Voting Results on T10 Letter Ballot 01-350r0 on
Forwarding SSC-2 to First Public Review

Organization	Name	S	Vote	Add'l Info
Adaptec, Inc.	Ron Roberts	P	Yes	
Amphenol Interconnect	Michael Wingard	P	Yes	
Ancot Corp.	Bart Raudebaugh	P	Yes	
Andiamo Systems, Inc.	Claudio DeSanti	P	Yes	
BREA Technologies, Inc.	Bill Galloway	P	Yes	
Brocade Comm. Systems, Inc.	Brian Forbes	P	Yes	
Cisco Systems, Inc.	David Peterson	P	YesC	Cmnts
Compaq Computer Corp.	Robert C. Elliott	P	YesC	Cmnts
Congruent Software, Inc.	Peter Johansson	P	Abs	Cmnts
Crossroads Systems, Inc.	Robert Griswold	P	Yes	
Dallas Semiconductor	Titkwan Hui	P	Yes	
Dell Computer Corp.	Kevin Marks	P	Yes	
EMC	Gary S. Robinson	P	Yes	
Emulex	Robert H. Nixon	P	Abs	Cmnts
ENDL Texas	Ralph O. Weber	P	No	Cmnts
Exabyte Corp.	Joe Breher	P	YesC	Cmnts
FCI	Douglas Wagner	P	Yes	
Fujitsu	Eugene Lew	P	Yes	
General Dynamics	Nathan Hastad	P	Yes	
Genroco, Inc.	Donald Woelz	P	Yes	
Hewlett Packard Co.	Randy Haagens	P	Yes	
Hitachi Cable Manchester	Randy Wasylak	A	Yes	
IBM / Tivoli Systems	George O. Penokie	P	No	Cmnts
Intel Corp.	Cris Simpson	P	Abs	Cmnts
Iomega Corp.	Tim Bradshaw	P	Yes	
KnowledgeTek, Inc.	Dennis Moore	P	Yes	
LSI Logic Corp.	John Lohmeyer	P	Yes	
Maxtor Corp.	Mark Evans	P	Yes	
Microsoft Corp.	Emily Hill	P	Yes	
Molex Inc.	Jay Neer	P	Yes	
Nishan Systems Inc.	Charles Monia	P	Yes	
Ophidian Designs	Edward A. Gardner	P	Yes	
Panasonic Technologies, Inc	Terence J. Nelson	P	Yes	
Philips Electronics/CD Edge	William P. McFerrin	P	Yes	
Pirus Networks	Charles Binford	P	Yes	
QLogic Corp.	Skip Jones	P	Yes	
Quantum Corp.	Paul Entzel	P	No	Cmnts
Seagate Technology	Gerald Houlder	P	No	Cmnts
Storage Technology Corp.	Erich Oetting	P	Yes	
Sun Microsystems, Inc.	Kenneth Moe	P	Yes	
Texas Instruments	Paul D. Aloisi	P	Yes	
Toshiba America Elec. Comp.	Tasuku Kasebayashi	P	Yes	
Troika Networks, Inc.	William C. Terrell	P	Yes	
TycoElectronics	Charles Brill	P	Yes	
Veritas Software	Roger Cummings	P	Yes	
Woven Electronics	Doug Piper	P	Abs	Cmnts

Ballot totals: (38:4:4:0=46)
 38 Yes
  4 No
  4 Abstain
  0 Organization(s) did not vote
 46 Total voting organizations
 11 Ballot(s) included comments

This 2/3rds majority ballot passed.
38 Yes is at least a majority of the membership [greater than 23] AND
38 Yes is at least 28 (2/3rds of those voting, excluding abstentions [42])

Key:
P   Voter is principal member
A   Voter is alternate member
YesC   Yes with comments vote
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
DUP   Duplicate ballot (last ballot received from org. is counted)
PSWD   The password was not correct (vote not counted)
ORG?   Organization is not voting member of T10 (vote not counted)

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Comments attached to YesC ballot from Mr. David Peterson of
Cisco Systems, Inc.:

Cisco-1   Type: E   Page: 5   Location: 3.1.2
Problem Description:
  Fix formatting: " -2"
Suggested Solution:

Cisco-2   Type: E   Page: 6   Location: 3.1.22
Problem Description:
  Capitolize "a"
Suggested Solution:

Cisco-3   Type: E   Page: 6   Location: 3.1.26
Problem Description:
  Capitolize "a"
Suggested Solution:

Cisco-4   Type: E   Page: 6   Location: 3.1.29
Problem Description:
  Capitolize "a"
Suggested Solution:

Cisco-5   Type: E   Page: 6   Location: 3.1.33
Problem Description:
  Text contains a shall
Suggested Solution:
  See if normative text already exists elsewhere and remove the shall
  from the definition.

Cisco-6   Type: E   Page: 7   Location: 3.1.49
Problem Description:
  Text contains a normative statement "Setmarks may be ignored based on
  the RSMK mode parameter".
Suggested Solution:
  See if normative text already exists elsewhere and remove the
  statement from the definition.

Cisco-7   Type: E   Page: 8   Location: 3.1.54
Problem Description:
  "An SCSI device ."
Suggested Solution:
  "A SCSI device ."

Cisco-8   Type: T   Page: 8   Location:
Problem Description:
  Add definition of "word"
Suggested Solution:
  word: Specifies a 32-bit construct.

Cisco-9   Type: T   Page: 12   Location: 4.2.1
Problem Description:
  Specifies that Reserve/Release are mandatory and Persistent Reserve/
  Release are optional. This is good but I believe we have moved beyond
  normal Reserve/Release functionality. For example, 3rd Party Copy.
Suggested Solution:
  Specify Persistent Reserve/Release are mandatory and Reserve/Release

2

    are optional (or mandatory).

Cisco-10 Type: E   Page: 14   Location: 4.2.1
Problem Description:
  Change to "see Figure 5"
Suggested Solution:

Cisco-11 Type: E   Page: 14   Location: 4.2.1
Problem Description:
  Change to "see Figure 6"
Suggested Solution:

Cisco-12 Type: E   Page: 15   Location: 4.2.2
Problem Description:
  Duplicate paragraphs
Suggested Solution:
  Delete 2nd paragraph

Cisco-13 Type: E   Page: 17   Location: Figure 10
Problem Description:
  Second instance of BOP0 incorrect
Suggested Solution:
  Should be BOP1

Cisco-14 Type: E   Page: 17   Location: 4.2.4, paragraph 1
Problem Description:
  Specifies "at least two types" then lists three instances of the two
  types
Suggested Solution:
  change "filemarks, and setmarks" to "marks".

Cisco-15 Type: T   Page: 19   Location: 4.2.6
Problem Description:
  Need more text stating that explicit address commands enable a robust
  tagged command mecahnism.
Suggested Solution:
  Need to supply text here.

Cisco-16 Type: E   Page: 19   Location: 4.2.7, paragraph 1
Problem Description:
  Contains text "determine write sequence". "write sequence" is a
  defined term thus may not be used in the proper context here.
Suggested Solution:
  Reword or use something other than "write sequence" in this paragraph.

Cisco-17 Type: E   Page: 19   Location: 4.2.7, paragraph 4
Problem Description:
  Specifies "The READ POSITION and LOCATE commands use four-byte
  fields."
Suggested Solution:
  "The READ POSITION and LOCATE commands contain fields to hold ."

Cisco-18 Type: E   Page: 24   Location: 4.2.10, paragraph 1
Problem Description:
  ". may follow the progress ."
Suggested Solution:
  Change to"determine the progress", "check on the progress", or "may
  test the progress".

Cisco-19 Type: E   Page: 24   Location: 4.2.11
Problem Description:
  No reference or text describing what block address mode is.
Suggested Solution:
  Add reference or text describing block address mode.

Cisco-20 Type: E   Page: 25   Location: Note 3
Problem Description:

  Seems out of place.
Suggested Solution:
  Find proper place.

Cisco-21 Type: E   Page: 25   Location: 4.2.12, item e)
Problem Description:
  No reference to state diagram(s)
Suggested Solution:
  Add reference to state diagram(s).

Cisco-22 Type: E   Page: 25   Location: 4.2.12
Problem Description:
  missing comma
Suggested Solution:
  Add comma after reference

Cisco-23 Type: E   Page: 25   Location: 4.2.13
Problem Description:
  missing comma and reference
Suggested Solution:
  Add reference and comma

Cisco-24 Type: E   Page: 25   Location: 4.2.13, paragraph 2
Problem Description:
  "setting of the bit"
Suggested Solution:
  "setting of the BAM bit"

Cisco-25 Type: E   Page: 25   Location: 4.2.13, paragraph 3
Problem Description:
  "setting of the PARAMETER LENGTH field"
Suggested Solution:
  "setting of the PARAMETER LENGTH field in the CDB"

Cisco-26 Type: E   Page: 29   Location: Figure 14
Problem Description:
  missing comma
Suggested Solution:
  add comma after case in the note

Cisco-27 Type: E   Page: 32   Location: Table 7
Problem Description:
  (this flag is set as in 5, or 6)
Suggested Solution:
  (this flag is set as specified in flag number 5h, or 6h)

Cisco-28 Type: E   Page: 33   Location: 4.2.14.3, paragraph 3
Problem Description:
  Paragraph is redundent
Suggested Solution:
  Remove or reword.

Cisco-29 Type: E   Page: 33   Location: 4.2.15, para 1
Problem Description:
  "described the table 9"
Suggested Solution:
  "described in table 9"

Cisco-30 Type: E   Page: 33   Location: 4.2.15, para 3
Problem Description:
  (see Annex A)
Suggested Solution:
  (see SPC-3 Annex D)

Cisco-31 Type: E   Page: 34   Location: 4.2.15, para 4
Problem Description:
  "medium into a format"
Suggested Solution:
  "medium using a format"

Cisco-32 Type: E   Page: 34   Location: 4.2.15, para 7
Problem Description:
  "defining the e values"
Suggested Solution:
  "defining the values"

Cisco-33 Type: T   Page: 39   Location: 5.2.1, para 1
Problem Description:
  "logical unit shall ensure that all buffered data, filemarks, and
  setmarks have been transferred to the medium". Is it the logical unit
  or device server that ensures the flush? In para 3 it states ".the
  device server shall return status as soon as all buffered data,
  filemarks, and setmarks have been written to the medium ..."
Suggested Solution:
  Make sure these statements are consistent throughout the document

Cisco-34 Type: T   Page: 40   Location: 5.2.1, last para
Problem Description:
  LOCATE OPERATION FAILED
Suggested Solution:
  Need to obtain the ASC codepoint via SPC-3

Cisco-35 Type: E   Page: 46   Location: 5.5.1, para 7
Problem Description:
  Difficult to parse
Suggested Solution:
  Convert the text to a list or table

Cisco-36 Type: E   Page: all Location: all
Problem Description:
  fixed-length or fixed length
  variable-length or variable length
Suggested Solution:
  Be consistent

Cisco-37 Type: T   Page: all Location: all
Problem Description:
  IINFORMATION field processing
Suggested Solution:
  Implement changes per the new sense data format per SPC-3

Cisco-38 Type: E   Page: 62   Location: 6.7.1, para 5
Problem Description:
  see Table 22
Suggested Solution:
  see table 22, and check for other instances

Cisco-39 Type: E   Page: 67   Location: 7.2.1, para 2
Problem Description:
  extra space; "beginning-of -partition"
Suggested Solution:
  remove space

Cisco-40 Type: E   Page: 88   Location: 7.11.1, para 4
Problem Description:
  "shall be 16"
Suggested Solution:
  "shall be set to 16"

Cisco-41 Type: T   Page: 89   Location: 7.11.1
Problem Description:
  What happens when implicit locate fails.
Suggested Solution:
  Add text specifying behavior.

Cisco-42 Type: E   Page: 96   Location: Table 58
Problem Description:
  PAGE LENGTH(OEh)
Suggested Solution:
  Use zero, not capitol "O"

Cisco-43 Type: E   Page: 99   Location: Table 61
Problem Description:
  PAGE LENGTH(OEh)
Suggested Solution:
  Use zero, not capitol "O"

Cisco-44 Type: E   Page: 109 Location: Table 67
Problem Description:
  PAGE LENGTH(OEh)
Suggested Solution:
  Use zero, not capitol "O"

Cisco-45 Type: E   Page: 110 Location: Table 68
Problem Description:
  PAGE LENGTH(OEh)
Suggested Solution:
  Use zero, not capitol "O"

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Comments attached to YesC ballot from Mr. Robert C. Elliott of
Compaq Computer Corp.:

CPQ #1
PDF Page 1
General
In the final PDF file, please number the pages i, ii, iii, ... until the
Scope section, which should start numbering 1, 2, 3, ...
This is done in Acrobat 4 or 5 using the Number Pages command.

CPQ #2
PDF Page 1
General
For the final PDF file, please run Acrobat 5's Optimize PDF command. This
reduces this file from 888 KB to 819KB.

CPQ #3
PDF Page 1
General
In the final PDF file, please set the document title to SCSI Stream
Commands - 2 and the author to David A. Peterson

CPQ #4
PDF Page 2
Points of Contact page:
Update George Penokie's address/company and John Lohmeyer's email address

CPQ #5
PDF Page 4
ANSI patent page
Change 199n to 200n

CPQ #6
PDF Page 15
Foreword
Make "device type" small-caps in "device type field"

CPQ #7
PDF Page 17
1 Scope
Remove Common Access Method from figure 1

CPQ #8
PDF Page 18
1 Scope
Remove "Serial Storage Architecture SCSI-2 Protocol SSA-S2P [ANSI
X3.294:1996]" from the list of transport protocols

CPQ #9
PDF Page 18
1 Scope
Rename "SCSI VI Protocol SVP" to "SCSI RDMA Protocol SRP"

CPQ #10
PDF Page 18
1 Scope
Change "Fiber" to "Fibre" in "Fiber Channel Physical Amendment 1"

CPQ #11
PDF Page 19
1 Scope
Remove "Common Access Method:
SCSI Common Access Method CAM [ISO/IEC 9316-421]
[ANSI X3.232:1996]" from the list of SCSI standards

CPQ #12
PDF Page 19
1 Scope
Delete "The Small Computer System Interface - 2 standard (ANSI X3.131-1994)
and the architecture that it describes are referred
to herein as SCSI-2."

CPQ #13
PDF Page 20
2.3 Normative approved references for optional features
Change Fiber to Fibre in "Fiber Channel Physical Amendment 1"

CPQ #14
PDF Page 20
2.3 Normative approved references for optional features
Remove "- Small Computer System Interface -2 SCSI-2 ISO/IEC 9316:1995-11
ANSI X3.131:1994"

CPQ #15
PDF Page 20
2.3 Normative approved references for optional features.
2.4 Normative references under development for mandatory features
2.5 Normative references under development for optional features
Delete the dashes/bullets starting each line listing a standard.

CPQ #16
PDF Page 21
3.1.15 early-warning:
add (EW) after early-warning

CPQ #17
PDF Page 21
3.1.16 end-of-data:
Add (EOD) after end-of-data

CPQ #18
PDF Page 24
3.2 Acronyms
Add "BOx beginning-of-medium or beginning-of-partition"

CPQ #19
PDF Page 24
3.2 Acronyms
Remove "SCSI-2 Small Computer System Interface - 2"

CPQ #20
PDF Page 24
3.2 Acronyms
Add SBC SCSI Block Commands
(used on page 11)

CPQ #21
PDF Page 24

7

3.2 Acronyms
Keep all the acronyms on one page (SSC is alone on page 9)

CPQ #22
PDF Page 24
3.1.262 write sequence
Add 5.2 (the ERASE command) to "(see 5.6 and 5.7)" (WRITE and WRITE
FILEMARKS) since it too has FCS and LCS bits.

CPQ #23
PDF Page 24
3.2 Acronyms
Change "SCSI either SCSI-2 or SCSI-3" to "SCSI Small Computer System
Interface"

CPQ #24
PDF Page 24
3.2 Acronyms
add (see xx) for each acronym with a glossary entry or remove it from CDB

CPQ #25
PDF Page 27
4.2 Sequential-access device model
The paragraph in 4.2 needs to be moved into a subsection of 4.2 (it's a
"hanging paragraph")

CPQ #26
PDF Page 28
4.2.1 Physical elements
Remove "COPY, COPY AND VERIFY," from write protectino paragraph. They're no
longer documented in SPC-2. Consider
replacing them with "EXTENDED COPY"

CPQ #27
PDF Page 29
4.2.1 Physical elements
Figure 3 — Typical medium track layout and other figures
Reduce whitespace between figure and caption for all figures in this
section.

CPQ #28
PDF Page 33
4.2.3 Partitions within a volume
Figure 10
Change the rightmost BOP0 to BOP1 and add EOP1 on the far right

CPQ #29
PDF Page 33
4.2.4 Logical elements within a partition
3rd paragraph
Change "using the MODE SELECT command" to "the Device configuration [mode]
page"

CPQ #30
PDF Page 33
4.2.4 Logical elements within a partition
4th paragraph
Change "using the MODE SELECT command" to "using the Device Configuration
[mode] page."
(another comment asks that the page always be referred to as a mode page
rather than just a page)

CPQ #31
PDF Page 33
4.2.3 Partitions within a volume (and elsewhere)
Some lists use a) b) c) while others use A) B) C). Pick one case for simple
lists
There are a few nested lists where different cases are used for different
levels. I'd continue doing that, but make sure the top level
matches the case for simple non-nested lists.

CPQ #32
PDF Page 34
4.2.4 Logical elements within a partition
Change "using the MODE SELECT command" to "using the Device configuration
mode page"

CPQ #33
PDF Page 35
4.2.7 Recorded object descriptors (block identifiers)
5th paragraph claims "The READ POSITION and LOCATE commands use four-byte
fields to hold these recording format
dependent identifiers." The fields are bigger than four bytes in LOCATE
(16) and in the long format now available to READ
POSITION.

CPQ #34
PDF Page 36
4.2.8 Direction and position definitions
Change "beginning-of-medium" to "BOM", "end-of-data (EOD)" to "EOD" and
"end-of-medium (EOM)" to "EOM". The acronyms
were defined earlier.

CPQ #35
PDF Page 36
4.2.8.1 Error reporting
Table 1 — Error conditions and sense keys
Remove periods from end of each condition, or add them to each

CPQ #36
PDF Page 36
4.2.8.1 Error reporting
This should be 4.2.9, not a subsection of 4.2.8

CPQ #37
PDF Page 36
4.2.8.1 Error reporting
Table 1 - Error conditions and sense keys
Change "Target reset" to "Logical unit reset"

CPQ #38
PDF Page 38
4.2.9 Write protection
The paragraphs in 4.2.9 need to be moved into a subsection (they are
"hanging paragraphs")

CPQ #39
PDF Page 38
4.2.9.1 Write protect additional sense code use
In Table 2 caption and 2nd column header, change "ASC/ASCQ" to "additional
sense code"

CPQ #40
PDF Page 39
4.2.9.2 Software Write Protect for the device server
Change "shall be reset" to "shall be set"

CPQ #41
PDF Page 39
4.2.9.2 Software Write Protect for the device server
Change "on a reset or power-up condition" to "after power on or a logical
unit reset"
(logical reset includes hard reset which includes power on so "after a
logical unit reset" should suffice, too)

CPQ #42
PDF Page 39
4.2.9.3 Associated Write Protect
4.2.9.4 Persistent Write Protect
4.2.9.5 Permanent Write Protect

Change "if a reset or power-up condition occurs" to "after a power on or a
logical unit reset occurs"
(logical reset includes hard reset which includes power on so "after a
logical unit reset occurs" should suffice, too. I don't mind
mentioning power on separately.)

CPQ #43
PDF Page 40
4.2.10 Progress indication
In table 3, change "ASC" to "additional sense code".

CPQ #44
PDF Page 41
4.2.12 Explicit address mode tagged write sequences
FCS and LCS should be small caps throughout.

CPQ #45
PDF Page 41
4.2.12 Explicit address mode tagged write sequences
Add 5.2 (ERASE) to "see 5.6 and 5.7" (WRITE and WRITE FILEMARKS) since it
too has FCS and LCS bits. (2 times in this
section)

CPQ #46
PDF Page 41
4.2.12 Explicit address mode tagged write sequences
Require that there only be one tagged write sequence in flight at a time
(or only one command with FCS=0 LCS=1 in flight at a
time). If the initiator sent two back to back sequences and commands arrive
out of order, it could wrongly associate the second
LCS with the first FCS and try to process the sequence. Thanks to the LBAs
in the CDBs, commands within a sequence can be
held until LCS arrives and reordered before processing, iff there is no
confusion about the LCSes.
Example: Initiator might try to send these sequences:
Write (LBA=0, FCS), Write (1, none), Write (2, LCS)
Write (LBA=4, FCS), Write (5, none), Write (6, LCS)
Target might receive:
Write (LBA=0, FCS), Write (1, none), Write (6, LCS)
Does it treat that as an error or wait hoping for Write (2), Write (3),
Write (4), and Write (5)?
Worse is if the LBAs between two sequences overlap. Normal drivers should
ensure two commands to the same LBA are not in
flight at the same time. The FCS/LCS bits mean no commands in overlapping
sequences can be in flight at the same time.
Write (LBA=0, FCS), Write (1, none), Write (2, LCS)
Write (LBA=1, FCS), Write (2, none), Write (3, LCS)
Target might receive:
Write (LBA=0, FCS), Write (LBA=1, FCS), Write (2, LCS)
Which sequence does that terminate?

CPQ #47
PDF Page 43
4.2.13 Block address mode state diagrams
Figure 12, figure 13, and figure 15 have entry events for TARGET RESET and
LOGICAL UNIT RESET
Change this to one entry event for "logical unit reset." Add to the
glossary:
3.1.xx logical unit reset: A logical unit action in response to a logical
unit reset event in which the logical unit performs the
operations described in SCSI Architecture Model-2.
3.1.xx logical unit reset event:
An event that triggers a logical unit reset from a logical unit as
described in SCSI Architecture Model-2.

CPQ #48
PDF Page 43
4.2.13 Block address mode state diagrams
Figures 12, 13, 14, 15
send error (SEQUENTIAL POSITIONING ERROR)

send error (ILLEGAL COMMAND WHILE IN WRITE CAPABLE STATE)
send error (ILLEGAL COMMAND WHILE IN EXPLICIT ADDRESS MODE)
send error (ILLEGAL COMMAND WHILE IN IMPLICIT ADDRESS MODE)
These are the only mentions of those additional sense codes in the
document. The main text should list them somewhere;
perhaps in a table.

CPQ #49
PDF Page 43
4.2.13 Block address mode state diagrams
Figures 12, 13, 14, 15
BAML, BAM, FCS, LCS should be small caps in the figures

CPQ #50
PDF Page 43
4.2.13 Block address mode state diagrams
Figures 12,13,14,15
The figures should list the sense key that goes with each of the additional
sense codes specified in send error ().

CPQ #51
PDF Page 45
4.2.13 Block address mode state diagrams
Figure 14
Change comand to command (twice)

CPQ #52
PDF Page 46
4.2.14 TapeAlert application client interface
The paragraphs in 4.2.14 need to be moved into a subsection (they are
"hanging paragraphs")

CPQ #53
PDF Page 47
4.2.14.2 TapeAlert log sense format
Each flag shall be cleared in the following circumstances:
I suspect that "logical unit reset" is another case where the flags shall
be cleared. It can replace "D) on hard reset" and "A) At drive
power on"

CPQ #54
PDF Page 47
4.2.14.1 TapeAlert informational exceptions control page implementation
Table 5 - TapeAlert default informational exceptions control page
In DEXCPT description, change "that" to "which"

CPQ #55
PDF Page 49
4.2.14.3 Tape drive/autoloader flag definitions
Table 8 - TapeAlert flag definitions
Change 1h to 01h

CPQ #56
PDF Page 50
4.2.15 READ ATTRIBUTE and WRITE ATTRIBUTE command support
Change "see SPC-3 clause 8.3.4.1)" to "see SPC-3" - cannot reference
sections in another document, especially one that is
changing monthly.

CPQ #57
PDF Page 50
4.2.15 READ ATTRIBUTE and WRITE ATTRIBUTE command support
Change "(see SPC-3 Annex D)" to "(see SPC-3)" in text and in note 8 -
cannot reference sections in another document, especially
one that is changing monthly.

CPQ #58
PDF Page 52
4.2.16 Devices reservations and command behavior
Table 11 - Streaming commands that are allowed...

Change RECOVER BUFFERED DATA(6) to "RECOVER BUFFERED DATA". There is no
(16) version to differentiate from.

CPQ #59
PDF Page 53
5 Explicit address command descriptions for sequential-access devices
Sections 5.2 through 5.7 each have single subsections (5.2.1, 5.3,1 etc).
This extra level should be removed.

CPQ #60
PDF Page 53
5.1 Summary of commands for explicit mode
6.1 Summary of commands for implicit mode
To both tables, add:
EXTENDED COPY, O, 83h
RECEIVE COPY RESULTS, O, 84h
ACCESS CONTROL IN, O, 86h
ACCESS CONTROL OUT, O, 87h
READ ATTRIBUTES, O, 8Ch
WRITE ATTRIBUTES, O, 8Dh
MAINTENANCE IN, O, A3h
MAINTENANCE OUT, O, A4h

CPQ #61
PDF Page 53
5.1 Summary of commands for explicit address mode
6.1 Summary of commands for implicit address mode
Change "manadatory" to "mandatory"

CPQ #62
PDF Page 53
5.1 Summary of commands for explicit address mode
6.1 Summary of commands for implicit address mode
The phrase "shall be implemented only if the [implicit|explicit] address
command set is
supported" is not accurate. INQUIRY is marked as Mandatory, yet it is still
required even if the address mode of the section is not
supported.
The phrase "all other operation codes are reserved for future
standardization" is also incorrect; there are codes in the other
address mode that are not reserved for the future, they're already
assigned.
Perhaps one table of all the commands with a column indicating Implicit,
Explicit, or Both would work better.

CPQ #63
PDF Page 54
5.1 Summary of commands for explicit address mode
6.1 Summary of commands for implicit address mode
REPORT LUNS is listed as Mandatory here, but SPC-3 lists it as optional for
tape devices. Which is intended?

CPQ #64
PDF Page 60
5.4.1 READ REVERSE(16) command
Change "Refer to the READ(16) command (see table 22)" to "Refer to the
READ(16) command (see 5.3)"
Table 22 is READ(6), not READ(16), and a section reference is better.

CPQ #65
PDF Page 60
5.4 READ REVERSE (16)
Remove this bizarre command from the explicit command set. Are any new tape
drives likely to implement it?
Consider removing READ REVERSE (6) from the implicit command set, too.

CPQ #66
PDF Page 61
5.5 VERIFY(16) command
Table 16

Change VERIFIFICATION to VERIFICATION

CPQ #67
PDF Page 62
5.5.1 VERIFY(16) command
Change "Refer to the READ(16) command (see table 22)" to "Refer to the
READ(16) command (see 5.3)" (two times in this section)
Table 22 is READ(6), not READ(16), and a section reference is better.

CPQ #68
PDF Page 62

CPQ #69
PDF Page 63
5.6 WRITE(16) command
Table 17
Change RSVD to Rsvd (no small caps)

CPQ #70
PDF Page 63
5.6 WRITE(16) command
Change "(see SPC-3)" to "(see 8.3)" for this BLOCK LENGTH reference.

CPQ #71
PDF Page 68
6 Implicit address command descriptions for sequential-access devices
Sections 6.2 through 6.9 each have single subsections (6.2.1, 6.3,1 etc).
This extra level should be removed.

CPQ #72
PDF Page 72
6.4 READ(6)
Change "(see SPC-3)" to "(see 8.3)"

CPQ #73
PDF Page 74
6.5.1 READ REVERSE(6) command
Change "Refer to the READ(6) command (see table 22)" to "Refer to the
READ(6) command (see 6.4)"

CPQ #74
PDF Page 78
5.4.1 VERIFY(6) command
Change "Refer to the READ(6) command (see table 22)" to "Refer to the
READ(6) command (see 6.4)" (two times in this section)

CPQ #75
PDF Page 79
6.8 WRITE(6) command
Change "(see SPC-3)" to "(see 8.3)"

CPQ #76
PDF Page 83
7 Common command descriptions for sequential-access devices
Sections 7.2 through 7.11 each have single subsections (7.2.1, 7.3,1 etc).
This extra level should be removed.

CPQ #77
PDF Page 89
7.5 READ BLOCK LIMITS command
Table 35
Make Granularity small caps

CPQ #78
PDF Page 96
7.7.1 RECOVER BUFFERED DATA command
Change "Refer to the READ(6) command (see table 22)" to "Refer to the
READ(6) command (see 6.4)"

CPQ #79

PDF Page 98
7.8 REPORT DENSITY SUPPORT command
Table 43 Density support header
Make DENSITY SUPPORT DATA BLOCK DESCRIPTORS mixed case, not small caps
(it's not a field)

CPQ #80
PDF Page 102
7.10 SET CAPACITY command
In "Any excess space shall be unavailable on the volume after
successful completion of this command until reset by a new SET CAPACITY
command."
change "reset" to "changed"

CPQ #81
PDF Page 102
7.10 SET CAPACITY command
Change "device resets" to "logical unit resets"

CPQ #82
PDF Page 102
7.10 SET CAPACITY command
In "Other vendor-specific actions such as physical erasure may reset the
total capacity of the volume."
change "reset" to "change"
or phrase it as "may set the available medium for a volume to the total
capacity of the volume"

CPQ #83
PDF Page 103
7.11 SPACE(16) command
This section doesn't describe error handling (e.g. when EOM or FILEMARK are
set in the sense data), presumably inheriting those
details from SPACE(6). Another command in this section - LOCATE(16) - does
duplicate the text from LOCATE(10) on error
handling. The explicit-only commands like READ(16), WRITE, etc. also are
self-describing, not referring to their implicit ancestors.
To make this consistent, either include all the text from SPACE(6) in the
SPACE(16) description, or delete the redundant text from
LOCATE(16), ERASE(16), READ(16), READ REVERSE(16), VERIFY(16), WRITE(16),
and WRITE FILEMARKS(16).

CPQ #84
PDF Page 104
7.11 SPACE (16) command
In the error handling section, add a note that the residual may consume 8
bytes and thus sense data page formats 72h and 73h
are required with their 8 byte INFORMATION fields

CPQ #85
PDF Page 106
8.2 Log parameters
The paragraphs in 8.2 are hanging paragraphs and should be moved into a
subsection

CPQ #86
PDF Page 106
8.2 Log parameters
Table 50 — Log page codes
Sort the table by page code rather than alphabetically by Description.

CPQ #87
PDF Page 106
8.2 Log parameters
Table 50 - Log page codes
Add 3 more pages:
OF Application client log page SPC-3
10h Self-test results log page SPC-3
2Fh Informational exceptions log page SPC-3

CPQ #88
PDF Page 107
8.2.1 Sequential-access device page
I suggest changing "page" to "log page" for all references to this page.
Help keep mode page vs. log page clear.

CPQ #89
PDF Page 107
8.2.1 Sequential-access device page
Change "hard resets" to "logical unit resets"

CPQ #90
PDF Page 107
8.2.1 Sequential-access device page
Table 51 — Parameter codes for sequential-access device
page
Make all descriptions end in . or not end in .

CPQ #91
PDF Page 108
8.3 Mode parameters
I suggest changing "page" to mode page" for all references to the mode
pages. Help keep mode page vs. log page clear.

CPQ #92
PDF Page 108
8.3 Mode parameters
The paragraphs in 8.3 are hanging paragraphs and should be moved into a
subsection

CPQ #93
PDF Page 108
9.3 Mode parameters
Change "reset condition (e.g., Target Reset, SCSI Logical Unit Reset, Fibre
Channel Reset LIP or PLOGI)"
to
"logical unit reset."
Include the FC LIP and PLOGI examples into Note 45 to better explain the
FCP-2 letter ballot comment problem that caused this
rule.

CPQ #94
PDF Page 108
8.3 Mode parameters
Note 45
Change "a reset event" to "a logical unit reset event"

CPQ #95
PDF Page 108
8.2.2 TapeAlert log page
Table 52
Change TMC(0) to TMC(00b) since it is a two bit field

CPQ #96
PDF Page 108
8.2.2 TapeAlert log page
Table 52 includes PARAMETER LENGTH (140h)
But n is allowed to be 1 to 64. The parameter length is a maximum of 140h,
not set to 140h.

CPQ #97
PDF Page 109
8.3 Mode parameters
Table 55 - Speed field definition
Make Speed smallcaps

CPQ #98
PDF Page 110
8.3 Mode parameters
Item A "following a power on or reset condition occurring while not ready"

Change to "following a logical unit reset, if the logical unit is not
ready"

CPQ #99
PDF Page 110
8.3 Mode parameters
Item F "following a reset condition occurring while ready"
Change to "following a logical unit reset, if the logical unit is ready"

CPQ #100
PDF Page 111
8.3 Mode parameters
Table 57 Mode page codes
Change "page" to "mode page" in "Read-write error recovery page" everywhere
to match SPC-3 terminology

CPQ #101
PDF Page 111
8.3 Mode parameters
Table 57 - Mode page codes
Change "page" to "mode page" in "Data compression page" everywhere to match
SPC-3 terminology

CPQ #102
PDF Page 112
8.3.1 Data compression page
Table 58
Change (OEh) to (OEh) (letter O to number zero)

CPQ #103
PDF Page 114
8.3.1 Data compression page
Table 60 – Compression algorithm identifiers
Keep table on one page.

CPQ #104
PDF Page 115
8.3.2 Device configuration page
Table 61
Change (OEh) to (OEh) (letter O to number zero)

CPQ #105
PDF Page 115
8.3.1 Data compression page
Table 60 - Compression algorithm identifiers
Make all descriptions end with . or not end with .

CPQ #106
PDF Page 115
Add compression algorithms to the acronyms list or include the names here
ALDC = adaptive lossless data compression: QIC-154
IDRC = Improved Data Recording Capability
DCLZ = Data Compression according to Lempel and Ziv: QIC-130, ISO/IEC-DIS
11558
There should be normative references for each of these too.

CPQ #107
PDF Page 121
8.3.3 Medium partition page(1)
Change "or the device is reset" to "or until a logical unit reset"

CPQ #108
PDF Page 121
8.3.3 Medium partition page (1)
A CLEAR bit of zero and an ADDP bit of zero specifies SCSI-2 compatibility.
Since that standard did not specify any
mandatory behavior, the logical unit may logically erase any or all
partitions when one of the IDP, FDP, or SDP fields
are set to one by a MODE SELECT command.
Change this to "A CLEAR bit of zero and an ADDP bit of zero specifies that

16

the logical unit may logically erase..."

CPQ #109
PDF Page 125
8.3.5 Read-write error recovery page
Table 67
Change OAh to 0Ah (letter O to number zero)

CPQ #110
PDF Page 126
8.3.6 Informational exceptions control page
In item a), change ASC/ASCQ to additional sense code (twice).

CPQ #111
PDF Page 127
8.3.6 Informational exceptions control page
In text after Table 69, change ASC/ASCQ to additional sense code.

CPQ #112
PDF Page 127
8.3.6 Informational exceptions control page
Table 69 - TapeAlert test descriptions
This is describing a 4 byte two's complement field, so the values should
all have 8 characters if shown in hex. Also, the reserved
values should be listed. I'd try to avoid signed hex numbers
a) 00000001h to 00000040h
B) 00000040h to 00007FFEh
c) 00007FFFh
d) 00008000h to FFFFFFBFh
e) FFFFFFC0h to FFFFFFFFh
(i.e, -00000001h to -00000040h)
Or, maybe signed decimal is easier:
a) 1 to 64
b) -1 to -64
c) 32767
d) all others reserved

CPQ #113
PDF Page 128
8.3.6 Informational exceptions control page
In item c), change ASC/ASCQ to additional sense code (twice)

CPQ #114
PDF Page 129
A.1 Historical density codes
Change (see SPC-3) to (see 8.3). That's were sequential-access device codes
are defined. SPC-3 just sends the reader back to
the command standard.

CPQ #115
PDF Page 129
A.1 Historical density codes
The codes for DLT are not listed. Compaq will supply a list of additional
codes for this table to the editor.

****

Comments attached to Abs ballot from Mr. Peter Johansson of
Congruent Software, Inc.:

Lack of technical expertise

****

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

I am not prepared to give expert review.

****

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

ENDL 1
PDF page 5 [must fix]
Remove revision history before Public Review.

ENDL 2
PDF page 16
Global
With the exception of the first sentence of the Introduction and
the title immediately preceding clause 1, every instance of "SCSI
Stream Commands -2" and "SSC-2" should be replaced by "this
standard".

ENDL 3
PDF page 17
Clause 1 p2 s1
"...SCSI Stream Commands - 2 (SSC-2) standard..." s/b "...this
standard...".

ENDL 4
PDF page 17
Clause 1 1st a,b,c list
Capitalize all first words in list entries or none.

ENDL 5
PDF page 17 [must fix]
Figure 1
Change "Transport Protocols" to "SCSI Protocols".

ENDL 6
PDF page 17
Clause 1, 1st p after Figure 1 [must fix]
"...a given transport." s/b "... a given SCSI protocol."

ENDL 7
PDF page 18
Clause 1
Update the SCSI Family of standards to match SAM-2.

ENDL 8
PDF page 19
Clause 1, last p before clause 2
Per 01-318r1, delete the sentence describing SCSI-2.

ENDL 9
PDF page 19
Clause 2 [must fix]
Restructure References clause to follow the style found in SPI-4.
This will make SSC-2 consistent with other SCSI standards and ease
the transition to an ISO format.

ENDL 10
PDF page 20
2.3 - 1st list entry
Per 01-318r1, delete the normative reference to SCSI-2.

18

ENDL 11
PDF page 21
"Definition" s/b "Definitions"

ENDL 12
PDF page 21
3.1.2
It is not necessary to have both the spelled out name and acronym
for SAM-2. Judging from 3.1.1, the spelled out name should be
removed.

ENDL 13
PDF page 21
3.1.7
"currently supporting" s/b "currently operating" since a logical
unit can support both but only operate in one of the two.

ENDL 14
PDF page 21
3.1.8]
Delete "...4.2.5), as reported in the mode parameter header device-
specific parameter (see 8.3)." because the mode parameter header is
fully described in the next sentence.

ENDL 15
PDF page 21
3.1.9
So that the definition of "byte" is not a full sentence (in keeping
with the style of the other definitions), delete "specifies" and
capitalize "an".

ENDL 16
PDF page 21
3.1.13
"executes" s/b "processes"

ENDL 17
PDF page 21
3.1.15
"early-warning:" s/b "early-warning (EW):"

ENDL 18
PDF page 21
3.1.16
"end-of-data:" s/b "end-of-data (EOD):"

ENDL 19
PDF page 22
3.1.21
Capitalize "a" in "a command..."

ENDL 20
PDF page 22
3.1.23
"which" s/b "that".

ENDL 21
PDF page 22

3.1.26
Capitalize "an" in "an explicit command ..."

ENDL 22
PDF page 22
3.1.28
Would it be better to replace "...positioning is implied based on
the current position." with ".. positioning is implied relative to
the current position."?

ENDL 23
PDF page 22
3.1.33, last s
We usually avoid having requirements in definitions so "Filemarks
and setmarks shall have a logical block address." would be better
as "Filemarks and setmarks have a logical block address."

ENDL 24
PDF page 22
3.1.34
I am confused about the difference (if any) between a logical block
address and the unique identifier that each logical element has. If
there is a difference some hint about it would be good in either
3.1.33 or 3.1.34 or both.

ENDL 25
PDF page 23
3.1.38
Do not capitalize "Medium Auxiliary Memory".

ENDL 26
PDF page 23
3.1.40
"executing" s/b "processing".

ENDL 27
PDF page 23
3.1.52
The definition of "system" should be removed because the word
"system" is never used in accordance with the definition.

ENDL 28
PDF page 23
3.1.53
So that this definition is not a complete sentence (like most of
the other definitions), "Tape is the..." s/b "The...".

ENDL 29
PDF page 23
3.1.53 2nd sentence
"which" s/b "that".

ENDL 30
PDF page 24
3.1.54 [must fix]
In honor of Gene Milligan "An SCSI" s/b "A SCSI".

ENDL 31
PDF page 24
3.1.54

"execute" s/b "process".

ENDL 32
PDF page 24
3.1.55
To avoid confusion with application clients, "A software
application" s/b "A device server capability".

ENDL 33
PDF page 24
3.1.59
"executing" s/b "processing".

ENDL 34
PDF page 24
3.1.62
If FCS and LCS are bit fields then they should be in small caps.

ENDL 35
PDF page 24
3.2 [must fix]
Either add cross references to the glossary on every acronym
defined in the glossary or remove the cross reference on CDB.

ENDL 36
PDF page 24
3.2
Add an acronym for ECC since it is used in table 51.

ENDL 37
PDF page 24
3.2
Add an acronym definition for MAM because the acronym is used in
7.3.1.

ENDL 38
PDF page 24
3.2
Per 01-318r1, make SCSI equivalent to SCSI-3 and delete the SCSI-2
acronym.

ENDL 39
PDF page 24
3.2
Acronym SMC-2 should be removed because it is never referenced in
the body of the standard.

ENDL 40
PDF page 25
3.2
Acronym SSC should be removed because it is never referenced in the
standard.

ENDL 41
PDF page 25
3.2
Add the following acronym: "SSC-2 SCSI Stream Commands -2 (this
standard)"

ENDL 42
PDF page 25
3.3.8, p1, s2
"this standards" s/b "this standard".

ENDL 43
PDF page 25
3.3.12, p1, s1
"Items (e.g., a bit, field, code values, etc.)..." s/b "Items
(e.g., bits, fields, code values)..."

ENDL 44
PDF page 27
4.2 heading [must fix]
In order to eliminate a hanging paragraph and prepare for ISO
standardization, add "4.2.1 Sequential-access device model
overview" immediately following the 4.2 heading.

ENDL 45
PDF page 28
"executing" s/b "processing".

ENDL 46
PDF page 28
4.2.1, 2nd p on PDF pg 28, s1
"executed" s/b "processed".

ENDL 47
PDF page 28
4.2.1, 4th p on PDF pg 28, 2nd to last s [must fix]
The list of commands that result in CHECK CONDITION when write
protection is enabled should have COPY and COPY AND VERIFY removed
and EXTENDED COPY added.

ENDL 48
PDF page 31
4.2.2, p2 & p3 [must fix]
The paragraphs preceding and following Figure 7 are identical. One
of them should be removed.

ENDL 49
PDF page 33
Figure 10
In the middle of figure 10, there is a BOP0 that seems like it
should be BOP1.

ENDL 50
PDF page 33
4.2.3, a,b,c list after figure 10
The A) B) C) list should be an a) b) c) list as is the case in 4.1.

ENDL 51
PDF page 33
4.2.4, p4, s2
Since the fact that a setmark does not contain user data is already
specified in the first sentence of this paragraph, "...that does
not contain user data, providing..." s/b "...that provides...".

ENDL 52
PDF page 34

4.2.4 - 3rd p on PDF pg 34, s2
"which" s/b "that".

ENDL 53
PDF page 34
4.2.5, p5, last words in p
"...auto contingent allegiance protocol." s/b "...auto contingent
allegiance."

ENDL 54
PDF page 35
4.2.5, last p in subclause
Since 4.2.5 calls the process of flushing the data buffer a
"synchronize operation" (see 4.2.5, p4, s3), the column in table 12
and table 19 currently labeled "Flush Write Data" should have the
label changed to "Synchronize Operation Required". Alternatively,
the last paragraph in 4.2.5 needs to explain that flushing write
data is equivalent to a synchronize operation. If neither of these
changes are adopted, the references to table 12 and table 19 should
be removed from the last paragraph of 4.2.5 since there is no clear
way for the reader to tell which column in the tables is applicable.

ENDL 55
PDF page 35
4.2.5, last p in subclause
"The WRITE BUFFER command shall ensure transfer of buffered data
for modes 4 through 7 (download microcode operations) before
performing the download operation." s/b "The WRITE BUFFER command
used in modes 4 through 7 (download microcode operations) shall
ensure transfer of buffered data before performing the download
operation." Otherwise, I'm left think that tape data buffer have
hitherto undescribed operating modes 4 through 7.

ENDL 56
PDF page 35
4.2.7, p5, last s
"...time (provided the volume has not been rewritten in the
interim)." s/b "...time, provided the volume has not been rewritten
in the interim." as the use of parentheses lowers the importance of
the phrase.

ENDL 57
PDF page 36
4.2.8, last p & last s before 4.2.8.1
"executed" s/b "processed".

ENDL 58
PDF page 36
4.2.8.1 heading [must fix]
Error reporting is not a sub topic of sequential device positioning
(i.e., 4.2.8). Therefore, the heading level of 4.2.8.1 should be
changed to 4.2.9.

ENDL 59
PDF page 36
4.2.8.1, p1, s1
"execution" s/b "processing" and "executing" s/b "processing".

ENDL 60
PDF page 36
Table 1
If possible in the text editor being used, there should be some

indication that table 1 is continued on the next page. I can
explain how to do this in FrameMaker (but not MS Word).

ENDL 61
PDF page 37
Table 1, row 2
"execute" s/b "perform".

ENDL 62
PDF page 38
4.2.9 heading [must fix]
In order to eliminate a hanging paragraph and prepare for ISO
standardization, add "4.2.9.1 Write protection introduction"
immediately following the 4.2.9 heading.

ENDL 63
PDF page 38
4.2.9, p2, last s
"which" s/b "that".

ENDL 64
PDF page 38
4.9.2, 1st A) B) C) list
A) B) C) D) s/b a) b) c) d) as in 4.1. Also capitalize the first
word of each list entry or capitalize none of them.

ENDL 65
PDF page 39
4.2.9.5, note 1 [must fix]
Note 1 should be made part of the normative text because the note
contains a "shall" requirement.

ENDL 66
PDF page 40
4.2.10, 1st p after table 3, s2
"additional sense information" s/b "additional sense code".

ENDL 67
PDF page 40
4.2.10, 1st p after table 4, s2
"additional sense information" s/b "additional sense code".

ENDL 68
PDF page 40
Note 2, s1
"...information, which if acted upon, may lead..." s/b
"...information that, if acted upon, may lead...". Note both the
change in the position of the comma and the change from "which" to
"that".

ENDL 69
PDF page 40
Note 2, s3
"which" s/b "that".

ENDL 70
PDF page 41
4.2.11 a) in the a, b, c list
I cannot tell with certainty where the IF clause in this statement
ends and the THEN clause begins. A "then" or comma needs to be

added. Based on the format of the b) entry in this list, I guess a
comma is needed. My best guess is that the second "and" should be
replaced with a comma.

ENDL 71
PDF page 41
4.2.11, Note 3
Does note 3 apply to all MODE SELECT commands or just to MODE
SELECT commands that cause a particular action. For example, does
note 3 apply to a MODE SELECT command that changes the TAS bit in
the Control mode page? If not, then note 3 needs to be made more
specific.

ENDL 72
PDF page 41
4.2.12 a,b,c list
Either capitalize the first word of each list entry or capitalize
none of them.

ENDL 73
PDF page 41
4.2.12 a,b,c list
FCS should be small caps, in two places in list entry a) and in one
place in list entry c).

ENDL 74
PDF page 41
4.2.12 a,b,c list, list entry b)
"...LCS (see 5.6 or 5.7)..." s/b "...LCS bit (see 5.6 or 5.7)..."
and LCS should be in small caps.

ENDL 75
PDF page 41
4.2.12 a,b,c list
LSC should be small caps, in one additional place in list entry b)
and in one place in list entry c).

ENDL 76
PDF page 41
4.2.12 a,b,c list, list entry e)
The second instance of "transfer length field" should have
"transfer length" in small caps.

ENDL 77
PDF page 41
Either capitalize the first word of each list entry or capitalize
none of them.

ENDL 78
PDF page 42
Figure 11
It seems like Figure 11 is a state diagram that is drawn
differently from all the other state diagrams. Is there a VERY good
reason for Figure 11 being different? If not, Figure 11 should be
changed to look like all the other state diagrams.

ENDL 79
PDF page 43
Figure 12, Figure 13, Figure 14, Figure 15 [must fix]
Inclusion of state diagram figures such as these requires a
description of the state diagram notation in Clause 3. See SAM-2

subclause 3.6.3 for an example.

ENDL 80
PDF page 43
Figure 12, Figure 13, Figure 14, Figure 15
Normally, a textual description of the states and transitions
accompanies a state diagram. See SAM-2 and FC-SW-2 for examples.
Such text needs to be added to SSC-2 for the state diagrams in
Figure 11, Figure 12, Figure 13, Figure 14, and Figure 15.

ENDL 81
PDF page 43
Figure 12, Figure 13, Figure 14, Figure 15 [must fix]
I can find no explanation for the asterisk in "* process enabled
command" at the top of each of these figures. Either add a text
explanation for the asterisk or remove it.

ENDL 82
PDF page 43
Figure 12, Figure 13, Figure 14, Figure 15 [must fix]
I can find no explanation for the phrase in "* send error" that
appears one or more times in each of these figures. Either add a
text explanation for the phrase in "* send error" or replace it
with wording that needs no explanation.

ENDL 83
PDF page 43
Figure 12, Figure 13, Figure 14, Figure 15
Numerous occurrences of BAML, BAM, FCS, and LCS in these Figures
need to be small caps.

ENDL 84
PDF page 43
Figure 12, Figure 13, Figure 14, Figure 15
There is a high degree of dependency on the S0:S1 notation to
indicate the destination of the state transitions that exit a
Figure. Some effort should be made to give better visual cues for
this information, such as grouping the transitions to a given state
together and/or identifying the destination of each transition at
the end of the arrowhead.

ENDL 85
PDF page 43
Figure 12, Figure 13, Figure 14, Figure 15 [must fix]
MODE SELECT appears several times in these Figures as a condition
that initiates a transition. Is that any MODE SELECT command (e.g.,
a MODE SELECT that changes the TAS bit in the Control mode page)?
If not, then more specificity is needed, perhaps in the text to be
added describing the transitions.

ENDL 86
PDF page 46
TapeAlert (Global)
I had a great deal of trouble with TapeAlert flags being set and
clear. The use of set equating to one and clear equating to zero is
aggressively discouraged in SCSI standards and there are numerous
comments requesting that "set" be changed to "set to one" and
"clear" be changed to "set to zero" for TapeAlert.

Only when I got to the TapeAlert log page did the possibility dawn
that "set" and "clear" might be getting used in some other way.

After considering that possibility, I offer this compromise.
Throughout the TapeAlert discussion, specify flags to be active
(equivalent to set) and inactive (equivalent to clear).

I am not going to rewrite the comment because they are over due
already. However, I will accept the suggested TapeAlert global
change as proper resolution for all such set/clear comments.

ENDL 87
PDF page 46
4.2.14 heading [must fix]
To eliminate several hanging paragraphs and to prepare for ISO
standardization of SSC-2, add "4.2.14.1 Introduction to TapeAlert
application client interface" immediately following 4.2.14.

ENDL 88
PDF page 46
4.2.14, p1 [must fix]
The first paragraph of 4.2.14 contains a very large number of
requirements placed on the initiator. This is counter to the SCSI
tradition of placing requirements on initiators only when
absolutely necessary.

For example, "TapeAlert information shall be accessed using LOG
SENSE page 2Eh (see Table 52)." could be equally well stated as
"TapeAlert information is accessed using LOG SENSE page 2Eh (see
Table 52)."

ENDL 89
PDF page 46
4.2.14, p2, s1 [must fix]
"At minimum, the TapeAlert log page shall be read from the tape
drive/autoloader device for the following:" s/b "The TapeAlert log
page may be read at any time and should be read from the tape
drive/autoloader device for the following:"

ENDL 90
PDF page 46
4.2.14, a,b,c list
A) B) C) D) s/b a) b) c) d) as in 4.1. Also either capitalize the
first word of every list entry or capitalize none of them.

ENDL 91
PDF page 46
4.2.14, a,b,c list
I suspect that the term "job" is not used in its ordinary English
meaning. A glossary entry should be added for "job" or all
instances of "job" should be replaced with non-jargon wording.

ENDL 92
PDF page 46
4.2.14, a,b,c list, list entry c)
"ejected" s/b "de-mounted".

ENDL 93
PDF page 46
4.2.14, a,b,c list, list entry c) [must fix]
"shall" s/b "should". Will the system fail to interoperate or the
tape drive self destruct if this pseudo requirement is not met?
Note: if the log page data is cleared when the tape is de-mounted,

then say that instead of trying to place requirements on the
initiator.

ENDL 94
PDF page 47
4.2.14, 2nd p on PDF pg 47 [must fix]
"shall" s/b "should". Will the system fail to interoperate or the
tape drive self destruct if this pseudo requirement is not met?

ENDL 95
PDF page 47
4.2.14, 2nd p on PDF pg 47, s 4
"For each flag set," s/b "For each flag set to one,".

ENDL 96
PDF page 47
4.2.14, 2nd p on PDF pg 47, s 4, s 5, s 6, & s7 [must fix]
4 instances of "shall" that s/b "should". The "shall" requirements
on the application clients in these sentences are totally bogus for
a SCSI standard. Some might argue that these sentences ought to be
deleted completely. I will only go as far as saying that they
"shall"s have to be downgraded to "should"s.

ENDL 97
PDF page 47
4.2.14, 2nd p on PDF pg 47, last s [must fix]
Regarding, "The information read in the TapeAlert flags shall not
in itself cause the application client to stop a current backup or
restore operation." This is an example of a "shall" that is
legitimately applied to an application client.

However, the wording allows undesirable behavior, specifically a
device doing a backup cannot be affected by TapeAlert flags but a
device doing logging or any other function tapes might be used for
can.

s/b "The information read in the TapeAlert flags shall not in
itself cause the application client to stop data transfer
operations (e.g., a backup or restore operation)."

ENDL 98
PDF page 47
4.2.14.1, p 1, s3 & Table 5 [must fix]
It is the general policy of T10 not to specify default values for
mode page fields. Fortunately, with one exception, Table 5 is an
overview of TapeAlert control mode page fields not a specification
of default field contents. Thus the following changes are
recommended.

"The recommended TapeAlert default mode page implementation is
described in table 5." s/b "Important TapeAlert mode page fields
are described in table 5."

The table 5 title s/b "TapeAlert informational exceptions control
page fields".

ENDL 99
PDF page 47
4.2.14.1, Table 5, row 1 [must fix]
"By default, this means..." s/b "This means..."

ENDL 100
PDF page 47
4.2.14.1, Table 5, row 3
"to set/clear" s/b "to set to one."

ENDL 101
PDF page 47
4.2.14.2, p 1, s 2
"...any one flag to be set and cleared..." s/b "...any specific
flag to be set to zero or one..."

ENDL 102
PDF page 47
4.2.14.2, p 2, s 2
"device" s/b "device server"

ENDL 103
PDF page 47
4.2.14.2, p 3, s 1
"Each flag shall be cleared..." s/b "All flags shall be set to
zero..."

ENDL 104
PDF page 47
4.2.14.2, a,b,c list
A) B) C) D) s/b a) b) c) d) as in 4.1. Also either capitalize the
first word of every list entry or capitalize none of them.

ENDL 105
PDF page 47
4.2.14.2, a,b,c list, list entry b)
"cleared" s/b "set to zero"

ENDL 106
PDF page 47
4.2.14.2, a,b,c list, list entry b) "...set flags are still visible
to..." s/b "...flags set to one are available for..."

ENDL 107
PDF page 47
4.2.14.2, a,b,c list, list entry c)
"(such as using a cleaning cartridge)" s/b "(e.g., using a cleaning
cartridge)"

ENDL 108
PDF page 47
4.2.14.2, a,b,c list, list entry e)
"On LOG SELECT reset." s/b "When the PCR field in the LOG SELECT
command descriptor block is one (see SPC-3)." N.B. PCR should be in
small caps.

ENDL 109
PDF page 48
Note 5
Two (2) instances of "cleared" s/b "set to zero".

ENDL 110
PDF page 48

Note 5
Two (2) instances of "cannot be set again" s/b "should not be set
to one again".

N.B. If the desire is to change the "should" above to a "shall"
then Note 5 cannot be a note.

ENDL 111
PDF page 48
Note 5, last s
"All other methods of clearing allow the flag to be set again." s/b
"All other methods of setting a flag to zero allow the flag to be
set to one again.".

ENDL 112
PDF page 48
Table 6
Table 6 and the paragraph that precedes it belong in subclause
4.2.14.3, not in subclause 4.2.14.2.

ENDL 113
PDF page 48
Table 6
Why are two column headings singular and one plural. "Explanations"
s/b "Explanation".

ENDL 114
PDF page 48
4.2.14.3, a list
Since there is only one entry in the a) list, the list format
should not be used.

ENDL 115
PDF page 48
Table 7
In numerous places in Table 7, "set" s/b "set to one" and "cleared"
s/b "set to zero".

ENDL 116
PDF page 48
Table 7
In several places in Table 7, "ejected" s/b "de-mounted".

ENDL 117
PDF page 48
Table 7
Table 7 is continued on to a second page with no indication that
this is happening. If SSC-2 is in FrameMaker, I can show you how to
provide suitable indication for tables that span multiple pages.

ENDL 118
PDF page 49
4.2.14.3, 1st p after table 7, s 1
"...the remaining error flags..." s/b "the TapeAlert flags not
listed in table 7..."

ENDL 119
PDF page 49
4.2.14.3, 1st p after table 7, s 1
"unset" s/b "zero".

ENDL 120
PDF page 49
4.2.14.3, 2nd p after table 7, s 1
"...are grouped into the following sections:" s/b "...are grouped
as shown in table 8."

ENDL 121
PDF page 49
4.2.15, global in subclause [must fix]
Throughout this subclause attribute names are in small caps. Only
field names should be in small caps, attribute names should be in
full caps.

ENDL 122
PDF page 49
4.2.15, 2nd p after table 9
Two (2) instances of "ASSIGNING ORGANIZATION field" s/b "ASSIGNING
ORGANIZATION attribute" with no small caps.

ENDL 123
PDF page 49
4.2.15, 1st p after table 9, s 2
Since there is no vendor identification list in Annex A,
"...contain a value listed in the vendor identification list (see
Annex A)." s/b "...contain a vendor identification."

Note that the contents of note 7 elaborates correctly on the way
the field is derived.

ENDL 124
PDF page 50
Note 7
"...this field..." s/b "the ASSIGNING ORGANIZATION attribute..."

ENDL 125
PDF page 50
Note 7
"...vendor identification codes in use." s/b "...vendor
identification codes for use in the Standard INQUIRY data (see SPC-
3)."

This will provide readers with a functional reference to lookup the
list in SPC-3.

Also delete "(see SPC-3 Annex D)" from the end of the note since
the reference to SPC-3 has been added above and because the vendor
ids are not in Annex D in SPC-3.

ENDL 126
PDF page 50
4.2.15, 1st p after note 7, s 1
"(see SPC-3 clause 8.3.4.1)" s/b "(see SPC-3)" since it is unlikely
that the clause number will be the same when SPC-3 is published.

ENDL 127
PDF page 50
4.2.15, 1st p and 2nd p after table 10
"00h" s/b "0h" or "0000 0000h" because the MEDIUM LENGTH and MEDIUM

31

WIDTH attributes have a size of 4 bytes.

ENDL 128
PDF page 50
4.2.15, 3rd p after table 10, s 2
"ASSIGNING ORGANIZATION field" s/b "ASSIGNING ORGANIZATION
attribute" with no small caps.

ENDL 129
PDF page 50
4.2.15, 3rd p after table 10, s 2
Since there is no vendor identification list in Annex A,
"...contain a value listed in the vendor identification list (see
Annex A)." s/b "...contain a vendor identification."

Note that the contents of note 8 elaborates correctly on the way
the field is derived.

ENDL 130
PDF page 50
Note 8
"...this field..." s/b "the ASSIGNING ORGANIZATION attribute..."

ENDL 131
PDF page 50
Note 8
"...vendor identification codes in use." s/b "...vendor
identification codes for use in the Standard INQUIRY data (see SPC-
3)."

This will provide readers with a functional reference to lookup the
list in SPC-3.

Also delete "(see SPC-3 Annex D)" from the end of the note since
the reference to SPC-3 had been added above and because the vendor
ids are not in Annex D in SPC-3.

ENDL 132
PDF page 51
Note 9, s 1
"applications" s/b "application's"

ENDL 133
PDF page 51
Table 11
Table 11 is continued on to a second page with no indication that
this is happening. If SSC-2 is in FrameMaker, I can show you how to
provide suitable indication for tables that span multiple pages.

ENDL 134
PDF page 53
5.1, p 1, s 3
Regarding "Commands specified as mandatory in table 12 shall be
implemented only if the explicit address command set is supported."

The word "only" must be removed from this sentence unless SSC-2
intends to require that commands such as INQUIRY not be implemented
by the implicit address command set.

ENDL 135
PDF page 53
5.1, Key.
Normally the key is placed in the table as a footer row so that it
appears on every table page.

ENDL 136
PDF page 53
Table 12, Column 6 Heading [must fix]
Since not all entries in the column are subclause references, the
heading "Subclause" s/b "Reference".

ENDL 137
PDF page 53
Table 12
Table 12 is continued on to a second page with no indication that
this is happening. If SSC-2 is in FrameMaker, I can show you how to
provide suitable indication for tables that span multiple pages.

Also, when tables are continued on multiple pages, the table
footnotes should appear on each page. This can be accomplished by
placing them in a table footer row (in FrameMaker).

ENDL 138
PDF page 54
Table 12, table footnote a
"subclause" should be removed because the 4.2.5 is accepted as an
indication that a subclause is being referenced.

ENDL 139
PDF page 54
Table 12, table footnotes c and d
"PREVENT=0." s/b "the PREVENT bit is zero." "CURDATA=1" s/b "the
CURDATA bit is one." Note the addition of a period at the end of
table footnote d.

ENDL 140
PDF page 55
5.2.1 thorough 7.11.1 -- ALL x.y.1 Headers [must fix]
Since there is no x.y.2, ALL the x.y.1 subclause headers should be
removed. There are 24 such headers that should be removed. (Don't
say I never cut you any breaks on the number of comments.)

ENDL 141
PDF page 55
5.2.1, p 1, s 1
"command." s/b "command descriptor block."

ENDL 142
PDF page 55
5.2.1, 1st p after note 10, s 1
Regarding "A LONG bit of zero specifies an erase gap defined by the
gap size field in the device configuration page (see 8.3.2)."

What about the erase gap? What is supposed to happen to it once it
is specified?

My best guess is that the sentence should read "A LONG bit of zero
specifies an erase gap defined by the gap size field in the device

configuration page (see 8.3.2) shall be written to the medium."

ENDL 143
PDF page 56
5.2.1, 1st p on PDF pg 56, last s
"initiator" s/b "application client".

ENDL 144
PDF page 56
5.2.1, 5th p on PDF pg 56, s 2
"locate to" s/b "perform a locate operation to"

ENDL 145
PDF page 56
5.3.1, p 1, s 1
"command." s/b "command descriptor block."

ENDL 146
PDF page 57
5.3.1, a,b list
A) B) s/b a) b) as in 4.1. Also either capitalize the first word of
every list entry or capitalize none of them.

ENDL 147
PDF page 57
5.3.1, note 11, s 1
"SILI bit is set" s/b "SILI bit is set to one".

ENDL 148
PDF page 58
5.3.1, 2nd p after note 12, s 2
"locate to" s/b "perform a locate operation to"

ENDL 149
PDF page 59
Note 13
"system applications" s/b "applications".

ENDL 150
PDF page 60
5.4.1, p 1, s 1
"command." s/b "command descriptor block."

ENDL 151
PDF page 60
5.4.1, 3rd p after table 15, s 1 [must fix]
"(see table 22)" s/b "(see 5.3)".

ENDL 152
PDF page 60
5.4.1, 4th p after table 15, s 2
"locate to" s/b "perform a locate operation to"

ENDL 153
PDF page 61
5.5.1, p 1, s 1
"command." s/b "command descriptor block."

ENDL 154
PDF page 62
5.5.1, 1 p on PDF pg 62
"...validated (but after all verification data has been transferred
from the initiator to the device server, if the BYTCMP bit is
one)." s/b "...validated; but after all verification data has been
transferred from the initiator to the device server, if the BYTCMP
bit is one."

ENDL 155
PDF page 62
"locate to" s/b "perform a locate operation to"

ENDL 156
PDF page 62
5.5.1, 4th p & 5th p after table 15, s 2 [must fix]
"(see table 22)" s/b "(see 5.3)". One occurrence in each paragraph.

ENDL 157
PDF page 62
5.5.1, 5th p after note 15, last s
"...after the last block verified." s/b "...after the last block
verified (end-of-partition side)."

ENDL 158
PDF page 63
5.6.1, p 1, s 1
"command." s/b "command descriptor block."

ENDL 159
PDF page 63
5.6.1, Table 17, byte 1
"Rsvd" should not be in small caps.

ENDL 160
PDF page 63
5.6.1, 5th p after table 17, s 2
"locate to" s/b "perform a locate operation to"

ENDL 161
PDF page 64
5.6.1, 2nd p after note 16, s 1
"The INFORMATION field shall be defined ..." s/b "The INFORMATION
field shall be set ..."

ENDL 162
PDF page 64
5.6.1, both a,b lists
A) B) C) D) s/b a) b) c) d) as in 4.1. Also either capitalize the
first word of every list entry or capitalize none of them. This
applies to both lists in 5.6.1.

ENDL 163
PDF page 64
5.6.1, 1st a,b,c list, list entry c
There is a left parenthesis without a matching right parenthesis.

ENDL 164
PDF page 64
5.6.1, last p before 2nd a,b list, last s

"...the sense data shall be defined..." s/b "...the sense data
shall be set...".

ENDL 165
PDF page 64
5.6.1, note 17, s 1
"In some systems..." s/b "For some application clients..."

ENDL 166
PDF page 64
Note 17, s1 & last s
"execution" s/b "processing", two occurrences.

ENDL 167
PDF page 65
5.6.1, note 17, 1st full s on PDF pg 65
"By its definition" should be removed.

ENDL 168
PDF page 65
Note 17, last s
In keeping with the usage in the first sentence in this note,
"write" s/b "WRITE".

ENDL 169
PDF page 65
5.6.1, note 18, s 2
"While vendor-specific, a period of time may exist..." s/b "A
vendor-specific period of time may exist..."

ENDL 170
PDF page 65
5.6.1, note 18, s 3
"end of partition" s/b "end-of-partition".

ENDL 171
PDF page 65
5.7.1, p 1, s 1
"command." s/b "command descriptor block."

ENDL 172
PDF page 66
5.7.1, 4th p after note 19, s 2
"locate to" s/b "perform a locate operation to"

ENDL 173
PDF page 66
5.7.1, 6th p after note 19, s 1
"The INFORMATION field shall be defined ..." s/b "The INFORMATION
field shall be set ..."

ENDL 174
PDF page 66
5.7.1, a,b,c,d list
A) B) C) D) s/b a) b) c) d) as in 4.1. Also either capitalize the
first word of every list entry or capitalize none of them.

ENDL 175
PDF page 66

5.7.1, a,b,c list, list entry c
There is a left parenthesis without a matching right parenthesis.

ENDL 176
PDF page 66
5.7.1, a,b,c,d list
I notice that the a,b,c list for the WRITE FILEMARKS(16) command
does not match the a,b,c list for the WRITE FILEMARKS(6) command.
This may be intentional, and then again...

ENDL 177
PDF page 68
6.1, p 1, s 3
Regarding "Commands specified as mandatory in table 19 shall be
implemented only if the implicit address command set is supported."

The word "only" must be removed from this sentence unless SSC-2
intends to require that commands such as INQUIRY not be implemented
by the explicit address command set.

ENDL 178
PDF page 68
6.1, Key
Normally the key is placed in the table as a footer row so that it
appears on every table page.

ENDL 179
PDF page 68
Table 19, Column 5 Heading [must fix]
Since not all entries in the column are subclause references, the
heading "Subclause" s/b "Reference".

ENDL 180
PDF page 68
Table 19
Table 19 is continued on to a second page with no indication that
this is happening. If SSC-2 is in FrameMaker, I can show you how to
provide suitable indication for tables that span multiple pages.

Also, when tables are continued on multiple pages, the table
footnotes should appear on each page. This can be accomplished by
placing them in a table footer row (in FrameMaker).

ENDL 181
PDF page 69
Table 19, table footnote a
"subclause" should be removed because the 4.2.5 is accepted as an
indication that a subclause is being referenced.

ENDL 182
PDF page 70
6.1.1, 1st p after note 21, s 4
"initiator" s/b "application client".

ENDL 183
PDF page 72
6.4.1, a,b list
A) B) s/b a) b) as in 4.1. Also either capitalize the first word of
every list entry or capitalize none of them.

ENDL 184
PDF page 73
Note 24
"system applications" s/b "applications".

ENDL 185
PDF page 74
6.5.1, 3rd p after table 23, s 1 [must fix]
"(see table 22)" s/b "(see 6.4)".

ENDL 186
PDF page 75
6.6.1, p 1, s 6
There is an instance of "count field" where "count" is not in small
caps.

ENDL 187
PDF page 75
6.6.1, 1st p after table 25, 2 places
There are two instances of "...and the CODE field is not 0011b..."
that s/b "...when the CODE field is not 0011b...

ENDL 188
PDF page 76
6.6.1, 1st p on PDF pg 76, 1st line on pg
"...and the CODE field is not 0011b..." s/b "...when the CODE field
is not 0011b...

ENDL 189
PDF page 76
6.6.1, 1st p on PDF pg 76, s 2
"...the End-of-data position." s/b "...the end-of-data position."

Note: I am not requesting that "End-of-data" be changed to "end-of-
data" globally because several uses of "End-of-data" match the
capitalization in table 25. The instance cited above is a case
where "end-of-data" is not a reference to the code name defined in
table 25 and therefore should not adopt the table 25 capitalization.

ENDL 190
PDF page 76
Note 25
"system applications" s/b "applications".

ENDL 191
PDF page 77
6.6.1, a,b,c list
A) B) C) s/b a) b) c) as in 4.1. Also either capitalize the first
word of every list entry or capitalize none of them.

ENDL 192
PDF page 78
6.7.1, 1st p after table 26, last s
"...validated (but after all verification data has been transferred
from the initiator to the device server, if the BYTCMP bit is
one)." s/b "...validated; but after all verification data has been
transferred from the initiator to the device server, if the BYTCMP
bit is one."

ENDL 193
PDF page 78
6.7.1, 3rd p & 4th p after note 26, s 1 & s 2 [must fix]
"(see table 22)" s/b "(see 6.4)".

ENDL 194
PDF page 80
5.6.1, 2nd p on PDF pg 80, s 1
"The INFORMATION field shall be defined ..." s/b "The INFORMATION
field shall be set ..."

ENDL 195
PDF page 80
6.8.1, both a,b lists
A) B) C) D) s/b a) b) c) d) as in 4.1. Also either capitalize the
first word of every list entry or capitalize none of them. This
applies to both lists in 6.8.1.

ENDL 196
PDF page 80
6.8.1, 1st a,b,c list, list entry c
There is a left parenthesis without a matching right parenthesis.

ENDL 197
PDF page 80
6.8.1, last p before 2nd a,b list, last s
"...the sense data shall be defined..." s/b "...the sense data
shall be set...".

ENDL 198
PDF page 80
6.8.1, note 28, s 1
"In some systems..." s/b "For some application clients..."

ENDL 199
PDF page 80
Note 28, s1 & last s
"execution" s/b "processing", two occurrence.

ENDL 200
PDF page 80
6.8.1, note 28, s 2
"By its definition" should be removed.

ENDL 201
PDF page 80
Note 28, last s
In keeping with the usage in the first sentence in this note,
"write" s/b "WRITE".

ENDL 202
PDF page 80
6.8.1, note 29, s 2
"While vendor-specific, a period of time may exist..." s/b "A
vendor-specific period of time may exist..."

ENDL 203
PDF page 80
6.8.1, note 29, s 3
"end of partition" s/b "end-of-partition".

ENDL 204
PDF page 81
6.9.1, 2nd p after note 30, s 1
"The INFORMATION field shall be defined ..." s/b "The INFORMATION
field shall be set ..."

ENDL 205
PDF page 81
6.9.1, a,b,c list
A) B) C) s/b a) b) c) as in 4.1. Also either capitalize the first
word of every list entry or capitalize none of them.

ENDL 206
PDF page 83
7.1 entire subclause
I believe this subclause contains no useful information and should
be removed completely.

ENDL 207
PDF page 83
7.2.1, a,b list
A) B) s/b a) b) as in 4.1. Also either capitalize the first word of
every list entry or capitalize none of them.

ENDL 208
PDF page 83
7.2.1, a,b list, list entry b)
"(as described in SPC-3)" s/b either "(see SPC-3)" or "as described
in SPC-3".

ENDL 209
PDF page 85
7.3.1, 2nd p & 3rd p after note 32, s 3 & s 2
"GOOD STATUS" s/b "GOOD status". One instance in each paragraph.

ENDL 210
PDF page 86
7.4.1, p 1, s 1
"...the specified logical element as specified by the DEST_TYPE and
LOGICAL BLOCK ADDRESS fields." s/b "...the logical element
specified by the DEST_TYPE and LOGICAL BLOCK ADDRESS fields."

ENDL 211
PDF page 87
Table 33, 3rd column
I read this column to say that the logical position upon
completion shall be at the BOP or at EOP. "BOP" s/b "BOP side" and
"EOP" s/b "EOP side'.

ENDL 212
PDF page 87
Table 33
With only four rows, table 33 is too small to be continued across a
page boundary. Set the Orphan Rows control to 4.

ENDL 213
PDF page 90
Table 37, 2nd column
Code value names should be in ALL CAPS not in small caps, just like

command names and additional sense code names.

ENDL 214
PDF page 90
Table 37, row 1
"...block identifier values (see 4.2.7), (relative to a
partition)." s/b "...block identifier values (see 4.2.7), relative
to a partition."

ENDL 215
PDF page 90
Table 37
It would be useful if table 37 included references to the tables
that describe the various formats.

ENDL 216
PDF page 91
7.6.1, 5th p on PDF pg 91, s 1
Service action code 01h is vendor specific. How can its parameter
data format be specified in this standard?

ENDL 217
PDF page 94
7.6.1, 4th p on PDF pg 94, s 1
"accurately assume" s/b "accurately determine".

ENDL 218
PDF page 94
7.6.1, note 34
The statement in note 34 does not belong in a note. Note 34 should
be made part of the body text and agglomerated with the preceding
paragraph.

ENDL 219
PDF page 96
7.7.1, 1st p after table 41, s1
"execution" s/b "processing".

ENDL 220
PDF page 96
7.7.1, 2nd p after table 41, s 1 [must fix]
"(see table 22)" s/b "(see 6.4)".

ENDL 221
PDF page 98
7.8.1, 1st p after table 43
For most fields like the AVAILABLE DENSITY SUPPORT LENGTH field,
there is a statement like the following: "If the parameter data is
truncated due to insufficient allocation length, the AVAILABLE
DENSITY SUPPORT LENGTH field shall not be altered to reflect the
truncation."

ENDL 222
PDF page 100
7.8.1, 2nd p on PDF pg 100, s 2
"07Fh" s/b "7Fh" because the field is 8 bits (not 12 bits) in size.

ENDL 223
PDF page 100
7.8.1, 4th p on PDF pg 100, s 2

Everywhere else in this standard the spelled out "command
descriptor block" is used instead of "CDB". Therefore, two
instances of "CDB" s/b "command descriptor block" in this sentence.

ENDL 224
PDF page 101
7.8.1, 1st p on PDF pg 101, 3 places
This paragraph contains 3 instances of words being surrounded in
quotation marks (e.g., "average"). Since there is no definition for
this notation in the conventions subclause, the quotation marks
should be removed.

ENDL 225
PDF page 101
Note 40, s1
"which" s/b "that".

ENDL 226
PDF page 103
7.10.1, 6th p on PDF pg 103, last s
"This rounding error..." s/b "This rounding..."

ENDL 227
PDF page 103
Note 42, s1
"which" s/b "that".

ENDL 228
PDF page 105
7.11.1, 3rd p after table 48, s 1
"locate to" s/b "perform a locate operation to"

ENDL 229
PDF page 105
7.11.1, 3rd p after table 48
"executing" s/b "processing".

ENDL 230
PDF page 106
Table 49, Column 3 Heading [must fix]
Since none of entries in the column are subclause references, the
heading "Subclause" s/b "Reference".

ENDL 231
PDF page 106
8.2 heading [must fix]
In order to eliminate a hanging paragraph and prepare for ISO
standardization, add "8.2.1 Log parameters overview" immediately
following the 8.2 heading.

ENDL 232
PDF page 106
Table 50, Column 3 Heading [must fix]
Since not all entries in the column are subclause references, the
heading "Subclause" s/b "Reference".

ENDL 233
PDF page 106
Table 50
Table 50 is continued on to a second page with no indication that

this is happening. If SSC-2 is in FrameMaker, I can show you how to
provide suitable indication for tables that span multiple pages.

ENDL 234
PDF page 108
8.3 heading [must fix]
In order to eliminate a hanging paragraph and prepare for ISO
standardization, add "8.3.1 Mode parameters overview" immediately
following the 8.3 heading.

ENDL 235
PDF page 108
8.3, p 3, s 1
Is a "Fibre Channel Reset LIP" described in FC-PH? Or, is a
normative reference to FC-AL-2 required?

ENDL 236
PDF page 109
8.3, note 47
Since write protect is not hyphenated anywhere else in this
standard, the hyphens should be removed from the five (5) instances
of "write-protect(ed)" in this note.

ENDL 237
PDF page 109
3.8, table 54, row 3, a,b list
Either capitalize the first word in all list entries or capitalize
none of them.

ENDL 238
PDF page 110
8.3, 1st p on PDF pg 110, s 4
"...shall be as described below:" s/b "...shall be determined as
follows:".

ENDL 239
PDF page 110
8.3, a,b,c,d,e,f list
The first level letter should be lower case a) b) c) d) e) f) as in
4.1. The second level letters should be capitals A) B) ... Either
capitalize the first word of every list entry or capitalize none of
them. Note that the list entry letter case change will affect the
text in some of the list entries (e.g., d)A)).

ENDL 240
PDF page 110
3.8, table 56
The notes should be converted to table footnotes following the
format found in table 12.

ENDL 241
PDF page 111
Table 57, Column 3 Heading [must fix]
Since not all entries in the column are subclause references, the
heading "Subclause" s/b "Reference".

ENDL 242
PDF page 112
8.3.1, 5th p after table 58, s 1
Unless the RED field can detect boundaries, "...it detects..." s/b
"detected".

ENDL 243
PDF page 113
Table 59
The three column headings with RED=x should have the use of the
equals sign eliminated by restructuring as follows:

| RED field value |
+-----+-----+-----+
| zero| one | two |

ENDL 244
PDF page 113
3.8.1, table 59
The notes should be converted to table footnotes following the
format found in table 12.

ENDL 245
PDF page 113
Table 59, note 2
"below" s/b "following this table in this subclause."

ENDL 246
PDF page 113
8.3.1, 3rd p after table 59, s 2
"RED = 0 column" s/b "column for RED field values of zero".

ENDL 247
PDF page 113
8.3.1, 4th p after table 59, s 3
"RED = 1 column" s/b "column for RED field values of one".

ENDL 248
PDF page 114
8.3.1, 1st p on PDF pg 114, s 2
"RED = 2 column" s/b "column for RED field values of two".

ENDL 249
PDF page 114
7.6.1, note 48
The statement in note 34 does not belong in a note. Note 34 should
be made part of the body text.

ENDL 250
PDF page 114
3.8.1, 1st p after note 48, last s
The last sentence in this paragraph appears to be in a smaller type
point size than the rest of the paragraph.

ENDL 251
PDF page 114
Table 60
Table 60 is continued on to a second page with no indication that
this is happening. If SSC-2 is in FrameMaker, I can show you how to
provide suitable indication for tables that span multiple pages.

ENDL 252
PDF page 116
8.3.2, note 49

44

Since the CAP bit does not appear in table 61, it is necessary to
identify the byte and bit being discussed by number.

ENDL 253
PDF page 116
8.3.2, 3rd p after note 49
Following the example set by the DCC bit, the following sentence
should be added to the description of the ACTIVE PARTITION field:
"This shall be a non-changeable field."

ENDL 254
PDF page 117
8.3.2, note 50
Two (2) instances of "systems" s/b "application clients".

ENDL 255
PDF page 117
8.3.2, 1st p after note 51, s2
"(see 5.6, 5.7, 6.8, 6.9)." s/b "(see 5.6, 5.7, 6.8, and 6.9)."

ENDL 256
PDF page 117
8.3.2, 5th p after note 51, s 1&2
"The BUFFER SIZE AT EARLY WARNING field specifies the value, in
bytes, that the logical unit shall reduce its logical buffer size
to when writing. The logical unit should reduce the buffer size
only when the logical unit is positioned between its early-warning
and end-of-partition."

s/b

"The BUFFER SIZE AT EARLY WARNING field specifies the value, in
bytes, that the logical unit shall reduce its logical buffer size
to when writing in a position its early-warning and end-of-
partition."

ENDL 257
PDF page 118
8.3.2, 1st p after note 52, s 4
The words "with the DCE bit set to one" appear to be in a smaller
type point size than the rest of the text, except for DCE that
appears to be in correct small caps.

ENDL 258
PDF page 121
8.3.3 - 3rd p on PDF pg 121
Per 01-318r1, "A CLEAR bit of zero and an ADDP bit of zero
specifies SCSI-2 compatibility." s/b "A CLEAR bit of zero and an
ADDP bit of zero specifies compatibility with a previous standard."

ENDL 259
PDF page 126
Table 68
I believe the page length of 0Ah has the letter O in place of the
numeral 0.

ENDL 260
PDF page 126
8.3.6, list entry a)
"automatically cleared" s/b "automatically set to zero"

45

ENDL 261
PDF page 127
Table 69, row 1
"Set the TapeAlert flag specified by the TEST FLAG NUMBER field in
the log page." s/b "Set the TapeAlert flag specified by the TEST
FLAG NUMBER field to one in the log page."

ENDL 262
PDF page 127
Table 69, row 1, s 2
"set" s/b "set to one".

ENDL 263
PDF page 127
Table 69, row 2
Regarding "-01h to -40h", are these negative numbers ones
complement or twos complement? Are the values sign extended to 2
bytes or 4 bytes?

ENDL 264
PDF page 127
Table 69, row 2
"Clear the TapeAlert flag specified by the absolute value of the
TEST FLAG NUMBER field in the log page." s/b "Set the TapeAlert
flag specified by the absolute value of the TEST FLAG NUMBER field
to zero in the log page."

ENDL 265
PDF page 127
Table 69, row 2, s 2
"Clearing the flag" s/b "Setting the flag to zero".

ENDL 266
PDF page 127
Table 69
7FFFh is an unusual code value to choose for a 4 byte field. 7FFF
FFFFh would be more typical. Is this choice intentional?

ENDL 267
PDF page 127
Table 69, row 3
"Set all of the supported TapeAlert flags in the log page." s/b
"Set all of the supported TapeAlert flags to one in the log page."

ENDL 268
PDF page 127
Table 69
Should values not listed in the table be marked as reserved?

ENDL 269
PDF page 133
Annex B (normative)
Since Annex B is normative it should appear before Annex A because
Annex A is informative.

ENDL 270
PDF page 133
B.1, Key
Normally the key is placed in the table as a footer row so that it

appears on every table page.

ENDL 271
PDF page 133
Table B.1, code 03h, col5
"which" s/b "that".

ENDL 272
PDF page 135
Table B.1, code 18h, col6
"which" s/b "that".

ENDL 273
PDF page 136
Table B.1, code 1Fh, col6
"which" s/b "that".

ENDL 274
PDF page 136
Table B.1, code 27h, col6
"which" s/b "that".

ENDL 275
PDF page 138
Table B.1, code 34, col2
Should "Tape system" be "Tape system area write failure"? See code
35h.

ENDL 276
PDF page 138
Table B.1, code 34, col6
"system log" s/b "system area"

****

Comments attached to YesC ballot from Mr. Joe Breher of
Exabyte Corp.:

Comment 1

Editorial
doc page 1

Doc says:
"The objectives of the SCSI Stream Commands-2 (SSC-2) standard is to
provide the following:"

Doc should say:
"... standard are to..."

Notes:
Poor grammar - mixed plurality - "objectives" & "is"

Comment 2

Editorial
Doc page 5

Doc says:
"3.1.7 block address mode: The mode of operation in which the logical
unit is currently supporting."

Doc should say:

47

"3.1.7 block address mode: The mode of operation which the logical unit
is currently supporting."

Notes: Poor grammar

Comment 3

Technical
Doc page 5

Need definition of concept of "data block" in 3.1.x

Doc should say:
data block: A logical element containing an intiator-defined unit of data.

Notes:
The term "block" is employed in an ambiguous manner in parts of the
document. At times, it seems to imply a "data block" as defined in this
comment, and at other times it seems to imply a "logical element", as
per 3.1.34.

Comment 4

Technical
Doc page 6

Doc says:
"3.1.34 logical element: A unit of data, either a block or
a mark."

Doc should say:
"3.1.34 logical element: A unit of data, either a
data block or a mark."

Notes:
Take advantage of the definition of data block.

Comment 5

Technical
Doc page 7

Doc says:
"3.1.37 mark: ..."

Doc should say:
"3.1.37 mark ... Marks have a logical size of zero bytes."

Notes:
This fixes the size of marks, in order to disambiguate the calculation
of the INFORMATION field for buffered data.

Comment 6

Editorial
pdf page: 24

Doc says:
"3.1.62 write sequence: One or more WRITE(16), WRITE FILEMARKS(16), or
ERASE(16) commands delineated by the FCS and LCS bits (see 5.6 and
5.7)."

 Doc should say:
"tagged write sequence: One or more WRITE(16), WRITE FILEMARKS(16), or
ERASE(16) commands delineated by the FCS and LCS bits (see 5.2, 5.6 and
5.7)."

NOTES:

Problem 1: Reference to section number for ERASE(16) is missing.

Problem 2: The only place where "write sequence" is used instead of
"tagged write sequence" is section "4.2.7 Recorded object descriptors
(block identifiers)". In that instance, it is referring to recorded
information and not SCSI CDB's.

Comment 6

Editorial
Doc page 9 - section 3.4

Doc says :
"...These words and terms are defined in either clause 3.3 or in the
text..."

Doc should say:
 "...These words and terms are defined in either clause 3.1, 3.2 or 3.3,
 or in the text..."

Comment 7

Editorial
Doc page 13 - section 4.2.1 - 3rd paragraph on page

Doc says:
"In serpentine recording, not all tracks are recorded at the same time.
at the end-of-medium or..."

Doc should say:
In serpentine recording, not all tracks are recorded at the same time.
At the end-of-medium or..."

Notes:
Capitalization

Comment 8

Editorial
Doc page 15 - section 4.2.2

Doc says:
3rd paragraph is a repitition of the 2nd paragraph

Dos should say:
Eliminate 3rd paragraph

Comment 9

Technical
pdf page: 31

Doc says:

"For devices that support more than one partition, they
shall be numbered starting with zero..."

Doc should say:

"...numbered sequentially starting with zero..."

Notes:

This change is to avoid skipping partition numbers.   (e.g. 0 1 2 5 6)

Even a zero-length partition reported through MODE SENSE -
ADDITIONAL PARTITIONS DEFINED field should follow partition
semantics when you locate to the start of partition, then try
to reposition within it. The command semantics must be preserved
even if the partition has no physical representation on the media.

section 4.2.3 Partitions within a volume (Par 2 in section)

Comment 10

Editorial
Doc page 17 - 1st paragraph of section 4.2.4

Doc Says:
"The area between BOP x and EOP x on a typical recorded volume contains
at least two types of application client accessible elements, data
blocks, filemarks, and setmarks."

Doc should say:
"The area between BOP x and EOP x on a typical recorded volume
may contain any of the following three two types of application client
accessible logical elements: data blocks, filemarks, and setmarks."

Notes:
Employ definition of 'logical element'
Repair grammar

Comment 11
---------'
Technical
pdf page: 35 - section 4.2.5 Data buffering (Par 8 in section)

Doc says:
"The SEND DIAGNOSTICS command shall ensure transfer of buffered
data before any diagnostic tests are initiated."

Doc should say:
"before any diagnostic tests which may affect the bufferred data,
media or logical position are initiated."

Notes:
If the specific test doesn't expose the information to risk,
then there is no need to require a buffer flush. This should
also discourage people from issue SEND DIAGNOSTICS just to flush
the buffer.

Comment 12

Technical
pdf page: 35 - section 4.2.6 Tagged command queuing

Notes:
I don't have any wording for this, but you may wish to indicate
that tagged queuing might be necessary to fully support EXTENDED COPY
and RECEIVE COPY RESULTS. (Specifically to query the progress of the
copy without incurring a command overlap, since EXTENDED COPY does not
have an immediate bit.)
Tagged command queuing is not the functional equivalent of issuing write
commands with data buffern=ing enabled, from the standpoint of error
reporting.

Comment 13

Editorial
doc page 19 - 1st paragraph of section 4.2.7

Doc says:

"Some recording formats specify that recorded objects (blocks,
filemarks, and setmarks) have identifiers..."

Doc should say:
"Some recording formats specify that recorded logical
elements (data blocks, filemarks, and setmarks) have identifiers..."

Comment 14

Editorial
doc page 19 - 2nd paragraph of section 4.2.7

Doc says:
"...the block identifier value shall be a sequentially increasing number
assigned to each logical block, filemark, and setmark recorded..."

Doc should say:
"the block identifier value shall be a sequentially increasing number
assigned to each data block, filemark, and setmark recorded"

Comment 15

Technical
doc page 20 - 3rd paragraph

Doc says:
"When a volume is first mounted, the logical position is always at the
beginning of the default data partition (BOP 0)."

Doc should say:
"When a volume is first mounted, the logical position may be positioned
to the beginning of the default data partition (BOP 0), as per
device implementation.

Notes:
Allowance for mid-tape load.

Comment 16

Technical
pdf page: 37 - section 4.2.8.1 Error reporting

Doc says:
"In the case of an unrecovered write error or a deferred write
error, if buffered mode is selected and the FIXED bit is one, ...
and the INFORMATION field shall be set to the total number of
blocks, filemarks, and setmarks not written (the number of
blocks not transferred from the initiator for this command plus
the number of blocks, filemarks, and setmarks remaining in the
logical unit's buffer). If buffered mode is selected and the FIXED
bit is zero, the INFORMATION field shall be set to the total number
of bytes, filemarks, and setmarks not written..."

Doc should say:
Add "NOTE: When setting the value in the INFORMATION field, each
 unwritten filemark or setmark shall increase the value by exactly
 1, regardless of the physical space they would occupy on the media
 or in the buffer."

NOTES:
SPC-3 Request Sense command states "the number of bytes in the buffer,
including filemarks and setmarks, if the device is in variable mode",
which is easily misinterpreted.

Comment 17

Technical
pdf page: 41 and 101

Doc says:

"a) If the BAML bit (see 8.3.2) is set to zero, the setting of the BAM
bit (see 8.3.2) is not meaningful and the block address mode shall be
determined based on the first block address mode unique command that is
received after a successful load operation or a successful rewind to
BOx operation;"

-and-

"A block address mode lock (BAML) bit of zero specifies the selection of
the block address mode shall be determined based on the first command
that is received after a successful load operation or a successful
rewind to BOT operation."

 Doc should say:

"after a successful load operation or whenever the media is positioned
at BOx and no unwritten data, setmarks or filemarks are in the buffer."

NOTES:

There is no definition of a "rewind operation". It is easy to interpret
the current text as stating that only LOAD or REWIND are valid ways of
position to BOx before changing address modes.   The state diagrams only
check to see if BOx is True, which implies that LOCATE, READ REVERSE,
SPACE or any other command that positions to BOx would be acceptable.

section 4.2.11 Block address mode selection section 8.3.2 Device
configuration page

Comment 18

Editorial
pdf page: 41 - section 4.2.12 Explicit address mode tagged write
sequences

Doc says:
Nothing.

Doc should say:
Some explanation of what "tagged write sequences" are used for.   Why do
they exist?

Comment 19

Technical
pdf page: 41 - section 4.2.12 Explicit address mode tagged write
sequences

Doc says:
"e) a WRITE(16) command with the TRANSFER LENGTH field set to zero or a
WRITE FILEMARKS(16) command with the IMMED bit set to zero and the
transfer length field set to zero shall be issued following an error
condition to transistion from write capable state to neutral state."

Doc should say:
"e) a WRITE(16) command or a WRITE FILEMARKS(16) command or an ERASE(16)
command with the LCS field set to one shall be issued following an
error condition to transition from write capable state to neutral
state."

NOTES:

Neither the state diagrams in section "4.2.13 Block address mode state
diagrams" nor the text for WRITE(16) and WRITE FILEMARKS(16) indicate
that the device will transition to neutral state as a result of the
stated field settings.

The transition to neutral state is controlled only by the setting of
LCS or the receipt of a command that is not legal in Explicit Address

52

Mode Write Capable state. The transition to neutral state will occur
regardless of the TRANSFER LENGTH or IMMED bit settings; although, these
fields will affect flushing of buffers and transfer of additional data
provided that the LOGICAL BLOCK ADDRESS field is correct for the logical
position after the error occurred.

I see no reason why ERASE(16) would not be a valid final command to
force exit from write capable state.

As an editorial sidenote, "transition" is misspelled.

Comment 19

Technical
pdf page: 41, 55, 63 and 65
section 4.2.12 Explicit address mode tagged write sequences section 5.2
ERASE(16) command section 5.6 WRITE(16) command section 5.7 WRITE
FILEMARKS(16) command

NOTES: The only error conditions for the use of tagged write sequences
is the state diagrams for address mode switching. These errors should
be included in the text.

Potential errors include:

* FCS set on cdb while a tagged write sequence already in progress.

* LCS set on cdb when no tagged write sequence is in progress.

* Any restrictions on the LOGICAL BLOCK ADDRESS between cdb's in a
tagged write sequence.

Comment 20

Technical
doc pages 25 and 88

Doc says:
p 25: "A common command containing a BAM bit (e.g., LOCATE(16)) shall be
processed as either an explicit or implicit command based on the setting
of the bit.

"The SPACE(16) command shall be processed as either an explicit or
implicit command based on the setting of the PARAMETER LENGTH field."

Doc should say:
p 25: "A common command containing a BAM bit (e.g., LOCATE(16) or SPACE
(16)) shall be processed as either an explicit or implicit command based
on the setting of the bit." (eliminate following paragraph)

p 88:
Add BAM bit to byte 2, bit 0, use definition found within LOCATE(16).

Notes:
This is intended to allow commonality of parsing, by putting identical
information in an identical spot in the CDB.

Comment 21

Technical
doc page 41 - 4.2.13

Doc says:
nothing

Doc should say:
At any instant, the device server shall be in one of the several block
address mode states.

Notes:
Object having state (device server?) not specified.

Comment 20

Technical
pdf page: 43, 44 and 46 - section 4.2.13 Block address mode state
diagrams

Doc says:

"AO:AO MODE SELECT, BAML=0, BAM=1 * send error (INVALID FIELD IN
PARAMETER LIST)"

"EO:EO MODE SELECT, BAML=0, BAM=1 *send error (INVALID FIELD IN
PARAMETER LIST)"

"FO:FO MODE SELECT, BAML=0, BAM=1 *send error (INVALID FIELD IN
PARAMETER LIST)"

 Doc should say:

"AO:AO MODE SELECT, BAML=0, BAM=1"

"EO:EO MODE SELECT, BAML=0, BAM=1"

"FO:FO MODE SELECT, BAML=0, BAM=1"

NOTES:

Either the "send error" should be removed from the state diagrams or
sections "4.2.11 Block address mode selection" and "8.3.2 Device
configuration page" should be updated to make this an error condition.

Currently, this is not covered in 8.3.2; whereas, 4.2.11 says:

"a) If the BAML bit (see 8.3.2) is set to zero, the setting of the BAM
bit (see 8.3.2) is not meaningful and the block address mode shall be
determined based on the first block address mode unique command that is
received after a successful load operation or a successful rewind to
BOx operation;"

Comment 21

Technical
doc page: 29 - section 4.2.13 Block address mode state diagrams

Doc says:

"Note: An explicit tagged write sequence command may be issued with
FCS=1 and LCS=1. In this case transistion E1:E0 will be made following
completion of the command."

 Doc should say:

This note should be removed and the case should be handled by the
existing "E1:E0 Explicit tagged write sequence command enabled, FCS=1
*send error (INVALID FIELD IN CDB)" state transition.

NOTES:

Why is this special-case being allowed? If you start a new tagged write
sequence before finishing the old sequence, then you're either confused
or you've lost the CDB with LCS=1 for the prior sequence. Doesn't this
expose what FCS and LCS are supposed to avoid?

Comment 22

Technical

pdf page: 46 - section 4.2.13 Block address mode state diagrams

Doc says:

"F0:F0 BAML=0, Explicit tagged write sequence command enabled, FCS=0
*send error (INVALID FIELD IN CDB)"

 Doc should say:

"F0:F0 BOx=True BAML=0, Explicit tagged write sequence command enabled,
FCS=0 *send error (ILLEGAL COMMAND WHILE IN IMPLICIT ADDRESS MODE)"

NOTES:

For clarity, this trasition should be moved up near the explicit tagged
write command with FCS=1 and BOx=True transition.

While in this state, an tagged write sequence is only distinguished by
FCS=1 or LCS=1. If FCS=0 and LCS=0, then it falls into one of the other
explicit address command categories (untagged write, generic or read).

The general-case for all explicit address commands not at BOx is already
handled.

The special-cases for explicit read and generic commands (also explicit)
at BOx are already handled.

The special-case for explicit tagged write commands with FCS=1 is
handled at BOx is already handled.

The only remaining case covered by this transition is explicit tagged
write commands with FCS=0 and LCS=1 while at BOx. I see no reason for
it to return a different error than all of the other prohibited explicit
commands in implicit mode. Adding BOx=True clearly distinguishes this
case from the general explicit address commands where BOx=False.

Comment 23

Technical
doc page 30

Doc Says:
"At minimum, the TapeAlert log page shall be read from the tape
drive/autoloader device for the following:"

Dos should say:
I am unsure. The problem I have here is that we seem to be specifying
madatory behavior of the application client with respect to interaction
with the user. I thought we were not scoped with defining behavior at
this layer.

Comment 24

Editorial
doc page 32

Doc says:
"Tape drive/autoloader (streaming device using a single physical ID). If
the device includes an integrated changer device on another LUN under
the same physical device ID (e.g., an autoloader), then it shall still
be treated as a single streaming device."

Note:
There seems to be a conflict of definitions here. Per 3.1.14, the term
'device type' is defined as being an attribute of the device server. Af
the tape drive portion of a tape drive/autoloader is on another logical
unit from the autoloader portion, they are by definition two separate
device servers. They are therefore unable to be a single device type.

Comment 25

Technical
doc page 33 - table 7 - implementation guidelines for Flag # 14h

Doc says:
"Set for any unrecoverable write/positioning error where the diagnosis
is uncertain and could either be faulty media or faulty drive hardware,
and is internally cleared when the media is ejected."

Doc should say:
"Set for any unrecoverable write/positioning error where the diagnosis
is uncertain and could either be faulty media or faulty drive hardware,
and is likely to be eliminated when the device is cleaned."

Note:
Guidlenes mistakenly adopted the text of those for Write Failure.

Comment 26
----
editorial
doc page 33 - 1st paragraph of 4.2.15

Doc says:
"Support for the READ ATTRIBUTE and WRITE ATTRIBUTE commands (see SPC-3)
is described the table 9 and table 10."

Doc Should Say:
"...is described table 9 and..."

Notes:
Poor grammar

Comment 27
----
editorial
doc page 35 - 2nd paragraph

doc says:
"N/A" note applicable"

doc should say:
remove this clause

Notes:
"N/A" does not appear anywhere in table 11. Even if it did, it is
defined in section 3.2

Comment 28
----
editorial
doc page 35 - note 9

doc says:
"Due to the nature of streaming device types, Write Exclusive and Write
Exclusive, Registrants Only modes of reservation do not protect an
applications continuity of operations..."

Doc should say:
"protect an application's continuity of operations..."

Note:
Grammar - apstrophe

Comment 29
----
editorial?
doc page 37 - section 5.1 - 1st paragraph
doc page 52 - section 6.1 - 1st paragraph

doc says:

"The explicit address command set for sequential-access devices shall be
as shown in table 12. The Flush column specifies whether the command
requires buffered data, filemarks, and setmarks to be transferred to the
medium. Commands specified as manadatory in table 12..."

doc should say:
"...The Flush column specifies whether the command causes all buffered
data, filemarks, and setmarks to be transferred to the medium before
command-specific processing."

note
Specifies at which point the flush shall occur. Currently, all
specified flushing commands perform flush at this point. We should make
it madatory for any future flushing commands as well.

Comment 30
----
editorial
doc page 39

doc says:
"A LONG bit of one specifies all remaining medium in the current
partition shall be erased beginning at the current logical position."

doc should say:
"A LONG bit of one specifies all remaining medium in the current
partition shall be erased beginning at the position defined by
the current logical position following any positioning specified in the
PARTITION and LOGICAL BLOCK ADDRESS fields."

note:
clarification as to which 'current logical position' is intended.

Comment 31

Editorial
doc page 46, last paragraph

doc says:
"If the data does not compare (BYTCMP bit of one), the command shall
terminate with CHECK CONDITION status, the sense data VALID bit shall be
set to one the sense key shall be set to MISCOMPARE,..."

Doc should say:
"...the sense data VALID bit shall be set to one, the sense key shall be
set to..."

note:
grammar - comma

Comment 32

Technical
doc page 39 & 54

Doc says:
nothing

Doc should say:
"If the command is successfully validated, the logical unit shall ensure
that all buffered data, filemarks, and setmarks have been transferred to
the medium"

Note:
flush behavior unspecified for the case where the command is
successfully validated, but an attempted erase operation fails.

Comment 33

Editorial

doc page 57, 1st paragraph after note 23

Doc says:
"A TRANSFER LENGTH of zero specifies no data shall be transferred. This
condition shall not be considered an error and the logical position
shall not be changed."

doc should say:
TRANSFER LENGTH of zero specifies no data shall be
transferred,and the logical position shall not be changed. This
condition shall not be considered an error.

note:
keep like clauses toghether. motch useage in rest of doc.

Comment 34

Technical
doc page 60, next to last paragraph

doc says:
"If the end-of-partition is encountered while spacing forward over
blocks, filemarks, or setmarks, CHECK CONDITION status shall be
returned, and the sense key shall be set to MEDIUM ERROR. The additional
sense code shall be set to END-OF-PARTITION/MEDIUM DETECTED, and the
sense data EOM and VALID bit shall be set to one. The INFORMATION field
shall be set to the requested count minus the actual number of blocks,
filemarks, or setmarks spaced over as defined by the CODE value."

doc should say: (append to what it does say)
"... The resultant position will be at the end-of-partition."

Note:
resultant position unspecified

Comment 35

Technical
doc page 61 - 1st partial paragraph

doc says:
"...spaced over (the requested number of blocks, filemarks, or setmarks
minus the actual number of blocks, filemarks, or setmarks spaced over).
A successfully completed SPACE command shall not set EOM to one at
beginning-of-partition."

doc should say: (append to what it does say)
"... The resultant position will be at the beginning-of-partition."

Note:
resultant position unspecified

Comment 36

Technical
doc page 61 - setmark encountered

doc says:
"If a setmark is encountered while spacing to sequential filemarks and
the RSMK bit is set to one in the device configuration page (see 8.3.2),
CHECK CONDITION status shall be returned, the FILEMARK bit shall be set
to one and the VALID bit shall be set to zero in the sense data. The
sense key shall be set to NO SENSE and the additional sense code shall
be set to SETMARK DETECTED. The device server shall not return CHECK
CONDITION status when a setmark is encountered if the RSMK bit is set to
zero or if setmarks is not supported."

doc should say: (append to what it does say)
"... The resultant position will be at the encountered setmark."

Note:
resultant position unspecified

Comment 37

Technical
doc page 61 - EOP encountered

doc says:
"If end-of-partition is encountered while spacing to sequential
filemarks or setmarks, CHECK CONDITION status shall be returned, and the
sense key shall be set to MEDIUM ERROR. The additional sense code shall
be set to END-OF-PARTITION/MEDIUM DETECTED, the EOM bit shall be set to
one, and the VALID bit shall be set to zero in the sense data."

doc should say: (append to what it does say)
"... The resultant position will be at the end-of-partition."

Note:
resultant position unspecified

Comment 38

Technical
doc page 61 - eop encountered (2)

doc says:
"If end-of-partition is encountered while spacing to end-of-data, CHECK
CONDITION status shall be returned, and the sense key shall be set to
MEDIUM ERROR. The additional sense code shall be set to
END-OF-PARTITION/MEDIUM DETECTED, the EOM bit shall be set to one, and
the VALID bit shall be set to zero in the sense data."

doc should say: (append to what it does say)
"... The resultant position will be at the end-of-partition."

Note:
resultant position unspecified

Comment 39

Technical
Possibly sections 4.2.7, 5.3, 5.4 and 8.3.2.

Doc says:
nothing

Doc should say:
unknown

Notes:
Exlpicit Address Model broken - needs further definition

If a tape containing Setmarks is read in Explicit Address mode with
Setmark reporting disabled, it will not know when it crosses a Setmark.
The setmarks must still be counted when setting the LOGICAL BLOCK
ADDRESS for the next READ cdb. How does the application client know how
many setmarks need to be accounted for, when the "Device configuration
page - RSMK bit" is zero?

If setting Rsmk==0 causes setmarks to not be counted for purposes of
setting the LOGICAL BLOCK ADDRESS for READ cdb's, then how is the change
in address mappings handled when RSMK is toggled between 1 and 0 while
setmarks exist prior to the current position within the partition?

Perhaps we may prohibit RSMK==0 in explicit address mode, but this
requires updating the state tables in 4.2.13 and text in both 4.2.11 and
8.3.2 to indicate what occurs when an Explicit Address command is
received and RSMK is already set to 0. Allowing mode parameters to
change without generating a unit attention is not a valid option.

We could also ignore RSMK in explicit address mode. This still needs
text in 8.3.2 and changes to 5.3 and 5.4.

Comment x

Technical
pdf page: 103 and remainder of section 8.3.3 Medium partition page(1)
           and 8.3.4 Medium partition page(2-4).

Doc says:

"The ADDITIONAL PARTITIONS DEFINED field specifies the number of
additional partitions to be defined for a volume when the SDP or IDP
bit is set to one. The maximum value allowed is the value returned in
the MAXIMUM ADDITIONAL PARTITIONS field. The ADDITIONAL PARTITIONS
DEFINED value returned by the MODE SENSE command shall report
one less than the number of partitions on the media when the
logical unit is ready. If the unit is not ready, the ADDITIONAL
PARTITIONS DEFINED field is undefined."

NOTES:

Whether MODE SENSE returns the partitions actually on the mounted
volume or the partitions which will be written during the next
format command appears ambiguous. The 1st sentence above does not
restrict itself to MODE SELECT and states the field reports the
partitions that will be written. The second sentence is specific
to MODE SENSE and states that it reports the number of partitions
currently on the actual volume.

I don't see any obvious clarification in the text for the "Partition Size
Descriptor" fields.

The question is "I issue a MODE SELECT with a POFM bit of 1, then issue
a MODE SENSE before issuing the FORMAT. Does the device return the
information for partitions already on the volume or do I get what
the MODE SELECT just told the device to create during the next FORMAT?"

Another question could arise concerning what to report during the
progress of the FORMAT command, assuming that tagged queuing is enabled
or the request comes from another host. Some implementations could
consider MODE SENSE to be an informational command similar to INQUIRY
or READ BLOCK LIMITS.

Also, what should POFM report in MODE SENSE?

Comment x

Technical
pdf page: 117

Doc says:

"A block address mode lock (BAML) bit of zero specifies the selection of
the block address mode shall be determined based on the first command
that is received after a successful load operation or a successful rewind
to BOT operation."

Doc should say:

"a successful rewind to BOx operation."

NOTES:

"BOT" is not a defined term in SSC-2. Normally "BOT" means "beginning
of tape"; however, the state machines in section "4.2.11 Block address
mode selection" specifically permit changing address mode at "BOx".
"BOx" is defined in the SSC-2 glossary as either BOP or BOM.

section 8.3.2 Device configuration page

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Comments attached to No ballot from Mr. George O. Penokie of
IBM / Tivoli Systems:

<Typos>
p.7, 3.1.43
"principal density code" => "primary density code"

P.12, paragraph4 (4.2.1)
SEND DIAGNOSTICS cmd needs added as a cmd that can have check condition
returned.
COPY and COPY AND VERIFY command are not listed in this standard. (See refer
above)

p.18, paragraph4 line 2(4.2.4)
"... blocks only specfies the method..." => specifies

p.21 Table 1 Raw 4
"Attempt to execute an erase, format, partition, set capacity,..."=> format
partition (Delete comma)?

p.22, in 4.2.9(Write protection)
several "write protects" => write protections ?

p.24, paragraph 4 (under Table 4)
"OPERATION IN PROGRESS, NOT READY, FORMAT IN PROGRESS..." => Delete? I think
there is not "NOT READY" in additional sense information.

p.25 paragraph 6 (4.2.12) and others
"e)....error condition to transision from write capable state to neutral
state." => transition ?

p.35, paragraph 2
"N/A: Not applicable." => This doesn't appear in Table 11 so that isn't
needed.

p.90, Table 50 and p.95 Table57
The order of table contents is different between Table 50(by Page Code) and
Table 57(the initial charactor of Description). They need to be consistent.
We suggest order both by Page Code(like Table 50) because it's easier to read.

p.96 Table 58, p.99 Table61, p.109, Table 67, p.110, Table 68: Byte 1
"PAGE LENGTH (Oxh)" => "O" is wrong. "0" is correct.

p. 99 Table 61
The width of fields that SOCF and RBO is wrong. SOCF field should be 2 bit and

RBO should be 1 bit.

4.2.2
Sentences are duplicated above and below Figure 7.

4.2.3 Figure 10 p.17
"EOP0/BOP0" should be "EOP0/BOP1".

"EOP1" is missing.

5.6.1, 5.7.1, 6.8.1 & 6.9.1
"some additional data may be written to the medium (e.g., labels, filemarks,
or setmarks)"
Add a definition for "label" in the definitions section.

7.4.1 p. 70 final paragraph is split oddly between pages 70 and 71.

p 35, note 9, line 2, "application's" (needs apostrophe)

<concepts>

p 38, table 12 and p 53, table 13,
     Reserve(10) is mandatory, but FC-Tape requires that devices NOT support
     3rd party reservations. How is this resolved? Do we implement but not
     support 3rd party? Will FC-Tape allow 3rd party reservations? FC-Tape
     probably needs to specify that Fibre Channel tape devices must violate
     the SPC3 specification on this point.
p 38, table 12, footnotes c & d, what is done if the bit is not as specified?
     these commands are not documented in SSC2 (they are in SPC-3 and SMC),
     so it seems that the action should be specified here, since this is an
     error condition for SSC-2 explicit mode. This should probably be a
     Check Condition with ASC of invalid field in CDB.
p 87, para "The CAPACITY PROPORTION VALUE..." states that rounding error shall
     not be reported. A Check Condition like for when a mode page parameter
     is rounded should be returned.
p122, table B-1, tape alert has 64 flags, but table only shows 0x01-0x37
     which is only 55 flags. The other flags should be specified as
     reserved or vendor specific.

Section 4.2.11 final paragraph
add at end of sentence "... or ILLEGAL COMMAND WHILE IN WRITE CAPABLE STATE if

in write capable state."

section 4.2.12 subparagraph e) add "with the LBA field set to LBA of current
location on tape" after "...set to zero" and before "shall be issued..."

section 4.2.14 second paragraph. Change "shall" to "should". This change
should be made throughout the document when referring to TapeAlert. TapeAlert

gives added information that may be useful to the application client but that
is not required to function properly. It should not be required for the
application client to request this info.

section 5.6.1 paragraph 6 describing the LOGICAL BLOCK ADDRESS and PARTITION
fields. This paragraph should explicitly state that if TRANSFER LENGTH field

is zero, no locate shall be performed regardless of LBA field value.

<Block Address mode>
There is no definition of four modes. Each mode should have a definition.

What happens if issued Mode Select BAML=0, BAM=0 needs to be defined.

It seems that the case of MODE SELECT BAML=0, BAM=1is always invalid from the
diagrams. But there is no description in 8.3.2.
The definition of BAM bit on page 101 needs to indicate that BAM bit is only
valid when BAML bit is 1.

<READ/WRITE ATTRIBUTE> (Page 33)
There is no description about Read/Write Attribute commands on
SPC-3(spc3r02.pdf). Furthermore, they are not listed in Table12 and 19. It
seems that they are not supported by SSC-2.

<(EXTENDED) COPY/RECEIVE COPY RESULTS command>
They aren't listed in Table 12 and 19. However, there is the description about

EXTENDED COPY command on SPC-3(spc3r02.pdf). SPC-3 defines the stream device

in EXTENDED COPY descriptor type codes(See "7.2.5 Descriptor type codes" on spc3p02.pdf). I feel EXTENDED COPY is one of important command for storage networking, especially, server-less backup. Why aren't they defined on SSC-2? And, why is COPY, COPY AND VERIFY command deleted from Table 12 and 19? I think their code should be clarified as obsolete if not needed.

<LOCATE/SPACE>
p.71. LOCATE(16)
Why does this have Implicit mode? I feel it isn't needed to support that mode.

I looked at ssc2r00.pdf and sscr02.pdf. I think there is no compatibility between those LOCATE(16) and the one of ssc2r07.pdf. If Implicit mode is needed, I feel block identifier type(BT) field may be also needed for compatibility.
In the first place, How is the LOGICAL BLOCK ADDRESS addressed? the length of tape or any fixed data length?

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Comments attached to Abs ballot from Mr. Cris Simpson of
Intel Corp.:

intel01 Abstaining due to insufficient expertise

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Comments attached to No ballot from Mr. Paul Entzel of
Quantum Corp.:

Comments on SSC-2, revision 7
Paul Entzel, Quantum

1. Forward, NCITS and T10 members lists are missing.
2. Section 2.2: Include SPC.
3. Section 2.3: Include SPC.
4. Section 2.4: Include SPC-2 and SPC-3.
5. Section 2.5: Include SPC-2 and SPC-3.
6. Section 3.1.5: Remove the second sentence.
7. Section 3.1.6: Move the second and third sentences to section 4.2.3.
8. Section 3.1.7: This may be clearer by running the 2 sentences together, for instance: "...currently supporting, either the explicit...".
9. Section 3.1.8: Remove the middle sentence.
10. Section 3.1.17: Remove the last 2 sentences.
11. Section 3.1.24: Should we include all commands that have the FIXED bit in them (READ REVERSE, VERIFY, RECOVERED BUFFERED DATA)? The same comment applies to section 3.1.60.
12. Section 3.1.33: Move the second sentence (a requirement) into section 4.2.3 or 4.2.7. I have a problem with the nomenclature here. A "logical block" is a user data block, but a "logical block address" is the address of a logical block, filemark, or setmark. Maybe we should use a different name for this such as "logical element address" or block identifier (which is defined in section 4.2.7).
13. Section 3.1.35: Move the second sentence to section 4.2.3 or 4.2.7.
14. Section 3.1.36: Move the second sentence to section 4.2.3 or 4.2.7.
15. Section 3.1.40: Should we include other commands that can report this condition as well as read (READ REVERSE, VERIFY, RECOVER BUFFERED DATA)? This same comment applies to section 3.1.59.
16. Section 3.1.42: Change "...defined in a vendor-specific manner" to "...defined in a vendor-specific or format specific manner". Add a reference to section 4.2.3.
17. Section 3.1.49: Remove second sentence.
18. Section 3.1.50: Is this definition correct? Are we "spacing" while executing a LOCATE command or while performing the implied locate from an explicit READ command?
19. Section 3.1.58: Remove the second sentence.
20. Section 3.1.60: Should we include all commands that have the FIXED bit in

them (READ REVERSE, VERIFY, RECOVERED BUFFERED DATA"?
21. Section 3.2: Add LBA if we keep that term.
22. Section 4.2: Hanging paragraph.
23. Section 4.2.1: The seventh paragraph, which begins "The RESERVE and
RELEASE...", should be moved to section 4.2.16.
24. Section 4.2.1: The eighth paragraph, which begins "The write enabled...",
contains a list of commands that can return CHECK CONDITION due to write
protect. This list includes a couple of obsolete commands and does not
include all commands that can return this status. This paragraph should be
moved to section 4.2.9 that deals with write protection.
25. Section 4.2.1: The paragraph immediately following Figure 3 includes a
reference to BOM and EOM that should be BOP and EOP.
26. Section 4.2.1: The second sentence in the second paragraph after Figure 3
needs "at" capitalized.
27. Section 4.2.2: The second paragraph references EOM when it should use EOP.
28. Section 4.2.2: Figure 7 should use BOP and EOP instead of BOM and EOM.
29. Section 4.2.2: The paragraph following Figure 7 is a repeat of the
paragraph before the figure.
30. Section 4.2.3: In Figure 10, change "EOPO/BOPO" to "EOPO/BOP1". Also add
"EOP1" near EOM.
31. Section 4.2.4: The first sentence of the first paragraph needs rewording
or at least the word "two" should be changed to "three". Rewording would
probably be better since "typical" volumes do not include setmarks. The
second sentence only lists a few of the commands that are used to control and
transfer elements. Does this sentence add any value?
32. The last sentence in the third paragraph needs a reference to section
8.3.2.
33. Section 4.2.4: The forth paragraph needs a reference added to section
8.3.2 at the end of the last sentence.
34. Section 4.2.4: The forth paragraph describes setmarks and mentions that
they may be optionally ignored. One sentence states "If ignored, setmarks are
skipped when encountered.". Question, how does ignoring setmarks affect the
LBA calculation?
35. Section 4.2.6: I disagree with the second sentence in this section.
Either the initiator or the target may limit the number of tagged commands
that could dramatically reduce the amount of buffered data. There are other
significant differences between buffered mode and tagged commands, such as
residual counts and deferred errors. I suggest a different wording for this
sentence: "Issuing tagged write commands with data buffering disabled can
facilitate streaming operations up to the limit of the number of outstanding
tagged commands supported by the initiator and the device. This limit may
effectively reduce the usable portion of the buffer which can significantly
affect the device's performance".
36. Section 4.2.7: Reference the last 2 paragraphs in this section. The READ
POSITION and LOCATE commands use several methods of addressing elements on a
medium. Additionally, all of the explicit mode commands address the elements
using an 8 byte address and a 1 byte partition. These paragraphs need to be
reworked or removed.
37. Section 4.2.8.1: This should be section 4.2.9, not a sub-section of 4.2.8.
38. Section 4.2.8.1: In Table 1, the sixth row states that "Overlength or
other error that may be resolved by repeating the command" reports an "ABORTED
COMMAND" Sense Key. There are several events that can cause an ABORTED
COMMAND Sense Key to be reported, but an Overlength is not one of them. I
recommend this row be removed from the table.
39. Section 4.2.8.1: In Table 1, row 10 that starts "Attempt to execute an
erase, format...". Change the word "execute" to "process". There are several
command names in this sentence that need to be all capital letters.
40. Section 4.2.8.1: The last 5 paragraphs describe hard read error and hard
write error cases over a variety of conditions of the fixed bit and buffered
modes. These would be much easier to understand if they were a table.
41. Section 4.2.9: Hanging paragraphs (several).
42. Section 4.2.9: There are several other conditions that can cause a command
to be rejected with a DATA PROTECT sense key, such as:
* The format on the current medium is read-only by the device.
* The device can only write from BOP or EOD and the current position is
neither.
* The medium is an archive tape and only can be recorded at EOD.
* Other vendor unique conditions.
I don't think we need to list how all of these will be treated or reported,
but they should be at least mentioned.

43. Section 4.2.10: This section would be clearer if table 4 contained the additional sense code values instead of the text, like table 3 does. ASC should be spelled out so it is clear the field contains the ASC and ASCQ.
44. Section 4.2.11 through 4.2.13: These sections describe different uses for the explicit and implicit command set, without first describing how the command sets differ and why you would choose one over the other. Perhaps this would be better handled by creating a Command Set section 4.2.11 and starting with a sub-section that describes the differences between the 2 command sets and when one would be chosen over the other. Then these 3 sections could follow as sub-sections describing how the command sets are selected.
45. Section 4.2.12: In items d and e, are we allowed to place "shall" requirements on the application client in this standard?
46. Section 4.2.14: Hanging paragraphs.
47. Section 4.2.14: This section places several "shall" requirements on the application client that should not be mandatory even if placing requirements on the application client is allowed. Most of the places "shall" is used should be changed to "may", and some of them should be changed to "Note". Note 4 and Note 5 are requirements placed on the device server, and should not be notes. Except for the first two sentences in the last paragraph before section 14.2.14.1, the entire paragraph specifies how the application must act, not the device.
48. Section 4.2.14.3: The second paragraph is a list with one entry, this should not be a list. The third paragraph states that table 7 lists "The minimum subset of flags that shall be supported...". The note that follows this paragraph states "These are only examples and may not relate to some tape technologies.". These two statements are contradictory.
49. Section 4.2.14.3: Table 7 is redundant with table B.1. Either table 7 should be removed and a reference added, or table B.1 should be moved into this section.
50. Section 4.2.15: In the last paragraph before NOTE 8, the first sentence contains an extra "e".
51. Section 4.2.16: The second paragraph states that "if any element is reserved within a logical unit, ...". In section 4.2 .1, the seventh paragraph, which begins "The RESERVE and RELEASE...", states that "Element reservations are not supported by this model". These two statements are contradictory.
52. Section 4.2.16: The definitions of "Allowed" and "Conflict" include not only what they mean, but also when they will occur, which table 11 is supposed to do. I recommend changing the definitions as follows:
Allowed: Command shall not report RESERVATION CONFLICT status.
Conflict: Command shall not be performed and the device server return RESERVATION CONFLICT status.
The N/A key word is no longer used in the table.
53. Section 5.1: Change the definition of the M key to include "if the explicit command set is implemented and enabled".
54. Section 5.2: Subclause heading 5.2.1 is not needed (A subclause shall not be created unless there is at least one further subclause at the same level). All of the subclauses in clause 5 and 6 have this issue.
55. Section 5.2: In the first sentence of the second paragraph after table 13, change the first sentence to "A LONG bit of one specifies all data beyond LOGICAL BLOCK ADDRESS in the partition signified by PARTITION shall be erased".
56. Section 5.2: In the last paragraph, what is the logical position following a failed locate operation? Paragraph 3 says that it is not defined if the LONG bit is set, with no reference to successful completion. But nowhere does it say where the position is if the LONG bit is not set.
57. Section 5.2: Also in the last paragraph. A note or comment should be added that some devices may reject an ERASE(16) that specifies a location other than BOP, similar to NOTE 10. Or, NOTE 10 can be expanded to cover this case.
58. Section 5.3: In the paragraph that begins "If the device server encounters a setmark during a READ(16) command...", it is unclear what is meant be the last sentence. The sentence in question reads "The device server shall not return CHECK CONDITION when a setmark is encountered if the RSMK bit is set to zero or if this option is not supported". I have two questions about this sentence:
* Should the device stop and not transfer any data or just skip over the setmark as if it was not there?
* What is meant by the statement "if this option is not supported"? What option?

The same comment applies to section 6.4.
59. Section 5.3: in regards to the paragraph that begins "If the device server encounters early-warning during a READ(16) command...". In the last sentence in this paragraph, the phrase "or if the REW bit is not supported" should be removed since it will be zero if not supported.
The same comment applies to section 6.4.
60. Section 5.3: In NOTE 14, it is unclear what is meant by "error condition".
61. Section 5.5: In the paragraph that begins "The LOGICAL BLOCK ADDRESS and PARITION fields specify the position where the VERIFY(16) command shall start.", it does not say if the locate is performed if the BYTCMP bit is set to zero. I would assume that the locate operation is not done if the verification length is zero, regardless of the value of BYTCMP.
62. Section 5.5: In the paragraph that begins "The VERIFICATION LENGTH field specifies...", it does not say what to do if the BYTCMP bit is zero and the length is zero.
The same comment applies to section 6.7.
63. Section 5.6: The paragraph that begins "If a WRITE(16) command is received while the logical unit is positioned between early-warning and end-of-partition..." can be interpreted to require a buffer flush operation before returning status. No mention is made of the SEW bit from the device configuration mode page which is supposed to control if the device flushes the buffer. Was the SEW bit only supposed to control the first time EW is detected, or the action of the drive while in the early-warning region? If the latter, this paragraph needs some rewording.
The same comment applies to sections 5.7, 6.8, and 6.9.
64. Section 5.6: The first sentence in NOTE 18 is confusing. Is the "repositioning" mentioned in the note initiated by the application client or by the device? I believe this note is alluding to a recovery process for a WRITE command that terminated without transferring all of its data. Yet I could find no recovery process like that anywhere in the requirements area of the standard.
The same comment applies to section 6.8.
65. Section 5.7: No mention is made as to the interaction of the WSMK bit and the RSMK bit in the device configuration mode page. This would lead me to believe that a WRITE FILEMARKS command with WSMK set to one is legal even if RSMK it set to zero. This is fine, but it could lead to problems on RECOVER BUFFERED DATA and READ POSITION commands. Should the RSMK bit affect the residual counts (don't count buffered setmarks if it is set to zero)?
This same comment applies to sections 5.6, 6.8, and 6.9.
66. Section 6.3: The paragraph that begins "If the end-of-partition is encountered while spacing forward..." looks like it was cut and pasted from the SPACE command. This needs to be fixed to reference the LOCATE command.
67. Section 6.3: The last paragraph states that "The logical unit position is undefined if a LOCATE command fails with a sense key other than ILLEGAL REQUEST". I would think that a sense key of BLANK CHECK would indicate the position to be EOD, would it not?
The same comment applies to section 7.4.
68. Section 6.6: In the first paragraph there are two instances where the field name "count" is not small caps font.
69. Section 6.6: In table 25, spell out the M and the O in the support column.
70. Section 6.6: Are CODE values 4 and 5 (Setmarks and Sequential setmarks) legal when the RSMK bit in the device configuration mode page is set to zero?
71. Section 6.6: In the paragraph that begins "If a setmark is encountered...", remove the phrase "or if this option is not supported" from the last sentence.
72. Section 6.6: In the paragraph that begins "If early-warning is encountered...", modify the first sentence to read "If early-warning is encountered while spacing forward over blocks, filemarks, or setmarks...". Remove the phrase "or the option is not supported by the logical unit" from the last sentence in this paragraph. If the REW option is not supported it must be zero.
73. Section 6.6: In the paragraph that begins "If a setmark is encountered while spacing to sequential filemarks...", remove the phrase "or if setmarks is not supported" from the last sentence.
74. Section 7.2: The first paragraph after Table 29 states "The FORMAT UNIT command shall be accepted only when the medium is positioned at beginning-of-medium (BOM) or beginning-of-partition 0 (BOP 0)". How does one position the medium at BOM, and how is this position reported? The next paragraph says that at the completion of the command, the medium should be positioned at BOM or BOP 0. Which one? They may be different points.

75. Section 7.2: The three paragraphs following Table 30 describe the action of different values if the FORMAT field. When it is 0, all of the data "shall be lost". When it is 1, all of the data "may be lost". When it is 2, "...the logical unit shall perform the operations equivalent to a FORMAT field of 0h followed by a FORMAT field of 1h". Yet the data only "may be lost". Are these statements correct?

76. Section 7.3: The paragraph that begins "A LOAD bit of zero and a HOLD bit of one specifies if the medium is in the logical unit..." specifies that a MAM ACCESSIBLE Unit Attention shall be generated for all initiators. Do we really want this UA on an unload operation? We should have reported the UA when we loaded the tape. Does its accessibility change while it is loaded?

77. Section 7.4: The DEST_TYPE field's description needs work. In the paragraph that describes it, there is a sentence that reads "Upon completion of a LOCATE(16) command with the DEST_TYPE field set to 01b, the logical position shall be on the end-of-partition side of the filemark regardless of direction". The EOP side rule applies to both 01b and 02b, and the direction is never an issue on LOCATE commands. I believe this sentence should be removed in favor of the table that follows.

78. Section 7.4: In Table 33, the column "logical position upon completion" should be "logical position upon successful completion". The values in this column should be clarified to BOP side of block, EOP side of filemark, and EOP side of setmark. There is no key for the M and O used in the Support column, perhaps they should be spelled out as mandatory and optional. I'm a little unclear as to the rules governing features that are listed as mandatory in a command that is listed as optional.

79. Section 7.4: Is a DEST_TYPE field value of 10b (Setmark) legal if the RSMK bit in the device configuration mode page is set to zero?

80. Section 7.4: The paragraph following table 33 describes the BAM bit. Do we still need to reject the command if it does not match the current operating mode?

81. Section 7.4: The paragraph that begins "The LOGICAL BLOCK ADDRESS field specifies the block identifier to which the logical unit..." should not use the term "block identifier" here this way. This could be reworded to "...block identifier, logical file address, or logical set address...". The term "block identifier" should not be used generically since it has been given a very specific meaning in section 4.2.7. I recommend we change the field name to TARGET ADDRESS to avoid confusion.

82. Section 7.5: The paragraph "For read and write commands with the FIXED bit set to one, block lengths are limited to multiples of four (see 8.3)" does not belong in this command's description. There is already a similar statement in section 8.4 that is appropriate but debatable.

83. Section 7.6: This command should be broken up into sub-clauses, one for the command description, and one for each of the different forms of parametric data (short, long, and extended). This would make table 37 much more understandable since the description column could be replaced with a sub-clause reference. Also in table 37, the M and O should be spelled out (mandatory and optional). The vendor specific code should be listed as optional.

84. Section 7.6: Table 40 and the last paragraph in this section claim the ADDITIONAL LENGTH fields shall be set to 18h. By my calculations this should be 1Ch.

85. Section 7.8. Question about the CAPACITY field. If the capacity has been adjusted through the use of a SET CAPACITY command, is this field adjusted also (when the MEDIA bit is set)?

86. Section 7.10: The third paragraph states that "The SET CAPACITY command shall be accepted only when the medium is at beginning-of-medium (BOM) or beginning-of-partition 0 (BOP). How does one position the medium at BOM? The fifth paragraph sates that "Buffered write data may be discarded by the device server upon successful validation of the SET CAPACITY command". How can there be any buffered write data if the medium is positioned at BOP 0?

87. Section 7.10: The forth paragraph in this section states "a valid SET CAPACITY command shall cause all data on the entire physical volume to be lost". I assume that partitioning information is lost also, since the new volume size may not be capable of supporting the currently defined partitions. If so, does this result in a UA for MODE PARAMETERS CHANGED? If the partitioning is maintained, are all partitions reduced in size by the proportion? If partitioning has been establish by a MODE SELECT command but commitment is waiting on a FORMAT MEDIUM command (POFM bit set), what is the device to do with the SET CAPACITY command?

88. Section 8.2: Table 50 would be easier to read if it was sorted in numeric

order of the Page Code values.
89. Section 8.2.1: This page would be more standard if parameter sizes were included for each parameter.
90. Section 8.2.2: Annex B should be moved into this section since it defines the parameters for this log page. If it does not move here, it should at least be referenced here.
91. Section 8.3: In reference to the sixth paragraph, each device has the ability to report to the application client the granularity of block sizes supported by the device. Some devices may choose to report a granularity of 4, but here is no reason why this should be required. I suggest this paragraph and the note be changed as follows:
The value of the BLOCK LENGTH field in the mode parameter block descriptor shall comply with the MINIMUM BLOCK LENGTH LIMIT, MAXIMUM BLOCK LENGTH LIMIT, and GRANULARITY fields reported by the READ BLOCK LIMITS command (See 7.5).
NOTE 46 Some transports may induce performance penalties or even be incapable of supporting block lengths that are not multiples of four. Application Clients should use block lengths that are multiples of four to avoid interchange limitations.
92. Section 8.3: In the list that describes the DENSITY CODE value return in response to a MODE SENSE command, item C states "following a successful read at or after beginning-of-medium, the device server...". What other places can a successful read operation take place other than at or after BOM? This phrase can be removed. There are several cases missing from this list, such as:
* Following an unsuccessful read operation while not at BOP;
* Following a successful write operation while not at BOP; and
* Following an unsuccessful write operation anywhere.
Should we include them or leave the list incomplete?
93. Section 8.3.1. In table 58, the PAGE LENGTH value of OEh looks like it used a letter O instead of a number 0. The same comment applies to tables 61, 67, and 68.
94. Section 8.3.2: The ACTIVE PARTITION field description defines the field's value on a MODE SENSE command. Should this field be ignored on MODE SELECT commands?
95. Section 8.3.2: The description of the RSMK bit needs clarification as to the effect on residual counts, LBA calculations, and WRITE FILEMARK commands.
96. Section 8.3.2: In the description of the AVC bit, the last sentence states "An AVC bit of zero specifies the speed chosen should be the device's default speed". This should be "An AVC bit of zero specifies the speed chosen shall be defined by the SPEED field in the mode parameter header".
97. Section 8.3.2: In the description of the SOCF field, it is stated: "A stop on consecutive filemarks (SOCF) field of 00b specifies the device server shall pre-read data from the medium in buffered mode to the limits...". Section 4.2.5 states "Buffered mode is not applicable during read commands, regardless of whether read data passes through the buffer". I think the phrase "in buffered mode" should be removed from the description.
98. Section 8.3.2: In the paragraph that begins "A block address mode lock (BAML) bit of zero indicates..." there is a phrase "...or a successful rewind to BOT operation". REWIND commands position the medium to BOP, not BOT. Is a REWIND command the only command that unlocks the block address mode? How about a LOCATE, SPACE, or LOAD UNLOAD command that positions the medium to BOP?
99. Section 8.3.2: Is it legal to change the ASOCWP bit when not a BOP? If so, should it cause a flush operation?
100. Section 8.3.2: The persistent write protect and permanent write protect bits are soft write protection indicators that persists with the medium that is currently mounted. For this status to persist with the medium, they must be saved with it either in a MAM or in some format unique area on the medium. In other words, the MODE SELECT command that changes one of these bits will "require eventual writes to the medium". My question, is it legal to change one of these bits if the medium is write protected?
101. Section 8.3.3: Table 64, either spell out optional or move it to the paragraph above, as in "Support for each code value is optional".
102. Section 8.3.3: Change NOTE 56 as follows "...MODE SELECT command that has any of the fields FDP, SDP, or IDP set to one and has a value of zero in the POFM field."
103. Section 8.3.3: The paragraph that begins "A partition on format (POFM) bit of one specifies..." needs some word-smithing. Here's what I suggest:
A partition on format (POFM) bit of one specifies the MODE SELECT command shall not cause changes to the partition sizes or user data, either recorded

or buffered. If POFM is set to one, actual media partitioning shall not occur
until the device server processes a subsequent FORMAT MEDIUM command (see
7.2). When the device server processes a subsequent FORMAT MEDIUM command, it
shall partition the media based on the contents of the last valid mode data
for medium partition pages (1-4). If POFM is set to one, field values
specified by a MODE SELECT command for all medium partition pages (1-4) shall
not be changed by the device server before the media is unloaded or the device
is reset, unless another valid MODE SELECT command is processed that affects
them. Some field checking may be performed by the MODE SELECT command.
However, there is no guarantee that any subsequent partitioning during a
FORMAT MEDIUM command will complete with no errors.
104. Section 8.3.3: Several paragraphs in this section indicate that the
medium will only be repartitioned if one of the FDP, SDP, or IDP is set to
one. How do you change from multiple partitions to a single partition on
devices that only support FDP partitioning? The same comment also applies to
section 7.2, the second paragraph after table 30.
105. Section 8.3.6: There are several occurrences of the term "ASC/ASCQ" in
this section that should be replaced with the term "additional sense code".
106. Section 8.3.6: This section defines default values for almost all of the
fields in the page. I don't think T10 should do this.
107. Section 8.3.6: In the paragraph that begins "Refer to SPC-3 for a
description of the MRIE field", the second sentence should be changed as
follows. "If an informational exception condition was generated by an event
that caused a real CHECK CONDITION to occur, then this real CHECK CONDITION
shall over-ride (i.e., be used instead of) the CHECK CONDITION defined in MRIE
modes 01h to 05h."

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Comments attached to No ballot from Mr. Gerald Houlder of
Seagate Technology:

Note: Contact Paul Suhler (Seagate) for questions on resolving these comments.

Comment #   Type Page   Clause
                   (Phy/PDF)

Seagate-01   E   2/18   1

     Under Physical Interconnects, list FC-AL-2

     Fibre Channel Arbitrated Loop - 2   FC-AL-2 [ISO/IEC ???]
                                                   [ANSI NCITS 332-1999]

Seagate-02   E   2/18   1

     Under Physical Interconnects, typo: "Fiber Channel Physical Amendment 1"
     (also appears in clause 2.3, page 4/20)

     "Fibre Channel Physical Amendment 1"

Seagate-03   E   4/20   2.4

     SPC-2 should be listed because it describes, e.g., TEST UNIT READY

     SCSI Primary Commands - 2   SPC-2   [ISO/IEC 14776-312]
                                          [T10 1236-D]

Seagate-04   E   4/20   2.4

     SPC-3 should be listed because it is referred to by 3.1.1

     SCSI Primary Commands - 3   SPC-3   [ISO/IEC 14776-313]
                                          [T10 1416-D]

Seagate-05   E   5/21   3.1.15

     early-warning definition needs the acronym

                                    69

"early warning (EW)"

Seagate-06   E   5/21   3.1.16

end-of-data definition needs the acronym

"end-of-data (EOD)"

Seagate-07   E   8/24   3.2

Missing acronyms

"EOM   end-of-medium"
"MAM   Medium Auxiliary Memory"

Seagate-08   E   9/25   3.3.9

Missing article at end of last sentence "...reported as error."

"...reported as an error."

Seagate-09   E   11/27   4.1

Second sentence refers to printer devices, which have otherwise been
removed.

"One device type is a member of this class, sequential-access devices."

Seagate-10   E   11/27   4.2

"media" is the plural of "medium" However, "media" is frequently used
when "medium" would be correct.

In the first paragraph, change all occurrences of "media" to " medium."
Add article "the" as appropriate.

Seagate-11   E   18/34   4.2.5

Last sentence of next-to-last paragraph on page has a missing
article: "...and auto contingent allegiance protocol."

"...and the auto contingent allegiance protocol."

Seagate-12   E   19/35   4.2.7

First sentence refers to four-byte fields for READ POSITION and LOCATE
commands; it was not updated for large block addresses.

"The READ POSITION, LOCATE(10), and LOCATE(16) commands use four- and
eight-byte fields..."

Seagate-13   E   22/38   4.2.9.1

Unneeded article in second sentence: "The Table 2 specifies..."

"Table 2 specifies..."

Seagate-14   E   33/49   4.2.15

Unneeded article in first sentence: "...described in the table 9 and
table 10."

"...described in table 9 and table 10."

Seagate-15   E   34/50   4.2.15

Last paragraph (excluding Note 8) has stray "e": "...defining the e
values in..."

"...defining the values in..."

Seagate-16   E   34/50   4.2.15

        Last paragraph and Note 8 refer to SPC-3 Annex D. This is now Annex C
in SPC-3 rev. 2.

        Change both to Annex C.

Seagate-17   E   46/62   5.5.1

        Paragraph beginning "A BYTCMP..." contains a reference to WRITE(16) and
clause 6.8; that clause is for WRITE(6).

        "...see 5.6"

Seagate-18   E   46/62   5.5.1

        Paragraphs beginning "The VERIFICATION LENGTH..." and "The VERIFY(16)
command..." each contain references to READ(16) and table 22, which is for
READ(6).

        Change both references to table 14.

Seagate-19   E   46/62   5.5.1

        First sentence of last paragraph is missing comma: "...the sense data
VALID bit shall be set to one the sense key shall be set to..."

        "...the sense data VALID bit shall be set to one, the sense key shall be
set to..."

Seagate-20   E   62/78   6.7.1

        Last line on page is missing comma: "...the sense data VALID bit shall
be set to one the sense key shall be set to..."

        "...the sense data VALID bit shall be set to one, the sense key shall be
set to..."

Seagate-21   T   70/86   7.3.1

        In the fourth paragraph, "...is changeable or a MODE SENSE command
reports a value in the AUTOLOAD MODE field other than zero,..." does not take
into account a non-MAM device that allows a value of 2, NO LOAD. Only a
value of 1, LOAD TO HOLD, indicates that MAM is supported.

        Change the quoted text to "...is changeable to a value of one or a MODE
SENSE command reports a value of one in the AUTOLOAD MODE field,..."

Seagate-22   T   81/97   7.8.1

        The description of the MEDIA bit says, "...If the MEDIA bit is one and
the logical unit is not in the ready state,..." a check condition is
reported. This is an unnecessary restriction upon devices which are able to
determine the density via MAM, cartridge hole patterns, etc. without being in
the ready state.

        Change the quoted text to "...If the MEDIA bit is one and the logical
unit either contains no medium or contains a medium but cannot determine the
medium's density,..."

Seagate-23   E   92/108   8.3

        Third paragraph lists "SCSI Logical Unit Reset."

        Delete "SCSI" to give "Logical Unit Reset."

Seagate-24   E   101/117   8.3.2
        Second to last paragraph refers to BOT.

   Change to "BOM."

Seagate-25   T   115/131   Annex A

   In table A.3, density code 41h may have incorrect values.

   Research this further and correct the values.

Seagate-26   E   General

   Every command description clause has a second level heading with the
command name, e.g., "FOOBAR command," immediately followed by a third level
heading titled, e.g., "FOOBAR command introduction." No command description
has another third level heading.

   Delete all third level headings in the command descriptions (or add one
or more additional third level headings).

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Comments attached to Abs ballot from Mr. Doug Piper of
Woven Electronics:

No expertise in the matter

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