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

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FOREWORD

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- 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 and several advisory circulars

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1 PURPOSE AND SCOPE

1.1 Introduction

The purpose of this document is to define the Minimum Interoperability Standards (MIS) for the uplink and downlink message formats for Automated Meteorological Transmissions (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. AUTOMET operational requirements are not explicitly specified.

This standard ensures 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 responsibility of 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 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.

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 - this document addresses only the software requirements for message and data handling of installed equipment; requirements for the operational performance characteristics of the equipment are excluded.

Section 5: AUTOMET Message Description contains a description of the format and content of the AUTOMET uplink and downlink messages. The requirements and standards for AUTOMET messages are contained in the appendices.

Section 6: Membership

Appendix A: AUTOMET Message Elements

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

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

Appendix D: Metadata message contains the definitions for the downlink metadata messages in ASN.1 coding.

Appendix E: EDR Performance Standards Project Overview.

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