

Minutes of Teleconference on ALMA ATF & OSF Holography Planning

Thursday, August 24th 2006, 15:30 UTC.

Minutes by DTE, last changed 2006-08-25

Participants: Emerson, Eschwey, Glendenning, Kern, Lucas, Mangum, Mike Rodriquez, Murowinski, Perfetto, Ramirez, Shepherd, 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/mins2006-08-10_3+attach.pdf

AGENDA. 2006-08-24

I. Old Action Items

II. Schedule

AGENDA ITEM I. Old Action Items

See minutes of last meeting at

http://www.tuc.nrao.edu/~demerson/osfholo/mins2006-08-10_3+attach.pdf

1. Antonio will deliver a user manual and ICD with monitor/control points to be shipped by the time the receiver is shipped, currently scheduled for August 28.

[There has been some recent email discussion on receiver control info, needed by the software folks.]

Antonio commented that the documentation, including a Users' Manual, was needed in any case for the PAI and PAS. He expects to ship the documentation by August 31.

This led to more general discussion on the holography rx & tx schedule. Antonio now expects to ship the equipment from CV on August 31. It was noted that Sep 4th was an NRAO holiday. One or 2 engineers would travel from CV to the AOC on the 5th, to be ready to unpack and check the hardware on 6th Sep. Ralph Marson is the CIPT member

who will work on the holography hardware control software, but he will not be back from vacation until the week of September 11th.

The computer folks would like to check both transmitter and receiver, to ensure that valid data can be taken, but there is no concern as to the quality of the data – meaning that location at the AOC from the point of view of propagation and reflections is not at all critical. AOC space is limited, so some thought is required as to where best to place the holography rx & tx for their checkout.

It may be that Robert Rigeway can set up the equipment with little help; Antonio will decide tomorrow (August 25) whether 1 or 2 engineers will be traveling to the AOC from CV to unpack and check the equipment.

Tuning algorithms: it was clarified by Brian that Labview would be used primarily for status display, but control and data acquisition would happen independently of Labview software. Scripts for programmed test sequences would be possible, without Labview. However, a description of the receiver tuning algorithm is needed. Antonio agreed that this information could be sent to Socorro on Monday 28th August.

September 11th would be the start of computer checkout of the holography rx & tx. One week would be needed for this, so the move from the AOC to the ATF would occur now on September 18th, followed by 2 days of checkout there.

Acceptance tests: Rick would like to conduct the acceptance test phases, Preliminary Acceptance Inhouse (PAI) and Provisional Acceptance OnSite (PAS) for the entire holography subsystem together rather than piecemeal. Hence a single PAI acceptance testing would be held at the end of the ATF testing and e2e software development phase, which would look at all the holography deliverables such as documentation on minirack, receiver, etc. In the meantime, a draft document giving acceptance procedures and standards is available and will be sent to Debra and Antonio next week. Comments, esp. on aspects related to acceptance of software, are solicited.

2. Antonio will organize a small working group to discuss holography feed issues.

This small group (currently Antonio, Jeff M. and Sri) will have their first meeting on August 25th. The issues are to check the main holography feed that will illuminate the dish, and whether adequate s/n will exist at the edge of the dish.

3. Dick will 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.

Jorge reported that bids have been received for the OSF tower. The contract would probably be signed around Sep 8, and we anticipate the tower being erected 60 days from the signing of the contracts – that would be about November 8th. There will shortly be a clarification meeting with the potential vendors, one issue being the lifting apparatus. Dick will continue to follow this.

4. Dick, Brian and Pedro will ensure the right Labview and PC get delivered to the OSF.

No activity, and no activity needed yet. Kept on the AI list as a reminder.

5. Dick will pronounce on “which antenna” on August 28th, or on whatever the rx shipment date is if that slips.

This date had slipped about 2 weeks. September 11th is the current best estimate.

6. Rick will produce a revised schedule and distribute.

Rick’s updated schedule was attached to the minutes of the last meeting (2006-08-10). Primarily as a result of today’s meeting, there are some updates. The revised schedule is attached to these minutes.

This AI merged into Agenda Item II, “Schedule.”

AGENDA ITEM II. Schedule issues.

Questions arising in discussion:

Cables: fiber optic cables should shortly be delivered to the AOC, anticipated by 2006-08-25. RF cables are still in CV, but will be shipped together with the holography rx & tx. They should be installed the same week as AOC software checkout.

230 V power availability: 230 V will be available for the holography receiver, but at the tower base only 110 V will be available. The holography transmitter takes about 50-60 watts (or about 150 watts with the positioner). Since everything was already being tested on 230 V 50 Hz in the lab in CV, and as the transmitter will run on either 230 V or 110 V, it was agreed there is no need to run 230 V to the tower at all.

Antenna preparation: both antennas at the ATF need to be ready to receive the holography equipment. In particular, a position for the mini-rack needs to be found in each antenna, to minimize the disruption in changing to and from astronomical observing.

Holography rx DSP algorithms: Dick asked Antonio if the DSP algorithms had been written up. The answer is not yet, but there will be a writeup in 4-8 weeks, in preparation for the PAI and PAS.

Temperature monitoring points: Brian asked about these. Antonio said a description would be included in the updated ICD which will be in the documentation shipment. It is understood that they will first be implemented in the second system and at some point retrofitted into the first one.

Shipping date: Dick reported that this would now be in December.

Changing to and from holography: we would not have to move the mini-rack in the antenna, but IF we wanted to change from holography to astronomical observing, it would take about 1 day to replacing the holography rx with the subreflector on the Vertex antenna, and about 2 days on the AEC. It is not planned to make this switch indiscriminately, but should the occasion arise those are the facts.

ACTION ITEMS

1. 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

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

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.

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.

5. Dick will pronounce on "which antenna" on September 11th.

6. Rick will produce a revised schedule and distribute (see attachment below).

7. Darrel will organize the next teleconference for Thursday, September 7th at 15:30 UTC. We anticipate this being a fairly short meeting.

ATTACHMENT:

Updated Schedule, from the Project Engineer

ID	Task Name	Duration	Start	Finish	Jul '06				Aug '06				Sep '06				Oct '06				Nov '06							
					2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19			
1	Holography System	329 days	Tue 11/1/05	Thu 2/8/07																								
2	✓ Develop transmitter electronics	30 wks	Tue 11/1/05	Mon 5/29/06																								
3	✓ Repackage holography receiver	32 wks	Tue 11/1/05	Mon 6/12/06																								
4	✓ Develop ancillary electronics (cabling, power supply, ABM, TE ar	30 wks	Tue 11/1/05	Mon 5/29/06																								
5	✓ Develop control software	10 wks	Mon 3/13/06	Fri 5/19/06																								
6	Modify reduction software for data format	10 days	Mon 3/13/06	Fri 3/24/06																								
7	✓ Ship Tx cables and spare minirack to AOC	5 days	Mon 8/7/06	Fri 8/11/06																								
8																												
9	NTC: Rx and Tx	57 days	Mon 6/19/06	Wed 9/6/06																								
10	✓ Integrate/test tx, rx at CV	40 days	Mon 6/19/06	Fri 8/11/06																								
11	System test at NTC	4 days	Fri 8/25/06	Wed 8/30/06																								
12	Pack	1 day	Thu 8/31/06	Thu 8/31/06																								
13	Ship to AOC	3 days	Fri 9/1/06	Wed 9/6/06																								
14	Receive Tx and Rx at AOC	0 days	Wed 9/6/06	Wed 9/6/06																								
15																												
16	AOC and ATF preparation	28 days	Mon 8/14/06	Thu 9/21/06																								
17	Inspect Tower	1 day	Mon 8/14/06	Mon 8/14/06																								
18	Install Tx cables	7 days	Mon 8/28/06	Wed 9/6/06																								
19	Install Tx at ATF and verify control	3 days	Thu 9/7/06	Mon 9/11/06																								
20	✓ Prepare RF cables	5 days	Mon 8/14/06	Fri 8/18/06																								
21	Control software checkout at AOC	5 days	Mon 9/11/06	Fri 9/15/06																								
22	Install RF and FO cables on tower	1 day	Mon 9/18/06	Mon 9/18/06																								
23	Upgrade software at ATF	3 days	Tue 9/19/06	Thu 9/21/06																								
24	Prepare for mounting minirack in both antennas	5 days	Mon 8/28/06	Fri 9/1/06																								
25	Antenna VA / AEC decision	0 days	Mon 9/11/06	Mon 9/11/06																								
26	prepare antenna for electronics	5 days	Mon 9/11/06	Fri 9/15/06																								
27	Install receiver	2 days	Mon 9/18/06	Tue 9/19/06																								
28																												
29	Checkout	8 days	Fri 9/22/06	Tue 10/3/06																								
30	Check M/C and 1st point of Tx	1 day	Fri 9/22/06	Fri 9/22/06																								
31	Ensure Tx and Rx on correct frequency, confirm adequate re	1 day	Mon 9/25/06	Mon 9/25/06																								
32	Peak transmitter pointing	1 day	Tue 9/26/06	Tue 9/26/06																								
33	Verify receiver complex output and stability	1 day	Wed 9/27/06	Wed 9/27/06																								
34	Margin	4 days	Thu 9/28/06	Tue 10/3/06																								
35																												
36	e2e tests of the system	29 days	Wed 10/4/06	Tue 11/14/06																								
37	Verify mount movement and synch with data	5 days	Wed 10/4/06	Wed 10/11/06																								
38	Verify writing/reading from archive	1 day	Thu 10/12/06	Thu 10/12/06																								
39	Perform 1st raster and create database	2 days	Fri 10/13/06	Mon 10/16/06																								
40	Confirm data analysis and display are working correctly	2 days	Tue 10/17/06	Wed 10/18/06																								
41	Produce first holo image	5 days	Thu 10/19/06	Wed 10/25/06																								
42	measure, adjust focus and illumination	2 days	Thu 10/26/06	Fri 10/27/06																								
43	Margin	12 days	Mon 10/30/06	Tue 11/14/06																								
44																												
45	Science Validation	18 days	Wed 11/15/06	Tue 12/12/06																								
46	a few more images	6 days	Wed 11/15/06	Wed 11/22/06																								

Project: holography at ATF
Date: Thu 8/24/06

Task Progress Summary External Tasks Deadline

Split Milestone Project Summary External Milestone

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ID	Task Name	Duration	Start	Finish	Jul '06				Aug '06				Sep '06				Oct '06				Nov '06			
					2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12
47	Move antenna panel to calibrate	2 days	Mon 11/27/06	Tue 11/28/06																				
48	Integrated User Tests	5 days	Wed 11/29/06	Tue 12/5/06																				
49	Test Readiness Review	1 day	Wed 12/6/06	Wed 12/6/06																				
50	Software rework for high-priority problems	5 days	Wed 12/6/06	Tue 12/12/06																				
51																								
52	Acceptance tests	2 days	Wed 12/13/06	Thu 12/14/06																				
53	Margin	5 days	Fri 12/15/06	Thu 12/21/06																				
54	Pack up	5 days	Fri 12/22/06	Thu 12/28/06																				
55	ship to Chile	20 days	Fri 12/29/06	Thu 1/25/07																				
56	Reconfigure software, install, test functionality in lab.	10 days	Fri 1/26/07	Thu 2/8/07																				
57	Holography system ready for installation in first antenna.	0 days	Thu 2/8/07	Thu 2/8/07																				

Project: holography at ATF
Date: Thu 8/24/06

Task  Progress  Summary  External Tasks  Deadline 
 Split Milestone  Project Summary  External Milestone 