

Telecommunications Industries Association Standards and Technology Department

Engineering Committee TR-42 User Premises Telecommunications Cabling Infrastructure Meeting Report

Chair: Paul Kish
Vice-Chair: Bob Jensen, RCDD
Secretary: Bob Jensen, RCDD

February 8, 2002
The Marriott Hotel
Ft. Lauderdale, FL

1 ADMINISTRATIVE

1.1 Call, to order

The meeting was called to order at 10:15 AM on February 8, 2002 with a warm welcome to the attendees by TR-42 chair, Paul Kish.

1.2 Attendance (quorum, introductions and roster)

A total of 19 attendees, including 17 voting members (or their representatives) and 1 other were present. A quorum for the Engineering Committee was established. The attendees introduced themselves and an attendance roster was distributed for participants to sign. Attendees included:

Chair:

Paul Kish	NORDX/CDT	paul.kish@nordx.com	514-822-7404
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Voting members companies present:

Masood Shariff	Avaya	shariff07724@yahoo.com	732-817-4890
Paul Vanderlaan	Belden	paul.vanderlaan@belden.com	765-983-5811
Henry Franc	Bell Canada	henry.franc@bell.ca	416-981-0817
Dave Hess	Berk-Tek, A NEXANS	dave.hess@nexans.com	717-351-9366
Donna Ballast	BICSI	dballast@bicsi.org	512-845-6506
Marilyn Michelson	Business Comm. Svcs.	randm@volcano.net	209-295-3975
Ray Keden	Erico, Inc.	rken@erico.com	510-633-0411
Bob Jensen	Fluke Networks, Inc.	robert.jensen@flukenetworks.com	512-514-7760
Jean Baer	Superior Essex	jean_baer@superioressex.com	770-303-8838
Peter Sharp	Giffels Associates	peter.sharp@giffels.com	416-798-5590
Val Rybinski	Hitachi Cable	vrybinski@hmc.hitachi.com	603-669-4347
Ed Pivonka	Ideal Industries	ed.pivonka@idealindustries.com	858-715-7147
David Labuskes	RTKL Associates	dlabuskes@rtkl.com	410-528-8600
John Siemon	Siemon Company	john_siemon@siemon.com	860-945-4223
Bob Lounsbury	ODVA	relounsbury@ra.rockwell.com	440-646-4297
Julie Roy	NORDX/CDT	julie.roy@nordx.com	514-822-7003
Herb Congdon	Tyco Electronics	hvcongdon@tycoelectronics.com	828-464-2165

Other participants:

Gerald Renken	Ideal Industries	gerald.renken@idealindustries.com	858-715-7083
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TR-42 company attendance history. This does not constitute the quorum list, as companies need to be members of TIA and meet quorum requirements of the TIA Engineering Manual.

Company	3 meetings	Feb-02	Nov-01	Aug-01	Jun-01	Mar-01
Agilent	1			1	1	
Avaya	3	1	1	1	1	1
Belden Wire and Cable	3	1	1	1		1
Bell Canada	2	1	1			
Berk-Tek, a NEXANS Company	1	1			1	
BCS	3	1	1	1	1	1
BICSI	3	1	1	1	1	1
Corning Inc.	1		1		1	1
Ehvert Technology Services	1			1	1	1
Erico	3	1	1	1	1	1
Fluke Networks	3	1	1	1	1	1
Giffels Associates	3	1	1	1	1	
Hitachi Cable	2	1		1	1	1
Holmes & Narver	1			1		
Ideal Industries	3	1	1	1		
ITT Cannon	1			1		
NORDX/CDT	3	1	1	1	1	1
ODVA	1	1				
Ortronics	1			1	1	1
RTKL	1	1				
Superior Essex	1	1			1	
The Siemon Company	2	1		1	1	1
Tyco	3	1	1	1	1	1

Note: Member companies absent from three consecutive meetings will be removed from the voting member list and placed on the nonvoting member list. Meeting attendance is taken directly from the attendance roster, so it is important that all attendees sign the roster. The Chair will notify a company of their failure to meet minimum participation requirements and request their attendance at future meetings; enforcement of the membership continuation rules is necessary in order to maintain our ability to raise a quorum at meetings.

1.3 Agenda review and approval (TR-42/02-02-001)

The agenda was unanimously approved.

1.4 Chair's report; general items; elections

Elections of Chair and Vice-chair were held at the Tuesday Liaison Report session. Bob Jensen, Fluke Networks, was elected Chair and Paul Kish, NORDX/CDT, elected Vice-chair.

Paul Kish and Bob Jensen congratulated all of those that were elected to various Chair and Vice-chair positions at this meeting. The elected positions for 2002-2004 include:

Committee	Chair	Vice-chair
TR-42	Bob Jensen	Paul Kish
TR-42.2	Bob Jensen	John Pryma
TR-42.4	Donna Ballast	Henry Franc
TR-42.6	Tom Rauscher	
TR-42.8	Herb Congdon	Chad Burel

Bob Jensen was presented with an award by Paul Kish for his outstanding work in TR-42.3.

1.5 Intellectual Property Rights statement

The Chair brought to the attention of the membership the TIA policy regarding patents, the use of which may be essential to standards being considered. The full statement is contained in the 2001 edition of the TIA Engineering Manual.

1.6 Distribution and numbering of documents

Document #	Contributor	Company	Title
TR-42/02-02-001	Bob Jensen	Fluke Networks, Inc.	Feb '02 Agenda; Ft Lauderdale, FL
TR-42/02-02-002	Bob Jensen	Fluke Networks, Inc.	Nov '01 Meeting Report; Dallas, TX
TR-42/02-02-003	Bob Jensen	Fluke Networks, Inc.	Feb '02 Liaison Agenda; Ft Lauderdale, FL
TR-42/02-02-004	Chris DiMinico	CDT	IEEE 802.3af draft 3.0 DTE powering
TR-42/02-02-005	Doug Coleman	Corning Cabling Sys	ICEA liaison regarding optical fiber cable
TR-42/02-02-006	Ken Chauvin	Corning Cabling Sys	ICEA liaison report
TR-42/02-02-007	Wayne Larsen	Avaya, Inc.	US TAG to WG3 Liaison
TR-42/02-02-008	Bob Jensen	Fluke Networks, Inc.	TR-42 Chair's Report
TR-42/02-02-009	Chris DiMinico	CDT	IEEE Liaison Report
TR-42/02-02-010	Peter Sharp	Giffels Associates	ODVA Liaison Letter
TR-42/02-02-011	Peter Sharp	Giffels Associates	IOANA Liaison Letter
TR-42/02-02-012	Peter Sharp	Giffels Associates	ISA Liaison Letter
TR-42/02-02-013	Peter Sharp	Giffels Associates	DKE Liaison Letter
TR-42/02-02-014	Herb Congdon	Tyco Electronics	IEEE 802.3ag Liaison Letter
TR-42/02-02-015	Herb Congdon	Tyco Electronics	FO-6.3.10 Liaison Letter
TR-42/02-02-016	Herb Congdon	Tyco Electronics	FO-2.2 FO-6.1 Liaison Letter
TR-42/02-02-017	Herb Congdon	Tyco Electronics	Project Request Testing TSB
TR-42/02-02-018	Bob Jensen	Fluke Networks	Project Request to Revise 570-A
TR-42/02-02-019	Bob Jensen	Fluke Networks	ANSI PINS to Revise 570-A

TR-42/02-02-020	Donna Ballast	BICSI	Liaison Letter to ASTM on Sewer Cable
TR-42/02-02-021	Herb Congdon	Tyco Electronics	Liaison Letter DTE 802.3af
TR-42/02-02-022	Herb Congdon	Tyco Electronics	Liaison Letter Data Centers
TR-42/02-02-023	Paul Kish	NORDX/CDT	Ideal Letter on category 7

1.7 Meeting report review and approval (TR-42/02-02-002)

The Engineering Committee unanimously approved the November 2001 meeting report.

1.8 TIA's report

Stephanie Montgomery provided an update on TIA and on administrative issues. The Standards Development Organization (SDO) spin-off had slowed its progress after a public announcement of a blueprint for moving forward by ATIS and a reply from TIA. TIA is not recognized as a global organization under their current structure and, therefore, their documents not recognized by standards organizations such as IEC. TR-42 members are encouraged to use electronic means of moving their work forward as costs are escalating for face-to-face meetings. The model for holding meetings is changing and should be solidified by March. Meeting facilities are being investigated to reduce costs. Some cost saving measures include having a contract with a hotel chain, locations being in airline hub cities, and using projectors that can be brought by individual companies. TIA stressed that all contributions need to have the copyright statement that is shown in Annex G of the TIA Engineering Manual. Templates in .DOC and .PPT formats are on the TR42MAIN FTP site in the WORKING\ADMINISTRATIVE folder. TIA is designing a new look for their WEB site. Along with the new look, a new balloting system will be implemented on the TIA WEB site where comments will be entered while on the WEB. Members may only have to sign-up once to get ballots for TR-42.

2 OLD BUSINESS

2.1 Action Item Review

There were no action items for review at this meeting.

2.2 Liaison letters received

A liaison letter was received from ICEA (TR-42/02-02-005) and will be discussed in Liaisons Reports.

2.3 Liaison Reports

Liaison reports were given on Tuesday (TR-42/02-02-003) and included the following:

- ICEA – (Chad Burel for Ken Chauvin; TR-42/02-02-006)
 - IEEE 802.3 – (Chris DiMinico; TR-42/02-02-004; TR-42/02-02-009)
 - ISO/IEC JTC1 SC25/WG3 – ISO 18010 (Ray Keden; Verbal)
 - ISO/IEC JTC1 SC25/WG3 – ISO 11801 (Wayne Larsen; TR-42/02-02-007)
 - CENELEC – (Stuart Reeves; Verbal)
 - FO-2/6 – (Steve Swanson; Verbal)
 - ODVA – (Bob Lounsbury; Verbal)
 - TR-42 Chairs – (Bob Jensen; TR-42/02-02-008)
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2.4 Reports on pending projects, Subcommittees

2.4.1 TR-42.1, Commercial Building Telecommunications Cabling — Herb Congdon

Documents: TR-42/02-02-021 TR-42/02-02-023
TR-42/02-02-022

Ballot comment resolution was completed on SP-4655 Building Automation Systems. Herb Congdon made a motion publish SP-4655 pending closure of ballot (Feb. 25, 2002) without additional comments that cannot be accommodated with editorial changes.

Plenary action: The motion was unanimously approved.

The Task Group editing SP-3-4425-AD2 - Grounding and Bonding for Screened Horizontal Cabling will have a conference call to review ballot comments and provide recommendations for ballot comment resolution scheduled for June 2002.

A scope of the work has been established for a standard on Data Centers. The document title has been proposed as Telecommunications Infrastructure Standard for Data Centers. Herb Congdon made a motion to send a liaison letter to IEEE informing them of our progress.

Plenary action: The motion was unanimously approved.

Two contributions have been posted to revise annex E of TIA-568-B.1 and will be combined into one to create an addendum. This document will go out for Industry Ballot.

It was agreed to send a liaison letter to IEEE to communicate that TIA is creating a Working Group for DTE powering. Herb Congdon made a motion to send the liaison letter to IEEE.

Plenary action: The motion was unanimously approved.

2.4.2 TR-42.2, Residential Telecommunications Infrastructure — Bob Jensen

Documents: TR-42/02-02-018 TR-42/02-02-019

Elections of Chair and Vice-chair were held with Bob Jensen, Fluke Networks, being elected as Chair and John Pryma, Genesis Cable, being elected Vice-chair.

John Seger, Leviton Telecom, led comment resolution on the industry ballot of Addendum 3 to ANSI/TIA/EIA-570-A (SP-3-3490-AD3), *Whole-home Audio Cabling for Residences*. All comments were resolved editorially. Bob Jensen made a motion to publish Addendum 3 to TIA-570-A.

Plenary action: The motion was unanimously approved.

John Pryma, Genesis Cable, led comment resolution on the industry ballot of Addendum 1 to ANSI/TIA/EIA-570-A (SP-3-3490-AD1-1), *Security Cabling for Residences*. All comments were resolved editorially. Bob Jensen made a motion to publish Addendum 1 to TIA-570-A.

Plenary action: The motion was unanimously approved.

Bob Jensen led comment resolution on the committee ballot of Addendum 2 to ANSI/TIA/EIA-570-A (PN-3-3490-AD2), *Control Cabling for Residences*. Comments were resolved and agreement reached to move the document to industry ballot.

The Subcommittee had discussion on re-opening TIA-570-A to include the three addenda and information that is now out of date in the current standard. Some of the topics discussed were test criteria, distribution device sizing, coaxial cabling needs, and terminations of outlet cable at the distribution device. Also

discussed was that the Subcommittee should investigate working closely with CSA and Mexico in the development of the standard. Bob Jensen made a motion to approve a Project Request and ANSI PINS form to begin the revision.

Plenary action: The motion was unanimously approved.

2.4.3 TR-42.3, Commercial Building Telecommunications Pathways and Spaces — Ray Keden

Documents: None

TIA-569-B draft 4 was opened for discussion. In general, the tutorial content was removed to condense the document and instill requirements. Steve Huffaker went through the draft and pointed out the significant changes. The Subcommittee agreed to send the draft out for Committee Ballot with minor editing and including conduit fill language with equations.

2.4.4 TR-42.4, Customer-Owned Outside Plant Telecommunications Infrastructure — Donna Ballast

Document: TR-42/02-02-020

Elections of Chair and Vice-chair were held with Donna Ballast, BICSI, being elected as Chair and Henry Franc, Bell Canada, being elected Vice-chair.

A liaison letter was received from ICEA regarding optical fiber cable to be placed in sewer systems. Some discussion was held over the cable specifications resulting in an agreement for a liaison letter to be sent to ICEA asking them to retain the same environmental, mechanical and performance specifications in ICEA-640, and supplementing these requirements as necessary to ensure the cable performance in a sewer environment. Although this may take form as an addendum to ICEA-640, it would have the benefit of being accepted in the TIA-758 standard without requiring a revision. Donna Ballast made a motion to approve sending a liaison letter to ICEA.

Plenary action: The motion was unanimously approved.

2.4.5 TR-42.5, Telecommunications Infrastructure Terms — Peter Sharp

Documents: None

Several terms were brought to the Subcommittee including: binder group, connecting hardware screen bonding conductor, connecting hardware screen, insulation displacement connection, insulation displacement contact, insulation displacement connection, accessible, insulation displacement connection, non-accessible, insulation displacement termination, insulation piercing connection, longitudinal conversion loss, multipoint bus, and multipoint ring. Acronyms were discussed including: IDC, IP, and SSTP. All terms will be updated and sent to TR-42 chairs by Bob Jensen for incorporation into their documents.

BICSI proposed that TR-42.5 be the repository for all symbols use within the TR-42 family of standards and allow them to be used by other organizations. The Subcommittee discussed the proposal and agreed to ask TR-42.6 to initiate the work and that TR-42.5 would then retain the information. BICSI also proposed that TR-42.5 initiate a chart for conversions between metric and imperial measurements. Discussion was held within the Subcommittee with some opposing views. Resulting from the discussion was that BICSI would begin a study to see how extensive a project this would be. Members of the Subcommittee were encouraged to help in the effort.

2.4.6 TR-42.6, Telecommunications Infrastructure and Equipment Administration — Bob Jensen for Mel Lesperance

Documents: None

Elections of Chair and Vice-chair were held with Tom Rauscher, Archi-Technology, being elected Chair. There were no candidates for the position of Vice-chair.

Mel Lesperance, Ortronics, led comment resolution on the industry default ballot of SP-3-4156-RV1-A-1, *Administration Standard for Commercial Telecommunications Infrastructure*, to become ANSI/TIA/EIA-606-A. All comments were resolved editorially. Bob Jensen made a motion to publish SP-3-4156-RV1-A-1 as TIA/EIA-606-A.

Plenary action: The motion was unanimously approved.

2.4.7 TR-42.7, Telecommunications Copper Cabling Systems — Masood Shariff

Documents: TR-42/01-11-089 TR-42/01-11-090

From the Cable Working Group, contributions on LCL and LCTL measurements on cable and permanent links were discussed as well as that on alien crosstalk and its impact upon various network's performance. A proposal was also given to clarify the definition of ELFEXT and a request to consider a submission on environmental effects.

The Connector Working Group reported that their activities were focused on resolving connecting hardware-related SP-3-3727-AD-B ballot comments. Specification of connector reliability was discussed and a contribution provided for a committee ballot with eventual publication as addendum 4 to TIA-568-B.2.

Masood Shariff reviewed technical ballot responses to SP-3-3727-AD1-B (category 6 cabling). Some comments were noted for future work within a future addendum. The group agreed that the rejected technical "no-votes" and technical changes be circulated throughout the industry for a default ballot. The group agreed to hold an interim meeting in April 3-4 in Dallas, TX to address default ballot comments. Masood Shariff made a motion to allow publication of the addendum should agreement be met in the Subcommittee at the interim meeting.

Plenary action: The motion was unanimously approved.

The Subcommittee approved SP-4426-AD3 regarding a 3 dB Rule for publication. Masood Shariff made a motion to publish this addendum.

Plenary action: The motion was unanimously approved.

2.4.8 TR-42.8, Telecommunications Optical Fiber Cabling Systems — Herb Congdon

Documents: TR-42/02-02-014 TR-42/02-02-016
TR-42/02-02-015 TR-42/02-02-017

Elections of Chair and Vice-chair were held with Herb Congdon, Tyco, being elected as Chair and Chad Burel, Corning, Inc., being elected Vice-chair.

Ballot comments were resolved editorially on SP-3894-AD1: Next-Generation Optical Fiber; Addendum 1 to TIA-568-B.3. It was agreed to publish the document pending editorial changes, confirmation of satisfactory resolution of comments with companies casting "no" votes and pending publication of the detail specification (TIA-492AAAC). Failing confirmation, it was agreed to issue a

default ballot on the items without removal of “no” votes.

Plenary action: The motion was unanimously approved.

Donna Ballast presented on Optical Fiber Certification and 100/1000 Ethernet. 60% of respondents were confident that present optical testing adequately supports their applications, and 82% want clarification. It was agreed to develop a TSB with the following title, scope and purpose to address this concern: Title: "Additional guidelines for field-testing length, loss and polarity of optical fiber cabling systems"; Scope: "Field testing of length, optical loss and polarity, in optical fiber cabling using an optical loss test set (OLTS), optical time domain reflectometer (OTDR) or a visual fault locator (VFL); Purpose: To clarify, not replace OFSTP-7 and OFSTP-14." It was agreed to send a liaison letter to TIA FO-6.1 and TIA FO-2.2 informing them of the project and inviting their input. It was agreed to convert the Link Certification Study Group into the Optical Fiber Field Testing TSB Task Group, tasked with drafting, editing and completing the TSB. It is expected that Peter Milstead will chair the group, with Bob Jensen serving as editor. Herb Congdon made a motion to initiate a Project Request for the TSB and to send liaison letters to FO-2.2 and FO-6.1.

Plenary action: The motion was unanimously approved.

A liaison letter from TIA FO-6.3.10 on Connectors was reviewed. It was agreed that the request of the TR-42.8 subcommittee had been misinterpreted and to send a liaison letter clarifying the request (whether or not there was need to develop MMF connector specifications). It was agreed to include mention of the possible need for extended temperature range performance under consideration into IEEE 802.3h – Ethernet in the First mile. Herb Congdon made a motion to forward the liaison letter to FO-6.3.10.

Plenary action: The motion was unanimously approved.

Two contributions were reviewed to revise annex E of TIA-568-B.1 to address the distances and loss budgets for fiber types in application standards but not recognized by TIA. It was agreed that the editing committee would then submit the edited document to TR-42.1 for industry ballot. It was noted that this document should be held from publication until the 10G Ethernet and Fibre Channel documents and the detail specification (TIA-492AAAC) are published.

It was agreed to send a liaison letter to IEEE802.3ah – Ethernet in the First Mile and request their consideration and support of multimode fiber PMDs. Herb Congdon made a motion to forward the liaison letter to IEEE.

Plenary action: The motion was unanimously approved.

2.4.9 TR-42.9, Industrial Telecommunications Infrastructure — Peter Sharp

Documents:	TR-42/02-02-010	TR-42/02-02-012
	TR-42/02-02-011	TR-42/02-02-013

Peter Sharp initiated his position as chair at this meeting by stating that one of the objectives is to understand the audience of this standard and that it will likely promote change in the industry for industrial telecommunications cabling. Peter made a call for interest of individuals interested in becoming an editor and a secretary for the Subcommittee and will attempt to fill these positions by the June meeting.

Past liaison letters were reviewed for their status to determine if in fact they were sent, as well as to ascertain whether any replies were received. Even though these liaison letters were sent, the Subcommittee agreed to have the Chair re-send the liaisons to keep up an interest level and garner more support in the Subcommittee. Peter Sharp made a motion to approve sending liaison letters to several

organizations.

Plenary action: The motion was unanimously approved.

A discussion was held on opening the FTP site to CENELEC with the Subcommittee agreeing that the Chair should investigate having a Liaison folder with a separate password within the TR-42.9 folder (PUBLIC, WORKING and LIAISON) for outside access.

The Cabling Task Group sent a report to the Subcommittee that stated:

- Consensus was reached that TR 42.7 should provide support on electrical transmission properties, including elevated temperature attenuation and balance (LCL and LCTL) for Cat 5e cabling.
- Consensus was reached that at the existing 10^{-10} bit error rate for 100BaseTX Category 5e RL is more than sufficient. If lower error rates are needed then IEEE should be involved in this type of change.
- Environmental/mechanical parameters for TR 42.7 have been specified by ICEA (Insulated Cable Engineers Association) in the past. Accordingly, we may wish to request their assistance.

The Systems Task Group provided two contributions during this meeting. The presentations brought about discussion on the needs of cabling in the industrial environment in considering that error contributors cannot be tolerated. Resulting from the discussions was that Bob agreed to work on these requirements with TR-42.7 by heading up a group that will conduct round-robin testing to validate/refute tests shown in the contributions.

Tutorial information that may be drafted into the text of the standard was discussed to see if it could be placed somewhere in the proposed standard. Discussion brought out thoughts to include tutorial information in an informative annex or possibly create a TSB after the standard is issued. The general consensus was to create a TSB after the standard is issued and leave the standard with concise normative language.

The Chair requested a call for expertise by first asking for a person knowledgeable on protocols used in the industrial environment. Discussion ensued which helped to provide a visualization of narrowing the scope of this standard. Topics included whether this is a standard just for Ethernet or if it indeed will encompass other technologies. Although it did not appear to be fully resolved, the Subcommittee seemed agreeable that Ethernet is the prime focus up to 100 Mbps and that other technologies would have to adjust their cable requirements to meet this standard.

2.4.10 Other

There was no other old business for the Engineering Committee.

3 NEW BUSINESS

3.1 Other

3.1.1 Category 7 Letter from Ideal Industries – Paul Kish (TR-42/02-02-023)

A letter was received from Ideal Industries asking TR-42 to consider options on specifying category 7 cabling. It was agreed in the Engineering Committee to distribute the letter to all Subcommittees and have a call for interest on the subject.

3.2 Action Items derived from this meeting

Item #	Action:	Resp:	Status:
2002-02-001	Distribute Ideal Industry Letter to TR-42 Subcommittees and ask that a call for interest and impact on work be provided at the next meeting.	Bob Jensen	

4 NEXT MEETING, INTERIM MEETINGS, FUTURE MEETINGS

4.1 Next meeting

June 7, 2002

Providence Marriott
1 Orms Street
Providence, RI 02904
Phone 401/272-2400
FAX 401/273-2686

4.2 Future meetings

4.2.1 2002 Meetings

October – Long Beach, CA (Tentative)

4.2.2 2003 Meetings

Nothing determined.

5 ADJOURNMENT

The meeting adjourned at 12:00 Noon on February 8, 2002.

This meeting was conducted in accordance with the TIA Legal Guide and the TIA Engineering Manual.

Bob Jensen, RCDD
TR-42 Vice-chair and Secretary



BUILDING GLOBAL COMMUNICATIONS

Approved by General Counsel

TR-42 Meeting Report
Date: 2/8/02
Location: Ft. Lauderdale, FL

Approved: 5/2/02
#6442