

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

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Waikoloa, HI  
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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:  
June 8 - 12, 2015 in Quebec City, CAN**
- **Review TR-42 subcommittee activities**
  - **10 subcommittees met**
- **Update on project development**
-  **This symbol highlights key points of interest**

# TIA TR-42 Liaison Letter to IEEE 802.3

**TIA  
responds to  
IEEE  
P802.3bt  
request for  
DC  
resistance  
unbalance  
(pair to pair)  
histogram  
data**

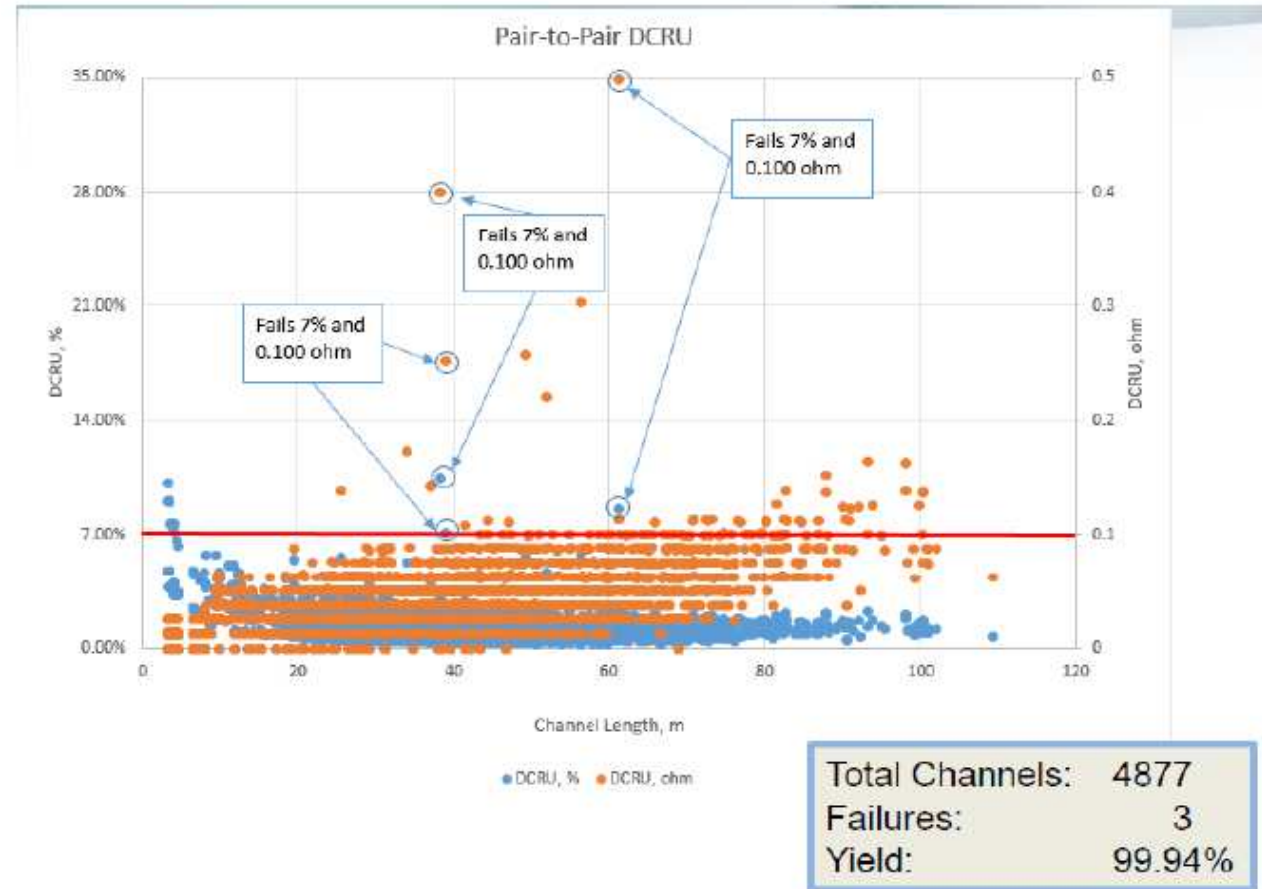


Figure 1 – DC Resistance Unbalance (pair to pair) for Channels

## DC resistance unbalance liaison



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- **Percent DC resistance unbalance in blue**
- **DC resistance unbalance in ohms in orange**
- **Failure occurs when DC resistance unbalance is greater than 7% and greater than 0.1 ohms**
- **In the chart, there were 3 failures in 4,877 channels tested**
- **Failures were determined to be installation specific and not due to cable or component deficiency**

# TIA TR-42 Activities

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- **TR-42.1 (Commercial Building Cabling):**

-  – **ANSI/TIA-568.0-D, “Generic Telecommunications Cabling for Customer Premises” approved for publication**
-  – **New project: ANSI/TIA-568.1-D, “Commercial Building Telecommunications Cabling Standard” circulating for default ballot**
- **New project: ANSI/TIA-862-B, “Building Automation Systems Cabling Standard” circulating for default ballot**

# TIA TR-42 Activities

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- **TR-42.1 (Commercial Building Cabling), cont.:**
  - **New project: ANSI/TIA-5017, “Telecommunications Physical Network Security Standard” circulating for default ballot**
  - **New project: ANSI/TIA-5018 “Structured Cabling Infrastructure Standard to support Distributed Antenna Systems” circulating for committee ballot**

# TIA TR-42 Activities


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- **TR-42.5 (Terms and Symbols):**
  - Definitions, acronyms, units of measure, and symbols maintained in a working document
  - New project: ANSI/TIA-440-C, “Fiber Optic Terminology” circulating for industry ballot
- **TR-42.6 (Infrastructure Administration):**
  - New project: ANSI/TIA-606-B-1, “Automated Infrastructure Management Systems” circulating for industry ballot



# TIA TR-42 Activities


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- **TR-42.7 (Copper Cabling):**
  - **New project: ANSI/TIA-1183-1, “Test Fixtures for Balunless Measurements of Balanced Components and Systems to 2 GHz” circulating for industry ballot**
  -  – **New project: TSB-184-A, “Guidelines for Supporting Power Delivery Over Balanced Twisted-Pair Cabling” circulating for committee ballot**

# TIA TR-42 Activities

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- **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 Category 8 Cabling” circulating for committee ballot (draft 3.2 available in the IEEE P802.3bq private area)**
  - **2-connector, 30-meter channels**
  - **2-connector, 24-meter permanent links**
  - **Direct attach**
  - **1 MHz - 2 GHz frequency bandwidth**

# TIA TR-42 Activities


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

-  – **Class II channel performance criteria/limits documented**
- **The Class II task group is working to capture the category 8.2/class II transmission and electrical performance for cables, connectors, channel, permanent link, and patch cords as they exist in ISO '11801-1 now and present it to TR-42.7 for further guidance**

# TIA TR-42 Activities

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- **TR-42.7 (Copper Cabling), cont.:**
  - **New project: ANSI/TIA-1152-A, “Requirements for Field Test Instruments” under development**
  -  – **New project: TSB-5021, “Guidelines for the use of Installed Cabling to Support 2.5GBASE-T and 5GBASE-T” under development**

# TIA TR-42 Activities



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- **TR-42.7 (Copper Cabling), cont.:**
  - **New project: ANSI/TIA-568.2-D, “Balanced Twisted-Pair Telecommunications Cabling and Components Standard” opened (development to begin after ANSI/TIA-568-C.2-1 is approved for publication)**
  - **New project: ANSI/TIA-568.4-D, “Broadband Coaxial Cabling and Components Standard” opened (development to begin after ANSI/TIA-568-C.2-1 is approved for publication)**

# TIA TR-42 Activities

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- **TR-42.9 (Industrial Infrastructure):**

-  – **New project: ANSI/TIA-1005-A-x, “Industrial cabling for one pair Link Segment Type B, 1000BASE-T1 including MICE 2 and MICE 3” under development**
-  – **New project: ANSI/TIA-1005-A-x, “Performance requirements for four-pair industrial cables and cabling supporting 1000BASE-T for MICE2 and MICE3 environments” under development**


# TIA TR-42 Activities

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- **TR-42.10 (Sustainable Information Communications Technology)**
  - **New project: ANSI/TIA-5011, “Standard Process for Sustainable Information Communications Technology Manufacturers” under development**

# TIA TR-42 Activities

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- **TR-42.11 (Optical Fiber Systems):**
  - **ANSI/TIA-526-2-A: “Output Power Coupled into Single-Mode Fiber Optic Cable (IEC 61280-1-1 ed. 2)” approved for publication**
  - **ANSI/TIA-526-7-A: “Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant (IEC 61280-4-2 ed. 2)” approved for publication**
  -  – **New project: ANSI/TIA-568.3-D: "Optical Fiber Cabling and Components Standard" circulating for industry ballot**




# TIA TR-42 Activities

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- **TR-42.11 (Optical Fiber Systems), cont.:**
  - **New project: TSB-5039: "Polarity of Cords and Connectivity Methods Employing Connector Plugs Containing Two Rows of Fibers" cancelled**
- **TR-42.12 (Optical Fibers and Cables):**
  - **New project: ANSI/TIA-598-D-1, "Optical Fiber Color Coding in Cable, Addendum for Additional Colors " circulating for industry ballot**

# TIA TR-42 Activities

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- **TR-42.12 (Optical Fibers and Cables), cont.:**
  -  – **New project: TIA-492AAAE, “Detail Specification for 50- $\mu$ m Core Diameter/125- $\mu$ m Cladding Diameter Class 1a Graded-Index Multimode Optical Fibers with Laser-Optimized Bandwidth Characteristics Specified for Wavelength Division Multiplexing” under development**
  - **10+ documents circulating for reaffirmation or committee ballot**

# TIA TR-42 Activities

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- **TR-42.13 (Passive Optical Devices and Metrology):**
  - **TSB-4947: "Guidance for Adhesive Usage in Fiber Optic Components"** approved for publication
  - **TIA-455-225: "Endface Image Analysis Procedure for the Calibration of Optical Fibre Geometry Test Sets (IEC 61745)"** approved for publication
  - **TIA-455-231: "FOTP-231 Calibration of Fibre-Optic Power Meters (IEC 61315 Ed. 2)"** approved for publication

# TIA TR-42 Activities

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- **TR-42.13 (Passive Optical Devices and Metrology), cont.:**
  - **New project: ANSI/TIA-604-18, “FOCIS-18 Fiber Optic Intermateability Standard Type 1x16 and 2x16 Multifiber Push-on/ Multifiber Termination Push-on” circulating for industry ballot**
  - **New project: TIA-604-5-E: "FOCIS 5 - Fiber Optic Connector Intermateability Standard, Type MPO (Multi-fiber Push On)” under development**

# TIA TR-42 Activities

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- **TR-42.16 (Grounding and Bonding):**
  - **New project, ANSI/TIA-607-C, “Structural Metal” circulating for default ballot**

# Upcoming TIA Meetings

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## **TR-42.7 Interim Meeting**

**July 28 - 29, 2015**

**Arlington, VA**

## **TR-42 Plenary Meetings**

**October 12 - 16, 2015**

**Denver, CO**

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

**Thank you**

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