

TYPE DM RAYDIST SYSTEM

IHB Note. — Vol. XXXV, No. 2, November 1958, of the International Hydrographic Review contains an article entitled « Note on Use of Raydist Systems in Brazilian Hydrography » supplying information regarding Raydist Type DM, the most recent Raydist system. The information given below, received from Hastings Raydist Inc., completes the data available on this latest type of Raydist apparatus and is followed by extracts from a report on the use of this equipment.

The newest Type DM Raydist System employs transistorized, miniaturized base stations as well as position indicators, and is probably the smallest electronic precision navigation system in the world.

The complete system, including all of the equipment for both base stations and for use in the mobile craft for position determination, can be flown into remote areas by light aircraft or helicopter or transported by means of a standard station wagon, jeep, or small boat (fig. 1). This feature makes transportation of the system to and from areas of operation, or moving the base stations from one location to another, a very simple matter.

The two base stations required for the Type DM Raydist System can be set up quickly and easily in less than a half hour's time. The position indicator in the mobile craft (aircraft or boat) continuously reads direct range to each of the two base stations, thus allowing accurate and continuous determination of position for such applications as geophysical exploration work, hydrographic surveying, or to establish and control uniform flying patterns over fixed areas for such applications as spraying and crop dusting.

The first such system for commercial use was flown into Canada recently and set up on the Canadian side of Lake Erie. Each of the two portable base stations was erected on the beach in less than thirty minutes and operated from a 24-volt storage battery. Using only small portable whip antennas, and the battery power supply, satisfactory operations were obtained over Lake Erie out to ranges of 45 miles. With the same antennas and power supply, a range of 65 miles was obtained in the Gulf of St. Lawrence. Similar ranges can be expected in overland work at high altitudes, although over forested areas at altitudes of 100 feet or less, the range may, under some conditions, decrease to as low as 5 miles. The use of higher antennas, more power, or both, would allow longer ranges to be obtained, but would necessarily limit the portability, minimum weight, and the simplicity of installation which are available with the new transistorized base stations using the portable whip antennas. With 100-foot antennas and 100 watts of power, a similar but heavier Raydist system is being used by the U.S. Coast and Geodetic Survey for a hydro-



FIGURE 1a

graphic survey of Georges Bank 150 miles seaward from the New England Coast.

This new development in small portable electronic positioning systems will greatly increase the practicability of using such systems in many types of applications where former systems have been impractical or impossible.
