

**Subject:** [allemploy] FYI: 22 Sep - 6 Oct BIWEEKLY CALENDAR OF THE ALMA PROJECT at NRAO  
**From:** Al Wootten <awootten@nrao.edu>  
**Date:** 10/30/2008, 10:38 PM  
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BIWEEKLY CALENDAR OF THE ALMA PROJECT at NRAO  
22 Sep 2008 - 6 October 2008

\*\*\*\*\* THIS FORTNIGHT\*\*\*\*\*

Concrete has been received and poured for twenty-five antenna foundations at the 16,500 foot altitude AOS. This number will nearly double by the end of the year.

The first quadrant of the bilateral correlator, which can serve 32 antenna stations, is being wired for duty at the AOS Technical Building. Thirteen hundred cables have been installed and tested in the oxygenated correlator room of the building. Tests continue on schedule.

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Past issues of this Calendar may be viewed at  
<http://www.cv.nrao.edu/~awootten/mmaimcal/ALMACalendars.html>

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General Happenings

Photos of activity may be found at NRAO eNews:  
<http://www.nrao.edu/news/newsletters/>

Sky: Jupiter is in the South, Venus low in the West.

SCO (Santiago Central Office): None

AOS (Array Ops Site, 16570ft altitude): Twenty five foundations have received concrete now. Very low levels of precipitable water were measured, with most nights below a half millimeter of precipitable weather. A plan was developed to place the first antennas for commissioning on pads to be used for ACA antennas for early commissioning. The final stage of assembly of the first quadrant of the correlator in Room 135 of the AOS building started. The equipment racks were successfully installed on the seismic rated supports. Installation of all the inter-rack cables in the first quadrant was completed and the ~1300 interconnections were verified for correctness and error rate.

OSF (Ops Support Facility, 9600ft altitude): The 7th Vertex antenna pedestal arrived at the OSF this fortnight, bringing the number of antennas on site to eleven. Front End No 1 is operational in the OSF lab and is being prepared for installation into Melco Antenna No 2. Integration and verification of Amplitude Calibration Device prototype #1 began; the unit passed Provisional Acceptance Site (PAS). Mockup Front End unit was installed in Melco No 2 awaiting the ALMA Front End to be installed soon. Holography continues on Melco No 1. Formal pointing tests occur on Vertex No 1; pointing tests also occur on Vertex No 2. Reflector panel installation on Vertex No 5 is complete. The reflector support structure was bolted to the pedestal on Vertex No 6. A new foundation pad for the Vertex area and two more pads for the Melco area are being bid for construction. These pads will be used for parking of antennas only.

AOC: Construction of storage building is ongoing.

ATF: Antenna maintenance is scheduled for the ATF for this period. See images of the Moon in the October NRAO eNews. Local fauna remain

undisturbed by the flurry of recent activity at the ATF.

NTC (NRAO Technology Center):

The Manufacturing Readiness Review (MRR) for the Band 6 (1.3mm) cold cartridge assembly occurred 18-19 September, 2008. NA FE #2 was removed from the tilt table. LO Photonic Receiver SN102 was removed and given to the BE group, who will send it to the EA FEIC for use on their FE #1. Assembly of the third quadrant of the correlator continued.

Taiwan: The Test Readiness Review for the testing of FE assemblies at the EA FEIC occurred for 15 Sep 2008. Delivery of the FE support electronics for EA FE#2 is scheduled for this week; the cabling will be shipped in early November. A Provisional Acceptance InHouse (PAI) is scheduled for 30 October for the first EA FEIC Front End.

Elsewhere: On 11-12 Sep. a demonstration of the WVR Engineering Model was witnessed at Omnisys Instruments in Sweden. At this event robust operation of the Engineering Model was shown. Fabrication and assembly of all Tunable Filter Board (TFB) cards in the last Quadrant of the Correlator has been completed in Bordeaux. a MRR for Band 9 (.45mm) will occur 24-25 September.

NAASC: NRAO and the University of Virginia Astronomy Department hosted the third annual NAASC Workshop on Transformational Science with ALMA, September 25-27 at the Omni Hotel in Charlottesville. The meeting, entitled 'The Birth and Feedback of Massive Stars Within and Beyond the Galaxy,' drew record interest from the international scientific community and filled the 150-person venue to capacity.

Immediately following the ALMA Science Advisory Committee (ASAC) met at the NAASC. Target date for CASA release is Oct 15.

A calendar of NAASC events may be found at:

<http://www.cv.nrao.edu/naasc/calendar/calendar.php>

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DAILY CALENDAR (Times EDT/EST ) see

<https://wikio.nrao.edu/bin/view/ALMA/AlmaCalendar>

\*\*\*\*\* UPCOMING EVENTS \*\*\*\*\*

Sep 25-27	NAASC Workshop	
Charlottesville		
Sep 28-29	ASAC face-to-face	Charlottesville
Oct 8-10	Safety Review	Chile
Nov 12-14	ALMA Board	Chile
Nov 17-19	Software Review	Chile
Dec 9-11	ALMA Annual External Incremental Review OSF	
Jan 27 2009	Band 3 (3mm) MRR	TBD

\*\*\*\*\* TECHNICAL NEWS \*\*\*\*\*

ALMA Memo 579 The new 3-stage, low dissipation digital filter of the ALMA Correlator

Authors: P.Camino, B. Quertier, A.Baudry, G.Comoretto, D.Dallet

Abstract:

The main goal of this study is to reduce the power dissipation of the 2-stage digital filter used in the ALMA Correlator system. This has been achieved by optimizing the number of FPGA logic elements used for the filter implementation. We have investigated the implementation of various structures based on the Cascaded Integrator Comb (CIC) filter in order to replace the present first filter stage, a 32-time demultiplexed input decimation filter. We conclude that a CIC filter cascaded with a quarter-band filter significantly improves the overall power dissipation and thus the FPGA thermal behaviour and reliability.

This new design results in a significant improvement (nearly 25%) in the dissipation of each one of the ALMA filter cards.

View a pdf version of ALMA Memo #579 at:

<http://www.alma.nrao.edu/memos/html-memos/alma533/memo579.pdf>

\*\*\*\*\*ALSO OF INTEREST\*\*\*\*\*

Several ALMA positions are available at NRAO. Example:

The National Radio Astronomy Observatory invites applications for an ALMA Postdoctoral Fellow position with the Commissioning team in Chile. When completed in 2012, ALMA will be the most powerful (sub)millimeter interferometer ever constructed, and will transform our understanding of topics ranging from the formation of nearby protoplanetary disks to the earliest epochs of galaxy formation. This position is assigned to the ALMA project with operational duties in Chile. The position is funded by a grant from the National Science Foundation through the ALMA Construction Project and as an international staff position will exist during the construction period through 2011. There may be possibilities to transfer to the observatory science operations team during or after construction.

Details for all positions may be viewed at:

<http://members.aas.org/JobReg/JobDetailPage.cfm?JobID=25062>

or

[http://www.nrao.edu/administration/personnel\\_office/careers.shtml#CV4917\\_ALMA\\_POSTDOC](http://www.nrao.edu/administration/personnel_office/careers.shtml#CV4917_ALMA_POSTDOC)

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Proposals for observing time on the Caltech Submillimeter Observatory on Mauna Kea for the semester 1st Feb 2009 - 31 Aug 2009 should be sent by 31st Oct 2008 to T. G. Phillips, Caltech 320-47, Pasadena, CA 91125. For further information please refer to the CSO web site at <http://www.submm.caltech.edu/cso>.

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The US National Radioscience Meeting (USNC/URSI) meets in Boulder on 5-8 Jan 2009. Among the Commission J topics is a session on ALMA Technology, Science and Status.

See: <http://www.astro.caltech.edu/USNC-URSI-J/> for abstracts of this and other sessions.

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Please send information for upcoming calendars by Friday evening of the preceding biweekly period to Jennifer Neighbours or Al Wootten via e-mail (jneighbo at nrao.edu or awootten at nrao.edu).

The calendar will be issued between late Friday and sometime on Monday by e-mail to all NRAO scientific staff members and anyone else interested. A specific mailing list, alma-info, has been created for anyone wishing to receive it.

Past issues are available at

<http://www.cv.nrao.edu/~awootten/mmailcal/ALMACalendars.html>

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Allemploy mailing list

[Allemploy@listmgr.cv.nrao.edu](mailto:Allemploy@listmgr.cv.nrao.edu)

<http://listmgr.cv.nrao.edu/mailman/listinfo/allemploy>