

Doc No. T1098-230R0

To: T10 Membership

From: R.K. Roberts

Technical Editor MMC-2

Subject: Comment Resolution – Letter Ballot 98-022R0

Specific resolution and replies are attached to each of the comments received from the membership.

Review of the comments and the responses is scheduled for the March working group meeting.

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Comments attached to YesC ballot from Lawrence J. Lamers of daptec, Inc.:

Adaptec Comments on T10 Letter Ballot of MMC-2

### Issue 1

The big issue is around the Prevent/Allow Medium Removal command. MMC-2 V7.0c discusses in several sections the use of the Prevent/Allow Medium Removal command and how the persistent bit must be set in order to use Get Event/Status Notification. Section 5.3.3, Table 35, goes as far as pointing to the SPC. However in the SPC, the Prevent/Allow command doesn't have the bit defined.

I Email Ron and he mentioned that he doesn't wish to duplicate efforts to redefine commands that are defined elsewhere. I then Emailed Ralph Weber and he told me that Rob Simms has a proposal in the works to fix the SPC. However, that proposal wasn't excepted by committee for some reason.

I would argue that until the SPC has been updated, that MMC-2 should define how the Prevent/Allow command should look. An implementor who doesn't take the initiative to track down the discrepancies will always get the implementation wrong. Heck, even when things are written clearly, folks still get it wrong.

**RESPONSE:** The PREVENT/ALLOW Command in SPC-2 will be modified to include a definition of the persistent bit.

### Issue 2

The second issue is polling for ATAPI commands. The spec doesn't really explain how to do polling, nor on which commands polling should occur. In our experience, polling needs to occur on Blank, Format Unit, Close Track, Close Session, Flush Cache. I'm not sure how to get the drive vendors to agree on this. And for those manufacturers working DVD Blank, Close Track, and Close Session have no real meaning.

**RESPONSE:** The BLANK, FORMAT UNIT, and CLOSE TRACK/SESSION commands provide for responses when a polling function is implemented. SYNCHRONIZE CACHE responds in a normal manner to a polling command.

One other thing that bothers me is the Sync Cache command has been renamed in Mt. Fuji to be Flush Cache. Both use the same opcode, however both act quite differently. MMC-2 appears to conform closer to SCSI than Mt. Fuji is even attempting. I'd like to know what the MMC-2 editorial committee position is on this topic.

**RESPONSE:** There are no operational or technical differences in the two commands.

Other editorial comments:

Format Unit Command definition, Section 6.1.3, second paragraph above table 134, talks about the Format unit parameter list (see table 69), should say (see table 134).

**RESPONSE:** Accepted and changed

Paul Lucier

303-684-4713

plucier@btc.adaptec.com

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Comments attached to YesC ballot from Ron Roberts of Apple Computer:

Annexes need to be completed. Information for them comes from other standards that may or may not be completed. (RBC & SBP-2)

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Comments attached to No ballot from Robert Elliott of Compaq Computer Corp.:

I am casting a NO vote for this reason:

CPQ 1. Annex C is missing. It should be added, or it and references to it should be removed.

**RESPONSE: Accepted** - Annex C is an implementation Annex like Annex B. The majority of Annex C will come from the RBC command set document that is still in review. A version of the Annex C will be distributed for review when RBC and SBP-2 workin groups have reviewed it.

The rest of the comments are not causing a NO vote. Except for number 20, they are all editorial comments.

CPQ 2. Page ii. Use John Lohmeyer's netcom address. Change other references to "symbios.com" as John directs.

**RESPONSE: Accepted** -

CPQ 3. Pages ix-xvii. The list of tables and figures shows that both one and two dashes are used after the table/figure number. They should be consistent. Also, ensure there is always a space after the table number (see table 374).

**RESPONSE: Accepted** -

CPQ 4. Page xviii. Foreward. The description of Annex D is blank.

**RESPONSE: Accepted** -

CPQ 5. Page 2. Section 2.2. Standards numbers should line up vertically.

**RESPONSE: Accepted** -

CPQ 6. Pages 2-3. Section 2.3. Shouldn't ACPI be referenced for the Power Management annex?

**RESPONSE: Rejected**- ACPI was not referenced or consulted for this standard.

CPQ 7. Page 3. Section 3.1.27. Definition missing for Direct-overwrite.

**RESPONSE:** Accepted – Definition added

CPQ 8. Page 4. Section 3.1.3. Change "that" to "which"

**RESPONSE: Accepted** -

CPQ 9. Page 5. Sections 3.1.35/36. Change "CD" to "DVD"

**RESPONSE: Accepted** -

CPQ 10. Page 6. Section 3.1.69. Remove "is"

**RESPONSE: Accepted** -

CPQ 11. Page 15. Section 4.2.1.2. Missing text after last word "See "

**RESPONSE: Accepted** – now reads “ See sub-clause 6.1.23 READ SUB-CHANNEL command

CPQ 12. Page 18. Section 4.2.2.4. Make formatting of "Mode-1 Q", "Mode2 Q", and "Mode 3 Q" consistent.  
**RESPONSE:** Accepted – will be “Mode-n Q”

CPQ 13. Page 18. Section 4.2.2.4. There are periods instead of spaces around "to" in TNO and INDEX definitions.  
**RESPONSE: Accepted -**

CPQ 14. Page 18. Section 4.2.2.4. Add "The" before this sentence: "Mode-2 Q data format is shown in Figure 8."  
**RESPONSE: Accepted -**

CPQ 15. Page 19. Section 4.2.2.5. Change "is" to "total". "I1 - I12 define the ISRC, and total 60 bits in length."  
**RESPONSE: Accepted** –Changed to “I1-I12 defines the ISRC.”

CPQ 16. Page 20. Section 4.2.2.6. After Figure 11, there is an underlined ( after "POINT=B0").  
**RESPONSE: Accepted** – removed underline

CPQ 17. Page 24. Table 11. Formatting differs from other tables within byte 2. Grid should still be visible.  
**RESPONSE: Accepted -**

CPQ 18. Pages 25/27. Figure 13. Caption and picture are on separate pages.  
**RESPONSE: Accepted -** corrected

CPQ 19. Page 28. After Table 15, add period after "number of blocks"  
**RESPONSE: Accepted -**

CPQ 20. Page 30. Table 17. Also Table E.3. Refers to CHANGE\_DEFINITION which has been removed from SPC-2. Should it remain in this spec? Also, persistent reservation commands are not listed. Should they be mentioned here?  
**RESPONSE: Accepted** – Removed CHANGE\_DEFINITION from Table 17

CPQ 21. Page 64. Table 43. Different caption font from other tables in this area.  
**RESPONSE: Accepted - Accepted -**

CPQ 22. Page 65. Table 44. Extra "r" in "PvntJumprr".  
**RESPONSE: Accepted -**

CPQ 23. Page 72. References to sub-clauses have two periods: e.g. "in sub-clause 5.2.1..". The same problem occurs elsewhere (including text after tables 64, 67, 70, 73, 78, and 81). Sometimes something like "4.1.6., " appears.  
**RESPONSE: Accepted -**

CPQ 24. Page 88-81. Tables 86 and 89. Bytes 2 and 3 are listed multiple times with different meanings.  
**RESPONSE: Accepted -**

CPQ 25. Page 86. Table 99. Missing sub-clause cross references for features 0003-0105h.  
**RESPONSE: Accepted -**

CPQ 26. Page 93. Table 112. Missing space in 2048 row in "Mode2". Missing period in 2352 row after "F8h".  
**RESPONSE: Accepted -**

CPQ 27. Page 113. Byte 17, Bit 4-5 line needs better formatting. "00 32 BCKs 01 16 BCKs" ...  
**RESPONSE: Accepted** – Table added

CPQ 29. Page 120. Table 138 and subsequent text. FmtDATA vs. FmtData. CmpList vs. CmpLIST.

**RESPONSE: Accepted -**

CPQ 30. Page 123. Table 143. "IP Modifier" header split into 3 lines.

**RESPONSE: Accepted -**

CPQ 31. Page 127. Table 149. Different fonts or font sizes than other tables in this area.

**RESPONSE: Accepted -**

CPQ 32. Page 131. Table 156. Should "0 - n" be "4 - n"?

**RESPONSE: Accepted -**

CPQ 33. Pages 132, 244. Tables 159, 350. In Byte 1 row, "Persistent Prevented" is split into >2 lines.

**RESPONSE: Accepted -**

CPQ 34. Page 136. Table 170. Formatting of vertical line in Code 0h row is inconsistent.

**RESPONSE: Accepted -**

CPQ 35. Page 144. Table 186. "Change Mandatory" split into 3 lines.

**RESPONSE: Accepted -**

CPQ 36. Pages 159, 160, 164, 166. Tables 210, 211, 217, 220. In first column, some tables use ":" instead of "..." used in these tables. Other tables use nothing at all, like table 243.

**RESPONSE: Accepted – All tables to use "..."**

CPQ 37. Page 213. Section 6.1.24.7, before Table 299. "Error! Reference source not found."

**RESPONSE: Accepted – s/b ANNEX Q**

CPQ 39. Pages 218, 231, 236. Tables 306, 330 338. Notes should use superscript small font instead of "\*4" format, like other tables.

**RESPONSE: Accepted - changed**

CPQ 40. Pages 218-219. After Table 306, missing periods after "ATS - 7" and "CTS - 7".

**RESPONSE: Accepted – periods added**

CPQ 41. Page 227. Table 320. Equation missing in Incremental row. Some font size problems in text after table. (I assume this is an editorial/Acrobat conversion problem, not a technical hole)

**RESPONSE: Accepted – Equation to be copied from Mt Fuji3**

CPQ 42. Page 238. After Table 341. Period missing after "specific error"

**RESPONSE: Accepted – period added**

CPQ 43. Page 241. Table 346. Caption missing closing ")".

**RESPONSE: Accepted – closed caption**

CPQ 44. Page 245. Table 354. Some rows are centered, some aren't.

**RESPONSE: Accepted – table fixed**

CPQ 45. Global. In tables throughout, some references to "Sub-clause A.1" have A.1 in bold; some do not.

**RESPONSE: Accepted** – all will not be bolded

CPQ 46. Page 258. "ED NOTE: " still in document.

**RESPONSE: Accepted** – note removed

CPQ 47. Page 260. "Synchronous cache" should be "Synchronize Cache" in 2 places.

**RESPONSE: Accepted** – spelling changed

CPQ 48. Page 278+. Section labels like "E 1" missing period after E ("E.1").

**RESPONSE: Accepted** – clause numbering corrected

CPQ 49. Page 278. Section E.1. Change ", to ," in text.

**RESPONSE: Accepted** – global change incorporated

CPQ 50. Page 280. Extra underscore in "Table E.2\_shows transition".

**RESPONSE: Accepted** – removed underscore

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Comments attached to No ballot from George Penokie of IBM Corp.:

Page 18

Note 1, George Penokie, 10/22/98 11:12:52 AM  
Forward- the Annex D information is missing.

**RESPONSE: Accepted** – information added

Page 21

Note 2, George Penokie, 10/22/98 11:16:43 AM  
Section 2.1 - The reference to SPI should be to SPI-2 and there should be no reference to SIP as SPI-2 includes SIP.

**RESPONSE: Accepted** – Deleted SIP and changed SPI to SPI-2

Note 3, George Penokie, 10/22/98 11:17:56 AM

Section 2.2 - The reference to SPI-2 should be removed or change to SPI-3.

**RESPONSE: Accepted** – changed to SPI-3

Page 24

Note 4, George Penokie, 10/22/98 11:26:38 AM  
3.1.27 - There is no definition specified for direct-overwrite.

**RESPONSE: Accepted** – definition added

Page 28

Note 5, George Penokie, 10/22/98 11:31:06 AM  
Section 4.1.2 - The term 'ad-dres' should be 'address'.

**RESPONSE: Accepted** - fixed

Note 6, George Penokie, 10/22/98 11:38:22 AM

Section 4.1.2 and probably elsewhere: When stating the error to be reported the following format is recommended: 'CHECK CONDITION status and set the sense key to ABORTED COMMAND and the additional sense code to MESSAGE ERROR' This sentence currently states 'terminated with CHECK CONDITION, LOGICAL BLOCK ADDRESS OUT OF RANGE'. With that statement I have no idea what the sense key is supposed to be.

**RESPONSE: Accepted** – paragraph modified as requested

Note 7, George Penokie, 10/22/98 11:40:22 AM

Section 4.1.2 - The term 'will' should not be used in a standard it is either shall, should, or may but not will.

**RESPONSE: Accepted** – changed to shall

Page 29

Note 8, George Penokie, 10/22/98 11:44:10 AM  
Section 4.1.3 It would be a good idea to add in a cross-reference to where the mode sense and flush cache commands are defined.

**RESPONSE: Accepted** – reference added

Note 9, George Penokie, 10/22/98 11:48:20 AM

Section 4.4 - Most of this section is already defined in the various protocol standards and should not be duplicated in a command standard. Remove it.

**RESPONSE: Rejected** – this standard will replace MMC1 and this information is not included anywhere else. Also the commands listed in the medium changer set are different than the ones here. The model for CD or DVD changers are different than the ones listed in other standards.

Page 30

Note 10, George Penokie, 10/22/98 11:51:24 AM

Section 4.1.4.4 - This information should be in an annex if anywhere.

**RESPONSE: Accepted** – An ANNEX will be added for SCSI parallel implementations.

Page 44

Note 11, George Penokie, 10/22/98 11:58:54 AM

General - If this is intended to become an IOS standard then the periods need to be changed to commas in numbers (e.g. 22.05 should be 22,05).

**RESPONSE: Rejected** – The WG feels the format used is much clearer to the Far East companies that read this standard.

Page 50

Note 12, George Penokie, 10/22/98 12:02:28 PM

Section 4.2.5 It would be a good idea to cross-reference to where the commands are defined.

**RESPONSE: Accepted** – Where it helps in understanding the text references will be added.

Page 61

Note 13, George Penokie, 10/22/98 05:31:32 PM

Table 19 - There are several bytes in this table with no definition. What are they used for?

**RESPONSE: Accepted** – definitions added

Note 14, George Penokie, 10/22/98 05:32:23 PM

Table 20 - There are several bytes in this table with no definition. What are they used for?

**RESPONSE: Accepted** – definitions added

Page 64

Note 15, George Penokie, 10/22/98 12:06:44 PM

Section 4.3.5 - This numbered list should be a lettered list (i.e. a,b,c) numbers imply order, letters do not.

**RESPONSE: Accepted** – letters added

Page 65

Note 16, George Penokie, 10/22/98 12:08:56 PM

Section 4.3.6.1 - Use the format described in previous comment and the hex values should be removed.

**RESPONSE: Accepted -**

Page 67

Note 17, George Penokie, 10/22/98 12:10:19 PM

Section 4.3.6.3 Use the format described in previous comment and the hex values should be removed

**RESPONSE: Accepted -**

Page 68

Note 18, George Penokie, 10/22/98 12:11:15 PM

Section 4.3.6.7 Use the format described in previous comment and the hex values should be removed

**RESPONSE: Accepted -**

Page 70

Note 19, George Penokie, 10/22/98 12:12:21 PM

Section 4.4 - Loose the hex code and put in cross-references to where the commands are defined.

**RESPONSE: Accepted -**

Page 71

Note 20, George Penokie, 10/22/98 12:13:20 PM

Section 4.4.1.3 Use the format described in previous comment and the hex values should be removed

**RESPONSE: Accepted -**

Page 74

Note 21, George Penokie, 10/22/98 12:14:26 PM

Section 4.4.6 Use the format described in previous comment and the hex values should be removed

**RESPONSE: Accepted -**

Page 79

Note 22, George Penokie, 10/22/98 01:13:34 PM

Section 5.3.1 - 1st paragraph - This '...even if none of the Profiles listed is current.' should be this '...even if none of the Profiles listed are current.'

**RESPONSE: Accepted -**

Page 81

Note 23, George Penokie, 10/22/98 01:17:25 PM

Section 5.3.2 - What is a queue? Is this something new or is it what is now called the 'task set'?

**RESPONSE:** This is a new term used in this standard as it is defined here. Text has been re-written for clarification.

Page 105

Note 24, George Penokie, 10/22/98 01:43:02 PM

table 99 - It looks like several of the cross-references are missing.

**RESPONSE: Accepted** – references added

Page 110

Note 25, George Penokie, 10/22/98 02:35:25 PM

Table 108 - There seems to be several cross-references missing in this table.

**RESPONSE: Accepted** – only those pages used by this standard are referenced.

Page 115

Note 26, George Penokie, 10/22/98 04:18:43 PM

Table 115 - Put horizontal lines between codes to help separate one codes description from the next.

**RESPONSE: Accepted -**

Page 126

Note 27, George Penokie, 10/22/98 04:23:08 PM

Section 5.5.7 - There is no need to duplicate information that is already in another standard. This can only lead to problems down the road. The page should reference the standard where it is defined in the same way commands that are defined in other standards are.

**RESPONSE: Rejected** – The information is included here for ease of reading the document by Far East companies.

Page 127

Note 28, George Penokie, 10/22/98 04:24:09 PM

Section 5.5.8 - There is no need to duplicate information that is already in another standard. This can only lead to problems down the road. The page should reference the standard where it is defined in the same way commands that are defined in other standards are.

**RESPONSE: Rejected** – the information is included here for ease of reading the document by Far East companies.

Page 142

Note 29, George Penokie, 10/22/98 04:29:22 PM



table 143 - The first column should be made wider so the r in Modifier doesn't move to another line.

**RESPONSE: Accepted -**

Page 146

Note 30, George Penokie, 10/22/98 04:32:16 PM

Section 6.1.4 If this is to be an ISO standard then big number do not have commas but rather spaces (e.g. 65 534).

**RESPONSE: Rejected** – This standard will be used by Far East companies which use the US versions.

Page 165

Note 31, George Penokie, 10/22/98 04:45:14 PM

Section 6.1 and probably elsewhere: When stating the error to be reported the following format is recommended: 'CHECK CONDITION status and set the sense key to ABORTED COMMAND and the additional sense code to MESSAGE ERROR' This sentence currently states 'terminated with CHECK CONDITION, LOGICAL BLOCK ADDRESS

**RESPONSE: Accepted** – text changed

Page 232

Note 32, George Penokie, 10/22/98 04:54:24 PM

Section 6.1.24.7 - 3rd paragraph after table 298 - There is an illegal cross-reference

**RESPONSE: Accepted** – reference added

Page 241

Note 33, George Penokie, 10/22/98 05:01:08 PM

Tables 312 and 313 have thin lines while table 314 has thick lines all should be the same.

**RESPONSE: Accepted -**

Page 242

Note 34, George Penokie, 10/22/98 05:02:23 PM

Tables 312 and 313 have thin lines while table 314 has thick lines all should be the same.

**RESPONSE: Accepted -**

Note 35, George Penokie, 10/22/98 05:02:49 PM

Tables 312 and 313 have thin lines while table 314 has thick lines all should be the same.

**RESPONSE: Accepted -**

Page 243

Note 36, George Penokie, 10/22/98 05:03:38 PM

Tables 312, 315, and 313 have thin lines while table 314 has thick lines all should be the same.

**RESPONSE: Accepted -**

Page 246

Note 37, George Penokie, 10/22/98 05:05:28 PM

Table 320 - It looks like there is a missing equation in this table.

**RESPONSE: Accepted** – equation will be added from Mt Fuji3

Page 259

Note 38, George Penokie, 10/22/98 05:08:34 PM

Table 344 - This is the way all those other tables (e.g. 314, 315, 316, etc.) should be made to look like.

**RESPONSE: Accepted -**

Page 264

Note 39, George Penokie, 10/22/98 05:10:41 PM

Table 354 - This table is really messed up in the pdf file.

**RESPONSE: Accepted -**

Page 269

Note 40, George Penokie, 10/22/98 05:12:13 PM

Section 6.1.35 - If this command is obsolete then why is it described here.

**RESPONSE: Rejected** – This is the first standard that lists the command as obsolete. It will be removed in the next version of the standard.

Page 277

Note 41, George Penokie, 10/22/98 05:15:18 PM

Section 6.1.40 - 5th paragraph after table 373 - There should not be any editors notes in this version of the document.

**RESPONSE: Accepted -**

Page 281

Note 42, George Penokie, 10/22/98 05:20:45 PM

Annex A - This annex is not needed as it is a duplication of what is in SPC. The odds are it will be outdated before this standard is complete. So there is no point in having it.

**RESPONSE: Rejected** – It was determined in the prior version that this would provide a reference to codes.

Page 295

Note 43, George Penokie, 10/22/98 05:23:45 PM

Annex C- What's going on here?? If this standard is not complete then what is it doing in letter ballot? If it is complete then this section needs to be removed or filled in. I cannot vote yes for an incomplete standard.

**RESPONSE: Accepted** – Annex C is coming from RBC and has not been completed. When it is completed and modified for MMC2 it will be inserted.

Page 311

Note 44, George Penokie, 10/22/98 05:29:03 PM

Table N.3 - There are no cross-references in this table.

**RESPONSE: Accepted** – ref standard will be added.

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Comments attached to No ballot from Gene Milligan of Seagate Technology:

The editor and other contributors on MMC-2 should be complimented on a draft, which has provided admirable documentation of this application area. While the bulk of the following comments are editorial I decided I should vote NO since the draft identifies additional tasks to be done in the draft including a missing normative annex; two TBDs in Table 227; and a TBD under Table Q.2.

Page numbers are pdf page numbers.

Page 1

Title here is different than in body. Also suggest just plain SCSI as in other new SCSI standards.

**RESPONSE:**

Page 2

"holder's" quickly identifies patent statement as an obsolete patent statement.

**RESPONSE: Accepted** – patent statement updated

Page 3

Version 2? This is not the style used in other SCSI follow on standards although it may be a better style.

**RESPONSE: Rejected** – The Working Group feels this is much clearer for CD & DVD vendors. Especially by Far East companies

Page 18

The Annex D requirements in the foreword are for what? - Definition added

Why was Annex P omitted?

**RESPONSE:** Annex D title added. Annex P was deleted data included in an earlier annex.

Page 19

In the Introduction change "This MMC-2" to "The MMC-2" (I think this implies there are more MMC-2 command sets).

**RESPONSE: Accepted** - changed

As commented on the title page "SCSI-3" should be changed to SCSI nearly globally except where it is used to distinguish from "SCSI-2". In that case it should be "SCSI-3 and subsequent SCSI standards" I think Fibre Channel FC-4" should be changed to "Fibre Channel Protocol (FCP)".

**RESPONSE:** We don't understand this comment. This a "SCSI-3" standard. Rejected

In Introduction's list of transports why is ATA/ATAPI-4 not included? - ATAPI was inserted.

An ancient comment at least to the T10 Chair, why ask for interpretations? – This must be an "inside" comment.

**RESPONSE: Accepted**

Page 20

Similarly to the Introduction, the Scope's list of mappings should include ATA/ATAPI-4. – ATA?ATAPI inserted.

In Objective (3) "Initiator computers" sounds awkward and redundant to me. I suggest just "computers" or even better "hosts". But just "Initiators" would be OK to SCSI people. Globally it should be noted that "Initiators" is better than "initiators" in the other standards. Better but different.

**RESPONSE: Accepted** – Globally changed "Initiator computer" to "Initiator". Added ATA/ATAPI-4 to the Scope.

Page 21

The second sentence of the second paragraph of Normative References is not a sentence. - Corrected

In 2.1 "DIS" are not approved and would fall into 2.2. But I suggest it may be more expedient to promote them to 2.1 where they are by deleting the acronym "DIS". (Leave it to the ANSI editor to object if they have not then reached that stage. The ANSI editor routinely checks the catalogs on the normative references.

**Response:** Removed "DIS"

When MMC-2 is balloted as an ISO/IEC standard there would be a letter ballot to fix all the orphan sub-clauses. This will result in the cross-references being different by .1 in the two publications. I suggest eliminating them now producing the same cross-references in the US domestic and the international standards. Orphan sub-clause are those that can not be cross-referenced without referencing all other sub-clauses in the clause. The first two paragraphs of Clause 2 are an example. An example fix would be to change the Structure to:

2. References

2.1 Normative References

The following ...

2.1.1 Approved References

2.1.2 References under development

2.2 Other References (Or 2.1.3 if these are intended to be Normative)

**Response:** Changed headings as requested.

Note that with this construction the first two paragraphs of this clause can now be cross-referenced without dragging in Other References if that is intended.

SBC is published and should be moved from 2.2 to 2.1.

In 2.3 first line make "specification" plural.

Secretariat is not enough. Fully state which Secretariat is being referred to.

I think it was also a great horse.

**RESPONSE: Accepted** – made changes as requested. Added address for NCITS Secretariat.

Page 22

In loose talk I think on some 1394 reflectors I have seen these referred to as the IEC 61883 series of standards. But I have suspected that this may be incorrect and that the IEC series were more likely extracts from the other references. But in any case I presume IEC 61883 series should be accounted for in some of these sub-clauses.

The IEC 61883 series are:

IEC 61883-1 (1998-02) Consumer audio/video equipment - Digital interface -  
Part 1: General

IEC 61883-2 (1998-02) Consumer audio/video equipment - Digital interface -  
Part 2: SD-DVCR data transmission

IEC 61883-3 (1998-02) Consumer audio/video equipment - Digital interface -  
Part 3: HD-DVCR data transmission

IEC 61883-4 (1998-02) Consumer audio/video equipment - Digital interface -  
Part 4: MPEG2-TS data Transmission

IEC 61883-5 (1998-02) Consumer audio/video equipment - Digital Interface -  
Part 5: SDL-DVCR data transmission

An additional IEC 61883: work in progress is IEC 61883-6 Ed. 1.0 Audio and  
music data protocol

**RESPONSE: Rejected** – these specific specifications were not consulted in the generation of this standard.

Page 23

3.1.4 and 3.1.5 appear to have been crafted long ago before the ATAPI standards project was aborted. Refer to NCITS 317:1998 ATA/ATAPI-4 for a definition of these two terms.  
Modified as requested.

In 3.1.8 replace "of that can have" with "with".  
Modified as requested.

Replace "a Initiator " with "an Initiator" or with "an initiator" globally.  
Modified as requested.

IEC standards in general are now 6XXXX and those without the leading 6 need to have 60000 added to their number to arrive at a number that can be ordered. Do not apply this rule to ISO/IEC standards.  
What does this mean to us?

In 3.1.17 why is it Logical Units and not Logical Blocks? Won't this confuse SCSI folks?  
**RESPONSE: Accepted** – term “or Logical Units” has been deleted from definition.

Page 24

In 3.1.26 I think it should be error free data not error free media. Feel free to substitute a word such as recording for data to replace media.  
Changed the text to “...providing apparent error free media”

The definition of 3.1.43 is not quite the same as used earlier in the standard, see use of field in 3.0 (orphan).  
Added the sentence “Fields containing only one bit are referred to as the “named” bit instead of the “named” field.”

I am surprised that Hex is 8 bits since I have always thought it was 4 bits which nicely fit two at a time in an octet. Is Incomplete session really without Lead-in and Lead-out written? I would have thought with Lead-in written and without Lead-out written.  
Added the sentence “Indicates a binary value represented in base 16.”

**RESPONSE: -** Changed to 4 bits. Yes Lead-in and Lead-out are not written.

Page 25

Regarding 3.1.61 is it necessary to limit medium to a single disc? Do tapes not have medium or are they not using MMC-2?

In 3.1.76 delete "only".

**RESPONSE: -** Tapes would not use MMC-2 as this is only for C/DVD document

Page 26

Make 3.1.82 has a singular or has a single. – Modified as requested

3.1.83 should change "structure is that the two transparent" to "structure with the two transparent". Change the last sentence to "A single sided disc has one recording side and one non-recording side." to avoid a two sided disc recorded only on one side being defined as a single sided disc. – Modified as requested

Is contact with the UPC Council only by paper mail? – YES!

The Abbreviations and symbols material appears instead to be conventions, which should be moved to Conventions.  
But the addition of real abbreviations and acronyms would be nice. - Accepted

In 3.4.3 replace "interpretability" with "interoperability". I suspect the spell checker provided the word. – Modified as requested

In 3.4.5 replace "shall be" with "are intended to be".

**RESPONSE: Accepted**

Page 27

Note 1; Label: Gene Milligan; Date: 10/23/98 12:00:27 PM

In 3.4.7 delete the first instance of "as defined by this standard".

Page 28

Following table 1 the MSF bit is defined. But table one does not have an MSF bit. I assume a cross-reference is needed.

4.1.2 uses the term controller which I believe is not defined for SCSI.

In 4.1.2 address should not be hyphenated.

In 4.1.2 "is terminated" should be "shall be terminated" unless this mandatory requirement is stated outside the model.

In 4.1.2 replace specification with standard. This should be a global change except where referring to a private specification which is not a standard (de facto and standard are two words [well maybe three] not synonyms).

In 4.1.3 change "accessible" to "addressable".

Change "does not have a relationship" to "is not required to have a specific relationship".

**RESPONSE: Accepted** – Modified as requested

Page 29

Implementations have not really reached the point of being able to wish. Change "may wish to have the blocks" to "may request that the blocks".

In 4.1.4 change "will use the following names" to "are named" and "will be used differently" to "are used differently". But are they really used differently or are they defined differently and used the same?

Referring to 4.1.4.2 which of the clauses are "implementation sections". In addition it seems bad practice for MMC-2 to define Hard Reset detection for ATA/ATAPI. Similarly I think SPI-2 should prevail over MMC-2 regarding Hard Reset detection. "not individual Logical Units" should be changed to "not just individual Logical Units".

Referring to 4.1.4.3 the first portion of the prior comment applies. Is there a less graphic but more technical description of "hung Logical Unit" that translates well in other cultures? – Changed to "non-responding" Logical Unit.

**RESPONSE: -Accepted** Above comments were accepted and modified as requested.

I think staying in the current Power State with Device Reset is in conflict with ATA/ATAPI-4 but there is some support for this to be changed in ATA/ATAPI-5. In ATA/ATAPI-4 the ATAPI folks insisted this be used to bring an ATAPI device out of Sleep. Referring to 4.1.4.4 the ATAPI reset story seems to have been requested a little differently in the two standards projects.

**RESPONSE: -** This comment requires that an Annex be inserted that defines SCSI implementation for MMC2 logical units. The working group has placed this on the agenda for their next working group meeting.

Page 31

It is confusing to have the first paragraph of Deferred Errors in 4.1.6 defining an error that is not deferred. I suggest moving this paragraph to a new sub-clause titled Current Errors as the case in SPC-2.

**RESPONSE:** Paragraph removed

In de-witching the second paragraph a problem has been created. I think the "that" should be reinstated as "which" or alternatively replacing "for that" with "that". It is not correct that multiple command buffering must be in use for the deferred error to occur. I suggest removing the phrase beginning with "and". However there may be a reason to add

"multiple command buffering to the C/DVD danger list. To aid a search for compliance requirements it would be better to replace "are required to implement" with "shall" globally except in the definition of "shall".

**RESPONSE:** Done. Modified as requested

In 4.1.6 delete "computer". Perhaps this is a global change.

**RESPONSE:** Changed to "Initiator."

It appears that considerable material is redundant to the normative SPC requirements. Is the reason to change it or just to encounter the risk of having more room for misinterpretation and unintentional omissions on subsequent revisions?

**RESPONSE:** This information is provided in the model sub-clauses are here for clarification and ease of understanding this standard.

In 4.1.7 replace "there now exists a MEDIA STATUS NOTIFICATION Feature" with "a MEDIA STATUS NOTIFICATION Feature is defined". Also replace "must ensure" with "shall ensure".

**RESPONSE:** Modified as requested.

Page 32

In the first sentence of 4.2.1.1 should "frame" be plural? – Modified as requested

Should the first sentence after Figure 1(and subsequently) be "small frames" rather than "small blocks"? In the second sentence why is it "frame(Frame)"?

**RESPONSE:** Modified as requested

Page 34

There is a missing cross-reference under Figure 4.

**RESPONSE:** Cross reference has been added "See 6.1.23 READ SUB-CHANNEL sub-clause."

Page 35

In 4.2.2 delete the second sentence. – Sentence deleted

In the second paragraph of 4.2.2 change "must have" two places to "needs" and "insure" to "ensure". – Modified as requested.

I have given up on working the musts. Please globally review must in this standard. If they impose a compliance requirement for this standard use a "shall" construction. If they are not a compliance requirement of this standard (even if they are a compliance requirement of some other standard [e.g. recorded format standard]) use a form of "is", "needs" or the like to avoid triggering the compliance bell.

**RESPONSE:** Global search completed and modified as requested.

Page 37

Under Figure 7 why are there periods next to some of the "to"s.

**RESPONSE:** Periods removed

Page 38

Several registration authorities have been mentioned in MMC-2. Since it is presently not clear, to me, which material in MMC-2 is redundant to other normative standards, it is also not clear to me which registration authorities are required by MMC-2 itself. This probably needs to be clear to the implementor, it should be clear to the T10 Chair, and it definitely needs to be clear to the IR since a list needs to be filled out when the draft is proposed as an international standard.

**RESPONSE:** ????????????????????

Page 44

In 4.2.2.8 delete "on that".

**RESPONSE:** Modified the sentence

Page 58

The "3 Bytes" and "1 Bit" two places labels needs to be moved for readability in Figure 24.

**RESPONSE:** Figure modified to clear labels

Page 65

The hung comment also applies to Figure 26.

**RESPONSE:** Modified as noted

Page 67

Should item (3) in 4.3.6.4 have "the same single region" rather than "a same single region"?

**RESPONSE:** Changed the sentence

Page 71

In 4.4.1 delete "actually" and the temporal "This type does not exist today, although it is possible." and delete the balance of the paragraph since it is idle discussion having no bearing on the standard.

In 4.4.1.1 change "There can exist a Logical Unit that is capable of changing the side of the Disc, but does not have separate Slots from the playing position. This type of Logical Unit reports that it has a Mechanism type that is not a changer, but also reports Side Change Capable." to "A Logical Unit that is capable of changing the side of the Disc, but does not have separate Slots from the playing position reports that it has a Mechanism type that is not a changer, but also reports Side Change Capable." The second paragraph is hard to parse.

**RESPONSE: Accepted** Sentences modified and paragraph re-written

Page 78

In Table 34 and probably other portions of the standard use the phrase Vendor Unique is used. As I recall SCSI standards use Vendor Specific on the picky point that it may not be unique.

**RESPONSE:** Modified as requested

Page 84

Table 44 has a different acronym for the Pmnt Jumprr than does the text.

**RESPONSE:** Changed to match

Page 97

In 5.3.18 the Test Write bit set to one should have the "shall" form rather than the "is" form.

**RESPONSE:** Modified as requested

Page 100

5.3.22 requires that the commands in Table 90 be implemented but there is only a single command in Table 90.

**RESPONSE:** Added the READ BUFFER command

Page 101

Table 92 and the associated text also disagree on the number in the table.



## **RESPONSE: Accepted**

Page 110

In Table 108 and elsewhere a column is included called Status. The entries in this case state NOT USED. Does this mean status is not used or the page is not used. I suggest deleting the column and placing "Shall not be implemented" in the Sub-Clause column.

**RESPONSE: Accepted** - Changed as requested

Page 113

In Table 113 what does "(Optional) Default 0" for the PS bit mean? Is a device that adds the cost of non-volatile memory have to default to not using it?

**RESPONSE:** Removed "optional"

Page 149

Regarding the note under Table 154 how fast is "immediately"? Is the tolerance infinite?

**RESPONSE:** Removed the note.

Page 163

There are quite a few tables (e.g. Table 186) in which the columns are too narrow for the items or the font is too large for the columns. This may be due to pdf differences but should be checked.

**RESPONSE:** Checked all tables for size

Page 196

The structure of some of the tables (e.g. Table 240) with the same byte numbers repeating is confusing. I think this confusion could be cleared up by changing the data length name from the generic DVD structure to the specific (e.g. Copyright Management Information Data Length). Alternatively beginning the information with Byte number 4 and changing the data length to additional data length. The definition of data length implies that the Reserved Bytes are included but I assume some will conclude that it begins with the second Byte 0.

**RESPONSE:** Sentence modified under table 228 for clarification.

Page 209

Table 261 has a note that the command is not mandatory. Are tables with command information without a note of this type describing mandatory commands?

**RESPONSE:** Note removed and statement added before the table.

Page 219

T10 was required to report projects that had a potential year 2000 problem. It appears from Table 282 that MMC-2 has such a problem? Was it reported? Should anything be done about it?

**RESPONSE:** This is a field that is not controlled by MMC standard. The ISRC data is controlled by an international group and only two digits were allocated. The working group does not know how to resolve this problem.

Page 223

Regarding the earlier comment on potential confusion on the repeating Byte numbers. The construction of Tables like Table 287 is not confusing and should be used as the style for the others.

**RESPONSE:** Changed other tables to match.

Page 230

A third construction for the tables is found in Table 295. The style established by SPC should be used for all cases.

**RESPONSE:** Change all tables to match 287

Page 238

The note above Table 307 has a normative requirement. Normative requirements need to be moved from the notes to the clause text.

**RESPONSE:** Remove note format and made it clause text.

Page 264

Something odd happened to Table 354 in the pdf.

**RESPONSE:** Fixed the table

Page 265

The note under Table 356 should be text due to the normative requirement. A global check is needed.

**RESPONSE:** Remove note format and made it clause text.

Page 277

Clause 6.1.40 includes an editor's note concerning work yet to be completed.

**RESPONSE:** Remove note.

Page 281

Where is ++R in Annex A explained?

**RESPONSE:** Don't know. Removed ++.

Page 292

What value is B.2.1.1? Changed back to "Host". Global change was incorrect.

B.2 should be MMC-2 not MMC.

**RESPONSE:** Changed as requested

Page 295

When will Annex C be added?

**RESPONSE:** Annex C will be added when RBC is completed

Page 303

Why does Table L.1 have a column with no entries?

**RESPONSE:** Column will contain either SBC, SPC, SBC-2, or SPC-2.

Page 312

Table N.3 also has a blank column.

**RESPONSE:** Table N3 to be eliminated.

\*\*\*\*\*

Comments attached to Yes ballot from Robert Snively of  
Sun Microsystems Computer Co:

None at present. I reserve the right to make some before the  
closing of the ballot.

\*\*\*\*\*

VOTING RESULTS  
T10/98-023r0

Voting Results on T10 Letter Ballot 98-022r0 on forwarding MMC-2 to first public review

Organization	Name	S Vote	Add'l Info
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Adaptec, Inc.	Lawrence J. Lamers	P Yes	C Cmnts
AMP, Inc.	Scott Lindstrom	P Yes	
Amphenol Interconnect	Michael Wingard	P Yes	
Ancot Corp.	Bart Raudebaugh	P Yes	
Apple Computer	Ron Roberts	A Yes	C Cmnts
Berg Electronics	Douglas L. Wagner	P Yes	
Cable Design Technologies	Richard H. Wagner	P Yes	
Circuit Assembly Corp.	Ian Morrell	P Yes	
Compaq Computer Corp.	Robert Elliott	P No	Cmnts
Congruent Software, Inc.		DNV	
Dallas Semiconductor	Charles Tashbook	P Yes	
Data General / Clariion	Greg McSorley	P Yes	
Distributed Processing Tech.		DNV	
ENDL	Dal Allan	P Yes	
Exabyte Corp.	Tom Jackson	P Yes	
Fujitsu (FCPA)	Don Vohar	P Yes	
Harting, Inc. of N. America	Barrionuevo Marcos	P Yes	
Hewlett Packard Co.	J. R. Sims, III	P Yes	
Hitachi Cable Manchester, Inc	Zane Daggett	P Yes	
Hitachi Storage Products	Anthony Yang	P Yes	
Honda Connectors	Honda Connectors	P Yes	
IBM Corp.	George Penokie	P No	Cmnts
Iomega Corp.	Tim Bradshaw	P Yes	
KnowledgeTek, Inc.	Dennis P. Moore	P Yes	
Lasercard Systems Corp.	Hayden Smith	P Yes	
Linfinity Micro	Louis Grantham	P Yes	
LSI Logic Corp.	John Lohmeyer	P Yes	
Madison Cable Corp.	Chuck Grant	P Yes	
Maxtor Corp.	Pete McLean	P Yes	
Methode Electronics, Inc.	Bob Masterson	P Yes	
Molex Inc.	Joe Dambach	P Yes	
Mylex Corp.	Brian Mckean	P Yes	
Ophidian Designs	Edward A. Gardner	P Yes	IV
Philips Electronics	Bill McFerrin	P Yes	
QLogic Corp.	skip jones	P Yes	
Quantum Corp.	Mark Evans	P Yes	
Seagate Technology	Gene Milligan	P No	IV Cmnts
Silicon Systems, Inc.	Dave Guss	P Yes	
Sony Electronics, Inc.	Janek Rebalski	A Yes	
Storage Technology Corp.	Erich Oetting	P Yes	
Sun Microsystems Computer Co	Robert Snively	P Yes	Cmnts
SyQuest Technology, Inc.	Pat Mercer	P Yes	
Toshiba America Elec. Comp.	Tokuyuki Totani	P Yes	
UNISYS Corporation	Ken Hallam	P Yes	
Unitrode Corporation	Paul D. Aloisi	P Yes	
Western Digital Corporation	Jeffrey L. Williamd	P Yes	
Woven Electronics	Doug Piper	P Yes	

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  
IV Individual vote (not organizational 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)

Ballot totals:

42 Yes  
3 No  
0 Abstain  
2 Organization(s) did not vote  
47 Total voting organizations  
6 Ballot(s) included comments

This 2/3rds majority ballot passed.

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

John Lohmeyer                    Email: lohmeyer@ix.netcom.com  
LSI Logic Corp.                Voice: +1-719-533-7560  
4420 ArrowsWest Dr.            Fax: +1-719-533-7036  
Colo Spgs, CO 80907            BBS: +1-719-533-7950

\*

\* For T10 Reflector information, send a message with  
'info t10' (no quotes) in the message body to [majordomo@symbios.com](mailto:majordomo@symbios.com)

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