

# Release Note of Android (v2.5)

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## Summary

Release Date	Nov/14/2016 KST
Release Type	Regular release
Release Files	<a href="#">Self-installation Image</a> (MD5SUM: 020243c65f4c81f5de28edfc2f238cdd)

File name : selfinstall-odroidc2-eng-s905\_5.1.1\_master-274-v2.5.img

## New updates

- Added 480cvbs and 576cvbs video option for [composite output](#)
- Fixed the abnormal/blinking cursor on OSD issue in the interlace modes.
- Fixed GPS time sync issue.<http://forum.odroid.com/viewtopic.php?f=137&t=24382>
- Added Adafruit AR-1100 touch screen IDC file.<http://forum.odroid.com/viewtopic.php?f=137&t=24389>
- Fixed the issue of disappearing icons on the right side navigation bar when display density is higher than 180.<http://forum.odroid.com/viewtopic.php?f=113&t=23943#p166244>
- Removed the locked density of 120dpi when the display resolution is lower than 720p.
- Added **evtest** binary for input event tracking.<http://forum.odroid.com/viewtopic.php?f=137&t=24253#p165081>
- Improved ODROID Utility app.
  1. Removed the root access permission.
  2. Changed default download server to Mirror server.<http://forum.odroid.com/viewtopic.php?f=137&t=24435#p166769>
  3. Added Blue LED control UI.<http://forum.odroid.com/viewtopic.php?f=137&t=24397>

## Notes for KODI on 4K/UHD display

<http://codewalkerster.blogspot.kr/2016/02/how-to-install-kodi-v170krypton-for-4k.html>

## Known issue

- In portrait mode, 720×1280 DPI works on 1080×1920 resolution.  
<http://forum.odroid.com/viewtopic.php?f=137&t=21785>
- Audio passthrough for both AC3 and DTS sources where every few seconds there's an audio dropout.

Workaround: Write the codec value to ***/sys/class/audiodsp/digital\_codec*** sysfs file before executing the media player.

## AC3

```
$ echo 2 > /sys/class/audiodsp/digital_codec
```

## DTS

```
$ echo 3 > /sys/class/audiodsp/digital_codec
```

If there is *no sound* or *frequent sound drop* when using HDMI passthrough, then please reboot the system.

## Update Instruction

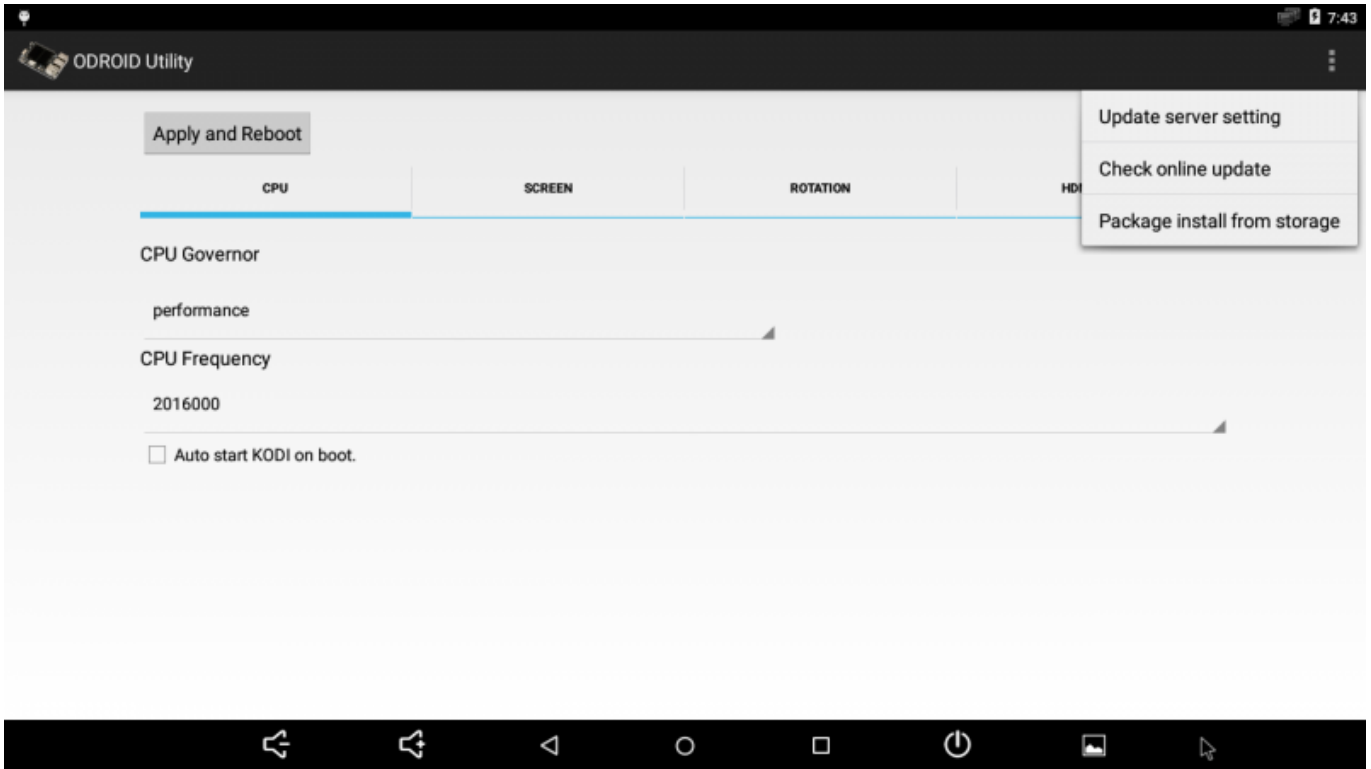
### Self Installation

You can install the release to your [MicroSD](#) or eMMC with the tool **dd** in Linux or **Win32DiskImager** in Windows. Please refer [this](#) for more detail.

We've reported that some of users can not watch Android logo on their TV while installing even though installation is proceeded. So please wait for 5 minutes since power on and red and blue LED is on. If blue led is started blinking then installation is proceeding, ODROID-C2 will reboot when finished.

### Upgrade Installation

Since Android release 2.0, we provide you update package which can upgrade your device without rewrite your SD card or eMMC. This package can be downloaded and upgrade on ODROID Utility.



- Update server setting
  - You can set your own update server and path where you upload your custom update package. Ordinary users does not need to run this and change the detail, it is already set with Hardkernel's official download server for ODROID-C1/C2.
- Check online update
  - This will start to check latest update from Hardkernel's official download server and start to download and install if new version is discovered. Your ODROID-C1/C2 device must be connected through the network.
- Package install from storage
  - This will help you to install the official upgrade package downloaded manually or custom update package. You can store a update file to **external storage** and select it to install.

## Fastboot Update

You can update the release by **fastboot** if you have [MicroSD](#) or eMMC already Android installed. If you have **USB-Serial kit**, you can enter to **Fastboot** mode when you execute the command **fastboot** on U-boot command line. Or if you run execute **reboot fastboot** from Android shell command line, your **ODROID-C2** will reboot and get into **fastboot** mode immediately. You can check if your **ODROID-C2** is attached via USB with the command **fastboot devices** in your desktop.

```
$ sudo fastboot flash bootloader u-boot.bin
$ sudo fastboot flash dtb meson64_odroidc2.dtb
$ sudo fastboot flash boot kernel
$ sudo fastboot flash recovery recovery.img
$ sudo fastboot flash logo hardkernel-720.bmp
$ sudo fastboot flash system rootsystem.img
$ sudo fastboot flash cache cache.img
$ sudo fastboot reboot
```

## How to get the full source code

You can checkout Android source tree, please refer [this page](#) for more detail. **Please note, Android source tree is uploading and would be completed in 1-2 days.**

### Android

```
$ mkdir odroid-c2
$ cd odroid-c2
$ repo init -u https://github.com/hardkernel/android.git -b
s905_5.1.1_master
$ repo sync
$ repo start s905_5.1.1_master --all
```

### ODROID Utility

```
$ packages/apps/Utility
```

## Reference boot.ini

### [boot.ini](#)

```
ODROIDC2-UBOOT-CONFIG

setenv dtbaddr 0x1000000
setenv loadaddr 0x20000000

# Resolution Configuration
# 'hdmimode' must be one of below to configure display resolution
within
# supported by your TV or monitor.
#   Symbol          | Resolution
# -----+-----
#   "480p60hz"      | 720x480 Progressive 60Hz
#   "576p50hz"      | 720x576 Progressive 50Hz
#   "720p60hz"      | 1280x720 Progressive 60Hz
#   "720p50hz"      | 1280x720 Progressive 50Hz
#   "1080p60hz"     | 1920x1080 Progressive 60Hz
#   "1080p50hz"     | 1920x1080 Progressive 50Hz
#   "1080p30hz"     | 1920x1080 Progressive 30Hz
#   "1080p24hz"     | 1920x1080 Progressive 24Hz
#   "1080i60hz"     | 1920x1080 Interlaced 60Hz
#   "1080i50hz"     | 1920x1080 Interlaced 50Hz
#   "2160p60hz"     | 3840x2160 Progressive 60Hz
#   "2160p50hz"     | 3840x2160 Progressive 50Hz
```

```

# "2160p30hz" | 3840x2160 Progressive 30Hz
# "2160p25hz" | 3840x2160 Progressive 25Hz
# "2160p24hz" | 3840x2160 Progressive 24Hz
# "2160p60hz420" | 3840x2160 Progressive 60Hz YCbCr 4:2:
# "2160p50hz420" | 3840x2160 Progressive 50Hz YCbCr 4:2:
# "640x480p60hz" | 640x480 Progressive 60Hz
# "800x480p60hz" | 800x480 Progressive 60Hz
# "800x600p60hz" | 800x600 Progressive 60Hz
# "1024x600p60hz" | 1024x600 Progressive 60Hz
# "1024x768p60hz" | 1024x768 Progressive 60Hz
# "1280x800p60hz" | 1280x800 Progressive 60Hz
# "1280x1024p60hz" | 1280x1024 Progressive 60Hz
# "1360x768p60hz" | 1360x768 Progressive 60Hz
# "1440x900p60hz" | 1440x900 Progressive 60Hz
# "1600x900p60hz" | 1600x900 Progressive 60Hz
# "1600x1200p60hz" | 1600x1200 Progressive 60Hz
# "1680x1050p60hz" | 1680x1050 Progressive 60Hz
# "1920x1200p60hz" | 1920x1200 Progressive 60Hz
# "2560x1080p60hz" | 2560x1080 Progressive 60Hz
# "2560x1440p60hz" | 2560x1440 Progressive 60Hz
# "2560x1600p60hz" | 2560x1600 Progressive 60Hz
# "3440x1440p60hz" | 3440x1440 Progressive 60Hz
setenv hdmimode "1080p60hz"

setenv rootopt "root=/dev/mmcblk0p2 rw init=/init rootwait"
setenv consoleopt "console=ttyS0,115200"
setenv androidopt "androidboot.hardware=odroidc2
androidboot.serialno=${fbt_id#}"
setenv logopt "osd1,loaded,${fb_addr},${hdmimode}"
setenv selinuxopt "androidboot.selinux=disabled"

# HDMI/DVI Mode Configuration
# This will enforce the signal type of display
# "hdmi" - For HDMI interface
# "dvi" - For DVI interface
setenv vout_mode "hdmi"

# HPD enable/disable option
setenv disablehpd "false"

# Overscan offset configuration
# All offsets are zero and can be tuned by manual or ODR0ID Utility
setenv overscan_top "0"
setenv overscan_left "0"
setenv overscan_bottom "0"
setenv overscan_right "0"
setenv led_onoff "on"
suspend_hdmiphy=

# max cpu frequency in dvfs table / in MHz unit

```

```
# setenv max_freq "2016" # 2.016GHz
# setenv max_freq "1944" # 1.944GHz
# setenv max_freq "1944" # 1.944GHz
# setenv max_freq "1920" # 1.920GHz
# setenv max_freq "1896" # 1.896GHz
# setenv max_freq "1752" # 1.752GHz
# setenv max_freq "1680" # 1.680GHz
# setenv max_freq "1656" # 1.656GHz
setenv max_freq "1536" # 1.536GHz

# max cpu-cores
# setenv maxcpus "1"
# setenv maxcpus "2"
# setenv maxcpus "3"
setenv maxcpus "4"

setenv bootargs "${rootopt} ${consoleopt} hdmimode=${hdmimode}
hdmitx=${ceccconfig} vout=${vout_mode} disablehpd=${disablehpd}
logo=${logoopt} ${androidopt} ${selinuxopt}
suspend_hdmiphy=${suspend_hdmiphy} led_onoff=${led_onoff}
max_freq=${max_freq} maxcpus=${maxcpus}"

save

showlogo ${hdmimode}
#usb pwren

movi read dtb ${dtbaddr}
movi read boot ${loadaddr}
booti ${loadaddr} - ${dtbaddr}
```

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