

# IEEE 802.3 Ethernet Working Group TIA TR-42 Liaison to IEEE 802.3

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# Introduction to TIA

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- **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**
- **Chris DiMinico is outgoing liaison from IEEE 802.3 to TIA TR-42**

# Agenda and TIA Meeting Overview

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- **Most recent TR-42 Plenary week:  
Oct 1 – Oct 5, 2018 in Mesa, AZ**
- **Review TR-42 subcommittee activities**
  - 8 subcommittees met
- **Update on project development**
-  **This symbol highlights key points of interest**

# TIA TR-42 Liaison Letter to IEEE 802.3

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- **Preview: TIA TR-42 will respond to a request from IEEE 802.3 to provide guidance on MDI connector standardization**
  - **TIA TR42 concluded the single pair connector selection process and identified interfaces as follows:**
    1. **IEC 63171-1 CD for  $M_1I_1C_1E_1$  environments (e.g. commercial enterprise buildings)**
    2. **IEC 61076-3-125 CDV for  $M_2I_2C_2E_2/M_3I_3C_3E_3$  and other non  $M_1I_1C_1E_1$  environments (e.g. industrial)**



## TIA TR-42 Liaison Letter to IEEE 802.3, cont.

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- **TIA suggests that IEEE 802.3 consider these two standardized connectors as MDI interface connectors**
- **This will improve the market adoption and growth of single pair cabling by having standardized connectors for cabling and equipment interfaces**

# TIA TR-42 Activities



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- **TR-42.1 (Premises Infrastructure):**
  - **New project: ANSI/TIA-758-C, “Customer-Owned Outside Plant Telecommunications Infrastructure Standard” circulating for industry ballot**
  -  – **New project: ANSI/TIA-568.0-E, “Generic Telecommunications Cabling for Customer Premises” circulating for industry ballot**
  -  – **New project: ANSI/TIA-568.1-E, “Commercial Building Telecommunications Infrastructure Standard” circulating for industry ballot**

# TIA TR-42 Activities

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- **TR-42.1 (Premises Infrastructure), cont.:**

-  – **New project: ANSI/TIA-568.0-D-2, “Generic Telecommunications Cabling for Customer Premises, Addendum 2: Single Balanced Twisted-pair Use Cases and Topology” under development**
-  – **New project: ANSI/TIA-862-B-2, “Structured Cabling Infrastructure Standard for Intelligent Building Systems, Addendum 2: Single Balanced Twisted-pair Use Cases and Topology” under development**

# TIA TR-42 Activities

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- **TR-42.1 (Premises Infrastructure), cont.:**
  - **New project: ANSI/TIA-4966-A, Telecommunications Infrastructure Standard for Educational Facilities” PAR initiated**
- **TR-42.3 (Pathways, Spaces, and Grounding):**
  - **New project: ANSI/TIA-569-E, “Commercial Building Standard for Telecommunications Pathways and Spaces” circulating for industry ballot**





# TIA TR-42 Activities

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- **TR-42.3 (Pathways, Spaces, and Grounding), cont.:**
  - **New project: ANSI/TIA-607-D, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises circulating for industry ballot**
- **TR-42.5 (Terms and Symbols):**
  - **Definitions, acronyms, units of measure, and symbols maintained in a working document**

# TIA TR-42 Activities




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- **TR-42.7 (Copper Cabling):**
  - **New project: ANSI/TIA-568.2-D-1, “Balun Specifications for Testing Category 8 Cabling and Components” circulating for industry ballot**
  -  – **New project: TSB-184-A-1, “Guidelines for Supporting Power Delivery Over Balanced Twisted-Pair Cabling: Addendum 1, Guidance to Support 28 AWG Cords” circulating for committee ballot**
  -  – **New project: ANSI/TIA-568.5, “Single Twisted-pair Cabling and Components Standard” under development**

# TIA TR-42 Activities

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

-  – **Task Group studying category 8 short channel alien crosstalk**
-  – **Task Group examining and gaining insight on the electrical performance levels of all categories of cabling above 60°C/140°F**
-  – **Task Group developing cord installation guidelines for proposed ANSI/TIA-568.2-D-2**
  - **Task Group investigating component specifications for field terminated plugs**



# TIA TR-42 Activities

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- **TR-42.9 (Industrial Infrastructure):**
  - **New project: ANSI/TIA-1005-A-2, “Telecommunications Infrastructure Standard for Industrial Premises, Addendum 2: 1G Industrial Cabling for Four Pair (100 meters) (1000BASE-T) for E2 and E3 Environments” circulating for industry ballot**


# TIA TR-42 Activities

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- **TR-42.9 (Industrial Infrastructure), cont.:**
  -  – **New project: ANSI/TIA-1005-A-3, “Telecommunications Infrastructure Standard for Industrial Premises, Addendum 3: 1G Industrial Cabling for One Pair Type B (40 meters) (1000BASE-T1) for E2 and E3 Environments” circulating for committee ballot**
  -  – **New project: ANSI/TIA-PN-1005-A-4, “Telecommunications Infrastructure Standard for Industrial Premises, Addendum 4: Single Balanced Twisted-pair Use Cases and Topology for Industrial Premises” under development**

# TIA TR-42 Activities

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- **TR-42.11 (Optical Fiber Systems):**
  -  – **ANSI/TIA-568.3-D-1, “Optical Fiber Cabling Component Standard - Addendum 1, General Updates” approved for publication**
  - **New project: TSB-XXXX, “Optical Fiber Channel Polarity - Duplex - Single Row Fiber - Double Row Fiber Polarity” under development**

# TIA TR-42 Activities

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- **TR-42.12 (Optical Fibers and Cables):**
  - **New project: ANSI/TIA-455-95-A, “FOTP-95 Absolute Optical Power Test for Optical Fibers and Cables” circulating for industry ballot**
  - **New project: ANSI/TIA-455-82-C, “FOTP-82 Fluid Penetration Test for Fluid-Blocked Fiber Optic Cable” under development**
  - **New project: ANSI/TIA-455-244-A, “FOTP-244-A Methods for Measuring the Change in Transmittance of Optical Fibers in Expressed Buffer Tubes When Subjected to Temperature Cycling” under development**

# TIA TR-42 Activities


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- **TR-42.12 (Optical Fibers and Cables), cont.:**
  - **New project: TIA-4920000-C, adopt IEC 60793-2, "Generic Specification for Optical Fibers" under development**
  - **New project: TIA-492AAAF, adopt IEC 60793-2-10, "Sectional Specification for Category A1 Graded-Index Multimode Optical Fibers" under development**
  - **New project: TIA-492CAAC, adopt IEC 60793-2-50, "Sectional Specification for Class B Single-mode Optical Fibers" under development**



# TIA TR-42 Activities

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- **TR-42.12 (Optical Fibers and Cables), cont.:**
  - New project: ANSI/TIA-598-E, “Optical Fiber Color Coding” PAR initiated
  -  – “VCSEL Weighting Functions” Task Group will reassess and change, as necessary, the TIA-specified VCSEL DMD weighting functions throughout the wavelength range of interest

# TIA TR-42 Activities

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- **TR-42.13 (Passive Optical Devices and Metrology)**
  - **New project: ANSI/TIA-604-19, "FOCIS 19 - Fiber Optic Connector Intermateability Standard, Type Sen-01 Connector" under development**

# TIA TR-42 Activities

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- **TR-42.13 (Passive Optical Devices and Metrology)**
  - **ANSI/TIA-455-171-B, "FOTP-171 IEC 61300-3-4 Attenuation by Substitution Measurement for Short Length Multimode Graded Index and Single-Mode Optical Fiber Cable Assemblies"** approved for publication
  - **New project: ANSI/TIA-604-5-F, "FOCIS 5 - Fiber Optic Connector Intermateability Standard, Type MPO (Multi-fiber Push On)"** approved for publication

# Upcoming TIA Meetings

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## **TR-42 Plenary Meetings**

**January 29 – February 1, 2019**

**Orlando, FL**

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

# Thank you

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