

# Fxxx\_GPIO\_Driver\_User\_Guide

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# 1. Install Ubuntu 16.04 (64-bit)

Step 1. Install Ubuntu 16.04.4 (64-bit), and check the version

\$ lsb\_release -a

```
aaeon@aaeon-desktop:~$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description:   Ubuntu 16.04.4 LTS
Release:      16.04
Codename:     xenial
```

Step 2. Check the Ubuntu kernel version (4.13.0)

\$ uname -a

```
aaeon@aaeon-desktop:~$ uname -a
Linux aaeon-desktop 4.13.0-36-generic #40~16.04.1-Ubuntu SMP Fri Feb 16 23:25:58
UTC 2018 x86_64 x86_64 x86_64 GNU/Linux
```

## 2. Install Fxxx GPIO driver

Step 1. Move the base driver file to the directory of your choice.

**(You need to check your driver file “aaeon\_Fxxx\_gpio\_VX.X.X.X”, and we use “aaeon\_Fxxx\_gpio\_V1.0.0.0” as the sample.)**

For example, use ‘/home/username/driver/’

Step 2. Install Fxxx GPIO driver

- \$ cd ~/driver/aaeon\_Fxxx\_gpio\_V1.0.0.0/
- \$ chmod +x install.sh
- \$ sudo ./install.sh X  
(X is SIO chip number. 0: f75113, 1: f81866, 2: f81966, 3:f81801)

```
aaeon@aaeon-desktop:~$ cd ~/driver/aaeon_Fxxx_gpio_V1.0.0.0/
aaeon@aaeon-desktop:~/driver/aaeon_Fxxx_gpio_V1.0.0.0$ chmod +x install.sh
aaeon@aaeon-desktop:~/driver/aaeon_Fxxx_gpio_V1.0.0.0$ sudo ./install.sh 1
-----
Install AAEON Fxxx GPIO Driver.
-----
Check old driver and unload it.
Build the module and install.
Update driver.
Load module: gpio-fxxx .
Add driver to init.
Completed.
```

- \$ sudo reboot

Step 3. Check the “/sys/class/gpio” path

\$ ll /sys/class/gpio/

```
aaeon@aaeon-desktop:~$ ll /sys/class/gpio/
total 0
drwxr-xr-x  2 root root    0 六  26 11:54 ./
drwxr-xr-x 68 root root    0 六  26 11:33 ../
--w-----  1 root root 4096 六  26 11:33 export
lrwxrwxrwx  1 root root    0 六  26 11:54 gpiochip0 -> ../../devices/platform/gpio-fxxx/gpio/
gpiochip0/
lrwxrwxrwx  1 root root    0 六  26 11:54 gpiochip10 -> ../../devices/platform/gpio-fxxx/gpio/
gpiochip10/
lrwxrwxrwx  1 root root    0 六  26 11:54 gpiochip20 -> ../../devices/platform/gpio-fxxx/gpio/
gpiochip20/
lrwxrwxrwx  1 root root    0 六  26 11:54 gpiochip30 -> ../../devices/platform/gpio-fxxx/gpio/
gpiochip30/
lrwxrwxrwx  1 root root    0 六  26 11:54 gpiochip40 -> ../../devices/platform/gpio-fxxx/gpio/
gpiochip40/
lrwxrwxrwx  1 root root    0 六  26 11:54 gpiochip50 -> ../../devices/platform/gpio-fxxx/gpio/
gpiochip50/
lrwxrwxrwx  1 root root    0 六  26 11:54 gpiochip60 -> ../../devices/platform/gpio-fxxx/gpio/
gpiochip60/
lrwxrwxrwx  1 root root    0 六  26 11:54 gpiochip70 -> ../../devices/platform/gpio-fxxx/gpio/
gpiochip70/
lrwxrwxrwx  1 root root    0 六  26 11:54 gpiochip80 -> ../../devices/platform/gpio-fxxx/gpio/
gpiochip80/
--w-----  1 root root 4096 六  26 11:33 unexport
```

### 3. Access GPIO example

Step 1. Change permission for “gpiotest\_XXX.sh”

**(You need to change the XXX to your device name, and check your device manual to know about GPIO position on your device Digital I/O Ports)**

For example, we use BOXER\_6640 device as the sample

```
$ cd ~/driver/aaeon_Fxxx_gpio_V1.0.0.0/example/  
$ chmod +x gpiotest_BOXER_6640.sh
```

```
aaeon@aaeon-desktop:~$ cd ~/driver/aaeon_Fxxx_gpio_V1.0.0.0/example/  
aaeon@aaeon-desktop:~/driver/aaeon_Fxxx_gpio_V1.0.0.0/example$ chmod +x gpiotest_BOXER_6640.sh
```

Step 3. Run “gpiotest\_BOXER\_6640.sh”, as show bellows

- a. Set GPIO as Digital Input (Assume DIO 0)

```
$ sudo ./gpiotest_BOXER_6640.sh 0 in
```

```
aaeon@aaeon-desktop:~/driver/aaeon_Fxxx_gpio_V1.0.0.0/example$ sudo ./gpiotest_BOXER_6640.sh 0 in  
GPIO has been exported.  
in  
1
```

- b. Set GPIO as Digital Output (Assume DIO 0 and Low potential)

```
$ sudo ./gpiotest_BOXER_6640.sh 0 out 0
```

```
aaeon@aaeon-desktop:~/driver/aaeon_Fxxx_gpio_V1.0.0.0/example$ sudo ./gpiotest_BOXER_6640.sh 0 out 0  
GPIO has been exported.  
out  
0
```

- c. Set GPIO as Digital Output (Assume DIO 0 and High potential)

```
$ sudo ./gpiotest_BOXER_6640.sh 0 out 1
```

```
aaeon@aaeon-desktop:~/driver/aaeon_Fxxx_gpio_V1.0.0.0/example$ sudo ./gpiotest_BOXER_6640.sh 0 out 1  
GPIO has been exported.  
out  
1
```