

Haystack Observatory

January 14, 1988 JAN 19 1993

To: VLBA Data Acquisition/Recorder Group

From: Alan E.E. Rogers

Subject: Minutes of the Data Acquisition/Recorder Telecon held
13 Jan 88.

Attendees: Dick Thompson, NRAO; Paul Sebring, NRAO; Bill Meredith, NRAO; Craig Walker, NRAO; Ken Stetten, NRAO; George Peck, NRAO; Phil Doolie, NRAO, Jon Romney, NRAO; Dirga Bagri, NRAO; Alan Rogers, Haystack; John Webber, Haystack.

This telecon consisted mainly of specific questions asked of the Haystack group.

Question: Paul Sebring asked - What is the maximum longitudinal bit density which can be recorded on the standard Fuji tapes?

Answer: John Webber - We have listed the Fuji tape up to 40-42 kb/inch at which point the signals are 1 dB down. Densities up to 47 kb/inch might be possible. D1 tape is good to 50kb/inch. Evaporated metal tape (whose coercivity can be tailored and can be written with existing heads) might support densities as high as 75 kb/inch.

Question: Are glass reels needed for D1 tape?

Answer: JCW - reels are to avoid tape packing problems. D1 will not pack well on the MKIII metal reels with nylon liners.

Question: What further tests are needed to know whether D1 will work to VLBA spec.

Answer: JCW - 1) Uniformity tests 2) Lifetime tests-
operational experience 3) Enough samples

Status of output rate synthesizer

Two design approaches are possible, one using phase locked VCXOs with 1KHz reference and one using an LC oscillator with 8KHz reference. After some discussion it was decided to proceed with the phase locked VCXO approach and AEER will place an order for two 189 MHz VCXOs and two 190.512 MHz VCXOs to support MKIII and VLBA formats in DARs 3 and 4.

Status of recorder tests at the VLA site

While some limited tests of REC 1 have been made at the VLA site more complete tests await the software screens being developed by Ron Heald. It is hoped that Ron (with telephone support from Haystack - if needed) will be able to make more performance tests next week prior to the recorder review scheduled to be held at Haystack on 25 Jan 88.