

Write Wrong Proposal

1.1 Write Wrong**1.1.1 Command code**

??h

1.1.2 Feature set

General feature set

?? Optional for devices not implementing the PACKET Command feature set.

?? Use prohibited for devices implementing the PACKET Command feature set.

1.1.3 Protocol

Non-data

1.1.4 Inputs

Register		7	6	5	4	3	2	1	0
Features	Current	Reserved							
	Previous	Reserved							
Sector Count	Current	Sector count (7:0)							
	Previous	Sector count (15:8)							
LBA Low	Current	LBA (7:0)							
	Previous	LBA (31:24)							
LBA Mid	Current	LBA (15:8)							
	Previous	LBA (39:32)							
LBA High	Current	LBA (23:16)							
	Previous	LBA (47:40)							
Device		obs	obs	obs	DEV	na	na	LOG	na
Command		??h							
NOTE ? The value indicated as Current is the value most recently written to the register. The value indicated as Previous is the value that was in the register before the most recent write to the register.									

Device register -

DEV shall indicate the selected device.

LOG set to one shall indicate that reading of wronged sectors shall be logged as errors in standard error logs. LOG cleared to zero shall indicate that reading of wronged sectors shall not be logged as an error in any standardized error logs.

Status register -

BSY shall be cleared to zero indicating command completion.

DRDY shall be set to one.

DF (Device Fault) shall be cleared to zero.
 DRQ shall be cleared to zero.
 ERR shall be cleared to zero.

1.1.5 Normal outputs

Register		7	6	5	4	3	2	1	0
Error		na							
Sector Count	HOB = 0	Reserved			Reserved				
	HOB = 1	Reserved			Reserved				
LBA Low	HOB = 0	Reserved			Reserved				
	HOB = 1	Reserved			Reserved				
LBA Mid	HOB = 0	Reserved			Reserved				
	HOB = 1	Reserved			Reserved				
LBA High	HOB = 0	Reserved			Reserved				
	HOB = 1	Reserved			Reserved				
Device		obs	na	obs	DEV	Reserved			
Status		BSY	DRDY	DF	na	DRQ	na	na	ERR
NOTE ? HOB = 0 indicates the value read by the host when the HOB bit of the Device Control register is cleared to zero. HOB = 1 Indicates the value read by the host when the HOB bit of the Device Control register is set to one.									

Device register -

DEV shall indicate the selected device.

Status register -

BSY shall be cleared to zero indicating command completion.

DRDY shall be set to one.

DF (Device Fault) shall be cleared to zero.

DRQ shall be cleared to zero.

ERR shall be cleared to zero.

1.1.6 Error outputs

The device shall return command aborted if the command is not supported, or FULL if the device was unable to mark the sectors as wronged.

Register		7	6	5	4	3	2	1	0
Error		na	na	na	FULL	na	na	na	na
Sector Count	HOB = 0	Reserved							
	HOB = 1	Reserved							
LBA Low	HOB = 0	LBA (7:0)							
	HOB = 1	LBA (31:24)							
LBA Mid	HOB = 0	LBA (15:8)							
	HOB = 1	LBA (39:32)							
LBA High	HOB = 0	LBA (23:16)							
	HOB = 1	LBA (47:40)							
Device		obs	na	obs	DEV	Reserved			
Status		BSY	DRDY	DF	na	DRQ	na	na	ERR
NOTE ? HOB = 0 indicates the value read by the host when the HOB bit of the Device Control register is cleared to zero. HOB = 1 Indicates the value read by the host when the HOB bit of the Device Control register is set to one.									

Error register -

FULL shall be set to one if the device was unable to mark the sectors as wronged.

ABRT shall be set to one if this command is not supported. ABRT may be set to one if the device is not able to complete the action requested by the command.

Device register -

DEV shall indicate the selected device.

Status register -

BSY shall be cleared to zero indicating command completion.

DRDY shall be set to one.

DF (Device Fault) shall be set to one if a device fault has occurred.

DRQ shall be cleared to zero.

ERR shall be set to one if an Error register bit is set to one.

1.1.7 Prerequisites

DRDY set to one.

1.1.8 Description

The Write Wrong command shall cause the device to indicate failure when reads to the specified sectors are performed. These sectors are referred to as ‘wronged’ sectors. Whenever a wronged sector is accessed via a read command the drive shall set the UNC and ERR bits to indicate the sector is bad. Commands that return UNC and ERR when a wronged sector is read include: READ DMA, READ DMA EXT, READ DMA QUEUED, READ DMA QUEUED EXT, READ MULTIPLE, READ MULTIPLE EXT, READ SECTOR (S), READ SECTOR (S) EXT, READ VERIFY SECTOR (S), READ

VERIFY SECTOR (S) EXT. If the host writes to a wronged sector, the drive shall attempt to write the data to the sector. The write shall clear the wronged status of the sector and make the sector good, if possible. It is possible that a wronged sector really does have physical errors. In this case read commands and/or write commands shall return ERR status information that is consistent with the error.

If the LOG bit is set to one, sectors that have been wronged shall be listed as failed in the standard error logs and shall cause SMART utilities to indicate failure if too many sectors are wronged.

Changes to DCO

Need to add a WRITE WRONG bit to the Device Configuration Identify data structure.

WRITE WRONG – If set to one indicates that the device is capable of supporting the WRITE WRONG command.