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## NATIONAL RADIO ASTRONOMY OBSERVATORY

Charlottesville, Virginia

February 3, 1988

To: Electronics Group

From: P. B. Sebring

Subject: VLBA Electronics Meeting, February 2, 1988

Present: (CV): Thompson (moderator), Crady, Wireman, Schlecht, Balister, Romney, Spaulding, Sebring. (GB): Norrod, Beale, Srikanth. (SOC): Stetten. (VLA): Napier, Campbell, Lilie, Peck, C. Walker, Bagri, Oty, Clark (part-time).

Construction Program

System 4 (Racks A,B,C), destined for Los Alamos, is packed, ready for shipment to the VLA, and should be picked up this week. Upon its arrival, System 1 is to be returned, complete with all six Front-End interfaces, except that the 5 MHz Distributor in Rack C is to be retained on-site for System 4 when it arrives.

Dick has developed a table of modules built, and to be built. He will issue this in draft form with question marks on items not finally decided.

The question arose of who would establish and maintain a database of modules, i.e., location, state of maintenance, mods, etc. Someone in CV? Dick nominated Schlecht to be responsible for organizing this.

Sowerball and Kitt Peak

Oty reported that a copy of his memo is on the way reporting that Sowerball is vertically polarized, and produces L-band on-beam power densities of  $5.5$  to  $6.0 \times 10^{-5}$  watts/sq.meter at KP, 135 km distant. Sector blanking of 8 Deg, centered on the bearing of KP reduces this by  $\sim 30$ dB. This radar is still in acceptance testing, and routine sector blanking has not yet been initiated.

Baseband Converter (BBC) Changes

Out-of-lock indication on the BBC has been actuated if the oscillator control voltage reaches either limit. Conditions have been suggested under which this indication would not be reliable. A. Rogers has therefore come up with an improved means of indicating lock, which can be incorporated in future units.

Also GaAs switches are recommended to replace PIN-diode switches in a location where feed-thru has been somewhat of a problem.

Rogers has said there will be no increase in cost for these changes, but Haystack wants a letter authorizing them. Dick Thompson will draft a suitable letter for issue by the Business Office.

#### Cable Stability

In a recent note, Larry D'Addario expressed concern over the the choice of LO/IF cables and routings between vertex room and control building racks. He felt that phase tracking among the various paths may be poor because cables are not bundled together for tight thermal coupling under a common layer of insulation, and because there are so many connectors. The configuration was described, and the choices of the cables themselves (i.e., semi-rigid for the fixed runs and RG-214 for the movable portions) were defended on several bases, not limited to cost.

After much discussion, it was agreed that some on-site testing was in order to assess the magnitude of the problem (if there is one), and Peter Napier asked Dick Thompson, Jim Oty and Durga Bagri to work out what should be done.