

RTC Wakeup

Ubuntu

- Operation confirmed with testing in our **XU4/HC1/HC2 on 4.14.0 and 4.9.47-58 and 3.10.106-146.**

You can turn on your **ODROID-XU4/HC1/HC2** when the specific time using **HW RTC(Real Time Clock) on your ODROID board.**

The **RTC Backup Battery** must be connected to ODROID.

Procedure

0. Update your kernel

The kernel version must be higher than **4.9.47-58** or **3.10.106-146.**

```
$ sudo apt-get update && sudo apt-get install linux-image-xu3
$ reboot
```

1. Setup timezone / Sync system time with NTP

- If the ntpdate command doesn't work, try it again after stopping the ntp service.

```
$ sudo service ntp stop
$ sudo ntpdate ntp.ubuntu.com
$ sudo service ntp start
```

```
$ sudo dpkg-reconfigure tzdata
$ sudo apt-get install ntpdate
$ sudo ntpdate ntp.ubuntu.com
```

2. Update HW clock

```
$ sudo hwclock -w
$ sudo hwclock -r && date
Tue Sep  5 11:45:21 2017 .455163 seconds
Tue Sep  5 11:45:22 KST 2017
```

```
# The results of two lines should be almost same.
```

3. Setup wakealarm

```
$ echo | sudo tee /sys/class/rtc/rtc0/wakealarm
$ echo `date +%s` -d '+ 1 minutes' | sudo tee
/sys/class/rtc/rtc0/wakealarm

# Check if "alarm_IRQ" appears to "yes".
$ cat /proc/driver/rtc
rtc_time      : 02:45:30
rtc_date      : 2017-09-05
alm_time      : 02:46:28
alm_date      : 2017-09-05
alarm_IRQ     : yes
alm_pending   : no
update IRQ enabled : no
periodic IRQ enabled : no
periodic IRQ frequency : 1
max user IRQ frequency : 64
24hr         : yes
```

4. Test

```
$ poweroff
```

Then, your ODROID will turn on after 1 minute automatically.

Android

Test

```
root@odroidxu3:/ # echo +30 > /sys/class/rtc/rtc0/wakealarm
[ 283.803585] [c1] s2m_rtc_read_time: 2018/7/11 5:48:28(3)
[ 283.809178] [c1] s2m_rtc_read_time: 2018/7/11 5:48:28(3)
[ 283.813045] [c1] s2m_rtc_set_alarm: 2018/7/11 5:48:58(3)
[ 283.818640] [c1] s2m_rtc_stop_alarm: 2018/7/11 3:21:43(3)
[ 283.827127] [c1] s2m_rtc_start_alarm: 2018/7/11 5:48:58(3)
root@odroidxu3:/ #
```

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