


**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

| **IBM PC BIOS API** | |
|---|---|
| Video I/O | **INT 10H**: 00H, 01H, 02H, 03H, 05H, 06H, 07H, 08H, 09H, 0AH, 0BH, 0CH, 0DH, 0EH, 0FH |
| Hardware info | INT 11H, INT 12H |
| Serial I/O | **INT 14H**: 00H, 01H, 02H, 03H |
| Tape I/O | **INT 15H**: 00H, 01H, 02H, 03H |
| Keyboard I/O | **INT 16H**: 00H, 01H, 02H |
| Printer I/O | **INT 17H**: 00H, 01H, 02H |
| Disk I/O | **INT 13H**: 00H, 01H, 02H, 03H, 04H, 05H |
| Date and Time | **INT 1AH**: 00H, 01H |
| **osFree Macro Library** | |
| 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 |

| **osFree Macro Library** | |
|---|---|
| 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 |

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| **Family API** | | |
|---|---|---|
| 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 DosShutdown |
| | 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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