VLBA Acquisition Memo # 52

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To: VLBA Acquisition Group

From: Alan E.E. Rogers

Subject: Cost of Increased Data Rates in Acquisition and Playback

1] Increased Channel Bandwidth

Increasing the maximum baseband bandwidth from 8 to 16 MHz can be accomplished at negligible additional cost - see Memo #51.

2] Increased Formatter Capacity

Based upon our present knowledge, the increased capacity would be best achieved by increasing the number of tracks. We estimate that doubling the overall formatting capability from 512 Mb/s to 1024 Mb/s would cost 34K$/station. While increasing the number of recorder tracks from 32 to 64 per recorder would cost 8K$/recorder. A corresponding doubling of the number of playback tracks (with multiplexing to increase the data rate to the correlator from 16 Ms/s/channel to 32 Ms/s/channel) would cost 30K$/recorder in the DPS electronics.

Summary - Cost for implementation (10 acquisition stations +22 DPS)

Option	Cost
16 MHz BW in Baseband Conv.	0
1024 Mb/s Recording Capability	500K$
16x32 Ms/s Playback	836K$