

NORTHEAST RADIO OBSERVATORY CORPORATION
HAYSTACK OBSERVATORY

Minutes of VLBA recorder group meeting held 11 Oct 83 at 1430 EDT.

Attendees:

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| Alan Yen | - Toronto |
| Rich Lacasse | - NRAO |
| Hein Hvatum | - NRAO |
| Ken Kellermann | - NRAO |
| Larry D'Addario | - NRAO |
| Sandy Weinreb | - NRAO |
| Alan Rogers | - Haystack |
| Marty Ewing | - Caltech |

The meeting opened with a review of the narrow track head development work at Haystack. Alan Rogers reported that Hans Hinteregger has just completed the construction of the first "production prototype" head in which the tracks were defined by precision machining done at Haystack on computer controlled dicing saw. Mechanical tests of the head show that the 34 gaps are aligned with sufficient accuracy and while electrical tests have not yet been made all indications are that performance should be as good as or better than the "partial prototype" heads demonstrated in April 1983. If this production prototype head does indeed perform up to expectations the only remaining problem with future head production is the supply of "gapped bars" from Japan. 50 gapped bars are expected within the next few weeks to replace the 50 defective bars delivered earlier. Further supplies of gapped bars await negotiations with Matsushita which might include allowing Matsushita to bid on the complete construction of heads according to the Haystack prescription.

One of the major disadvantages of a cassette recorder based system is that it is difficult to playback the data at a rate much higher than the real time record rate. Fast playback being in some sense equivalent to a very large recycling memory in the correlator allowing high spectral resolution to be obtained in data recorded at narrow bandwidth without excessive "multipass processing". Larry D'Addario suggested that a correlator architecture which would allow several different portions of a narrow band experiment to be processed simultaneously could ameliorate the problem. Alan Yen suggested that certain VCRs which piezo electric pitch control could be made to playback at higher speed. Marty Ewing promised to look into the actual requirements on the recording system needed to meet VLBA specifications.

Alan Yen reported that if the 3:1 data multiplexing boxes designed by Ray Escoffier to put 3 4 Mb/s MK III channels onto one VCR have been completed he could make his VCR system available for tests at Haystack and NRAO. In earlier meetings Ray Escoffier had reported that the VCR system he has been developing at NRAO is not yet ready for VLBI tests.