How to Install ODROID-VU(5/7/7+) Touch Screen Driver

- Operation confirmed with Ubuntu 22.04
- Proceed after having done **apt update && apt full-upgrade**, and **apt install build-essential dkms**.

- You have to do the steps **Driver Install** and **Disable USB HID(Human Interface Device)** to make it works properly.

Driver Installation

Select one between the 2 methods and proceed to install ODROID-VU(5/7/7+) Touch Driver.

1. Install Debian Package

- Download: dwav-usb-mt-dkms_1.0.0_amd64.deb
- Install

  target

```
odroid@odroid-H4:~$ cd Downloads
odroid@odroid-H4:~/Downloads$ sudo dpkg -i dwav-usb-mt-
dkms-1.0.0_amd64.deb
```

- Uninstall

  target

```
odroid@odroid-H4:~/Downloads$ sudo dpkg -r dwav-usb-mt-dkms
```

2. Build Driver Sources

- Download:

  dwav-usb-mt-1.0.0.tar.gz

- Build & Install

  target

```
odroid@odroid-H4:~$ cd Downloads
odroid@odroid-H4:~/Downloads$ tar xfz dwav-usb-mt-1.0.0.tar.gz
odroid@odroid-H4:~/Downloads$ sudo cp -a dwav-usb-mt-1.0.0
/usr/src
odroid@odroid-H4:~/Downloads$ sudo dkms add -m dwav-usb-mt -v
1.0.0
odroid@odroid-H4:~/Downloads$ sudo dkms build -m dwav-usb-mt -v
1.0.0
odroid@odroid-H4:~/Downloads$ sudo dkms install -m dwav-usb-mt -v
1.0.0
```

- Uninstall

  target

```
odroid@odroid-H4:~/Downloads$ sudo dkms remove -m dwav-usb-mt -v
1.0.0 --all
```

Disable USB HID Driver

- ODROID-VU(5/7/7+) uses only the dwav-usb-mt driver, so you have to add exception for preventing from using USB HID driver.
- You can check if USB HID is disabled with the following commands.

  target

```
odroid@odroid-H4:~$ cat
/sys/module/usbhid/parameters/quirks

# If it works
0x16b4:0x0704:0x04,0x16b4:0x0705:0x04,(null),(null)
# If it doesn't work
(null),(null),(null),(null)
```

- See the contents of /sys/modules/usbhid/parameters/quirks to check the device ID to be ignored is registered.

Select one between the 2 methods and proceed to disable USB HID.

1. Register USB HID quirks option to Linux GRUB

- Edit /etc/default/grub file.

  target

```
odroid@odroid-H4:~$ sudo vi /etc/default/grub
```

- Insert USB HID quirks option to the last of **GRUB_CMDLINE_LINUX_DEFAULT** or **GRUB_CMDLINE_LINUX**.
  Check **usbhid.quirks=0x16b4:0x0704:0x04,0x16b4:0x0705:0x04**.

  target

```
# If you change this file, run 'update-grub' afterwards to update
# /boot/grub/grub.cfg.
# For full documentation of the options in this file, see:
#   info -f grub -n 'Simple configuration'

GRUB_DEFAULT=0
GRUB_TIMEOUT_STYLE=hidden
GRUB_TIMEOUT=10
GRUB_DISTRIBUTOR=`lsb_release -i -s 2> /dev/null || echo Debian`
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash"

# To all ODROID-VU series ignore usbhid device setup
GRUB_CMDLINE_LINUX="usbhid.quirks=0x16b4:0x0704:0x04,0x16b4:0x0705
:0x04"

# Uncomment to enable BadRAM filtering, modify to suit your needs
# This works with Linux (no patch required) and with any kernel
that obtains
# the memory map information from GRUB (GNU Mach, kernel of
FreeBSD ...)
#GRUB_BADRAM="0x01234567,0xfefefefe,0x89abcdef,0xefefefef"
```

- Update GRUB.

  target

```
odroid@odroid-H4:~$ sudo update-grub
odroid@odroid-H4:~$ reboot
```

2. Add USB HID module options

- Create **odroid-usbhid.conf** file contains USB HID quirks option to the /etc/modprobe.d/ directory.

  target

```
odroid@odroid-H4:~$ echo "options usbhid quirks=0x16b4:0x0704:0x04,0x16b4:0x0705:0x04" | sudo tee /etc/modprobe.d/odroid-usbhid.conf
```

- Update ramdisk to apply.

  target

```
odroid@odroid-H4:~$ sudo update-initramfs -u -k $(uname -r)
odroid@odroid-H4:~$ reboot
```