

MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
 HAYSTACK OBSERVATORY  
 WESTFORD, MASSACHUSETTS 01886

10 March 1988

Area Code 617

692-4765

To: VLBA Data Acquisition/Recorder Group  
 From: Alan E.E. Rogers  
 Subject: Minutes of the Data Acquisition/Recorder Group  
 Telecon Held 9 March 1988 at 1300 EST

Attendees: Barry Clark - VLA  
 Phil Doolie - VLA  
 George Peck - VLA  
 Ken Stetten - VLA  
 Craig Walker - VLA  
 Dave Webber - VLA  
 Larry D'Addario - ChVille  
 Ray Escoffier - ChVille  
 Jon Romney - ChVille  
 Dick Thompson - ChVille  
 Hans Hinteregger - Haystack  
 Ed Nesman - Haystack  
 Alan Rogers - Haystack  
 John Webber - Haystack

1] Phase calibrator extraction at the stations -

Alan Rogers and Ed Nesman described the phase cal extractor in the decoder module which can extract complex amplitudes for frequencies equal to the sample frequency over  $8*N$  for 2 level representation of sine and cosine, or over  $16*N$  for 3 level representation of sine and cosine.  $N$  being any integer. Alan Rogers said that he felt that extraction of the instrumental delay (calibrator minus receiver + cables + backend) could be adequately done using the decoder module to cycle through the frequency channels. Craig Walker and others questioned how well the calibration might work for spectral line experiments. AEER promised to study the problem further and to talk with Jim Moran, Mark Reid and other spectral line VLBI users.

2] Track subsets to be recorded when less than 32 tracks are needed in a pass -

John Webber suggested that while the hardware was completely flexible, modes requiring less than full headstack of cabled heads should probably record one or more groups of tracks. John Webber agreed to write a description of how the physical tracks are arranged on the tape in order to maintain adequate guard bands and "special" tracks for "peaking up" each pass.

3] Equipment status/problems -

a) Formatter-

Works OK when the connectors are seated - takes a lot of force to seat all 300 pins. George Peck noted that the firmware hangs if the data buffer is requested because the boards are not yet installed. A general request was made to try and write firmware that still allows MCB status communications even when the VME is "hung-up" trying to communicate with a defective or missing VME board. AEER promised to ask Jim Levine and Roger Cappallo about this problem.

b) Recorder-

Firmware occasionally quits (about once per day). Most everything seems to work except some tracks may be yielding high error rates. John Webber suggested methods to determine whether it is a read or write problem by several different heads to readback a recorded track. AEER suggested that test tape should be made and sent to Haystack when convenient.

c) REC #2-

Still being checked out - but taking some time because AEER and others are away doing other things - they promise to get back to work soon.