CommaCube User Menu

Comma Technology Ltd

12th June, 2017

Contents

A. Introduction of CommaCube 3
1. CommaCube Overview 3
2. Packing List 3
3. Accessories of CommaCube 4
4. Button Functions 5
5. LED Indicator Table 5
6. Buzzer Indicator Table 5
B. Introduction of Application 7
1. Overview 7
2. Download and Installation 7
3. Demo Application Quick Start 7
I. Turn on the device 7
II. Open Application 7
III. Add Comma's devices 8
IV. Search BLE Device 9
V. Establish Bluetooth connection 10
VI. Read Data 11
4. Device Configuration 13

CommaCube User Operation Menu（Hardware）

A. Introduction of CommaCube

1. CommaCube Overview

The overview of CommaCube is shown in Figure 1.

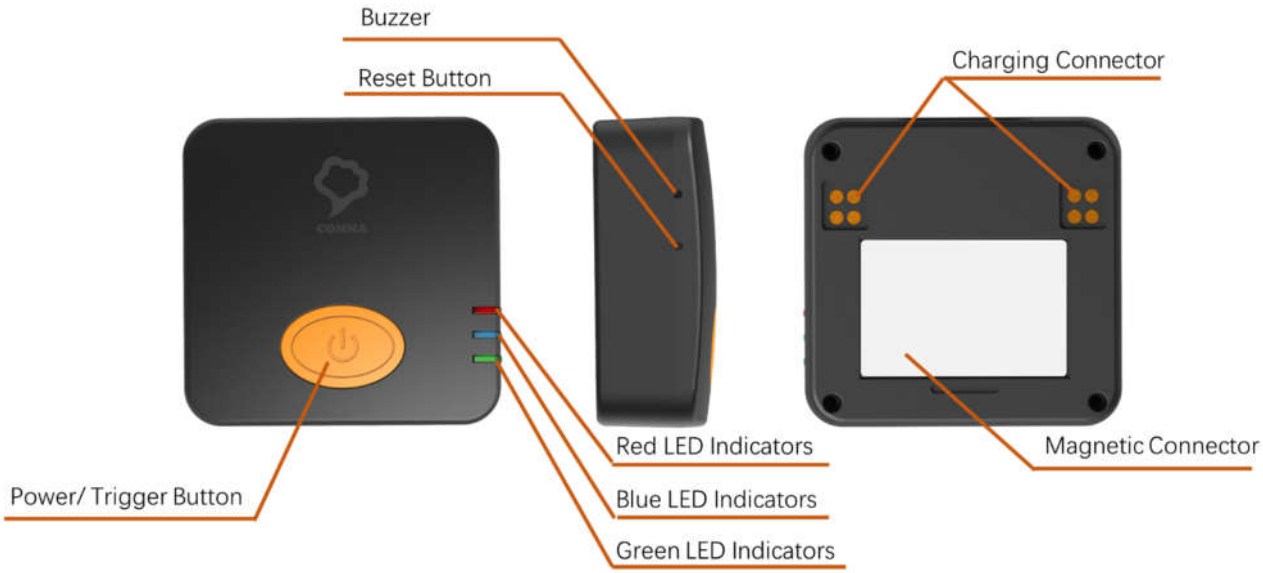


Figure 1 CommaCube Overview

2. Packing List

The following items are included in your packaging box of CommaCube

- CommaCube scanner
- CommaCharger
- USB connecting line
- User's manual

3. *Accessories of CommaCube*

Through the innovative magnetic design, CommaCube can be equipped with different accessories easily. Users can choose the most appropriate type of accessories according to the operations' characteristics and working habits to make good use of CommaCube, and enhance work efficiency as well as experience.

CommaGlove, as shown in Figure 2, enables users to use the CommaCube as gloves. Through magnetic connector on CommaGlove, CommaCube can be easily attached. Multiple sizes of CommaGlove are available. Also, left-hand and right-hand versions will be both provided. The Trigger Button is another accessory that acts as the additional scanning trigger. It could be fixed on the smart glove to assist with scanning operations.



Figure 2 CommaCube Equipped with CommaGlove (Optional Accessory)

CommaRing, as shown in Figure 3, enables users to use the CommaCube as rings. Through magnetic connector, CommaCube can be easily attached to CommaRing. CommaRing can be rotated for 180 degrees, therefore facilitates multiple scanning directions and usage by both left and hands.

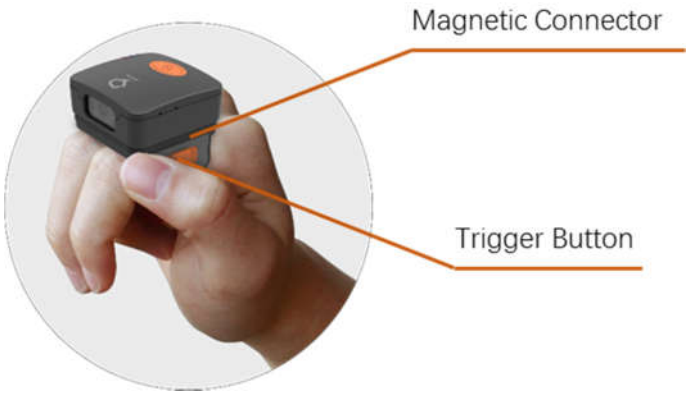


Figure 3 CommaCube Equipped with CommaRing (Optional Accessory)

CommaCharger, as shown in Figure 4, is a standard accessory provided in the package that used to charge CommaCube. CommaCube can be accurately attached to CommaCharger with the help of magnets. CommaCube can work while being charged.

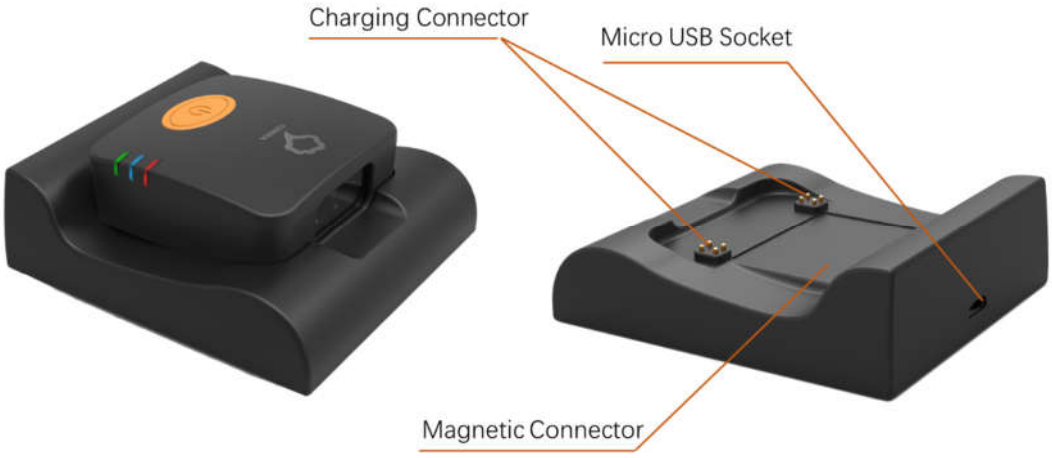


Figure 4 Overview of CommaCharger (Standard Accessory)

4. Button Functions

The followings are the brief description of the Button Functions

Operation	Description
Power on / off	• Long press the power / trigger button to power on / off the device • 1 short beep sound
Trigger Scan	• Press the power / trigger button • Short beep sound for scanning success

5. LED Indicator Table

Operation Status	Color	LED Status	Description
Power Status	Red	Static	Full battery (charging)
		Slow Blinking	Low battery
		Long Blinking	Charging
Bluetooth Status	Blue	Static	Connected
		Blinking	Disconnected
Scan Result Status	Green	Flash 1 time	Scan success

6. Buzzer Indicator Table

Buzzer Status	Time	Description
Short Beep	Once	Scanning success
	Twice	Bluetooth connection success
Long Beep	2 Seconds-	Bluetooth disconnect

		Off-line cache memory full

CommaCube User Operation Menu (Application)

B. Introduction of Application

1. Overview

We provide a SDK for developer to integrate our product to their own application. Also, a demo application, Comma Family App, is provided for user to test and experience our products.

2. Download and Installation

User can visit our website https://www.smartcomma.com/download/CommaFamily.apk , or scan the below 2D barcode to download and install the latest demo application to your android device (requires Bluetooth LE and Android 4.3 or above).



Figure 5 URL for Comma Family Application

3. Demo Application Quick Start

After install the application, the operation of the demo application as follow

I. Turn on the device

Press the power button on the top of the CommaCube to turn on the device. When a beep sound occurs and the blue LED starts flashing, the device has finished bootup.

II. Open Application

Click the CommaFaily icon to open the demo application.



Figure 5 Comma Family Application

III. Add Comma's devices

The main interface of Comma Family is register devices list, which is shown in the left-hand side of Figure 6. To add a new Comma' device, click the "+" button in the upper right corner and the device selection screen will be displayed, which is shown in the right-hand side of Figure 6. Then, select CommaCube icon to register CommaCube.

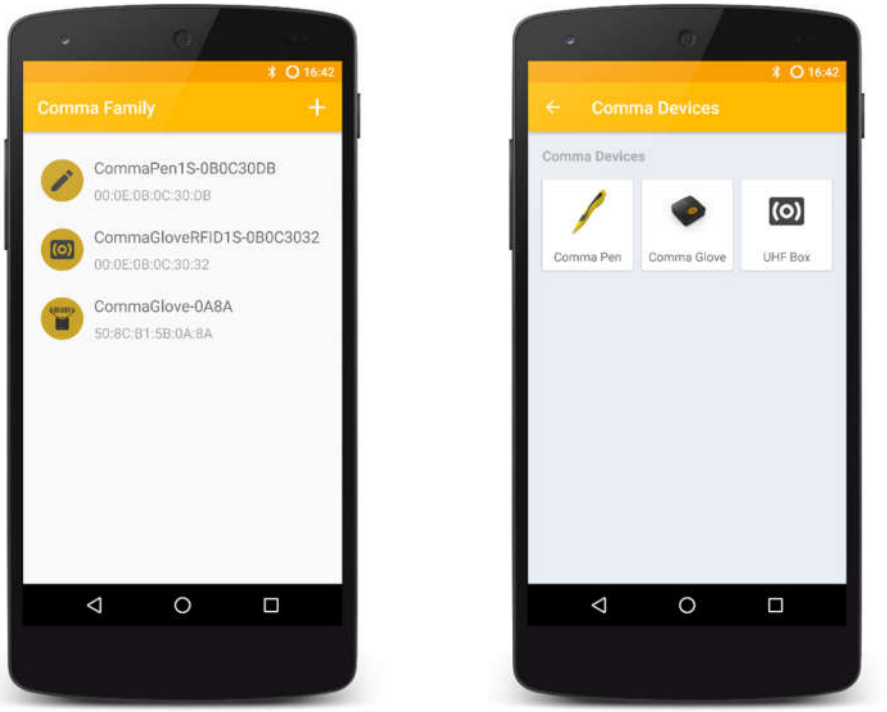


Figure 6 Application Main Screen (Left), Add Comma's Devices Interface (Right)

IV. Search BLE Device

After select the device type, the demo application will jump to device discovery interface and start searching and listed all available BLE devices (Right-hand side of Figure 7). If the Android Bluetooth is not open, the application will ask for open the Bluetooth (Left-hand side of Figure 7).



Figure 7 Bluetooth Discovery Interface

V. Establish Bluetooth connection

Click the CommaCube device in the list or scan the QR code blow the screen direct to connect the device. If the connection success, the device will emit 1 beep sound and the blue LED will light static. The application will redirect to the device main interface (Figure 8).

In the device main interface, the upper right-hand corner shows the Bluetooth connection status. You can click the status to toggle the Bluetooth connection.

** In the current version (v2.0.21), if user back to Comma Family main interface or exit the application, the application will disconnect the current device.



Figure 8 Device Main Interface

VI. Read Data

You can trigger CommaCube to read data in 3 ways. If the read process success, the device will emit a beep sound and a green LED will light 1 time.

a) Soft trigger by click the “Scan” button (Right-hand side of Figure 9).
b) Press the power / trigger button on the top of the CommaCube (Figure 1)
c) Press the read button via the USB auxiliary trigger (require CommaCube accessory, Figure 2)

If the read operation success, the result will display in the result list (Right-hand side of Figure 9).

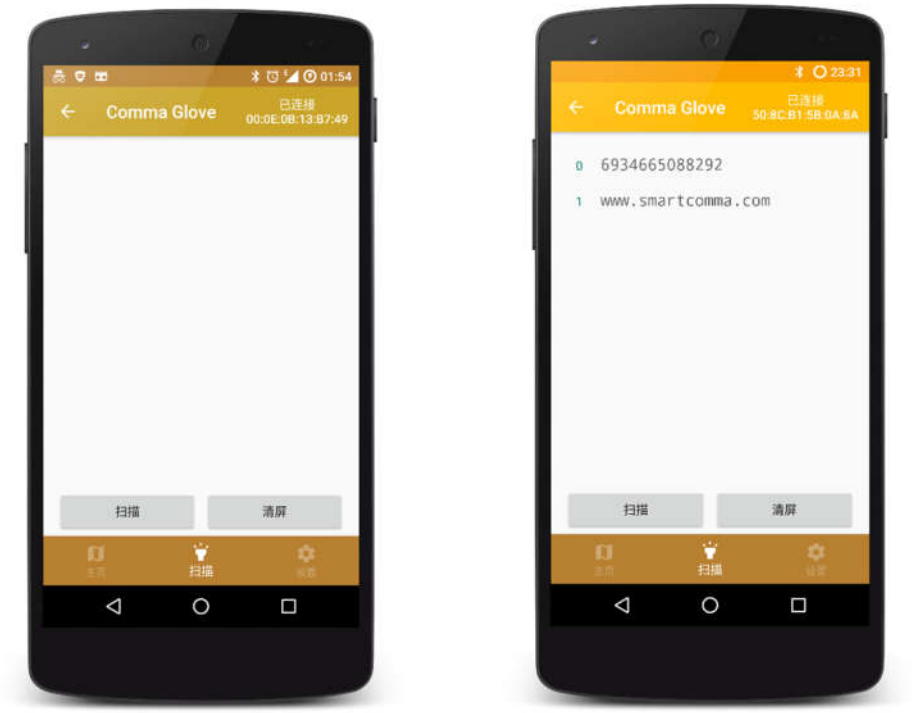


Figure 9 Data Reading

4. *Device Configuration*

In the device configuration tab (Figure), user can change the CommaCube setting or reading behavior. The details of configurations are descripted as follows.



Figure 11 Device Configuration

a) Bluetooth Setting

Turn on or off the Android device Bluetooth.

b) Cache Mode

If the cache mode is on, the Comma's devices will cache the scanning data while the Bluetooth connection discounted from the Android device, and transmit cached data to Android device while the Bluetooth connection resume.

c) Continuous Read Mode

If the continuous read mode is on, the Comma's device will auto trigger scan action with a predefined time interval (Figure 10).

** The Cache Mode and Continuous Read Mode cannot enabled at the same time in current version (v2.0.21)



Figure 10 Continuous Read Mode

d) Barcode Advance Setting

User can change the CommaCube scanning behavior via scan the function quick code.

Each configuration requires three steps action to apply the setting.

I. Scan “initiation” code
II. Scan “function” quick code
III. Scan “ending” code

The following example is the operation to disable / enable the GB code filtering function.

I. Select “Filter GB Code”, then, use CommaCube to scan the “Initiation” code (Figure 11).
II. Select the mode to enable / disable, then, scan the function quick code (Figure 12).
III. Finally, scan the “Ending” code to complete the operation (Figure 13).

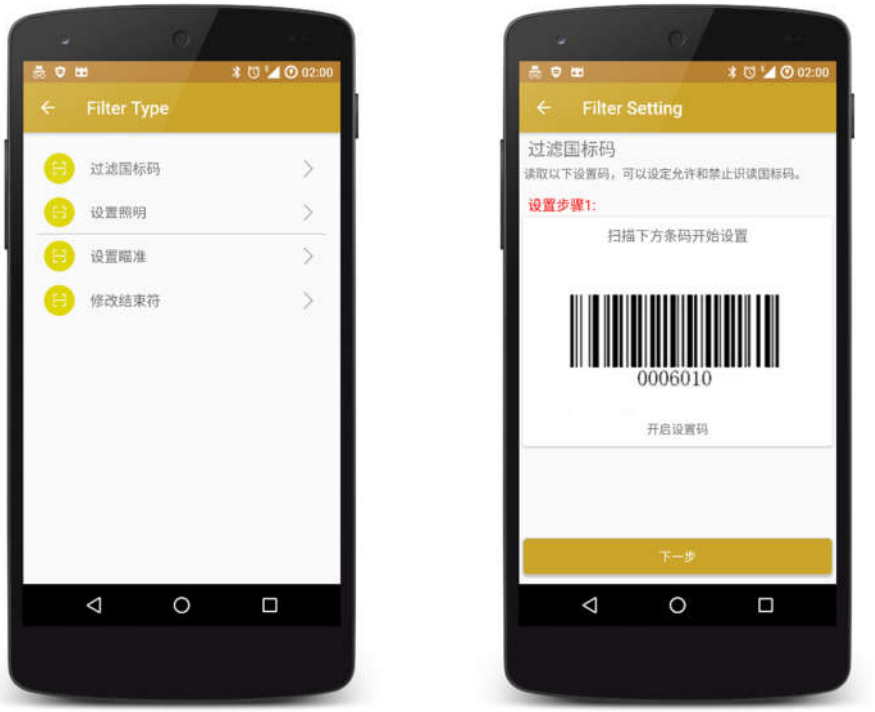


Figure 11 Scan the initiation code

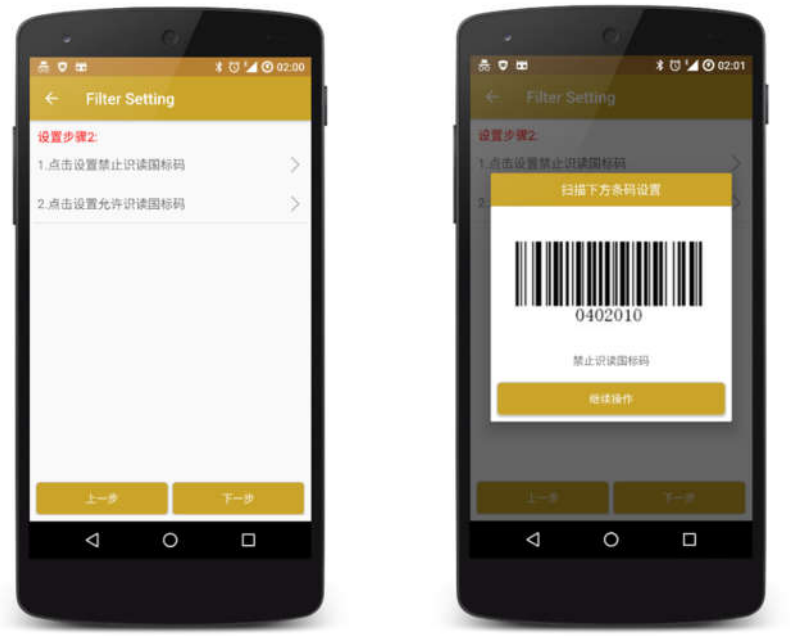


Figure 12 Scan the function quick code



Figure 13 Scan the ending code

Warning Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.