Welcome Aboard

LORAN A/C STATION

Nantucket, Massachusetts

LORAN-C

Long Range Radio-Aid to Navigation

WHAT IT IS -

LORAN-C is a radio navigation system that enables the users to determine his accurate position anywhere within the signal coverage area. LORAN-C transmitters, operating at the low-frequency of 100 kHz, and sending out pulsed signals, provide reliable position fixing for the mariner. The signals are generated by a 'chain' of three or more synchronized transmitting stations.

The Department of Defense has utilized the system as a prime navigational aid for the last 15 years, but, until recently, the high cost of receiving equipment has made adaptation for commercial use impractical. Now, however, advances in technology have brought the price of LORAN-C receivers within the reach of the average mariner, and have made the receivers essentially automatic and easy to operate.

WHAT IT DOES -

Within the area of ground wave coverage, with 95% probability, LORAN-C provides ¼ nautical mile position fixing accuracy. The service is available to the mariner 24 hours a day; and, the effectiveness of the system is independent of weather conditions.

The accuracy of LORAN-C extends to repeatability. That is, a mariner can employ LORAN-C to return to within 50 feet of a particular point; and, two or more vessels can rely on LORAN-C to govern their positions in relation to each other.

HOW TO USE IT -

LORAN-C receivers measure the slight difference in time that it takes for electronic signals to travel from two transmitters located hundreds of miles apart. The time difference, measured in microseconds, is represented on a special LORAN-C chart by a curved 'line of position' that connects all points of equal time difference. By tuning to two different pairs of LORAN-C transmitters, and by plotting the intersection of two 'lines of position' on the chart, the mariner can identify his specific location.

Except for the actual plotting on the chart, the position determination is performed almost automatically by the LORAN-C receiving unit.

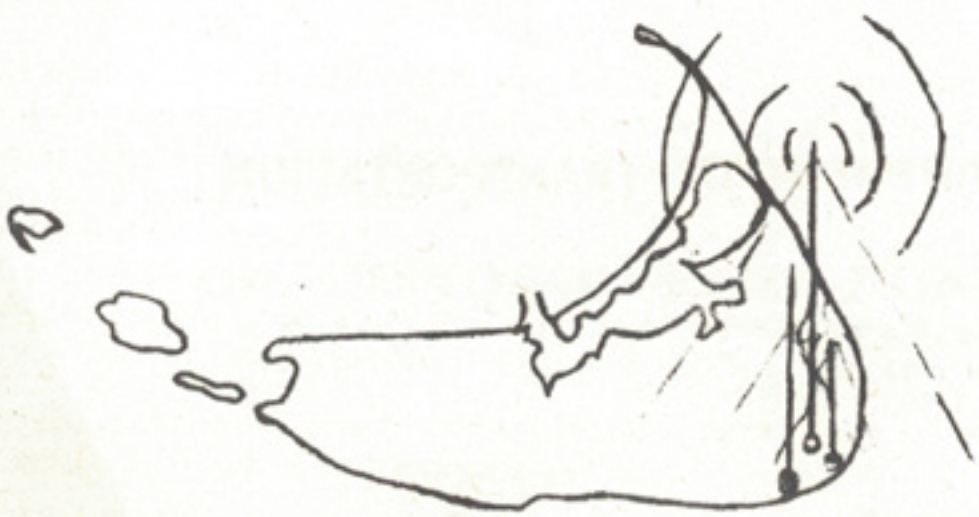
LORAN STATION

NANTUCKET

USCG LORAN STATION, NANTUCKET, has been on the air providing navigational information to mariners and airmen since December of 1943. Established originally as a single rate LORAN A, or standard LORAN as it was then called, Nantucket LORAN has expanded to provide four rates of LORAN A and one rate of LORAN C. Future plans call for the addition of a second rate of LORAN C.

The physical plant of the station includes one 625' tower, one 300' tower, one 118' tower, and a complex of communications and receiving antennas. The operations building houses all timing equipment and the LORAN A transmitters. The transmitter building houses the LORAN C transmitters. The emergency generators and a garage/workshop area are located in the maintenance building. Living, dining, and office areas are found in the barracks building. In addition, ten family housing units are located on the station grounds.

Twenty-one Coast Guard military personnel, including two officers, are normally assigned to the station. They provide maintenance and control of the electronic equipment and care of the station property.



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