



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

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# Int 28H

## Version

2 and higher

## Brief

DOS IDLE INTERRUPT

## Family API

## Input

SS:SP = top of MS-DOS stack for I/O functions

## Return

all registers preserved

## Macro

## Notes

This interrupt is invoked each time one of the DOS character input functions loops while waiting for input. Since a DOS call is in progress even though DOS is actually idle during such input waits, hooking this function is necessary to allow a TSR to perform DOS calls while the foreground program is waiting for user input. The INT 28h handler may invoke any INT 21h function except functions

00h through 0Ch.

under DOS 2.x, the critical error flag (the byte immediately after the

InDOS flag) must be set in order to call DOS functions 50h/51h from the INT 28h handler without destroying the DOS stacks.  
calls to INT 21/AH=3Fh,40h from within an INT 28 handler may not use a handle which refers to CON  
at the time of the call, the InDOS flag (see INT 21/AH=34h) is normally set to 01h; if larger, DOS is truly busy and should not be reentered  
the default handler is an IRET instruction  
supported in OS/2 compatibility box  
the \_MS-DOS\_Programmer's\_Reference\_ for DOS 5.0 incorrectly documents this interrupt as superseded  
the performance of NetWare Lite servers (and probably other peer-to-peer networks) can be dramatically improved by calling INT 28 frequently from an application's idle loop

## See Also

INT 21/AH=34h, INT 2A/AH=84h, INT 2F/AX=1680h

## Note

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

| DOS API              |                                                                                                                                                                                                                                                                                                                                                            |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process manager      | INT 20H, <b>INT 21H</b> : 00H, 25H, 26H, 31H, 34H, 35H, 4BH, 4CH, 4DH, 50H, 51H, 52H, 55H, 62H, INT 22H, INT 27H, INT 28H                                                                                                                                                                                                                                  |
| File manager         | INT 25H, INT 26H, <b>INT 21H</b> : 0DH, 0EH, 0FH, 10H, 11H, 12H, 13H, 14H, 15H, 16H, 17H, 19H, 1AH, 1BH, 1CH, 21H, 22H, 23H, 24H, 27H, 28H, 29H, 2EH, 2FH, 32H, 3305H, 36H, 39H, 3AH, 3BH, 3CH, 3DH, 3EH, 3FH, 40H, 41H, 42H, 4300H, 4301H, 45H, 45H, 46H, 4EH, 4FH, 54H, 56H, 5700H, 5701H, 5AH, 5BH, 5c00H, 5c01H, 60H, 67H, 68H, 6900H, 6901H, 6AH, 6CH |
| Character Device I/O | INT 29H, <b>INT 21H</b> : 01H, 02H, 03H, 04H, 05H, 06H, 07H, 08H, 09H, 0AH, 0BH, 0AH, 0CH, 5D07H, 5D08H, 5D09H, 5D0AH                                                                                                                                                                                                                                      |
| Signals              | INT 23H, INT 24H, <b>INT 21H</b> : 3300H, 3301H, 3302H                                                                                                                                                                                                                                                                                                     |
| Memory manager       | <b>INT 21H</b> : 48H, 49H, 4AH, 5800H, 5801H, 5802H, 5803H                                                                                                                                                                                                                                                                                                 |
| Date and Time        | <b>INT 21H</b> : 2AH, 2BH, 2CH, 2DH                                                                                                                                                                                                                                                                                                                        |
| Misc                 | <b>INT 21H</b> : 30H, 3306H, 3700H, 3701H, 3702H, 3703H, 59H                                                                                                                                                                                                                                                                                               |
| NLS                  | <b>INT 21H</b> : 3303H, 3304H, 3800H, 3801H, 6300H, 6301H, 6301H, 6500H, 6501H, 6502H, 6503H, 6504H, 6505H, 6506H, 6507H, 6520H, 6521H, 6522H, 6523H, 65A0H, 65A1H, 65A2H, 6601H, 6602H                                                                                                                                                                    |
| Devices              | <b>INT 21H</b> : 4400H, 4401H, 4402H, 4403H, 4404H, 4405H, 4406H, 4407H, 4408H, 4409H, 440AH, 440BH, 440CH, 440DH, 440EH, 440FH, 4410H, 4411H, 53H                                                                                                                                                                                                         |

**DOS API**

|                             |                                                                                                                                                                                                                                    |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network                     | <a href="#">INT 21H: 5E00H, 5E01H, 5E02H, 5E03H, 5E04H, 5E05H, 5F00H, 5F01H, 5F02H, 5F03H, 5F04H, 5F05H, 5F07H, 5F08H</a>                                                                                                          |
| <b>osFree Macro Library</b> |                                                                                                                                                                                                                                    |
| Video I/O                   | <a href="#">@SetMode @SetCurSz @SetCurPos @GetCur @SetPage @ScrollUp @ScrollDn @Scroll @GetChAtr @PutChAtr @PutCh @SetPalet @SetColor @SetDot @GetDot @WrtTTY @VideoState @GetMode @GetDisplay @GetVideoState @GetEGAInfo @CIs</a> |
| Hardware info               | <a href="#">@Equipment @MemSize</a>                                                                                                                                                                                                |
| Serial I/O                  | <a href="#">@AuxInit @AuxSendChar @AuxRecieveChar @AuxStatus</a>                                                                                                                                                                   |
| Tape I/O                    | <a href="#">@TapeOn @TapeOff @TapeRead @TapeWrite</a>                                                                                                                                                                              |
| Keyboard I/O                | <a href="#">@KbdStatus @CharIn @CharPeek</a>                                                                                                                                                                                       |
| Printer I/O                 | <a href="#">@PrnPrint @PrnInit @PrnStatus</a>                                                                                                                                                                                      |
| Disk I/O                    | <a href="#">@DskReset @DskStatus @DskRead @DskWrite @DskVerify @DskFormat</a>                                                                                                                                                      |
| Date and Time               | <a href="#">@SetTime @GetTime</a>                                                                                                                                                                                                  |
| Mouse                       | <a href="#">@MouInit @MouShowPointer @MouStatus @MouSetPos @MouSetMickey @MouRegion</a>                                                                                                                                            |
| Memory manager              | <a href="#">@ModBlok SET_BLOCK</a>                                                                                                                                                                                                 |

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**Family API**

|           |                 |                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DOS       | Process Manager | <a href="#">DosBeep DosExit DosSleep DosExecPgm</a>                                                                                                                                                                                                                                                                                                                                          |
|           | File Manager    | <a href="#">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</a> |
|           | Memory Manager  | <a href="#">DosFreeSeg DosSubAlloc DosSubFree DosSubSet DosAllocHuge DosAllocSeg DosReallocHuge DosReallocSeg DosGetHugeShift DosCreateCSAlias</a>                                                                                                                                                                                                                                           |
|           | NLS             | <a href="#">DosCaseMap DosGetCtryInfo DosGetDBCSEv DosSetCtryCode DosGetCollate DosGetMessage DosInsMessage DosPutMessage</a>                                                                                                                                                                                                                                                                |
|           | Date and Time   | <a href="#">DosSetDateTime DosGetDateTime</a>                                                                                                                                                                                                                                                                                                                                                |
|           | Devices         | <a href="#">DosDevConfig DosDevIOctl DosDevIOctl2</a>                                                                                                                                                                                                                                                                                                                                        |
|           | Signals         | <a href="#">DosHoldSignal DosSetSigHandler</a>                                                                                                                                                                                                                                                                                                                                               |
|           | Misc            | <a href="#">BadDynLink DosGetEnv DosGetMachineMode DosGetVersion DosError DosErrClass DosSetVec</a>                                                                                                                                                                                                                                                                                          |
| KBD       |                 | <a href="#">KbdCharIn KbdFlushBuffer KbdGetStatus KbdSetStatus KbdStringIn KbdPeek</a>                                                                                                                                                                                                                                                                                                       |
| VIO       |                 | <a href="#">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</a>                                        |
| Tools     |                 | <a href="#">BIND</a>                                                                                                                                                                                                                                                                                                                                                                         |
| Modules   |                 | <a href="#">DOSCALLS.DLL VIOCALLS.DLL KBDCALLS.DLL MSG.DLL</a>                                                                                                                                                                                                                                                                                                                               |
| Libraries |                 | <a href="#">API.LIB OS2386.LIB FAPI.LIB DOSCALLS.LIB SUBCALLS.LIB</a>                                                                                                                                                                                                                                                                                                                        |

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