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# Australian Standard 2296—1979

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## Information Interchange **REPRESENTATIONS OF TIME OF THE DAY**



**STANDARDS ASSOCIATION OF AUSTRALIA**  
*Incorporated by Royal Charter*



THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Banks Automation Committee  
Australian Bureau of Statistics  
Australian Computer Users Association  
Australian Public Service Board  
CSIRO, Division of Computing Research  
Department of Defence  
Life Offices Association for Australasia  
Manufacturers of Data Processing Equipment  
National Library of Australia  
Office Equipment Industry Association of Australia  
Qantas Airways Limited  
Telecom Australia  
Universities and Colleges

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**AUSTRALIAN STANDARD**

**INFORMATION INTERCHANGE  
REPRESENTATIONS OF TIME  
OF THE DAY**

**AS 2296—1979**

First published ..... 1979

**PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA  
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.**

**ISBN 0 7262 1786 7**

## PREFACE

This standard was prepared under the authority of the Association's Committee on Computers and Information Processing. It is identical with International Standard ISO 3307 drawn up by ISO/TC 97, Computers and Information Processing.

It provides a means for representing local time of the day and Universal Time in digital form for the purpose of information interchange. Throughout this standard, time has been expressed based on the 24-hour timekeeping system.

This standard makes reference to the following Australian standard:  
AS 1120 The Writing of Calendar Dates in All-numeric Form

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## STANDARDS ASSOCIATION OF AUSTRALIA

## Australian Standard

for

## INFORMATION INTERCHANGE—REPRESENTATIONS OF TIME OF THE DAY

**1 SCOPE AND FIELD OF APPLICATION.**

This standard is designed to establish uniform time representations based upon the 24-hour timekeeping system. It provides a means for representing local time of the day and Universal Time in digital form for the purpose of interchanging information among data systems.

Specifically, it is intended to—

- (a) reduce the time required to record and/or format the elements of local time-of-the-day expressions and transmit them;
- (b) improve clarity and accuracy of interchange;
- (c) minimize the amount of human intervention required for communicating local time-of-the-day expressions;
- (d) reduce costs.

This standard does not prescribe file sequence, storage media, programming languages, or other features of information processing to be used in its implementation.

The use of this standard to represent local time-of-the-day expressions does not ensure that the value represented is accurate.

**2 REPRESENTATION FOR LOCAL TIME OF THE DAY.** Local time of the day is defined as clock time in public use at the point of origin. In the 24-hour timekeeping system, local time of the day may be expressed by the following combinations of the time elements hours, minutes, and seconds:

- (a) hours;
- (b) hours and decimal fraction of an hour;
- (c) hours and minutes;
- (d) hours, minutes and decimal fraction of a minute;
- (e) hours, minutes and seconds;
- (f) hours, minutes, seconds and decimal fraction of a second.

**2.1 Sequencing of Time Elements.** The sequencing of time elements shall be from high order to low order (left to right): hours, minutes, seconds. When a decimal fraction of an element is specified, no lower-order elements shall be included in the expression. For example, an expression containing a decimal fraction of an hour cannot also include the element(s) minutes and/or seconds.

**2.2 Use of Separators.** Separators other than the decimal comma and decimal period as described in 2.3, 2.4 and 2.5 are not required and consequently shall not be used when interchanging data among data processing systems. However, if required to facilitate visual human understanding, a colon (:) shall be used to separate hours, minutes, and seconds.

**2.3 Representation of Hours.** In the 24-hour timekeeping system, the hour shall be represented by a two-digit decimal number ranging from 00 up to 23, beginning with 00, and continuing in series: 01, 02, ..., 23. When a decimal fraction of an hour is specified, it shall be separated from the hour representation by a decimal period or decimal comma and expressed numerically to the precision (number of decimal places) desired.

**2.4 Representation of Minutes.** In the 24-hour timekeeping system, the minute shall be represented by a two-digit decimal number ranging from 00 up to 59. When a decimal fraction of a minute is specified, it shall be separated from the minute representation by a decimal period or decimal comma and expressed numerically to the precision (number of decimal places) desired.

**2.5 Representation of Seconds.** In the 24-hour timekeeping system, the second shall be represented by a two-digit decimal number ranging from 00 up to 59. When a decimal fraction of a second is specified, it shall be separated from the second representation by a decimal period or decimal comma and expressed numerically to the precision (number of decimal places) desired.

**2.6 The Instant of Midnight.** The instant of midnight in the 24-hour timekeeping system, is represented in hours, minutes and seconds as '000000' (the beginning of a new day). The second previous to midnight is '235959' (the last second of the previous day).

**3 REPRESENTATION OF UNIVERSAL TIME.** To express time of the day in Coordinated Universal Time (or Greenwich Mean Time as disseminated by time signals), the time-zone designator, capital 'Z', shall follow without separators the low-order (extreme right-hand) time-element in the expression. Other time-zone designators are not provided for in this standard. Those systems not having a capital 'Z' should use a lower-case 'z' when representing Universal Time.