

**Comments attached to Abs ballot from Robert Snively of Brocade:**

Brocade has no material interest in this standard at present.

MMC WG Response: No action required

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

My organization is not materially affected by the subject matter of this standard.

MMC WG Response: No action required.

**Comments attached to No ballot from Ralph O. Weber of ENDL:**

The usage of the PREVENT ALLOW MEDIUM REMOVAL command must be coordinated with the existing definition in SPC-4.

MMC WG Response: This has been resolved in the May 2006 T10 CAP and T10 Plenary meetings. The PREVENT ALLOW MEDIUM REMOVAL command is to be removed from SPC-4.

**Comments attached to Abs ballot from Elwood Parsons of Foxconn Electronics:**

Lack of expertise.

MMC WG Response: No action required.

**Comments attached to No ballot from Rob Elliott of Hewlett Packard Co.:**

HPQ comment number 1

Page=49 Subtype=Highlight Author=relliott

Comment=

Table of Tables

Put "Figure C.1 - Mass storage interface block diagram..... 654" into the table of figures, not the table of tables.

MMC WG Response:

To be changed. Fixed in 3a.

---

HPQ comment number 2

Page=57 Subtype=Highlight Author=relliott Comment= 2.2

Change "SCSI-3 Primary Commands" to "SCSI Primary Commands - 2" to match the SPC-2 acronym (if this line remains; since SPC-3 is published, that should probably move from Other References to here and replace this line altogether)

MMC WG Response:

To be changed. Changed in rev 3a

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HPQ comment number 3

Page=57 Subtype=Highlight Author=relliott

Comment=

2.2

Change "ANSI NCITS.336:2000 SPI-3 SCSI Parallel Interface - 3" to "ANSI INCITS 367-2003 SPI-5 SCSI Parallel Interface - 5"

MMC WG Response:

To be changed. Changed in rev 3a

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HPQ comment number 4  
Page=57 Subtype=Text Author=relliott  
Comment=  
2.2

Change format of all the ANSI NCITS/INCITS references to ANSI INCITS xyz-200n which is how they're catalogued on the ANSI store web site.

MMC WG Response:  
To be changed. Changed in rev 3a

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HPQ comment number 5  
Page=58 Subtype=Highlight Author=relliott  
Comment=  
2.3

"INCITS T10/1417D SBC-2 SCSI Block Command Set - 2" is published as ANSI INCITS 405-2005. Move to 2.2 and replace the SBC reference.

MMC WG Response:  
To be changed. Changed in rev 3a

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HPQ comment number 6  
Page=58 Subtype=Highlight Author=relliott  
Comment=  
2.3

"INCITS T10/1416D SPC-3 SCSI Primary Command Set - 3" is published as ANSI INCITS 408-2005. Move to 2.2 and replace the SPC-2 line.

MMC WG Response:  
To be changed. Changed in rev 3a

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HPQ comment number 7  
Page=58 Subtype=Highlight Author=relliott  
Comment=  
2.3

"INCITS T13/1532D ATA-8 AT Attachment with Packet Interface 8 (ATA/ATAPI-8)  
Volume 1: ATA Command Set  
Volume 2: Parallel ATA  
Volume 3: Serial ATA"

ATA8 is not split into 3 "volumes." It's three separate projects each with their own numbers ATA8-AAM, ATA8-ACS, and ATA8-APT. Serial ATA International Organization has asserted control of the Serial ATA interface so ATA8-AST is irrelevant.

MMC WG Response:  
To be changed. Changed in rev 3a

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HPQ comment number 8  
Page=58 Subtype=Highlight Author=relliott  
Comment=  
2.3

"INCITS T10/1467D SBP-3 SCSI Serial Bus Protocol - 3" is published as ANSI INCITS 375-2004. Move to 2.2 and replace the SBP-2 line.

MMC WG Response:

To be changed. Changed in rev 3a

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HPQ comment number 9  
Page=76 Subtype=Text Author=relliott Comment= 3.5

Add:

CE Consumer Electronics  
PC Personal Computer

(used by AACS definition)

MMC WG Response:

PC is used elsewhere, but CE is never used elsewhere. Changed in 3a: PC was added. CE was defined in place as "Consumer Electronics".

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HPQ comment number 10  
Page=86 Subtype=Text Author=relliott  
Comment=  
4.1.3.3

The text "Figure 7" seems to be in its own paragraph (once on page 32, once on page 33).

MMC WG Response:

To be changed. Changed in 3a.

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HPQ comment number 11  
Page=93 Subtype=Highlight Author=relliott  
Comment=  
4.1.9.2

Change "Time-out & Protect Mode Page (1Dh)" to "the Timeout and Protect mode page (see 7.9)"

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 12  
Page=94 Subtype=Highlight Author=relliott  
Comment=  
6.44.4

Change "Time-out & Protect Mode Page (1Dh)" to "the Timeout and Protect mode page (see 7.9)"

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 13

Page=97 Subtype=Highlight Author=relliott

Comment=

4.1.9.6

Change "Time-out and Protect Mode Page (1Dh) to "Timeout and Protect mode page (see 7.9)"

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 14

Page=125 Subtype=Highlight Author=relliott

Comment=

4.3.2.2

Figure 27

Change "ID Field for DVD-ROM" to "DVD-ROM ID field Sector Information details"

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 15

Page=128 Subtype=Highlight Author=relliott

Comment=

4.3.3.3

figure 29

Change "ID Field for DVD-RAM" to "DVD-RAM ID field Sector Information details"

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 16

Page=128 Subtype=Highlight Author=relliott

Comment=

4.3.3.3

Change "For DVD-RAM, the definition of the sector information part of the ID field differs from other DVD media types.

The sector ID field is viewed as a 32-bit field as shown in Figure 29."

to "For DVD-RAM, the definition of the sector information part of the ID field is shown in Figure 29." because the figure doesn't show a full 32-bit field.

The suggested change matches other wording.

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 17

Page=130 Subtype=Text Author=relliott

Comment=

4.3.3.5

Include an introductory reference to figure 30

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 18  
Page=132 Subtype=Highlight Author=relliott  
Comment=  
4.3.4.2  
figure 31

Change "ID Field for DVD-R/-RW" to "DVD-R/-RW ID field Sector Information details"

MMC WG Response:  
To be changed. Changed in 3a.

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HPQ comment number 19  
Page=132 Subtype=Highlight Author=relliott  
Comment=  
4.3.4.2  
Change "For DVD-R/-RW, the definition of the sector information part of the ID field differs from other DVD media types. The sector ID field is viewed as a 32-bit field as shown in Figure 31." to "For DVD-R/-RW, the definition of the sector information part of the ID field is shown in Figure 31"

MMC WG Response:  
To be changed. Changed in 3a.

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HPQ comment number 20  
Page=137 Subtype=Text Author=relliott  
Comment=  
4.3.4.4.2

Include an introductory reference to figure 33

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 21  
Page=141 Subtype=Highlight Author=relliott  
Comment=  
4.3.5.3  
Figure 35  
Change "ID Field Details" to "ID Field Sector Information details"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 22  
Page=141 Subtype=Highlight Author=relliott  
Comment=  
4.3.5.3

Change "The sector ID field is viewed as a 32-bit field as shown in Figure 24. For DVD-R DL, the definition of the sector information part of the ID field (Figure 35) differs from other DVD media types." to "For DVD-R DL, the definition of the sector information part of the ID field is shown in Figure 35"

MMC WG Response:  
To be changed. Changed in 3a.

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HPQ comment number 23  
Page=143 Subtype=Text Author=relliott  
Comment=  
4.3.5.4.2  
Include an introductory reference to figure 37

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 24  
Page=144 Subtype=Text Author=relliott  
Comment=  
4.3.5.5.1  
Include an introductory reference to figure 40

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 25  
Page=146 Subtype=Text Author=relliott  
Comment=  
4.3.5.5.4  
  
Include an introductory reference to figure 41

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 26  
Page=147 Subtype=Text Author=relliott  
Comment=  
4.3.5.6  
  
Include an introductory reference to figure 42

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 27  
Page=147 Subtype=Text Author=relliott  
Comment=  
4.3.5.7

Include an introductory reference to figure 43

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 28  
Page=149 Subtype=Highlight Author=relliott  
Comment=  
4.3.6.1.2  
Figure 44

Change "ID Field Details" to "ID Field Sector Information details"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 29  
Page=149 Subtype=Highlight Author=relliott  
Comment=  
4.3.6.1.2  
Change "The sector ID field is viewed as a 32-bit field as shown in Figure 24. For DVD+R, the definition of the sector information part of the ID field (Figure 44) differs from other DVD media types." to "For DVD+R, the definition of the sector information part of the ID field is shown in Figure 44"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 30  
Page=151 Subtype=Highlight Author=relliott  
Comment=  
KB needs to be defined in section 3 if it is going to be used in the standard. (K is defined in conventions, but then B meaning byte or bit could be questioned)

Since it means 1024, it should be changed to KiB (see SPC-4 for a definition of that odd acronym).

MMC WG Response:  
To be clarified in clause 3. The new acronyms are not well known by developers, so the MMC WG chooses to avoid them. Changes are in 3a.

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HPQ comment number 31  
Page=156 Subtype=Highlight Author=relliott  
Comment=  
4.3.7.2  
Figure 47

Change "ID Field Details" to "ID Field Sector Information details"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 32  
Page=156 Subtype=Highlight Author=relliott  
Comment=  
4.3.7.2  
Change "The sector ID field is viewed as a 32-bit field as shown in Figure 24. For DVD+R DL, the definition of the sector information part of the ID field (Figure 47) differs from other DVD media types." to "For DVD+R DL, the definition of the sector information part of the ID field is shown in Figure 47"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 33  
Page=163 Subtype=Highlight Author=relliott  
Comment=  
4.3.8.2  
figure 55  
Change "ID Field" to "ID field Sector Information details"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 34  
Page=163 Subtype=Highlight Author=relliott  
Comment=  
4.3.8.2  
Change "The sector ID field is viewed as a 32-bit field as shown in Figure 24. For DVD+RW, the definition of the sector information part of the ID field (Figure 55) differs from other DVD media types." to "For DVD+RW, the definition of the sector information part of the ID field is shown in Figure 55"

MMC WG Response:  
To be changed. Changed in 3a.

---



HPQ comment number 35  
Page=166 Subtype=Highlight Author=relliott  
Comment=  
4.3.9.2.1  
figure 56

Change "ID Field Details" to "DVD+RW DL ID field Sector Information details"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 36  
Page=166 Subtype=Highlight Author=relliott  
Comment=  
4.3.9.2.1

Change "The sector ID field is viewed as a 32-bit field as shown in Figure 24. For DVD+RW DL, the definition of the sector information part of the ID field (Figure 56) differs from other DVD media types." to "For DVD+RW DL, the definition of the sector information part of the ID field is shown in Figure 56"

MMC WG Response:  
To be changed. Changed in 3a

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HPQ comment number 37  
Page=173 Subtype=Highlight Author=relliott  
Comment=  
4.3.10.1

Change idenfification to identification

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 38  
Page=174 Subtype=Highlight Author=relliott  
Comment=  
4.4

"Description s/b "Model" to match the DVD chapter, or not present at all to match the BD chapter

MMC WG Response:  
The MMC WG prefers to remove "model" and "description". Changed in 3a.

---

HPQ comment number 39  
Page=174 Subtype=Text Author=relliott  
Comment=  
4.4.2.1

The line starting with "area" should be in the same paragraph as the previous line

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 40  
Page=175 Subtype=Highlight Author=relliott  
Comment=  
4.4.3.1.1  
figure 68

Change "ID Field Details" to "ID field Sector Information details"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 41  
Page=175 Subtype=Text Author=relliott  
Comment=  
4.4.3.1.1  
Add period at end of each sentence.

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 42  
Page=176 Subtype=Highlight Author=relliott  
Comment=  
4.4.3.1.2

Unbold "(see Figure 25)."

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 43  
Page=178 Subtype=Text Author=relliott  
Comment=  
4.4.4.2

The text "Figure 71" seems to be in its own paragraph

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 44  
Page=178 Subtype=Highlight Author=relliott  
Comment=  
4.4.4.2  
figure 71

Change "ID Field for HD DVD-ROM" to "HD DVD-ROM ID field Sector Information details"

MMC WG Response:  
To be changed. Changed in 3a.

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HPQ comment number 45

Page=178 Subtype=Highlight Author=relliott

Comment=

4.4.4.2

Change "For HD DVD-ROM, the definition of the sector information part of the ID field is shown in

Figure 71." to "For HD DVD-ROM, the definition of the sector information part of the ID field is shown in Figure 71"

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 46

Page=180 Subtype=Text Author=relliott

Comment=

4.4.5.2

The text "Figure 72" seems to be in its own paragraph.

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 47

Page=180 Subtype=Highlight Author=relliott

Comment=

4.4.5.2

figure 71

Change "ID Field for HD DVD-R" to "HD DVD-R ID field Sector Information details"

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 48

Page=180 Subtype=Highlight Author=relliott

Comment=

4.4.5.2

Change "For HD DVD-R, the definition of the sector information part of the ID field is shown in

Figure 72." to "For DVD-R, the definition of the sector information part of the ID field is shown in Figure 72"

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 49  
Page=183 Subtype=Highlight Author=relliott  
Comment=  
4.4.6.2  
ID Field for HD DVD-RAM  
figure 71

Change "ID Field for HD DVD-RAM" to "HD DVD-RAM ID field Sector Information details"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 50  
Page=184 Subtype=Text Author=relliott  
Comment=  
4.4.6.4  
Add period after "Figure 75"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 51  
Page=186 Subtype=Text Author=relliott  
Comment=  
4.5.2.2  
Remove line break before "Figure 66)"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 52  
Page=192 Subtype=Text Author=relliott  
Comment=  
4.5.3.3.1

Include introductory reference to figure 82

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 53  
Page=192 Subtype=Text Author=relliott  
Comment=  
4.5.3.3.1  
Include introductory reference to figure 83

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 54  
Page=193 Subtype=Text Author=relliott  
Comment=  
4.5.3.3.2  
Include introductory reference to figure 84

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 55  
Page=193 Subtype=Text Author=relliott  
Comment=  
4.5.3.3.2  
Include introductory reference to figure 85

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 56  
Page=203 Subtype=Text Author=relliott  
Comment=  
4.5.3.6.6  
Remove new line between In and Figure 99.

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 57  
Page=208 Subtype=Highlight Author=relliott  
Comment=  
4.5.4.4  
Change (Figure 78) to (Figure 104)

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 58  
Page=210 Subtype=Highlight Author=relliott  
Comment=  
4.5.5  
Change "See Figure 102." to "See Figure 105."

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 59  
Page=210 Subtype=Highlight Author=relliott  
Comment=  
4.5.5  
Change "See Figure 103." to "See Figure 106."

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 60  
Page=217 Subtype=Text Author=relliott  
Comment=  
4.5.8.4.4

Add introductory reference to figure 107.

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 61  
Page=227 Subtype=Text Author=relliott  
Comment=  
4.7.4.5.4.2

add introductory reference to figure 110

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 62  
Page=232 Subtype=Text Author=relliott  
Comment=  
4.7.7.1

add introductory reference to figure 111

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 63  
Page=240 Subtype=Highlight Author=relliott  
Comment=  
4.9.2.1  
Change "mode page 01h" to "the Read/Write Error Recovery mode page (see 7.3)"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 64  
Page=241 Subtype=Highlight Author=relliott  
Comment=  
4.9.5  
MB needs to be defined in section 3 if it is going to be used in the standard. (M is defined in conventions, but then B meaning byte or bit could be questioned)

It should be changed to MiB (see SPC-4 for a definition of that odd acronym).

MMC WG Response:  
See the response to comment #30.

---

HPQ comment number 65  
Page=241 Subtype=Highlight Author=relliott  
Comment=  
4.9.5  
figure 116

Change Mb to MB (or to MiB, based on other comments)

MMC WG Response:  
Mb is changed to MB. Otherwise, see the response to comment #30.

---

HPQ comment number 66  
Page=242 Subtype=Highlight Author=relliott  
Comment=  
4.9.5  
Figure 117  
change Mb to MB (or MiB based on other comments)

MMC WG Response:  
Mb is changed to MB. Otherwise, see the response to comment #30.

---

HPQ comment number 67  
Page=242 Subtype=Highlight Author=relliott  
Comment=  
4.9.5  
figure 118  
Change Mb to MB (or MiB based on other comments)

MMC WG Response:  
Mb is changed to MB. Otherwise, see the response to comment #30.

---

HPQ comment number 68  
Page=243 Subtype=Highlight Author=relliott  
Comment=  
4.9.5  
figure 119  
Change Mb to MB (or MiB based on other comments)

MMC WG Response:  
Mb is changed to MB. Otherwise, see the response to comment #30.

---

HPQ comment number 69  
Page=243 Subtype=Highlight Author=relliott  
Comment=  
4.9.5  
figure 120  
Change Mb to MB (or MiB based on other comments)

MMC WG Response:  
Mb is changed to MB. Otherwise, see the response to comment #30.

---

HPQ comment number 70  
Page=247 Subtype=Text Author=relliott  
Comment=  
4.10.5.2  
Bottom of page 196 in step 6a and step 6b

Join paragraphs together correctly, and make NOTE: into a numbered NOTE following the Note style.

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 71  
Page=247 Subtype=Highlight Author=relliott  
Comment=  
4.10.5.2

delete extra period in "sent.."

MMC WG Response:  
To be changed.

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HPQ comment number 72  
Page=261 Subtype=Highlight Author=relliott  
Comment=  
5.2.3  
Table 85

Change erasable to Erasable in the Feature Name column

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 73  
Page=262 Subtype=Highlight Author=relliott  
Comment=  
5.2.3  
Table 85

Change "Drive serial number" to "Drive Serial Number" in the Feature Name column

MMC WG Response:  
To be changed. Changed in 3a.

---



HPQ comment number 74  
Page=262 Subtype=Highlight Author=relliott  
Comment=  
5.2.3  
Table 85

Change "Continued" to "continued"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 75  
Page=262 Subtype=Text Author=relliott  
Comment=  
5.2.3  
Table 85

Last horizontal table border should be bold to match rest of table outer borders.

MMC WG Response:  
There is no problem. It is an optical illusion.

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HPQ comment number 76  
Page=303 Subtype=Highlight Author=relliott  
Comment=  
5.3.25  
Table 155  
Change 05 to 05h

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 77  
Page=323 Subtype=Highlight Author=relliott  
Comment=  
5.3.40  
Table 186

Change "READ BUFFER with Mode 00011b set" to "READ BUFFER with Mode 00011b (Data)" to match

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 78  
Page=323 Subtype=Text Author=relliott  
Comment=  
5.3.40  
Table 186

READ BUFFER Mode 00010b (2h) (Data) is normally paired with WRITE BUFFER Mode 02h (Write Data). That's necessary for WRITE BUFFER to be used "as a diagnostic function for testing Drive memory in the target device and the integrity of the service delivery subsystem." (quoting 6.46)

Should WRITE BUFFER mode 02h be included here (and in 6.46)?

MMC WG Response:

In 5.3.40 we are specifying the commands that are mandatory for the feature. We cannot add new requirements. In 6.17 and 6.46 we discuss the value of READ BUFFER and WRITE BUFFER. We should change the wording in 6.17 and 6.46 to emphasize the need for firmware upgrade modes and to de-emphasize the need for buffer testing.

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HPQ comment number 79  
Page=329 Subtype=Highlight Author=relliott  
Comment=  
5.3.45  
Table 194 header

change Drive to Media

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 80  
Page=334 Subtype=Highlight Author=relliott  
Comment=  
5.3.49  
Change "a AACs" to "an AACs"

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 81  
Page=334 Subtype=Highlight Author=relliott  
Comment=  
5.3.49  
Change "AACs version" to "AACs Version"

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 82  
Page=354 Subtype=Highlight Author=relliott  
Comment=  
6.1  
Table 232

Change "Continued" to "continued"

MMC WG Response:  
To be changed. Changed in 3a.

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HPQ comment number 83  
Page=355 Subtype=Highlight Author=relliott  
Comment=  
6.1  
Table 233

Change "Continue" to "continued"

MMC WG Response:  
To be changed. Changed in 3a.

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HPQ comment number 84  
Page=356 Subtype=Highlight Author=relliott  
Comment=  
6.2.2.1  
Table 235, 6.2.2.2, 6.2.3, 6.2.4, 6.2.5  
Change IMMED to Immed to match formatting of other field names

MMC WG Response:  
To be changed.

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HPQ comment number 85  
Page=360 Subtype=Highlight Author=relliott  
Comment=  
6.3.2.3  
Fix "through ."

MMC WG Response:  
To be changed. Changed in 3a.

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HPQ comment number 86  
Page=360 Subtype=Highlight Author=relliott  
Comment=  
6.3.2.1  
Table 240, 6.3.2.2, 6.3.3.11, 6.3.4, 6.3.5  
Change IMMED to Immed to match formatting of other field names

MMC WG Response:  
To be changed. Changed in 3a.

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HPQ comment number 87  
Page=375 Subtype=Highlight Author=relliott  
Comment=  
6.4.2.1  
Table 243, 6.4.2.3, 6.4.3, 6.4.5, 6.4.6

Change IMMED to Immed to match formatting of other field names

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 88  
Page=377 Subtype=Text Author=relliott  
Comment=  
6.5.2.1 FORMAT UNIT

SBC-2 added some fields to this CDB:  
a FMTPINFO bit in byte 1 bit 7  
a RTO\_REQ bit in byte 1 bit 6  
a LONGLIST bit in byte 1 bit 5

To maintain the informal compatibility between SBC and MMC, consider marking them Restricted

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 89  
Page=379 Subtype=Highlight Author=relliott  
Comment=  
6.5.3.2  
Table 249, 6.5.3.1, 6.5.4.3, 6.5.4.4.2, 6.5.4.4.3, 6.5.5, 6.5.6, 6.7.2.8  
(figure 126)

Change IMMED to Immed to match formatting of other field names

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 90  
Page=396 Subtype=Highlight Author=relliott  
Comment=  
6.6.1.1  
Table 266

Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 91  
Page=397 Subtype=Highlight Author=relliott  
Comment=  
6.6.2.1

Since "," means decimal point, change numbers like "65,536" to "65 536" (3 times in this paragraph)

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 92  
Page=425 Subtype=Highlight Author=relliott  
Comment=  
6.10.2.1  
Table 322

Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 93  
Page=425 Subtype=Highlight Author=relliott  
Comment=  
6.10.2.1  
Table 322

Change SLOT to Slot to match other fields

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 94  
Page=425 Subtype=Highlight Author=relliott  
Comment=  
6.10.2.1  
Table 322, 6.10.2.2, 6.10.4, 6.10.5

Change IMMED to Immed to match formatting of other field names

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 95  
Page=427 Subtype=Highlight Author=relliott  
Comment=  
6.11.2  
Table 326

Change "Operation code" to "Operation Code" to match most other CDBs

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 96  
Page=432 Subtype=Highlight Author=relliott  
Comment=  
6.14 PREVENT ALLOW MEDIUM REMOVAL

"[SPC-3] describes a PREVENT ALLOW MEDIUM REMOVAL command; however, the [SPC-3] description does not apply to MM devices."

Command set standards are not supposed to redefine commands that already have definitions in SPC.

In MMC-4 letter ballot, the MMC editor agreed to write a proposal for SPC-4 splitting the SPC-4 text into media changers supported/not supported sections and basing the "not supported" section on MMC-4. This was promised by January 2005, but has still not been posted.

Meanwhile, the attached media changer concept was made obsolete in SPC-4, so all that remains in spc4r04 is the "not supported" material. So, the work should be easier.

SPC-4 could define the field in a manner that defers more to the command set standard. Then you could keep most of the details on MMC-4 without making anything in SPC-4 incorrect/incomplete:

SPC-4 2-bit Prevent field:

00b Medium removal shall be allowed unless otherwise specified by the command set standard (e.g., MMC-5 peripheral devices do not always allow medium removal if the persistent prevent state is enabled).

01b Medium removal shall be prohibited.

10b If MCHNGR is set to one, obsolete. If MCHNGR is set to zero, reserved unless otherwise defined in the command set standard.

11b If MCHNGR is set to one, obsolete. If MCHNGR is set to zero, reserved unless otherwise defined in the command set standard.

Then, in MMC-4, change your definition to a 2-bit field rather than two 1-bit fields (so the terminology matches) but keep the functional definitions the same.

MMC WG Response:

This has been resolved in the May 2006 T10 CAP and T10 Plenary meetings. The PREVENT ALLOW MEDIUM REMOVAL command is to be removed from SPC-4.

---

HPQ comment number 97  
Page=435 Subtype=Highlight Author=relliott  
Comment=  
6.15.2.1  
Table 343

Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 98  
Page=435 Subtype=Text Author=relliott  
Comment=  
6.15.2.1 READ (10)

SBC-2 added some fields to this CDB:  
a RDPROTECT field in byte 1 bits 7:5  
a FUA\_NV bit in byte 1 bit 1  
a GROUP NUMBER field in byte 6 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 99  
Page=438 Subtype=Highlight Author=relliott  
Comment=  
6.16.2.1  
Table 346

Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 100  
Page=438 Subtype=Text Author=relliott  
Comment=  
6.15.2.1 READ (12)

SBC-2 added some fields to this CDB:  
a RDPROTECT field in byte 1 bits 7:5  
a FUA\_NV bit in byte 1 bit 1  
a GROUP NUMBER field in byte 10 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 101  
Page=439 Subtype=Highlight Author=relliott  
Comment=  
6.16.4  
Change "Time-out & Protect Mode Page (1Dh)" to "the Timeout and Protect mode page (see 7.9)"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 102  
Page=441 Subtype=Highlight Author=relliott  
Comment=  
6.17.1  
Table 348

Change "Mandatory for mode = 00010b" to "Mode 00010b (Data) is Mandatory"  
to match wording in 6.46 for WRITE BUFFER

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 103  
Page=442 Subtype=Text Author=relliott  
Comment=  
6.18.2.2 First three lines should be in the same paragraph; they appear to  
be separate paragraphs.

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 104  
Page=442 Subtype=Highlight Author=relliott  
Comment=  
6.18.2.2  
text and Table 351  
Change BLOCK to Block to match formatting of other field names

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 105  
Page=445 Subtype=Highlight Author=relliott  
Comment=  
6.19.2.1  
Table 356

Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 106  
Page=453 Subtype=Highlight Author=relliott  
Comment=  
6.20.3.1.1

Change "in the models clause." to "in 4.2.3.8.1."

MMC WG Response:  
To be changed. Changed in 3a.

---



HPQ comment number 107  
Page=456 Subtype=Highlight Author=relliott  
Comment=  
6.21.2.1  
Table 370

Join the byte 9 cell with the blank cell below it

MMC WG Response:  
Fix byte numbering column only. Changed in 3a.

---

HPQ comment number 108  
Page=456 Subtype=Highlight Author=relliott  
Comment=  
6.21.2.1  
Table 370

Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 109  
Page=497 Subtype=Highlight Author=relliott  
Comment=  
6.23.3.2.19

Add space in "Code12h"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 110  
Page=498 Subtype=Highlight Author=relliott  
Comment=  
6.23.3.2.20

Add space in "Code15h"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 111  
Page=499 Subtype=Highlight Author=relliott  
Comment=  
6.23.3.2.21

Add space in "Code19h"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 112  
Page=500 Subtype=Highlight Author=relliott  
Comment=  
6.23.3.2.22

Add space in "Code1Ah"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 113  
Page=506 Subtype=Highlight Author=relliott  
Comment=  
6.23.3.2.28.1

Change "Block, with" to "Block with"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 114  
Page=508 Subtype=Highlight Author=relliott  
Comment=  
6.23.3.2.28.3  
Table 432

Merge Bit column cells 1 and 0 into one labeled "1:0" so the order of the two bits is clear. The right column referring to 01b could either mean 1:0 is 01b or 0:1 is 01b, which are different.

MMC WG Response:  
To be clarified. Changed in 3a.

---

HPQ comment number 115  
Page=539 Subtype=Highlight Author=relliott  
Comment=  
6.25.2.1  
Table 472

Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 116  
Page=573 Subtype=Highlight Author=relliott  
Comment=  
6.27.2.2  
table 507 and text

Change IMMED to Immed to match formatting of other field names

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 117  
Page=590 Subtype=Text Author=relliott  
Comment=  
6.28.3.3.1  
table 528  
Add h to each of the code values like in the first row

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 118  
Page=612 Subtype=Highlight Author=relliott  
Comment=  
6.32.3.15

Change "Figure 51 shows" to "Figure 127 shows"

MMC WG Response:  
Changed in 3a.

---

HPQ comment number 119  
Page=654 Subtype=Highlight Author=relliott  
Comment=  
6.39.2.2, 6.39.2.4, and table 621  
Change IMMED to Immed to match formatting of other field names

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 120  
Page=658 Subtype=Highlight Author=relliott  
Comment=  
6.40.2.2, 6.40.4, and table 628

Change IMMED to Immed to match formatting of other field names

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 121  
Page=658 Subtype=Text Author=relliott  
Comment=  
6.40.2.1 SYNCHRONIZE CACHE

SBC-2 added some fields to this CDB:  
a SYNC\_NV bit in byte 1 bit 2  
a GROUP NUMBER field in byte 6 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 122  
Page=661 Subtype=Text Author=relliott  
Comment=  
6.42.2.1 VERIFY (10)

SBC-2 added some fields to this CDB:  
a VRPROTECT field in byte 1 bits 7:5  
a GROUP NUMBER field in byte 6 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 123  
Page=661 Subtype=Text Author=relliott  
Comment=  
6.42

Given that READ (12) and WRITE (12) are supported, why is VERIFY (12) not also supported?

MMC WG Response:  
It is not required by any feature.

---

HPQ comment number 124  
Page=662 Subtype=Highlight Author=relliott  
Comment=  
6.42.4  
Change "Time-out & Protect Mode Page (1Dh)" to "the Timeout and Protect mode page (see 7.9)"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 125  
Page=663 Subtype=Text Author=relliott  
Comment=  
6.43.2.1 WRITE (10)

SBC-2 added some fields to this CDB:  
a WRPROTECT field in byte 1 bits 7:5  
a GROUP NUMBER field in byte 6 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 126  
Page=663 Subtype=Text Author=relliott  
Comment=  
6.43.2.1 WRITE (10)

SBC-2 added a FUA\_NV bit in byte 1 bit 1

The TSR bit, which was not in MMC-4, conflicts with the FUA\_NV bit. Can it be moved?

It breaks the informal compatibility between SBC and MMC.

MMC WG Response:  
The WG - and others - was consulted about any adverse effects of this change. It is sufficiently early that we are able to make this fix. Changed in 3a.

---

HPQ comment number 127  
Page=667 Subtype=Highlight Author=relliott  
Comment=  
6.43.4  
Change "Cacheing Page" to "Caching mode page (see 7.6)"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 128  
Page=668 Subtype=Text Author=relliott  
Comment=  
6.44.2.1 WRITE (12)

SBC-2 added some fields to this CDB:  
a WRPROTECT field in byte 1 bits 7:5  
a GROUP NUMBER field in byte 10 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 129  
Page=668 Subtype=Text Author=relliott  
Comment=  
6.44.2.1 WRITE (12)

SBC-2 added a FUA\_NV bit in byte 1 bit 1

The TSR bit, which was not in MMC-4, conflicts with the FUA\_NV bit. Can it be moved?

It breaks the informal compatibility between SBC and MMC.

MMC WG Response:  
The WG - and others - was consulted about any adverse effects of this change. It is sufficiently early that we are able to make this fix. Changed in 3a.

---

HPQ comment number 130  
Page=670 Subtype=Highlight Author=relliott  
Comment=  
6.44.4  
Change "Cacheing Page" to "Caching mode page (see 7.6)"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 131  
Page=670 Subtype=Highlight Author=relliott  
Comment=  
6.44.4  
Change "Time-out & Protect Mode Page (1Dh)" to "Timeout and Protect mode page (see 7.9)"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 132  
Page=671 Subtype=Text Author=relliott  
Comment=  
6.45.2.1 WRITE AND VERIFY (10)

SBC-2 added some fields to this CDB:  
a WRPROTECT field in byte 1 bits 7:5  
a GROUP NUMBER field in byte 6 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 133  
Page=671 Subtype=Text Author=relliott  
Comment=  
6.45.2.1 WRITE AND VERIFY (10)

SBC-1 and -2 define these bits:  
DPO byte 1 bit 4  
BYTCHK byte 1 bit 1  
Obsolete byte 1 bit 0

Mark them as Restricted so MMC-6+ don't use them for other purposes.

MMC WG Response:  
The MMC WG has no need for compatibility with SBC-2.

---

HPQ comment number 134  
Page=671 Subtype=Text Author=relliott  
Comment=  
6.45

Given that READ (12) and WRITE (12) are supported, why is WRITE AND VERIFY (12) not also supported?

MMC WG Response:  
It is not required by any feature.

---

HPQ comment number 135  
Page=673 Subtype=Highlight Author=relliott  
Comment=  
6.46.1  
Table 645

Change "Mode 00111b is Mandatory" to "Mode 00111b (Download microcode with offsets and save) is Mandatory"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 136  
Page=676 Subtype=Highlight Author=relliott  
Comment=  
7.2.2  
Change "Time-out & Protect mode page" to "Timeout and Protect mode page"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 137  
Page=676 Subtype=Highlight Author=relliott  
Comment=  
7.2.2  
Change "Mode Page" to "mode page"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 138  
Page=696 Subtype=Highlight Author=relliott  
Comment=  
7.6

Change "08h" to "Page Code 08h" to match other headers

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 139

Page=697 Subtype=Highlight Author=relliott

Comment=

7.7

Change "mode page" to "Mode Page" in header to match other headers

Or change all the others' "Mode Page"s to "mode page"

MMC WG Response:

To be changed.

---

HPQ comment number 140

Page=711 Subtype=StrikeOut Author=relliott

Comment=

C.3.5

Delete "(abbreviated as 0 in the figure above)"

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 141

Page=726 Subtype=Highlight Author=relliott

Comment=

E.11

Change Page to Mode Page

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 142

Page=729 Subtype=Highlight Author=relliott

Comment=

Table F.1

Change "Continued" to "continued"

MMC WG Response:

To be changed. Changed in 3a.

---

HPQ comment number 143

Page=731 Subtype=Highlight Author=relliott

Comment=

F.3.4

Table F.4

Change "LOGICAL UNIT REGION MUST BE PERMANENT" to "DRIVE REGION MUST BE PERMANENT"

to match 6.34.3.1.4 and Table F.10 and SPC-4's asc/ascq tables.

MMC WG Response:

To be changed. Changed in 3a.

---



HPQ comment number 144  
Page=735 Subtype=Highlight Author=relliott  
Comment=  
Table F.7  
Change "Continued" to "continued"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 145  
Page=744 Subtype=Highlight Author=relliott  
Comment=  
Table F.10  
center header for Table F.10 on page 690 (PDF page 744)

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 146  
Page= Subtype=Highlight Author=relliott  
Comment=  
MMC-5 section 5.3.45 mentions that the READ MEDIA SERIAL NUMBER command  
(ABh/01h, which shares the opcode with the SERVICE ACTION IN (12) command).is  
an optional feature. (please add the "(12)" after "SERVICE ACTION IN, since  
there is also a "(16)" version)

However, The command tables in section 6.1 are missing the READ MEDIA SERIAL  
NUMBER command. Please add that command to the tables."

MMC WG Response:  
To be changed. Changed in 3a.

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

Technical PDF pg 432, pg 378, 6.14.2 The CDB and its Parameters  
The PREVENT ALLOW MEDIUM REMOVAL Command command is defined in the SPC-3 standard and should not be redefined in this standard. The only thing that should be here is a reference to the SPC-3 standard. Delete this section from this standard. This comment was made in MMC-4 and still has not been resolved.

The comment from the MMC group at the time was:

PAMR is defined completely different in MMC. It is not part of the command description duplication discussion.

The response to the MMC groups comment was:

It is not acceptable to to redefine a command that is defined in SPC. That will on cause problems in interoperability between different device types. You

have the following choices:

- 1-Request PAMR be removed from SPC
- 2-Use the PAMR as currently defined in SPC.
- 3- Define a new op code for MMC and defined it how you want

There are no other options.

As I recall it was stated that this would be resolved in MMC-5. But that has not happened. I will not change my no vote until this is issue is resolved.

MMC WG Response: This has been resolved in the May 2006 T10 CAP and T10 Plenary meetings. The PREVENT ALLOW MEDIUM REMOVAL command is to be removed from SPC-4.

**Comments attached to Abs ballot from John Geldman of Lexar Media, Inc.:**

MMC-5 does not materially affect our organization

MMC WG Response: No action required.

**Comments attached to Yes ballot from Avraham Shimor of M-Systems:**

Alternatively, Plenary agenda, IEEE P1667 Liason Report - NEW

MMC WG Response: No action required.

**Comments attached to Abs ballot from James Williams of Oracle:**

Do not feel knowledgable enough to offer an informed vote.

Jim

MMC WG Response: No action required.

**Comments attached to No ballot from Terence J. Nelson of Panasonic Technologies, Inc:**

1 Page 32, 4.1.3.2.2.2 (Properties of Logical Tracks) The sentence below the table (in 2f reads) "When the recording method is purely sequential, a single WRITE command is limited to a single Logical Track." Even if the media is in Layer Jump Recording mode, a single WRITE command is also limited to a single Track. Is Layer Jump Recording mode categorized as the pure sequential mode?

MMC WG Response:

MMC-5 changes the definition of what "sequential" means with respect to Logical Track. This is because MMC-5 changed the definition of Logical Track with its definition of RZone. That seemed to be the simplest way to address the differences in Layer Jump Recording, but it may be a problem for readers. The trouble is that most people have a pre-conceived idea of what "sequential" means in Logical Track recording. We may confuse people when we use the word "sequential". It is best to try to clarify at each potential point of confusion.

---

2 Page 32, 4.1.3.2.2.2 (Properties of Logical Tracks) The sentence below the table (in 2f reads) "... and sense bytes SK/ASC/ASCQ shall be set to ILLEGAL REQUEST/END OF USER AREA ENCOUNTERED ON THIS TRACK." The ASC/ASCQ is not correct. It must be "... and sense bytes SK/ASC/ASCQ shall be set to ILLEGAL REQUEST/INVALID ADDRESS FOR WRITE." Please refer to 4.16.7.1, 4.16.10.1 and 4.16.10.3 of Mt.Fuji6 Rev1.0.

MMC WG Response:

To be changed. Changed in 3a.

---

3 Page 480, 6.24.3.2.3 (READ FORMAT CAPACITIES) In Table 467 (2f reads) "... or Quick Grow/Quick Add formatted restricted overwrite media with at least on closed Session, ..." Typo. (Should read) "... or Quick Grow/Quick Add formatted restricted overwrite media with at least one closed Session, ..."

MMC WG Response:

To be changed. Changed in 3a.

---

4 Page 545, 6.30.2.4 (RESERVE TRACK) In the paragraph before the last (2f reads) "If the currently mounted medium is CD and Reservation Size requested is smaller than 298, the command should be terminated with CHECK CONDITION status and SK/ASC/ASCQ values shall be set to ILLEGAL REQUEST/INVALID FIELD IN CDB." Also three lines below (2f reads) "When the currently mounted media is CD and Reservation Size is less than 298, the Drive shall perform no reservation and terminate the command with CHECK CONDITION status and set sense bytes SK/ASC/ASCQ to ILLEGAL REQUEST/INVALID FIELD IN CDB." These two sentences say almost the same thing. Only the difference is that the second sentence says the drive is prohibited to perform reservation. How about to eliminate the first one?"

MMC WG Response:

To be changed. Changed in 3a.

---

**Comments attached to Abs ballot from Bill Galloway of Pivot3, Inc.:**

Not materially affected by this proposal.

MMC WG Response: No action required.

**Comments attached to Abs ballot from Paul Entzel of Quantum Corp.:**

My company is not materially affected by this standard.

MMC WG Response: No action required.

**Comments attached to Abs ballot from Gerald Houlder of Seagate Technology:**

Seagate is not materially affected by MMC-5 standard.

MMC WG Response: No action required.

**Comments attached to Abs ballot from Gregory Tabor of Vitesse Semiconductor:**

Vitesse has no opinion on this letter ballot.

MMC WG Response: No action required.

**Comments attached to Abs ballot from Rich Ramos of Xyratex:**

Our company does not have a stance one way or another on MMC.

MMC WG Response: No action required.