

Accredited Standards Committee*
X3, Information Technology

Doc. No.: X3T10/96-018 r1

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Project: 1145-D & 0989-D

Ref. Doc.: 96-008 & 96-009

Reply to: Mr. John Lohmeyer

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To: X3T10 Membership
 Subject: Letter Ballot Results on forwarding SSA-PH1 (96-008) & SSA-TL1 (96-009)

The letter ballots on forwarding SSA-PH1 and SSA-TL1 both passed as shown in the below table. The comments received need to be addressed by X3T10.1 and the proposed ballot resolution should be forwarded to X3T10.

Organization	Stat	Person	SSA-PH1 (96-008)	SSA-TL1 (96-009)	Comments
Adaptec, Inc.	A#	Mr. Lawrence J. Lamers	Y	Y/C	
Amdahl Corp.	P	Mr. Edward Fong	Y	Y	
AMP, Inc.	P	Mr. Charles Brill	Y/C	Y	cmnts by fax only
Amphenol Interconnect	P	Mr. Michael Wingard	Y	Y	
Ancot Corp.	P	Mr. Jan V. Dedek	Y	Y	
Apple Computer	P	Mr. Dennis Pak	Y	Y	
BusLogic	P	Mr. Clifford E. Strang Jr.	Y	Y	
Ciprico Inc.	P	Mr. Gerry Johnsen	Y	Y	
Circuit Assembly Corp.	P	Mr. Ian Morrell	Y	Y	
Cirrus Logic Inc.	P	Mr. Joe Chen	Y	Y	
CMD Technology	P	Mr. EDward Haske	Y	Y	
Congruent Software, Inc.	P	Mr. Peter Johansson	Y	Y	
Conner Peripherals	P	Mr. Michael Bryan	Y	Y	
Dallas Semiconductor	P	Mr. Louis Grantham	Y	Y	
Digital Equipment Corp.	P	Mr. Charles Monia	-	Y	
Digital Equipment Corp.	A#	Dr. William Ham	N	-	
Eastman Kodak Co.	P	Mr. Robert Reisch	Y	Y	
ENDL Associate	P	Mr. Ralph O. Weber	Y	Y	
Exabyte Corp.	P	Mr. Edward Lappin	Y	Y	
FSI Consulting Services	P	Mr. Gary R. Stephens	N	N*	cmnts by fax only
Fujitsu Computer Products, Am	P	Mr. Robert Liu	Y	Y	
Hewlett Packard Co.	P	Mr. Stephen Holmstead	Y	Y	
Hitachi Micro Systems, Inc.	P	Mr. S. Nadershahi	Y	Y	
Honda Connectors	P	Mr. David McFadden	Y	Y	
IBM Corp.	P	Mr. George Penokie	Y/C	Y/C	
IIX Consulting			DNR	DNR	
Iomega Corp.	P	Mr. Geoffrey Barton	Y	Y	
Linfinity Micro	P	Mr. Dean Wallace	Y	Y	
Madison Cable Corp.	P	Mr. Robert Bellino	Y	Y	
Maxtor Corp.	P	Mr. Pete McLean	Y	Y	
Methode Electronics, Inc.	P	Mr. Steve D. Schueler	Y	Y	
Molex Inc.	P	Mr. Joe Dambach	Y	Y	
NEC Technologies			DNR	DNR	
Oak Technology, Inc.	P	Mr. Dennis Van Dalsen	Y	Y	
Ophidian Designs			DNR	DNR	
Panasonic Technologies, Inc	P	Mr. Stephen F. Heil	Y	Y	
QLogic Corp.	P	Mr. Skip Jones	Y	Y	
Quantum Corp.	P	Mr. James McGrath	Y	Y	
Seagate Technology	P	Mr. Gene Milligan	N	Y/C	Individual vote

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Organization	Stat	Person	SSA-PH1 (96-008)	SSA-TL1 (96-009)	Comments
Silicon Systems, Inc.	P	Mr. Stephen G. Finch	Y	Y	
Storage Technology Corp.	P	Mr. Erich Oetting	Y	Y	
Sun Microsystems Computer Co	P	Mr. Robert N. Snively	Y	Y	
Symbios Logic Inc.	A	Mr. Greg Kapraun	Y	Y/C	
SyQuest Technology, Inc.	P	Mr. Patrick Mercer	Y	Y	
Tandem Computers	P	Mr. John Moy	Y	Y	
Toshiba America	P	Mr. Tokuyuki Totani	Y	Y	
Trimm Technologies	P	Mr. Gary M. Watson	Y	Y	
UNISYS Corporation	P	Mr. Kenneth J. Hallam	Y	Y	
Unitrode Integrated Circuits	P	Mr. Paul D. Aloisi	Y	Y	
Western Digital Corporation	A	Mr. Tak Asami	Y	Y	
Woven Electronics	P	Mr. Doug Piper	Y	Y	
		Totals:	44:3:0:3	46:1:0:3	
			=50	=50	
Vote Key: Y - Yes Y/C - Yes, with comments N - No N* - No, without substantive comments identified (treated the same as Y/C) DNR - Did Not Return ballot					

Comments Received on SSA-PH1 (96-008):

AMP Comments on SSA-PH1 attached to Yes ballot (transcribed by John Lohmeyer)

Comment #1. pg. 6, Fig 3 Test Points

Node Port Driver M1 Connector
Node Port Receiver M4 Connector

M1 & M4 are not necessarily external connectors, therefore 2 more test points need to be identified at the external connectors.

- * Test points are defined in the specification from the driver to the receiver & not at the external connectors. Need to break up the specification & specify it at the external connectors because that's where all the external "cable assy houses" have control over.

Comment #2. pg. 25 Figure 18

The 5.62 dimension should go to datum F as called out in the IEEE 1394 specification.

- * 5.62 +/- 0.05 should go to datum F.

Digital Comments on SSA-PH1 attached to No ballot

Digital voted "No" on the referenced letter ballot for a number of technical and editorial reasons. Even though Digital is intimately involved in the editing of this document some critical content is not present in rev 8. Some of this content was formally approved by the plenary for inclusion in the letter ballot. Other content has developed in recent SSA working groups and through other oversights.

The following changes were approved by the December 13, 1995 plenary to be incorporated into SSA-PH1 Rev 8:

Move connector performance requirements to normative annexes

Add figures describing line segments, port connections, port connection segments, port connection couplers, and complex port connections

Change line segment termination requirements to use 750 ps rise time instead of slew rates

Move equalizer requirements to cable assembly section

Item 1. was incorporated in rev 8.

Item 2 was not done in Rev 8. Item 2 constitutes important architectural technical content concerning the physical link.

Item 3 was not done in rev 8. Item 3 constitutes important technical requirements for the line segment termination requirements.

Item 4 was not done in rev 8. The statements relating to equalization are technically in error in its present location in rev 8 under complex port connections.

New technical information concerning the requirements for line segment termination has shown that the specifications under section 7.3 are not valid. It is necessary to incorporate exceptions to the impedance limits for certain time durations in order to allow existing devices to comply.

There are numerous instances where the terminology in Item 2 is not incorporated into rev 8.

Annex G does not contain the information developed in Botley relating to printed wiring board design.

Line fault detection is not a required feature of SSA but is listed as an "essential feature" in section 1.1.

Several statements in section 1.1 are not supported by statements in the body of the document. While these statements may be true for some implementations they are not "essential characteristics" of the technology described in SSA-PH1.

Changes are required to Figure 1 to extend the line driver and line receiver to the connector.

The difference between Table 4 and Table 5 is not clear. The terms "test" and "operating" need some explanation.

The difference between Table 7 and Table 8 is not clear. The terms "test" and "operating" need some explanation.

The colors need to be removed from fig 31.

Figure C.4 needs to have the term "Table 30" removed.

There are several figures needed to accurately describe the terms in item 2 above.

I will attempt to draft proposal wording and figures to address these comments before the next plenary meeting.

FSI Comments on SSA-PH1 attached to No ballot

Gary Stephens faxed the following comment (transcribed by John Lohmeyer): "This standard provides too little functional improvement to warrant its standardization. The 40 MB/S version provides the correct level with SSA-S3P as a base. See note with SSA-TL1 and SSA-S2P votes." The note Gary refers to says that "due to severe personal events, a proper typed and numbered response was not possible. I will attempt to do so before the March meeting."

IBM Comments on SSA-PH1 attached to Yes ballot

Comments:

- 1) Some of the definition refinements from December meeting were not included in the document.

Milligan (Seagate) Comments on SSA-PH1 attached to No ballot

1) The patent statement has been useful information for the committee participants. However now that the SSA-PH1 is being forwarded, the patent statement should be replaced with the standard X3 patent statement for the case where patent claims have been made and offered in accordance with the ANSI patent policy. In particular the specific citing of claims should be removed.

I recognize that X3T11 has left such statements in some of their forwarded standards. But this is inappropriate since the committee should not take any position on the validity of the claims made.

2) If an ISO/IEC submittal is intended, it would be preferable (and necessary for the IS) to replace item (h) in Clause 2 and the ANSI/EIA citations in Tables B.1 through B.7 with equivalent IEC specifications.

3) It is not acceptable to include "???" as normative reference.

Comments Received on SSA-TL1 (96-009):

Adaptec Comments on SSA-TL1 attached to Yes ballot

The second sentence of paragraph four, section 6.2.9:

When transmission of a UDC character is pending, and an identical UDC character is received by another port, the received character may be discarded.

FSI Comments on SSA-TL1 attached to No ballot

Gary Stephens faxed the following comment (transcribed by John Lohmeyer): "Due to severe personal events, a proper typed and numbered response was not possible. I will attempt to do so before the March meeting. Copies of marked up pages are included to support the NO vote for now."

I also received multiple faxes containing much of the SSA-TL1 document liberally marked up. I received several duplicate pages and was missing pages 24-28. The vast majority of these comments appear to be editorial in nature. Since there is no sane way to transcribe all of these comments, I've forwarded paper copies to the SSA-TL1 editors. They will incorporate the editorial comments as they see fit. Since Gary was unable to provide documentation on what comments are substantive, I am forced to treat his ballot the same as a "Yes, with comments" ballot. No formal response will be generated for his comments (other than the next revision of SSA-TL1).

NOTE: Gary obviously did a great deal of work reviewing the SSA-TL1 document. However, X3T10 cannot wait until March for the properly documented ballot comments. This would not be fair to the SSA-TL1 editors who are meeting the week of 2/12/96 to develop a proposed resolution to the letter ballot comments or to X3T10.1 which meets later in February to review and possibly approve the proposed resolution.

IBM Comments on SSA-TL1 attached to Yes ballot

Technical comments:

- 1) Last paragraph of section 10.1.2 (Link Status Byte)
Change the first sentence to "The RSN field specifies the RECEIVE SEQUENCE NUMBER for the next Privileged...". It should be next rather than last.
- 2) Third paragraph, second sentence of 9.1.10 (Port Table)
Change the second sentence to "When a CONFIGURE PORT SMS is received, the Port table entry associated the PORT field specified in the CONFIGURE PORT SMS is set as follows.". It should use the PORT field rather than the port the CONFIGURE PORT SMS was received on.
- 3) The MAA PORT field in Table 14 (Master Asynchronous Alert table entry)
Change the Description of MAA PORT to "A one byte value indicating the Master's port number to be used to send the ASYNC REPLY SMS.". It is a one byte value not seven bits, and the term associated was vague.

Milligan (Seagate) Comments on SSA-TL1 attached to Yes ballot

1) The patent statement has been useful information for the committee participants. However now that the SSA-TL1 is being forwarded, the patent statement should be replaced with the standard X3 patent statement for the case where patent claims have been made and offered in accordance with the ANSI patent policy. In particular the specific citing of claims should be removed.

I recognize that X3T11 has left such statements in some of their forwarded standards. But this is inappropriate since the committee should not take any position on the validity of the claims made.

2) Based upon the definition of SSA-TL2 (which contains a grammatical error) in Clause 1.2, SSA-TL2 should be deleted from the Clause 2 normative references and moved to an informative reference section..

3) Based upon the definition of SSA-TL1 in Clause 1.2, SSA-S3P and SSA-PH2 should be deleted from the Clause 2 normative references and moved to an informative reference section..

Symbios Logic Comments on SSA-TL1 attached to Yes ballot

This is a collection of comments for SSA-TL1. They are considered editorial by us.

change?

3.1.8 destination node: The node where a frame is addressed.

to

3.1.8 destination node: The node to which a frame is addressed.

Section 9.1.3.1, paragraph 1, element a):

The operational flag is not cleared while in Disabled State. The operational flag is only cleared on failed ERP, or after Total/Absolute Reset, or after POST.

Section 9.1.3.1, paragraph 5:

The link reset received flag being cleared should be added to the list in paragraph 1 of this section.

Section 9.1.3.2, paragraph 2:

(see 9.5) should be (see 9.3).

Section 9.1.4.3, paragraph 1:

Sentence 2 should be deleted. In wrap mode, no data is actually communicated so half duplex does not make sense.

Section 9.3, paragraph 2:

In item 5) character should be plural.

Section 9.5.1, paragraph 3:

There are two periods at the end of this sentence.

Section 10.1, paragraph 5:

In item b), the only should be dropped from the end of the sentence.

Section 10.1.2, paragraph 7:

The Receive Sequence Number field described here is incorrect. This should be the same definition used earlier (see Section 7.1.3).

Section 10.5.1, paragraph 2:

In item 1), Build an Response should be build a Response.

Annex A, in general:

Annex A has several references to (see 0). I beleive these references should point to someplace in the standard. Please correct these.

Annex A, in general:

Annex A makes many references to services (TARGET READ, INITIATOR READ, etc). These are not defined in the standard and should be referenced to some standard where they are defined (or they need to be defined in this standard).

Annex A.4, paragraph 1:

Sentence 1 should read services are intended rather than services in intended.

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Section 7.5 Data field

1st paragraph

3rd sentence

Was:

The contents of the DATA field in Application Frames is defined in 11.3 and by the upper-level protocol.

Change to:

The contents of the DATA field in Application SMS's is defined in 11.3.

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Section 8.4 Flow Control

4th paragraph

1st sentence

Was:

In full-duplex operation a port could send an Acknowledgment for a received frame or a Receiver Ready, if buffer space is available, while it is in the middle of transmitting another frame.

Change to:

In full-duplex operation a port could send an Acknowledgment for a received frame or a Receiver Ready if buffer space is available, while it is in the

middle of transmitting another frame.

Rational:

The only edit is to remove the comma before the phrase "if buffer space is available". This is to ensure that this phrase is only associated with the transmission of an RR pair (as ACK transmission does not rely on having buffer space).

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Section 11.2.3 Configure Port SMS

3rd paragraph

1st sentence

Was:

The PORT field identifies the port that is being configured.

Change to (the same definition as in Section 1.2.1):

The PORT field contains an unsigned integer to identify the affected port.