

KeyCode

User Manual



Version 2.1
for Macintosh Computer
2001-04-19

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First Published, April 2001

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1.0 Preface

1.1 About this book

This document describes the Macintosh application “keyCode” and how to use it.

At the end of this book you find background information about the application. Speziell information about the “virtual key code” and how to determine whether a special key is pressed on the keyboard.

1.1.1 Languages

The application “KeyCode” and this user manual is available in *German* and *English*. You can download it from my homepage.

1.1.2 Spezial Fonts

The normal text is formatted in the font as you can read here (Times).

All code listings, reserved words, and names of actual data structures, fields, constants, parameters, classes, and routines are shown in Courier (`this is Courier`).

1.1.3 Images

Don't be confused if the windows, dialogs etc. on your screen don't look the same like the windows, dialogs, etc. on the images in this book.

The reason for this differences may be that you use another MacOS version than I. I created the images in this book using MacOS X.

I make this images while I develop this application. I make most of this images when the application ain't completely ready. For this reason some images can be out of date (but I hope this don't happen).

1.2 About “KeyCode”

I think only application developer are interested in using this application.

It shows the “virtual key code” and the ASCII number of every key pressed on the keyboard.

This application is different from other applications that shows the ASCII number of pressed key, because it do this also when it is in the background.

“KeyCode” is freeware, you can use and distribute it for free (See “Liability” on page 5.).

1.2.1 Please register

If you often use this application, you should register it (use the registration page on my homepage <www.folsch.de/english/register.htm>, or write me an e-mail <fao@folsch.de>), so I can tell you about updates or bug fixes. Over all it's good for me to know how many people use this application.

1.2.2 System Requirements

Carbon Version:

- Macintosh with PPC Prozessor.
- *MacOS X* or at least MacOS 8.1 with *CarbonLib*.

FAT Version:

- See PPC and 68k Version.

PPC Version:

- Macintosh with PPC Prozessor.
- Every System version that works on this computer.

68k Version:

- Macintosh with 68020 Prozessor or higher.
- System 7.0 or newer.

1.2.3 Installation

Simply decompress the application package using the *StuffIt Expander 5.0* or newer.

1.2.4 Version Information

A new feature of this version is that it can display the ASCII number of the pressed keys.
And sure the MacOS X version is new.

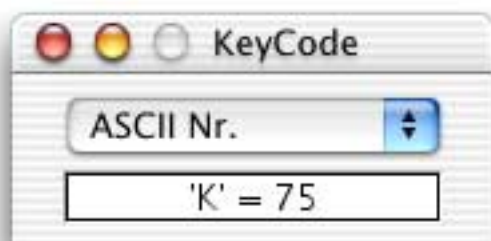
1.3 Liability

You use this application on your own risk. I cannot be liable for any damage my application causes.

2.0 Using “KeyCode”

This chapter describes how to use “*KeyCode*” to view the “virtual key code” and the ASCII number of the pressed keys.

2.1 Showing ASCII numbers



This application can display the ASCII number of the pressed key combination on the keyboard.

To do this you have to select “ASCII Nr.” from within the popupmenu on the main window.

Now you can hit any key combination on the keyboard and you will see the resulting text character in the textfield below the popupmenu. In the sample above you can see above I have pressed the shift and the ‘K’ keys.

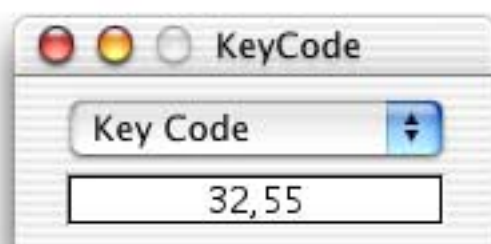
This application shows the ASCII numbers also when it is in the background.

“KeyCode” cannot show the ASCII number of some keys pressed, because they result in no character output, for example when you press the apple key or the shift key no ASCII number will be shown in the text field.

On the other hand some keyboard keys (like the keys F1 to F12) result in the same text character output.

To recognize whether a key which results in no text character output is pressed or to distinguish between keys with the same text character output you need the “virtual key code”. I describe how to display the “virtual key code” in the next chapter.

2.2 Showing the “virtual key code”



This application can display the “virtual key code” of the keys pressed on the keyboard.

To do this you have to select “Key Code” from within the popupmenu on the main window.

Now you can hit any keys on the keyboard to see the “virtual key code” of them in the text field below the popupmenu. In the sample above I have pressed the command and the ‘U’ key.

If you press more than one key at the same time, all the pressed keys will be displayed divided by the ‘,’ character. The numbers will not be displayed in the order you press it but sorted by the size of the values.

This application shows the “virtual key codes” also when it is in the background.

Some keys have the same “virtual key code” like the command key on the left and the right (55).

Some keys have the same “virtual key code” on all keyboards in all languages, others are different (see “About the “virtual key code”” on page 8 for more information).

3.0 Background Information

For this version of the manual I do not have enough time to provide much information about the topics below. But if you have any question about this please write me and I try to answer. By doing this I think this page will be filled up with useful information for the next release.

3.1 About ASCII numbers

There are many ways to encode a text using different text characters. An old and by the Macintosh computers used method is to encode every text character with one Byte (8 Bit) memory size to encode 256 different text characters. An other modern text coding method is Unicode which used two Bytes (16 Bit) for each text character (but I don't want to talk about Unicode).

Every text character on the Macintosh has a unique ASCII number. The character 'A' for example has the ASCII value of 65.

Other computer systems like *Unix* or *Windows* use other ASCII values for the characters.

3.2 About the "virtual key code"

You can find detailed information about key codes in the book "Inside Macintosh - Text".

Each keyboard has a particular physical arrangement of keys, and each keypress generates a value called a "raw key code", which indicates which key was pressed. The keyboard driver that handles the keypress uses the key-map resource to map the "raw key codes" to keyboard-independent "virtual key codes". It then uses the Event Manager and the keyboard-layout resource to convert a "virtual key code" into a character code.

When your application is in the foreground and waiting for text input, the translation of the "raw key code" to the output ASCII text character works automatically when you receive a key down-Event in your application.

Normally developers do not have to know something about the "virtual key code" when developing normal applications.

But if you have to know whether a particular key is pressed you can use the following code snippet:

```
// -----  
// Is_KeyPressed  
// -----  
Boolean Is_KeyPressed (unsigned char keyCode)  
{  
    KeyMap    theKeys;  
    unsigned char * charArray = (unsigned char *) &theKeys;  
    GetKeys (theKeys);  
    return (Boolean) ((charArray[keyCode>>3] >> (keyCode & 7)) & 1);  
}
```

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