

FOREWORD

In 1956 the International Hydrographic Bureau issued Special Publication 39 : Radio Aids to Maritime Navigation and Hydrography, containing descriptions of radio positioning systems used in surface navigation and hydrography, and information as to their application. Owing to rapid technical developments in this field, the Bureau decided, with the States Members' consent, to bring it up to date by a continuous process, as follows:

(1) A new volume bound in loose-leaf form, to be known as *Supplementary Papers to SP 39*, will be compiled. Its contents will be restricted to basic information on the principles of operation of new or modified equipment. The order of publication will depend on the varying rate of development of each instrument and on the degree of application. In theory, each chapter, or in certain instances each section of SP 39, will be replaced by a separate new pamphlet, which upon issuance will replace the corresponding material appearing in the 1956 edition, which will become obsolete when all sections have been revised.

(2) Field operational reports supplied by hydrographic offices or other organizations will be published as *Supplements to the International Hydrographic Review*.

These supplements will first complete and later supersede the portions of SP 39 now containing such reports, and will have the following advantages :

- (a) Distribution of operational reports shortly after their receipt at the Bureau;
- (b) Publication of a greater number of reports;
- (c) Use of the series of Supplements to the International Hydrographic Review as addenda to the basic volume;
- (d) A more compact, convenient basic volume.

A bibliography covering books and articles on radioelectric systems, and listing reports which do not appear in the supplements, but which can be found in other periodicals or text-books, will complete each supplement.

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The five previous volumes of the supplement were published in 1960, 1961, 1962, 1963 and 1964 respectively.

The present volume contains operational reports on the Hi-Fix and Rana radio positioning systems used in hydrography. It also contains two more theoretical articles which are of certain interest to users of radio aids.