

Release Note of Android Pie (20220624)

Summary

Release Date	Jun/24/2022 KST
Release Type	Preview release
Release Files	Self-installation Image (MD5SUM: a63598407a25f802ba96cdc7de67bbf9)
	Fastboot update (MD5SUM: 470ee566d80982a4f6275014a1853831)

File name : [selfinstall-odroidn2-172-64bit-20220624.img.xz](#)

Official **Mirrors** by mdrjr

In US

<http://www.odroid.in/mirror/dn.odroid.com/S922X/ODROID-N2/Android>

In Germany

<https://de.eu.odroid.in/?directory=.%2Fmirror%2Fdn.odroid.com%2FS922X%2FODROID-N2%2FAndroid%2F>

New updates

- Fix serial baud rate not being set lower than 2400.
 - <https://forum.odroid.com/viewtopic.php?f=207&t=44752&p=351208&hilit=uart#p351208>
- Fix UART bug for odroidThings.
 - [Uart Callback Example](#)

Known issues & Tips

- 64bit Pico package [OpenGapps](#) must be downloaded and installed. Otherwise, the installation will be failed.
- Petitboot user must be required to update newer version (https://wiki.odroid.com/odroid-n2/os_images/petitboot#petitboot_dev20200511)

OS installation(flashing)

You can install this OS image into your MicroSD or eMMC with [this guide](#).



A few users reported they couldn't see the Android logo on their TV while installing even though installation proceeds. If the red LED is on and the blue LED is blinking periodically, this is the sign that Android is running. So please keep your device on for 5~10 minutes as is, later than when Android installer finishes the installation it will restart the ODROID-N2.

Reference boot.ini

boot.ini

```
ODROIDN2-UBOOT-CONFIG

setenv bootlabel "Android Pie (64Bit)"

#####
# Default values
#####
setenv hdmimode "1080p60hz"
setenv voutmode "hdmi"
setenv display_autodetect "true"
setenv backlight_pwm "yes"
setenv zoom_rate "100"
setenv colorattribute "444,8bit"
setenv osd_reverse "0"
setenv video_reverse "0"
setenv suspend_hdmiphy "1"
setenv cvbmode "576cvbs"
setenv disablehpd "false"
setenv disable_vu7 "false"
setenv touch_invert_x "false"
setenv touch_invert_y "false"
setenv test_mt_vid "0000"
setenv test_mt_pid "0000"
setenv max_freq_big "1800"
setenv max_freq_little "1896"
setenv enable_wol "0"
setenv heartbeat "1"
setenv sg_tablesize "2"
setenv prevent_sleep "0"

#####
# ini load & read
#####

setenv iniloaddr "0x4001000"
load ${devtype} ${devnum} ${iniloaddr} env.ini
ini display ${iniloaddr}
ini cpu ${iniloaddr}
ini etc ${iniloaddr}

#####
# Boot args
#####

# Init args
```

```
setenv rootopt "rootfstype=ramfs init=/init"
setenv consoleopt "console=ttyS0,115200n8 no_console_suspend
earlyprintk=aml-uart,0xff803000 quiet"
setenv ramoopspt "ramoops.pstore_en=1 ramoops.record_size=0x8000
ramoops.console_size=0x4000"
setenv touchopt "touch_invert_x=${touch_invert_x}
touch_invert_y=${touch_invert_y}"
setenv displayopt "colorattribute=${colorattribute}
disablehpd=${disablehpd}"
setenv testmtopt "test_mt_vid=${test_mt_vid} test_mt_pid=${test_mt_pid}
backlight_pwm=${backlight_pwm}"
setenv androidopt "androidboot.selinux=permissive
androidboot.firstboot=${firstboot} jtag=disable
androidboot.hardware=odroidn2 otg_device=1 buildvariant=eng"
setenv miscopt "disable_vu7=${disable_vu7} ${touchopt}
zoom_rate=${zoom_rate} ${testmtopt} suspend_hdmiphy=${suspend_hdmiphy}
prevent_sleep=${prevent_sleep} usb-xhci.tablesize=${sg_tablesize}"

# dtbs & boot addr
setenv dtb_mem_addr 0x10000000
setenv dtboaddr 0x1080000
setenv cramfsaddr 0x20000000
setenv loadaddr 0x1080000

# logo
setenv display_layer "osd0"
setenv fb_addr "0x3d800000"
setenv logo "${display_layer},loaded,${fb_addr}"

# Boot Arguments
if test "${display_autodetect}" = "true"; then
    hdmitx edid;
fi

# Set boot device
if test "${devtype}" = "mmc"; then
    setenv boot_device "mmcblk${devnum}"
else
    if test "${devnum}" = "0"; then
        setenv boot_device "sda"
    else
        setenv boot_device "sdb"
    fi
fi

# TODO -> if test "${display_autodetect}" = "true"; then usb pwren;
hdmitx edid; fi
if test "${hdmimode}" = "custombuilt"; then setenv cmode
"modeline=${modeline} customwidth=${customwidth}
customheight=${customheight}"; fi
```

```
setenv initargs "${rootopt} ${consoleopt} ${ramoopspt}
max_freq_a73=${max_freq_big} max_freq_a53=${max_freq_little} ${cmode}
${miscpt} boot_device=${boot_device}"

movi read dtbs 0 ${cramfsaddr}
cramfsload ${dtb_mem_addr} meson64_odroidn2_android.dtb
fdt addr ${dtb_mem_addr}
fdt resize ${overlays_resize}
for overlay in ${overlays}; do
    cramfsload ${dtboaddr} ${overlay}.dtbo
    fdt apply ${dtboaddr}
done

# Load opp table
cramfsload ${dtboaddr} odroid${variant}-opp.dtbo
fdt apply ${dtboaddr}

if test ${reboot_mode} = "factory_reset" ; then
    if test ${hdmimode} == 2160p*; then setenv hdmimode 1080p60hz; fi;
    setenv recoveryargs "recovery_path=recovery recovery_offset=0"
    setenv bootargs "${initargs} ${androidopt} ${displayopt}
logo=${logo} cvbsmode=${cvbsmode} hdmimode=${hdmimode}
voutmode=${voutmode} cvbscable=${cvbscable} osd_reverse=${osd_reverse}
video_reverse=${video_reverse} gpiopower=${gpiopower}
enable_wol=${enable_wol} ${recoveryargs}"
    movi read recovery 0 ${loadaddr}
else
    setenv bootargs "${initargs} ${androidopt} ${displayopt}
logo=${logo} cvbsmode=${cvbsmode} hdmimode=${hdmimode}
voutmode=${voutmode} cvbscable=${cvbscable} osd_reverse=${osd_reverse}
video_reverse=${video_reverse} gpiopower=${gpiopower}
enable_wol=${enable_wol}"
    movi read boot 0 ${loadaddr}
fi

if test "${heartbeat}" = "0"; then
    fdt set /leds/blueled linux,default-trigger "none";
fi
booti ${loadaddr} - ${dtb_mem_addr}
bootm
```

Reference env.ini

[env.ini](#)

```
[display]
```

```

; Resolution Configuration
; 'hdmimode' & 'outputmode' must be one of below to configure display
resolution within
; supported by your TV or monitor.
; And both of values MUST be same.

```

```

;+-----+-----+
;| Symbol          | Resolution          |
;+-----+-----+
;| "480x320p60hz"  | 480x320 Progressive 60Hz |
;| "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 |
;| "smpte24hz"     | 3840x2160 Progressive 24Hz SMPTE |
;| "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 |
;+-----+-----+

```

```
hdmimode="1080p60hz"
```

```

; Custom modeline
;
; hdmimode="custombuilt"
; 2560x1440p60hz sample

```

```
modeline="2560,1440,241500,88800,60,2560,2608,2640,2720,1440,1442,1447,
1481,1,1,1"
customwidth="2560"
customheight="1440"

;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; voutmode
; hdmi or dvi
voutmode="hdmi"

;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; Display Auto Detection
; "false" or "true"
display_autodetect="true"

;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; Auto Framerate
autoFramerate="false"

;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; weather screen adjust by zoom or align
adjustScreenWay="alignment"

;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; Display Zoom Rate
zoom_rate="100"

;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; Screen alignment
screenAlignment="0 0 0 0"

colorattribute="444,8bit"

osd_reverse="0"
video_reverse="0"
suspend_hdmiphy="1"

;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; CVBS encoder : 480CVBS or 576CVBS
;+-----+-----+
;| Value      | target      |
;+-----+-----+
;| "480cvbs"  | NTSC, 480i  |
;| "576cvbs"  | PAL, 576i   |
;+-----+-----+
cvbsmode="576cvbs"

;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; HPD enable/disable option
disablehpd="false"
```

```

////////////////////////////////////
; skip CEC check conflict option
ignorecec="false"

////////////////////////////////////
; Disable VU7
disable_vu7="false"

////////////////////////////////////
; invert touch screen x,y
touch_invert_x="false"
touch_invert_y="false"

test_mt_vid="0000"
test_mt_pid="0000"

////////////////////////////////////
; Prevent screen sleep
prevent_sleep="1"

[cpu]

////////////////////////////////////
; Max cpu frequency sets
;+-----+-----+-----+
;| Value | Frequency | CPU |
;| Value | Frequency | big | LITTLE |
;+-----+-----+-----+
;| "2400" | 2.400GHz | N2+ | |
;| "2304" | 2.304GHz | N2+ | |
;| "2208" | 2.208GHz | N2+ | |
;| "2100" | 2.100GHz | N2+ | |
;| "2016" | 2.016GHz | N2+ | N2+
;| "1992" | 1.992GHz | N2 | N2
;| "1932" | 1.932GHz | N2 | |
;| "1920" | 1.920GHz | N2 | |
;| "1908" | 1.908GHz | N2/N2+ | N2+
;| "1896" | 1.896GHz | | N2
;| "1800" | 1.800GHz | N2/N2+ | N2+
;| "1704" | 1.704GHz | N2/N2+ | N2/N2+
;+-----+-----+-----+

max_freq_big="1800"
max_freq_little="1896"

////////////////////////////////////
; big, Little governor
////////////////////////////////////
; "interactive"
; "performance"
; "schedutil"

```

```
governor_big="performance"
governor_little="performance"

[etc]

;;;;;;;;;;;;;
; Wake on Lan
enable_wol="0"

;;;;;;;;;;;;;
; Gpio power key
;;;;;;;;;;;;;
; GPIOX.3 (Pin 11) of
; 2x20 pins connector
;gpiopower="479"

heartbeat="1"
sg_tablesize="2"

;;;;;;;;;;;;;
; Enable backlight_pwm
; example)
; overlays="i2c0 i2c1 spi0 uart0 pwm_cd pwm_ef pwm_backlight"

;;;;;;;;;;;;;
; Enable ODR0ID-VU7C
; example)
; hdmimode="1024x600p60hz"
; display_autodetect="false"
; overlays="i2c0 i2c1 spi0 pwm_cd pwm_ef display_vu7c"

overlays="i2c0 i2c1 spi0 uart0 pwm_cd pwm_ef"
overlays_resize=16384
```

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