ADDITIONAL BASELINE to INTERFEROMETER
(Software Considerations)

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MEMO No. 109

2/4/80

The most economical way of adding a baseline orthogonal to the existing 85 ft.-45 ft. baseline would be to use, as much as possible, existing hardware and software. The DDP-116 computer is already programmed for a four element interferometer and the control and data acquisition functions are, in general, independent of baseline orientation. If the proposed antenna were to be an alt-az mount, conversion of coordinates would be necessary. The routines for that already exist for the 45 ft. antenna. If 85-3 were to be moved to the new site, its control would be similar to present methods. The greater distance and dependence on a radio link rather than direct cable hook-up would necessitate some software modifications.

The NRAO could make these changes with an estimated three man-months of programming effort. If more real time data analysis is desired by the Navy, an additional computer could be installed and Naval Observatory personnel could do the programming. The only interaction with the DDP-116 would be transfer of data. This could be accomplished directly, computer to computer, or the DDP could write the data onto a disk to be read by the new computer.

If the Navy wishes to replace the DDP-116 with a computer capable of telescope control, correlator control, data acquisition, and data analysis and do their own programming, no software aid would be needed from the NRAO. Furthermore, no future software support would be required. Interfacing the myriad monitoring and command devices to the replacement computer would be a tremendous undertaking for the NRAO electronics group. The Navy would be solely responsible for all interferometer software and would relieve the NRAO from this task.

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1/18/80