

# RK3308 Key Interface Introduction

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# Preface

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## Overview

This document describes the interfaces in RK3308 DeviceIo library.

## Chipset

RK3308

## Intended Audience

This document (this guide) is intended primarily for the following engineers:

Field Application Engineer

Software Development Engineer

## Revision History

Date	Revision No.	Author	Revision History
2019-3-29	V1.0.0	Jacky Ge	Initial version
2020-03-02	V1.0.1	Ruby Zhang	Update the format and the name of the document

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# 1. Overview

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This code module is integrated in the libDeviceIo.so dynamic library, based on the input\_event input subsystem, including short press, long press, and combination key common requirements which are packaged to facilitate development.

## 2. Interface Introduction

- Callback function definition

It is the most basic callback, which will callback up and down events for each key press:

```
1 | typedef int (*RK_input_callback)(const int key_code, const int key_value);
```

It is a processed callback, and only be called back once by a short press event:

```
1 | typedef int (*RK_input_press_callback)(const int key_code);
```

Long press event callback interface:

```
1 | typedef int (*RK_input_long_press_callback)(const int key_code, const
    | uint32_t time);
```

Heartbeat long press event callback interface(That is, if the button is kept pressed, the callback interface will be callback regularly after meeting the long-press condition.)

```
1 | typedef int (*RK_input_long_press_hb_callback)(const int key_code, const int
    | times);
```

Combination key callback interface:

```
1 | typedef int (*RK_input_compose_press_callback)(const char* compose, const
    | uint32_t time);
```

Transaction key callback interface:

```
1 | typedef int (*RK_input_transaction_press_callback)(const char* trans, const
    | uint32_t time);
```

Multiple press callback interface:

```
1 | typedef int (*RK_input_multiple_press_callback)(const int key_code, const int
    | times);
```

Key module initialization interface, which need to be assigned a basic RK\_input\_callback function:

```
1 | int RK_input_init(RK_input_callback input_callback_cb)
```

Register a key press event callback and triggered by single click:

```
1 | int RK_input_register_press_callback(RK_input_press_callback cb)
```

Register a long press event with the time of "time ms" for key\_code:

```
1 | int RK_input_register_long_press_callback(RK_input_long_press_callback cb,
    | const uint32_t time, const int key_code)
```

Register a "hb" long press event for key\_code key, triggered every "time ms":

```
1 | int RK_input_register_long_press_hb_callback(RK_input_long_press_hb_callback  
   | cb, const uint32_t time, const int key_code)
```

Register times multi-press events for key\_code key (that is, times of pressing key\_code, the time difference between each two press should not exceed 500ms):

```
1 | int  
   | RK_input_register_multiple_press_callback(RK_input_multiple_press_callback  
   | cb, const int key_code, const int times)`
```

Register combination events for key\_code key set, triggered when key\_code key set is pressed at the same time for time ms:

```
1 | int RK_input_register_compose_press_callback(RK_input_compose_press_callback  
   | cb, const uint32_t time, const int key_code, ...)
```

Register transaction events for the collection of key\_code, which is triggered when the collection of key\_code pressed in order:

```
1 | int  
   | RK_input_register_transaction_press_callback(RK_input_transaction_press_callb  
   | ack cb, const uint32_t time, int key_code, ...)
```

Key module exits and releases related resources:

```
1 | int RK_input_exit(void)`
```

### 3. Application Example

```
1  #include <stdio.h>
2  #include <string.h>
3  #include <unistd.h>
4  #include <linux/input.h>
5  #include <DeviceIo/Rk_key.h>
6
7  static int _RK_input_callback(const int key_code, const int key_value)
8  {
9      printf("_RK_input_callback key_code:%d; key_value:%d\n", key_code,
10 key_value);
11      return 0;
12  }
13
14 static int _RK_input_press_callback(const int key_code)
15 {
16     printf("_RK_input_press_callback key_code:%d;\n", key_code);
17     return 0;
18 }
19
20 static int _RK_input_long_press_callback(const int key_code, const uint32_t
21 time)
22 {
23     printf("_RK_input_long_press_callback key_code:%d; time:%lu\n",
24 key_code, time);
25     return 0;
26 }
27
28 static int _RK_input_long_press_hb_callback(const int key_code, const int
29 times)
30 {
31     printf("_RK_input_long_press_hb_callback key_code:%d; times:%d\n",
32 key_code, times);
33     return 0;
34 }
35
36 static int _RK_input_multiple_press_callback(const int key_code, const int
37 times)
38 {
39     printf("_RK_input_multiple_press_callback key_code:%d; times:%d\n",
40 key_code, times);
41     return 0;
42 }
43
44 static int _RK_input_transaction_press_callback(const char* trans, const
45 uint32_t time)
46 {
47     printf("_RK_input_transaction_press_callback trans:%s; time:%lu\n",
48 trans, time);
49     return 0;
50 }
51
52 static int _RK_input_compose_press_callback(const char* compose, const
53 uint32_t time)
54 {
55     printf("_RK_input_compose_press_callback compose:%s; time:%lu\n",
56 compose, time);
57     return 0;
58 }
```

```

45     printf("_RK_input_compose_press_callback compose:%s; time:%lu\n",
compose, time);
46     return 0;
47 }
48
49 int main(int argc, char **argv)
50 {
51     // Initialize the input module
52     RK_input_init(_RK_input_callback);
53     // Register single press callback
54     RK_input_register_press_callback(_RK_input_press_callback);
55     // Register 5000ms long press event of KEY_VOLUMEUP key
56     RK_input_register_long_press_callback(_RK_input_long_press_callback,
5000, KEY_VOLUMEUP);
57     // Register a hb long-press event of the KEY_VOLUMEDOWN button,
triggering hb every 500ms
58
59     RK_input_register_long_press_hb_callback(_RK_input_long_press_hb_callback,
500, KEY_VOLUMEDOWN);
60     // Register KEY_POWER double-press event
61
62     RK_input_register_multiple_press_callback(_RK_input_multiple_press_callback,
KEY_POWER, 2);
63     // Register KEY_VOLUMEUP->KEY_VOLUMEUP->KEY_VOLUMEDOWN->KEY_VOLUMEDOWN
transaction event
64
65     RK_input_register_transaction_press_callback(_RK_input_transaction_press_cal
lback, 2000, 4, KEY_VOLUMEUP, KEY_VOLUMEUP, KEY_VOLUMEDOWN, KEY_VOLUMEDOWN);
66     // Register KEY_VOLUMEUP + KEY_VOLUMEDOWN 5000ms key combination
67
68     RK_input_register_compose_press_callback(_RK_input_compose_press_callback,
5000, 2, KEY_VOLUMEUP, KEY_VOLUMEDOWN);
69
70     for (;;)
71     {
72         RK_input_exit();
73         return 0;
74     }
75 }

```