

x.xx Get Features

Document# D96123R0

COMMAND CODE - 9Fh

TYPE - The command is mandatory. Each subcommand is optional.

PROTOCOL - Non-Data

INPUTS - The Feature register contains a subcommand code as described in table x.x. Some subcommands use other registers, such as the Sector Count register, to pass additional information to the device.

Register	7	8	5	4	3	2	1	0
Features	Subcommand code							
Sector Count	Subcommand specific							
Sector Number	Subcommand specific							
Cylinder Low	Subcommand specific							
Cylinder High	Subcommand specific							
Device/Head	1		1	D				
Command	9Fh							

NORMAL OUTPUTS - See the subcommand descriptions.

ERROR OUTPUTS - If any input value is not supported or is invalid, the device posts an Aborted Command error.

Status Register					Error Register				
DRDY	DF	CORR	ERR	BBK	UNC	IDNF	ABRT	Tk0NF	AMNF
V	V		V				V		

PREREQUISITES - None

DESCRIPTION - This command is used by the host to obtain the current setting of a device feature as shown in Table x.x. It's function is complementary to the Set Features command in that it returns a status or value for an identical Set Feature subcommand.

Table x.x - GET FEATURES subcommand definitions

Value	Function
01h, 81h	Obsolete
02h, 82h	Returns the write cache enable status
03h	Returns the current transfer mode
04h, 84h	Returns the automatic defect reassignment enable status
33h, 99h	Returns the retry enable status
44h	Returns the length of vendor data appended to READ LONG/ WRITE LONG commands
54h	Returns the cache segment size
55h, AAh	Returns the read look-ahead enable status
66h, CCh	Returns the enable status of reverting to power on defaults
77h, 88h	Returns the ECC enable status
9Ah	Returns the device maximum average current value
ABh	Returns the maximum prefetch value
BBh	Returns the enable of 4 bytes of vendor data appended to READ LONG/WRITE LONG commands
NOTE: All values not shown are reserved for future definition	

x.xx.1 Write cache enable status

Subcommands codes 02h and 82h return a value in the Sector Count register indicating whether the write cache is enabled (01h) or disabled (00h).

x.xx.2 Current transfer mode

Subcommand code 03h takes as input a value representing the transfer mode type in the Sector Count register and returns a value in the Sector Count register indicating the current transfer mode speed.

Bits 7-3 of the input define the transfer type and bits 2-0 are ignored. Bits 2-0 of the returned value indicate the current mode speed for the transfer type.

Sector Count register value description	Input Bits 7-0	Output Bits 7-0
PIO default transfer mode	0000xxx	000bnnn
PIO flow control transfer mode	00001xxx	0000nnn
Multiword DMA mode	00100xxx	0000nnn
Key: x = either 1 or 0 b = IORDY enable state (0 = true, 1 = false) nnn = the mode number in decimal for the associated transfer type		

x.xx.3 Automatic defect reassignment enable status

Subcommand codes 04h and 84h return a value in the Sector Count register indicating whether automatic defect reassignment is enabled (01h) or disabled (00h).

x.xx.4 Retry enable status

Subcommand codes 33h and 99h return a value in the Sector Count register indicating whether automatic retries are enabled (01h) or disabled (00h).

x.xx.5 Length of vendor data appended to READ LONG/WRITE LONG

Subcommand code 44h returns a value in the Sector Count register indicating the number of bytes appended to the data transfer on READ LONG and WRITE LONG commands.

x.xx.6 Cache segment size

Subcommand code 54h returns a value in the Sector Count register indicating the size of the cache segments.

x.xx.7 Read look-ahead enable status

Subcommand codes 55h and AAh return a value in the Sector Count register indicating whether read look-ahead is enabled (01h) or disabled (00h).

x.xx.8 Revert to power on defaults enable status

Subcommand codes 66h and CCh return a value in the Sector Count register indicating whether reverting to power on defaults is enabled (01h) or disabled (00h).

x.xx.9 ECC enable status

Subcommand codes 77h and 88h return a value in the Sector Count register indicating whether ECC is enabled (01h) or disabled (00h).

x.xx.10 Maximum average current

Subcommand code 9Ah returns a value in the Sector Count register indicating the maximum average operating current in 4 mA increments. The maximum average operating current is defined as the maximum current required averaged over a period of one second. For example, a returned value of 32 (20h) indicates the maximum operating current is less than or equal 128 mA.

In addition, the Cylinder Low register will contain the device's minimum valid operating current and the Cylinder High register will contain the device's maximum valid operating current. The host may use these values to verify whether the system can support the device.

x.xx.11 Maximum prefetch value

Subcommand code ABh returns a value in the Sector Count register indicating the setting for the maximum number of sectors which can be prefetched.

x.xx.12 4-Byte vendor data to READ LONG/WRITE LONG enable status

Subcommand code BBh returns a value in the Sector Count register indicating whether or not the drive is appending 4 bytes of vendor data to the READ LONG and WRITE LONG data transfer. A value of 1 indicates the drive is appending 4 bytes, a value of 0 indicates it is not. Note, however, a value of 0 does not imply the drive is not appending bytes to the data transfer. Refer also to subcommand code 44h for an alternate method of getting the number of appended bytes.