

NATIONAL RADIO ASTRONOMY OBSERVATORY
Charlottesville, Virginia

February 11, 1986

TO: VLBA Electronics Group

FROM: Dick Thompson

SUBJECT: VLBA Electronics Meeting, Feb. 6, 1986

Attendees: Allbright, Bagri, Balister, Bradley, Beale,
D'Addario, Dill, Greenberg, Koski, Mauzy, Napier,
Norrod, Oty, Rogers, Schlecht, Weber, Weinreb

A potential grounding problem in the single-ended version of the M/C Interface Board has been identified by Bob Mauzy. The "high-quality" ground input used to provide a reference for the analog inputs is connected on the board to the common ground line, and is therefore likely to carry a large fraction of the ground return current, of which 1.2 amps from the +5 volt supply is the largest component. Dave Weber has made tests on this unit and concludes that there should be no significant problem if the wire from the board connector to the module ground is short (a few inches) and of, say, No 20 or heavier wire. A long, thin connection could cause problems.

Larry D'Addario has proposed that the double-ended version of the M/C board should be modified so that the analog input can accept 16 different signals with a single common ground that is not connected to the ground of the board. This would be an alternative to the present configuration of eight analog inputs with independent grounds, and requires changing a small number (about 6) connections on the board. Dick Thompson suggested that if possible these connection interchanges be brought off the board through one of the D-Connectors, so that they can be made in the module wiring. This would simplify replacement of the board in case of failure, since it would eliminate the need for two different versions of the board. The concept of the modification of the board is still under consideration in the Monitor and Control group.

There was some discussion of packaging and layout of the electronics as described in VLBA E.M. No. 59 by A. R. Thompson and a draft specification of Electronics Packaging Standards by L. R. D'Addario. It was noted that the latest plan for the station building, now out for revised cost estimate, includes full copper screening around both the Control and Equipment Rooms. Thus, shielding of racks for equipment in these rooms is not necessary.