



REFERENCE

NIST
PUBLICATIONS

FIPS PUB 4-1
Supersedes FIPS PUB 4
1968 November 1



FEDERAL INFORMATION PROCESSING STANDARDS PUBLICATION

1988 JANUARY 27

U.S. DEPARTMENT OF COMMERCE/National Bureau of Standards



REPRESENTATION FOR CALENDAR DATE AND ORDINAL DATE FOR INFORMATION INTERCHANGE

FEDERAL GENERAL DATA STANDARD
REPRESENTATIONS AND CODES

FIPS PUB 4-1

JK
468
.A8A3
NO. 4-1
1988

Foreword

The Federal Information Processing Standards Publication Series of the National Bureau of Standards (NBS) is the official publication relating to standards, guidelines, and documents adopted and promulgated under the provisions of Public Law 89-306 (Brooks Act) and under Part 6 of Title 15, Code of Federal Regulations. These legislative and executive mandates have given the Secretary of Commerce important responsibilities for improving the utilization and management of computers and automatic data processing in the Federal Government. To carry out the Secretary's responsibilities, the NBS, through its Institute for Computer Sciences and Technology, provides leadership, technical guidance, and coordination of Government efforts in the development of standards, guidelines and documents in these areas.

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James H. Burrows, *Director*
Institute for Computer Sciences and Technology

Abstract

This standard provides a means of representing calendar date and ordinal date to facilitate interchange of data among information systems. This standard adopts American National Standard ANSI X3.30-1985, Representation for Calendar Date and Ordinal Date for Information Interchange. This revision supersedes FIPS PUB 4 in its entirety.

Key words: ADP standards; calendar date; computers; data elements and codes; data processing; Federal Information Processing Standard; information systems; ordinal date; standards.

Natl. Bur. Stand. (U.S.) Fed. Info. Process. Stand. Publ. (FIPS PUB) 4-1, 2 pages
(1988)
CODEN:FIPPAT

American National Standard

Adopted for Use by
the Federal Government



FIPS PUB 4-1
See Notice on Inside
Front Cover

for information systems - representation for calendar date and ordinal date for information interchange

Approved July 30, 1985

Secretariat: Computer and Business Equipment Association

Page 1 of 2 pages

1. Scope and Purpose

1.1 The scope of this standard is limited to the interchange of data among data systems. This standard was not designed for (nor does it preclude) usage by humans as input to or output from data systems.

1.2 The purpose of this standard is to provide standard means of representing calendar date and ordinal date to facilitate interchange of data among data systems.

2. Specifications

2.1 Calendar date is a representation composed of the time elements year, month of year, and day of month.

2.2 Ordinal date is a representation composed of the time elements year and day of year.

2.3 Year shall be represented as four digits with the option of omitting the two high order digits (common-

ly referred to as century) as required in applications where century is to be implied. In like manner, the four digit year may be truncated to the low order single digit in those applications where the century and decade are to be implied. When year is truncated to two digits, the term, "Year of Century" should be used to identify the representation; when truncated to one digit, the term "Year of Decade" should be used to identify the representation.

2.4 Month of year shall be represented by the ordinal numbers 01, 02, , 12, representing the first through the twelfth months.

2.5 Day of month shall be represented by the ordinal numbers 01, 02, , 31, representing the first through the thirty-first days.

2.6 Day of year shall be represented by the ordinal numbers ranging from 001 (January 1) through 365 or 366 (Leap Year) for December 31.

2.7 The sequence of the time elements shall be from high order to low order (left to right), year, month of year, and day of month of year, day of year.

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ANSI X3.30-1985

2.8 No separators shall be used between the time elements.

3. Example

1967 July 1, 1 July 1967, and July 1, 1967 will be expressed as 19670701 in calendar date form and as 1967182 in ordinal date form. Alternatively, when the year is truncated to 2 or 1 digit(s), these would be represented as (670701 and 70701) and (67182 and 7182), respectively.

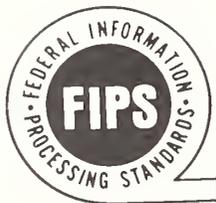
4. Qualifications

4.1 The ordinal date is commonly used in applications where frequent computation is employed to determine the number of elapsed days between two dates.

4.2 The time elements, year, month of year, day of month, and day of year may be represented and used independently or collectively as required. When used collectively, the high to low sequence must be maintained, that is, year-month of year, month of year-day of month, year-month of year-day of month, or year-day of year.

This standard has been adopted for Federal Government use.

Details concerning its use within the Federal Government are contained in Federal Information Processing Standards Publication 4-1, Representation for Calendar Date and Ordinal Date for Information Interchange. For a complete list of the publications available in the Federal Information Processing Standards Series, write to the Standards Processing Coordinator (ADP), Institute for Computer Sciences and Technology, National Bureau of Standards, Gaithersburg, MD 20899.



**Federal Information
Processing Standards Publication 4-1**

1988 January 27



Announcing the Standard for

**REPRESENTATION FOR CALENDAR DATE AND ORDINAL
DATE FOR INFORMATION INTERCHANGE**

Federal Information Processing Standards Publications (FIPS PUBS) are issued by the National Bureau of Standards in accordance with section 111 (f) (2) of the Federal Property and Administrative Services Act of 1949, as amended, Public Law 89-306 (79 Stat. 1127), Executive Order 11717 (38 FR 12315, dated May 11, 1973), and Part 6 of Title 15 Code of Federal Regulations.

1. **Name of Standard.** Representation for Calendar Date and Ordinal Date for Information Interchange (FIPS PUB 4-1).
2. **Category of Standard.** Federal General Data Standard, Representations and Codes.
3. **Explanation.** This standard provides a means of representing calendar date and ordinal date to facilitate interchange of data among information systems. This revision supersedes FIPS PUB 4 in its entirety.
4. **Approving Authority.** The Secretary of Commerce.
5. **Maintenance Agency.** U.S. Department of Commerce, National Bureau of Standards, Institute for Computer Sciences and Technology.
6. **Cross Index.**
 - a. FIPS PUB 58-1, Representations of Local Time of Day for Information Interchange.
 - b. FIPS PUB 59, Representations of Universal Time, Local Time Differentials, and United States Time Zone References for Information Interchange (being revised).
 - c. American National Standard ANSI X3.30-1985, Representation for Calendar Date and Ordinal Date for Information Interchange.
 - d. American National Standard ANSI X3.43-1986, Representations of Local Time of Day for Information Interchange.
 - e. American National Standard ANSI X3.51-1975, Representations of Universal Time, Local Time Differentials, and United States Time Zone References for Information Interchange (being revised).
 - f. International Standard ISO 2014-1976, Writing of Calendar Dates in All-Numeric Form.
 - g. International Standard ISO 2711-1973, Information Processing Interchange—Representation of Ordinal Dates.
 - h. International Standard ISO 3307-1975, Information Interchange—Representations of Time of the Day.
 - i. International Standard ISO 4031-1978, Information Interchange—Representation of Local Time Differentials.
7. **Objectives.** The objectives of this standard are to improve the utilization of data resources of the Federal Government and avoid unnecessary duplications and incompatibilities in the collection, processing and dissemination of data.
8. **Applicability.** This Federal Data Element and Representation Standard is made available for data interchange among executive departments and independent agencies, and for Federal data interchange with the non-Federal sector including industry, State, local and other governments, and the public at large.

9. Implementation Schedule. This standard becomes effective July 30, 1988. Use by Federal agencies is encouraged when such use contributes to operational benefits, efficiency, or economy.

10. Specifications. This standard adopts American National Standard ANSI X3.30-1985, Representation for Calendar Date and Ordinal Date for Information Interchange. The latter was approved on July 30, 1985 as a revision of ANSI X3.30-1971, and is published by the American National Standards Institute, 1430 Broadway, New York, NY 10018.

11. Where to Obtain Copies. Copies of this publication and the adopted specifications are available for sale by the National Technical Information Service, Springfield, VA 22161. (Sale of the specifications is by arrangement with the American National Standards Institute.) When ordering, refer to Federal Information Processing Standards Publication 4-1 (FIPS PUB 4-1) and title. When microfiche is desired, this should be specified.

U.S. GOVERNMENT PRINTING OFFICE: 1988-0-212-067





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