



TELEMETRY GROUP

DOCUMENT 106-09

**TELEMETRY STANDARDS
(PART 1)**

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**TELEMETRY STANDARDS
(PART 1)**

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TELEMETRY GROUP

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CHANGES IN THIS EDITION

This document is an updated version of and replaces Range Commanders Council (RCC) Document 106-07 (Part 1: Telemetry Standards (September 2007)). 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-81: Update Chapter 10, Data Archive Naming Convention

Task Objective/Product. Define a standard for the Chapter 10 file directory/name for a Removable Memory Module (RMM), a hard disk, or a tape. Establish an archival block size format for all digital media.

Comment. A related task, TG-83 resulted in a users handbook for the 2007 edition of Chapter 10. The document name is *IRIG 106-07 Chapter 10 Programming Handbook*, and it can be downloaded from RCC document folder *RCC 123-09 (IRIG 106-07 Chapter 10 Programming Handbook)*.

b. Task TG-93 (Part 1): Update Chapter 9: Telemetry Attributes Transfer Standard (TMATS)

Task Objective/Product. To enhance the content of the TMATS to keep current data standards in the IRIG 106. The product will be an updated IRIG 106.

Comment. Numerous Chapter 10 related changes were made to Chapter 9. The Packet Format Attributes Group was removed and the Message Data Attributes Group was added. Various other minor changes were made. The TMATS provides a common definition and format to facilitate the transfer of information between the user and the test range and between ranges.

c. Task TG-93 (Part 2): Update Appendix O: Floating Point Formats

Task Objective/Product. To provide an updated summary and details of floating point formats.

Comment. Included in the changes, Appendix O now includes a detailed description of the “DEC_64 Bit “G” Double Precision Floating Point” format.

d. Task TG-93 (Part 3): Appendix P (NEW): Derived Parameter Specification

Task Objective/Product. Appendix P defines Derived Parameters and identifies the components of Derived Algorithm Grammar (operators, numeric constants, measurements, and mathematical functions). Appendix P also provides an overview of grammar syntax as well as usage examples of grammar and TMATS.

Comment. Derived parameters are measurements that do not appear in any data stream; instead, they are calculated from telemetry measurements in a data stream, numeric constants, and/or other derived measurements.

e. Task TG-96: Update Appendix N: Telemetry Transmitter Command And Control Protocol

Task Objective/Product. To update Appendix N of the IRIG 106 to correct errors and implement improvements.

Comment. Appendix N provides standards for commands, queries, and status information when communicating with telemetry transmitters configured with communication ports.

PREFACE

The Telemetry Group (TG) of the Range Commanders Council (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, and RCC Document 119, Telemetry Applications Handbook.

The policy of the Telemetry Group 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 *****