Telemetry Group

IRIG STANDARD 106-23

TELEMETRY STANDARDS

ABERDEEN TEST CENTER
DUGWAY PROVING GROUND
ELECTRONIC PROVING GROUND
REAGAN TEST SITE
REDSTONE TEST CENTER
WHITE SANDS TEST CENTER
YUMA PROVING GROUND

NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION PATUXENT RIVER
NAVAL AIR WARFARE CENTER WEAPONS DIVISION CHINA LAKE
NAVAL AIR WARFARE CENTER WEAPONS DIVISION POINT MUGU
NAVAL SURFACE WARFARE CENTER DAHLGREN DIVISION
NAVAL UNDERSEA WARFARE CENTER DIVISION KEYPORT
NAVAL UNDERSEA WARFARE CENTER DIVISION NEWPORT
PACIFIC MISSILE RANGE FACILITY

96th TEST WING
412th TEST WING
ARNOLD ENGINEERING DEVELOPMENT COMPLEX

SPACE LAUNCH DELTA 30
SPACE LAUNCH DELTA 45

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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DOCUMENT 106-23

TELEMETRY STANDARDS

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Prepared by

TELEMETRY GROUP

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US Army White Sands Missile Range,
New Mexico 88002-5110

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TABLE OF CONTENTS

CHAPTERS

* Changed
† New

APPENDIXES

Beginning with RCC 106-17, the appendixes that were previously stand-alone documents are now integrated with the chapters that cover the same material. This does not include four appendixes that are retired but maintained for historical purposes; these four remain stand-alone files and are renamed as annexes. The following lists new locations for the appendixes.

Changes in This Edition

This document is an updated version of and replaces Range Commanders Council (RCC) Document 106-23. The RCC Telemetry Group (TG) made an extensive effort to produce a well-coordinated and useful document. The following is a summary of these efforts.

a. Task TG-172: Put randomization and de-randomization into Chapter 12.

   OBJECTIVE/SCOPE: Restructuring 106 with all of Randomization and De-Randomization and put them into Chapter 12.

b. Task TG-185: Guidance for using Chapter 11 Data Types – Chapter 24 Appendix A (new appendix).

   OBJECTIVE/SCOPE: This task provides guidance for utilizing IRIG-106 Chapter 11 data types in TmNS networking applications with specific focus on implementing these data types into TmNS data messages. The intent is to establish a standardized implementation method for commonly used Chapter 11 data types within the TmNS data messages as part of the standardized network environment.

c. Task TG-189: 2023 Updates to IRIG 106 Chapter 9

   OBJECTIVE/SCOPE: Update IRIG 106 (Telemetry Standards) Chapter 9 to include various corrections and enhancements.

d. Task TG-193: Update the Metadata Descriptive Language of the Telemetry Networks Standards for Publication in IRIG 106-23.

   OBJECTIVE/SCOPE: The Metadata Descriptive Language (MDL) of the Telemetry Networks Standard as described in Chapter 23 has not had a significant update since it was originally published in 2017. Ongoing development work and new user experience using the MDL necessitate the need to deploy a significant update. This task seeks to make the needed updates and changes and publish an updated version as part of the IRIG 106-23 Telemetry Standards. This task includes adding a sentence to 106 Chapter 24.

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Preface

The TG of the RCC has prepared this document to foster the compatibility of telemetry transmitting, receiving, and signal processing equipment at the member ranges under the cognizance of the RCC. The range commanders highly recommend that telemetry equipment operated by the ranges and telemetry equipment used in programs that require range support conform to these standards.

These standards do not necessarily define the existing capability of any test range, but constitute a guide for the orderly implementation of telemetry systems for both ranges and range users. The scope of capabilities attainable with the utilization of these standards requires the careful consideration of tradeoffs. Guidance concerning these tradeoffs is provided in the text. The standards provide the necessary criteria on which to base equipment design and modification. The ultimate purpose is to ensure efficient spectrum utilization, interference-free operation, interoperability between ranges, and compatibility of range user equipment with the ranges.

This standard is complemented by a companion series: RCC Document 118, Test Methods for Telemetry Systems and Subsystems; RCC Document 119, Telemetry Applications Handbook; RCC Document 123, IRIG 106 Chapter 10 Programmers Handbook; and RCC Document 124, Telemetry Attributes Transfer Standard (TMATS) Handbook.

The policy of the TG is to update the telemetry standards and test methods documents as required to be consistent with advances in technology.

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******** NOTHING FOLLOWS ********