

VLBA ACQUISITION MEMO #145

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
HAYSTACK OBSERVATORY
WESTFORD, MASSACHUSETTS 01886

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*Area Code 508
692-4764
Fax 981-0590*

TO: VLBA Data Recording Group
FROM: Dan Smythe, Ed Nesman, Roger Cappallo
SUBJECT: Improved performance with AT&T bit synchronizer

The bit synchronizer circuits on two channels of processor drive #3 at the Haystack Correlator have been replaced with a circuit incorporating a new bit synchronizer from AT&T. This drive has had a long history of resynchronization errors, with at least one resync in approximately half of the accumulation periods accepted by the correlator. The new circuit was installed in March of 1989, and since that time the number of accumulation periods with resyncs has dropped to an average of 5 percent on those channels with the new circuit, while remaining near 50 percent on the other channels. These preliminary results are so encouraging that we hope to incorporate this new circuit on all Mark III correlator drives at Haystack, in order to take advantage of the expected improvement in reliability.