

NATIONAL RADIO ASTRONOMY OBSERVATORY
Charlottesville, Virginia

July 12, 1985

To: VLBA Electronics Group

From: Dick Thompson

Subject: VLBA Electronics Meeting, July 11, 1985

Attendees: Bagri, Balister, Bradley, Campbell, D'Addario,
Dill, Moffet, Norrod, Schlecht, Sebring, Thompson,
Walker, Weber, Weinreb.

Monitor and Control Reliability

S. Weinreb brought up the possibility of failure of the complete monitor and control system at an antenna as a result of a short occurring on the bus. This is possible because the bus runs in a daisy-chain fashion between as many as 32 interface units. A branching or starring system might have some advantages. L. R. D'Addario thought that the probability of a short causing an extensive failure was not very likely with the existing bus proposal. P. Sebring pointed out that serial bus arrangements are commonly used in military applications where high reliability is required. There was no technical conclusion reached and it was decided to refer the matter to the monitor and control group.

330/610 MHz Diplexers

E. Schlecht reported that responses to a request for proposal for these diplexers have been received. The units will cost on the order of \$2000 each, and two are required for each antenna. He is presently awaiting confirmation that the current feed design, for which diplexers are required, is satisfactory, before ordering the diplexers.

15 GHz Radiometer

There was a brief discussion of the use of the 15 GHz front end for single-dish testing of the Pie Town antenna. It is possible that solar-calibration noise sources could be used to allow operation in a noise-adding mode.

Electronics Packaging Standards

J. A. Campbell and other members of the electronics group at the VLA have expressed strong opinions in favor of the use of push-fit connectors for 0.141" coaxial line connections into the modules. SMA connectors had been tentatively selected to replace the OMQ connectors on the VLA modules. The alternative is the newer OSP push-fit connectors which are being used in current VLA construction. Several people expressed the opinion that SMA connectors present the danger of crossed-thread jamming. Thus, provided that no problems are found in testing of OSP connectors, it is suggested that they be used as required on VLBA modules. The female part of the connector, which is mounted in a spring loaded fitting to allow for tolerances, will mount on the back panel of the bin. Positioning of the connectors on the bin and module panels is given in VLA drawings No. B13165M03 and B13165M04. These allow for up to 10 connectors on one half of a double-width module.

The multi-pin connectors for power and low frequency signals should follow the VLA standards which are given in VLA Electronics Report No. 31, pp. 9-44 and 9-45. Part numbers for pins of the recommended length are also given. The same reference lists VLA standard pin assignments for power supply voltages and grounds. For uniformity, the same assignments should be used in VLBA construction.