

X3T9.2/87-111

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To: SCSI Working Group

7/13/87

From: Jeffrey Stai

Subject: Write and Verify

The following attached pages show the WRITE AND VERIFY command revised as we discussed at the May meeting. I recall that my charter was to include the changes proposed by Ralph Schultz on the wording of the medium certification definition, as related to the new MODE SELECT page. The implementor's note at the end of the section clarifies the 'two data transfer' issue.

JS:ws4pcatvax1n03

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B.2.5. WRITE AND VERIFY Command

Peripheral Device Type: Direct Access  
Operation Code Type: Optional

Table B-38: WRITE AND VERIFY Command

Bit:	7	6	5	4	3	2	1	0
Byte:								
0	Operation Code (2Eh)							
1	Logical Unit Number		DPD	FUA	WrtSme		BytChk	RelAdr
2	(MSB)							
3								
4	Logical Block Address							
5	(LSB)							
6	Reserved							
7	(MSB)							
8	Transfer Length							
8	(LSB)							
9	Vendor Unique		Reserved			Flag		Link

The WRITE AND VERIFY command (Table B-20) requests that the target write the data transferred from the initiator to the medium and then verify that the data is correctly written.

A byte check (BytChk) bit of zero causes the verification to be simply a medium verification (ERE; EEE; etc) a medium verification to be performed according to the criteria specified in the MODE SELECT command. No data transfer is performed. A BytChk bit of one causes a byte-by-byte compare of data written on the peripheral device and the data transferred from the initiator. If the compare is unsuccessful, the command shall be terminated with a CHECK CONDITION status and the sense key shall be set to MISCOMPARE.

The logical block address specifies the logical block at which the write operation shall begin.

The transfer length specifies the number of contiguous logical blocks of data that shall be transferred. A transfer length of zero indicates that no logical blocks shall be transferred. This condition shall not be considered as an error and no data shall be written. Any other value indicates the number of logical blocks that shall be transferred.

See section 6.2.4 for a description of the cache control bits (DPD and FUA).  
See section 6.2.5 for a description of the relative address bit (RelAdr).

A Write Same (WRTSME) bit of zero causes the command to be done as a normal WRITE. A WRTSME bit of one causes a Write Same capability to occur. Only one logical block of data shall be sent during the Data Out Phase, regardless of the transfer length. The transfer length specifies the number of contiguous logical blocks to be written. All logical blocks written shall be written with the same data as the first logical block. A transfer length of zero shall be handled different when the WRTSME bit is one. A transfer length of zero shall represent that the data be continuously written from the logical block address specified in the command block until the last logical block addressable.

*IMPLEMENTOR'S NOTE: The WRITE AND VERIFY command does not imply that the data shall be transferred twice (i.e., once for the write pass, and once for the verify pass) when performing a byte compare. If the user wishes guarantee that two transfers occur (e.g., to ensure the integrity of the path to the media), then the user should issue a WRITE command with the LINK bit set followed by a VERIFY command, transferring the same data on each command.*

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