



ANSI/TIA-1179-B-2023 APPROVED: JUNE 27, 2023

## **TIA STANDARD**

## Healthcare Facility Telecommunications Infrastructure Standard

ANSI/TIA-1179-B (Revision of TIA-1179-A) June 2023

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## 1 2

## Healthcare Facility Telecommunications Infrastructure Standard

3				Table of Contents		
4		FOR	EWC	PRD	v	
5	1 SCOPE1					
6	2	NOR	RMAT	IVE REFERENCES	1	
7	3	DEF	INITI	ONS, ACRONYMS AND ABBREVIATIONS, UNITS OF MEASURE	2	
8	3	.1	Gen	eral	. 2	
9	3	.2	Defi	nitions	. 2	
10	3	.3	Acro	onyms and abbreviations	. 7	
11	4	TEL	ECO	MMUNICATIONS CABLING SYSTEM STRUCTURE	8	
12	5	TOP	OLO	GY	10	
13	5	.1	Bala	Inced twisted-pair cabling	10	
14	5	.2	Opti	cal fiber cabling	10	
15	5	.3	Broa	adband coaxial cabling	10	
16	5	.4	Star	topology	10	
17	5.4.		1	General	10	
18 19		5.4.2 encl	2 osur	Cabling directly between telecommunications rooms/telecommunications es (tie cabling)	12	
20		5.4.3	3	Centralized cabling	12	
21	6	ENT	RAN	CE FACILITIES	14	
22	6	.1	Gen	eral	14	
23	6	.2	Des	ign	14	
24		6.2.	1	General	14	
25		6.2.2	2	Location	14	
26		6.2.3	3	Size	14	
27	6.3 Functions				15	
28		6.3.	1	Network demarcation point	15	
29		6.3.2	2	Electrical protection	15	
30	6.3.3		3	Connections to outside plant cabling	15	
31	7	EQU	IIPM	ENT ROOMS	15	
32	7	.1	Gen	eral	15	
33	7	.2	Des	ign	16	
34		7.2.	1	General	16	

ANSI/TIA-PN-1179-B

35	7.2.2	Access	16
36	7.2.3	Heating, ventilation and air conditioning	16
37	7.2.4	Electrical	16
38	7.2.4	l.1 Power	16
39	7.2.4	I.2 Standby power	16
40	7.3 Fu	inctions	16
41	7.4 Ca	abling practices	16
42	8 TELEC	OMMUNICATIONS ROOMS AND TELECOMMUNICATIONS ENCLOSURES	17
43	8.1 Ge	eneral	17
44	8.2 De	esign	17
45	8.2.1	Telecommunications room	17
46	8.2.1	.1 General	17
47	8.2.1	.2 Size	17
48	8.2.1	.3 Quantity	18
49	8.2.2	Telecommunications enclosure	18
50	8.3 Fu	inctions	18
51	8.4 Ho	prizontal and backbone cable terminations	18
52	9 BACKE	SONE CABLING (CABLING SUBSYSTEM 2 AND CABLING SUSBYSTEM 3)	19
53	9.1 Ge	eneral	19
54	9.2 Le	ngth	19
55	9.3 Re		19
56	0.0 100	ecognizea meaia	
00	10 HOR	IZONTAL CABLING (CABLING SUBSYSTEM 1)	
57	<b>10 HOR</b> 10.1 Ge	ecognized media IZONTAL CABLING (CABLING SUBSYSTEM 1) eneral	<b>19</b> 20
57 58	10 HOR 10.1 Ge 10.2 Le	ecognized media IZONTAL CABLING (CABLING SUBSYSTEM 1) eneral ngth	<b>19</b> 20 21
57 58 59	10 HOR 10.1 Ge 10.2 Le 10.3 Re	ecognized media IZONTAL CABLING (CABLING SUBSYSTEM 1) eneral ngth ecognized media	<b>19</b> 20 21 21
57 58 59 60	10 HOR 10.1 Ge 10.2 Le 10.3 Re 10.4 Bu	ecognized media IZONTAL CABLING (CABLING SUBSYSTEM 1) eneral ngth ecognized media indled and hybrid cables	<b>19</b> 20 21 21 21
57 58 59 60 61	10 HOR 10.1 Ge 10.2 Le 10.3 Re 10.4 Bu 10.5 Ca	able ratings	<b>19</b> 20 21 21 22 22
57 58 59 60 61 62	10       HOR         10.1       Ge         10.2       Le         10.3       Re         10.4       Bu         10.5       Ca         11       WOR	able ratings	19 20 21 21 21 22 22 22
57 58 59 60 61 62 63	10       HOR         10.1       Ge         10.2       Le         10.3       Re         10.4       Bu         10.5       Ca         11       WOR         11.1       Ge	acognized media IZONTAL CABLING (CABLING SUBSYSTEM 1) eneral ingth ecognized media indled and hybrid cables able ratings K AREA eneral	19 20 21 21 22 22 22 22
57 58 59 60 61 62 63 64	10       HOR         10.1       Ge         10.2       Le         10.3       Re         10.4       Bu         10.5       Ca         11       WOR         11.1       Ge         11.2       Wo	IZONTAL CABLING (CABLING SUBSYSTEM 1) eneral ngth ecognized media undled and hybrid cables able ratings K AREA eneral ork area cords	19 20 21 21 22 22 22 22 
57 58 59 60 61 62 63 64 65	10       HOR         10.1       Ge         10.2       Le         10.3       Re         10.4       Bu         10.5       Ca         11       WOR         11.1       Ge         11.2       Wo         11.3       Te	IZONTAL CABLING (CABLING SUBSYSTEM 1) eneral ngth ecognized media undled and hybrid cables able ratings K AREA eneral ork area cords elecommunications outlet spaces	19 20 21 21 22 22 22 22 22 22 22
57 58 59 60 61 62 63 63 64 65 66	<ul> <li>10 HOR</li> <li>10.1 Ge</li> <li>10.2 Le</li> <li>10.3 Re</li> <li>10.4 Bu</li> <li>10.5 Ca</li> <li>11 WOR</li> <li>11.1 Ge</li> <li>11.2 We</li> <li>11.3 Te</li> <li>11.3.1</li> </ul>	accognized media         IZONTAL CABLING (CABLING SUBSYSTEM 1)         eneral         ingth         ecognized media         indled and hybrid cables         able ratings         able ratings         eneral         ork area cords         elecommunications outlet spaces         General	19 20 21 21 21 22 22 22 22 22 23 23
57 58 59 60 61 62 63 63 64 65 66 67	<ul> <li>10 HOR</li> <li>10.1 Ge</li> <li>10.2 Le</li> <li>10.3 Re</li> <li>10.4 Bu</li> <li>10.5 Ca</li> <li>11 WOR</li> <li>11.1 Ge</li> <li>11.2 Wo</li> <li>11.3 Te</li> <li>11.3.1</li> <li>11.3.2</li> </ul>	accognized media         IZONTAL CABLING (CABLING SUBSYSTEM 1)         aneral         ingth         ecognized media         undled and hybrid cables         able ratings         ext AREA         eneral         ork area cords         elecommunications outlet spaces         General         Outlet density	

69	11.4	Multi-user telecommunications outlet assembly	25
70	11.5	Consolidation points	26
71	12 (	COVERAGE AREA	
72	12.1	General	26
73	12.2	Equipment cords	26
74	12.3	Horizontal connection point	26
75	13 I	MULTI-TENANT BUILDING SPACES	
76	13.1	General	26
77	13.2	Common telecommunications room	26
78	13.3	Common equipment room	26
79	13	3.3.1 General	26
80	13	3.3.2 Location	27
81	13	3.3.3 Pathways	27
82	13	3.3.4 Size	27
83	13	3.3.5 Quantity	27
84	13	3.3.6 Summary of multi-tenant building spaces	29
85	14 (	CABLING INSTALLATION REQUIREMENTS	
86	15	ADMINISTRATION AND OFFICE AREA REQUIREMENTS	
87	16 (	CABLING PERFORMANCE REQUIREMENTS	
88	17 I	DATA CENTERS	
89	18 I	INTELLIGENT BUILDING SYSTEMS	
90	19 I	EDUCATIONAL FACILITIES	
91	20 0	OUTSIDE PLANT CAMPUS CABLING	
92	21 (	CABLING FOR WIRELESS ACCESS POINTS	
93	22 (	CABLING FOR DISTRIBUTED ANTENNA SYSTEMS	
94	23 (	GROUNDING AND BONDING	
95	24	TELECOMMUNICATIONS PATHWAYS	
96	25 I	FIRESTOPPING	
97	26 \$		
98	27	ADMINISTRATION	
99	Annex /	A: (Informative) Bibliography	
100			

101

102

ANSI/TIA-PN-1179-B

103	List of Figures
104	Figure 1 – Relationship between relevant TIA standardsvi
105	Figure 2 – Elements of generic cabling topology 3
106	Figure 3 – Representative model for a healthcare facility telecommunications cabling system 9
107	Figure 4 – Healthcare facility hierarchical star topology example11
108	Figure 5 – Examples of interconnections and cross-connections for horizontal cross-connect12
109	Figure 6 – Centralized optical fiber cabling13
110	Figure 7 – Typical telecommunications room floor plan17
111	Figure 8 – Typical horizontal cabling using a star topology21
112	Figure 9 – Example of pathways and spaces in a multi-tenant building28
113	List of Tables
114	Table 1 – Minimum termination wall length    14
115	Table 2 – Minimum termination floor space    15
116	Table 3 - Recommended work area outlet densities
117	Table 4 – Summary of spaces used to service a multi-tenant building

118

### FOREWORD

- 120 (This foreword is not considered part of this Standard)
- 121 This Standard was developed by TIA Subcommittee TR-42.1.

## 122 Approval of this Standard

119

- 123 This Standard was approved by TIA Subcommittee TR-42.1, TIA Engineering Committee 124 TR-42, and the American National Standards Institute (ANSI).
- 125 ANSI/TIA reviews standards every 5 years. At that time, standards are reaffirmed, withdrawn, or
- 126 revised according to the submitted updates. Updates to be included in the next revision should
- 127 be sent to the committee chair or to ANSI/TIA.

## 128 **Contributing organizations**

- 129 More than 60 organizations within the telecommunications industry (including manufacturers,
- 130 consultants, end users, and other organizations) contributed their expertise to the development131 of this Standard.

## 132 **Documents superseded**

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

## 134 Significant technical changes from the previous edition

- 135 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.
- 141 Relationship to other TIA standards and documents
- 142 The following are related standards regarding various aspects of structured cabling that were 143 developed and are maintained by Engineering Committee TIA TR-42. An illustrative diagram of 144 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-PN-1179-B

- 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
- 168



169 170

## Figure 1 – Relationship between relevant TIA standards

## 171

- 172 The following documents may also be useful to the reader:
- National Electrical Safety Code<sup>®</sup> (NESC<sup>®</sup>) (IEEE C2)
- National Electrical Code<sup>®</sup> (NEC<sup>®</sup>) (NFPA 70)
- Hospital Signaling and Nurse Call Equipment (UL 1069)

176 Due to the life, health and safety aspects of healthcare facilities, there may be a substantial 177 number of authorities having jurisdiction (AHJs). Designers and installers are encouraged to 178 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 meth ods by which many of the requirements of this Standard are implemented.

183 Other references are listed in Annex A.

### 184 Annexes

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

### 187 Introduction

188 This Standard specifies a telecommunications cabling system for healthcare facilities and build-

- 189 ings that will support a multi-product, multi-vendor environment. It also provides information that
- 190 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
- 192 centers and rehabilitation centers.

## 193 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.

## 210 Stewardship

211 Telecommunications infrastructure affects raw material consumption. The infrastructure design 212 and installation methods also influence product life and sustainability of electronic equipment life 213 cycling. These aspects of telecommunications infrastructure impact our environment. Since 214 building life cycles are typically planned for decades, technological electronic equipment up-215 grades are necessary. The telecommunications infrastructure design and installation process 216 magnifies the need for sustainable infrastructures with respect to building life, electronic equip-217 ment life cycling and considerations of effects on environmental waste. Telecommunications 218 designers are encouraged to research local building practices for a sustainable environment 219 and conservation of fossil fuels as part of the design process.

## 220 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.

#### 230 Metric equivalents of United States customary units

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

233 Floor area conversions are approximate. It is assumed that 1 m<sup>2</sup> is equal to 10 ft<sup>2</sup>.

#### 234 Life of this Standard

235 This Standard is a living document. The criteria contained in this Standard are subject to revi-

sions and updating as warranted by advances in building construction techniques and telecommunications technology.

238

## 239 **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.

## 249 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.

- 254 ANSI/TIA-568.0, Generic Telecommunications Cabling for Customer Premises 255 ANSI/TIA-568.1, Commercial Building Telecommunications Infrastructure Standard • 256 ANSI/TIA-568.2, Balanced Twisted-Pair Telecommunications Cabling And Components • 257 Standard 258 ANSI/TIA-568.3, Optical Fiber Cabling and Components Standard • ANSI/TIA-568.4, Broadband Coaxial Cabling and Components Standard 259 • 260 ANSI/TIA-568.5, Balanced Single Twisted-Pair Telecommunications Cabling and Components Standard 261 262 ANSI/TIA-569, Telecommunications Pathways and Spaces • 263 ANSI/TIA-606, Administration Standard for Telecommunications Infrastructure • 264 ANSI/TIA-607, Generic Telecommunications Bonding and Grounding (Earthing) for Cus-• 265 tomer Premises ANSI/TIA-758, Customer-Owned Outside Plant Telecommunications Infrastructure 266 267 Standard
- 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
- 275