

Space data and information transfer systems — Proximity-1 space link protocol — Coding and synchronization sublayer

ICS 49.140

National foreword

This British Standard reproduces verbatim ISO 21459:2006 and implements it as the UK national standard.

The UK participation in its preparation was entrusted by Technical Committee ACE/68, Space systems and operations, to Subcommittee ACE/68/-/7, Space data and information transfer systems, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

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Summary of pages

This document comprises a front cover, an inside front cover, the ISO title page, pages ii and iii, a blank page, pages 1 to 27 and a back cover.

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INTERNATIONAL STANDARD

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Space data and information transfer systems — Proximity-1 space link protocol — Coding and synchronization sublayer

*Systèmes de transfert des informations et données spatiales —
Protocole pour liaisons spatiales de proximité 1 — Sous-couche de
codage et synchronisation*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 21459 was prepared by the Consultative Committee for Space Data Systems (CCSDS) (as CCSDS 211.2-B-1, April 2003) and was adopted (without modifications except those stated in Clause 2 of this International Standard) by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 13, *Space data and information transfer systems*.

Space data and information transfer systems — Proximity-1 space link protocol — Coding and synchronization sublayer

1 Scope

Proximity space links are defined to be short-range, bi-directional, fixed or mobile radio links, generally used to communicate among probes, landers, rovers, orbiting constellations, and orbiting relays. These links are characterized by short time delays, moderate (not weak) signals, and short, independent sessions.

This International Standard defines the coding and synchronization sublayer of the Proximity-1 space link protocol. It defines the data unit of this sublayer, i.e. the PLTU. It defines the coding and synchronization mechanisms required for cross support. It also specifies the send and receive side functionality of this sublayer. This International Standard does not specify

- individual implementations or products,
- implementation of service interfaces within real systems,
- methods or technologies required to perform the procedures, or
- management activities required to configure and control the protocol.

The scope and field of application are furthermore detailed in subclauses 1.2 and 1.3 of the enclosed CCSDS publication.

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 211.2-B-1, April 2003, *Proximity-1 space link protocol — Coding and synchronization sublayer*.

For the purposes of international standardization, the modifications outlined below shall apply to the specific clauses and paragraphs of publication CCSDS 211.2-B-1.

Pages i to v

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

Page 1-5

Add the following information to the reference indicated:

[2] Document CCSDS 101.0-B-6, October 2002, is equivalent to ISO 22641:2005.

[4] Document CCSDS 211.1-B-1, April 2003, is equivalent to ISO 21460:2006.

3 Revision of publication CCSDS 211.2-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 211.2-B-1. To this end, NASA will act as a liaison body between CCSDS and ISO.

Consultative Committee for Space Data Systems

RECOMMENDATION FOR SPACE
DATA SYSTEM STANDARDS

PROXIMITY-1 SPACE LINK PROTOCOL— CODING AND SYNCHRONIZATION SUBLAYER

CCSDS 211.2-B-1

BLUE BOOK

April 2003



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CCSDS RECOMMENDATION FOR PROXIMITY-1 SPACE LINK
PROTOCOL—CODING AND SYNCHRONIZATION SUBLAYER**AUTHORITY**

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This document has been approved for publication by the Management Council of the Consultative Committee for Space Data Systems (CCSDS) and represents the consensus technical agreement of the participating CCSDS Member Agencies. The procedure for review and authorization of CCSDS Recommendations is detailed in *Procedures Manual for the Consultative Committee for Space Data Systems*, and the record of Agency participation in the authorization of this document can be obtained from the CCSDS Secretariat at the address below.

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