

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=04H

Version

IBM 5150 and higher

Brief

Verify sector

Family API

none

Input

- AH = 04h
- AL = number of sectors to verify (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 (PC,XT,AT with BIOS prior to 1985/11/15)

Return

- CF set on error
- CF clear if successful
- AH = status (see status)
- AL = number of sectors verified

Macro

```
INCLUDE BIOS.INC

@DskVerify  0, 0, 0, 1, 1, offset buf
```

Notes

- errors on a floppy may be due to the motor failing to spin up quickly enough (timeout error 80h); the write should be retried at least three times, resetting the disk with AH=00h between attempts
- on floppys, the operation should also be retried on media change (06h) detection.
- this function does not compare the disk with memory, it merely checks whether the sector's stored CRC matches the data's actual CRC
- 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
- some Epson ROM BIOSes sometimes have problems properly handling this function. The workaround is to reset the disk (INT 13/AH=00h) before the call.

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
Keyboard I/O	@KbdStatus @CharIn @CharPeek

osFree Macro Library	
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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