

National Radio Astronomy Observatory

Charlottesville, Virginia

January 24, 1983

To: VLBA Electronics Group

From: M. Balister

Subject: Minutes of VLBA Electronics Group Meeting-January 19, 1983

A meeting of the VLBA Electronics Planning Group was held January 19, 1983. Present were: M. Balister, S. Weinreb, W. Brundage, R. Lacasse, K. Kellermann, C. Moore, D. Thompson, A. Rogers, and J. Carter.

At this meeting C. Moore summarized a plan for thirty-two 25 MHz maximum bandwidth I.F. channels which seems to meet general community agreement. This plan would leave ample room for improvements in recorder technology in the future. A memo is in preparation giving a complete technical description and cost estimate of the proposed plan.

There was some discussion on the desirability of seriously considering SIS mixer devices as an alternative to maser amplifiers for 22 GHz and 43 GHz. NRAO is currently developing a SIS mixer for 3 mm and the success or otherwise of this program will probably determine whether we would consider SIS devices as an alternative to masers. It was noted that if it was assumed that the cryogenics was similar in both cases, the financial saving in going to SIS devices would not be great. Also an equivalent performance to the proposed maser systems needs to be demonstrated convincingly before a change to SIS mixers is made.

M. Balister reported on a recent phone conversation with John Harvell regarding the current CTI feelings regarding CTI Model 21 refrigerator reliability. He indicated that it had improved as a result of changes to the crosshead assembly and the use of a rotary compressor identical to the one used with the 350 CP systems. However, it is likely that some 350 refrigerators would be needed to cool the lower frequency receivers due to the mass/surface area of the cooled orthomode transitions. C. Moore questioned the desirability of mixing 350/21 refrigerators because of the extra maintenance/spares load on the VLBA service organization. M. Balister proposes to review the cryogenics plan in the proposal and see if any changes are in order.

The next meeting will be on March 23, 1983, 1330 EST.