

# 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

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- 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 static int _RK_input_press_callback(const int key_code)
14 {
15     printf("_RK_input_press_callback key_code:%d;\n", key_code);
16     return 0;
17 }
18
19 static int _RK_input_long_press_callback(const int key_code, const uint32_t
time)
20 {
21     printf("_RK_input_long_press_callback key_code:%d; time:%lu\n",
key_code, time);
22     return 0;
23 }
24
25 static int _RK_input_long_press_hb_callback(const int key_code, const int
times)
26 {
27     printf("_RK_input_long_press_hb_callback key_code:%d; times:%d\n",
key_code, times);
28     return 0;
29 }
30
31 static int _RK_input_multiple_press_callback(const int key_code, const int
times)
32 {
33     printf("_RK_input_multiple_press_callback key_code:%d; times:%d\n",
key_code, times);
34     return 0;
35 }
36
37 static int _RK_input_transaction_press_callback(const char* trans, const
uint32_t time)
38 {
39     printf("_RK_input_transaction_press_callback trans:%s; time:%lu\n",
trans, time);
40     return 0;
41 }
42
43 static int _RK_input_compose_press_callback(const char* compose, const
uint32_t time)
44 {
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 RK_input_register_long_press_hb_callback(_RK_input_long_press_hb_callback,  
59 500, KEY_VOLUMEDOWN);  
60 // Register KEY_POWER double-press event  
61  
62 RK_input_register_multiple_press_callback(_RK_input_multiple_press_callback,  
63 KEY_POWER, 2);  
64 // Register KEY_VOLUMEUP->KEY_VOLUMEUP->KEY_VOLUMEDOWN->KEY_VOLUMEDOWN  
65 transaction event  
66  
67 RK_input_register_transaction_press_callback(_RK_input_transaction_press_cal  
68 lback, 2000, 4, KEY_VOLUMEUP, KEY_VOLUMEUP, KEY_VOLUMEDOWN, KEY_VOLUMEDOWN);  
69 // Register KEY_VOLUMEUP + KEY_VOLUMEDOWN 5000ms key combination  
70  
71 RK_input_register_compose_press_callback(_RK_input_compose_press_callback,  
72 5000, 2, KEY_VOLUMEUP, KEY_VOLUMEDOWN);  
73  
74  
75 for (;;) ;  
76  
77 RK_input_exit();  
78  
79 return 0;  
80  
81 }
```