

MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
 HAYSTACK OBSERVATORY  
 WESTFORD, MASSACHUSETTS 01886

29 July 1985

Area Code 617  
 692-4765

To: VLBA Data Acquisition Group  
 From: Alan E.E. Rogers  
 Subject: Minutes of the VLBA Data Acquisition Group Telecon  
 Held 17 July 1985 at 1600EDT

Attendees: Marty Ewing - Caltech  
 Tim Pearson - Caltech  
 John Webber - Haystack at Caltech  
 Hans Hinteregger - Haystack at Caltech  
 Bill Petrachenko - Haystack  
 Alan Rogers - Haystack at Kwaj  
 Craig Walker - NRAO  
 Jon Romney - NRAO  
 Ray Escoffier - NRAO

1] Review of Data Acquisition/playback Report

The meeting started with more discussion of the NRAO review of the Haystack report. Since this had already been discussed in the previous telecon there was little additional discussion other than to again confirm the acceptance, by Haystack, of the more stringent analog performance specifications. (The only exception being that of the more rapid L.O. setting time.)

2] VLBA Option List

John Webber and Hans Hinteregger presented two options for reduced playback speed. The first option being to support 120 inches/sec as an additional playback speed using a separate "low-speed" equalizer. This option, which is estimated to cost 2K/playback transport or 48K total, would provide a slowdown of a factor of 3 if the data is recorded at 360 inches/sec or possibly a factor of 4 if data can be recorded at 480 inches/sec. While this option is not very costly it was pointed out that it will complicate the system and will provide no significant additional capability if multiple pass processing is supported.

The second option for a playback slowdown would be to add an additional wide-track headstack to each recorder. This option could probably support a slowdown factor of 8 but would cost 150K\$ to develop and an additional 484K\$ to implement. There was little enthusiasm for this complicated and expensive option.

Craig Walker suggested that a 16 MHz bandpass/32 Mbit/sec option be added to the list. Alan Rogers agreed to study but pointed out that the more stringent analog specifications in the baseband converters are easier to meet for narrow bandwidths which can use high speed operational amplifiers to provide a very stable amplitude and phase response.

The options of phase cal detection at the stations is still being studied and Alan promised an answer within two weeks. The question of a "fan-in" option in the formatter was discussed and is being studied by Haystack - but there doesn't appear to be any great advantage to providing this feature which only has the potential for saving a small amount of tape and no other benefits.