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TIA STANDARD

Healthcare Facility Telecommunications Infrastructure Standard

ANSI/TIA-1179-B
(Revision of TIA-1179-A)

June 2023

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Healthcare Facility Telecommunications Infrastructure Standard

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FOREWORD

(This foreword is not considered part of this Standard)

This Standard was developed by TIA Subcommittee TR-42.1.

Approval of this Standard

This Standard was approved by TIA Subcommittee TR-42.1, TIA Engineering Committee TR-42, and the American National Standards Institute (ANSI).

ANSI/TIA reviews standards every 5 years. At that time, standards are reaffirmed, withdrawn, or revised according to the submitted updates. Updates to be included in the next revision should be sent to the committee chair or to ANSI/TIA.

Contributing organizations

More than 60 organizations within the telecommunications industry (including manufacturers, consultants, end users, and other organizations) contributed their expertise to the development of this Standard.

Documents superseded

This Standard supersedes ANSI/TIA-1179-A dated July 2017.

Significant technical changes from the previous edition

Significant changes from the previous edition include:

- References were updated.
- Addition of balanced single twisted-pair cabling as a recognized media
- Addition of two category 6A or higher performing cabling runs for every wireless access point as a minimum requirement, with additional horizontal links recommended
- The document was restructured to be in the same general format as ANSI/TIA-568.1.

Relationship to other TIA standards and documents

The following are related standards regarding various aspects of structured cabling that were developed and are maintained by Engineering Committee TIA TR-42. An illustrative diagram of the ANSI/TIA-568 Series relationship to other relevant TIA standards is given in figure 1.

- ANSI/TIA-568.0, *Generic Telecommunications Cabling for Customer Premises*
- ANSI/TIA-568.1, *Commercial Building Telecommunications Infrastructure Standard*
- ANSI/TIA-568.2, *Balanced Twisted-Pair Telecommunications Cabling and Components Standard*
- ANSI/TIA-568.3, *Optical Fiber Cabling and Components Standard*
- ANSI/TIA-568.4, *Broadband Coaxial Cabling and Components Standard*
- ANSI/TIA-568.5, *Balanced Single Twisted-Pair Telecommunications Cabling and Components Standard*
- ANSI/TIA-569, *Telecommunications Pathways and Spaces*
- ANSI/TIA-570, *Residential Telecommunications Infrastructure Standard*
- ANSI/TIA-606, *Administration Standard for Telecommunications Infrastructure*

- ANSI/TIA-607, *Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises*
- ANSI/TIA-758, *Customer-Owned Outside Plant Telecommunications Infrastructure Standard*
- ANSI/TIA-862*, Structured Cabling Infrastructure Standard for Intelligent Building Systems*
- ANSI/TIA-942, *Telecommunications Infrastructure Standard for Data Centers*
- ANSI/TIA-1005, *Telecommunications Infrastructure Standard for Industrial Premises*
- ANSI/TIA-4966, *Telecommunications Infrastructure Standard for Educational Facilities*
- ANSI/TIA-5017, *Telecommunications Physical Network Security Standard*
- ANSI/TIA-5048*, Automated Infrastructure Management (AIM) Systems – Requirements, Data Exchange and Applications*

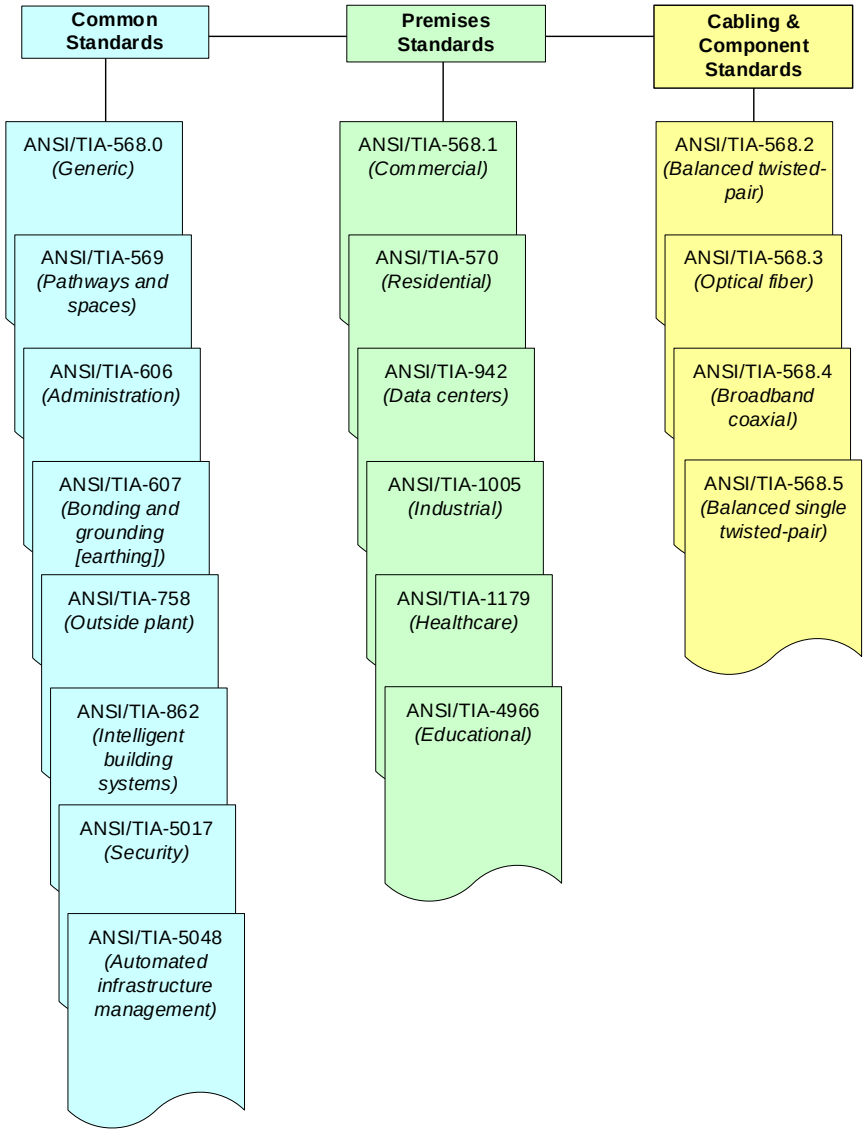

Figure 1 – Relationship between relevant TIA standards

The following documents may also be useful to the reader:

- *National Electrical Safety Code® (NESC®)* (IEEE C2)
- *National Electrical Code® (NEC©)* (NFPA 70)
- *Hospital Signaling and Nurse Call Equipment* (UL 1069)

Due to the life, health and safety aspects of healthcare facilities, there may be a substantial number of authorities having jurisdiction (AHJs). Designers and installers are encouraged to thoroughly research the requirements established by these AHJs.

Useful supplements to this Standard are the following BICSI documents: *Telecommunications Distribution Methods Manual*, the *Outside Plant Design Reference Manual*, and *Information Technology Systems Installation Methods Manual*. These manuals provide practices and methods by which many of the requirements of this Standard are implemented.

Other references are listed in Annex A.

Annexes

There is one annex to this Standard. Annex A is informative and not considered a part of this Standard.

Introduction

This Standard specifies a telecommunications cabling system for healthcare facilities and buildings that will support a multi-product, multi-vendor environment. It also provides information that may be used for the design of telecommunications products for these enterprises. Examples of healthcare facilities can include hospitals, clinics, medical offices, nursing homes, treatment centers and rehabilitation centers.

Purpose

The purpose of this Standard is to enable the planning and installation of a structured cabling system for healthcare facilities and buildings. Installation of cabling systems during building construction or renovation is significantly less expensive and less disruptive than after the building is occupied. This applies, in particular, to operating facilities that will have additional restrictions (e.g. infection control) on access to spaces and areas after occupancy. Selection of media and network design is of particular importance for larger healthcare facilities, which may have a useful life far longer than traditional office-oriented commercial buildings.

This Standard establishes performance and technical criteria for various cabling system configurations for accessing and connecting their respective elements. In order to determine the requirements of a generic cabling system, performance requirements for various telecommunications services were considered.

The diversity of services currently available, coupled with the continual addition of new services, means that there may be cases where limitations to desired performance occur. When applying specific applications to these cabling systems, the user is cautioned to consult application standards, regulations, equipment vendors, system suppliers, and service suppliers for applicability, limitations, and ancillary requirements.

Stewardship

Telecommunications infrastructure affects raw material consumption. The infrastructure design and installation methods also influence product life and sustainability of electronic equipment life cycling. These aspects of telecommunications infrastructure impact our environment. Since building life cycles are typically planned for decades, technological electronic equipment upgrades are necessary. The telecommunications infrastructure design and installation process magnifies the need for sustainable infrastructures with respect to building life, electronic equipment life cycling and considerations of effects on environmental waste. Telecommunications designers are encouraged to research local building practices for a sustainable environment and conservation of fossil fuels as part of the design process.

Specification of criteria

Two categories of criteria are specified: mandatory and advisory. The mandatory requirements are designated by the word "shall;" advisory requirements are designated by the words "should," "may," or "desirable," which are used interchangeably in this Standard.

Mandatory criteria generally apply to protection, performance, administration and compatibility; they specify the minimally compliant requirements. Advisory or desirable criteria are presented when their attainment will enhance the general performance of the cabling system in all its contemplated applications.

A note in the text, table, or figure is used for emphasis or offering informative suggestions or providing additional information.

Metric equivalents of United States customary units

The dimensions in this Standard are metric or United States customary with approximate conversions to the other.

Floor area conversions are approximate. It is assumed that 1 m^2 is equal to 10 ft^2.

Life of this Standard

This Standard is a living document. The criteria contained in this Standard are subject to revisions and updating as warranted by advances in building construction techniques and telecommunications technology.

1 SCOPE

This Standard specifies requirements for telecommunications infrastructure for healthcare facilities (e.g. hospitals, clinics). It specifies cabling, cabling topologies, and cabling distances. Additionally, pathways and spaces (e.g. sizing and location), and ancillary requirements are addressed. Telecommunications cabling specified by this standard is intended to support a wide range of healthcare facilities and systems.

In addition to telecommunication systems, the telecommunications cabling specified by this standard is intended to support a wide range of clinical and non-clinical systems (e.g., RFID, IBS, nurse call, security, access control, pharmaceutical inventory), particularly those which utilize or can utilize IP-based infrastructure.

2 NORMATIVE REFERENCES

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- ANSI/TIA-568.0, *Generic Telecommunications Cabling for Customer Premises*
- ANSI/TIA-568.1, *Commercial Building Telecommunications Infrastructure Standard*
- ANSI/TIA-568.2, *Balanced Twisted-Pair Telecommunications Cabling And Components Standard*
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- ANSI/TIA-862, *Structured Cabling Infrastructure Standard for Intelligent Building Systems*
- ANSI/TIA-4966, *Telecommunications Infrastructure Standard for Educational Facilities*
- ANSI/TIA-5017, *Telecommunications Physical Network Security Standard*
- TIA TSB-162, *Telecommunications Cabling Guidelines for Wireless Access Points*
- TIA TSB-5018, *Structured Cabling Infrastructure Guidelines to Support Distributed Antenna Systems*