

VLBA ACQUISITION MEMO #251

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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To: VLBA Data Acquisition Recording Group

From: Alan E.E. Rogers

Subject: Minutes of VLBA Data Acquisition/Recording Telecon held
17 April 1991 at 1300 EDT

Attendees: R. Escoffier, R. Gonzales, J. Romney, D. Thompson, W. Wireman, NRAO,
Charlottesville; D. Bagri, J. Campbell, B. Clark, G. Peck, C. Walker, R. Weimer,
NRAO, Socorro; J. Hargreaves, A. Rogers, V. Tran, K. Wilson, Haystack, Westford.

Recorder questions/discussion

- 1] D.C. power for modules
All six connectors (J1 thru J6) on the D.C. power distribution output should be wired but in some early recorders these were not all wired up.
- 2] Old read module
Haystack agreed to make an additional printed circuit board and to upgrade the old wire wrapped read module.
- 3] Dummy headstack
Haystack agreed to send out additional dummy head posts to George Peck for installation on those recorders which lack these posts.
- 4] Clock recovery module
Haystack agreed to always send out these modules with a "header" in the remote control input. This header has a control pin grounded to enable normal operation of this module.
- 5] Recalibration of playback drives
Since the playback drives have no write capability, it was suggested that a calibration tape should be used in the event that a playback drive needs calibration.
- 6] Signal spectrum/D.C. restoration
The playback performance depends on the recorded spectrum. If a D.C. signal is recorded (of all zeroes except parity bits) the playback is very poor. In the MkIII few problems have, in fact, been encountered even in the case of a strong spectral line, although it is most desirable to record a flat spectrum. In the VLBA format the pseudo random modulation can be used to whiten the spectrum.

7] Bar-code upgrade

The production of recorder monitor modules has been put on hold pending the addition of bar code electronics to this module. NRAO would like the highest possible priority placed on this work as monitor modules are needed for the playback drives. For the present, old monitor modules can be borrowed from the second recorders at various sites.

8] Recorder firmware bug (Ver. 5)

The new recorder firmware mostly works well but has a minor bug which starts the reels moving on power-up.

Formatter A/D Board Redesign

The proposed design given in VLBA Acquisition Memos 248 and 249 was discussed. In general, attendees felt that the proposed capabilities were adequate. If possible, doubling the number of counters to 64/board to allow simultaneous extraction of 32 tones (with 1-bit sine/cosine tables) along with threshold counts on 16 channels would be desirable.

Coaxicon Connector Problem

Jack Campbell and Larry Benno have a plan (reported in a follow-up conversation after the telecon) to install "o"-rings on the coaxicon connectors in the racks. These "o"-rings help align the connectors and prevent them from pushing out.