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Australian Standard 2482—1984

INTERCHANGE OF FEATURE CODED DIGITAL MAPPING DATA

STANDARDS ASSOCIATION OF AUSTRALIA
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The following interests are represented on Committee IS/1:

Australian Bankers' Association

Australian Bureau of Statistics

Australian Computer Equipment Suppliers Association

Australian Computer Users Association

Australian Public Service Board

CSIRO, Division of Computing Research

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Life Insurance Federation of Australia

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Public Service Board, N.S.W.

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Representatives of the following interests also participated in the drafting of this standard:

Central Mapping Authority, N.S.W.

Department of Aviation

Directorate of Survey—Army

Inter-Departmental Committee on Land Information, N.S.W.

National Mapping Council

State Electricity Commission of Victoria

Surveyor General's Department, S.A.

AUSTRALIAN STANDARD

INTERCHANGE OF FEATURE CODED DIGITAL MAPPING DATA

AS 2482—1984

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PREFACE

This edition of this standard was prepared by the Association's Committee on Information Processing Systems to supersede AS 2482—1981.

The purpose of this standard is to specify a file structure and formats for the interchange of digital mapping and charting data and 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 1981 edition except as follows:

(i) Clause 4.5 defines a record segment.

(ii) Clause 7.7 specifies the orientation of symbols or annotation.

(iii) Clause 9.4 explains the use of the code 0001.

(iv) Tables 4, 5, 6, 8 and 9 have been extended.

(v) New feature codes have been added (0001, 2126, 2127, 2128, 3612, 5021 and 5030).

(vi) New Appendices D, E and F have been added.

It has been recognized that some users of the 1981 edition may not wish to change-over immediately to the new requirements in Tables 4, 5, 6, 8 and 9 of this edition. Hence, for the benefit of such users, the corresponding Tables from the 1981 edition have been retained in Appendix F. In addition provision has been made in Clause 7.4 (e) for convenient identification of the edition of the standard which has been used.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
INTERCHANGE OF FEATURE CODED DIGITAL MAPPING DATA

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. With agreement between participants, other media as defined in alternative national standards may be used.

SPECIFICATION

1 SCOPE. This standard specifies the format and coding for digital mapping and charting data to be used when the information is being prepared for interchange purposes. The standard is not intended to apply to data representing maps of area mosaics.

2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1009 9-Track 32 rpmm (800 rpi) Magnetic Tape for Information Interchange

AS 1068 Magnetic Tape Labelling and File Structure for Information Interchange

AS 1776 Information Processing—7-bit Coded Character Set for Information Interchange

AS 2241 9-Track, 12.7 mm (0.5 in) Wide Magnetic Tape for Information Interchange Recorded at 63 rpmm (1600 rpi), Phase Encoded

AS 2356 Information Processing—Implementation of the 7-bit Coded Character Set and its Extensions
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

AS 2412 Information Interchange on 3.81 mm (0.150 in) Magnetic Tape Cassette at 4 cpmm (100 cpi), Phase Encoded at 63 ftpmm (1600 ftpi)

AS 2414 Magnetic Tape Cassette and Cartridge Labelling and File Structure for Information Interchange

AS XXXX Information Processing—9-track, 12.7 mm 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 following definitions shall apply:

4.1 Australian geodetic datum (AGD)—the basis of the geographical latitude and longitude coordinate system as defined in Appendix A.

4.2 Australian height datum (AHD)—the datum for heights above mean sea level.

NOTE: AHD is more comprehensively defined in National Mapping Council of Australia Special Publication 8.

4.3 Australian map grid (AMG)—the metric cartesian coordinate system based on the AGD and the Universal Transverse Mercator map projection, whose coordinates are termed eastings and northings.

NOTE: AMG is more comprehensively defined in National Mapping Council of Australia Special Publication 7.

4.4 Integrated survey grid (ISG)—the metric cartesian coordinate system based on the AGD and the Universal Transverse Mercator map projection, whose coordinates are termed eastings and northings, with 2° zones, being sub-sets of the 6° zones defined in the AMG.

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

4.5 Feature—a characteristic or physical entity illustrated on any graphic map or chart.

4.6 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 Part 1 of AS 2356. Records shall be recorded in variable length, type D, format with a maximum block length of not more than 2048 characters as defined in Part 1 of AS 2356.

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 structued in accordance with AS 1068. File sets shall contain applicable labels written at Level 3 as specified in AS 1068.

6 OPTIONAL INTERCHANGE METHODS. Subject to agreement between the interchange parties, data may also be interchanged using other sequential media for which Australian standards exist as set out in Table 1.

7 INTERCHANGE FILE DESCRIPTION.

7.1 External label. Each interchange volume shall bear an external label for visual identification purposes. This label shall carry the following information:

(a) Volume identifier—same as that recorded on the internal VOL 1 label.

(b) Recording density.

(c) Number of files recorded on the volume.

(d) Maximum block length and maximum record length—same as that recorded in the HDR2 header label.

NOTE: Additional information may be carried on the external label, as appropriate.

7.2 Internal labels. On the preferred interchange medium, system tape labels VOL 1, HDR1, HDR2, EOV1, EOV2, EOF1 and EOF2 shall appear on the volume as defined for Level 3 in AS 1068.

*In course of preparation. To be based on ISO 5652, 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).