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Australian Standard 1776—1980

**INFORMATION PROCESSING
7-BIT CODED CHARACTER SET
FOR INFORMATION
INTERCHANGE**



STANDARDS ASSOCIATION OF AUSTRALIA

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Australian Computer Users Association
Australian Public Service Board
CSIRO, Division of Computing Research
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AUSTRALIAN STANDARD

INFORMATION PROCESSING
7-BIT CODED CHARACTER SET
FOR INFORMATION
INTERCHANGE

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PREFACE

This standard was prepared by the Association's Committee on Computers and Information Processing as a new edition of AS 1776—1975. It is technically identical with the 1975 edition, but references have been updated and the standard has been published in the A4 size.

Except where otherwise stated, the coded character set defined herein is identical with the basic 7-bit set defined in ISO 646—1973 issued by the International Organization for Standardization (ISO), but with the addition of national selections in positions reserved for these in the international standard. The 6-bit code which was included in ISO/R 646—1967 was deleted from ISO 646—1973.

For convenience the 'international reference version' of the 7-bit code is reproduced in Appendix A of the standard. The Australian standard 7-bit code varies from the reference version only in position 2/4 where the dollar sign replaces the international currency sign.

This standard makes reference to the following Australian standards:

- AS 1189 Vocabulary for Information Processing
- AS 1484 Digital Data Transmission
- AS 1953 Code Extension Techniques for Use with the Standard 7-bit Coded Character Set
- AS 2295 Information Processing—Graphical Representations for the Control Characters of the 7-bit Coded Character Set
- AS 2356 Implementation of the 7-bit Coded Character Set and Its Extensions

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

INFORMATION PROCESSING—7-BIT CODED CHARACTER SET FOR
INFORMATION INTERCHANGE

FOREWORD

The purpose of this standard is to define a character set consisting of a group of control characters and graphic characters, each having a discrete binary coded representation with seven bits. The set is primarily intended for the interchange of information between data processing systems and associated equipment, and within message transmission systems. Accordingly it takes into account the need for graphics and controls in data processing and in data transmission.

The coded representation of the control characters and graphics is fundamentally a reference structure. The implementation of the code in various media such as punched cards, punched tapes, magnetic tapes and transmission channels, may be through other logically related codes and are the subject of further Australian standards. This standard is a necessary prerequisite to the preparation of these further standards.

The definitions of some control characters in this Australian standard assume that data associated with them is to be processed serially in a forward direction. Their effect when included in strings of data which are processed other than serially in a forward direction or included in data formatted for fixed record processing may have undesirable effects or may require additional special treatment to ensure that the control characters have their desired effect.

SPECIFICATION

1 SCOPE. This standard describes a coded character set primarily intended for the interchange of information among data processing systems and associated equipment, and within message transmission systems.

The set is applicable to all latin alphabets and provides 7-bit coded representation for 128 control characters and graphic characters such as letters, digits and symbols. This character set includes facilities for extension where its 128 characters are insufficient for particular applications.

This set should be regarded as a basic alphabet in an abstract sense as requirements for implementing it are not included in this standard (see Clause 2).

2 IMPLEMENTATION OF THE SET. The coded character set may be implemented, with logically related codes, as appropriate, on various media. These include punched paper tape, punched cards, magnetic tapes and transmission channels thus permitting interchange of data to take place either—

- (a) indirectly by means of an intermediate recording in a physical medium, or
- (b) by local electrical connection of various units such as input and output devices and computer, or
- (c) by means of data transmission equipment.

Methods for implementing the set in physical media and encoding it for transmission, taking into account the need for error checking, are described in other Australian standards, viz AS 1484, AS 1953, AS 2295 and AS 2356.

3 DEFINITIONS. In general, the terminology used in this standard is used in the sense expressed in AS 1189. For the purpose of this standard, however, the following definitions apply:

3.1 Bit—a contraction of 'binary digit'.

3.2 Bit pattern—the binary representation of a character.

3.3 Character—a graphical symbol or control function comprising part of the coded character set.

3.4 Code—a system of discrete binary representation of a set of symbols and functions.

3.5 Coded character set—a group of characters arranged in a particular sequence and having a representation in code.

4 AUSTRALIAN STANDARD CODED CHARACTER SET. The Australian standard 7-bit coded character set shall be in accordance with Table 1. This version conforms to the requirements of the 'basic code table' of ISO 646, with Australian national selections. With one exception it is identical with the ISO International Reference Version (see Appendix A).

5 LEGEND.

5.1 Control Characters. The abbreviations given in Table 1 for certain control characters have the meanings given in Table 2.

5.2 Graphic Characters. Graphic characters additional to the alphanumeric characters given in Table 1 are described by the names given in Table 3.