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Minimum Interoperability Standards (MIS) for Automated Meteorological Transmission (AUTOMET)

RTCA DO-252
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FOREWORD

This report was prepared by RTCA Special Committee (SC-195) and approved by the RTCA Program Management Committee (PMC) on January 11, 2000

RTCA, Incorporated is a not-for-profit corporation formed to advance the art and science of aviation and aviation electronic systems for the benefit of the public. The organization functions as a Federal Advisory Committee and develops consensus-based recommendations on contemporary aviation issues. RTCA's objectives include but are not limited to:

- coalescing aviation system user and provider technical requirements in a manner that helps government and industry meet their mutual objectives and responsibilities;

- analyzing and recommending solutions to the system technical issues that aviation faces as it continues to pursue increased safety, system capacity and efficiency;

- developing consensus on the application of pertinent technology to fulfill user and provider requirements, including development of minimum operational performance standards for electronic systems and equipment that support aviation; and

- assisting in developing the appropriate technical material upon which positions for the International Civil Aviation Organization and the International Telecommunication Union and other appropriate international organizations can be based.

The organization's recommendations are often used as the basis for government and private sector decisions as well as the foundation for many Federal Aviation Administration Technical Standard Orders.

Since the RTCA is not an official agency of the United States Government, its recommendations may not be regarded as statements of official government policy unless so enunciated by the U.S. government organization or agency having statutory jurisdiction over any matters to which the recommendations relate.

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APPENDICES

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1.0 Purpose and Scope

1.1 Introduction

This document defines uplink and downlink message format types for the Minimum Interoperability Standards (MIS) for Automated Meteorological Transmission (AUTOMET). This document also specifies a set of encoding and decoding rules to apply to the message format types defined in this document. AUTOMET message formats defined in this document are independent of media and protocols used to transfer encoded AUTOMET messages. Also, AUTOMET operational requirements are not explicitly specified.

This standard ensures that all AUTOMET-compliant air- and ground-based systems will be able to decode and interpret AUTOMET uplink and downlink messages. Compliance with this standard is recommended as a means of assuring that avionics equipment implementing AUTOMET software will perform their intended functions satisfactorily under conditions normally encountered in routine aeronautical operations. Regulatory application of this document is the sole responsibility of the appropriate governmental agencies.

1.2 Document Outline

Section 1: Purpose and Scope contains information and assumptions needed to understand the rationale for equipment software characteristics and requirements stated in the remaining sections. It describes typical equipment software applications and operational goals and establishes the basis for the standards stated in Sections 2 through 4 and Appendices A and B.

Section 2: Performance Requirements and Test Procedures contains the minimum software performance standards for AUTOMET equipment. These standards specify the required performance under standard operating and environmental conditions.

Section 3: Installed Equipment Performance contains a description of the performance required of the installed equipment. Tests for the installed equipment are included when performance cannot be adequately determined through bench testing.

Section 4: Equipment Operational Performance Characteristics due to software nature of this document, equipment operational performance characteristics requirements are not specified.

Section 5: AUTOMET Message Description contains a tabular description of the format and content of the AUTOMET uplink and downlink messages. The requirements and standards for AUTOMET messages are contained in Appendix A (downlink) and Appendix B (uplink).

Appendix A: Downlink Message Encoding contains the definitions for the AUTOMET downlink messages in ASN.1 coding.

Appendix B: Uplink Message Encoding contains the definitions for the AUTOMET uplink messages in ASN.1 coding.

Appendix C: Legacy Uplink Label H2 contains reference information to aid in the understanding of the Legacy Automated Reporting System currently using the ACARS medium.

Appendix D: Legacy Uplink Report Version 1 contains reference information to aid in the understanding of the Legacy Automated Reporting System currently using the ACARS medium.

Appendix E: Legacy Uplink Report Version 2 contains reference information to aid in the understanding of the Legacy Automated Reporting System currently using the ACARS medium.