



**Note: This IBM PC BIOS API call is for DOS/Win16 personality only. Use [Family API](#) for portability.**

**Note: [osFree Macro Library](#) provides macros for most of functions**

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# Int 13H, AH=03H

## Version

IBM 5150 and higher

## Brief

Write sector

## Family API

[DosWrite](#)

## Input

- AH = 03h
- AL = number of sectors to write (must be nonzero)
- CH = low eight bits of cylinder number
- CL = sector number 1-63 (bits 0-5) high two bits of cylinder (bits 6-7, hard disk only)
- DH = head number
- DL = drive number (bit 7 set for hard disk)
- ES:BX → data buffer

## Return

- CF set on error
- CF clear if successful
- AH = status (see [status](#))
- AL = number of sectors transferred (only valid if CF set for some BIOSes)

# Macro

```
INCLUDE BIOS.INC

@DskWrite 0, 0, 0, 1, 1, offset buf
```

## Notes

- errors on a floppy may be due to the motor failing to spin up quickly enough; the write should be retried at least three times, resetting the disk with AH=00h between attempts
- most BIOSes support “multitrack” writes, where the value in AL exceeds the number of sectors remaining on the track, in which case any additional sectors are written beginning at sector 1 on the following head in the same cylinder; the CONFIG.SYS command MULTITRACK can be used to force DOS to split disk accesses which would wrap across a track boundary into two separate calls
- the IBM AT BIOS and many other BIOSes use only the low four bits of DH (head number) since the WD-1003 controller which is the standard AT controller (and the controller that IDE emulates) only supports 16 heads
- AWARD AT BIOS and AMI 386sx BIOS have been extended to handle more than 1024 cylinders by placing bits 10 and 11 of the cylinder number into bits 6 and 7 of DH
- under Windows95, an application must issue a physical volume lock on the drive via INT 21/AX=440Dh before it can successfully write to the disk with this function

## Note

Text based on [Ralf Brown Interrupt List Release 61](#)

<b>IBM PC BIOS API</b>	
Video I/O	<b>INT 10H:</b> 00H, 01H, 02H, 03H, 05H, 06H, 07H, 08H, 09H, 0AH, 0BH, 0CH, 0DH, 0EH, 0FH
Hardware info	<b>INT 11H, INT 12H</b>
Serial I/O	<b>INT 14H:</b> 00H, 01H, 02H, 03H
Tape I/O	<b>INT 15H:</b> 00H, 01H, 02H, 03H
Keyboard I/O	<b>INT 16H:</b> 00H, 01H, 02H
Printer I/O	<b>INT 17H:</b> 00H, 01H, 02H
Disk I/O	<b>INT 13H:</b> 00H, 01H, 02H, 03H, 04H, 05H
Date and Time	<b>INT 1AH:</b> 00H, 01H
<b>osFree Macro Library</b>	
Video I/O	@SetMode @SetCurSz @SetCurPos @GetCur @SetPage @ScrollUp @ScrollDn @Scroll @GetChAtr @PutChAtr @PutCh @SetPalet @SetColor @SetDot @GetDot @WrtTTY @VideoState @GetMode @GetDisplay @GetVideoState @GetEGAInfo @Cls
Hardware info	@Equipment @MemSize
Serial I/O	@AuxInit @AuxSendChar @AuxRecieveChar @AuxStatus
Tape I/O	@TapeOn @TapeOff @TapeRead @TapeWrite

<b>osFree Macro Library</b>	
Keyboard I/O	@KbdStatus @CharIn @CharPeek
Printer I/O	@PrnPrint @PrnInit @PrnStatus
Disk I/O	@DskReset @DskStatus @DskRead @DskWrite @DskVerify @DskFormat
Date and Time	@SetTime @GetTime
Mouse	@MouInit @MouShowPointer @MouStatus @MouSetPos @MouSetMickey @MouRegion
Memory manager	@ModBlok SET_BLOCK

2022/10/04 14:28 · prokushev · 0 Comments

2022/03/13 05:54 · prokushev · 0 Comments

<b>Family API</b>		
DOS	Process Manager	DosBeep DosExit DosSleep DosExecPgm
	File Manager	DosChDir DosChgFilePtr DosClose DosDelete DosDupHandle DosMkDir DosMove DosQCurDir DosQCurDisk DosSetFileMode DosOpen DosQFileInfo DosRead DosQFileMode DosQFSInfo DosQVerify DosRmdir DosSelectDisk DosFindClose DosFindFirst DosFindNext DosSetFileInfo DosSetVerify DosWrite DosFileLocks DosSetFHandState DosNewSize DosBufReset DosQFHandState DosSetFSinfo
	Memory Manager	DosFreeSeg DosSubAlloc DosSubFree DosSubSet DosAllocHuge DosAllocSeg DosReallocHuge DosReallocSeg DosGetHugeShift DosCreateCSAlias
	NLS	DosCaseMap DosGetCtryInfo DosGetDBCSEv DosSetCtryCode DosGetCollate DosGetMessage DosInsMessage DosPutMessage
	Date and Time	DosSetDateTime DosGetDateTime
	Devices	DosDevConfig DosDevIOCtl DosDevIOCtl2
	Signals	DosHoldSignal DosSetSigHandler
	Misc	BadDynLink DosGetEnv DosGetMachineMode DosGetVersion DosError DosErrClass DosSetVec
KBD	KbdCharIn KbdFlushBuffer KbdGetStatus KbdSetStatus KbdStringIn KbdPeek	
VIO	VioGetBuf VioGetConfig VioGetCurPos VioGetCurType VioGetPhysBuf VioReadCellStr VioReadCharStr VioScrollUp VioScrollDn VioScrollLf VioScrollRt VioScrUnLock VioSetCurPos VioSetCurType VioSetMode VioGetMode VioShowBuf VioWrtCellStr VioWrtCharStr VioWrtCharStrAtt VioWrtNAttr VioWrtNCell VioWrtNChar VioWrtTTY VioScrLock VioPopUp	
Tools	BIND	
Modules	DOSCALLS.DLL VIOCALLS.DLL KBDCALLS.DLL MSG.DLL	
Libraries	API.LIB OS2386.LIB FAPI.LIB DOSCALLS.LIB SUBCALLS.LIB	

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