AS 2482—1989

Australian Standard®

Geographic information systems—Geographic data—Interchange of feature-coded digital mapping data

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The following interests are represented on Committee IT/4:

Association of Aerial Surveyors, Australia
Australian Bureau of Statistics
Australian Institute of Cartographers
Australian Key Centre in Land Information Studies
Australian Map Circle
Australian Photogrammetric and Remote Sensing Society
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Geographic information systems—Geographic data—Interchange of feature-coded digital mapping data

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PREFACE

This Standard was prepared by the Standards Australia Committee on Geographical Information Systems to supersede AS 2482—1984, *Interchange of feature coded digital mapping data*.

The purpose of this Standard is to specify a file structure and formats for the interchange of digital mapping data and associated information. This includes a code structure to be used for identifying individual types of cultural, hydrographic, relief and vegetation features associated with the mapped entities.

The need for such a Standard arises for the following reasons:

(a) Different organizations are responsible for the generation or initial acquisition of the various types of mapping data. This information is then generally used by other organizations for specific purposes.

(b) The nature of the data at its initial acquisition and the form in which it is stored with the different organizations varies significantly depending on its intended use by those organizations. More frequently now, this information exists in a digitized form.

(c) It would be of significant economic benefit if a simple common structure were defined for the interchange of the basic digitized information thus avoiding costly duplication of effort in its reacquisition.

This edition is technically identical with the 1984 edition except as follows:

(a) To describe more clearly the intended use of the Standard, Clause 1 (Scope) and the title have been amended.

(b) To reflect recent developments relating to the Australian Geodetic System—

  (i) the definitions of the AGD, AHD and AMG in Clauses 4.1, 4.2 and 4.3 have been revised;

  (ii) a definition for the World Geodetic System (WGS) has been included in a new Clause 4.4. The previous Clause 4.4 (Integrated survey grid) becomes Clause 4.5, Clause 4.5 (Feature) becomes 4.6 and Clause 4.6 (Record segment) becomes 4.7;

  (iii) minor amendments have been made to Clause 7.4(b);

  (iv) extra options have been included in Table 8, Character Position 6 to accord with the revised Clause 7.4(b).

(c) To more clearly identify the version of AS 2482 which has been used for a particular interchange volume:

  (i) Clause 7.1 has been amended to require explicit identification of the version on the external label;

  (ii) Clause 7.5 has been extended to include the version identifier in the descriptive information.

(d) Appendices A, B, E and F have been deleted, because their content is adequately covered in other publications and Appendix F has been superseded by the present Tables 4, 5, 6, 8 and 9.

(e) The original Appendix D has been redesignated Appendix A and a new Appendix B has been included. Appendix B now specifies a subset of this Standard for use by organizations wishing to adopt a single procedure where the Standard offers several options.

CONTENTS

FOREWORD

This Standard is primarily intended for use by organizations that wish to interchange digital mapping or charting data and information. The interchange is based on individual records for each feature involved without any attempt to define structures or relationships within the data.

The features are identified by an 8-digit feature header code and are generally specified by a string of coordinate values defining their boundary or location and other optional attribute data. The feature header is composed of a feature code, being one of those codes listed in Appendix C of this Standard and a feature modifier.

This Standard does not specify values for the feature modifier other than zeros. Other values may be used at the supplier's discretion to permit a further breakdown of the feature code. If other values are used, a list of them and their meanings is to be supplied with the data.

This Standard describes a preferred interchange medium with a simple format designed for ease of conversion and to minimize loss in the event of a record being corrupted.

STANDARDS AUSTRALIA

Australian Standard

Geographic information systems—Geographic data—Interchange of feature-coded digital mapping data

1 SCOPE. This Standard specifies the format and coding of unstructured digital point and vector geographic data to be used when the information is being prepared for exchange purposes.

This Standard is not intended to apply to—

(a) data representing maps of area mosaics (polygon data);

(b) grid or raster data; or

(c) topologically structured digital data.

However, some of the feature codes included in this Standard are applicable to the above.

2 REFERENCED DOCUMENTS. The following documents are referred to in this Standard:

AS

1009 Information processing—9-track 12.7 mm wide magnetic tape for information interchange recorded at 32 rpmm

1068 Information processing—File structure and labelling of magnetic tapes for information exchange

1776 Information processing—7-bit coded character set for information interchange

2241 9-track, 12.7 mm (0.5 in) wide magnetic tape for information interchange recorded at 63 rpmm (1600 rpi), phase encoded

2356 Information processing—Implementation of the 7-bit coded character set and its extensions

2356.1 Part 1: Implementation of the 7-bit coded character set and its 7-bit and 8-bit extensions on 9-track 12.7 mm (0.5 in) magnetic tape

2412 Information interchange on 3.81 mm (0.150 in) magnetic tape cassette at 4 cpmm (100 cpi), phase encoded at 63 ftpmm (1600 fpi)

2414 Information processing—Magnetic tape cassette and cartridge labelling and file structure for information interchange

2750 Information processing—9-track, 12.7 mm (0.5 in) wide magnetic tape for information interchange—Format and recording, using group coding at 246 cpmm (6250 cpi)

3 APPLICATION. The purpose of this Standard is to provide a means whereby digital mapping and charting data, gathered at various scales by different methods and equipments in different organizations, may be conveniently interchanged between themselves and other interested parties.

4 DEFINITIONS. For the purpose of this Standard, the definitions below apply.

4.1 Australian Geodetic Datum (AGD)—the basis of the geographical latitude and longitude coordinate systems AGD66 and AGD84.

4.2 Australian Height Datum (AHD)—the datum for full heights above mean sea level.

4.3 Australian Map Grid (AMG)—the metric Cartesian coordinate system based on the AGD and the Transverse Mercator map projection, whose coordinates are termed eastings and northings, AMG66 and AMG84.

4.4 World Geodetic System (WGS)—the basis of the geographical latitude and longitude coordinate system for all mapping of Australian offshore islands and external territories lying outside the limits of the AMG, including the Australian Antarctic Territory.

NOTE: AGD, AMG (1966 and 1984), AMG (1966 and 1984), AHD and WGS (as defined in Clauses 4.1 to 4.4 above) are comprehensively defined in National Mapping Council Special Publication 10 *The Australian Geodetic Datum Technical Manual.* The manual also covers the use of the Transverse Mercator and Polar Stereographic grid systems with the WGS.

4.5 Integrated Survey Grid (ISG)—the metric Cartesian coordinate system based on the AGD and the Transverse Mercator map projection, whose coordinates are termed eastings and northings, with 2° zones, being subsets of the 6° zones defined in the AMG.

NOTE: ISG is more comprehensively defined in the N.S.W. Department of Lands Publication *A Manual of New South Wales Integrated Survey Grid* dated January 1976.

4.6 Feature—A characteristic or physical entity illustrated on any graphic map or chart.

4.7 Record segment—A sub-record of related data where each segment starts with a 4-character-length field, which specifies either the total record length or the segment length.

5 PREFERRED INTERCHANGE METHOD.

5.1 Medium. The preferred interchange medium shall be 9-track 12.7 mm (0.5 in) wide magnetic tape at 63 rpmm (1600 rpi) phase encoded as specified in AS 2241.

5.2 Coding. All characters used for the information interchange shall be selected from the graphic set defined in AS 1776 and implemented on the 9-track magnetic tape as defined in AS 2356.1. Records shall be recorded in variable length, type D, format with a maximum block length of not more than 2048 characters as defined in AS 2356.1.

NOTE: The character set defined in AS 1776 is commonly referred to as the 'ASCII' character set.

5.3 Labels and file structure. The magnetic tape shall be internally labelled and structured in accordance with AS 1068. File sets shall contain applicable labels written at Level 3 as specified in AS 1068.