

VLBA ACQUISITION MEMO #355

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
HAYSTACK OBSERVATORY
WESTFORD, MASSACHUSETTS 01886

26 April 1993

Telephone: 508-692-4764
Fax: 617-981-0590

To: VLBA Data Acquisition Group
From: Alan E.E. Rogers
Subject: Minutes of Recorder Telecon held 21 April 1993 at 1300 EDT

Attendees: AOC Haystack
D. Bagri R. Cappallo
C. Bignell H. Hinteregger
J. Campbell A. Rogers
B. Clark A. Whitney
J. Greenberg K. Wilson
P. Napier
G. Peck
J. Romney
C. Walker

Idler roller specs

Hans and Alan suggest the following critical specs:

- 1] Run-out $< 50\mu$ "
- 2] Deviations of mounting pads from plane perpendicular to rotation axis < 0.2 mil

Other considerations are the use of the axis relief grooves and the use of a stable high friction surface.

Recorder firmware communication problem

Jon Romney and Roger Cappallo discussed some problems being experienced at the VLBA correlator with communication between the deformatter and the recorder. Roger and Jon both agreed to perform some more tests to help diagnose the problem.

Changing vacuum for supporting thick and thin tapes on the same transport

Since the tape effective stiffness is proportional to its thickness cubed and inversely proportional to the tape tension, it is possible to maintain the same head profile by running thick tape at high tension and thin tape at low tension. For 25- and 16-micron tape the ideal vacuum ratio is about 4:1. This high ratio is hard to achieve because the reel servos cannot reliably run with vacuum over 16 inches and vacuums under 5 inches can result in head-to-tape contact problems. Also, at present most transports have the vacuum cut-out switch set at 6 inches. However the vacuum switches can be adjusted to cut-out at 3 inches. Alan Rogers has agreed to study the best means to be able to handle both tape thickness with acceptable performance at 56,000 bpi. At the Haystack correlator the vacuum is switched from 6 inches to 16 inches with satisfactory thickness interchange at 33,000 bpi but marginal performance at 56,000 bpi.

Status of alternate VLBA compatible headstacks

Hans expects to receive a VLBA compatible headstack from Roger Mersing in the next few weeks. Also, we have received some headstacks on loan from Jodrell Bank for tests.