 This is part of **Family API** which allow to create dual-os version of program runs under OS/2 and DOS

Note: This is legacy API call. It is recommended to use 32-bit equivalent

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KbdCharIn

This call returns a character data record from the keyboard.

Syntax

```
KbdCharIn (CharData, IOWait, KbdHandle)
```

Parameters

- CharData (PKBDKEYINFO) - output : Address of the character data structure:
  - asciicharcode (UCHAR) : ASCII character code. The scan code received from the keyboard is translated to the ASCII character code.
  - scancode (UCHAR) : Code received from the keyboard. The scan code received from the keyboard is translated to the ASCII character code.
  - status (UCHAR) : State of the keystroke event:

Bit	Description
7-6	00 = Undefined
	01 = Final character, interim character flag off
	10 = Interim character
	11 = Final character, interim character flag on.
5	1 = Immediate conversion requested.
4-2	Reserved.
1	0 = Scan code is a character.
	1 = Scan code is not a character; is an extended key code from the keyboard.
0	1 = Shift status returned without character.

- reserved (UCHAR):NLS shift status. Reserved, set to zero.

7 Kana-To-Kanji Conversion Mode (Japanese)

```
    Hanja_25: Hangeul-to-Hanja Conversion Mode (Korean)
    Reserved (T-Chinese)
```

6 Romaji Mode (Japanese)

```
    Hanja_CSR: Hangeul-to-Hanja Conversion Mode (Korean)
    Reserved (T-Chinese)
```

5 Reserved 4-3

```
    00 Shift Indicator Row always visible
    01 Shift Indicator Row always invisible
    10 Shift Indicator Row visible only when a shift key is pressed.
       And it becomes invisible, depress another key.
    11 Reserved
```

2-1

```
    00 Alphanumeric Mode
    01 Katakana Mode (Japanese)
       Jamo Mode (Korean)
       Phonetic Input Mode (T-Chinese)
    10 Hiragana Mode (Japanese)
       Hangeul Mode (Korean)
       TsangJye Input Mode (T-Chinese)
    11 Reserved
```

0 DBCS Mode

- shiftkeystat (USHORT) : Shift key status.

'Bit Description' 15 SysReq key down 14 CapsLock key down 13 NumLock key down 12 ScrollLock key down 11 Right Alt key down (SBCS) 10 Right Ctrl key down (SBCS) 9 Left Alt key down 8 Left Ctrl key down 7 Insert on 6 CapsLock on 5 NumLock on 4 ScrollLock on 3 Either Alt key down (DBCS) 2 Either Ctrl key down (DBCS) 1 Left Shift key down 0 Right Shift key down

- time (ULONG) : Time stamp indicating when a key was pressed. It is specified in milliseconds from the time the system was started.
- IOWait (USHORT) - input : Wait if a character is not available.

^ Value ^ Definition ^

0	Requestor waits for a character if one is not available.
1	Requestor gets an immediate return if no character is available.

* KbdHandle (HKBD) - input : Default keyboard or the logical keyboard.

Return Code

rc (USHORT) - return

Return code descriptions are:

- 0 NO_ERROR

- 375 ERROR_KBD_INVALID_IOWAIT
- 439 ERROR_KBD_INVALID_HANDLE
- 445 ERROR_KBD_FOCUS_REQUIRED
- 447 ERROR_KBD_KEYBOARD_BUSY
- 464 ERROR_KBD_DETACHED
- 504 ERROR_KBD_EXTENDED_SG

Remarks

On an enhanced keyboard, the secondary enter key returns the normal character 0DH and a scan code of E0H.

Double-byte character codes (DBCS) require two function calls to obtain the entire code.

If shift report is set with KbdSetStatus, the CharData record returned reflects changed shift information only.

Extended ASCII codes are identified with the status byte, bit 1 on and the ASCII character code being either 00H or E0H. Both conditions must be satisfied for the character to be an extended keystroke. For extended ASCII codes, the scan code byte returned is the second code (extended code). Usually the extended ASCII code is the scan code of the primary key that was pressed.

A thread in the foreground session that repeatedly polls the keyboard with KbdCharIn (with no wait), can prevent all regular priority class threads from executing. If polling must be used and a minimal amount of other processing is being performed, the thread should periodically yield to the CPU by issuing a DosSleep call for an interval of at least 5 milliseconds.

Family API Considerations

Some options operate differently in the DOS mode than in the OS /2 mode. Therefore, the following restrictions apply to KbdCharIn when coding in the DOS mode:

- The CharData structure includes everything except the time stamp.
- Interim character is not supported
- Status can be 0 or 40H
- KbdHandle is ignored.

Bindings

C Binding

```
typedef struct _KBDKEYINFO {   /* kbci */
  UCHAR    chChar;             /* ASCII character code */
  UCHAR    chScan;             /* Scan Code */
  UCHAR    fbStatus;           /* State of the character */
  UCHAR    bNlsShift;          /* Reserved (set to zero) */
```

```
  USHORT   fsState;           /* State of the shift keys */
  ULONG    time;              /* Time stamp of keystroke (ms since ipl) */
}KBDKEYINFO;

#define INCL_KBD

USHORT  rc = KbdCharIn(CharData, IOWait, KbdHandle);

PKBDKEYINFO      CharData;      /* Buffer for data */
USHORT           IOWait;        /* Indicate if wait */
HKBD             KbdHandle;     /* Keyboard handle */

USHORT           rc;            /* return code */
```

MASM Binding

```
KBDKEYINFO struc
  kbci_chChar    db  ? ;ASCII character code
  kbci_chScan    db  ? ;Scan Code
  kbci_fbStatus  db  ? ;State of the character
  kbci_bNlsShift db  ? ;Reserved (set to zero)
  kbci_fsState   dw  ? ;state of the shift keys
  kbci_time      dd  ? ;time stamp of keystroke (ms since ipl)
KBDKEYINFO ends

EXTRN  KbdCharIn:FAR
INCL_KBD            EQU 1

PUSH@  OTHER   CharData      ;Buffer for data
PUSH   WORD    IOWait        ;Indicate if wait
PUSH   WORD    KbdHandle     ;Keyboard handle
CALL   KbdCharIn

Returns WORD
```

Note

Text based on http://www.edm2.com/index.php/KbdCharIn_(FAPI)

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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