

Voting Results on T10 Letter Ballot 01-237r0 on  
Forwarding SSM to first public review

Organization	Name	S Vote	Add'l Info
Adaptec, Inc.	Ron Roberts	P Yes	
Amphenol Interconnect	Michael Wingard	A YesC	Cmnts
Ancot Corp.	Bart Raudebaugh	P Yes	
Andiamo Systems, Inc.	Claudio DeSanti	P Yes	
BREA Technologies, Inc.	Bill Galloway	P Yes	
Brocade Comm. Systems, Inc.	Robert Snively	P Abs	Cmnts
Cisco Systems, Inc.	David Peterson	P Yes	
Compaq Computer Corp.	William Ham	A No	Cmnts
Congruent Software, Inc.	Peter Johansson	P Abs	Cmnts
Crossroads Systems, Inc.	Robert Griswold	P Yes	
Dallas Semiconductor	Titkwan Hui	A Yes	
Dell Computer Corp.	Ronald Stockford	A Abs	Cmnts
EMC	Gary S. Robinson	P Yes	
Emulex	Robert H. Nixon	P Abs	Cmnts
ENDL Texas	Ralph O. Weber	P YesC	Cmnts
Exabyte Corp.		DNV	
FCI	Douglas Wagner	P Yes	
Fujitsu	Eugene Lew	P Yes	
General Dynamics	Nathan Hastad	P Yes	
Genroco, Inc.	Donald Woelz	P Yes	
Hewlett Packard Co.	Bill Hooper	A Yes	
Hitachi Cable Manchester	Zane Daggett	P Yes	
IBM / Tivoli Systems	George O. Penokie	P Abs	Cmnts
Intel Corp.	Cris Simpson	P Yes	
Iomega Corp.	Tim Bradshaw	P Yes	
KnowledgeTek, Inc.	Dennis Moore	P Yes	
LSI Logic Corp.	John Lohmeyer	P YesC	Cmnts
Maxtor Corp.	Mark Evans	P Yes	
Microsoft Corp.	Emily Hill	P Yes	
Molex Inc.	Jay Neer	P Yes	
Nishan Systems Inc.	Charles Monia	P Yes	
Ophidian Designs	Edward A. Gardner	P Abs	Cmnts
Panasonic Technologies, Inc	Terence J. Nelson	P Yes	
Philips Electronics/CD Edge	William P. McFerrin	P Yes	
Pirus Networks	Charles Binford	P Yes	
QLogic Corp.	Richard Moore	A Yes	
Quantum Corp.	Paul Entzel	P Yes	
Seagate Technology	A. Bruce Manildi	A Yes	
Storage Technology Corp.	Erich Oetting	P YesC	Cmnts
Sun Microsystems, Inc.	Kenneth Moe	P Yes	
Texas Instruments	Paul D. Aloisi	P YesC	Cmnts
Toshiba America Elec. Comp.	Tasuku Kasebayashi	P Yes	
Troika Networks, Inc.	Rick Casaly	A Yes	
TycoElectronics	Charles Brill	P YesC	Cmnts
Veritas Software	Roger Cummings	P Abs	Cmnts
Woven Electronics	Doug Piper	P Abs	Cmnts

## Ballot totals:

36 Yes  
1 No  
8 Abstain  
1 Organization(s) did not vote  
46 Total voting organizations  
15 Ballot(s) included comments

This 2/3rds majority ballot passed.

36 Yes is at least a majority of the membership [greater than 23] AND  
36 Yes is at least 25 (2/3rds of those voting, excluding abstentions [37])

## Key:

P Voter indicated he/she is principal member  
A Voter indicated he/she is alternate member  
O Voter indicated he/she is observer member  
? Voter indicated he/she is not member or does not know status  
YesC Yes with comments vote

Abs Abstain vote  
 DNV Organization did not vote  
 Cmnts Comments were included with ballot  
 NoCmnts No comments were included with a vote that requires comments  
 DUP Duplicate ballot (last ballot received from org. is counted)  
 PSWD The password was not correct (vote not counted)  
 ORG? Organization is not voting member of T10 (vote not counted)

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Comments attached to YesC ballot from Mr. Michael Wingard of Amphenol Interconnect:

6.2.2.1 misspelled word "though" should be "through"

6.2.2.2 Symbol alpha incorrectly written as "a", four places  
 Equation(s) missing after ending "...for a transmission line is give by"

6.2.3 Paragraph beginning "When entering cable detail..."  
 "The braid in a shielded cable, and the insulation on covering aluminum tape should not be included."

SUGGEST substituting: The overall shields, frequently aluminum tape under braid, should be represented by one circle if modeling a surface ground, or two circles if modeling an ideal ground.

After last paragraph, SUGGEST inserting:  
 Actual performance of physical twist-flat cable is highly complex due to presence of built-in structure, usually periodic. The structure causes frequency dependent variations in impedance phase, and attenuation that are not fully understood at present. Validation of the Maxwell matrix shall be performed by verifying that measured impedance agrees with simulated with reasonable accuracy. The twisted region is often of sufficient length that measured phase may be used to further verify the simulation. The flat region is usually only 25 to 50 mm long, which is too short for practical measurement of accurate phase, so presently it is not practical to verify simulated phase.

6.2.4 "In general Maxwell matrices are both square and symmetrical."

SUGGEST: In general Maxwell matrices are square, and are frequently symmetrical.

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Comments attached to Abs ballot from Mr. Robert Snively of Brocade Comm. Systems, Inc.:

Brocade Communications Systems abstains. The document is outside our present areas of interest.

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Comments attached to No ballot from Dr. William Ham of Compaq Computer Corp.:

General comment on ballot information: I thought that there was no public review for technical reports. Is this a mistake in the statement of the purpose of the letter ballot or am I mistaken?

Compaq comments on SSM (ssm-r04a)

Comment #: 1  
 Comment type: E  
 Document location: Page v (Table of contents)  
 Comment: Indent every heading level differently (much easier to read)  
 Suggested remedy: Implement the comment

Comment #: 2  
 Comment type: E/T  
 Document location: Page 1 scope  
 Comment: The document does not contain several of the items listed and does contain additional items that are not listed. Suggest adding the additional items, identifying which ones in the current list are not addressed and adding a comment that future work is underway to address these items.  
 Suggested remedy: Add the following wording in place of existing wording:

The objectives of SCSI signal modeling within T10 are listed below. Some of these objectives are addressed in this document. Others are being addressed in follow on projects. The objectives addressed in this document are indicated with an asterisk.

x) create a framework that shows how SCSI signal modeling fits within the context of a SCSI bus and for different purposes \*

- a) define a baseline for the exchange of performance measurements,\*
- b) define a set of elemental components of the SCSI parallel interface,\*
- c) define a set of composite components of the SCSI parallel interface,\*
- d) define the interface boundaries of the component sets,\*
- e) define the modeling parameters of the component sets,\*
- f) define the methodology for translating between physical measurements and necessary modeling parameters,\*
- f1) define the general signal modeling methodologies that apply to SCSI \*
- f2) define the model constructions to be used for every defined component
- g) define a methodology for integrating the component models into a system model,
- h) define a system simulation strategy, and
- i) define a method for the exchange of information between component suppliers and system integrators.

SSM is the first document in a series that address the general subject of modeling the SCSI bus.

Comment #: 3  
 Comment type: E  
 Document location: Page 3 clause 3.2  
 Comment: Suggest that this clause be moved to after the overview clause (present clause 5) so that the way these tools fit into the SSM architecture is more apparent. Also, I question whether there are tools that fits into more than one slot and whether there are tools that comprise more than one of the types listed into a single product.  
 Suggested remedy: Move Clause 3.2 to a new Clause 6, promote the present clause 3.1 to clause 3, add any additional known examples of tools to the list.

Comment #: 4  
 Comment type: E  
 Document location: clause 4.1.25 "Device"  
 Comment: This definition needs to be expanded to address the usage in the present document.  
 Suggested remedy: Use the following wording: Device: an electron device. In this document a device is equivalent to an "active elemental component". This term does not mean "SCSI device".

Comment #: 5  
 Comment type: E  
 Document location: clause 5.2.2.2  
 Comment: Need to distinguish between active and passive elemental components

Suggested remedy: Change the wording to read as follows.

Elemental components are limited to the following:

- a) bulk cable (passive)
- b) mated connectors (passive)
- c) un-mated connector halves (passive)
- d) transceivers (active) - also termed "devices" in this document
- e) terminators (active) - also termed "devices" in this document
- f) unpopulated printed circuit boards (passive)

Comment #: 6

Comment type: E

Document location: Clause 6.2.1.1

Comment: The term "buffer" is used in describing IBIS but is nowhere defined.

I think that "buffer" means the same thing as "transceiver" but am not sure. In any case a definition seems to be in order.

Suggested remedy: add a definition for "buffer" to the definitions list.

Comment #: 7

Comment type: E

Document location: Clause 6.2.2.2

Comment: there is a sentence that has no end shortly after the last entry in the numbered list. Seems to be an equation missing.

Suggested remedy: Add the missing material

Comment #: 8

Comment type: E/T

Document location: 6.2.1.1

Comment: This overview does not give the reader much idea of what Maxwell Matrices are.

Suggested remedy: Suggest either inserting an example or a reference to an example of a Maxwell Matrix. Also suggest that something like the following words be added:

The form of a Maxwell Matrix is not determined by the design of the component whose behavior it describes but the values entered into the matrix are determined by the design. There is no implied physical circuit topology in a Maxwell Matrix and physically unrealizable matrix values, for example negative

conductance, are appropriate in a Maxwell Matrix. Maxwell Matrices may appear

similar to circuit models but are truly behavioral.

Comment #: 9

Comment type: E/T

Document location: Clause 7.1

Comment: This overview needs to describe the basic division of models into "passive" and "active" since that is the organization of clause 7

Suggested remedy: Add words like:

Clause 7 describes the properties of models for all types of component. A convenient division is made into models for "active" and "passive" components.

Active and passive components may be either elemental or composite.

Comment #: 10

Comment type: E/T

Document location: Clause 7.1

Comment: The term "interconnect component" is not defined in Clause 5. This term appears to describe passive elemental components and passive composite components.

Suggested remedy: use the term "passive component" instead of "interconnect component" or define the term "interconnect component" as any type of passive component.

Comment #: 11

Comment type: E

Document location: Clause 7.1

Comment: the term "active device" is redundant.  
Suggested remedy: Change to "active elemental component" or "device"

Comment #: 12

Comment type: T

Document location: Clause 7.2.4

Comment: There is a statement that says "Behavioral models describe the function of an active device these include IBIS and Maxwell matrices." This implies that Maxwell Matrices are not useful for passive devices and, further,

that SSM defines no behavioral options for passive components

Suggested remedy: See comment 11 to address the term "active device" and reword to eliminate the implication that Maxwell Matrices are only useful for active components.

Comment #: 13

Comment type: T

Document location: Clause 7.2.4

Comment: change "Maxwell matrices represent the solution of Maxwells equations

for the interconnect. They describe the behavior of the interconnect." to be consistent with the terminology in the rest of the document.

Suggested remedy: Change to: Maxwell matrices represent the solution of Maxwells equations for the component or system being modeled. They describe the behavior of the component or system.

Comment #: 14

Comment type: T

Document location: Clause 7.2.4

Comment: Change "Lumped element models represent the electrical characteristics of the interconnect by single resistors, inductors, and capacitors." to be consistent with the terminology in the rest of the document

Suggested remedy: Change to: Lumped element models represent the electrical characteristics of the passive component by single resistors, inductors, and capacitors.

Comment #: 15

Comment type: T

Document location: Clause 7.2.5

Comment: The term "model element" has not been defined. What is a "model element"?

Suggested remedy: Define the term "model element" or change the wording to not use it.

Comment #: 16

Comment type: E

Document location: Clause 7.2.7.4

Comment: There is duplication in this clause of material in clause 5.6.

Duplication is not necessarily a problem but there is more material in Clause 5.6 that should be referenced.

Suggested remedy: Add a reference to Clause 5.6 to Clause 7.2.7.4.

Comment #: 17

Comment type: T

Document location: 7.2.8.1

Comment: RLGC models apply to more than just bulk cable

Suggested remedy: strike the word "cable" just before the equation

Comment #: 18

Comment type: E

Document location: 7.2.8.5

Comment: Same as comment 16

Suggested remedy: same as comment 16

Comment #: 19

Comment type: E

Document location: 7.3.2

Comment: the term "bulk cable" is the accepted term within T10 to describe the

unconnectorized wire  
Suggested remedy: Add the word "bulk" where the intent is to define unconnectorized wire

Comment #: 20  
Comment type: E/T  
Document location: Clause 7.3.4  
Comment: the term "trace netlist" used to describe a type of model yet that type was not identified in the section that described model type/class  
Suggested remedy: Either do not use the term "trace netlist" or define it as another model type/class.

Comment #: 21  
Comment type: E/T  
Document location: Annex sections  
Comment: add an annex with the system simulation report done by Bill Troop of IBM  
Suggested remedy: Add this annex. Bill Ham, Compaq, has agreed to convert the report to a Frame compatible form for this purpose.

Comment #: 22  
Comment type: E  
Document location: Clause 10.4  
Comment: The table for data rates is in the wrong clause  
Suggested remedy: Move the table to the appropriate clause

Comment #: 23  
Comment type: T  
Document location: Clause 9.1.1.4  
Comment: The point of interest was agreed previously to be the connector pad even for populated boards  
Suggested remedy: Change 9.1.1.4 to read "A populated board shall be measured at the pads for the connector on the board."

Comment #: 24  
Comment type: T  
Document location: 9.1.2  
Comment: The term "device" used in this clause heading is inconsistent with the use of the term elsewhere in the document.  
Suggested remedy: Delete the clause or define the term to be "SCSI device" or something similar. Need a definition for whatever is used.

Comment #: 25  
Comment type: E/T  
Document location: Clause 9.3  
Comment: The only behavioral validation type mentioned is for the transceiver.

This suggests that transceivers are the only type of component that has a behavioral model.  
Suggested remedy: Remove Clause 9.3.1 and state that behavioral validation will be addressed in SSM-2

Comment #: 26  
Comment type: E/T  
Document location: Clause 9.4  
Comment: The information in Clause 9.4 is very sketchy and it is unclear how this information might be used.  
Suggested remedy: Add a statement that only some very basic information is included in SSM and that SSM-2 is expected to seriously expand on this topic.

Comment #: 27  
Comment type: E  
Document location: All  
Comment: The editor is to be congratulated for pulling together the information contained in SSM for the first time in the industry. The no vote reflects the fact that some of the inconsistencies are serious and need to be fixed before publication.  
Suggested remedy: none

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Comments attached to Abs ballot from Mr. Peter Johansson of  
Congruent Software, Inc.:

My abstention is based upon a lack of technical expertise in the domain of  
SCSI signals.

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Comments attached to Abs ballot from Mr. Ronald Stockford of  
Dell Computer Corp.:

Not enough expertise to make informed decision.

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Comments attached to Abs ballot from Mr. Robert H. Nixon of  
Emulex:

Our organization does not currently have expertise necessary for establishing  
a supportable position on this issue.

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Comments attached to YesC ballot from Mr. Ralph O. Weber of  
ENDL Texas:

ENDL 1, PDF Page 10  
Pages x and xii are blank. Change the settings for the LOT and LOF  
files in the book from "read from file" to "next available page" to  
make these blank pages go away.

ENDL 2, PDF Page 14  
Page xiv is blank. You may wish to make this blank page go away by  
changing the book file setup for the file containing the Scope  
clause.

ENDL 3, PDF Page 14  
Generally T10 documents contain a Foreword and an Introduction  
between the table of contents and the Scope clause. These two  
sections are not numbered and are not part of the formal document.  
However they are important, particularly the Foreword, since this is  
where information about obtaining copies of standards (a.k.a.,  
document distribution) is available in the published document. ANSI  
will remove the first two pages from the document before publishing  
it, and in the case of SSM this means that the document distribution  
information will be lost. Finally, when cloning text for the  
Foreword and Introduction be sure to use very new document such as  
SPC-2 because the document distribution information changed  
recently. SPC-2 has the right document distribution information  
whereas the back side of the SSM cover page does not.

ENDL 4, PDF Page 16  
The format of the references clause is incorrect. The use of  
footnotes in the references clause fails to conform to the style  
used by T10. Please see SPI-4 for the correct format of the  
references clause.

ENDL 5, PDF Page 17  
Please add a paragraph at the beginning of 3.1 describing the  
purpose, nature, whatever, ... of the publications listed. Note 3.2  
has such a paragraph.

ENDL 6, PDF Page 19  
I do not understand the need for footnotes. Is this availability

information not present in clause 2?

ENDL 7, PDF Page 19

In the definition of 'admittance', why is 'n' in italics, but 'i' and 'j' are not?

ENDL 8, PDF Page 19

In the definition of 'accuracy', instead of 'see precision' why not a cross reference to the subclause number of the precision definition?

ENDL 9, PDF Page 19

Why a '1)' in the definition of 'balanced', I don't see a second definition?

ENDL 10, PDF Page 19

In the definitions of 'bulk cable' and 'cable assembly', is 'connector terminated' a jargon term needing a definition of its own, or would a more common English phrase such as 'connectors at either end' be more appropriate.

ENDL 11, PDF Page 20

In the definition of 'computer-aided engineering' and elsewhere in 4.1, T10 documents have recently started putting the acronyms next to the glossary entries (e.g., computer-aided engineering (CAE)). SSM may wish to adopt this style.

ENDL 12, PDF Page 20

In the definition of 'device', is 'electron' (one of three constituents of an atom) correct or is 'electronic' (based on electrical signals) better?

ENDL 13, PDF Page 20

At the end of the second definition of 'discontinuity', should 'over a length short compared to a wavelength.' be 'over a length that is short compared to a wavelength.'?

ENDL 14, PDF Page 20

In the second definition of 'driver", what is 'binary state'? Perhaps 'binary state' is meant?

ENDL 15, PDF Page 21

Why is there a definition for 'electron device'? The term is not used anywhere in SSM. Also, unless the definition of 'device' is modified, it appears to me that 'electron device' and 'device' are the same thing.

ENDL 16, PDF Page 21

The definition of 'false' uses unnecessarily tortured grammar. It would be better to place the comma delimited phrase 'usually represented by 0' in a separate sentence.

ENDL 17, PDF Page 21

In the definition of 'gain', why is the second sentence describing the properties of attenuation?

ENDL 18, PDF Page 21

In the definition of 'group delay', delta-w appears to be a symbol representing 'group delay'. If this is the case, either add "(delta-w)" before the colon in the term being defined or replace delta-w with group delay throughout the definition.

ENDL 19, PDF Page 21

In the definition of 'group delay time' it appears to this reader that 'change, with angular frequency' should be changed to 'change with respect to angular frequency'. Note particularly the removal of the comma.

ENDL 20, PDF Page 21

In the definition of 'group velocity', perhaps 'envelope moves

without change of shape.' really means to say 'envelope moves without changing shape.', or (less preferably) 'envelope moves without a change of shape.'

ENDL 21, PDF Page 21

In the definition of 'group velocity', perhaps 'the reciprocal of the rate of change of phase constant with angular frequency.' would read more clearly as 'the reciprocal of the rate of the change of phase constant with respect to the angular frequency.'

ENDL 22, PDF Page 21

In the definition of 'hardware description language' remove the comma in 'document, a hardware' to produce 'document a hardware'.

ENDL 23, PDF Page 21

In the definition of 'high', either explain why only logic 1 needs to be described, or remove the second sentence.

ENDL 24, PDF Page 21

In the definition of 'logical unit' change 'executes' to 'processes'. A global search for the verb 'to execute' with replacement by forms of the verb 'to process' is strongly recommended.

ENDL 25, PDF Page 21

In the definition of 'least significant' change 'represents' to 'represent' because 'items ... represent' is the sentence structure, not '... a whole ... represents'

ENDL 26, PDF Page 22

In the definition of 'most significant' change 'represents' to 'represent' because 'items ... represent' is the sentence structure, not '... a whole ... represents'

ENDL 27, PDF Page 22

In the definition of 'low', either explain why only logic 0 needs to be described, or remove the second sentence.

ENDL 29, PDF Page 22

The definition of 'magnetic coupling' is cryptic. If the intent is to indicate an equivalence between two terms, the form used by other T10 documents is 'Synonymous with inductive coupling, see 4.1.45.'

ENDL 30, PDF Page 22

In the definition of 'microstrip', the last sentence either contains a non-word (please run spelling checker) or the last sentence needs to be restructured to more closely follow the conventions of English grammar.

ENDL 31, PDF Page 22

The definition of 'mode' is cryptic. Did you all get lazy after the letter M?

ENDL 32, PDF Page 22

In the definition of 'netlist', change 'circuit. It provides,' to either 'circuit, providing,' or to 'circuit. A netlist provides,'.

ENDL 33, PDF Page 22

In the definition of 'network matrix' is it critical that 'n' be in italics?

ENDL 34, PDF Page 22

In the definition of 'phase angle', should 'form' be 'from'?

ENDL 35, PDF Page 22

In the first definition of 'phase shift', should 'tow' be 'two'?

ENDL 36, PDF Page 22

The definition of 'phase velocity' has a highly unusual structure. A more typical wording would be 'the velocity of an equiphase surface

in the direction of propagation, for a traveling wave at a given frequency, and for a given mode.'

ENDL 37, PDF Page 22

Please change the 'orphan lines' setting for the definition paragraphs so that the two lines in the definition of 'pole' appear on a single page.

ENDL 38, PDF Page 23

In the definition of 'port', is 'network' really 'network function' or 'network matrix', or should a glossary entry for 'network' be added? In this reviewer's opinion 'network' is a sufficiently vague term that it needs to be defined if it is going to be used in a T10 document.

ENDL 39, PDF Page 23

In the definition of 'primary bus', perhaps 'the system with the basic' should be 'a system with the basic'. Note the removal of the space between 't' and 'he' as well as the changing of 'the' to 'a'.

ENDL 40, PDF Page 23

I cannot find a clear usage of the term 'request' as defined in the glossary. The closest I can come to finding such a usage is 'request model' which appears a couple of times in clause 8. If the definition of 'request' is to support 'request model' perhaps defining 'request model' would better serve the readability of the TR.

ENDL 41, PDF Page 23

I find it most interesting that the definition of 'SCSI bus' could apply equally well to a telephone line.

ENDL 42, PDF Page 23

In the definition of 'SCSI device', does the SCSI port connect its drivers and receivers to just any bus, or do they connect to a SCSI bus?

ENDL 43, PDF Page 23

The definition of 'skin depth' appears to have been written by the same person that wrote 'phase velocity'. How about 'the depth at which the surface current density is reduced to 1/e of its value at the surface, for a given conducting material, at a given frequency.'

ENDL 44, PDF Page 23

Since no other T10 document contain a definition for SCSI, I wonder if it is critically needed in this one.

ENDL 45, PDF Page 24

I cannot tell if 'transmission mode' is defined to have three concurrent elemental types or only one. If the following still says what you mean, I recommend it as the definition of 'transmission mode': 'A form of propagation along a transmission line characterized by the presence of one of the following elemental wave types: transverse electric, transverse magnetic, or transverse electromagnetic.'

ENDL 46, PDF Page 24

In the definition of 'transmittance', the wording must be either 'variable is' or 'variables are', depending on whether one or several variables are measured. However, there is a further question about whether the exact variable(s) being measured are well enough known to be mentioned in the definition. If only one variable is being measured, then most certainly I think that variable needs to be named in the definition.

ENDL 47, PDF Page 24

The definition of 'true' uses unnecessarily tortured grammar. It would be better to place the comma delimited phrase 'usually represented by 1' in a separate sentence.

ENDL 48, PDF Page 24

In the definition of 'unbalanced', could a 'which' be eliminated by replacing the last sentence with 'Unbalanced signifies a circuit where one side is grounded.'?

ENDL 49, PDF Page 24

Since there is only one definition of 'unbalanced', the '1)' should be removed.

ENDL 50, PDF Page 24

Delete the second sentence in the definition of 'vendor-specific'.

ENDL 51, PDF Page 24

In the definition of 'validation', the use of 'evaluating' appears to be such that 'evaluating' should be replaced by 'verifying', based on the definition of 'verification' a couple of definitions farther on.

ENDL 52, PDF Page 24

Incorporate the footnote on Verilog in the text of the definition. This is particularly important because the footnote is separated from the footnote reference by a page break.

ENDL 53, PDF Page 24

In the definition of 'verilog', the phrase 'hardware descriptor language' probably should be 'hardware description language' as in 4.1.43.

ENDL 54, PDF Page 25

In the definition for 'vhdl', the acronym should be replaced by the fully spelled out name, see acronyms section.

ENDL 55, PDF Page 25

In the definition of 'vhdl', the phrase 'hardware descriptor language' probably should be 'hardware description language' as in 4.1.43.

ENDL 56, PDF Page 25

In the definition of 'y parameter', is 'four-terminal' really 'four-port' as in other definitions or has a new concept been described?

ENDL 57, PDF Page 25

It would be useful if those acronyms that have glossary entries contained cross references to the glossary entry.

ENDL 58, PDF Page 26

Since MHz is used in the glossary, should it not appear in the abbreviations list in addition to Hz hertz?

ENDL 59, PDF Page 26

The definition of group delay uses several symbols that are not mentioned in 4.3.

ENDL 60, PDF Page 26

Italicized s is used in several definitions and not listed in 4.3.

ENDL 61, PDF Page 26

There is a 'p' in the definition of zero that does not appear in 4.3.

ENDL 62, PDF Page 26

Regarding 4.4, it is not clear how keywords such as 'mandatory' and 'shall' or even 'optional' apply to a technical report.

ENDL 63, PDF Page 27

In 4.5, since this TR does not discuss messages, command, statuses, sense keys, additional sense codes and additional sense code qualifiers, these should not be mentioned in the first paragraph.

ENDL 64, PDF Page 27

In 4.5, change '(e.g., REQUEST SENSE)' to (e.g., DATA IN phase)'.

ENDL 65, PDF Page 27

In 4.5, remove the discussion of fields being in small upper case from the first paragraph and delete the entire second paragraph, since this TR does not discuss these kinds of fields.

ENDL 66, PDF Page 28

5.1 appears to say that this TR is predominantly concerned with a 'SCSI bus segment'. Should not there be a glossary definition for something so integral to the purpose of the TR?

ENDL 67, PDF Page 28

On behalf of Gene Milligan, I suggest that the following two sentences do not belong in 5.1 or anywhere else in this TR: 'Since this document is the first of its kind in the industry it is being cast as a technical report. Following generations of this document will be a standard.' If they are kept, either change to 'generations ... standards' or to 'generation ... standard'.

ENDL 68, PDF Page 28

In 5.1, what is an 'expander'? Is this another candidate for a glossary definition?

ENDL 69, PDF Page 28

Figure 1 leads me to believe that 'transmission medium' and 'transition regions' are the same thing. Both have the same kind of lines in the same left-right position and the same markings in all other respects. I doubt that this is the intent.

ENDL 70, PDF Page 28

In 5.1 the first paragraph after Figure 1 confuses me, to wit 'Each feature identified in Figure 1 is considered a component with specific interfaces to the bus segment path.' Are transition regions components?

ENDL 71, PDF Page 28

In the second paragraph after figure 1, 'for example' seems gratuitous and probably should be removed.

ENDL 72, PDF Page 28

The last sentence of the second paragraph after figure 1 seems to suggest that the description of multidrop bus segments exists and can be found somewhere, if this is the case then the somewhere should be named. Otherwise, the sentence should be changed to something like 'The simple architecture described in this document provides the basis for describing multidrop bus segments.'

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Comments attached to Abs ballot from Mr. George O. Penokie of IBM / Tivoli Systems:

No expertise.

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Comments attached to YesC ballot from Mr. John Lohmeyer of LSI Logic Corp.:

LSI Comment #1 - (6.2.1.5.4.10) Technical

Near the end of this section the example of a Driver Schedule implementation should be replaced with the following:

"An example of a Driver Schedule implementation of fallback for Ultra320

plus and minus drivers follows:

[Model] U320P

[Driver Schedule]

| Model\_name Rise\_on\_dly Rise\_off\_dly Fall\_on\_dly Fall\_off\_dly

U320P\_hi 0.0s 6.25ns NA NA

U320P\_lo 6.25ns 100ms NA NA

[Model] U320M

U320M\_hi 0.0s 6.25ns NA NA

U320M\_lo 6.25ns 100ms NA NA

The models U320P and U320M are called from the [Pin Mapping] table"

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Comments attached to Abs ballot from Mr. Edward A. Gardner of Ophidian Designs:

I do not have the necessary competence in electrical signalling and modeling to evaluate this technical report.

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Comments attached to YesC ballot from Mr. Erich Oetting of Storage Technology Corp.:

1. (Editorial) - Pg. 73, Annex A should be "normative" instead of "nomative".

\*\*\*\*\*

Comments attached to YesC ballot from Mr. Paul D. Aloisi of Texas Instruments:

SSM-r4a Comments

5.2.1 item a FC should be changed sot SCSI

Table 13 the Ultra160 line has an extra coma in the rise/fall time column

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Comments attached to YesC ballot from Mr. Charles Brill of TycoElectronics:

Madison Cable's (TycoElectronics) comments for T10 letter Ballot "Forwarding SSM to First Public Review (01-237r0)" as follows:

After review the document 01-237r0, we would like to suggest the following changes to be made to the documents before forwarding it to the public review.

Change#1: on page22, sec.5.5 line 3 after Figure 5:

a) experimental data - data gathered by physical measurements  
Should read: experimental data - data gathered by physical and electrical measurements

Change#2: on page42, sec.6.2.2.2 line 3

This method only applies to a single line model.  
Should read: This method only applies to a single line model in this report.

Change#3: on page42, sec.6.2.2.2 line 4

At the end, add: Multiple line model will be developed in SSM-2. This method is practical for creating cable models with complicated physical parameters such as round cables.

Change#4: on page 43, line 7,8,9 and 18

All the 'a's should change to a

Change#5: on page43, line 10

8) apply RLCG values into a SPICE transmission line model  
Should read: apply RLCG values into a format of circuit model

Change#6: on page 43, line 14, add:

The format of the circuit model is as follow:

<<omitted from the ASCII version--see T10/01-266r0>>

Change#7: on page43, line 17, two equations are missing:

Add:

<<omitted from the ASCII version--see T10/01-266r0>>

(Eq 1.0)

(Eq 2.0)

Change#8: on page 43, line 29,

----, a SPICE transmission line model is created by ---

Should read: ----, a circuit model is created by ---

Change#9: on page 43, line 36 - 37

The result is a collection of frequency dependent transmission line equations that can be used to determine the overall cable performance

Should read: The result can be used to determine the overall cable performance

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Comments attached to Abs ballot from Mr. Roger Cummings of Veritas Software:

Not within our area of expertise

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Comments attached to Abs ballot from Mr. Doug Piper of Woven Electronics:

No expertise in this field

\*\*\*\*\* End of Ballot Report \*\*\*\*\*