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Write Same Translation Proposal

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Rev 1

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9.x Write Same (10) command (41h) and Write Same (16) command (93h)

9.x.1 Command Summary

The WRITE SAME (10) command requests that the device server transfer a single logical block from the data-out buffer and write the contents of that single logical block, with modifications based on the LB DATA bit and the PBDATA bit, to the specified range of logical block addresses.

Field	SAT Type	Description or Reference
OPERATION CODE	E	If the ATA supports implements SCT LBA Segment Access (TR-), the SATL shall issue SCT LBA Segment Access which repeatedly writes the data in the buffer to the device. If the device does not implement SCT then the SATL shall issue write commands as defined in see 9.12.2.
WRPROTECT	U	See SBC-2
PBDATA	E	See Table xx
LB DATA	E	See Table xx
LOGICAL BLOCK ADDRESS	I/E	32 bit start address
GROUP NUMBER	U	The SATL may implement this field as defined in SBC-2
NUMBER OF BLOCKS	I/E	A NUMBER OF BLOCKS of 0 indicates that the data-out buffer shall be repeatedly written from LOGICAL BLOCK ADDRESS through the last user addressable sector on the media. If the NUMBER OF BLOCKS is not zero, the SATL shall repeated write the data-out buffer for the number of sectors specified to the device. The SATL shall send as many ATA commands as required to satisfy the number of blocks specified by the WRITE SAME command.
CONTROL	I	(See 6.4)

Table xx

LB DATA	PBDATA	Description
0	0	The SATL shall transfer the single block of data from the data output buffer to the range of blocks specified in LOGICAL BLOCK ADDRESS and NUMBER OF BLOCKS repeatedly on the media. If the drive supports the SCT LBA Segment Access capability, then this should be used for the data transfer. Otherwise, write commands shall be used as documented in 9.12.2. See SBC-2
0	1	The SATL shall replace the first eight bytes of the block received from the data-out buffer to each physical sector with the physical address of the sector being written using the physical sector format. The SATL shall write the modified data-out buffer using a write command as documented in 9.12.2
1	0	The SATL shall replace the first four bytes of the block received from the data-out buffer with the least significant four bytes of the LBA of the block being written to the media, ending with the least significant byte (e.g., if the LBA is 77665544_33221100h, 33221100h is written with 33h written first and 00h written last).
1	1	The SATL shall terminate the command with CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and the additional sense code set to INVALID FIELD IN CDB.