



REFERENCE

NIST  
PUBLICATIONS

U.S. DEPARTMENT OF COMMERCE  
Technology Administration  
National Institute of Standards and Technology



**FIPS PUB 187**

---

FEDERAL INFORMATION PROCESSING STANDARDS PUBLICATION

**ADMINISTRATION STANDARD FOR THE  
TELECOMMUNICATIONS INFRASTRUCTURE  
OF FEDERAL BUILDINGS**

**CATEGORY: TELECOMMUNICATIONS STANDARD**  
**SUBCATEGORY: TELECOMMUNICATIONS ADMINISTRATION**

---

1994 August 11

FIPS PUB 187

JK  
468  
.A8A3  
NO. 187  
1994



# FIPS PUB 187

---

FEDERAL INFORMATION PROCESSING STANDARDS PUBLICATION

## ADMINISTRATION STANDARD FOR THE TELECOMMUNICATIONS INFRASTRUCTURE OF FEDERAL BUILDINGS

**CATEGORY: TELECOMMUNICATIONS STANDARD**  
**SUBCATEGORY: TELECOMMUNICATIONS ADMINISTRATION**

---

Computer Systems Laboratory  
National Institute of Standards and Technology  
Gaithersburg, MD 20899

Office of Technology and Standards  
National Communications System  
701 South Court House Road  
Arlington, VA 22204-2198

Issued August 11, 1994



**U.S. Department of Commerce**  
Ronald H. Brown, Secretary

**Technology Administration**  
Mary L. Good, Under Secretary for Technology

National Institute of Standards  
and Technology  
Arati Prabhakar, Director



National Communications System  
Hon. William J. Perry, Executive Agent  
Albert J. Edmonds, Lieutenant General, USAF  
Manager

## Foreword

The Federal Information Processing Standards Publication Series of the National Institute of Standards and Technology (NIST) is the official publication relating to standards and guidelines adopted and promulgated under the provisions of Section 111(d) of the Federal Property and Administrative Services Act of 1949 as amended by the Computer Security Act of 1987, Public Law 100-235. These mandates have given the Secretary of Commerce and NIST important responsibilities for improving the utilization and management of computer and related telecommunications systems in the Federal Government. The NIST, through its Computer Systems Laboratory, provides leadership, technical guidance, and coordination of Government efforts in the development of standards and guidelines in these areas.

Comments concerning Federal Information Processing Standards Publications are welcomed and should be addressed to the Director, Computer Systems Laboratory, National Institute of Standards and Technology, Gaithersburg, MD 20899.

James H. Burrows, Director  
Computer Systems Laboratory

---

## Abstract

This standard, by adoption of ANSI/TIA/EIA-606-1993, Administration Standard for the Telecommunications Infrastructure of Commercial Buildings, specifies the administrative requirements of the telecommunications infrastructure within a new, existing, or renovated office building or campus. Telecommunications infrastructure can be thought of as the collection of those components (telecommunications equipment spaces, cable pathways, grounding, wiring, and termination hardware) that provide the basic support for the distribution of all information within a building or campus. Administration of telecommunications includes documentation (record-keeping, drawings, labeling, etc.) of telecommunications outlet boxes, connectors, cables, termination hardware, patching and cross-connect facilities, conduits, other cable pathways, telecommunications closets, and other spaces.

Key words: cable pathways; communications systems; Federal Information Processing Standard; grounding; telecommunications; telecommunications administration; telecommunications equipment; wiring.

---

National Institute of Standards  
and Technology  
FIPS PUB 187  
6 pages (Aug. 11, 1994)  
CODEN: FIPPAT

U.S. Government Printing Office  
Washington: 1994

For sale by the National  
Technical Information  
Service  
U.S. Department of Commerce  
Springfield, VA 22161

**Federal Information  
Processing Standards Publication 187**

**1994 August 11**

**Announcing the Standard for**

**ADMINISTRATION STANDARD FOR THE TELECOMMUNICATIONS  
INFRASTRUCTURE OF FEDERAL BUILDINGS**

Federal Information Processing Standards Publications (FIPS PUBS) are issued by the National Institute of Standards and Technology (NIST) after approval by the Secretary of Commerce pursuant to Section 111(d) of the Federal Property and Administrative Services Act of 1949 as amended by the Computer Security Act of 1987, Public Law 100-235.

**1. Name of Standard.** Administration Standard for the Telecommunications Infrastructure of Federal Buildings (FIPS PUB 187) (Former Draft Federal Standard 1094).

**2. Category of Standard.** Telecommunications Standard; Telecommunications Administration.

**3. Explanation.** This standard, by adoption of ANSI/TIA/EIA-606-1993, Administration Standard for the Telecommunications Infrastructure of Commercial Buildings, specifies the administrative requirements of the telecommunications infrastructure within a new, existing, or renovated office building or campus. Telecommunications infrastructure can be thought of as the collection of those components (telecommunications equipment spaces, cable pathways, grounding, wiring, and termination hardware) that provide the basic support for the distribution of all information within a building or campus. Administration of telecommunications includes documentation (record-keeping, drawings, labeling, etc.) of telecommunications outlet boxes, connectors, cables, termination hardware, patching and cross-connect facilities, conduits, other cable pathways, telecommunications closets, and other spaces.

*Note:* Development of ANSI/TIA/EIA-606-1993, which included Federal government participation, was a joint Canadian/U.S. effort, resulting in the Canadian Standards Association (CSA) publication of the Canadian equivalent of the U.S. standard as CSA T528 at approximately the same time as publication of the American National Standard.

**4. Approving Authority.** Secretary of Commerce.

**5. Maintenance Agency.** National Communications System, Office of Technology and Standards.

**6. Related Documents.**

a. Federal Information Resources Management Regulations subpart 201-20.303, Standards, and subpart 201-39.1002, Federal Standards.

b. Federal Standard 1037B, Glossary of Telecommunications Terms.

c. Federal Information Processing Standards Publication (FIPS PUB) 174, Federal Building Telecommunications Wiring Standard (Former Draft Federal Standard 1090).

d. Federal Information Processing Standards Publication (FIPS PUB) 175, Federal Building Standard for Telecommunications Pathways and Spaces (Former Draft Federal Standard 1091).

e. Federal Information Processing Standards Publication (FIPS PUB) 176, Residential and Light Commercial Telecommunications Wiring Standard (Former Draft Federal Standard 1092).

f. Future Federal Information Processing Standards Publication (FIPS PUB), Federal Building Grounding and Bonding Requirements for Telecommunications (Draft Federal Standard 1093).



At the time of publication of this standard, the editions indicated above were valid. All publications are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these publications.

**7. Objectives.** The purpose of this standard is to facilitate interoperability and transportability among telecommunication facilities and systems of the Federal Government and compatibility of these facilities and systems at the computer-communications interface with data processing equipment (systems) of the Federal Government. This standard specifies a uniform telecommunications infrastructure administration scheme that is independent of applications, which may change several times throughout the life of a building. This standard establishes guidelines for end users, manufacturers, consultants, contractors, designers, installers, and facility administrators involved in the administration of telecommunications infrastructure.

**8. Applicability.** This standard shall be used by all departments and agencies of the Federal Government in the administration of the telecommunications infrastructure for all new office buildings. Use of the FIPS is recommended for the administration of the telecommunications infrastructure within an existing or renovated office building or campus. Existing building wiring systems, especially those installed prior to the emergence of digital communications and voice/data integration, may not readily accept application of this standard. Modernization of the existing pathway, space, and wiring systems to meet the FIPS 174, FIPS 175, and FIPS 176 infrastructure standards may require a significant monetary expenditure. Agencies should conduct a thorough facility analysis of existing and renovated buildings to determine the cost of applying the standards, and develop a migration plan where cost savings can be achieved. This plan will help to ensure timely and efficient completion of the conversion process. The result of following this administration standard will be a telecommunications infrastructure that is well documented and easily managed by the administrator over the life cycle of the building. This standard is not intended to hasten the obsolescence of telecommunications administration procedures currently in use in Federal facilities; nor is it intended to provide systems engineering or applications guidelines.

**9. Specifications.** This FIPS adopts ANSI/TIA/EIA-606-1993, Administration Standard for the Telecommunications Infrastructure of Commercial Buildings. The American National Standard specifies the administrative requirements for the telecommunications infrastructure within a new, existing, or renovated office building or campus. Areas of the infrastructure to be administrated include:

- (a) terminations for the telecommunications media located in work areas, telecommunications closets, equipment rooms, and entrance facilities;
- (b) telecommunications media between terminations;
- (c) pathways between terminations that contain the media;
- (d) spaces where terminations are located; and
- (e) bonding/grounding as it applies to telecommunications.

This standard also specifies requirements for the collection, organization, and presentation of as-built data.

**10. Implementation.** The use of this standard by Federal departments and agencies is compulsory and binding for the administration of the telecommunications infrastructure of new buildings, effective February 10, 1995.

Use of the standard is recommended for the administration of the telecommunications infrastructure of existing and renovated buildings.

Anyone associated with telecommunications equipment, wiring systems, wire termination products, and pathway/space components will find this standard useful. By having one administration reference document, progress can be made toward building consistently administered telecommunications infrastructures. Administration in accordance with this standard can be accomplished by either paper- or computer-based systems. In today's increasingly complex telecommunications environment, effective

administration is enhanced by the use of computer-based systems. This standard will also reduce the large number of incompatible and incomplete administrative approaches in existence. Over time, the end user should expect manufacturers to provide telecommunications systems that include administrative support complying with this standard. It is also expected that administrative products that comply with this standard will become available.

**11. Waivers.** Under certain exceptional circumstances, the heads of Federal departments and agencies may approve waivers to Federal Information Processing Standards (FIPS). The head of such agency may redelegate such authority only to a senior official designated pursuant to Section 3506(b) of Title 44, U.S. Code. Waivers shall be granted only when:

- a. Compliance with a standard would adversely affect the accomplishment of the mission of an operator of a Federal computer system or related telecommunications system, or
- b. Cause a major adverse financial impact on the operator which is not offset by Governmentwide savings.

Agency heads may act upon a written waiver request containing the information detailed above. Agency heads may also act without a written waiver request when they determine that conditions for meeting the standard cannot be met. Agency heads may approve waivers only by a written decision which explains the basis on which the agency head made the required finding(s). A copy of each such decision, with procurement sensitive or classified portions clearly identified, shall be sent to: National Institute of Standards and Technology; Attn: FIPS Waiver Decisions, Technology Building, Room B-154; Gaithersburg, MD 20899.

In addition, notice of each waiver granted and each delegation of authority to approve waivers shall be sent promptly to the Committee on Government Operations of the House of Representatives and the Committee on Governmental Affairs of the Senate and shall be published promptly in the *Federal Register*.

When the determination on a waiver applies to the procurement of equipment and/or services, a notice of the waiver determination must be published in the *Commerce Business Daily* as a part of the notice of solicitation for offers of an acquisition or, if the waiver determination is made after the notice is published, by amendment to such notice.

A copy of the waiver, any supporting documents, the document approving the waiver and any supporting and accompanying documents, with such deletions as the agency is authorized and decides to make under 5 U.S.C. Sec. 552(b), shall be part of the procurement documentation and retained by the agency.

**12. Where to Obtain Copies.** Copies of this publication are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. (Sale of the included specifications document is by arrangement with the Electronic Industries Association.) When ordering, refer to Federal Information Processing Standards Publication 187 (FIPSPUB187), and the title. Payment may be made by check, money order, purchase order, credit card, or deposit account.

## APPENDIX

By adoption of ANSI/TIA/EIA-606-1993, this document provides Federal departments and agencies with an approach for standardizing telecommunications administration for office buildings and building complexes. This standardization of documentation, in conjunction with FIPS 174 (Former Draft FED-STD-1090), which specifies telecommunications wiring, and FIPS 175 (Former Draft FED-STD-1091), which provides architectural specification of telecommunications pathways and spaces, will facilitate systems compatibility and transportability of terminals for Federal users.

Another companion standard, ANSI/EIA/TIA-570-1991, Residential and Light Commercial Telecommunications Wiring Standard, has been adopted as Federal Information Processing Standard 176 (Former Draft FED-STD-1092). This standard specifies telecommunications wiring for small buildings.

During the development of this family of building telecommunications standards, significant concern was expressed, by both Government and industry, about the need for specification of electronic system grounding. This concern resulted in proposed ANSI/TIA/EIA-607, Grounding and Bonding Requirements for Telecommunications in Commercial Buildings, which will be proposed for adoption as a future Federal Information Processing Standard (Draft FED-STD-1093).









**U.S. Department of Commerce**

National Technical Information Service  
5285 Port Royal Road  
Springfield, VA 22161

Official Business  
Penalty for Private Use \$300