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Space data and information transfer systems — Standard formatted data units — Control authority procedures

*Systèmes de transfert des informations et données spatiales — Unités de
données à structuration normalisée — Procédures pour l'autorité de
contrôle*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 13764 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 13, *Space data and information transfer systems*.

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Space data and information transfer systems — Standard formatted data units — Control authority procedures

1 Scope

This International Standard lays down the requirements for Control Authority procedures for standard formatted data units used in space systems.

2 Requirements

Requirements are the technical recommendations made in the following publication (reproduced on the following pages), which is adopted as an International Standard

CCSDS 630.0-B-1 June 1993, *Recommendation for space data system standards — Standard formatted data units — Control Authority procedures*.

For the purposes of international standardization, the modifications outlined below shall apply to the specific clauses and paragraphs of publication CCSDS 630.0-B-1

Pages i to iv

This part is information which is relevant to the CCSDS publication only.

Page vi, References

The referenced standard indicated hereafter is available under the following ISO reference:

[2] CCSDS 620.0-B-2 | ISO 12175:1994

Page 3, paragraph 2.1, Control Authority Organization
Add:

The implementation of this International Standard requires the designation of an International Agency which will act as the international secretariat for a Control Authority Organization. The CCSDS Secretariat has agreed to assume that function under the authorization of ISO.

Page 13, paragraph 4.1.1, Establishing a MACAO
Add:

The establishment of a MACAO will in addition be opened to agencies not represented in CCSDS. The acceptability of candidatures from these agencies will be checked by the responsible ISO committee (currently subcommittee ISO/TC 20/SC 13), prior to submission of their request to the CA Agent.

3 Revision of publication CCSDS 630.0-B-1

It has been agreed with the Consultative Committee for Space Data Systems that Subcommittee ISO/TC 20/SC 13 will be consulted in the event of any revision or amendment of publication CCSDS 630.0-B-3. To this end, NASA will act as a liaison body between CCSDS and ISO.

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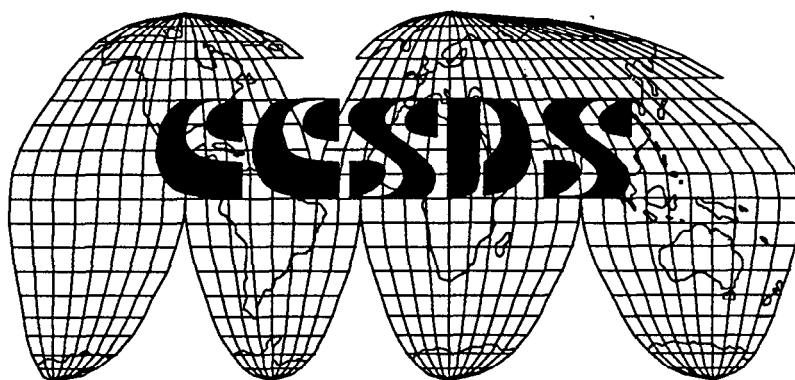
Consultative Committee for Space Data Systems

RECOMMENDATION FOR SPACE
DATA SYSTEM STANDARDS

STANDARD FORMATTED DATA UNITS— CONTROL AUTHORITY PROCEDURES

CCSDS 630.0-B-1
BLUE BOOK

June 1993



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AUTHORITY

Issue:	Blue Book, Issue 1
Date:	June 1993
Location:	São José dos Campos São Paulo, Brazil

This Recommendation reflects the consensus technical agreement of the following member Agencies of the Consultative Committee for Space Data Systems (CCSDS):

- o British National Space Centre (BNSC)/United Kingdom.
- o Canadian Space Agency (CSA)/Canada.
- o Central Research Institute of Machine Building (TsNIIMash)/Russian Federation.
- o Centre National D'Etudes Spatiales (CNES)/France.
- o Deutsche Forschungsanstalt für Luft- und Raumfahrt e.V. (DLR)/Germany.
- o European Space Agency (ESA)/Europe.
- o Instituto Nacional de Pesquisas Espaciais (INPE)/Brazil.
- o National Aeronautics and Space Administration (NASA)/USA.
- o National Space Development Agency of Japan (NASDA)/Japan.

The following observer Agencies also concur with this Recommendation:

- o Chinese Academy of Space Technology (CAST)/People's Republic of China.
- o Department of Communications/Communications Research Center (DOC-CRC)/Canada.
- o Institute of Space Research (IKI)/Russian Federation.

This Recommendation is published and maintained by:

CCSDS Secretariat
Program Integration Division (Code OI)
National Aeronautics and Space Administration
Washington, DC 20546, USA

STATEMENT OF INTENT

The Consultative Committee for Space Data Systems (CCSDS) is an organization officially established by the management of member space Agencies. The Committee meets periodically to address data systems problems that are common to all participants, and to formulate sound technical solutions to these problems. Inasmuch as participation in the CCSDS is completely voluntary, the results of Committee actions are termed RECOMMENDATIONS and are not considered binding on any Agency.

This RECOMMENDATION is issued by, and represents the consensus of, the CCSDS Plenary body. Agency endorsement of this RECOMMENDATION is entirely voluntary. Endorsement, however, indicates the following understandings:

- o Whenever an Agency establishes a CCSDS-related STANDARD, this STANDARD will be in accord with the relevant RECOMMENDATION. Establishing such a STANDARD does not preclude other provisions which an Agency may develop.
- o Whenever an Agency establishes a CCSDS-related STANDARD, the Agency will provide other CCSDS member Agencies with the following information:
 - The STANDARD itself.
 - The anticipated date of initial operational capability.
 - The anticipated duration of operational service.
- o Specific service arrangements shall be made via memoranda of agreement. Neither this RECOMMENDATION nor any ensuing STANDARD is a substitute for a memorandum of agreement.

No later than five years from its date of issuance, this Recommendation will be reviewed by the CCSDS to determine whether it should: (1) remain in effect without change; (2) be changed to reflect the impact of new technologies, new requirements, or new directions; or (3) be retired or canceled.

In those instances when a new version of a RECOMMENDATION is issued, existing CCSDS-related Agency standards and implementations are not negated or deemed to be non-CCSDS compatible. It is the responsibility of each Agency to determine when such standards or implementations are to be modified. Each Agency is, however, strongly encouraged to direct planning for its new standards and implementations towards the later version of the Recommendation.

FOREWORD

This document is a technical Recommendation for the standardization of the Control Authority organization for supporting the digital transfer of space-related information in an open system data interchange using Standard Formatted Data Units (SFDUs). Other aspects of the SFDU concept are described in documents listed in the Reference section.

This Recommendation defines the responsibilities that must be assumed and the services that must be provided by the participating CCSDS Agencies in order to facilitate the creation and operation of the Control Authority organization. The primary function of this organization is to register and disseminate data description information.

Through the process of normal evolution, it is expected that expansion, deletion, or modification to this document may occur. This Recommendation is therefore subject to CCSDS document management and change control procedures which are defined in Reference [1].

Questions relating to the contents or status of this document should be addressed to the CCSDS Secretariat at the address indicated on page i.

DOCUMENT CONTROL

Document	Title	Date	Status
CCSDS 630.0-B-1	Recommendation for Space Data System Standards: Standard Formatted Data Units—Control Authority Procedures	June 1993	Current Issue

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REFERENCES

- [1] *Procedures Manual for the Consultative Committee for Space Data Systems*. CCSDS A00.0-Y-5. Yellow Book. Issue 5. Washington, D.C.: CCSDS, 1992 or later issue.
- [2] *Standard Formatted Data Units—Structure and Construction Rules*. Recommendation for Space Data Systems Standards, CCSDS 620.0-B-2. Blue Book. Issue 2. Washington, D.C.: CCSDS, May 1992 or later issue.
- [3] *Standard Formatted Data Units—A Tutorial*. Report Concerning Space Data Systems Standards, CCSDS 621.0-G-1. Green Book. Issue 1. Washington, D.C.: CCSDS, May 1992 or later issue.
- [4] *Space Data Systems Operations with Standard Formatted Data Units: System and Implementation Aspects*. Report Concerning Space Data Systems Standards, CCSDS 610.0-G-5. Green Book. Issue 5. Washington, D.C.: CCSDS, February 1987 or later issue.
- [5] *Standard Formatted Data Units—Control Authority Procedures Tutorial*. Report Concerning Space Data Systems Standards, CCSDS 631.0-G-1. Green Book. Issue 1. Washington, D.C.: CCSDS, June 1993 or later issue.

1 INTRODUCTION

1.1 Purpose and Scope

The quantity of data processed in space systems has increased greatly in the last decade. As programs of cooperation become more and more widespread, data interchange becomes a more important matter. Use of universally available data-format descriptions becomes essential in programs involving international cooperation. Therefore, an effort to standardize data interchange and the use of data descriptions is appropriate.

This document deals with an organization which handles the interchange of data descriptions. The organization is called the Control Authority; it facilitates the interchange of data descriptions between users who wish to process data and the Agency organizations which hold the data descriptions.

The objective of the Control Authority organization is to provide a data description management infrastructure supporting the Standard Formatted Data Unit (SFDU) concept (see References [2] and [3]). A complete mechanism for international data description archival and interchange will require the following components:

1. An internationally coordinated Control Authority organization to implement the services required.
2. A uniform set of responsibilities, services, and associated procedures for the members of this organization.
3. Standard sets of information used in the interactions among members of the Control Authority organization and users.
4. Standard data description languages and standard data structures to permit the writing and packaging of data descriptions.
5. A standard set of media and protocols for communication within the organization and between users and the organization.

The purpose of this document is to define points (1), (2) and (3) as described above.

The operating principles and procedures for the CCSDS are defined in Reference [1]. An overview of the general SFDU concept and the basic functions of the Control Authority organization are given in Reference [4]. Reference [5] contains the requirements and rationale for the Control Authority Procedures described by this document.

1.2 Applicability

This Recommendation is intended to be used by those involved in implementing the Control Authority organization and as a guideline for the development of internal Agency standards. It is also to be used by SFDU users as a description of available Control Authority services.