

# ACS-2 Obsolete SCT Read and Write Long

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Revision 1

Technical Editor:

Jim Hatfield  
389 Disc Drive  
Longmont, CO 80503  
720-684-2120  
James.C.Hatfield@Seagate.com

**Document Status**

<b>Revision History</b>		
<b>Rev</b>	<b>Date</b>	<b>Description</b>
0	December 16, 2008	1) Initial Revision
1	February 19, 2009	1) As modified by T13 plenary, February 2009.

## 1 Introduction

The old 28-bit 'READ LONG' and 'WRITE LONG' commands were obsoleted by T13 over 10 years ago. SCT Read Long and SCT Write Long commands were introduced to make 48-bit versions available.

Recent changes in recording technology have made the idea of a host being able to actually force its own error correction/detection data to the device meaningless.

## 2 Changes to ACS-2

### 2.1 Changes to clause 3

**2.1.1 read command:** A command that causes the device to transfer data from the device to the host. The following commands are read commands: READ DMA, READ DMA EXT, READ DMA QUEUED, READ DMA QUEUED EXT, READ FPDMA QUEUED, READ MULTIPLE, READ MULTIPLE EXT, READ SECTOR(S), READ SECTOR(S) EXT, READ STREAM EXT, READ STREAM DMA EXT, READ VERIFY SECTOR(S), or READ VERIFY SECTOR(S) EXT, ~~or SCT Read/Write Long.~~

**2.1.2 write command:** A command that causes the device to transfer data from the host to the device. The following commands are write commands: SCT Write Same, SCT Read/Write Long, WRITE DMA, WRITE DMA EXT, WRITE DMA FUA EXT, WRITE DMA QUEUED, WRITE DMA QUEUED EXT, WRITE DMA QUEUED FUA EXT, WRITE FPDMA QUEUED, WRITE MULTIPLE, WRITE MULTIPLE EXT, WRITE MULTIPLE FUA EXT, WRITE SECTOR(S), WRITE SECTOR(S) EXT, or WRITE STREAM DMA EXT, ~~or WRITE STREAM EXT.~~

### 2.2 Changes to clause 4

#### 2.2.1 Security Mode feature fet - Changes to the Security Mode Command Actions Table

Replace the command names with the new command names in this proposal.

Command	Locked	Unlocked	Frozen
<del>SCT READ/WRITE LONG</del>	<del>Command aborted</del>	<del>Executable</del>	<del>Executable</del>

## 2.3 Changes to clause 7

### 2.3.1 Changes to IDENTIFY DEVICE data

If the proposal adds a feature set or command, there should be an addition to the IDENTIFY DEVICE data to indicate both supported and enabled descriptions. Fill in the description in the table and place a description of each bit or word underneath the table.

Word	O M	S P	F V	Description
206	M			SCT Command Transport
			F	15:12 Vendor specific
			F	11:6 Reserved
			F	5 The SCT Data Tables command is supported
			F	4 The SCT Feature Control command is supported
			F	3 The SCT Error Recovery command is supported
			F	2 The SCT Write Same command is supported
			F	1 <del>The SCT Read/Write Long command is supported</del> <a href="#">Obsolete</a>
			F	0 The SCT Command Transport is supported
Key:				V – The contents of the field is variable and may change depending on the state of the device or the commands executed by the device.
O/M – Mandatory/optional requirement.				
M – Support of the word is mandatory.				
O – Support of the word is optional.				
F/V – Fixed/variable content				X – The content of the field may be fixed or variable
F – The content of the field is fixed and does not change. The DCO command may change the value of a fixed field. For removable media devices, these values may change when media is removed or changed.				S/P – Content applies to Serial or Parallel transport
				S – Serial Transport
				P – Parallel Transport
				B – Both Serial and Parallel Transports
				N – Belongs to a transport other than Serial or Parallel

#### 7.16.7.71 Word 206: SCT Command Transport

Bits (15:12) indicate support for vendor specific action codes.

Bits (11:6) of word 206 are reserved.

If bit 5 of word 206 is set to one, then the device supports SCT Data Tables (see 8.3.6).

If bit 4 of word 206 is set to one, then the device supports SCT Feature Control (see 8.3.5).

If bit 3 of word 206 is set to one, then the device supports SCT Error Recovery Control (see 8.3.4).

If bit 2 of word 206 is set to one, then the device supports SCT Write Same (see 8.3.3).

~~If bit 1 of word 206 is set to one, then the device supports SCT Read/Write Long (see 8.3.2).~~

[Bit 1 is obsolete.](#)

If bit 0 of word 206 is set to one, then the device supports the SCT Command Transport including SCT Read Status (see clause 8).

2.3.2 Changes to Table 75 - Extended Status Codes

Table 1 —

Extended Status Code	Description
000Ah	<del>Invalid Function code in SCT Read/Write Long command</del> <a href="#">Obsolete</a>

2.3.3 Changes to Table 82 - SCT Action Codes

Table 2 —

Action Code	Description
0001h	<del>SCT Read/Write Long command</del> <a href="#">Obsolete</a>

**8.3.2 SCT Read/Write Long command**

The function performed by the ~~SCT Read/Write Long command~~ is based on the obsolete ATA READ LONG/WRITE LONG capability, and has been extended beyond 28-bit addressing. When IDENTIFY DEVICE data word 106 bit 12 is cleared to zero, the ~~SCT Read/Write Long command~~ data format for both reads and writes is two log pages long. The first page contains the user data. The second page contains the error correction and detection bytes. The remainder of the second page should contain zeros. Once the ~~SCT command~~ has been issued and the status response indicates that the device is ready to transfer data, the ~~SCT Data Transfer log~~ should be read or written to transfer the data. ~~SCT Read/Write Long commands~~ cause a forced unit access to occur.

Table 83 defines the format of an ~~SCT Read/Write Long command~~ written to the SCT Command/Status log. ~~(delete table 83)~~

Table 83 — SCT Read/Write Long command

Word	Name	Value	Description
0	Action Code	0001h	Read or Write a sector with full ECC or CRC data
1	Function Code	0000h	Reserved
		0001h	Read Long function
		0002h	Write Long function
		0003h-FFFFh	Reserved
2-5	LBA	QWord	Logical sector to be read or written 63:48 Reserved 47:0 LBA to be read or written

Table 84 defines the format of the status response for an ~~SCT Read/Write Long command~~.

~~Table 84 — SCT Read/Write Long command status response~~

~~delete table 84)~~

Name	Description
Error	Bit Description 7:5 N/A 4 ID Not Found - See 6.3.6. 3 N/A 2 Abort - See 6.3.2. 1 N/A 0 Obsolete
Count	Number of ECC/CRC bytes (7:0)
LBA	Bit Description 27:24 Reserved 23:8 Number of 512-byte data blocks requested (e.g., 0002h) 7:0 Number of ECC/CRC bytes (15:8)
Device	Bit Description 7 Obsolete 6 N/A 5 Obsolete 4 Transport Dependent - See 6.2.11 3:0 Reserved
Status	Bit Description 7:6 Transport Dependent - See 6.2.11. 5:1 N/A 0 Error - See 6.2.8

~~Table 85 defines the format of the data to be written to the SCT Data Transfer log for an SCT Read/Write Long command.~~

~~Table 85 — SCT Read/Write Long command Format~~

~~delete table 85)~~

Field	Size	Description
First Block		
User Data	512 bytes	This is the data normally sent to or returned by a read or write command. This data may be encoded.
Second Block		
ECC/CRC Data	Vendor Specific	Error correction and detection bytes in vendor-specific format. The number of bytes is returned as status response data on both read and write operations.
Reserved	Remainder of block	All zeros