

Accredited Standards Committee
X3, Information Processing Systems

Doc: X3T10/96-131r0
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Project: X3T10.1/1145D
Ref Doc.: SSA-PH1 rev 8
Reply to: John Scheible

To: X3T10 Membership
From: John Scheible

Subject: X3T10 comment resolution on SSA-PH1 rev 8 (96-008)

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

AMP-1) 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.

RESPONSE: Accepted as a rewrite of clause 7.5 (in rev 8a). The test points specify the requirements of the entire Complex Port Connection, without a separate budget for the external cable. Add the following implementers note following paragraph 2 of clause 7.5.3 in rev 8a (Complex Port Connection).

Implementer's note x: It is the responsibility of the system integrater to work with their suppliers to insure the Complex Port Connection meets the requirements of SSA-PH1.

An explanation is as follows:

The SSA-PH1 document does not specify a different requirement at the internal device connector from that at the external enclosure connector because there are means offered to use the same requirements at both connectors. Unfortunately Rev 8 did not include these means explicitly but the intent is to use the same requirements for both the internal and external connectors (or any other connectors deemed to be interoperable junction points in the port connection path).

In order to achieve this condition one either needs cables with negligible signal degradation between the internal and external connectors or one needs to use port connection coupler circuits (retiming repeaters for example) at the affected connectors. The requirements on the cable assemblies are governed by performance specifications and multiple cable assemblies are allowed within the same port connection. This means that SSA cable assemblies usually need to be better than the minimum requirements to allow for such complex connections. A short internal cable assembly is a minor perturbation if it meets the transmission line properties specified for all cable assemblies. The choice of external or internal connectors is arbitrary. The implementer must choose the interoperable junction points in his market or system.

AMP-2) 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.

RESPONSE: Accepted

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:

- 1) Move connector performance requirements to normative annexes
- 2) Add figures describing line segments, port connections, port connection segments, port connection couplers, and complex port connections
- 3) Change line segment termination requirements to use 750 ps rise time instead of slew rates
- 4) 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.

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

RESPONSE: Accepted, Digital provided input to Rev 8a for all the points not covered in Rev 8.

DEC-1) 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 duration's in order to allow existing devices to comply.

RESPONSE: Accepted, Rev 8a contains the correct information

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

RESPONSE: Accepted, Rev 8a incorporates these changes

DEC-3) Annex G does not contain the information developed in Botley relating to printed wiring board design.

RESPONSE: Accepted, Include 96a126r0.

DEC-4) Line fault detection is not a required feature of SSA but is listed as an "essential feature" in section 1.1.

RESPONSE: Accepted, Clause 1.1 has been rewritten in rev 8a to include only essential characteristics of SSA-PH1.

DEC-5) 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.

RESPONSE: Accepted, Clause 1.1 has been rewritten in rev 8a to include only essential characteristics of SSA-PH1.

DEC-6) Changes are required to Figure 1 to extend the line driver and line receiver to the connector.

RESPONSE: Accepted. Figure 1 is modified in Rev 8a.

DEC 7) The difference between Table 4 and Table 5 is not clear. The terms "test" and "operating" need some explanation.

RESPONSE: Accepted, clarifying text is added to rev 8a.

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

RESPONSE: Accepted, clarifying text is added to rev 8a.

DEC-9) The colors need to be removed from fig 31.

RESPONSE: Accepted, rev 8a has a changed figure with the colors removed.

DEC-10) Figure C.4 needs to have the term "Table 30" removed.

RESPONSE: Accepted rev 8a will have this figure changed.

DEC-11) There are several figures needed to accurately describe the terms in item 2 above.

RESPONSE: Accepted Rev 8a includes these figures.

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."

RESPONSE: Thank you for your input. There are many companies that feel otherwise.

IBM Comments on SSA-PH1 attached to Yes ballot

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

RESPONSE: Accepted see DEC comments for actions.

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

SEA-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.

RESPONSE: Accepted, new patent statement incorporated

SEA-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.

RESPONSE: Deferred, IEC 512 is a heavily modified version of ANSI/EIA 364. Before going to ISO we plan to convert the ANSI/EIA references to IEC 512 references. Since it is a non-trivial exercise, it will not be done prior to public review.

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

RESPONSE: Accepted, the proper references and titles will be added. Also references in Table C.4 (BP3 and BP5) were incorrect and have been modified.

Editorial comments that are technical changes

EDI-1) Corrections are needed to Annex C to clarify certain connector tests.

RESPONSE: Make the following changes:

- 1) Change 5000 insertions to 500 insertions in tests BP2, BP5 and DP1.
- 2) Replace the maximum references of 35 m Ω and 20 m Ω to the following "Maximum 15 m Ω change from initial contact resistance measured in Table C.2 test P3." in tests AP5, AP6, AP13, BP4, CP3 and DP3.
- 3) Remove test BP5.5 in Table C.4
- 4) Change part reference of BP3 to part 11 and add the document to the normative references.

Sincerely,

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