KbdCharIn

Bindings: C, MASM

This call returns a character data record from the keyboard.

KbdCharIn (CharData, IOWait, KbdHandle)

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.

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
10	Right Ctrl key down
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
2	Either Ctrl key down
1	Left Shift key down

Bit	Description
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.

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.

C bindings

```
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 bindings

```
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
```

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