Doc No. T10/98-230R3

July 9, 1999

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.

Comments attached to Yes ballot from Lawrence J. Lamers of Adaptec, 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

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

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

I am casting a NO vote for this reason:

CPO 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 -

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

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 nor 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 supported 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

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 it 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 that 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 notes from editors 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 of 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.

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 O.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

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 implimentor, 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: No 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

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 Pvnt 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.

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: Removed note.

Page 281

Where is ++R in Annex A explained? **RESPONSE:** Don't know. Removed ++.

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.

2/19/1999

Additional comments to MMC-2 Rev 9 ASC/ASCQ issues.

Below are the comments from Ralph Weber. The MMC-2 working group approve these items and has consulted R.

P29

The last sentence should read:

The sense key is set to NO SENSE, the additional sense code is set to NO ADDITIONAL SENSE DATA (00h) and the audio status (see Table 274) is reported in the additional sense code qualifier field.

RESPONSE: Accepted and modified per request.

Note: SPC-2 already has ASC/ASCQ definitions to fit this wording.

P46

READ OF SCRAMBLED SECTOR WITHOUT AUTHENTICATION is not a defined additional sense code.

Recommend using 30/10.

RESPONSE: Accepted as modified. Error definition added to Table A1 5/6F/01

P48

... sense code set to ILLEGAL REQUEST ... should be: ... sense key set to ILLEGAL REQUEST ...

RESPONSE Accepted and modified as requested

MEDIA REGION CODE IS MISMATCHED TO LOGICAL UNIT REQUEST is not a defined additional sense code in annex A. 4.3.6.6.1 suggests that the code should be 6F/04. This leaves open the question of what definitions apply to 6F/00 [must be defined], 6F/01 [may be reserved], 6F/02, and 6F/03.

RESPONSE: Accepted as modified. Error definition added to Table A1 5/6F/04

P49

... sense code set to ILLEGAL REQUEST ... should be: ... sense key set to ILLEGAL REQUEST ...

RESPONSE: Accepted and modified as requested

DRIVE REGION MUST BE PERMANENT/REGION RESET COUNT ERROR is not a defined additional sense code in annex A. 6.1.34 suggests that the code should be 6F/05. See previous comment for discussion of 6F/00 code definition.

RESPONSE: Accepted as modified. Error definition added to Table A1 5/6F/05

P55

MECHANICAL POSITIONING OR CHANGER ERROR (3B/16) is not listed in annex A, but several other 3B/xx codes are

RESPONSE: Accepted as modified. Error definition added to Table A1 4/3B/16

P99

check condition should be: CHECK CONDITION **RESPONSE**: Completed global change to all caps.

P109

FAILURE PREDICTION THRESHOLD - Predicted Logical Unit Failure is not defined. Recommend 5D/02 which SPC-2 *will* define as LOGICAL UNIT FAILURE PREDICTION THRESHOLD EXCEEDED.

RESPONSE: Accepted. Added error definition to Table 1 as 1/5D/02

FAILURE PREDICTION THRESHOLD EXCEEDED - Predicted Media Failure is not defined. Recommend 5D/01 which SPC-2 *already* defines as MEDIA FAILURE PREDICTION THRESHOLD EXCEEDED.

RESPONSE: Accepted. Added error definition to Table 1 as 1/5D/01

P115

The op code for SEND DVD STRUCTURE should be BFh as ADh belongs to READ DVD STRUCTURE

RESPONSE: Accepted. Changed as requested

P117

Strictly: LOGICAL UNIT NOT READY - OPERATION IN PROGRESS should be: LOGICAL UNIT NOT

READY, OPERATION IN PROGRESS

RESPONSE: Accepted and modified as requested.

P118

If the write parameter page is inconsistent with the PMA, CHECK CONDITION shall be set to ILLEGAL MODE FOR THIS TRACK.

should be: If the write parameter page is inconsistent with the PMA, CHECK CONDITION status shall be returned and the additional sense code shall be set to ILLEGAL MODE FOR THIS TRACK.

RESPONSE: Accepted and modified as requested.

If all tracks in the last session are not complete, generate Check Condition Status. should be: If all tracks in the last session are not complete, generate CHECK CONDITION status.

RESPONSE: Accepted and modified as requested.

P119

Some description of ASC/ASCQ 71/04 is required. Also, 71/04 is not included in annex A.

Strictly: LOGICAL UNIT NOT READY - OPERATION IN PROGRESS should be: LOGICAL UNIT NOT

READY, OPERATION IN PROGRESS

RESPONSE: Accepted and modified as requested.

P121

Strictly: LOGICAL UNIT NOT READY FORMAT IN PROGRESS should be: LOGICAL UNIT NOT READY, FORMAT IN PROGRESS

RESPONSE: Accepted and modified as requested.

P122

Strictly: ILLEGAL FIELD IN PARAMETER LIST should be: INVALID FIELD IN PARAMETER LIST Strictly: LOGICAL UNIT NOT READY - FORMAT IN PROGRESS should be: LOGICAL UNIT NOT

READY, FORMAT IN PROGRESS

Strictly: ILLEGAL FIELD IN PARAMETER LIST should be: INVALID FIELD IN PARAMETER LIST

RESPONSE: All accepted and modified as requested.

P124

check condition should be: CHECK CONDITION

RESPONSE: See P99

P125

ZONED FORMATTING FAILED DUE TO SPARE LINKING is not defined. Recommend 31/02. **RESPONSE**: Accepted and modified as requested. Error definition added to Table A1, 03/31/02

P130

Regarding: "This command shall not return a Unit Attention check condition." Personally, I'd prefer that this read: This command shall not return CHECK CONDITION status to report a unit attention condition.

RESPONSE: Accepted and sentence inserted.

But, if that's not acceptable, at least fix the capitalization: This command shall not return a unit attention CHECK CONDITION.

RESPONSE: See 1st paragraph.

P140

In 3 instances above: strictly: INVALID FIELD IN COMMAND DESCRIPTOR BLOCK should be: INVALID FIELD IN CDB

RESPONSE: Accepted and modified as requested in all instances.

P149

LOGICAL BLOCK OUT OF RANGE should be LOGICAL BLOCK ADDRESS OUT OF RANGE ILLEGAL MODE FOR THIS TRACK OR INCOMPATIBLE MEDIUM should be ILLEGAL MODE FOR THIS TRACK or INCOMPATIBLE MEDIUM INSTALLED.

RESPONSE: Accepted and modified as requested.

P150

Check Condition should be: CHECK CONDITION

RESPONSE: See P99

P155

In 3 instances above: CHECK condition should be: CHECK CONDITION

RESPONSE: See P99

P162

ILLEGAL MODE FOR THIS TRACK OR INCOMPATIBLE MEDIUM should be ILLEGAL MODE FOR THIS TRACK or INCOMPATIBLE MEDIUM INSTALLED

RESPONSE: Accepted and modified as requested.

P176

COPY PROTECTION KEY EXCHANGE FAILURE - KEY NOT PRESENT is not defined. Maybe this is 6F/01 COPY PROTECTION KEY EXCHANGE FAILURE - KEY NOT ESTABLISHED is not defined. Maybe this is 6F/02

INVALID FIELD IN COMMAND PACKET probably should be: INVALID FIELD IN CDB

RESPONSE: Accepted and modified as requested. Error definitions added to Table A1 (match Fuji3) P204

... an INVALID FIELD in COMMAND PACKET should be: ... an additional sense code of INVALID FIELD IN CDB

RESPONSE: Accepted and modified as requested.

NOT READY, MEDIA FORMAT NOT COMPATIBLE is not defined. Recommend using INCOMPATIBLE MEDIUM INSTALLED (30/00) or defining 04/09 as LOGICAL UNIT NOT READY, MEDIA FORMAT NOT COMPATIBLE

RESPONSE: Accepted comment and modified as "CANNOT READ MEDIUM – INCOMPATIBLE FORMAT" 30/02.

P216

Check Condition should be: CHECK CONDITION

RESPONSE: See P99

P222

SYSTEM RESOURCE FAILURE is not listed in annex A

RESPONSE: Accepted and modified as requested. Error definitions added to Table A1

P224

COPY PROTECTION KEY EXCHANGE FAILURE - KEY NOT PRESENT is not defined. Maybe this is 6F/01 **RESPONSE**: Error definition added to Table A1. 5/6F/01 (match Fuji3)

P225

COPY PROTECTION KEY EXCHANGE FAILURE - KEY NOT PRESENT is not defined. Maybe this is 6F/01 **RESPONSE**: Error definition added to Table A1 5/6F/01 (match Fuji3)

COPY PROTECTION KEY EXCHANGE FAILURE - KEY NOT ESTABLISHED is not defined. Maybe this is 6F/02

RESPONSE: Error definition added to Table A1 5/6F/02 (match Fuji3)

P228

INVALID FIELD IN COMMAND PACKET probably should be: INVALID FIELD IN CDB

RESPONSE: Accepted and modified as requested.

P229

NO MORE RESERVATION IS ALLOWED is not defined. Recommend defining 55/03 as NO MORE TRACK RESERVATIONS ALLOWED

RESPONSE: Added definition to Table A1 at 72/05 (match Fuji3)

RMA/PMA IS FULL is not defined. Recommend defining 55/04 as RMA/PMA IS FULL

RESPONSE: Added definition to Table A1 at 72/06 (match Fuji3)

P232

INVALID FIELD IN COMMAND DESCRIPTOR BLOCK should be: INVALID FIELD IN CDB

RESPONSE: Accepted and modified as requested.

P241

INVALID FIELD IN COMMAND PACKET probably should be: INVALID FIELD IN CDB

RESPONSE: Accepted and modified as requested.

P248

COPY PROTECTION KEY EXCHANGE FAILURE - AUTHENTICATION FAILURE is not defined. Maybe this is 6F/03

RESPONSE: Accepted. Added definition to Table A1 as 6F/00 (match Fuji3)

P255

Strictly: ILLEGAL FIELD IN PARAMETER LIST should be: INVALID FIELD IN PARAMETER LIST

RESPONSE: Accepted and modified as requested.

P260

INVALID ADDRESS FOR WRITE is not defined. Recommend defining 21/02 as INVALID ADDRESS FOR WRITE

RESPONSE: Accepted and modified as requested.

P261

INVALID ADDRESS FOR WRITE is not defined. Recommend defining 21/02 as INVALID ADDRESS FOR WRITE

RESPONSE: Accepted and modified as requested.

P262

Invalid Field in CDB should be: INVALID FIELD IN CDB

RESPONSE: Accepted and modified as requested.

P264

should also list:

00/12 AUDIO PLAY OPERATION PAUSED

00/13 AUDIO PLAY OPERATION SUCCESSFULLY COMPLETED

00/14 AUDIO PLAY OPERATION STOPPED DUE TO ERROR

00/15 NO CURRENT AUDIO STATUS TO RETURN

RESPONSE: Accepted and modified as requested, error definitions added to Table A1.

P284

Strictly, 29/00 is POWER ON, RESET, OR BUS DEVICE RESET OCCURRED

RESPONSE: Accepted and modified as requested.

P293

MODE SELECT(6), MODE SENSE (10), and MODE SENSE(6) all could be made optional. **RESPONSE**: Accepted and modified as requested. Kept MODE SENSE (10) as Mandatory.

Pioneer Comments. The majority of the comments were to update the DVD-R information.

No.	MMC2 Page	MMC2 Rev.9.0D1	Mt.Fuji Page	Proposal	Comment
	Clause		Clause		
	Pos.		Pos.		
	through documen t	Host	-	Initiator	To change COMPLETED
2.	through documen t	drive	-	Logical Unit	To change COMPLETED
	5.3.3 9th para. page 66 6th para.	Event Class 4 shall be supported	-	[Move to page 67 5.3.4 Removable Medium Feature]	To move to other location Completed Information move to 4.1.7
4.	page 70 5.3.7 Table 49		page 197 11.5.2.7 2nd para. from last	The READ TOC/PMA/ATIP Command with format codes of 0h, 1h, and 2h shall be supported. If the CD-Text bit is set, code 5h shall be supported.	To add a note into Table 49. COMPLETED SEE PAGE 70 Table 49
	page 70 5.3.8 Table 51		page 198 11.5.2.8 8th para.	The READ DVD STRUCTURE Command with Format Codes of 00h, 01h, 03h and 04h shall be supported. If the Logical Unit also reports the DVD RAM Profile (5.4.10., "Profile 12h: DVD Re-Writable" on page 93) or supports reading of DVD-RAM media, then Format code of 08h shall be supported if DVD-RAM media is present.	To add a note into Table 51 ADDED underlined phrase
6.	page 71 5.3.9		page 199 11.5.2.9	[35h, SYNCHRONIZE CACHE Command, 6.1.40]	To add into Table 53

	Table 53		5th para.	[Note: The Immediate bit shall be supported.]	ADDED
	5.3.10 1st para	On CD media, this is known as packet recording.	page 200 11.5.2.10 3rd para.	On CD media, this is known as packet recording. On DVD media, this is known as Incremental recording.	underlined phrase
	page 73 5.3.10 Table 55		page 201 11.5.2.10 2nd para.	[53h, RESERVE TRACK Command, 6.1.2.9.]	To add into Table 55 ADDED
	5.3.10	2. Shall be supported if the OPC information is ever returned in the READ DISC INFORMATION return data.	page 201 11.5.2.10 5th para.		To add a note to Table 55 ADDED underlined phrase to note 1
	page 76 5.3.14 Table 64.	WRITE AND VERIFY	page 203 11.5.2.14 15th para.	WRITE AND VERIFY (10)	To change Global changed
	5.3.14 3rd para.	If there is more than one Blocking on the medium possible, the Blocking field shall be set to zero. See the READ TRACK INFORMATION Command for more information.	-		To delete this is for CD-R, not for WORM REJECTED CHANGE
	page 77 5.3.15 5th para.	CD-R/W	_	CD-RW	To change Global changed
	page 77 5.3.15 Table 67		page 205 11.5.2.15 3rd - 6th para.	[51h, READ DISC INFORMATION Command, 6.1.18] [52h, READ TRACK INFORMATION Command, 6.1.26] [25h, READ CAPACITY Command, 6.1.17] [35h, SYNCHRONIZE CACHE Command, 6.1.40]	To add into Table ADDED
	page 78 5.3.16 Table 70		page 206 11.5.2.16 1st para.	[35h, SYNCHRONIZE CACHE Command, 6.1.40]	To add to Table 70 ADDED
	5.3.16 Table 70	Notes: 1. Shall be implemented if the Erasable bit, in the READ DISC INFORMATION returned data, is set to one.	page 206 11.5.2.16	Notes: 1. Shall be implemented with Blanking Types of 000b, 001b if the Erasable bit, in the READ DISC INFORMATION returned data, is set to one.	To add ADDED
	page 81 5.3.18 Table 80		-	[Byte 4, Bit 6, BUFE]	To add BUFE bit in Table 80 ADDED
	5.3.18 6th para.	The Additional Length field shall be set to 04h.	-	to 04h.	To add description for BUFE bit ADDED
	page 83 5.3.21 Table 86	[BDh, MECHANISM STATUS, 6.1.8]	_	[Delete]	To delete REJECTED
19.	page 84 5.3.23 Table 91		page 213 11.5.2.24 10-11th para.	TIME FOR OPERATION" shall be supported if queuing is not supported.	To add a note to Table 91 ADDED Paragraph

20	page 87	The READ DVD STRUCTURE	L	These descriptions should be convert to	To change
	5.3.27 2-3rd para.	Command with a Format Code of 30h shall be supported. If any DCBs are identified as writable, the SEND DVD STRUCTURE Command shall be supported.		Table format to consistent with other Features]	INSERTED TABLE
	5.5.3 1st para.	The Read/Write Error Recovery Parameters Page (Table 115) specifies the error recovery parameters the Logical Unit shall use during any command that performs a data read operation from the media (e.g. READ, READ TOC/PMA/ATIP, etc.).	page 254 11.12.3.1 1st para.		To add ADDED underlined
	5.5.3 Table 116	If an data error occurs that is uncorrectable with the ECC information available on the media, or is uncorrectable in time to maintain data transfer, the data is not terminated.		If an data error occurs that is uncorrectable with the ECC information available on the media, or is uncorrectable in time to maintain data transfer, the data transfer is not terminated.	To clarify ADDED
	page 101 Under Table 116	[There is no Table for DVD]	page255 11.12.3.1 Table 182		To add to Error Recovery Descriptions for DVD media
	5.5.4. 2nd para.	necessarily reflect the status on a given	11.12.3.7. 4th para.	The values in this Page do not necessarily reflect the status on a given medium. They will be used as applicable when a write operation occurs. If any parameters have values incompatible with the current medium, the Logical Unit shall generate a CHECK CONDITION Status, 5/64/00 ILLEGAL MODE FOR THIS TRACK when a write is attempted. NOTE: Fields that are ignored for the current medium may contain 0 for the default mode parameter value.	To change and add ADDED and CHANGED
	5.5.4 Table 117	Catalog Number, International Standard Recording Code, Sub-header Byte 0 - 3]	page 265 11.12.3.7 Table 193		To add footnote or something ADDED PARAGRAPH and REMOVED Note 1.
	5.5.4 4th para.	The Test Write bit is valid only for Write Type 1 or 2 (Track at Once or Session at Once). When the Test Write bit is set to one, it indicates that the device performs the write process, but does not write data to the media. When the bit is set to zero the Write laser power is set such that user data is transferred to the CD media.	para.	is valid only for Write Type 1 or 2 (Track at Once or Session at Once).	To add description for DVD-R media ADDED Underlined
27.		Write Type Field (Table 118) specifies the CD-R/RW stream type to be used	page 266	Write Type Field (Table 118) specifies	To delete DELETED

	5th para.	during writing.	8th para.	writing.	
28.	page 103 Table 118 Value 00h	Packet	page 266 Table 194 Value 00h	Packet/Incremental	To change field name RENAMED Field
	page 103 Table 118 Value 01h	[Track-at-once, Raw]	page 266 Table 194 Value 01h	[Write Type of Track-at-once and Raw are invalid when DVD-R is present.]	To add footnote or something ADDED
	5.5.4 6th para.	ibb ucu.	11.12.3.7 9th para.	Packet/Incremental - the device shall perform packet/incremental writing when WRITE commands are issued.	To change ADDED Incremented
	5.5.4 7th para.	sent prior to sending write commands.	page 266 11.12.3.7 10th para.	For CD, This mode requires that a cue sheet be sent prior to sending write commands.	To add ADDED
	page 103 Table 119 2nd col.	[Table 119]	page 267 Table 195 2nd col.	[Table 195]	To replace 2nd column of Table 119 and Table 195 of Mt.Fuji 3 TO BE DONE
		This bit is ignored unless the write type is set to 0 (Packet).	page 267 11.12.3.7 1st para.	This bit is ignored unless the write type is set to 0 (Packet). For DVD-R, this bit shall be set to one and ignored.	To add ***FINDME ADDED Underlined
34.	page 104 5.5.4 1st para.	The initial value on the medium is zero.	page 267 11.12.3.7 3rd para.	of D v D re, this field shall be ignored.	To add REJECT see previous paragraph
		Track Mode is the Control nibble in all mode 1 Q Sub- channel in the track.	page 267 11.12.3.7 2nd para.	Track Mode is the Control nibble in all mode 1 Q Sub- channel in the track. This field shall be ignored for DVD-R recording. The default value of this field for DVD-R Logical Units should be 5.	To add
	5.5.4	This size is used for writing instead of the block size set in the mode select header.	page 267 11.12.3.7 last para.	This size is used for writing instead of the block size set in the mode select header. For DVD-R, this field shall be ignored. The default value of this field for DVD-R Logical Units should be 8.	To add Added Underlined
	5.5.4 2nd para.	An Initiator Application Code of zero is used for a Restricted Use - General Purpose Disc.	11.12.3.7 2nd para.	used for a Restricted Use - General Purpose Disc. The Host Application Code field is ignored for DVD-R recording.	To add Added Underlined
	5.5.4 9th para.	number of User Data Blocks per fixed packet.	page 269 11.12.3.7 4th para.	The Packet Size field, if FP bit is set to 1, specifies the number of User Data Blocks per fixed packet. The Packet Size field, if FP bit is set to 0, shall be ignored. For DVD-R media, the default Packet Size shall be 16. The Packet Size shall be set to 16 to record to DVD-R media.	To add Added Underlined
39.	6.1.1	The BLANK command (Table 134) provides the ability to erase any part of a CD-RW disc.	page 169 11.1 2nd para.	The BLANK Command (Table 134) provides the ability to erase any part of a CD-RW disc. The SET STREAMING Command may	To add REJECTED Moved to SET STREAMING

			l	effect the county of at a high the blanking	Ī
				affect the speed at which the blanking	
40	110		1.00	operation is performed.	T 11
40.		Note: The erasing action performed in	page 169	F	To add ADDED
	6.1.1 2nd para.	this command is a Logical Erase.	11.1 3rd para.	this command is a Logical Erase, <u>in</u>	ADDED
	zna para.		oru para.	which data are overwritten with Mode 0	
				data on CD media.	
	page 120	This is used for clearing a complete	page 170	This is used for clearing a complete disc.	
	6.1.1	disc. After completion of this command	11.1	The PCA may be excluded. At	ADDED
	Table	the disc is blank.	Table 69	completion of the operation, the area	
	135		Value000b	from the start time of Lead-in through	
	Value000			the last possible start time of Lead-out	
	b			plus 6,750 blocks and the entire PMA	
				shall be blank.	
12	page 110	h) When Dienking Tyme is Dienk o	page 170	b) When Blanking Type is Blank a	To add
	6.1.1	0 11	11.1		10 auu
	last para.	Track, this field indicates the Track.	4th para.	Track, this field indicates the Track.	Added
	iast para.		Hii para.	Morphing may occur when the BLANK	Underlined
				operation is requested (to indicate	
				changing to the NOT READY condition)	
				and when the BLANK operation	
				completes (to indicate the Restricted	
				Overwrite Feature and others becoming	
				Current).	
				ADD- When the Logical Unit changes	
				status (NOT READY, READY) a Class	
				1 Event shall be generated.	
12	page 120	a) In magnenics to all commands avacent	page 170	a) In response to all commands that can	To change
43.		1	11.1		10 change
		REQUEST SENSE and INQUIRY, the	6th para.	return NOT READY status, the Logical	Added
	zna para.	Logical Unit shall return CHECK	otii para.	Unit shall return CHECK CONDITION	Underlined
		CONDITION status unless a		status, 2/04/07 LOGICAL UNIT NOT	Chacrinica
		reservation conflict exists, in that case		READY, OPERATION IN PROGRESS	
		RESERVATION CONFLICT status		unless a reservation conflict exists, in	
		shall be returned.		that case RESERVATION CONFLICT	
				status shall be returned. INQUIRY , GET	
				CONFIGURATION, GET	
				EVENT/STATUS NOTIFICATION,	
				and REQUEST SENSE are among the	
				commands that shall not return a NOT	
				READY error (Sense Key 2).	
44	page 120	b) In response to the INQUIRY	page 170		To add
Π-7.		command, the Logical Unit shall	11.1		ADDED
			7th para.	COTTITION, CET	
	Puru.	respond as commanded.	- ar para.	EVENT/STATUS NOTIFICATION	
				command, the Logical Unit shall respond	
				as commanded.	<u> </u>
45.		1	page 174		To change, add
		Write Parameters specify that the disc is	11.2	Parameters Mode Page (05h) is set to	CHANCED T
	1st para.	to remain open and there is not sum	last para.		CHANGED To
		cient space for the next session, the		the next Session, the Session to be closed	unaeriinea
		session to be closed shall be closed with		shall be closed and next Session shall	
		the B0 pointer set to FF:FF:FF.		not be allowed. For CD, the Session is	
		•		closed without the B0 pointer. For DVD,	
				the Session is closed with Lead-out and	
1				the Start PSN of the next Border- in field	
				of Lead-in/Border-in set to 0.	
				Note: In the case of insufficient space for	
				the next Session, legacy CD-R/RW	

				Logical Units may generate an error in	
				the above case. In this case, the Host	
				should change the MultiSession field in	
				the Write Parameters Mode Page (05h)	
				and retry the Command.	
		[Byte 4 Reserved]	page 173		To change
	6.1.2	[Byte 5 Track Number]	11.2		CHANGED
	Table		Table 71		BYTE4
47	137	KDACD's and the same 's	page 173	ICD OAED 's said at 1 at second at 2	To add
		If IMMED is one, then status is returned once the close operation has	11.2		10 add
	2nd para.	he are	3rd para.	returned once the close operation has begun.	REJECTED -
	Ziio parai	begun.	ora paran	ocguii.	Items added to
				For DVD, DVD-R Logical Units may write cached RMD into the RMA	model sections
				immediately upon receipt of a CLOSE	
				TRACK/SESSION Command. DVD-R	
				Logical Units may delay the Close	
				operation and writing of cached RMD	
				into RMA to allow multiple CLOSE	
				TRACK/SESSION Commands to be	
				issued quickly. In this case, it is	
				recommended that the Logical Unit not	
				write RMD into the RMA until the last	
				CLOSE TRACK/SESSION Command	
				in a sequence has been received.	
48.	page 121	If this is the incomplete track, Pad only	page 174		To add
10.		to the minimum length of 4 seconds.	11.2	the Logical Unit shall pad with all zero	
	Table	No other padding is to be done.	Table 72	main data to the minimum length of 4	ADDED
	138	If this is the partially recorded or empty	3rd row	seconds. No other padding is to be done.	underlined
	3rd row	reserved track, the Logical Unit shall		In the case of an empty reserved track,	
		pad the track. In the case of an empty		the Logical Unit shall write the track	
		track, the Logical Unit shall write the		according to the Write Parameters Mode	
		track according to the write parameter		Page (05h). If the Write Parameters	
		page. If the write parameter page is		Mode Page (05h) is inconsistent with the	
		inconsistent with the PMA, CHECK		PMA or TDB, the Logical Unit shall	
		CONDITION shall be set to ILLEGAL		return CHECK CONDITION Status,	
		MODE FOR THIS TRACK.		5/64/00 ILLEGAL MODE FOR THIS	
				TRACK. For a partially recorded	
				reserved track, the Logical Unit shall	
				continue writing in the same mode as the	
				data already recorded.	
				For DVD, if this is the Partially	
				Recorded Reserved Track or the Empty	
				Reserved Track, the Logical Unit shall	
				pad the Track with 00h bytes. If the	
				Track status is Invisible, no close	
1				operation is to be done. In the case of an	
1				Incomplete Track, no padding is to be	
1				done and cached RMD shall be written	
10	101		174	into the RMA.	T 11
	page 121 6.1.2		page 174 11.2	Crose Session, ir and Truens in the rust	To add
	6.1.2 Table	session are not complete, generate	Table 72	Session are not complete, generate	Added underlined data
	138	Check Condition Status.	4th row	CHECK COMPITION Status, 5/12/05	uata
	4th row			SESSION FIXATION ERROR -	
				INCOMPLETE TRACK IN SESSION	
				or if empty or partially recorded reserved	

	6.1.2 5th para.	If Session is set to zero and Track is set to one, byte 5 of the CDB contains the track number of the track to close. If the track number is FFh, then the incomplete track is to be closed. Byte 5 of the CDB shall be ignored if the Session bit is set.	11.2	indicates the number of the Track to	
		In order to close the incomplete track, the following steps are required:	page 174 11.2 3rd para.		To add ADDED Phrase
52.	page 121 6.1.2 7th para.	the minimum length of 4 seconds.	page 174 11.2 4th para.	all zero main data to the minimum length of 4 seconds.	To add ADDED Phrase
	6.1.2	3. The bounds of the track are determined and a PMA entry is written for track N+1.dated.	page 174 11.2 7th para.	determined and a PMA entry is written for track N+1.dated. Closing a Track shall cause cached information for the specified Track to be committed to the medium prior to closing.	To add ADDED Sentence
	6.1.2 1st para.	in and Lead-out to be written for the incomplete Session.	page 174 11.2 8th para.	the incomplete Session. For DVD, closing an incomplete Session shall cause the Lead-in or Border-in and Border-out to be written for the incomplete Session. If the Multi-Session field in the Write Parameters Mode Page (05h) is set to 00b, a Lead-out shall be appended to last Border-out. Once the Lead-out has been written for DVD media, data can not be further appended to the medium.	TO BE DONE ADDED undrline data
	6.1.2 2nd para.	incomplete tracks exist in the incomplete session, the drive shall issue CHECK CONDITION status, ILLEGAL REQUEST, SESSION FIXATION ERROR INCOMPLETE TRACK IN SESSION.	page 174 11.2 last para.	exist in the incomplete Session, the Logical Unit shall report CHECK CONDITION Status, 5/72/04 EMPTY OR PARTIALLY WRITTEN RESERVED TRACK. If an Incomplete Track exists, the Logical Unit shall report CHECK CONDITION Status, 5/72/03 SESSION FIXATION ERROR - INCOMPLETE TRACK IN SESSION.	To change ADDED Underlined
	6.1.2	REQUEST SENSE and INQUIRY, the	page 173 11.2 5th para.	operation is in process, the Logical Unit	To change ADDED as underlined and

	6.1.2 5th para.	CONDITION status unless a reservation conflict exists, in that case RESERVATION CONFLICT status shall be returned. b) In response to the INQUIRY command, the Logical Unit shall respond as commanded.	page 173 11.2 6th para.	return NOT READY status with CHECK CONDITION Status, 2/04/07 LOGICAL UNIT NOT READY, OPERATION IN PROGRESS unless a reservation conflict exists, in that case RESERVATION CONFLICT status shall be returned. b) In response to the INQUIRY, GET CONFIGURATION, and GET EVENT/STATUS NOTIFICATION Commands, the Logical Unit shall respond as commanded. c) In response to the REQUEST SENSE	To add Commands Added
	6.1.2 6th para.	SENSE command, unless an error has occurred, the Logical Unit shall return a sense key of NOT READY and an additional sense code of LOGICAL UNIT NOT READY - OPERATION IN PROGRESS, with the sense key specific bytes set for progress indication.	11.2 7th para.	Command, unless an error within the Command itself has occurred, the Logical Unit shall return GOOD Status, 2/04/07 LOGICAL UNIT NOT READY, OPERATION IN PROGRESS or 2/04/08 LOGICAL UNIT NOT READY, LONG WRITE IN PROGRESS indicated in the result data and the sense key specific bytes set for progress indication.	Completed Added new text
59.	page 122 6.1.2 7th para.		page 175 11.2 3rd para.	Closing a Track or Session shall cause a Class 1 Event when the command is issued if the Logical Unit becomes NOT READY. A Class 1 Event shall occur if the medium returns to READY or if the medium becomes unwritable. Other Class 1 Events may occur due to closing a Track or Session.	To add ADDED underlined
	page 122 6.1.2 7th para.		page 173 11.2 8th para.	Determining the end of a sequence of CLOSE TRACK/ SESSION Commands is vendor specific.	To add REJECTED
		There is no guarantee that the medium has not been altered.	page 179 11.4 3rd para.	There is no guarantee that the medium has not been altered. The SET STREAMING Command may affect the speed used to Format the medium.	To add REJECTED
	6.1.5	GET EVENT STATUS NOTIFICATION	page 217 11.6	GET EVENT/STATUS NOTIFICATION	"/" is needed DID GLOBAL CHANGE
	page 135 6.1.5 under Table 161		page 220 11.6.1 Table 129	[Table 129 - Operational Event Format]	To add missing Table after Table 161 ADDED TABLEE
		Oh Ready The Logical Unit is ready for operation	page 220 11.6.1 Table 130	Oh Available The Logical Unit is ready for operation	To change REJECTED
	page 135 6.1.5 Table	2h Busy/Reserved The Logical Unit is performing operations that will take an indefinite amount of time to terminate or is reserved by another Initiator.	page 220 11.6.1 Table 130	2h Busy The Logical Unit is performing operations that will take an indefinite amount of time to terminate.	To delete (Moved to Multi-host Event) REJECTED NEED TO KNOW IF

					RESERVED TO ANOTHER INITIATOR
	6.1.5 2nd para. from last	An example of an action that shall be reported after the action is taken is termination of a play operation due to an error or end of medium.	page 220 11.6.1 1st para.	An example of an action that must be reported after the action is taken is termination of a <u>format operation due completion of formatting.</u>	To change ADDED Underlined text
67.		6h, Control Request, Another Initiator has attempted a Persistent Prevent7h, Control Release, Another Initiator has performed a Persistent Allow	page 220 11.6.1 Table 131	[Delete]	To delete DELETED
68.	page 136 6.1.5 just after Table 163		page 220 11.6.1 last para	Event 0h requires no Host action. The Host should respond to Events 1h through 5h with a GET CONFIGURATION Command to determine the Logical Unit configuration.	To add ADDED PARAGRAPH
69.	6.1.6	The Except field, when set to 00b, shall indicate that the nominal performance parameters be returned. When set to 01b, the entire performance exception list shall be returned. When set to 10b, only performance exceptions that cause the performance to fall outside the nominal shall be reported. For example, slipped sectors may not be included in the 10b list, but would be included in the 01b list.	page 229 11.7 3rd para.	The Except field, when set to 00b, shall indicate that the nominal performance parameters be returned. When set to 01b, the entire performance exception list, qualified by the Starting LBA, shall be returned. When set to 10b, only performance exceptions that cause the performance to fall outside the nominal shall be reported. For example, slipped sectors may not be included in the 10b list, but would be included in the 01b list. An Except field of 11b is reserved.	To add ADDED Underlined Items
70.	page 141 6.1.6 2nd para.	The Write bit, when set to zero, shall indicate that the result data is for read performance.	page 230 11.7 2nd para.	The Write bit, when set to zero, shall indicate that the result data is for read performance using the nominal read command for the data type.	To add ADDED Underlined Text
71.	page 141 6.1.6 3rd para.	All numbers are nominal.	page 230 11.7 3rd para.	All numbers are nominal. On CD media,	To add DONE
	6.1.6 3rd para.	For example, a 4X-6X CD-ROM drive (CAV/CLV combination) may return two nominal performance descriptors. The first descriptor indicates a Start LBA of 0, Start Performance of 600 KB/s, an end LBA in the middle, and a performance of 900 KB/s. The second descriptor indicates a start LBA, adjacent to the ending LBA, of the previous descriptor, an ending performance of 900 KB/s, and an end LBA at the end of the medium and an ending performance of 900 KB/s.	page 230 11.7 3rd para.	For example, a 4X-6X CD-ROM Logical drive (CAV/CLV combination) with a data disc loaded may return two nominal performance descriptors. The first would indicate a Start LBA of 0, Start Performance of 706 kB/s, and an end LBA in the middle and a performance of 1058 kB/s. The second would indicate a start LBA adjacent to the ending LBA of the previous descriptor, an ending performance of 1058 kB/s, and an end LBA at the end of the medium and an ending performance of 1058 kB/s. The data rate may vary according to the mounted medium, i.e. CD Audio Tracks may have a different spin rate than Data Tracks. 1kB/s is 1000 Bytes per second.	DONE
73.		The Start Performance field contains the nominal drive performance at the	page 231 11.7		To change DONE

	1st para.	Start LBA in KB/s.	2nd para.	LBA in kB/s.	
74.		The End Performance field contains the			To change
		nominal drive performance at the End	11.7	nominal drive performance at the End	DONE
	3rd para.	LBA in KB/s.	4th para.	LBA in kB/s.	
	page 142		page 231	riote: 11 block replaced by linear	To add
	6.1.6		11.7	replacement may cause two exceptions	ADDED note
	5th para.		6th para.	to appear in the Exception Descriptor list	
				- one between the non-replaced area and	
				the beginning of the replaced block, and	
				one from the end of the replaced block	
				back to the non-replaced area.	
		The READ CAPACITY command	page 293	The READ CAPACITY command	To add
		(Table 218) provides a means for the	11.21 2nd para	(Table 218) provides a means for the	ADDED Contongo
		Initiator to request information	2nd para.	Initiator to request information regarding	underlined
		regarding the capacity of the Logical		the capacity of the Logical Offit. This	unucimicu
		Unit. The returned logical block address		command may not report the correct	
		is modified to allow returning a		capacity of the recorded data for CD-R.	
		possibly inexact value (but one with a		CD-RW and DVD-R media that do not	
		known error bound) based on the Table		have a Lead-out in the last Session or	
		of Contents data.		last Border-out. For CD-ROM, The	
				returned logical block address is modified to allow returning a possibly	
				inexact value (but one with a known	
				error bound) based on the Table of	
				Contents data.	
77.	page 167	If the resulting address points to a run	page 293	If the resulting address points to a run	To add
, , .		out block (because the session was	11.21.	out block (because the session was	
	2nd para.	recorded with packets or track at once	2nd para.		DONE
		in data mode), the Logical Unit shall	from last	data mode), the Logical Unit shall	
		subtract 2 from the LBA to point to the		subtract 2 from the LBA to point to the	
		actual last user data block.		actual last user data block. If no	
				complete session exists on the medium,	
				this field shall be set to zero.	
			page 307		To add
		Command (Table 221) provides	11.24	Command (Table 221) provides	ADDED TEVT A
	1st para.	information about all discs.	1st - 2nd para.	information about all discs: Magnetic,	ADDED TEXT As Modified
			Para.	MO, C/DVD-KOM, C/DVD-K, DVD-	1,10uiiicu
				RAM, DVD+RW, and CD- RW,	
				including all incomplete C/DVD-R, CD-	
				RW discs. The READ DISC INFORMATION	
				Command requests that the Logical Unit	
				transfer general information about the	
				medium that is mounted to the Initiator.	
				The parameters returned are specific to	
				the media that is currently installed in	
				the Logical Unit. In the case of a DVD-	
				ROM Logical Unit, the disc information	
				returned may be for the last closed	
				Session. In the case of of media that does	
				not have logical tracks, the number of	
				Tracks and Sessions is considered one. If	
				this command is required by an	
				implemented Feature, this command	
				shall always function, even if that	

				Feature's Current bit becomes zero.	
70	nage 168	For some media, it is not possible to	page 307		To add
		completely characterize incomplete	11.24		DELETED
		discs, with information from the READ	2nd para.	completely characterize incomplete	REFERNECED
	1	TOC/PMA/ATIP command. Delete	1		SENTENCE
00		this sentence		READ DVD STRUCTURE information.	T 11 . 1
		The number of Disc Information Block	-	[201010]	To delete due to
	6.1.18 3rd para.	bytes returned is limited by the			redundancy DELETED
	oru para.	Allocation Length parameter of the			DELETED
		CDB. An Allocation Length of zero is			
		not an error.			
	page 169	[DID_V, DBC_V, Disc Type, Disc	page 308	These fields are mappineaste field for	To add footnote or
		Identification, Last Session Lead-in	11.24	non-CD media. Shall be set to 0.]	something
	Table	Start Time MSF, Last Possible Start	Table 243	ADD- If a field or bit is not applicable to	ADDED Sentence
	222	Time for Start of Lead-out MSF, Disc	footnote	the installed medium, the defaut	
		Bar Code]		parameters in the Write Parameters	
				Mode Page shall be returned in the	
				corresponding field.	
82.	page 170		page 308		To add
	6.1.18		11.24	media, will return 0.	REJECTED
	1st para		1st para.	inedia, will retain o.	
		Data Length is the number of bytes	page 308		To clarify
	6.1.18	available in both the recording	11.24	number of bytes available in both the	
	1st para	information area and the appended OPC	2nd para.	recording information area and the	ADDED Phrase
		table. Data Length excludes itself.		appended OPC table. Disc Information	
		<u> </u>		Length excludes itself.	
84.	page 170	Disc Status field indicates the status of	page 309	~	To add
		the disc and is shown in Table 223.	11.24	of the disc and is shown in Table 223. A	
	2nd para.		1st para.	device which does not have the ability to	Modified and
				write for the inserted medium (ex.	INSERTED
				C/DVD-ROM device) will return	
				"Complete" (10b) status.	
85.	page 170	Complete (CD ROM or last session is	page 309		To change
		closed and has no next session pointer)	11.24	C/DVD-ROM, complete CD-R, CD-	g.
	Table	erosed and has no next session pointery	Table 245	RW, DVD-R, or write protected Random	DONE
	223		4th row	Writable media)	
	4th row				
		Reserved	page 309		To change
	6.1.18		11.24	Writable media)	
	Table		Table 245		REPLACED with
	223		5th row		sentence - DONE
	5th row page 170	The State of Last Session field is	nage 200	The State of Last Session field is valid	To add
			page 308 11.24		10 auu
	3rd para.	defined in Table 224. For media that	4th para.	only for discs with either empty or	REJECTED and
	Ta para.	does not use Sessions this field shall be	- Para.	incomplete status and given by the	modified as
		<u>11h.</u>		ionowing table. For DVD-KAM, this	indicated
				field will return Complete (11b).	
				Table 224 shows the definition of the	
00			200	State of Last Session.	m 11
		The Erasable bit, when set to one,	page 308		To add
	6.1.18	indicates that CD-RW medium is	11.24	indicates that DVD- RAM, DVD+RW or	REJECT
	4th para	present. Otherwise, CD-RW medium is	3rd para.	CD It w mediam is present. Otherwise,	changed CD-RW to Overwrittable
		not present.		such a medium is not present.	
		The Number of First Track identifies	page 309		To change
		the first track number in the TOC or	11.24	For non-CD media, this field shall be set	ADDED
	5th para.	PMA. Valid track numbers are from	2nd para.	10.7 1.	ADDED
					Underlined data

		011	l	E CD 1'.	Ī
		01h to 63h. The first track number is		For CD media,	
		not required to be one. A disc may start		1) If Disc Status is set to 00 (Empty	
		with any valid track number. The track		Disc), the Number of First Track field	
		numbers between the first and last track		shall be 1.	
		number shall be in contiguous		2) If there are no entries in the PMA and	
		ascending order, except for Lead-out		the first track is an Incomplete Track, the	
		areas.		Number of First Track field shall be	
				equal to 1.	
				3) If the only session on the disc is an	
				Incomplete Session, the Number of First	
				Track field is from the PMA.	
				4) Otherwise, the Number of First Track	
				field contains the track number for the	
				first TOC entry in the first Session.	
90.	page 170	First Track Number in Last Session	page 309	•	To add
		(bytes 5 & 10) is the track number of	11.24	(bytes 5 & 10) is the track number of the	
		the first track in the last session. This is	10th para.	first track in the last session. In order	ADDED
		inclusive of the invisible track.		that Tracks in a last Session which is	Underlined data
		The state of the s		open may be scanned for READ	
				TRACK INFORMATION Command,	
				the First Track Number in Last Session	
				is identified. This is inclusive of the	
				invisible track.	
01	nage 170	Last Track Number in Last Session	page 309		To add
	_		page 309 11.24		10 auu
		(bytes 6 & 11) is the track number of	10th para.	(bytes 6 & 11) is the track number of the	ADDED
	_	the last track in the last session. This is	Tour puru.	last track in the last session. In order that	Underlined data
		inclusive of the invisible track.		I racks in a last Session which is open	
				may be scanned for READ TRACK	
				INFORMATION Command, the Last	
				Track Number in Last Session is	
				identified. This is inclusive of the	
0.5	1=-		600	invisible track.	m 11
		The state of the s	page 309	1110 0110 (011101010 000 2100) 011,	To add
		when set to one, indicates that the	11.24	when set to one, indicates that the	ADDED
	11th para	mounted CD-R/RW disc is defined for	13th para.	mounted <u>DVD-K</u> , CD-K/KW disc is	ADDED Underlined data
		unrestricted use. When the Unrestricted		defined for unrestricted use. When the	Onuci inicu uata
		Use Disc bit is set to zero, the mounted		Unrestricted Use Disc bit is set to zero,	
		CD-R/RW disc is defined for restricted		the mounted <u>DVD-R</u> , CD-R/RW disc is	
		use. To record data to the mounted disc		defined for restricted use. To record data	
		the appropriate Initiator Application		to the mounted disc the appropriate	
		code shall be set through the Write		Initiator Application code shall be set	
		Parameters Page. An Initiator		through the Write Parameters Page. An	
		Application Code of zero may be used		Initiator Application Code of zero may	
		to indicate a restricted use disc - general		be used to indicate a restricted use disc -	
		purpose.		general purpose. Logical Units that do	
		_		not read a URU bit from the medium	
				shall set this bit to one.	
93.	page 170	The Disc Type field specifies the type	page 309	For CD, the Disc Type field specifies the	To add
[of data on the whole disc.	11.24	type of the data on whole disc.	ADDED
	12th		last para.		Underlined data
	para.		_		
		For all discs, the disc type shall be	page 310	For CD disc, the Disc type shall be	To change
	6.1.18	determined from the following	11.24	determined from the following sequence:	ADDED
	13th	sequences:	1st para.		Underlined data
	para.				
95.	lmaaa 171	The Disc Identification number	page 310	For CD, the Disc Identification Number	To add

		recorded in the PMA is returned.	11.24	recorded in the PMA is returned.	ADDED
	3rd para.		6th para		Underlined data
			page 310 11.24	The Last Session Lead-in Start Time	To add ADDED
		field is an address given in MSF format	7th para.	field is valid only for CD medium.	Underlined data
	-tii para	as defined in sub-clause 4.1.1.	/ til para.	Other wise, this field shall be set to o.	Chaci mica data
		This field shall specify the location of		This field is an address given in MSF	
07		the next Lead-in to be recorded.	page 310	format as defined in sub- clause 4.1.1.	To add
		The Last Possible Start Time of Lead- out field is an address given in MSF	11.24		ADDED
	~ .1	format as specified in sub-clause 4.1.1.	8th para.	Lead-out field is valid only for CD media. Otherwise this field shall be set to	
	1	format as specified in sub-clause 4.1.1.	1	O. This field is returned as the address	
				encoded in the ATIP and it is an address	
				given in MSF format as specified in sub-	
				clause 4.1.1.	
98	page 171	The Number of OPC Table Entries shall	page 310		To add
		always be zero for CD-ROM discs and	11.24		ADDED
			last para.	not yet been determined. For DVD-R,	Underlined data
		yet been determined.		the use of OPC table entries is vendor-	
		.		specific.	
99.	page 171	Speed is in Kbytes per second.	page 311	Speed is in kbytes per second. (1kBytes	To clarify
	6.1.18	* 1	11.24	= 1000Bytes)	DONE
	8th para.		1st para		
		Format field = 0Ch (RMD in last Lead-		`	To change
		out) - Address field contains the Field	11.25	Dorder out) Hadress Herd Contains the	DONE
		number of RMD block that is recorded	11th para.	Field number of RMD block that is	
		in the last Lead-out.		recorded in the last Border-out.	
		The Layer Number field specifies the	page 313 11.25	The Layer Number field specifies the	To delete DONE
		starting layer number for the READ	3rd	rayer manifer for the response data	DONE
	noro	DVD STRUCTURE data that will be	Siu	returned by the READ DVD	
	•	returned.	page 313	STRUCTURE command.	T11
	page 174 6.1.19		11.25	Requests for Format FFh shall always be	ADDED
	1st para.		5th para.	fulfilled, even if no or incompatible media is installed.	ADDED
102		When a READ DVD STRUCTURE	page 313	When a READ DVD STRUCTURE	To add
		Command is presented for a CD media,	11.25	Command is presented for a CD media,	ADDED
	4 .	this command shall be terminated with	6th para.	for format codes 00h - FEh, this	Underlined data
	-	CHECK CONDITION status, sense key		command shall be terminated with	
		set to ILLEGAL REQUEST and the		CHECK CONDITION status, sense key	
		additional sense code set to CANNOT		set to ILLEGAL REQUEST and the	
		READ MEDIUM- INCOMPATIBLE		additional sense code set to CANNOT	
		FORMAT.		READ MEDIUM- INCOMPATIBLE	
				FORMAT.	
	page 174		page 313	The number of data bytes returned in	To add
	6.1.19		11.25	response to a PEAD DVD	There is no
	2nd para.		8th para.	STRUCTURE command is limited by	description
				the Allocation Length field of the CDB.	Allocation Length
					field.
1				All Allocation Length field of Zelo	ADDED
				shall not be considerred an error.	Underlined data
105.		Type or Feature column	-	[Delete]	To delete
	Table 229				DONE
	3rd col.				
		RMD in last Lead-out	page 314	RMD in last <u>Border</u> -out	To change
	Table		Table 251		ADDED
<u></u>	229		2nd col.		Underlined data

	2nd col.		11th row		
	11th row				
	Table 229 4th col. 4th row		page 314 Table 251 3rd col. 4th row	Layer Number	To change DONE
	page 174 Table 229 5th col. 11th row	Start Field number of Blocks	page 314 Table 251 4th col. 11th row	Start Field number of RMD block	To change ADDED Underlined data
	_ : -	Lead-out	page 314 Table 251 5th col. 11th row	Returns the Field of RMD in the last Border-out	To change DONE
	page 175 Table 230 1st col.		page 315 Table 252 1st col.	0-2047	To change CHANGED
	6.1.19.1 last para.	specified by the Layer Number field in the Command Packet and information for all higher layer numbers is returned.	page 315 11.25.1 2nd para.	by the Layer Number field in the Command Packet is returned.	To delete DELETED
	6.1.19.1 6th para.	independent and has its own Lead-in	page 316 11.25.1 5th para.	When PTP is used each layer is independent and has its own Lead-in and Lead-out areas on the media.	To change DONE
	page 176 6.1.19.1 6th para.		page 316 11.25.1 5th para.	There is only one Lead-in and <u>Lead-out</u> .	To change DONE
	page 177 Table 237 caption	,	page 317 Table 259 caption	Starting Physical Sector Number <u>of</u> <u>Main Data</u> Field	To add DONE
	6.1.19.1 last para.	Unit shall send default Lead-in Control Area data from the cache memory. If the Lead-in is already written on disc, the Logical Unit shall read Lead-in data from the disc and shall update the cache memory.	page 313 11.25 7th para.	If the disc has no Lead-in and there are no DVD Control Data is in the cache, the Logical Unit shall generate CHECK CONDITION Status, 5/24/00 INVALID FIELD IN CDB. If the Lead-in is already written or there are DVD structures in the cache, the Logical Unit shall return the requested structure.	To add DONE
	page 177 6.1.19.1 last para.		page 317 11.25.1 5th para.		To add DONE
	6.1.19.2 4th para.	field describes the regions in that the disc can be played. Each bit represents one of six regions.o	page 318 11.25.2 3rd para.	one of eight regions. There are currently 6 regions defined. See the DVD Book for more information. Sentence not included	To change Added Underlined
	6.1.19.3 7th para.	DISC KEY that is obfuscated by a Bus Key.	page 318 11.25.3 6th para.	The DISC KEY Data field returns the DISC KEY that is obfuscated by a Bus Key.	To change DONE
119.	page 180	In the case of DVD-R multi session	page 320	In the case of DVD-R multi session disc,	To change

		disc, this information is taken from the last Lead-in.	11.25.5 2nd para.	this information is taken from the last Border-in.	DONE
120.		RMD in the last Lead-out	page 321 11.25.8 caption	RMD in the last Border-out	To change DONE
121.	page 181	The RMD field recorded in the Last-out is defined in Table 244.		The RMD field recorded in the last Border-out is defined in Table 244.	To change DONE
	Table 244	RMD in last Lead-out	page 321 Table 267	RMD in the last Border-out	To change DONE
	6.1.19.8		page 321 11.2.5.8 4th para	The RMD Bytes field returns the RMD that is written in the last recorded Border-out.	To change DONE
	6.1.19.9 2nd para.	The DVD STRUCTURE Data Length specifies the length in bytes of the following DVD STRUCTURE data that is available to be transferred to the Initiator.	page 322 11.25.9 1st para.	This format is available only for DVD-R media. For other media, this format is reserved. The DVD STRUCTURE Data Length specifies the length in bytes of the following DVD STRUCTURE data that is available to be transferred to the Initiator.	To add REJECTED
	Table 252 21st row	M*4 + 40	page 326 Table 275 21st row	M*4 + 41	To change to correct number DONE
	page 187 Table 252 22nd row	M*4 + 40	page 326 Table 275 22st row	M*4 + 42	To change to correct number DONE
127.		M*4 + 40	page 326 Table 275 23st row	M*4 + 43	To change to correct number DONE
	page 188 Table 252 Byte M*4+44 - M*4+47	Readable DCB M-1	page 327 Table 275 Byte M*4+44 - M*4+47	Recordable DCB 0	To change DONE
129.			page 327 Table 275 Byte (M+N)*4 +40 - (M+N)*4 +43	Recordable DCB N-1	To change DONE
	page191 6.1.20. Table 260	Formatted Media. The reported value is the current media's capacity. In the case of sequential writable media, the number of blocks field indicates the number of blocks between the first Lead-in and the Lead-out. When the media has no closed session it shall be reported as "No Media Present" with Descriptor Type = 11b.		the current media's capacity. In the case of sequential writable media the number	To add ADDED Underlined

101	101	Г	222	kmi i i i i i i i i i i i i i i i i i i	m 11
	page 194 6.1.20.		page 333 11.26	This command is not mandatory for all drive types shown in Table 263; the table	To add ADDED
	under		1st para.	indicates the values returned if the	
	Table			command is implemented.	
	263 page 206	The READ TOC/PMA/ATIP	page 345	The READ TOC/PMA/ATIP Command	To add
		Command (Table 287) requests that the	11.29.	(Table 287) requests that the <u>CD</u> Logical	
	4 .	Logical Unit transfer data from the	1 - 2nd	Unit transfer data from the Table of	Underlined
		Table of Contents, the Program	para.	Contents, the Program Memory Area	
		Memory Area (PMA), and the Absolute		(PMA), or the Absolute Time in Pre-	
		Time in Pre-Grove (ATIP).		Grove (ATIP) from CD media.	
				For media that does not support a TOC,	
				this command will return fabricated	
				information that is similar to that of CD media for some formats. This fabrication	
				is required for some legacy Initiator	
				environments.	
133.	page 210	The response data returned for Format	page 348	None of the fields in the result data of	To add at previous
	6.1.24.4.	0010b is specified in Table 292.	11.29.3.	Format 2h are affected by the MSF bit in	ADDED
	1st para.		last para.	the CDB.	Underlined
				The response data returned for Format	
124	maga 210	M It's L TOO Too L D	maga 240	0010b is specified in Table 292.	To add
134.	page 210 6 1 24 4	Multiple TOC Track Descriptors may be returned.	page 349 11.29.3.	Multiple TOC Track Descriptors may be returned, but only one of each entry is	DONE
	2nd para	be returned.	1st para.	reported.	2 31.2
135.	page 210	For Format field of 1000b,	_	For Format field of 0010b,	To change
	6.1.24.4.	or round from or roots,		or round near or cores,	DONE
	3rd para.				
		, ,	page 349 11.29.3.	Entries in bytes 2 through 10 of the	To change DONE
		descriptors (TNO, POINT, MIN, SEC, FRAME, PMIN, PSEC, PFRAME,	3rd para.	descriptors (TNO, POINT, MIN, SEC, FRAME, PMIN, PSEC, PFRAME, Zero)	
	•	Zero) shall be converted to binary by	from last	shall be converted to hex by the Logical	
		the Logical Unit if the media contains a		Unit if the media contains a value	
		value between 0 and 99bcd. (See		between 0 and 99bcd. (See 4.2.2.6.)	
		4.2.2.6.)			
			page 349		To change
		arranged in the order of Q Sub-channel	11.29.3. 2nd para.	arranged in the order of Q 200 enumer	DONE
		POINT field value of A0h, A1h, A2h, Track Numbers, B0h, B1h, B2h, B3h,	from last	Point field value of <u>A0h-AFh</u> , Track	
		B4h, C0h, and C1h.		Numbers, <u>B0h-FFh. Only recorded</u> Points shall be returned.	
138.			page 350		To add
	6.1.24.5.	0011b is specified in Table 296.	11.29.4.	Format 0011b are affected by the MSF	ADDED
	1st para.	•	1st para.	bit in the CDB.	Underlined
				The response data returned for Format	
100	212		0.51	0011b is specified in Table 296.	m 1
		Entries in bytes 2 through 10 of the descriptors (TNO, POINT, MIN, SEC,	page 351 11.29.4.	Entries in bytes 2 through 10 of the	To change DONE
	last para.	FRAME, Zero) shall be converted to	last para.	descriptors (TNO, POINT, MIN, SEC, FRAME, Zero) shall be converted to <u>hex</u>	
		binary by the Logical Unit if the media		by the Logical Unit if the media contains	
		contains a value between 0 and 99bcd.		a value between 0 and 99bcd. (See	
		(See 4.2.2.8.2.)		4.2.2.8.2.)	
140.		-	page 351		To add at previous
	6.1.25.	0100b is specified in Table 297.	11.29.5.	Format 0011b are affected by the MSF	ADDED Underlined
	1st para.		1st para.	of in the CDD.	Ondernned
				The response data returned for Format	
				0100b is specified in Table 297.	

142.	6.1.25 6th para. page214 6.1.25 7th para.	for the M field are 50h through 63h. ATIP Last Possible Start Time of Lead- out (min, sec, frame) - the last possible start time of Lead-out. The value is read	page352 11.29.5 4th para. from last page352 11.29.5 3th para. from last	ATIP Start time of Lead-in (min, sec, frame) - the start time of the Lead-in. The value is read from ATIP and returned in
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	caption				
151.		Track Bit	page 359 Table 324 1st col. 1st row	Address/Number Type Value	To change DONE
	page 216 Table 303 2nd col. 1st row	Logical Block Address/Track Number	page 359 Table 324 2nd col. 1st row	Logical Block Address/Track/Session Number field	To change Changed as Modified
	page 216	Track Number Used for Track Information	page 359 Table 324 3rd col. 1st row	Description	To change DONE
	page 216 Table 303 3rd col. 5th row	T_{INV} , where T_{INV} is the Track number of the invisible Track	page 359 Table 324 3rd col. 5th row	$T_{\rm INV}$, where $T_{\rm INV}$ is the Track number of the invisible <u>or incomplete</u> Track	To add ADDED Underlined
155.	page 216 Table 303		page 359 Table 324 1st col. 6th row	2	To add DONE
	page 216 Table 303		page 359 Table 324 2nd col. 6th row	Session Number	To add DONE
	page 216 Table 303		page 359 Table 324 3rd col. 6th row	$T_{session}$, where $T_{session}$ is the number of the first Track which is in the Session Number.	To add DONE
	page 216 Table 303		page 359 Table 324 1st col. 7th row	3	To add DONE
	page 216 Table 303		page 359 Table 324 2-3rd col. 7th row	Reserved	To add DONE
	page 216 6.1.26 last para.		page 359 11.30 last para.	Note: The Address/Number Type 2 is easy way to recognize UDF-Bridge file system that specified by DVD-ROM Book Part2.	To add REJECTED – Not required in a standard
	page 216 6.1.26 last para.		page 360 11.30 1st para.	Fields not used with the loaded media shall return 0.	To add DONE
162.		Track Number	page 360 Table 325 Byte 2	Track Number (LSB)	To add REJECTED
163.	_	Session Number	page 360 Table 325 Byte 3	Session Number (LSB)	To add DONE
164.	page 217 Table 304 Byte 6 Bit 5		page 360 Table 325 Byte 6 Bit 5	Packet/Inc	To add DONE

	page 217 Table 304 Byte 7 Bit 1	Reserved	page 360 Table 325 Byte 7 Bit 1	LRA_V	To change DONE
	Table 304 Byte 20- 23	Fixed Packet Size	page 360 Table 325 Byte 20- 23	Fixed Packet Size / Blocking Factor	To add DONE
	page 217 Table 304 Byte 28- 31		page 360 Table 325 Byte 28- 31	Last Recorded Address	To add DON E
	page 217 Table 304 Byte 32		page 360 Table 325 Byte 32	(0.000)	To add DONE
	page 217 Table 304 Byte 33		page 360 Table 325 Byte 33	,	To add DONE
	page 217 Table 304 Byte 34- 35		Table 325 Byte 34- 35	Reserved	To add DONE
	6.1.26 3rd para.	all of the information in this structure.	page 361 11.30 2nd para.	Track Number is the track number for all of the information in this structure, or 1 for media not containing logical tracks.	DONE
		Session Number is the number of the session containing this track.	page 361 11.30 3rd para.	session containing this track, or 1 for media not containing sessions that contains this track.	To add DONE
	page 217 6.1.26 5th para.		page 361 11.30 4th para.	this bit shall be set to zero.	To add to Copy bit description DONE
	6.1.26 1st para.	an incomplete write." An automatic repair may be attempted by the drive when the CLOSE TRACK/SESSION command is issued.	page 361 11.30 5th para.	the NWA_V is set to zero, the track shall be considered "not closed due to an incomplete write." An automatic repair may be attempted by the Logical Unit when the CLOSE TRACK/SESSION command is issued. Further incremental writing in this track is not possible.	To add DONE
1/5.	6.1.26 1st para.	The Damage bit, when set to one, and the NWA_V is set to one, an automatic repair may be attempted by the drive when the next command that requires writing to the track is issued. If the repair is successful, the Damage bit shall be set to zero.	page 361 11.30 6th para.	The Damage bit, when set to one, and the NWA_V is set to one, indicates a Track that may be recorded further in an incremental manner. An automatic repair shall be attempted by the device when the next command that requires writing to the Track is issued. If the repair is successful, the Damage bit shall be set to zero. Prior to the start of the repair, the NWA field shall contain the address of the Next Writable Sector assuming a successful repair.	To add DONE

	page 218 6.1.26 2nd para.		page 361 11.30 7th para.	10 T.	To add to Track Mode field description ADDED
	6.1.26 3rd para.	not reserved, otherwise the track is reserved. Reserved indicates that a PMA entry indicating the track's start and end addresses exists.	page 361 11.30 8th para	Track is reserved. The RT bit indicates that a PMA entry indicating the track's start and end addresses exists. For DVD, the RT bit of zero indicates that the Track is Complete, Invisible, or Incomplete status. The RT bit of one indicates that the Track is Empty Reserved or Partially Recorded Reserved status. If the Logical Unit is not capable of reading the PMA or RMA, this field shall be set to zero.	To add ADDED Underlined
	6.1.26 4th para.	indicates that the track contains no written data. Tracks with the Track Descriptor Block recorded shall not be considered blank.	page 361 11.30 11th para.	and Last Recorded Address field is invalid. For CD, tracks with the Track Descriptor Block recorded shall not be considered blank. For other media, this bit shall be set to zero.	ADDED Underlined
	6.1.26 5th para.	The Packet bit is valid only when the RT bit is set to one or the track indicated is the incomplete track. The Packet bit, when set to one, indicates that this track is to be written only with packets.	page 361 11.30 12th para.		To add ADDED Underlined
	6.1.26 6th para.	when the Packet bit is set to one. When the Packet bit is set to one and the FP bit is also set to one, then the track is to be written only with fixed packets. When the Packet bit is set to one and the FP bit is set to zero, then the track is to be written only with variable packets.		For CD media, the FP (Fixed Packet) bit is valid only when the Packet/Inc bit is	ADDED Underlined
	page 218 Table 305 5th col.		page 362 Table 326 4th col.	[Table 326]	To replace 4th column of Table Done
182.	page 218 6.1.26	When RT, Blank and Packet bits are set to one, FP bit of a READ TRACK Information result data is set to zero.	page 362 11.30 1st para.	TRACK Information result data is set to zero.	Underlined
	6.1.26. Table 306		page 363 11.30. Table 327		To replace whole Table 306 with Table 327 of Mt.Fuji3 Done
184.	page 219	NWA_V shall be set to zero if the	page 363	NWA_V shall be set to zero if the Track	To add LRA_V

185.	6.1.26. 1st para.	the LBA of the next writable user block in the Track specified by the LBA/ Track Number field in the CDB. Next Writable Address shall be associated with the RT, Blank, Packet and FP bits	11.30. 3rd para. from last page 363 11.30. 1st para. from last	If LRA V is zero, then the Last Recorded Address field is not valid. Otherwise, the Last Recorded Address field is valid. The LRA V bit shall be set to zero if the Track has damage for any reason and is repaired automatically. The Next Writable Address, if valid, is the LBA of the next writable user block in the Track specified by the LBA/ Track Number field in the CDB. For CD media, Next Writable Address shall be associated with the RT, Blank, Packet	description ADDED Underlined To add ADDED Underlined
	page 221 6.1.26.	as defined in Table 308. The Free Blocks field represents the maximum number of user data blocks available for recording in the track. This field shall be computed as follows:	page 364 11.30. 2nd para.	maximum number of user data blocks	To add ADDED Underlined
	6.1.26.	The Fixed Packet Size is valid only when the Packet and the FP bits are both set to one.	page 365 11.30. 1st para.	For CD, the Fixed Packet Size is valid only when the Packet and the FP bits are	To add ADDED Underlined
	6.1.26. 7th para.	Track Size is the number of user data blocks in the track. The track size shall be computed as follows: First, compute the Complete Track Size (CTS).	page 365 11.30. 3rd and 4th para.	Track Size is the number of user data blocks in the track. For CD, the track size shall be computed as follows: First, compute the Complete Track Size (CTS).	To add ADDED Underlined
	6.1.26. 4th para. from last	provide certain valid fields for a disc with the Unrecordable status: Track Number, Session Number, Track Mode, Data Mode, Track Start Address.	Hom fast	The Last Recorded Address is the address of last written user data sector of the specified Track. Note: READ TRACK INFORMATION	To add Rejected. Comment is not necessary for this text.
	6.1.26. 3rd para. from last	exact for the tracks that do not have a	page 365 11.30. 5th para. from last	not have a PMA entry. The track size, of tracks that do not have PMA entries, is calculated as follows:	To add Added
	6.1.29. 1st para- graph	For DVD, when the Write type is Session-at-Once, this command is also used to specify the size of user data.	-	determined by the settings of the Write Parameters mode page. Table 325 specifies the Track sizing.	To modify Modified as Requested
	6.1.29. Table 325	[Table 325]	page 381 11.34. Table 355		To replace whole Table 325 with Table 355 of Mt.Fuji3 Done
193.		If the last track, defined in the PMA, is N, then the invisible track is assigned	-	If the last track, defined in the PMA/RMA, is N, then the invisible track	To add Done

	1st para.	track number N+1.		is assigned track number N+1.	
194.	page 230 6.1.29. 4th para. from last	For DVD, maximum reserved Tracks that can be reserved are limited to two at the same time. Attempting to reserve Track when two Tracks are already reserved,		For DVD, maximum reserved Tracks that can be reserved are limited to two at the same time. Attempting to reserve Track when two empty/partially recorded reserved tracks are already reserved,	
	6.1.29. 2nd para- graph from last	Reserving a track when the Write Type is set to packet (See Table 118) shall cause the TDB to be written.		,	To add Done
	6.1.32.1. Caption		page 398 11.38.1. Caption	1	To modify Done
197.	6.1.32.1. 1st para	The Author's Information field (Format code 04h, Table 349) contains user specific data. This data shall be stored in the RMD Field-2 and when attempting to write the Lead-in, the contents of this field shall be written in the Disc manufacturing information field of Lead-in.			To change Done
	6.1.32.1. 2nd para	The DVD STRUCTURE Data Length field specifies the length in bytes of the Author's Information data to follow. A DVD Structure Data Length field of zero indicates that no Author's Information data shall be transferred. This condition shall not be considered an error.			To modify Done
		The time should be current GMT 24 hour clock.			To modify Done
		Table 352 defines data format code 30h.		0.11.62 21.50 001111.01 21.0011	To add section Done
201.	page 260 6.1.40. 1st para.	data in the data buffer has been written to the media.	11.3 1st para.	data in the data buffer has been written to the media. Logical blocks are not necessarily removed from the cache memory as a result of the cache flush operation.	
	6.1.41. 2nd para.	one, indicates that the Logical Unit	11.48. 5th para.	e v	To change Done

		strategy are not defined by this			
		International Standard. The drive may			
		ignore this bit.			
		NOTE : The DPO bit is used to control			
		replacement of logical blocks in the			
		cache memory when the Initiator has			
		information on the future usage of the			
		logical blocks. If the DPO bit is set to			
		one, the Initiator knows the logical			
		blocks accessed by the commandeer not			
		likely to be accessed again in the near			
		future and should not be put in the			
		cache memory nor retained by the			
		cache memory. If the DPO bit is zero,			
		the Initiator expects that logical blocks			
		accessed by this command are likely to			
		be accessed again in the near future.			
203		If, during streaming, a WRITE	-	For CD-R/RW media, if, during	To add
		command is issued for packet writing			Done
		with an LBA = NWA+7 the drive shall		for packet writing with an LBA =	
	C 1 4	begin a new packet.		NWA+7 the drive shall begin a new	
		oegin a new packet.		packet.	
204	nage 262	The block size shall be determined by		1	To add
204.		the write parameters mode page (if in			Done
				shall be determined by the write	Done
		track at once, packet, or raw mode) or		parameters mode page (if in track at	
		by the cue sheet (session at once mode).		once, packet, or raw mode) or by the cue	
205	262	0\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	106	sheet (session at once mode).	T. 11
205.	page 262 6.1.41.	3) Variable Packet: If insufficient space	page 426	- /	To add Done
	2 1	exists for another variable packet within	1st para	shan perform miking. (D v D)	Done
	_	a reserved track, the Logical Unit shall	ist para	If insufficient space exists for another	
		pad the packet such that it fills the		variable packet within a reserved track,	
		track. Otherwise, the Logical Unit shall		the Logical Unit shall pad the packet	
		write run-out and link blocks.		such that it fills the track. Otherwise, the	
				Logical Unit shall write run-out and link	
			10.5	blocks.(CD)	m 11
		5) Raw mode: The Logical Unit shall	page 426	-,	To add
	6.1.41.	write run-out and link blocks. The	11.48	Wille I will out will limit of outlier I lie	No Change
	oru para.	Eogretii onit shan read the 100 and	8th para.	Logical Unit shall read the TOC and	
		track information from the session just		track information from the session just	
		written and update the PMA. It is		written and update the PMA. It is	
		assumed that the Initiator has written		assumed that the Initiator has written the	
		the Lead- out.		Lead- out.(CD)	
		6) WRITE with the NWA in the current			To add
	6.1.41.	track.		uack.	Done
	2nd para.		8th para.	7) GET CONFIGURATION	
				8) GET EVENT/STATUS	
				NOTIFICATION	
		All other commands shall execute	page 427		To add
	6.1.41.	normally, but may force a	11.48.	normally, but may force a	Done
	2nd para.	SYNCHRONIZE CACHE.	2nd para.	SYNCHRONIZE CACHE before	
	from last		from last	executing. The process of writing from	
				the Logical Unit's cache to the medium	
				shall not cause a NOT READY	
				condition for any command. CHECK	
				CONDITION Status, 2/04/08 LOGICAL	

	UNIT NOT READY, LONG WRITE I	1
	PROGRESS may exist when the Logical	<u>ī</u>
	Unit is padding a reserved track or	
	writing Lead-in and Lead-out.	

July 1, Comments:

These comments are from a review of the standard by Pioneer.

Comments to "98-230r2.pdf" from Keiji Katata & Takeshi Kohda of PIONEER Date 1999/05/20

98-230r2.pdf page 9

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

Note 40

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.

Read Buffer Capacity & Repier Track command are used continuously. They shall not be obsolete.

Response: The intent is that future systems will not require this command to be implemented. If it is necessary to implement the commands, by purchase order or customer specs then it should be implemented as defined in this version of MMC2 or MtFuji3. This typically the way T10 warns of command termination.

from 98-230r2.pdf page 22 thought its end:

about "Pioneer Comments. The majority of the comments were to update the DVD-R information."

Comment #2)

`drive` is still remaining in out side of Model Sections.

MMC2R10.PDF, page 144, "6.1.6. GET PERFORMANCE

The GET PERFORMANCE, Table 180, command provides a method for the Initiator to Profile the performance of the drive."

Response: Global search and replace where required to Device or Logical Unit

Comment #23)

MMC2R10.PDF, page 102.

Missing Error Recovery Description Table for DVD.

Response: Added table and text.

Comment #32)

MMC2R10.PDF, page 104 table 124.

Currently, DVD-R does not have "B0 Pointer". So Multi-session filed 01b shall be reserved for DVD-R's future use.

Add "For non CD media, this value is reserved." sentence in the sell.

Response: Added sentence to table cell

Comment #39)

Our comment of adding "The SET STREAMING Command may affect the speed at which the Blanking operation is performed." sentence was rejected. And the reason why our comment was rejected is "Moved to SET STREAMING". But anything is not moved.

The sentence shall be moved to SET STREAMING command section.

Response: It is unnecessary to state the fact that "SET STREAMING" command affects the speed of an operation. Adding the BLANK command result to SET STREAMING is redundant.

 -		

Comment #55)

MMC2R10.PDF, page 125 4th paragraph from bottom:

"If partially recorded, empty, or incomplete tracks exist in the incomplete session, the Logical Unit shall issue CHECK CONDITION status, ILLEGAL REQUEST, SESSION FIXATION ERROR - INCOMPLETE TRACK IN SESSION. If an Incomplete Track exists, the Logical Unit shall report CHECK CONDITION Status, 5/72/03 SESSION FIXATION ERROR - INCOMPLETE TRACK IN SESSION." is wrong. But same sentence is in table 143. So it is better to remove this paragraph.

Response: Removed the paragraph

Comment #63)

On page 139 (PDF page 159) Table 167 caption

'Operational Status Format'

SHOULD BE

'Operational Event Format'

/*
No comment
*/

Response: Changed as requested to

Comment #64)

MMC2R10.PDF, page 139 table 168:

The status code 0h shall be "Available", not to "Ready". Without media then device is not ready, "Operational Status" can be 0h. This shall not be Ready.

Response: Changed "Ready" to "Available"

Comment #65)

MMC2R10.PDF, page 138 Table 162 - Notification Class Request This table has "3:External Request" and "5:Muti-Initiater". But page 139 Table 165 - Notification Class Field does not have 3 and 5. And also descriptions for them are missing. They shall be written in MMC2 document.

Response: Added tables and text for Classes 3 & 5.

Comment #70)

On page 145 (PDF page 165) 3rd paragraph

'The Write bit, when set to zero, shall indicate that the result data is for read performance. When set to one, shall indicate that the result data is for write performance, using the nominal read command for the data type'

SHOULD BE

'The Write bit, when set to zero, shall indicate that the result data is for read performance using the nominal Command for the data type. When set to one, shall indicate that the result data is for write performance.'

/*

Your comment on 98-230r2.pdf (comment #70) is "Added Underlined text" but is not correct position.

*/

Response: Fixed the paragraph as requested.

Comment #72) On page 145 (PDF page 165) 5th paragraph The first descriptor indicates a Start LBA of 0, Start Performance of 600kB/s, /* Your comment on 98-230r2.pdf (comment #72) is "DONE" but is not done correctly. The 600kB/s is not generic value. It is one of examples. If example is not suitable for the standard, this paragraph should be deleted. **Response:** Corrected. See paragraph above Table 183 on pdf page 167. _____ Comment #73) On page 146 (PDF page 166) 1st paragraph 'The Start Performance field contains the nominal drive performance at the Start LBA in KB/s.' SHOULD BE 'The Start Performance field contains the nominal drive performance at the End LBA in kB/s.' Your comment on 98-230r2.pdf (comment #73) is "DONE" but is not done.(kB = 1000bytes, KB=1024bytes) **Response:** Did global search and replace. Comment #74) On page 146 (PDF page 166) 3rd paragraph The End Performance field contains the nominal drive performance at the End LBA in KB/s.' SHOULD BE: 'The End Performance field contains the nominal drive performance at the End LBA in kB/s.' Your comment on 98-230r2.pdf (comment #74) is "DONE" but is not done. **Response:** Did a global search and replace. Comment #N/A) On page 174 (PDF page 194) first paragraph Period of the sentence is missing. No comment **Response:** added period. Comment #83) On page 175 (PDF page 195) first paragraph

'The Disc Information Length is the number of bytes available in both the recording information area and the appended OPC table. Data Length excludes itself.'

SHOULD BE: 'The Disc Information Length is the number of bytes available in both the recording information area and the appended OPC table. Disc Information Length excludes itself.'

Your comment on 98-230r2.pdf (comment #83). The one is replaced but another one is not replaced.

Response: Made corrections as requested

Comment #87) On page 175 (PDF page 195) 3rd paragraph 'The State of Last Session field is defined in Table 230.' SHOULD BE: 'The State of Last Session field is defined in Table 230. For media that does not use Sessions this field shall be 11h.' Your comment on 98-230r2.pdf (comment #87) is "REJECTED and modified as indicated" but is not modified. **Response:** Added sentence 'For media that does not......' Comment #88) On page 175 (PDF page 195) 4th paragraph 'The Erasable bit, when set to one, indicates that CD-RW medium is present. Otherwise, CD-RW medium is not present.' SHOULD BE 'The Erasable bit, when set to one, indicates that overwritable medium is present. Otherwise, overwritable medium is not present.' Your comment on 98-230r2.pdf (comment #88) is "REJECT, changed CD-RW to Overwritable" but is not changed. **Response:** Changed to 'Overwritable'. Comment #182) On page 224 (PDF page 244) last paragraph 'When RT, Blank and Packet bits are set to one, FP bit' SHOULD BE: 'For CD, when RT, Blank and Packet bits are set to one, FP bit' Your comment on 98-230r2.pdf (comment #182) is "ADDED Underlined" but is not added.

Response: Added 'For CD' to front of sentence and added 'the' before RT.

*/

```
Comment #192)
On page 236 (PDF page 256) Table 331 TRACK reservation sizing (DVD) last row
'ReservedRZone'SHOULD BE 'ReservedTrack' in the Equation
Because RZone is not appropreate word in MMC document
'Reservation' SHOULD BE 'ReservationSize' in the Equation
'where ReservationSize is a value that ......'
SHOULD BE 'where Reservation is a value that ......'
No comment
Response: Corrected terms within the equations
In whole document
"Fibre" shall be "Fiber".
Response: Rejected. This spelling is correct for Fibre Channel Standards
Page 40 7th para. Section 4.3.3.1 -3
"RZOne" shall be "RZone".
Response: Did a global find and replace with 'RZone"
Page 74 Table 61 Byte 4,5 rows
The field name "Data Type Supported" appears twice. Delete second one.
Response: Deleted second one
```