



# DosHoldSignal

This call temporarily disables or enables signal processing for the current process.

## Syntax

DosHoldSignal (ActionCode)

## Parameters

;ActionCode (USHORT) - input : Disables or enables signals intended for the current process. 'Value Definition' 0 Signals are enabled 1 Signals are disabled.

## Return Code

rc (USHORT) - return Return code descriptions are: \* 0 NO\_ERROR \* 1 ERROR\_INVALID\_FUNCTION

## Remarks

DosHoldSignal with ActionCode = 1 causes signal processing (except central processing errors and numeric processor errors) to be postponed until a DosHoldSignal with ActionCode = 0 is issued. Any signals that occur while processing is disabled are recognized, but not accepted until signal recognition is enabled.

To allow for nesting of requests, a count of the number of outstanding DosHoldSignal requests with ActionCode = 1 are maintained.

DosHoldSignal is used by library routines, subsystems, and similar code that lock critical sections or temporarily reserve resources needed to prevent a signal from terminating a task. A process can have only one signal handling address for each signal. Dynalink routines should not have a signal handler (which might override a handler established by a calling process).

Signals can be held for a short period and should be released and re-held, if necessary. Their guidelines for proper use are similar to hardware interrupt counterparts such as the CLI/STI instructions.

## Family API Considerations

Some options operate differently in the DOS mode than in the OS/2 mode. Therefore, the following restriction applies to DosHoldSignal when coding for the DOS mode:

The only signal recognized in the DOS mode is SIGINTR (Ctrl-C) and SIGBREAK. Only SIGINTR and SIGBREAK are turned off by this call.

## C Binding

```
<PRE> #define INCL_DOSSIGNALS

USHORT rc = DosHoldSignal(ActionCode);

USHORT ActionCode; /* Indicate to Disable/Enable Signals */

USHORT rc; /* return code */ </PRE>
```

### Example

The following example illustrates the use of the Ctrl-C (SIGINTR) signal to signal time-critical events. Process1 invokes process2, which establishes a signal handler named CtrlC\_Handler() and waits, by blocking on a reserved RAM semaphore, for a signal from process1. A portion of process2 is immune to signalling. <PRE> #define INCL\_DOSPROCESS #define INCL\_DOSSIGNALS

```
#include <os2.h>
```

```
#define SLEEPTIME 200L /* Sleep interval */ #define START_PROGRAM "process2.exe" /* Program name */
```

```
main() {
```

```
CHAR          ObjFail[50];
PSZ           Args;
PSZ           Envs;
RESULTCODES  ReturnCodes;
USHORT        rc;
```

```
/* Start process2 and check its PID */
if(!(DosExecPgm(ObjFail,          /* Object name buffer */
               sizeof(ObjFail), /* Length of obj. name buffer */
               EXEC_ASYNC,      /* Execution flag */
               Args,            /* Ptr. to argument string */
               Envs,            /* Ptr. to environment string */
               &ReturnCodes,    /* Ptr. to resultcodes struct.*/
               START_PROGRAM))) /* Name of program file */
    printf("Process2 started.\n");
printf("Process2 ID is %d\n", ReturnCodes.codeTerminate);
```

```
/* Sleep to give time slice to process2 */
DosSleep(SLEEPTIME);          /* Sleep interval */
```

```
/** After process2 sets signal handler, send process2 a signal **/
```

```

if(!(rc = DosSendSignal(ReturnCodes.codeTerminate, /* PID of process2 */
                        SIG_CTRLC))          /* Signal to send*/
    printf("Ctrl-C signal sent from Process1 to Process2.\n");

```

```

}

```

```

/* --- process2.c --- */

```

```

#define INCL_DOSPROCESS #define INCL_DOSSIGNALS #define INCL_DOSERRORS

```

```

#include <os2.h>

```

```

#define SLEEPTIME 50L #define TIMEOUT 5000L

```

```

VOID APIENTRY CtrlC_Handler(arg1, arg2) / Define signal handler /

```

```

USHORT    arg1;
USHORT    arg2;

```

```

{

```

```

printf("Handler for Ctrl-C now running.\n");
return;

```

```

}

```

```

main() {

```

```

ULONG          RamSem = 0L; /* Allocate and initialize Ram
                          Semaphore */
ULONG far      *RamSemHandle = &RamSem; /* Ram Semaphore handle */
USHORT         rc;

```

```

/* Establish signal handler */
if(!(rc=DosSetSigHandler((PFNSIGHANDLER) CtrlC_Handler,
                        NULL,          /* Previous handler - ignored */
                        NULL,          /* Previous action - ignored */
                        SIGA_ACCEPT,   /* Request type */
                        SIG_CTRLC)))   /* Signal number */
    printf("Process2 has set Ctrl-C handler.\n");
else

```

```

    /* Error processing on rc */;
    /* Get semaphore for first time */
    if(!(rc=DosSemRequest(RamSemHandle,          /* Semaphore handle */
                        TIMEOUT))                /* Timeout interval */)
        printf("Semaphore obtained.\n");

```

```

/**/ Disable and then enable signal-handling ***/
if(!(rc=DosHoldSignal(HLDSIG_DISABLE))) /** Action code - disable **/
{

```

```
printf("Signalling DISABLED.\n");
```

```
/* Do signal-proof work here */  
if(!(rc=DosHoldSignal(HLDSIG_ENABLE))) /** Action code - enable **/  
    printf("Signalling ENABLED.\n");  
}  
/* At this point, process1 may have sent a Ctrl-C signal. */  
/* Try to obtain semaphore again -- resulting in Timeout. */  
/* The Timeout, however, may be interrupted by the signal. */
```

```
printf("Process2 will now wait on a Ramsem for a while.\n");  
if((rc=DosSemRequest(RamSemHandle, /* Semaphore handle */  
                    TIMEOUT) /* Timeout interval */  
    == ERROR_INTERRUPT)  
printf("Process2 interrupted while waiting, rc is %d.\n", rc);
```

```
} </PRE>
```

## MASM Binding

```
<PRE> EXTRN DosHoldSignal:FAR INCL_DOSSIGNALS EQU 1
```

```
PUSH WORD ActionCode ;Indicate to Disable/Enable Signals CALL DosHoldSignal
```

```
Returns NONE </PRE>
```

## Note

Text based on <http://www.edm2.com/index.php/DosHoldSignal>

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 DosDevIOct1 DosDevIOct2
	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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