

# ***TIA TR-42 Liaison to IEEE 802.3***

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**Vice Chair, TIA TR-42 Telecommunications  
Cabling Systems Engineering Committee**


**Vice Chair, TIA TR-42.7 Copper Cabling  
Subcommittee**

**November, 2011  
Atlanta, GA**

# ***Introduction to TIA***

- **Telecommunications Industry Association**
- **[www.tiaonline.org](http://www.tiaonline.org)**
- **TR-42: Defines mechanical and transmission requirements for copper twisted-pair, optical fiber, and coaxial cabling and components**

# *Agenda and Meeting Overview*


- **October 3 – 7 in San Antonio, TX**
- **Review TR-42 sub-committee activities**
  - **11 sub-committees met**
- **Update on project development**
-  **This symbol highlights key points of interest**

# ***TR-42 Activities***

- **TR-42.1 (Commercial Building Cabling):**
  - **ANSI/TIA-568-C.1-1, “Commercial Building Telecommunications Cabling Standard, Addendum 1 Pathway and Spaces” approved for publication**
  - **New project: ANSI/TIA-942-A, “Telecommunications Infrastructure Standard for Data Centers” circulating for default ballot**

# *TR-42 Activities*

- **TR-42.1 (Commercial Building Cabling), cont.:**

-  – **New project: ANSI/TIA-568-C.0-2, “General Updates” circulating for default ballot**
- **New project: ANSI/TIA-TBD, “Telecommunications Infrastructure for Educational Buildings and Spaces” under development**

# ***TR-42 Activities***

- **TR-42.2 (Residential Infrastructure):**
  - **ANSI/TIA-570-C, “Residential Telecommunications Infrastructure” approved for publication**
- **TR-42.3 (Pathways and Spaces):**
  - **ANSI/TIA-569-C, “Commercial Building Standard for Telecommunications Pathways and Spaces” approved for publication**

# ***TR-42 Activities***


- **TR-42.5 (Terms and Symbols):**
  - **Definitions, acronyms, units of measure, and symbols maintained in a working document**
- **TR-42.6 (Infrastructure Administration):**
  - **New project: ANSI/TIA-606-B, “Administration Standard for Commercial Telecommunications Infrastructure” circulating for default ballot**

# ***TR-42 Activities***


- **TR-42.7 (Copper Cabling):**
  - **New project: TIA-1183, “Test Fixtures for Balunless Measurements of Balanced Components and Systems” circulating for industry ballot**
  - **New project: TSB-1197, “Mode Conversion Parameters for Balanced Twisted-Pair Cabling” under development**



# *TR-42 Activities*

- **TR-42.7 (Copper Cabling), cont.:**
  -  – **New project: ANSI/TIA-568-C.2-1 “Balanced Twisted-Pair Telecommunications Cabling and Components Standard, Addendum 1: Specifications for 100Ω Next Generation Cabling” under development**

# ***TR-42 Activities***

- **TR-42.7 (Copper Cabling), cont.:**
  -  – **Four “100Ω Next Generation Cabling” Task Groups established**
    - 1. Cable TG**
    - 2. Connector TG**
    - 3. Applications Space TG**
    - 4. Capacity Task TG**

**Contact the Chair of TR-42.7  
([sterling.vaden@occfiber.com](mailto:sterling.vaden@occfiber.com)) for  
participation information**

# TR-42 Activities

- TR-42.7 (Copper Cabling), cont.:



-  “100Ω Next Generation Cabling” Baseline Objectives Adopted

	Characteristic	Required, Highly Desired, Nice to Have, Not Required
Capability/ performance	Support for 40G	Required
	Capability for 100G	Nice to Have
	Support for IEEE 802 Autonegotiation	Required
	Support for IEEE 802 PoE, PoE+	Required
	Must exceed the TIA Cat6a specification in at least 1 parameter	Nice to Have
Backward compatibility	Support for 1000BASE-T, 10GBASE-T	Required
	Support for 100BASE-TX	Highly Desired
	Support for 10BASE-T / 10BASE-T ee	Nice to Have
	Backwards compatibility with existing LAN cabling	Required
	Capability to interface with existing equipment which uses RJ-45 connectors (plug/jack compatibility)	Required (TBD)
	Meets existing TIA specs for Cat5e, Cat6a	Highly Desired
Length & physical	Sufficient reach for end-of-row	Required
	Sufficient reach for data center room coverage	Highly Desired
	Sufficient reach for covering floor (100m)	Not required (TBD)
	Diameter ≤ 9 mm	Highly Desired
Economic Feasibility, installation & reliability	Economically Viable	Required
	Sufficient EMI Isolation	Highly Desired (TBD)
	Suitable for at least 48 Equipment ports in 1RU	Required (TBD)

# ***TR-42 Activities***

- **TR-42.9 (Industrial Infrastructure):**
  - **ANSI/TIA-1005-A, “Telecommunications Infrastructure Standard for Industrial Premises” approved for publication**

# *TR-42 Activities*

- **TR-42.11 (Optical Fiber Systems):**
  -  – **New project: ANSI/TIA-568-C.0-2, “Generic Telecommunications Cabling for Customer Premises – Addendum 2, General Updates” circulating for default ballot**
  - **Encircled flux test method under study**
  -  – **BIMMF requirements under study**
  - **24-fiber cabling requirements under study**
  - **Dispersion compensating MMF under study**

# ***TR-42 Activities***

- **TR-42.12 (Optical Fibers and Cables):**
  - **New project: TIA-455-7/FOTP-7, “Numerical Aperture” circulating for committee ballot**
  - **New project: TIA-455-28/FOTP-28, “Dynamic Tension” circulating for committee ballot**
  - **New project: TIA-455-80/FOTP-80, “Patch Cord Wavelength” under development**

# ***TR-42 Activities***

- **TR-42.12 (Optical Fibers and Cables),  
cont.:**
  - **New project: TIA-455-244/FOTP-244,  
“Expressed Tube Cycling” under  
development**

# ***TR-42 Activities***

- **TR-42.13 (Passive Optical Devices and Components):**
  - **40 published Standards to be reaffirmed (refer to contribution: TR42-2011-06-093)**
  - **New project: TIA-4947, “Adhesive Guidelines” under development**
  - **Return loss calibration under study**
  - **Power meter linearity under study**
  - **New multimode launch conditions (TIA-455-34/FOTP-34) under study**



# ***TR-42 Activities***

- **TR-42.16 (Grounding and Bonding):**
  - **External grounding under study**

# *Upcoming TIA Meetings*

## **TR-42 Plenary Meetings**

**February 6 - 10, 2012**

**West Palm Beach, FL**

**[www.tiaonline.org](http://www.tiaonline.org)**

***Thank you***

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