

T10/06-185r0

Voting Results on T10 Letter Ballot 06-184r0 on  
 Forwarding MMC-5 to First Public Review  
 Ballot closed: 2006/05/04 12:00 noon MDT

Organization	Name	S	Vote	Add'l Info
Adaptec, Inc.	Lawrence J. Lamers	A	Yes	
AMCC	Paul von Stamwitz	P	Yes	
Amphenol Interconnect	Michael Wingard	P	Yes	
Broadcom Corp.	Ron Roberts	A	Yes	
Brocade	Robert Snively	P	Abs	Cmnts
Dallas Semiconductor	James A. Lott, Jr.	P	Yes	
Dell, Inc.	Kevin Marks	P	Yes	
EMC Corp.	David Black	A	Yes	
Emulex	Robert H. Nixon	P	Abs	Cmnts
ENDL	Ralph O. Weber	P	No	Cmnts
FCI	Douglas Wagner	P	Yes	
Foxconn Electronics	Elwood Parsons	P	Abs	Cmnts
Fujitsu	Mike Fitzpatrick	P	Yes	
General Dynamics	Nathan Hastad	P	Yes	
Hewlett Packard Co.	Rob Elliott	P	No	Cmnts
Hitachi Cable Manchester	Zane Daggett	P	Yes	
Hitachi Global Storage Tech.	Dan Colegrove	P	Yes	
IBM Corp.	George O. Penokie	P	No	Cmnts
Intel Corp.	Robert Sheffield	P	Yes	
Iomega Corp.	Robert Payne	P	Yes	
Lexar Media, Inc.	John Geldman	P	Abs	Cmnts
LSI Logic Corp.	John Lohmeyer	P	Yes	
M-Systems	Avraham Shimor	P	Yes	Cmnts
Marvell Semiconductor, Inc.	David Geddes	P	Yes	
Maxtor Corp.	Mark Evans	P	Yes	
McDATA	David Peterson	P	Yes	
Microsoft Corp.	Emily Hill	P	Yes	
Molex Inc.	Jay Neer	P	Yes	
Nvidia Corp.	Mark Overby	P	Yes	
Oracle	James Williams	P	Abs	Cmnts
Panasonic Technologies, Inc	Terence J. Nelson	P	No	Cmnts
Philips Electronics	William P. McFerrin	P	Yes	
Pivot3, Inc.	Bill Galloway	P	Abs	Cmnts
PMC-Sierra	Tim Symons	P	Yes	
QLogic Corp.	Skip Jones	P	Yes	
Quantum Corp.	Paul Entzel	P	Abs	Cmnts
Seagate Technology	Gerald Houlder	P	Abs	Cmnts
Sierra Logic, Inc.	William Martin	P	Yes	
Sun Microsystems, Inc.	Vit Novak	P	Yes	
Symantec	Roger Cummings	P	Yes	
Texas Instruments	Paul D. Aloisi	P	Yes	
TycoElectronics	Ashlie Fan	P	Yes	
Vitesse Semiconductor	Gregory Tabor	P	Abs	Cmnts
Western Digital	Curtis Stevens	P	Yes	
Xiotech Corp.	Jeff Williams	P	Yes	
Xyratex	Rich Ramos	P	Abs	Cmnts

Ballot totals: (32:4:10:0=46)

32 Yes  
4 No  
10 Abstain  
0 Organization(s) did not vote  
46 Total voting organizations  
15 Ballot(s) included comments

This 2/3rds majority ballot passed.  
32 Yes are more than half the membership eligible to vote minus abstentions  
[greater than 18] AND  
32 Yes are at least 24 (2/3rds of those voting, excluding abstentions [36])  
AND  
32 Yes are equal to or exceed a quorum [15]

Key:  
P Voter is principal member  
A Voter is alternate member  
Abs Abstain vote  
DNV Organization did not vote  
Cmnts Comments were included with ballot  
NoCmnts No comments were included with a vote that requires comments

\*\*\*\*\*

Comments attached to Abs ballot from Robert Snively of  
Brocade:

Brocade has no material interest in this standard at present.

\*\*\*\*\*

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

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

\*\*\*\*\*

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.

\*\*\*\*\*

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

Lack of expertise.

\*\*\*\*\*

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

---  
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)

---  
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"

---  
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.

---  
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.

---

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.

---

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.

---

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.

---

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

Add:  
CE Consumer Electronics  
PC Personal Computer

(used by AACS definition)

---

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).

---

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)"

---

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)"

---

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)"

---

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"

---

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"

---

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.

---

HPQ comment number 17  
Page=130 Subtype=Text Author=relliott  
Comment=  
4.3.3.5  
Include a introductory reference to figure 30

---

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"

---

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"

---

HPQ comment number 20  
Page=137 Subtype=Text Author=relliott  
Comment=  
4.3.4.4.2  
  
Include an introductory reference to figure 33

---

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"

---

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"

---

HPQ comment number 23  
Page=143 Subtype=Text Author=relliott  
Comment=  
4.3.5.4.2

Include an introductory reference to figure 37

---

HPQ comment number 24  
Page=144 Subtype=Text Author=relliott  
Comment=  
4.3.5.5.1

Include an introductory reference to figure 40

---

HPQ comment number 25  
Page=146 Subtype=Text Author=relliott  
Comment=  
4.3.5.5.4

Include an introductory reference to figure 41

---

HPQ comment number 26  
Page=147 Subtype=Text Author=relliott  
Comment=  
4.3.5.6

Include an introductory reference to figure 42

---

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

Include an introductory reference to figure 43

---

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"

---

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"

---

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).

---

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"

---

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"

---

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"

---

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"

---

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

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

---

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-RAM, the definition of the sector information part of the ID field is shown in Figure 56"

---

HPQ comment number 37  
Page=173 Subtype=Highlight Author=relliott  
Comment=  
4.3.10.1  
Change idenfification to identification

---

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

---

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

---

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"

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

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

Unbold "(see Figure 25)."

---  
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

---  
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"

---  
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"

---  
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.

---  
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"

---

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"

---

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"

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HPQ comment number 50

Page=184 Subtype=Text Author=relliott

Comment=

4.4.6.4

Add period after "Figure 75"

---

HPQ comment number 51

Page=186 Subtype=Text Author=relliott

Comment=

4.5.2.2

Remove line break before "Figure 66)"

---

HPQ comment number 52

Page=192 Subtype=Text Author=relliott

Comment=

4.5.3.3.1

Include introductory reference to figure 82

---

HPQ comment number 53

Page=192 Subtype=Text Author=relliott

Comment=

4.5.3.3.1

Include introductory reference to figure 83

---

HPQ comment number 54  
Page=193 Subtype=Text Author=relliott  
Comment=  
4.5.3.3.2

Include introductory reference to figure 84

---

HPQ comment number 55  
Page=193 Subtype=Text Author=relliott  
Comment=  
4.5.3.3.2

Include introductory reference to figure 85

---

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

---

HPQ comment number 57  
Page=208 Subtype=Highlight Author=relliott  
Comment=  
4.5.4.4

Change (Figure 78) to (Figure 104)

---

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

---

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

---

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

Add introductory reference to figure 107.

---

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

add introductory reference to figure 110

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

add introductory reference to figure 111

---  
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)"

---  
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).

---  
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)

---  
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)

---  
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)

---  
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)

---  
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)

---  
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.

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

delete extra period in "sent.."

---  
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

---  
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

---

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

Change "Continued" to "continued"

---

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

---

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

---

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

---

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)?

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

change Drive to Media

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

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

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

Change "Continued" to "continued"

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

Change "Continue" to "continued"

---  
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

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



---

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

---

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

---

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

---

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

---

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

---

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)

---

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

---

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

---

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

---

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

---

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.

---

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

---

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

---

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

---

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

---

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)"

---

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

---

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.

---

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

---

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

---  
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."

---  
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

---  
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

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

Add space in "Code12h"

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

Add space in "Code15h"

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

Add space in "Code19h"

---  
HPQ comment number 112

Page=500 Subtype=Highlight Author=relliott  
Comment=  
6.23.3.2.22

Add space in "Code1Ah"

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

Change "Block, with" to "Block with"

---  
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.

---  
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

---  
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

---  
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

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

6.32.3.15

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

---

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

---

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

---

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

---

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

---

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?

---

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)"

---

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

---

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.

---

HPQ comment number 127

Page=667 Subtype=Highlight Author=relliott

Comment=

6.43.4

Change "Cacheing Page" to "Caching mode page (see 7.6)"

---

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

---

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.

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

---  
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)"

---  
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

---  
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.

---  
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?

---  
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"

---  
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"

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

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

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

---  
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"

---  
HPQ comment number 140  
Page=711 Subtype=StrikeOut Author=relliott  
Comment=  
C.3.5  
Delete "(abbreviated as 0 in the figure above)"

---

HPQ comment number 141  
Page=726 Subtype=Highlight Author=relliott  
Comment=  
E.11  
Change Page to Mode Page

---  
HPQ comment number 142  
Page=729 Subtype=Highlight Author=relliott  
Comment=  
Table F.1  
Change "Continued" to "continued"

---  
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.

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

---  
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)

\*\*\*\*\*

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 RAMR be removed from SPC
- 2-Use the RAMP 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.

\*\*\*\*\*

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

MMC-5 does not materially affect our organization

\*\*\*\*\*

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

Alternatively, Plenary agenda, IEEE P1667 Liasion Report - NEW

\*\*\*\*\*

Comments attached to Abs ballot from James Williams of Oracle:

Do not feel knowledgable enough to offer an informed vote.

Jim

\*\*\*\*\*

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?

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.

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, ..."

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?"

\*\*\*\*\*

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

Not materially affected by this proposal.

\*\*\*\*\*

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

My company is not materially affected by this standard.

\*\*\*\*\*

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

Seagate is not materially affected by MMC-5 standard.

\*\*\*\*\*

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

Vitesse has no opinion on this letter ballot.

\*\*\*\*\*

Comments attached to Abs ballot from Rich Ramos of  
Xyratex:

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

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