

## Minutes for AMiBA Engineering Telecon

Meeting Date: 8-Jan-2003

Participants:

Australia: not present

USA: B. Martin, F. Patt, D. Kubo, M.T. Chen, C.J. Ma, J. Peterson, P. Ho

Taiwan: H. Wang, P. Shaw, T. Huang, C.T. Li, K.Y. Lin, W. Ho, C.C. Han

Minutes Recorder: D. Kubo

[comments from this week](#), [previous weeks comments](#)

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### I. New Action Items:

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### II. Previous Action Items (still open):

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

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### IV. Miscellaneous Discussions:

MMIC: Huei: Received e-mail from TRW (now Northrup Grumman) saying they retested the InP wafer with lower input power and found increased gain. Also talked with Todd G. 2 days ago and believed that collaboration with NRAO could be helpful in resolving the licensing issue.

Huei: discussed the export license regarding sending students to JPL with Todd, also the possible alternative way through collaboration with NRAO.

Receiver:

Rx review meeting in mid Jan. (possibly in telecon format, suggested by Bob).

LO/IF:

Correlator: Derek: Went over "Remaining Scope of Work, Correlator System" document line by line. Key discussions:

- 2)d.- Ferdinand: Separate back planes will allow for flexibility. Bob: Yes but I would like to see this made into a single backplane PCB. Derek: Doesn't matter to me.
- 2)f. - Bob: The DC-DC converter is a hot issue that we need to resolve soon. Many designs rely on the results of this solution. Derek: Homin plans to purchase one set of Vicor DC-DC modules and install it in place of the linear supplies on the prototype at ML.
- 3)b. - Ferdinand: Does the addition of the DC-DC converter assembly add to the mechanical dimensions of the final correlator frame? Derek: Yes it will... I need to forward this info to Ted and Philippe.
- 5)a. - Derek: Rapadas is making 3 4-lag modules and will be sending 1 to Peterson, 1 to CT, and keeping one. Ship date should be sometime next week. Also, I forwarded the new quote to Paul S., unit price for 55 modules is now \$1365, was previously \$1035 each for 100. Paul S.: Should we wait until CT runs his tests before we purchase the 55 modules? Derek: Definitely yes. Paul H: The mixer delivered last month had a problem with low responsivity. Was this ever resolved? Derek: Yes, the mixer diodes were replaced and this

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solved the responsivity problem, but Rapadas never found out what the exact cause was. The mixer design as it stands right now appears to be sound.

- 7)b. - Ferdinand: Does the data acquisition 3U card cage need to have an additional 1U panel to accommodate I/O (like the rest of the chassis used elsewhere)? This added 1U space could make the difference between fitting into a nook within the platform or not. Derek: I would prefer to see this chassis and enclosure to be exactly the same as the others. We can use this 1U for the large number of 40-conductor ribbons and 48VDC input power.
- 7)h. - Derek: Homin proposed via e-mail last week to use 110VAC, 60 Hz to power the correlator PC (no DC-DC converters). We agreed that this would be OK. Bob pointed out that this is the only item on the platform receiving 110VAC. CT: Correlator PC height is tentatively 5U, Warwick is currently looking for one which is both EMI and environmentally sealed. Jeff P: If the PC is on the platform, won't the processor generate potential EMI radiation within our 2-18 GHz IF band?

Chao-Te: see the attached email from Jeff Rapadas for correlator module update; got response from power divider board processing factory, sent them the substrates; work on packaging MMIC and schematic entry of 3<sup>rd</sup> section readout board

DC power distribution: See paragraph 2)f. above.

Homing: will adopt linear power supply for 48V DC from control room, then use DC converter + ripple attenuator to provide voltages of the values we need (+/- 15V, +5V), regulator not used that there's no much DC power dissipation; concerns about EMI

Dishes: Paul S: Received pictures of the 60cm dishes from Dr. Ong and will distribute. Delivery of 2 dishes is scheduled for end of January. Jeff P.: What do we do next after we receive the dishes? Bob: Do an independent measurement (mechanical) there in Taiwan to verify accuracy, then install onto prototype on ML.

Platform/Mount: Bob: How soon can Ted provide final design details to CMA?  
Answer: Don't know and will resolve this offline.

Ted: work on drawing, need final drawing of interface from Bob Romeo

Site Issues/Network:

Hilo Facilities:

Schedule:

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### **V. Other Inputs:**