



**IRIG STANDARD 106-15
PART 1**

TELEMETRY STANDARDS

**ABERDEEN TEST CENTER
DUGWAY PROVING GROUND
REAGAN TEST SITE
WHITE SANDS MISSILE RANGE
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**

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DOCUMENT 106-15

**TELEMETRY STANDARDS
(PART 1)**

July 2015

Prepared by

TELEMETRY GROUP

Published by

**Secretariat
Range Commanders Council
US Army White Sands Missile Range,
New Mexico 88002-5110**

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* Changed

† New

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Changes in This Edition

This document is an updated version of and replaces Range Commanders Council (RCC) Document 106-13 (Part 1: Telemetry Standards [June 2013]). 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-117: 2015 Updates to Digital Telemetry Recorder Standards
OBJECTIVE/SCOPE: Update IRIG 106 Chapter 10 to include data recorder capabilities required by the RCC members. Write Chapter 7, new chapter titled Packet Telemetry Downlink. Write Appendix Q, titled Extended Binary Golay Code.
- b. Task TG-121: Updates to TMATS for 106-15
OBJECTIVE/SCOPE: To enhance the content of the Telemetry Attributes Transfer Standard (TMATS) as needed to keep it current with the data standards in the remainder of 106.
- c. Task TG-122: 2015 Updates to Recorders Command & Control and Test Methods
OBJECTIVE/SCOPE: Update IRIG 106 chapter 6 (Recorder Command and Control) to include new data recorder capabilities as documented in the 2013 release of IRIG 106 Chapter 10.
- d. Task TG-129: Update IRIG 106 with Standards for LDPC FEC Codes.
OBJECTIVE/SCOPE: Incorporate Standards for the implementation of Low Density Parity Check (LDPC) Forward Error Correction (FEC) coding into IRIG 106.
Deliverable: a new appendix for the IRIG 106-15 publication. Chapter 2 also includes a new paragraph introducing this new appendix.
- e. Task TG-130: Update IRIG 106 with Standards for Space Time Coding (STC)
OBJECTIVE/SCOPE: Incorporate Standards for the implementation of Space Time Coding (STC) into IRIG 106. Deliverable: a new appendix for IRIG 106-15 publication. Chapter 2 also includes a new paragraph introducing this new appendix.

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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, published in two parts, is complemented by a companion series, RCC Document 118, Test Methods for Telemetry Systems and Subsystems, RCC Document 119, Telemetry Applications 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 *****