FINTEK

F81232/F81532A/534A/ 535/536 Driver Installation Guide for Linux

v1.16

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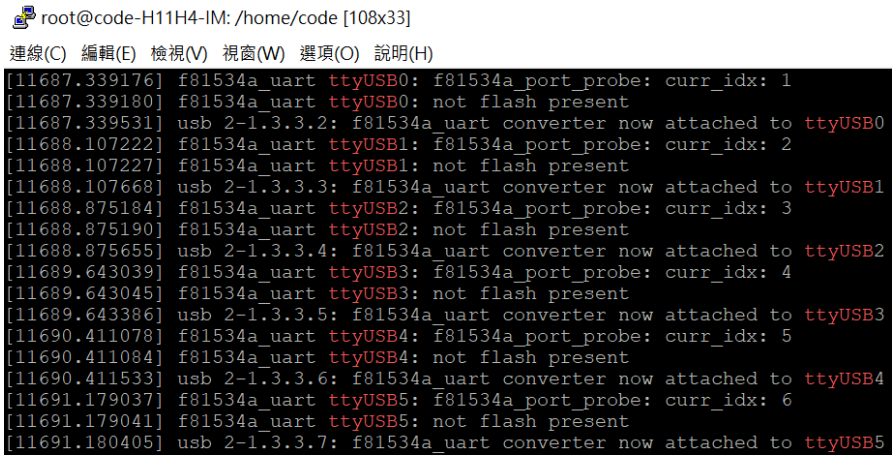
1. Preliminary

This document is for Fintek F81232/F81532A/F81534A/535/536 driver installation in Linux.

2. Building Driver (Debian / Ubuntu based)

1. sudo su
2. apt-get update
3. apt-get install build-essential gcc libncurses5-dev
4. Unzip the driver.zip
5. cd driver
6. make clean ; make ; make install
7. modprobe usbserial
8. rmmod f81232 ; insmod f81232.ko
9. check new port added by “dmesg | grep ttyUSB”.



3. Q&A

Q1: The F81232/F81532A/534A/535/536 will send strange data to make PassMark BurnInTest or our serial port application failed (Console or other usage).

A1: You can use “ps aux | grep Modem” in console to identify the service “ModemManager” is running.

```
root@code-VirtualBox:/home/code/ddd/hpeter/fintek/Usb4Uart/Android/Driver/Usb4Uart# ps aux | grep Modem
root      24367  0.6  0.6  37412  6508 ?        Ssl  13:14   0:10 /usr/sbin/ModemManager
root      24591  0.0  0.0   6160   852 pts/7    S+   13:41   0:00 grep --color=auto Modem
root@code-VirtualBox:/home/code/ddd/hpeter/fintek/Usb4Uart/Android/Driver/Usb4Uart#
```

It will probe all serial port by AT Command to find 3G Modem when this service running, It’s also break normal serial port activity. We can add F81532A/534A/535/536 to the blacklist of ModemManager via following step.

1. Open “/lib/udev/rules.d/77-mm-usb-device-blacklist.rules”
2. Add the string upper then “mm_usb_device_blacklist_end”
   ATTRS{idVendor}=="2c42", ATTRS{idProduct}=="1632", ENV{ID_MM_DEVICE_IGNORE}="1"
   ATTRS{idVendor}=="2c42", ATTRS{idProduct}=="1634", ENV{ID_MM_DEVICE_IGNORE}="1"
   ATTRS{idVendor}=="2c42", ATTRS{idProduct}=="1635", ENV{ID_MM_DEVICE_IGNORE}="1"
   ATTRS{idVendor}=="2c42", ATTRS{idProduct}=="1636", ENV{ID_MM_DEVICE_IGNORE}="1"
   ATTRS{idVendor}=="1934", ATTRS{idProduct}=="0706", ENV{ID_MM_DEVICE_IGNORE}="1"
3. Save file and re-plug F81232/F81532A/534A/535/536 again. The ModemManager will not probe our product.

```
ATTRS{idVendor}=="1d9d", ATTRS{idProduct}=="1011", ENV{ID_MM_DEVICE_IGNORE}="1"

LABEL="mm_usb_device_blacklist_end"
```

Q2: How to use serial mouse in CentOS7

A2:

1. Copy serialmouse.service to /etc/systemd/system/
   If the target is Logitech mouse, using –intellimouse, otherwise using -msc.

```
[root@localhost ~]# cat /etc/systemd/system/serialmouse.service
[Unit]
Description=Enable Serial Mouse in X

[Service]
ExecStart=/usr/bin/inputattach --intellimouse /dev/ttyUSB0
#ExecStart=/usr/bin/inputattach -msc /dev/ttyUSB0

[Install]
WantedBy=multi-user.target
```

2. yum install linuxconsoletools
3. systemctl enable serialmouse
4. reset system

Q3: How to use serial console in CentOS7

A3: The following examples will use ttyUSB0 & 38400n1 to output console.

1. Change kernel parameter as following and re-generate grub2.cfg:
   BOOT_IMAGE=/vmlinuz-3.10.0-693.el7.x86_64 root=/dev/mapper/centos-root ro crashkernel=auto rd.lvm.lv=centos/root rd.lvm.lv=centos/swap console=tty0 console=ttyUSB0,38400n8 selinux=0
2. Modify 77-mm-usb-device-blacklist.rules as Q1/A1.
3. Enable the login with systemd:
   1. systemctl enable serial-getty@ttyUSB0.service
   2. systemctl start serial-getty@ttyUSB0.service
      We can use CTRL-C to break the operation if step2 takes too long time.
4. Reboot. The console & login prompt will output to ttyUSB0 with 38400 8n1.

Q4: Can't load driver when system reboot with Kylin (銀河麒麟).

A4: Run:

sudo kysec_set -n exectl -v original /lib/modules/`uname -r`/updates/f81232.ko

to entrust the driver and reboot.

Q5: How to disable (not enable) com port.

A5: We can use module parameter “f81534a_disable_ports” to control which port will disable (not enable) by driver generator with bit-wise data.

```
rmmod f81232; insmod f81232.ko f81534a_disable_ports=0xffe # only generate port 1
rmmod f81232; insmod f81232.ko f81534a_disable_ports=0xffd # only generate port 2
```

If we want to apply the parameter (only generate port 1) on boot, please following the instructions.

1. Install the driver.
2. sudo su
3. Add and edit the file in “/etc/modprobe.d/f81534a.conf” with the content
   options f81232 f81534a_disable_ports=0x0ffe
4. save & reboot
5. The driver will only generate the first port.