RTCA
One McPherson Square
1425 K Street, NW, Suite 500
Washington, DC 20005 USA

Minimum Operational Characteristics for Vertical Guidance Equipment Used in Airborne Volumetric Navigation Systems

RTCA DO-152
March 17, 1972
Includes Appendix D

Prepared by: SC-116E

Copies of this document may be obtained from

RTCA, Inc.

Telephone: 202-833-9339
Facsimile: 202-833-9434
Internet: www.rtca.org

Please visit the RTCA Online Store for document pricing and ordering information.

FOREWORD

This report was prepared by Special Committee 116-E of the Radio Technical Commission for Aeronautics (RTCA). It was approved by RTCA on March 17, 1972.

RTCA is an association of aeronautical organizations of the United States from both government and industry. Dedicated to the advancement of aeronautics, RTCA seeks sound technical solutions to problems involving the application of electronics and telecommunications to aeronautical operations. Its objective is the resolution of such problems by mutual agreement of its member organizations.

The findings of RTCA are in the nature of recommendations to all organizations concerned. As RTCA is not an official agency of the government of the United States, its recommendations may not be regarded as statements of official government policy unless so enunciated by the government organization or agency having statutory jurisdiction over any matters to which the recommendations relate.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

TABLE OF CONTENTS (Cont'd)

PART ONE

CONCEPTS, PHILOSOPHY, AND DEVELOPMENT OF MINIMUM OPERATIONAL CHARACTERISTICS (MOC's) FOR AIRBORNE SYSTEMS

(NOTE: This PART was prepared by the SC-116 Steering Committee.)

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION I

THE NEED FOR BASIC CHARACTERISTICS FOR NAVIGATION AND COMMUNICATION SYSTEMS USED IN AIR TRAFFIC CONTROL (ATC)

Many devices carried aboard aircraft to fulfill navigation, communication and ATC requirements are important not only to the aircraft itself and its occupants, but can have an effect on other aircraft sharing the airspace. The latter is particularly true when the airborne devices are used to transmit, receive or share intelligence in communication or navigation media in common usage. Agreement must exist on the minimum operational characteristics necessary not only to assure satisfactory performance for each aircraft but also to prevent derogation of the service being provided to other users or recipients of communication or navigation services.

Promulgation of basic characteristics of these systems, or System Characteristics, upon which the minimum operational characteristics for the airborne element must be based, has in the past often lagged implementation of systems by unacceptable periods of time; yet their timely issuance is necessary so that participants in the systems will know how properly to equip themselves.

If a satisfactory air navigation, communication and traffic control service is to be provided, a clear statement of minimum operational characteristics for airborne systems must be agreed upon and must be adhered to by all participants in the system. For example, where separation between aircraft is achieved based on assumptions of certain characteristics of the individual aircraft devices, minimum requirements for these devices are needed, in order to assure adequate separation of one aircraft from another.