

# BananaPi uses DVK-511

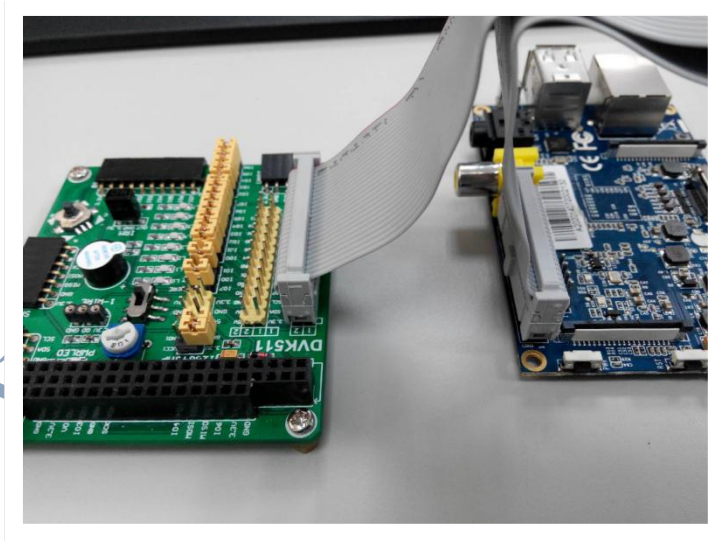
## RTC\_PCF8563

By Justin Chen

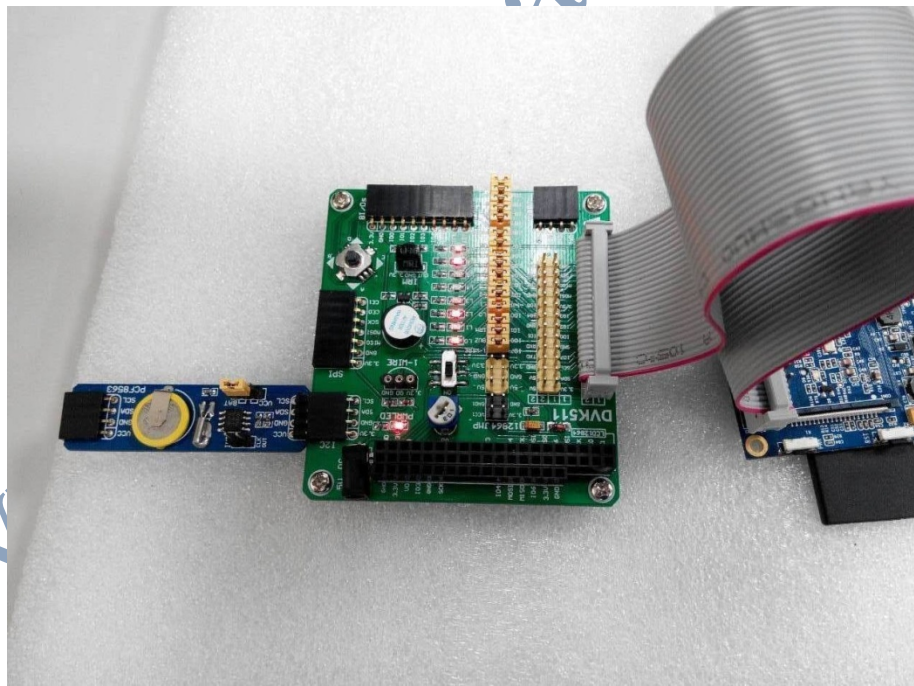
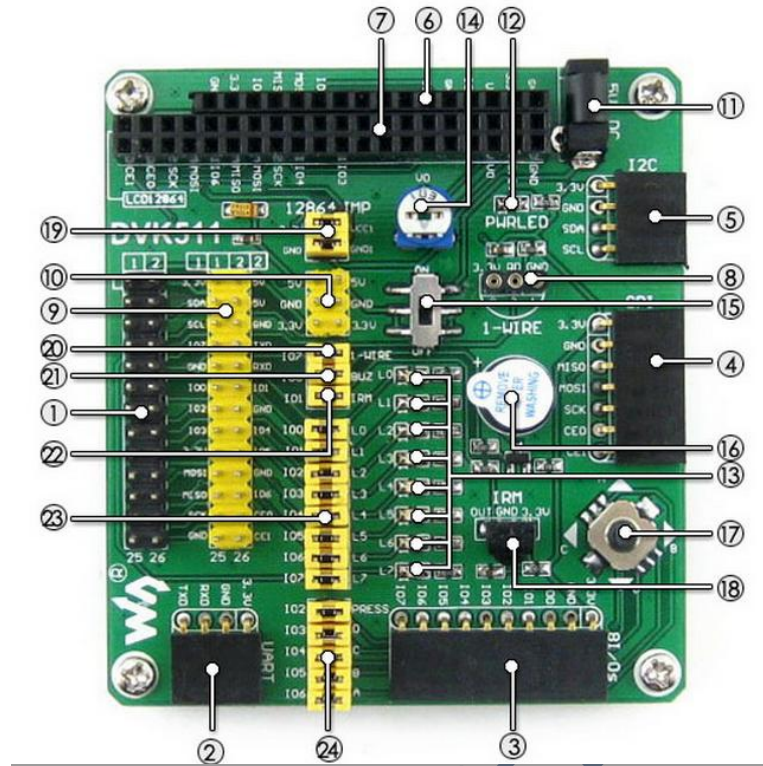
1. First go to website <http://www.bananapi.com/> download BananaPi customized Raspbian Image; about how to burn the image into SD  
<http://www.bananapi.com/index.php/download?layout=edit&id=42>.
2. The Image burn in SD card has preload the customized WiringPi Lib before, if download WiringPi Lib by yourself, you will need to modify it, otherwise it can't use; WiringPi Lib can find in /opt/gpio-lib.

```
pi@bananapi: /opt/gpio-lib
File Edit Tabs Help
pi@bananapi /opt/gpio-lib $ ls
RPI.GPIO-0.5.5 ScratchGPIO5 WiringBPi_Beta_V2.0
```

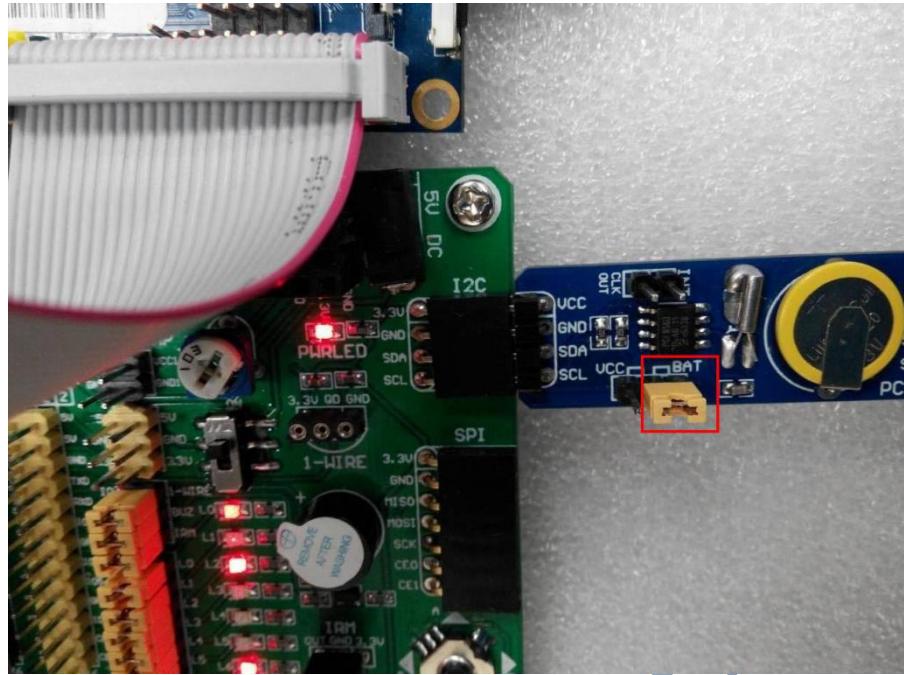
3. BananaPi connect pinboard of DVK511.



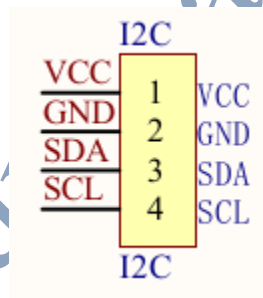
4. DVK-511 fifth pins is I2C Interface, and make RTC\_PCF8563 device insert into this one.



5. the jumper on RTC\_PCF8563 device should connect with BAT ◦



6. Check RTC\_PCF8563 and DVK-511 corresponding layout to know each pin's definition °



RTC\_PCF8563 PINs

7. Open LXTerminal software , check current Systematic date:

```
File Edit Tabs Help
pi@bananapi ~ $ date
Wed Oct 1 07:29:33 UTC 2014
```

Know from above Current systematic 1/10/2014 ; Next revise systematic date 5/5/2014

```
File Edit Tabs Help
pi@bananapi ~ $ sudo date 050500002014
[sudo] password for pi:
Mon May 5 00:00:00 UTC 2014
```

Use date order to check if systematic date if was changed

```
pi@bananapi ~ $ date
Mon May 5 00:02:49 UTC 2014
```

Know from above current systematic date was changed 5/5/2014;then and switch to root mode.

```
pi@bananapi ~ $ sudo su
```

Checking What are RTC devices under current system , know have one pre-set RTC devices mount to /dev/rtc0 in the current system from following:

```
root@bananapi:/# find /dev/ -name rtc*
/dev/rtc0
```

Next mount RTC\_PCF8563to I2C\_2(please note BananaPi's I2C interface is I2C\_2)

```
root@bananapi:/home/pi# echo pcf8563 0x51 > /sys/class/i2c-adapter/i2c-2/new_device
```

Checking mount successful, knowing RTC\_PCF8563 mount to /dev/rtc1 well from following:

```
root@bananapi:/# find /dev/ -name rtc*
/dev/rtc1
/dev/rtc0
```

Wirting date to RTC\_PCF8563 (/dev/rtc1)

```
root@bananapi:/home/pi# hwclock -w -f /dev/rtc1
```

And read RTC\_PCF8563(/dev/rtc1) check if read in well.



```
pi@bananapi:~  
File Edit Tabs Help  
root@bananapi:/home/pi# hwclock -r -f /dev/rtc1  
Mon 05 May 2014 00:22:37 UTC -0.683487 seconds
```

Confirm read well RTC\_PCF8563 from above

8. Please turn off and remove power, start after 3-5 minutes 3-5 °
9. Re-start and open LXTerminal software checking systematic time firstly ;
10. Systematic time 1/10/2014 (As remove power for turn-on ,so BananaPi hardware not including RTC function,so that can't read into RTCstorage. System will check original RTC storage found no original data After Re-start,then taken internet time to Calibrate 1/10/2014) °

```
pi@bananapi ~ $ date  
Wed Oct 1 08:27:22 UTC 2014
```

Before mount RTC\_PCF8563 device, please confirm switch to Root

```
pi@bananapi ~ $ sudo su
```

Mount RTC\_PCF8563 to I2C\_2

```
pi@bananapi: ~  
File Edit Tabs Help  
root@bananapi:/home/pi# echo pcf8563 0x51 > /sys/class/i2c-adapter/i2c-2/new_device
```

Read RTC\_PCF8563 date and read into system

```
pi@bananapi: ~  
File Edit Tabs Help  
root@bananapi:/home/pi# hwclock -s -f /dev/rtc1
```

Finally confirm systematic time , successfully from RTC\_PCF8563 read into system

```
root@bananapi:/home/pi# date  
Mon May 5 01:03:10 UTC 2014
```

11. Above operation process as following:

1. Re-setting systematic time(5/5/2014)and read into RTC\_PCF8563 °
2. Turn-on and remove power , for making Banana Pi's hardware remove pre-setting RTC data °
3. Taken internet time after Re-start(1/10/2014) , we read the date of RTC\_PCF8563,making it write into system date.
4. It verify RTC\_PCF8563 device can be executed normally on BananaPi from above steps °

[www.banana-pi.com](http://www.banana-pi.com)