

27th March 1962

Greetings Jesse:

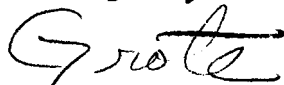
Thanks for your prompt reply of the 13th and the two slides plus sketches. These and your letter are quite illuminating. I note that the loops appear to be mounted on a polar axis!

Apparently the rotating rhombic was chosen after consultations with the Bell Laboratories people. The rather unnecessary rotation feature seems to follow Jansky closely. In those days the rhombic was a hot new antenna designed by BTL for point to point communication. The attraction seems to have been novelty plus apparent simplicity. The rhombic was designed to replace arrays of dipoles and their attendant complexity. These arrays were in common use thruout the world for shortwaves from about 1925 to 1935. Many articles were written about them including an elegant one by Southworth about 1930 in the Proc. IRE. He discusses changing direction by progressive phase delay and displays many fine diagrams.

For radio astronomy use, arrays of dipoles would have been much superior to a rhombic for reasons of low side lobes and larger energy pickup. I have a hunch that even in 1936 the cost of a rotating structure the size indicated on sketch would have been in the range \$5,000 to \$10,000. A fine array of steerable dipoles could have been built for something commensurate with the \$1,000 estimate.

In any case, thanks again for your efforts. I'll see you in August.

Best regards,


Grote Reber