



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

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# Int 21H, AH=31H

## Version

2 and higher

## Brief

TERMINATE AND STAY RESIDENT

## Family API

## Input

AH = 31h  
AL = return code  
DX = number of paragraphs to keep resident

## Return

never returns

## Notes

the value in DX only affects the memory block containing the PSP;  
additional memory allocated via AH=48h is not affected  
the minimum number of paragraphs which will remain resident is 11h  
for DOS 2.x and 06h for DOS 3.0+  
most TSRs can save some memory by releasing their environment block  
before terminating (see #01378 at AH=26h,AH=49h)  
any open files remain open, so one should close any files which will  
not be used before going resident; to access a file which is left

open from the TSR, one must switch PSP segments first (see AH=50h)

## See also

AH=00h,AH=4Ch,AH=4Dh,INT 20,INT 22,INT 27

## Note

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

| <b>DOS API</b>              |                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                                                                                                                         |
| Network                     | <b>INT 21H</b> : 5E00H, 5E01H, 5E02H, 5E03H, 5E04H, 5E05H, 5F00H, 5F01H, 5F02H, 5F03H, 5F04H, 5F05H, 5F07H, 5F08H                                                                                                                                                                                                                                          |
| <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 @CIs                                                                                                                                         |
| Hardware info               | @Equipment @MemSize                                                                                                                                                                                                                                                                                                                                        |
| Serial I/O                  | @AuxInit @AuxSendChar @AuxRecieveChar @AuxStatus                                                                                                                                                                                                                                                                                                           |
| Tape I/O                    | @TapeOn @TapeOff @TapeRead @TapeWrite                                                                                                                                                                                                                                                                                                                      |
| 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                                                                                                                                                                                                                                                                                    |

**osFree Macro Library**Memory manager [@ModBlok SET\\_BLOCK](#)

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**Family API**

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

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