

## **Minutes of Teleconference on ALMA ATF & OSF Holography Planning**

**Thursday, September 7<sup>th</sup> 2006, 15:30 UTC.**

Minutes by DTE, last changed 2006-09-08

**Participants:** Beasley, Donoso, Emerson, Eschwey, Glendenning, Kern, Lucas, Mangum, Ocampo, Ridgeway, Mike Rodriquez, Perfetto, Ramirez, Seiichi, Sramek.

*All future meetings will use the same call-in details:*

*From USA: 866-814-1347*

*Outside USA: +1-517-444-3243*

*Participant Passcode: 3155752*

*(Leader Passcode: 1874599)*

Minutes of our last (2006-08-10) meeting are at:

[http://www.tuc.nrao.edu/~demerson/osfholo/mins2006-08-24\\_2+attach.pdf](http://www.tuc.nrao.edu/~demerson/osfholo/mins2006-08-24_2+attach.pdf)

### **AGENDA. 2006-09-07**

I. Old Action Items

II. Schedule

III. AOB

### **AGENDA ITEM I. Old Action Items**

See minutes of last meeting at

[http://www.tuc.nrao.edu/~demerson/osfholo/mins2006-09-24\\_2+attach.pdf](http://www.tuc.nrao.edu/~demerson/osfholo/mins2006-09-24_2+attach.pdf)

*I. Antonio has agreed to the following delivery dates:*

*ICD update (add temperature m/c): delivery date 8/28*

*Receiver tuning procedures: delivery date 8/28*

*Receiver and transmitter user's manual: delivery date 9/1*

Antonio said the shipment to the AOC planned for 2006-09-01 had not yet happened, but should occur tomorrow (2006-09-08). This will include the holography receiver, with computer and CAN bus interface, the holography transmitter with power supplies and

adapters. The receiver tuning procedures were already posted on EDM. The User's Manuals were not yet ready, but should be delivered next week – nominally 13<sup>th</sup> September. Help from Jack is needed to document the installation procedure for putting the receiver on an antenna. Antonio will be in contact with Jack on this.

Jack was unable to attend today's meeting, but had sent the following list of tasks to be accomplished this week:

- 1.) The holography fiber has arrived and will be installed soon.
- 2.) Extend and terminate Vertex holography 48vdc/25mhz SMA cables.
- 3.) Terminate Vertex computing holography fibers.
- 4.) Fabricate holography mini-rack mounting brackets.

Dick mentioned that there was a problem as to whether the correct fiber had been received, which was being investigated.

Brian asked about the famous ICD update for the temperature monitors. He reminded that this was still needed, although isn't yet urgent, ~1 month before completing receiver #2 would be soon enough.

Cesar asked for clarification on whether this ICD is a completely new one, or is it an update on an existing ICD. The answer is that it's the old one with minor modifications.

Brian commented that if the receiver were shipped to arrive on Monday, then that meant, allowing time for unpacking, that the computing IPT could begin their tests on Wednesday.

Dick asked about whether engineers would be coming out from CV to help unpack the receiver; the answer from Antonio is not now, but when the move to the ATF occurs, then 1 or 2 engineers will be sent to aid in installation. This will be the week of 18<sup>th</sup> September.

*2. Antonio's small holography feed working group will report back to this group by our next meeting.*

Antonio reported. The new design of feed is only marginally better than the original feed – the issue is giving adequate illumination at the edge of the dish, to ensure sufficient signal-to-noise in the holography measurements of the outer panels. So, given the schedule, the decision now is to duplicate the old feed design. Two more feeds will be made – one for holography receiver #2, and one spare. We will have the 2 new feeds in 2-3 months.

Simultaneously, Sri will try to come up with a better design to give higher illumination at the edge. If that works out, then we may later consider constructing a new design of feed. However, this development must not be allowed to delay other commitments of the receiver group.

There was some discussion as to whether we should now pursue the new feed concept at all. The answer is only if it does not detract from other tasks. Ultimately astronomical

holography will be used anyway, with the regular ALMA receiver feeds. However, until there are sufficient interferometric antennas available, the available signal to noise on astronomical sources will not permit adequate spatial resolution of antenna holographic measurements.

Seiichi asked if the feeds were all still compatible with holography on the ACA antennas. It is believed they are.

*3. Dick will continue to communicate with the Peter and the site IPT over the tower specs. Peter will follow the ATF tower base shelter implementation, with a view to duplicating it at the OSF.*

The tower is now on order. Antonio is still concerned about the mechanism for lifting equipment to the top of the tower. Tony responded that there are 2 main options: (1) to weld our own A-frame to the tower to support lifting loads, and (2) to talk to the tower vendors to see if they have a good solution. The details of how the lifting device is to be implemented are now entirely in the hands of the site IPT.

*4. Dick, Brian and Pedro will ensure the right Labview and PC get delivered to the OSF. Not urgent, but retained as an AI so we don't forget.*

Brian reported. ALMA is now standardizing on Labview v. 8. A Labview PC will be purchased, and this is in hand. If necessary temporary PC loans at the AOC or ATF can be arranged. Antonio would like at least one of the computers being shipped with the receiver/transmitter to be returned as soon as proper operations is verified.

This item is now considered closed.

*5. Dick will pronounce on "which antenna" on September 11<sup>th</sup>.*

Dick reported: since the Alcatel antenna was currently dead, the decision had been made easy. The holography equipment will be installed on the Vertex antenna. The ability to move to the Alcatel antenna will be retained. Current problems on the Alcatel antenna are a PSU, a UPS and an encoder problem.

*6. Rick will produce a revised schedule and distribute (see attachment [in distributed minutes]).*

Rick's new schedule had been distributed with the minutes of the last meeting (2006-08-24). Subsequent changes to schedule were trivial; that schedule should be regarded as the definitive document. The schedule can be found at:

[http://www.tuc.nrao.edu/~demerson/osfholo/holography\\_v7.pdf](http://www.tuc.nrao.edu/~demerson/osfholo/holography_v7.pdf) (PDF format)

and

[http://www.tuc.nrao.edu/~demerson/osfholo/holography\\_v7.mpp](http://www.tuc.nrao.edu/~demerson/osfholo/holography_v7.mpp) (MS Project format).

*7. Next meeting*

It was agreed to hold the next meeting on September 21 at 1530 UTC.

### **NEW or CONTINUING ACTION ITEMS**

1. Antonio will deliver the holography hardware, but not yet User Manuals, to be shipped on 2006-09-08. Manuals would be delivered on 2006-09-13.

The ICD update on temperature monitor points would still be provided, but on a later timescale – perhaps one month before shipment of receiver #2.

2. Antonio will arrange for 2 more sets of holography feeds to be made, using the old feed design. This is expected to take 2 – 3 months.

Sri will work, at a low level, on whether a new feed design is still feasible. If it turns out to be, there will be further discussion then on whether or not to proceed with its manufacture.

3. Site IPT will continue to investigate the tower equipment lift options and implementation.

4. Darrel will organize the next teleconference for Thursday, September 7<sup>th</sup> at 15:30 UTC. We anticipate (and hope for) this being a fairly short meeting.