'ODROID-N2' on this page refers to the ODROID-N2 series (**N2**, **N2+**, **N2L**).

# HDMI Overscan

- Operation confirmed on the following models.
  - Odroid-N2
  - Odroid-C4
- Make sure you use our Ubuntu Mate image. We cannot sure it can be applied on the other desktop environment.

## Set overscan rate

### By editing the configuration file

You can set the overscan rate by editing **/media/boot/config.ini** file.

Open the **config.ini** file and you can see this part.

target

```
; Overscan percentage
; This value scales down the actual screen size by the percentage below
; valid range is 80 to 100
overscan=100
```

Edit the value and reboot to take effect.

### By editing the framebuffer settings

#### Create a script file

**If the editing configuration file doesn't work** in your environment, you can try editing the framebuffer settings by yourself.

Thanks to our forum user @RolandE, we can reduce several jobs to one script file.

Create a shell script file that has the following contents.

target

```
vi ~/hdmi_overscan.sh
```

```
#!/bin/bash

X=1920
Y=1080
BPP=32
FRAME_SIZE=50

M="0 0 $(($X - 1)) $(($Y - 1))"
Y_VIRT=$(($Y * 2))
fbset -fb /dev/fb0 -g $X $Y $X $Y_VIRT $BPP
echo $mode > /sys/class/display/mode
echo 0 > /sys/class/graphics/fb0/free_scale
echo 1 > /sys/class/graphics/fb0/freescale_mode
echo $M > /sys/class/graphics/fb0/free_scale_axis
# change for override with a frame of 50 pixel
# echo $M > /sys/class/graphics/fb0/window_axis
echo 0 > /sys/class/graphics/fb1/free_scale
echo 1 > /sys/class/graphics/fb1/freescale_mode
NEW_M="$FRAME_SIZE $FRAME_SIZE $(($X - 1 -$FRAME_SIZE)) $(($Y - 1 -
$FRAME_SIZE))"
echo $NEW_M > /sys/class/graphics/fb0/window_axis
echo 0x10001 > /sys/class/graphics/fb0/free_scale
```

This file has four constant values, X, Y, BPP, and **FRAME_SIZE**.

- X: Width resolution
- Y: Height resolution
- BPP: Color depth
- FRAME_SIZE: Values that how much the letterbox increased

Set the values for your environment.

Grant permission to execute the script file.

target

```
chmod +x ~/hdmi_overscan.sh
```

Execute the script file then you can see the screen size reduced with the letterbox on the four edges of the screen.

target

```
. ~/hdmi_overscan.sh
```

If the screen size still doesn't fit into the actual screen, find your best position by editing **FRAME_SIZE** value.

#### Run automatically at boot time

To apply the script to every boot time, edit **/etc/rc.local** to run the script file.

target

```
sudo vi /etc/rc.local
```

Put a command that runs the script file into the right before **exit** command. Then it will look like this.

Assume that the script file located in the root's home directory.

```
#!/bin/bash

. /root/hdmi_overscan.sh

exit 0
```

## References

* https://forum.odroid.com/viewtopic.php?p=329862#p329862

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