

National Radio Astronomy Observatory  
Charlottesville, Virginia

April 7, 1988

To: VLBA Electronics Group  
From: Dick Thompson  
Subject: VLBA Electronics Meeting, April 5, 1988

Attendees: Bagri, Balister, Beale, Brundage, Landers, Morris, Napier, Norrod, Oty, Romney, Serna, Simon, Spaulding, Srikanth, Thompson, Walker, Weber, Wireman.

The greater part of the meeting was concerned with a detailed discussion of the best location for the units that monitor utility functions such as the operation of the air handlers, the air temperature, and smoke detector status. The Utility Interface Module (M103) has been designed by Dave Weber, and two such units will be used at each site, one at the antenna and one in the building. The module on the antenna will be located in the pedestal room, where most of the monitor functions are available. A smaller number of points to be monitored occur in the vertex room, and the question has arisen whether these should be cabled down to the pedestal room, or monitored through some of the interfaces provided for the electronics. It was generally agreed that the second of these two options is preferable, even though some modifications will have to be made to existing modules and rack wiring. The M103 module is unshielded, and one should not be located in the vertex room. The functions to be monitored are the outputs of four AD 590 temperature sensors, one contact closure for a pressure sensor, and an analog voltage in the range 0 to 10 v. Erich Schlecht will look into the possibility of monitoring them through the Rack B Interface Module (M102), and determine the extent of the modifications required.

The Utility Interface Module for the station building could be located in Rack C or in the computer rack. In either case another bin is required. The computer rack is the preferred location, and Durgi Bagri will check with Barry Clark to make sure that the computer group have no objection to this choice.

A memo on the design of the RF part of a phase calibration system for the VLBA is being distributed. However, the accuracy of the sampling and recovery of the signals should be addressed before starting to construct a prototype system. Questions which are not yet fully resolved include the location of the signal recovery (at the antenna or at the correlator), the range of choice of frequency for the signals to be recovered at baseband, and whether more than one frequency should be extracted from

each baseband signal. A meeting to discuss these questions will be held later in the month.

Five monitor and control boards are required for construction of modules in Charlottesville by mid-April, and fifteen more will be required by September.

The VLBA electronics group in Charlottesville is this week relocating from Ivy Road to the Edgemont Road building. Future electronics meetings in Charlottesville will be held in the Conference Room at Edgemont Road, and will occur on the first Thursday of each month, instead of the first Tuesday, as at present.

Addendum It has now been determined that the M102 module has sufficient spare capacity to handle the vertex-room utility monitor points, but additional amplifier circuitry will have to be added, to enable the temperature sensor voltages to be read with sufficient precision. Also, there is no objection to locating the M103 module for the station building in the computer rack.