

BISTATIC SCATTERING DATA BASE

QUARTERLY STATUS REPORT

for the period

1 March - 31 May 1979

Professor Thomas B.A. Senior
Radiation Laboratory
Department of Electrical and Computer Engineering
The University of Michigan
Ann Arbor, Michigan 48109

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TECHNICAL

For the past month the weather would have permitted us to operate our outdoor measurement facility, but unfortunately we have run into problems with the short pulse X-band system we were developing. Once the switching and delay circuit was built, it was found that the switch that we had hoped to use to generate 10 nsec pulses did not operate as expected. Indeed, the first switch was defective, and after a replacement had been secured, it was then discovered that in spite of the high switching speed (rise time of a nanosecond or two) it was incapable of producing pulses of less than about 200 nsec length due to a design defect.

Rather than pressing for the very short pulse length that we had hoped for, we have now redesigned the system around a new switch that is capable of producing 100 nsec pulses. This will permit operation throughout the X-band range of frequencies. The system is in the final check-out stages and we expect to start making actual bistatic measurements within a week.

To better serve the needs of the sponsor, emphasis will be placed on missile #2, though some measurements will be made using missile #1 for comparison with the data obtained in our anechoic chamber. A memorandum (016711-1-M) summarizing the anechoic chamber measurements was written and furnished to RADC.

ADMINISTRATION

Apart from the Principal Investigator (Professor Senior), the only personnel assigned whose salaries have been charged to the Contract have been Mr. J.E. Ferris (Research Engineer) and graduate students and technicians. There has been no travel.