - Re-install of dishes on Ant6, Ant7 to check repeatability, and remove all shimming of Ant1. The change of alignment is consistent with Prot's estimation.
  - Ant3 alignment is fine although its mount insert is damaged.
  - Time lag of CCC solves most of the dish co-movement puzzle.
- General site issue:
  - Shelter Motor 1 is replaced by a new one and shelter is operative.
  - Shelter control (joystick) need to be fixed.
  - Road paving has completed. Some places are narrower. Must drive carefully.
  - Expect the emergency generator to arrive the first week of May.
- 13 element:
  - Rx
    - Rx8 and Rx9 will be ready by end of May.
    - Short of Subharmonic mixers. We will get quotation from ITRI after some modification of the drawings. Expect 2-3 months.
    - Expecting 10+ LNA in a few weeks. They should come with room temperature data.
  - IF/LO
    - IF parts are ok.
    - Expect to get miniature IF/LO at end of June. It will be tested in lab for about 1 month.
    - Dashun found a way to simplify the bracket design. It can be finished in this week.
    - DRO is ready. SW is working on thermal control. A comment was added that 7-element DRO seems fine without a thermal control.
  - Electronic box
    - Joshua finished a new electronic box with new backboard. It will be used in the lab for new Rx testing.
  - Compressor and He line
    - Compressor order is pending onsite testing result. (Pablo?)
    - CH ordered a pair of hard He line. Soft He line has shorter lead time and can be ordered later.
  - RO
    - CT will spend more time on the RO board.
  - 3<sup>rd</sup> section
    - Order to Wisewave has been placed. Johnson is sending all materials to them.
  - Correlator housing
    - Ted reported an estimated schedule of 5 months.
  - 1.2m dish
    - Ted reports first two dishes (25kg) will come in 3 months.
    - Cotech projects with a schedule of 4 dishes every 2 months after the first one.)

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Traveling Schedule to Hilo:

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