

National Radio Astronomy Observatory

Socorro, New Mexico July 19, 1984

To: VLBA Electronics Group Members**From:** A. R. Thompson**Subject:** VLBA Electronics Group Meeting, July 12, 1984

Attendees: Balister, Bradley, Brundage, D'Addario, Dill, Mauzy, Moffet, Napier, Norrod, Simon, Thompson, Weber.

Budget: The reduction of the 1985 budget to \$9M and the postponement of usage of the funds until April 1, 1985 was discussed. Planned expenditures until that time have been reduced to the minimum required to keep the most important areas of design and testing active. These include principally the reliability testing of the model 22 refrigerators; development and testing of a prototype 1.5 GHz front end, which is the one for which the refrigerator capacity is most critical; installation of two 8.4 GHz front ends on the VLA for evaluation of performance and reliability under field conditions; design and prototype testing of the 2-16 GHz synthesizer modules; and procurement and testing of two prototype feeds.

Front-Ends: Roger Norrod expects the 1.5 GHz orthomode junctions to be delivered about the end of this month. Parts for the 1.5 GHz front end are about half complete at this time. There was some discussion of the test set-up for the model 22 refrigerators, and it was generally agreed that the mass of the polarizers as well as the dissipation of the amplifiers should be simulated. The prototype 8.4 GHz front end under test in Charlottesville is showing some thermal cycling with an amplitude of a few degrees. The refrigerator unit is being replaced to see if it is the cause of this problem. The coupling factor of the coupler required to inject phase and amplitude calibration signals was discussed. Al Moffet reported that experience with the VLBI systems used at Caltech shows that the coupling should be no greater than -27 dB, and -30 dB is generally satisfactory.

Miscellaneous: The hydrogen maser in each antenna building will be supported by a pedestal from the concrete floor below, and not by the computer floor. Sander Weinreb has written a draft specification for the hydrogen masers and is distributing this to the electronics and scientific groups for comment. The interference survey is in progress at the Pie Town site.