



**FEDERAL INFORMATION  
PROCESSING STANDARDS PUBLICATION  
NOVEMBER 1, 1968**

**GENERAL DESCRIPTION OF THE  
FEDERAL INFORMATION  
PROCESSING STANDARDS REGISTER**



U.S. Department of Commerce/National Bureau of Standards

## Foreword

The Federal Information Processing Standards Publication Series of the National Bureau of Standards is the official publication within the Federal Government for information relating to standards which are adopted and promulgated under the provisions of Public Law 89-306 and Bureau of the Budget Circular A 86 titled, Standardization of data elements and codes in data systems. These publications collectively constitute the FEDERAL INFORMATION PROCESSING STANDARDS REGISTER.

The publications in this series are used to announce and maintain Federal Information Processing Standards. Also, these publications are issued to provide standards information of a general interest and a complete index of relevant standards publications and specifications.

Publications in this series which announce the adoption of standards provide necessary policy, administrative, and guidance information for their effective implementation and utilization. In most cases, a copy of the technical specifications of the standard are affixed to the announcing publication. When this is not possible, the source where copies of the standards specification can be obtained will be cited.

Suggestions for improvement which are gained by the use of Federal Information Processing Standards and Publications are welcomed. These should be addressed to the National Bureau of Standards, Center for Computer Sciences and Technology, Office for Information Processing Standards, Washington, D.C. 20234.

A. V. ASTIN, *Director*



**Federal Information  
Processing Standards Publication 0**

**GENERAL DESCRIPTION OF THE  
FEDERAL INFORMATION PROCESSING  
STANDARDS REGISTER**

November 1, 1968

Federal Information Processing Standards Publications are issued by the National Bureau of Standards under the direction of the Bureau of the Budget in accordance with the provisions of Public Law 89-306 and Bureau of the Budget Circular No. A-86.

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## 1. Introduction

1.1. The FEDERAL INFORMATION PROCESSING STANDARDS REGISTER is the official source within the Federal Government for information pertaining to the approval, implementation, and maintenance of Federal Information Processing Standards resulting from the provisions of Public Law 89-306 and Bureau of the Budget Circular No-A-86. Its intended use within the Federal establishment is to provide in a single source timely information concerning standards for use by agency managers. The REGISTER contains sections devoted to hardware, software, applications, and data standards. At a later date, a complete index will be provided to assist in the search for standards information.

1.2. The FEDERAL INFORMATION PROCESSING STANDARDS REGISTER takes form through the promulgation and systematic filing of standards publications. As new standards are adopted, or existing standards modified, or information concerning standards changed, FEDERAL INFORMATION PROCESSING STANDARDS PUBLICATIONS will be issued to Federal departments and agencies for inclusion in the REGISTER. The looseleaf design and functional sectioning of the REGISTER facilitates its maintenance and provides the

basis for agencies to establish within their own organizations a central REGISTER of official standards documents.

## 2. Responsibilities for the REGISTER

2.1. The National Bureau of Standards by the direction of the Bureau of Budget is responsible for the development and maintenance of the REGISTER. FEDERAL INFORMATION PROCESSING STANDARDS PUBLICATIONS are promulgated by the National Bureau of Standards based upon information provided by the standards development or maintenance activities and by the approving authority. Recommendations concerning the format, maintenance, and promulgation of FEDERAL INFORMATION PROCESSING STANDARDS PUBLICATIONS should be directed to the National Bureau of Standards, Office for Informational Processing Standards, Washington, D.C. 20234.

## 3. Federal Information Processing Standards Publications

3.1. The series of FEDERAL INFORMATION PROCESSING STANDARDS PUBLICATIONS (FIPS PUBS) are the means for promulgating standards information for inclusion in the REGISTER. FIPS PUBS are used for establish-

ing new standards and for making changes or clarifications in existing standards. In addition, FIPS PUBS are used to make revisions to the index of the REGISTER and to provide general information about the standardization program. FIPS PUBS announcing new standards will generally contain the following basic items of information:

**Federal Information Processing Standards Publication Number.** A number assigned by the National Bureau of Standards to each publication in the series.

**Publication Date.** The effective date of the publication.

**Federal Information Processing Standards Number (FIPS No.).** The number of the standard to which the publication pertains.

**Name of Standard.** The official title of the standard. The title that will be cited will serve to identify the standard uniquely from all others. If, in addition to the official title, the standard is commonly identified by other names, such names will also be listed to assist in referencing.

**Category of Standard.** The major classification (Hardware Standard, Software Standard, Application Standard, or Data Standard) and subclassification under which the standard is categorized. (Refer to section 4 for the list of categories.)

Data Standards are further classified into two groups—Federal General and Federal Program Data Standards. General Data Standards are those for general use by most agencies in connection with an extensive number and variety of related or unrelated data systems and programs. Program Data Standards are those for use in particular related programs that concern more than one agency and in such cases the applicable program(s) will be indicated under the Applicability paragraph below.

**Explanation.** A statement to identify and describe the standard in general terms.

**Approving Authority.** The identification of the approving authority. The letter, memorandum, public law, or other instrument that approves the adoption of the standard will be on file at the National Bureau of Standards.

**Maintenance Agency.** The identification of the agency (and the office within the agency) that is responsible for maintaining the standard.

**Cross Index.** The identification of other standards organizations that have adopted the standard (or a similar or related one) and the reference number and title.

**Applicability.** Information to indicate the areas of applicability (applications, programs, equipment, functions, and/or organizations) to which the standard applies. The basis for any area of nonapplicability will also be stated. In addition, if cost effectiveness or other factors are a basis for determining applicability or implementation, then statements regarding these aspects will be provided.

**Implementation Schedule.** Effective date(s) and details necessary to implement the standard will be stated or reference will be made to appropriate documents.

**Specifications.** The document (or portions thereof) which contains the specifications of the standard is identified. (In many cases a copy of the specifications will be affixed to the FIPS PUBLICATION. When this is not practicable, copies of the specifications may be obtained from sources cited in the paragraph labeled WHERE TO OBTAIN COPIES.)

**Qualifications.** If not included in the specifications of the standard, specific information will be provided to describe additional features, authorized exceptions and relationships to other standards so as to facilitate use.

**Special Information.** If not included in the specifications of the standard or QUALIFICATION paragraph above, additional information will be included that will be helpful in facilitat-

ing the use of the standard. This information will be developed by the National Bureau of Standards and the content will be dictated by the category of standard and the features of its use.

**Where to Obtain Copies of the Standard.** In some cases, local reproduction of the technical specifications of a standard to meet local agency requirements will be authorized. Some industry standards are protected by copyright and cannot be copied without written permission from the industry organization. In other cases, the identification and mailing address of the organization where copies can be obtained will be given along with the price of the publication, if applicable. Where the Superintendent of Documents, U.S. Government Printing Office is cited as the source, remittances should be made either by coupons (obtainable from the Superintendent of Documents in sets of 20 for \$1.00 and good until used), or by check or money order payable to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, and sent with the order. Information concerning the availability of standards will be developed by the National Bureau of Standards based upon the best arrangements possible in each particular case.

#### 4. Categories of Standards

4.1. For purposes of indexing, referencing, and classifying FEDERAL INFORMATION PROCESSING STANDARDS, certain categories have been established. These categories are cited on each applicable FIPS PUBLICATION and Federally published standards specification. Major categories are defined for standards pertaining to Hardware, Software, Applications, and Data. Within each of these major categories, subcategories are also defined. Listed in table 1 are the major categories and their subcategories.

Table 1. Categories and subcategories

Category number	Category	Subcategory number	Subcategory
1	Hardware standards	a	Character recognition
		b	Interchange codes and media
		c	Transmission Interface
		d	Keyboards
		e	
2	Software standards	a	Programming languages
		b	Operating systems
		c	Operating procedures
		d	Documentation
3	Application standards		(No subcategories defined at this time.)
4	Data standards	a	Data elements
		b	Representations and codes
		c	Data formats

#### 5. Maintenance of the REGISTER

5.1. It is suggested that each agency designate an office to be responsible for keeping current the agency's copy of the FEDERAL INFORMATION PROCESSING STANDARDS REGISTER. Within an agency, standards information would be promulgated from this central point. Also, decentralized copies of the REGISTER or portions thereof may be established and maintained by further dissemination of FIPS PUBLICATIONS and standards documents from the central point. It is recommended that the following procedures be used in establishing and maintaining the central REGISTER within an agency:

a. Obtain five 2-inch, three-ring looseleaf binders. Label these according to the major standards categories, i.e., Hardware Standards, Software Standards, Application Standards, and Data Standards. Label the fifth binder, Standards Index.

b. As FIPS PUBS and standards specifications are received, file these in the appropriate binder. Also file all related documents such as implementation instructions or clarifying memorandums with the appropriate FIPS PUB and specification. (In some instances, the technical specifications may be too voluminous or

may be bound in a hard cover which would make it difficult to file in the binder. In such an instance, these should be filed elsewhere in a convenient accessible location and a note should be made on the FIPS PUB as to the location of the specifications.)

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Each of the publications of this series carries the short identifier FIPS PUB.  
At the time of this publication the following FIPS PUBS have been issued:

- FIPS PUB 0. General Description of the FEDERAL INFORMATION PROCESSING STANDARDS REGISTER. 20 cents.
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### How to Purchase

Send orders with remittance to: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. There is a 25 percent discount on quantities of 100 or more. The FIPS PUBS noted with an asterisk (\*) provide only policy, administrative, and guidance information relative to the implementation and utilization of the standards. The technical specifications of the standards (identified as FIPS 1, 2, 3) can be obtained from the following sources: (1) Federal Government activities should obtain copies from established sources within their organizations. If not available, purchase orders should be submitted to the General Services Administration, Specifications Activity, Printed Materials Supply Division, Building 197, Naval Weapons Plant, Washington, D.C. 20402. Refer to FIPS 1 (40 cents), FIPS 2 (45 cents) and FIPS 3 (70 cents). (2) All others should obtain copies from the United States of America Standards Institute, 10 East 40th Street, New York, N.Y. 10016. Refer to USA Standards X3.4-1968 (\$2.00), X3.6-1965 (\$1.50) and X3.22-1967 (\$2.50) for FIPS 1, 2, and 3, respectively.

A complete list of the publications issued in the FEDERAL INFORMATION PROCESSING STANDARDS PUBLICATIONS series can be obtained by writing to the National Bureau of Standards, Office for Technical Information and Publications, Washington, D.C. 20234.

Notification of new publications in this series can be arranged by sending your name and mailing address (include Zip Code) to the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Refer to Notification Key N-377.

Subscription service for new publications and supplements in the series is also available from the Superintendent of Documents for an indefinite period at \$12.00 (\$3.00 additional for foreign mailing).

# NBS TECHNICAL PUBLICATIONS

## PERIODICALS

**JOURNAL OF RESEARCH** reports National Bureau of Standards research and development in physics, mathematics, chemistry, and engineering. Comprehensive scientific papers give complete details of the work, including laboratory data, experimental procedures, and theoretical and mathematical analyses. Illustrated with photographs, drawings, and charts.

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Papers of interest primarily to scientists working in these fields. This section covers a broad range of physical and chemical research, with major emphasis on standards of physical measurement, fundamental constants, and properties of matter. Issued six times a year. Annual subscription: Domestic, \$6.00; foreign, \$7.25\*.

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### ● Engineering and Instrumentation

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## TECHNICAL NEWS BULLETIN

The best single source of information concerning the Bureau's research, developmental, cooperative and publication activities, this monthly publication is designed for the industry-oriented individual whose daily work involves intimate contact with science and technology—for engineers, chemists, physicists, research managers, product-development managers, and company executives. Annual subscription: Domestic, \$3.00; foreign, \$4.00\*.

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**Special Publications.** Proceedings of NBS conferences, bibliographies, annual reports, wall charts, pamphlets, etc.

**Monographs.** Major contributions to the technical literature on various subjects related to the Bureau's scientific and technical activities.

**National Standard Reference Data Series.** NSRDS provides quantitative data on the physical and chemical properties of materials, compiled from the world's literature and critically evaluated.

**Product Standards.** Provide requirements for sizes, types, quality and methods for testing various industrial products. These standards are developed cooperatively with interested Government and industry groups and provide the basis for common understanding of product characteristics for both buyers and sellers. Their use is voluntary.

**Technical Notes.** This series consists of communications and reports (covering both other agency and NBS-sponsored work) of limited or transitory interest.

**Federal Information Processing Standards Publications.** This series is the official publication within the Federal Government for information on standards adopted and promulgated under the Public Law 89-306, and Bureau of the Budget Circular A-86 entitled, Standardization of Data Elements and Codes in Data Systems.

## CLEARINGHOUSE

The Clearinghouse for Federal Scientific and Technical Information, operated by NBS, supplies unclassified information related to Government-generated science and technology in defense, space, atomic energy, and other national programs. For further information on Clearinghouse services, write:

Clearinghouse  
U.S. Department of Commerce  
Springfield, Virginia 22151

## NATIONAL BUREAU OF STANDARDS

The National Bureau of Standards<sup>1</sup> was established by an act of Congress March 3, 1901. Today, in addition to serving as the Nation's central measurement laboratory, the Bureau is a principal focal point in the Federal Government for assuring maximum application of the physical and engineering sciences to the advancement of technology in industry and commerce. To this end the Bureau conducts research and provides central national services in three broad program areas and provides central national services in a fourth. These are: (1) basic measurements and standards, (2) materials measurements and standards, (3) technological measurements and standards, and (4) transfer of technology.

The Bureau comprises the Institute for Basic Standards, the Institute for Materials Research, the Institute for Applied Technology, and the Center for Radiation Research.

**THE INSTITUTE FOR BASIC STANDARDS** provides the central basis within the United States of a complete and consistent system of physical measurement, coordinates that system with the measurement systems of other nations, and furnishes essential services leading to accurate and uniform physical measurements throughout the Nation's scientific community, industry, and commerce. The Institute consists of an Office of Standard Reference Data and a group of divisions organized by the following areas of science and engineering:

Applied Mathematics—Electricity—Metrology—Mechanics—Heat—Atomic Physics—Cryogenics<sup>2</sup>—Radio Physics<sup>2</sup>—Radio Engineering<sup>2</sup>—Astrophysics<sup>2</sup>—Time and Frequency.<sup>2</sup>

**THE INSTITUTE FOR MATERIALS RESEARCH** conducts materials research leading to methods, standards of measurement, and data needed by industry, commerce, educational institutions, and government. The Institute also provides advisory and research services to other government agencies. The Institute consists of an Office of Standard Reference Materials and a group of divisions organized by the following areas of materials research:

Analytical Chemistry—Polymers—Metallurgy — Inorganic Materials — Physical Chemistry.

**THE INSTITUTE FOR APPLIED TECHNOLOGY** provides for the creation of appropriate opportunities for the use and application of technology within the Federal Government and within the civilian sector of American industry. The primary functions of the Institute may be broadly classified as programs relating to technological measurements and standards and techniques for the transfer of technology. The Institute consists of a Clearinghouse for Scientific and Technical Information,<sup>3</sup> a Center for Computer Sciences and Technology, and a group of technical divisions and offices organized by the following fields of technology:

Building Research—Electronic Instrumentation — Technical Analysis — Product Evaluation—Invention and Innovation—Weights and Measures — Engineering Standards—Vehicle Systems Research.

**THE CENTER FOR RADIATION RESEARCH** engages in research, measurement, and application of radiation to the solution of Bureau mission problems and the problems of other agencies and institutions. The Center for Radiation Research consists of the following divisions:

Reactor Radiation—Linac Radiation—Applied Radiation—Nuclear Radiation.

<sup>1</sup> Headquarters and Laboratories at Gaithersburg, Maryland, unless otherwise noted, mailing address Washington, D. C. 20234

<sup>2</sup> Located at Boulder, Colorado 80302

<sup>3</sup> Located at 5285 Port Royal Road, Springfield, Virginia 22151