

RADIOMETER'S 25-FOOT-WIDE STEEL-MESH REFLECTOR FOCUSES RADIO WAVES ON ANTENNA AT ITS CENTER. IT TURNS TO FOLLOW SUN OR STAR ACROSS THE SKY

STATIC FROM STARS

Radio interference from space
is predicted with new machine

On a remote plain near Sterling, Va. the U.S. Bureau of Standards has set up a machine to listen to the sound of stars. This newest instrument of astronomical research, called a radiometer, is one of several similar devices now in use to study the mysterious radio waves which reach the earth from outer space. A kind of radio telescope, it gathers and focuses electromagnetic impulses radiating from the stars in the same way that a conventional telescope gathers and focuses their visible light.

The Bureau of Standards' great interest in stellar static stems from the fact that these waves set up interference in high-frequency radio reception. The research project, headed by Engineer Grote Reber, inventor of the radiometer, will be concerned mainly with predicting the time, place and intensity of future solar broadcasts. But Reber believes that his method may also help to plot by their sound stars that have never been seen, and even supply a new means of navigation (p. 66).

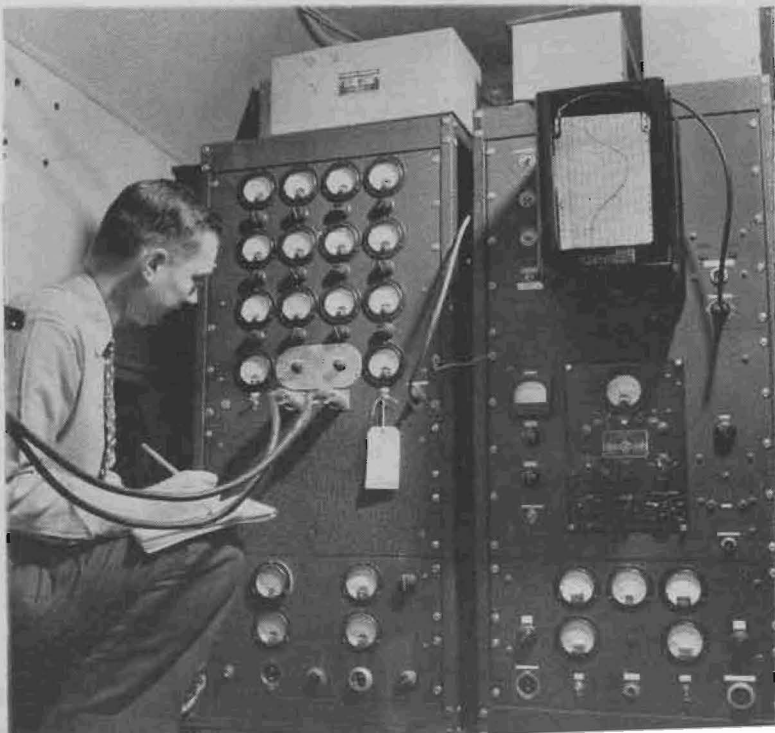
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HOMEMADE RADIOMETER, built in 1937 by Reber in his Wheaton, Ill. backyard, picked up strong radio waves from the sun and parts of Milky Way.

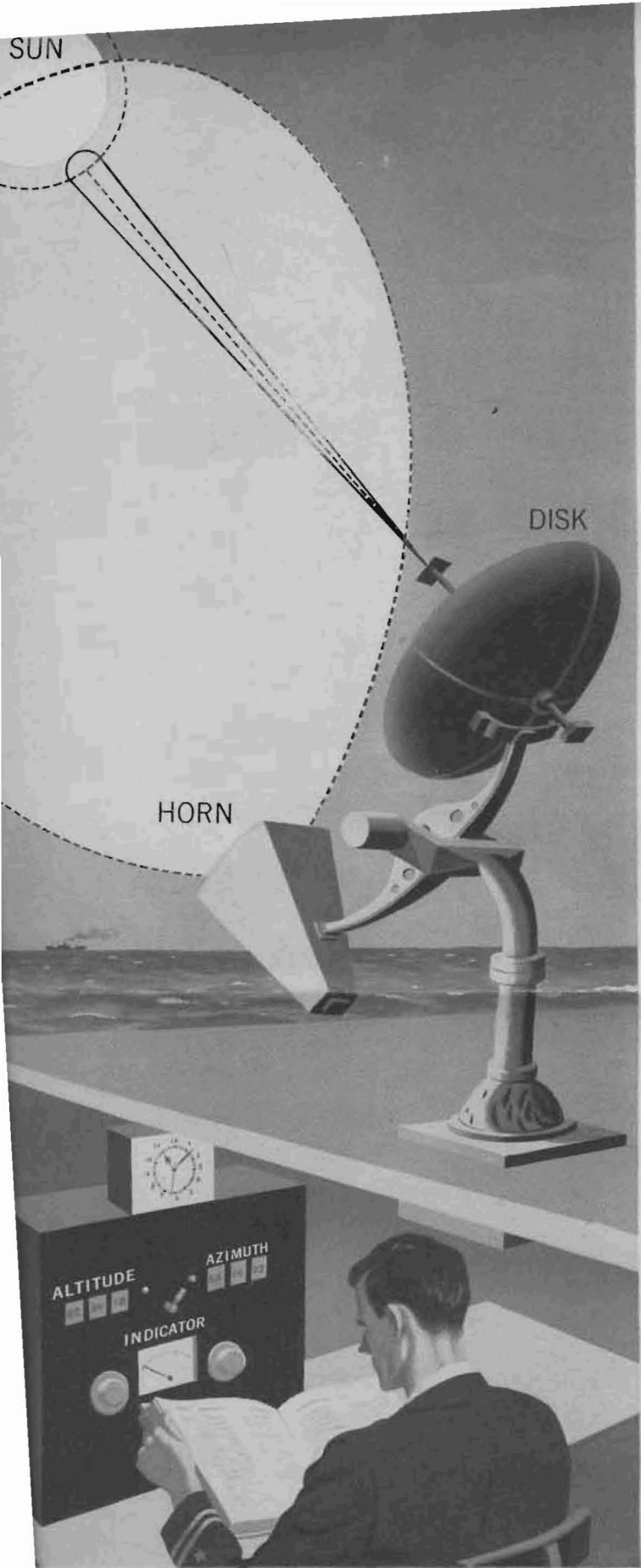


SPECIAL AMPLIFIER, which magnifies signals from stars 160 billion times into audible sounds or traces (*below*), is checked by Reber before installation.



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N'S NOISE MAY GUIDE SHIPS

first practical application of the radiometer may be in navigation where it could serve as a kind of electronic sextant. Like the optical instrument it could determine a ship's position in relation to the sun and permit the navigator to compute his position on the sea. But the radiometer would have a great advantage over the conventional instrument: using radio waves instead of light, it could take sun sights even in the thickest overcast or fog. The seagoing radiometer may be used, as shown above: on deck, a wide-angle, horn-shaped receiver determines the general location of the sun and a far more precise disk re-