VLB ARRAY MEMO No. 589

VLBA Electronics Memo No. 87

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NATIONAL RADIO ASTRONOMY OBSERVATORY
Charlottesville, Virginia
January 8, 1987

To: VLBA Electronics Group
From: Dick Thompson
Subject: VLBA Electronics Meeting, January 6, 1987

Attendees: Balister, Bagri, Beale, Bradley, Brundage, Dill, Lilie, Mauzy, Napier, Newell, Norrod, Oty, Rogers, Spaulding, Srikanth, Thompson, Walter, Wireman.

Construction plans for 1987 were briefly reviewed. The goal is to have the initial-outfitting electronics for the first five antennas, plus 2.3 and 8.4 GHz systems for Pie Town, completed by the end of 1987. (For antennas after Pie Town, initial outfitting includes front ends for 1.5, 4.8 and 23 GHz only). The following are the main construction items required during 1987.

Green Bank	(1)	Two front ends for 1.5 GHz and two for 4.8 GHz (R. Norrod)
	(2)	One front end for 2.3 GHz to be complete about August (R. Bradley)
	(3)	L. O. Synthesizer Modules, six to ten (exact number will depend upon available funds) (R. Mauzy, L. Beale)
Charlottesville	(1)	One 23 GHz front end to be completed by May 1, 1987, and up to four more by the end of the year.
	(2)	One 8.4 GHz front end, required about August 1.
	(3)	Four sets of racks A, B and C complete with all modules required for the initial-outfitting frequencies. The first set to be complete by April 10.
	(4)	Six P101 and three P103 power supply modules for the Haystack contract. Of these two P101 and one P103 are to be shipped to Haystack by January 23.

The above notes do not include the feeds which are being constructed at the VLA site. At the present time all electronics parts for initial outfitting of the second antenna should be on hand. Because of the very tight funding this year, any major purchases for systems beyond the second one should be held for a few weeks until the budget has been planned in more detail. Please check with me if any urgent requirements appear.

Items under development were also reviewed. For the 1.5 GHz feed, improved positioning jigs to hold the metal parts in place during fiberglass application are required. Construction of a prototype feed for 2.3 GHz will await satisfactory testing of the 1.5 GHz feed. Work on improvement of the shielding and reduction of sidebands in the round-trip phase modules is proceeding on schedule in Charlottesville. Testing of the 2.3/8.4 GHz dichroic reflector sample is proceeding at Green Bank, and the effects of the honeycomb backup structure are included. For the 43 GHz front end, laboratory prototypes of the SIS mixer and also of a HEMT amplifier are expected to be available for testing in the last quarter of 1987.

John Payne in Tucson is assembling an 86 GHz receiver, using an uncooled mixer, for antenna testing. Bill Walter in Charlottesville is constructing hot and cold loads for 10.7, 15, and 23 GHZ, to be completed by about March 31.