Serial Port Console Redirection on ODROID-H4

The serial redirection allows video and keyboard redirection via serial ports. Video redirection via serial port is commonly used on “headless” systems which run without the need for a VGA video display adapter.

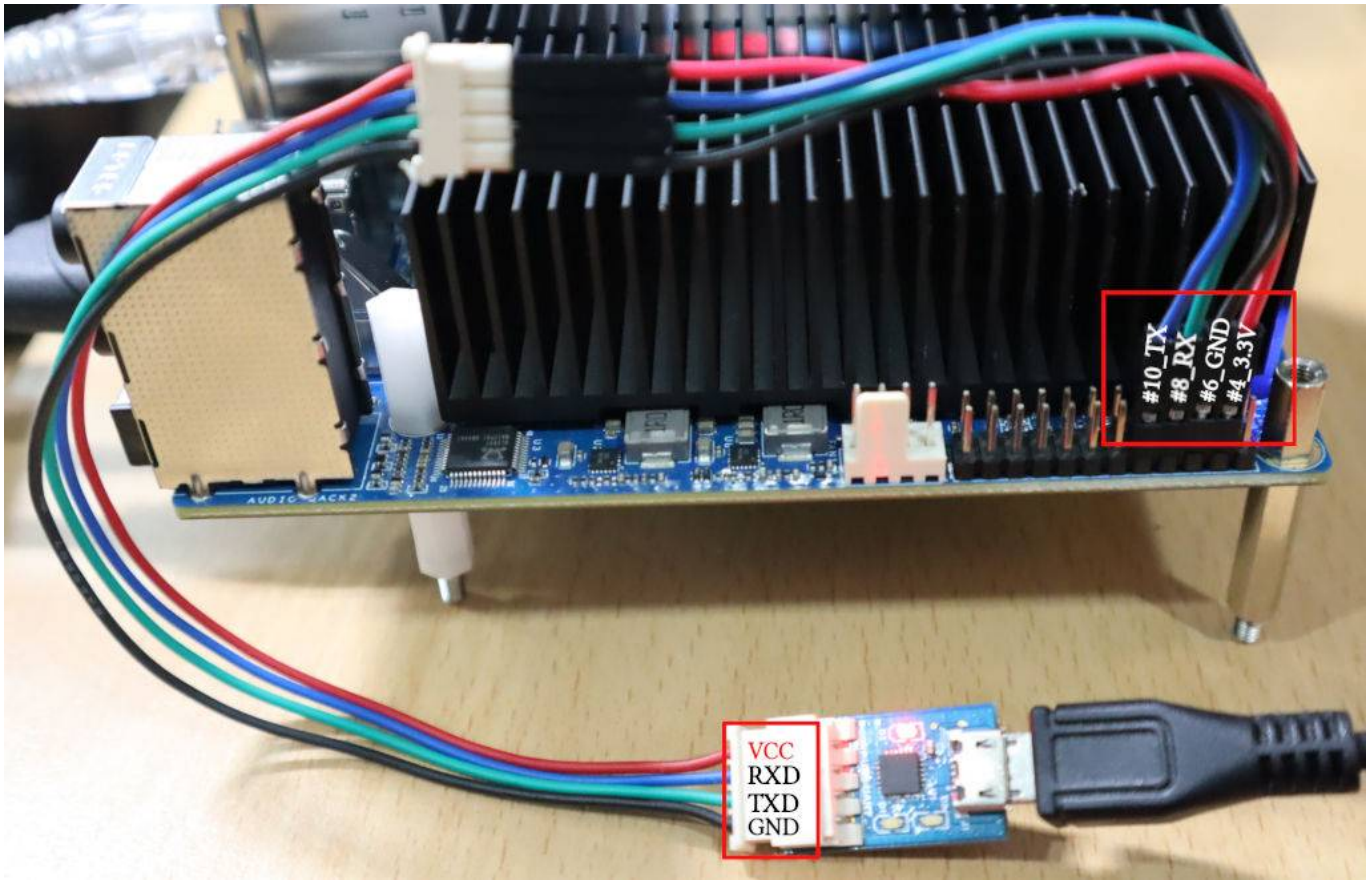
Requirements

- ODROID-H4
- USB-UART2 Module Kit
- Male-Female jumper wires
- Host PC

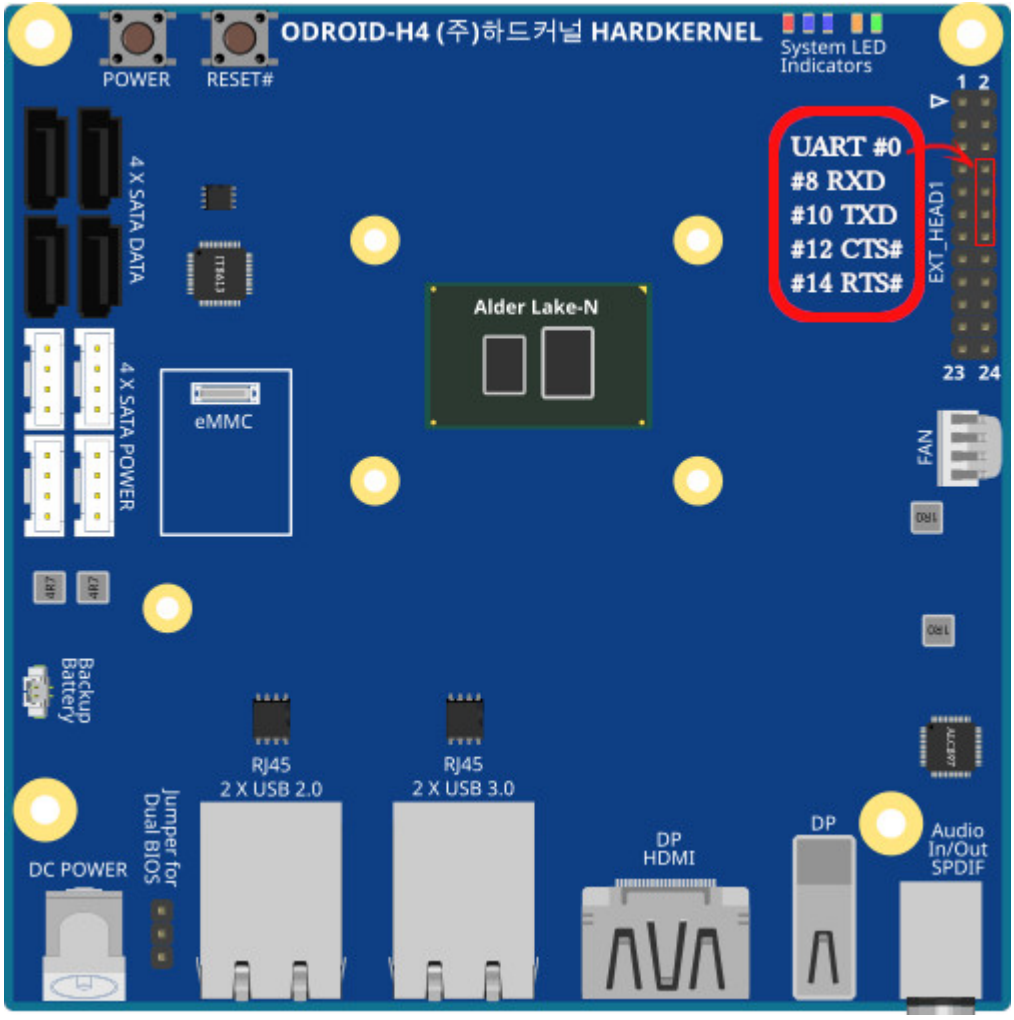
Wiring

You should connect a USB-UART module connected to your HOST-PC to a 24-pin I/O port of ODROID-H4.
It is important to cross the RX/TX of the UART module and the RX/TX of the 24 pin I/O port of ODROID-H4.

You need to check twice when your wiring.
The “UART:TX” means the TX on UART side and the “H4:TX” means the TX on H4 side. You must cross these pins each other like the picture below. The following example is a connection to the COM0 port of ODROID-H4.
UART:Tx - H4:Rx
UART:Rx - H4:Tx



Please refer to the picture and the table for using the other COM ports.



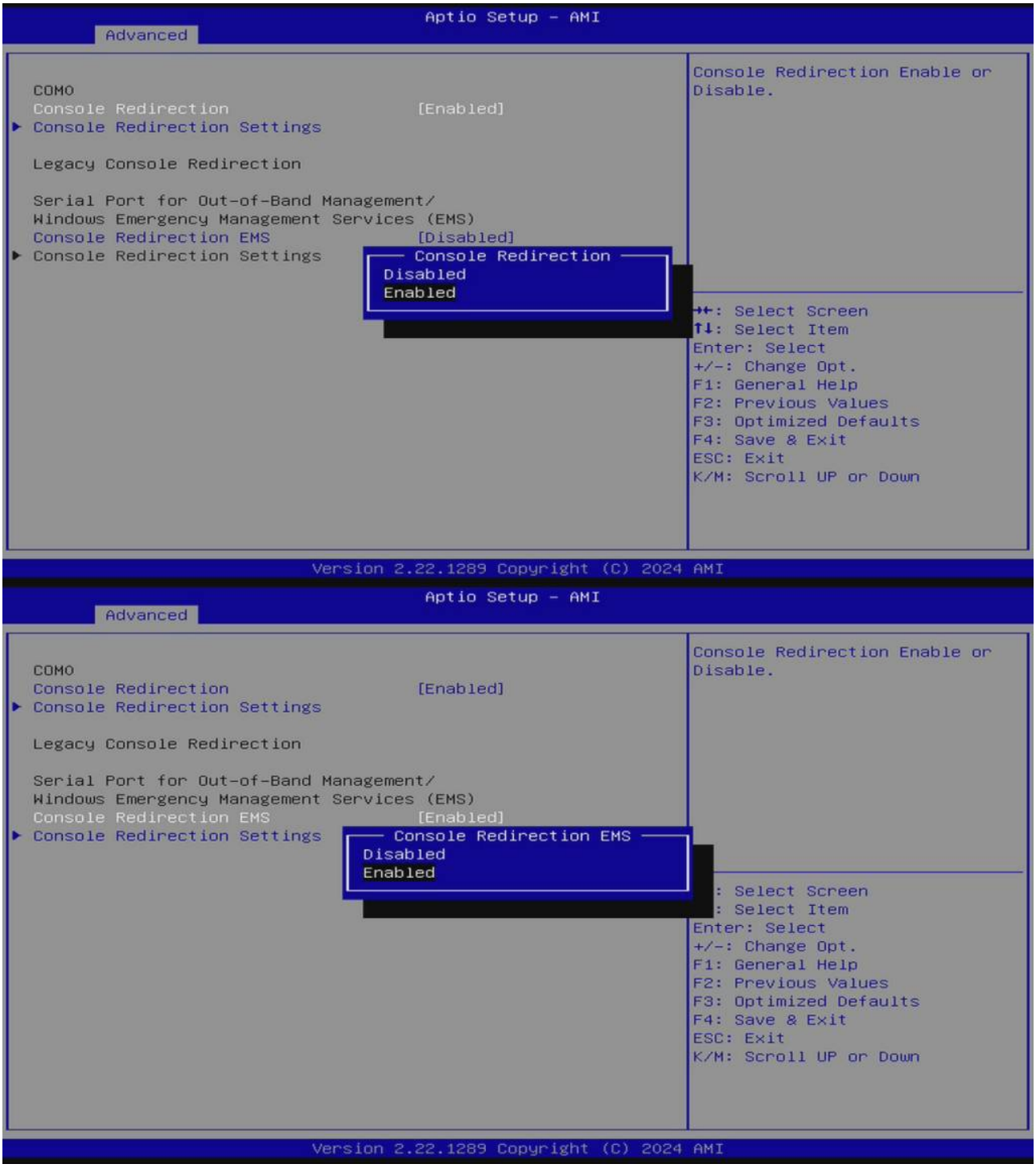
Pin#	Pin Label	dev node
8	UART0_RXD	COM0
10	UART0_TXD	

Enable Serial Port on ODROID-H4 BIOS

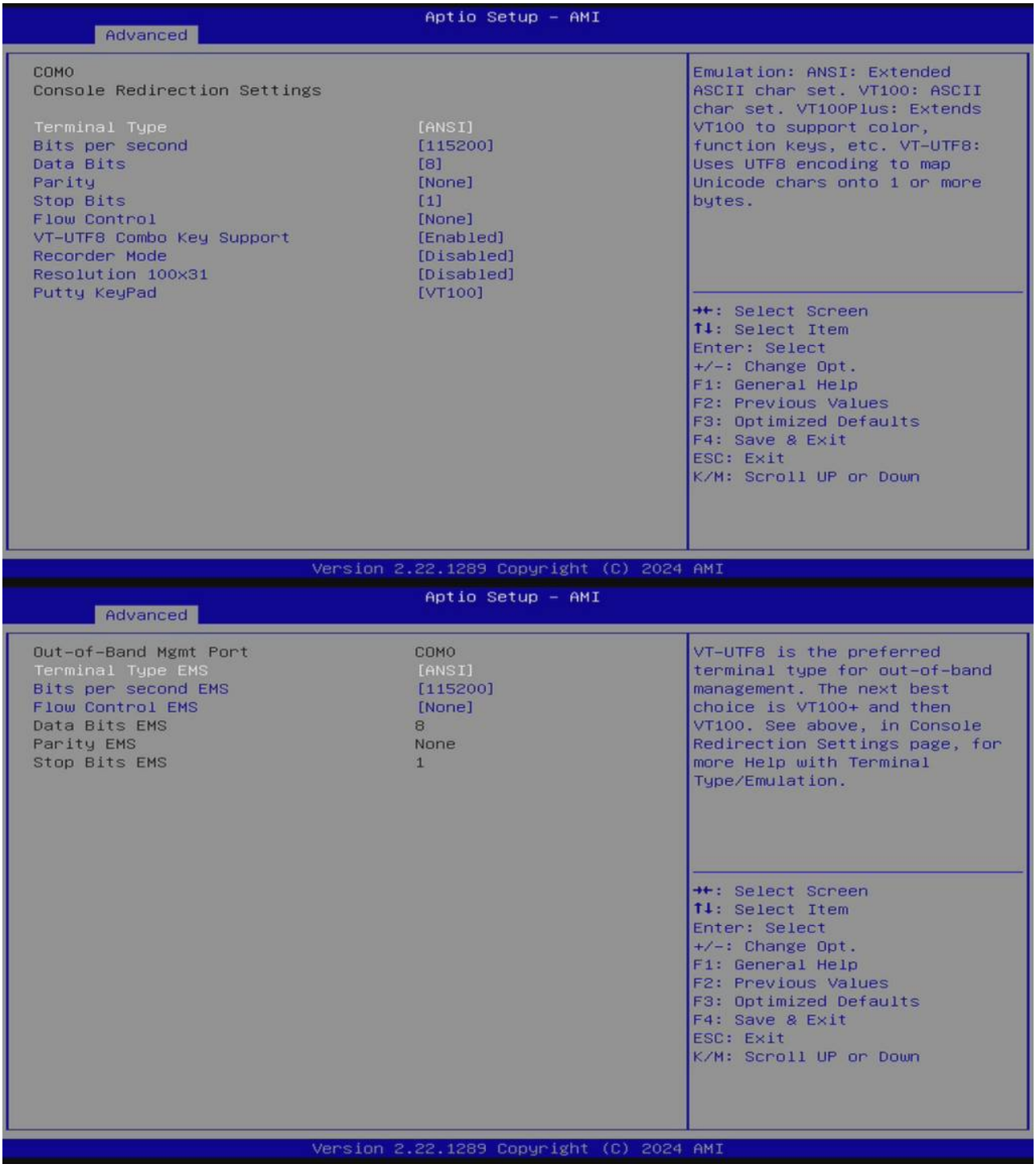
Entering BIOS menu

1. To enable the SPCR you have to enter the BIOS menu. You can use the DEL key while booting to enter the BIOS. And move to the “Advanced tap” then you can see the “SPCR menu” like the following picture.

2. In the SPCR menu, you can enable the COM ports you want. And you can also enable “Console Redirection” and “EMS service”.



3. To communication with HOST-PC, you should set the baud rate, parity and etc.



Run serial communication application on HOST-PC

Back to your HOST-PC, you can run a serial communication program like “minicom” or “putty” to see and set ODROID-H4's BIOS.

Install minicom

```
sudo apt install minicom
```

Check you tty device.

```
ls /dev/ttyUSB*
```

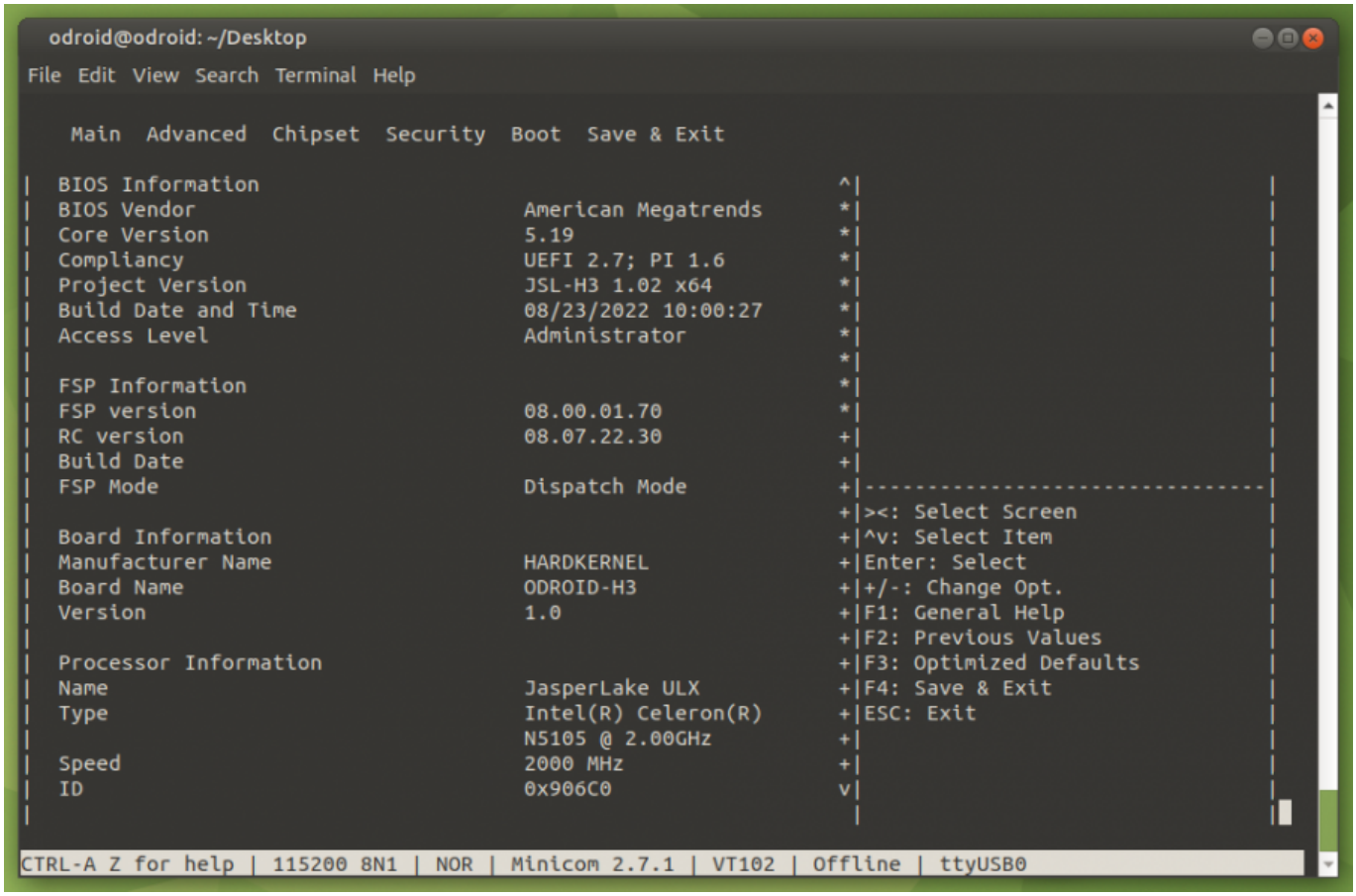
Run the minicom for the setting.

```
sudo minicom -s
```

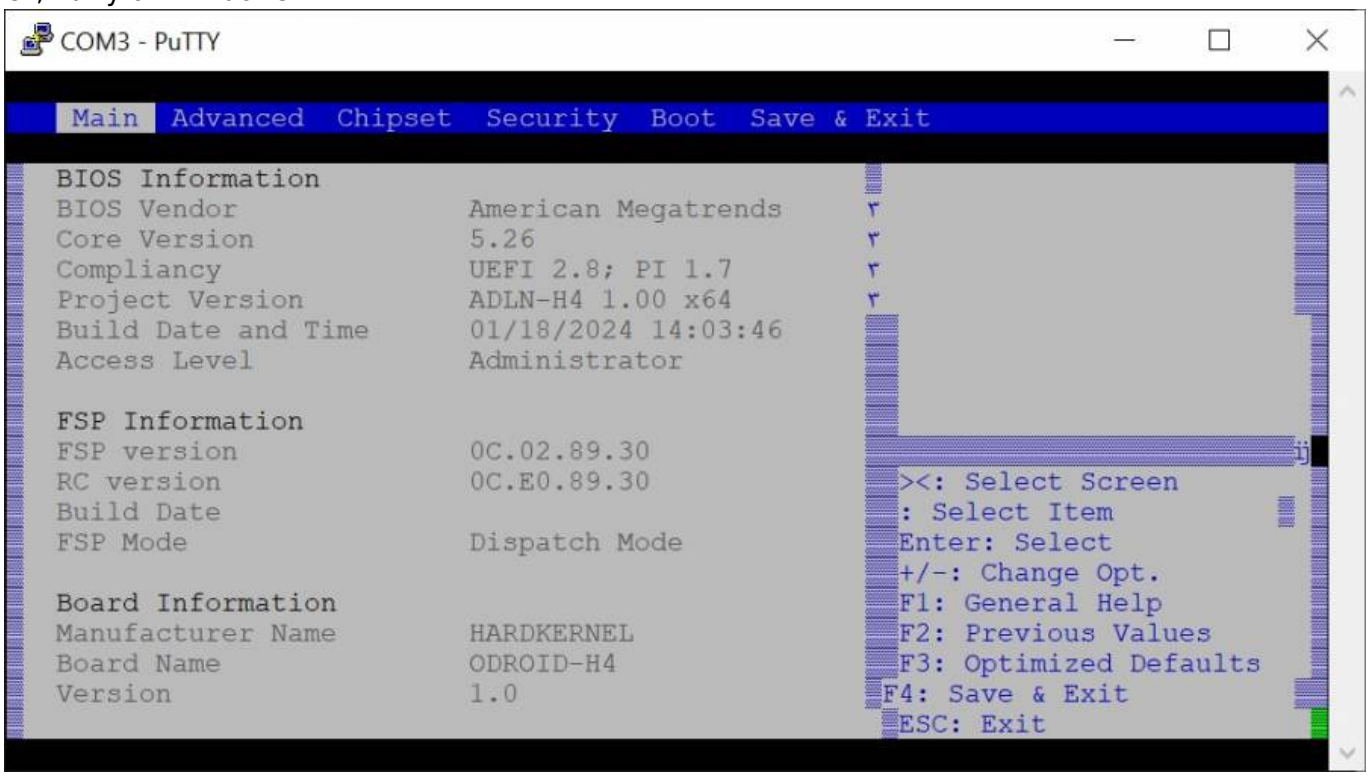
In “Serial port setup” menu, set the baud rate, parity, H/W flow control and etc same you set on H3-BIOS.

After that, run the “Save setup as dfl” for the default setting, then “Exit”.

If your H4 is in the BIOS, press the left or right key to see the BIOS screen.



Or, Putty on Windows.



Trouble Shooting

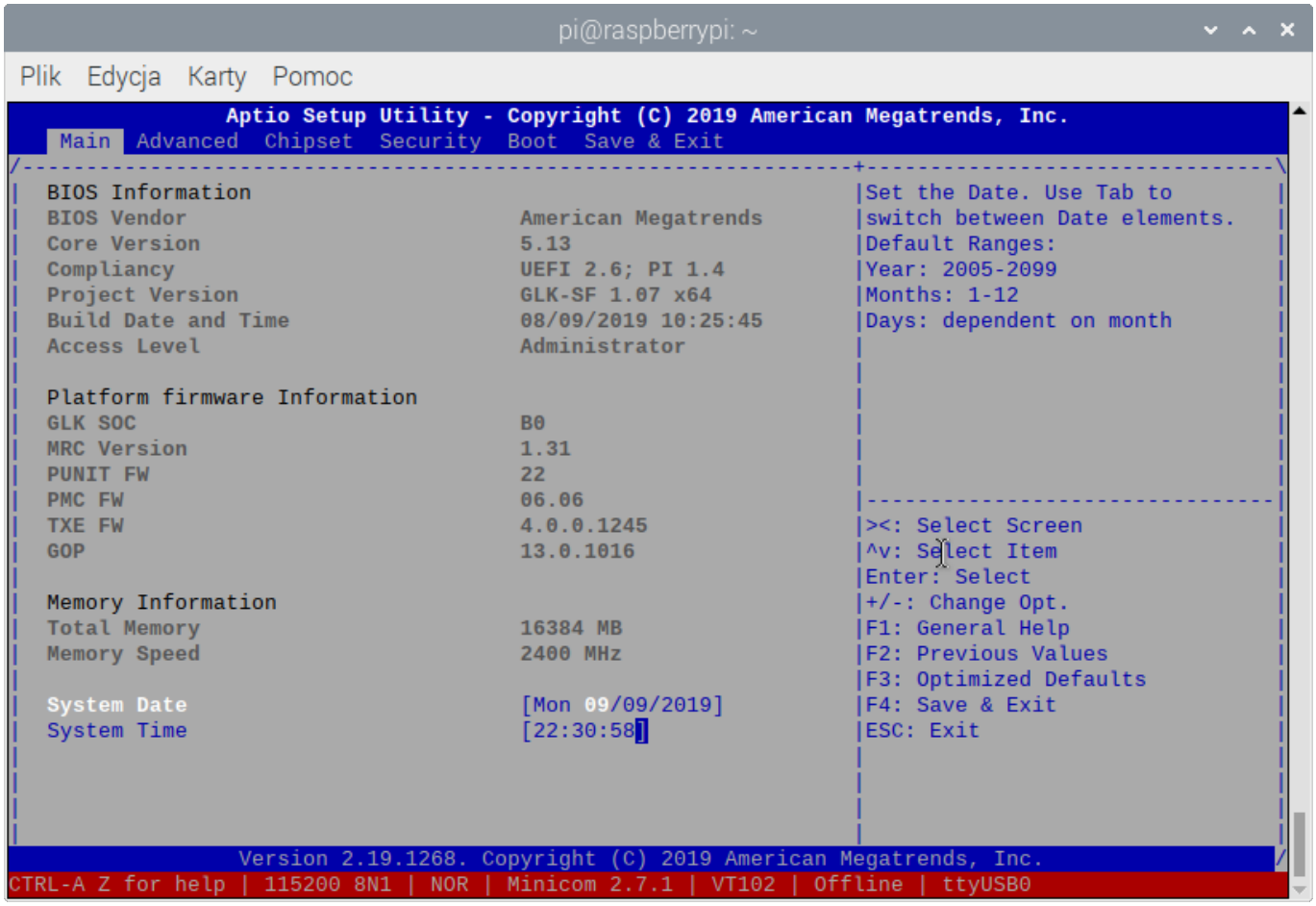
If you can not see the BIOS on the serial terminal, check the two below.

1. Is your ODROID-H4 currently in BIOS?
2. Is the serial setting value in the ODROID-H4's BIOS the same as the settings of serial communication program in your HOST-PC? (check baud rate, parity, flow control and etc...)

Very useful How-To guide by user @pragmatic_mike

The user let us know a way to use a colorful BIOS screen with **VT100+** instead of boring VT100 on the H3.

```
minicom -c on
```



Further information in the forum thread.