



**TELEMETRY GROUP**

**IRIG STANDARD 106-11  
PART I**

**TELEMETRY STANDARDS**

**WHITE SANDS MISSILE RANGE  
REAGAN TEST SITE  
YUMA PROVING GROUND  
DUGWAY PROVING GROUND  
ABERDEEN TEST CENTER  
ELECTRONIC PROVING GROUND**

**NAVAL AIR WARFARE CENTER WEAPONS DIVISION, PT. MUGU  
NAVAL AIR WARFARE CENTER WEAPONS DIVISION, CHINA LAKE  
NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION, PATUXENT RIVER  
NAVAL UNDERSEA WARFARE CENTER DIVISION, NEWPORT  
PACIFIC MISSILE RANGE FACILITY  
NAVAL UNDERSEA WARFARE CENTER DIVISION, KEYPORT**

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45TH SPACE WING  
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AIR ARMAMENT CENTER  
ARNOLD ENGINEERING DEVELOPMENT CENTER  
BARRY M. GOLDWATER RANGE**

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**DOCUMENT 106-11**

**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 106-09 (Part 1: Telemetry Standards (April 2009)). 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-91: Updates to RCC 106 Chapter 10**

Task Objective/Product. Update RCC 106 Chapter 10 to include capabilities required by the RCC members.

Comment. IRIG 106 Chapter 10, Digital Recorder Standard, defines standardized formats used to collect data for onboard test articles. This standardized format allows system interoperability and data exchange commonality.

### **b. Task TG-101: Telemetry Attributes Transfer Standard (TMATS) and the TMATS schema**

Task Objective/Product. To enhance the content of TMATS RCC 106 Chapter 9 and the TMATS XML schema needed to keep it current with the data standards in the remainder of the RCC 106.

Comment. The TMATS provides a common definition and format to facilitate the transfer of information between the user and the test range and between ranges. All ranges will benefit by using standard TMATS attributes to process any and all types of data in current use.


**c. Task TG-106: Chapter 2, Transmitter and Receiver Systems**

Task Objective/Product. Added C-band standards to relevant sections.

Comment. Establishing telemetry standards for C-Band, similar to those existing for L-band and S-band, is an important step to ensure ranges have proper guidance on the implementation of C-band.

**d. Task TG-xx: Chapter 4, Pulse Code Modulation Standards**

Only minor editorial changes were made to Chapter 4; therefore, no task number was required.

<p><b>NOTE</b></p> 	<p><b>Task TG-97: Telemetry Attributes Transfer Standard (TMATS) Handbook</b></p> <p>Task Objective/Product. A new document, the RCC 124-11 TMATS Handbook contains detailed descriptions and examples showing how to use the entire TMATS standard, with emphasis on those issues that have been identified as needing further explanation. This top-level guide gives an overview of what TMATS is, why it was developed, and what benefits there are in using it.</p> <p>Comment: The TMATS Handbook will be a common reference for all instrumentation organizations (who produce TMATS files), ranges (who receive TMATS files), and vendors (who incorporate TMATS files into their telemetry processing systems), thus eliminating any inconsistencies and differing interpretations of what a TMATS file should contain. All ranges which utilize the TMATS standard will benefit.</p>
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## 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, RCC Document 119, Telemetry Applications Handbook, and RCC Document 124, Telemetry Attributes Transfer System (TMATS) 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 \*\*\*\*\*