



MaixPy Tutorial

CTI One Corporation

Version: x0.1 (Alpha)

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Project Lead: Harry Li, Ph.D.

Team members:

Minh Duc Ong

Company confidential



MaixPy Set Up

source: <https://www.youtube.com/watch?v=KResVuAlMb4>
<https://maixpy.sipeed.com/en/>
<http://blog.sipeed.com/p/category/maix-software/maixpy>

Step 1: Check the Sipeed board Serial connection, open the Terminal and run this command:

`dmesg | grep tty`

```
mtknode@mtknode-blade:~$ dmesg | grep tty
[  0.000000] console [tty0] enabled
[  6.764609] dw-apb-uart.1: ttyS4 at MMIO 0x72001000 (irq = 20, base_baud = 115200) is a 16550A
[ 178.758789] usb 1-3: ch341-uart converter now attached to ttyUSB0
[ 436.374006] ch341-uart ttyUSB0: ch341-uart converter now disconnected from ttyUSB0
[ 440.330562] usb 1-1: ch341-uart converter now attached to ttyUSB0
```

In this case, it is ttyUSB0

Step 2: Install Screen application:

`sudo apt-get install screen`

Step 3: After Screen is installed, we do access to the Sipeed board

`sudo screen /dev/ttyUSB0 115200`

Press Ctrl +C, then Ctrl + D to reboot the board

```
MAIXPY

Official Site : https://www.sipeed.com
Wiki           : https://maixpy.sipeed.com

Traceback (most recent call last):
  File "_boot.py", line 68, in <module>
    OSError: -10002
MicroPython v0.3.2 on 2019-05-15; Sipeed_M1 with kendryte-k210
Type "help()" for more information.
>>> █
```



MaixPY example program

Step 4:

Type this program to MaixPy:

```
import sensor
import image
import lcd

lcd.init()
sensor.reset()
sensor.set_pixformat(sensor.RGB565)
sensor.set_framesize(sensor.QVGA)
sensor.run(1)
while True:
    img=sensor.snapshot()
    lcd.display(img)
```

Then press Enter 3 times, and we can see the Videos Streaming from the Camera.




MaixPY Firmware Download

Step 5: Go to <https://github.com/sipeed/MaixPY/releases>, scroll down to 0.3.2 and download 3 files:

- 1.face_model_at_0x300000.kfpkg
- 2.maixpy_v0.3.2_full.bin
- 3.maixpy_v0.3.2_minimum.bin

v0.3.2

 Neutree released this on May 14, 2019 · 188 commits to master since this release

N  又是愉快写BUG的一天呢~



Neucrack Neutree

删不完的酷、跑不完的路~~

ShenZhen, China

IDE mode





API Changes

- remove `cpufreq` module, add `Maix.freq` module, now can change CPU and KPU freq max to 600MHz, see [doc \(#72\)](#)

Bug Fix

- Fix audio(wav) play bug
- Fix image.resize() alloc size([#69](#))
- Fix mic array too slow problem([#62](#))
- Fix bug gc free error when stop script from IDE
- fix uart iqr re-entrant error ([#74](#))

Assets 7

 elf.7z	7.4 MB
 face_model_at_0x300000.kfpkg	329 KB
 maixpy_v0.3.2_full.bin	2.09 MB
 maixpy_v0.3.2_minimum.bin	813 KB



KFlash program to flash binary files

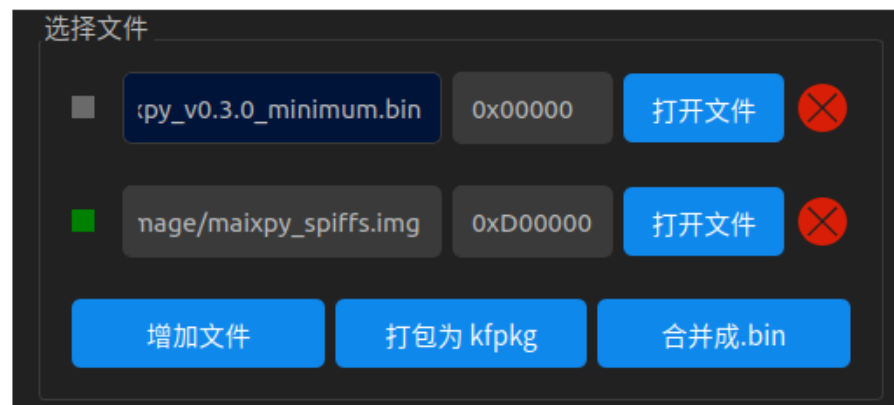
Step 6: Go to https://github.com/sipeed/kflash_gui/releases, download kflash v1.5 for Linux:

v1.5

 Neutree released this on Jul 18, 2019 · 12 commits to master since this release

Changes

- Add pack bin file support
- Add enable button for bin file
- Remove prefix option, auto identify firmware



Download

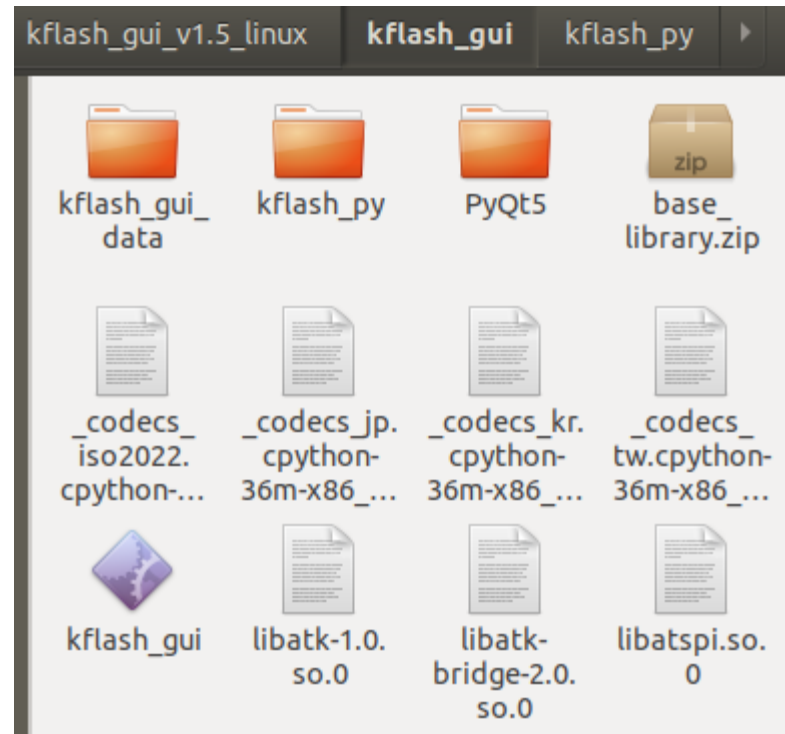
- [kflash_gui_v1.5_windows.7z](#)
- [kflash_gui_v1.5_linux.tar.xz](#)
- [kflash_gui_v1.5_macOS.dmg](#)

Download this for
Linux



KFlash program to flash binary files

Step 6.1: Decompress the “kflash_gui_v1.5_linux”, and go to kflash_gui.



Step 6.2: Then open a Terminal Window in this folder and run the klash_gui with sudo mode:

```
sudo ./kflash_gui
```



MaixPY Firmware Flashing

Step 7: Then open the kflash_gui application and choose options as below

Step 7.1: On “Open File” and select:

maixpy_v0.3.2_full.bin

Step 7.2: On “Board” select:

Sipeed Maix Dock

Step 7.3: On “Burn To” select:

Flash

Step 7.4: On “Port” select:

/dev/ttyUSB0

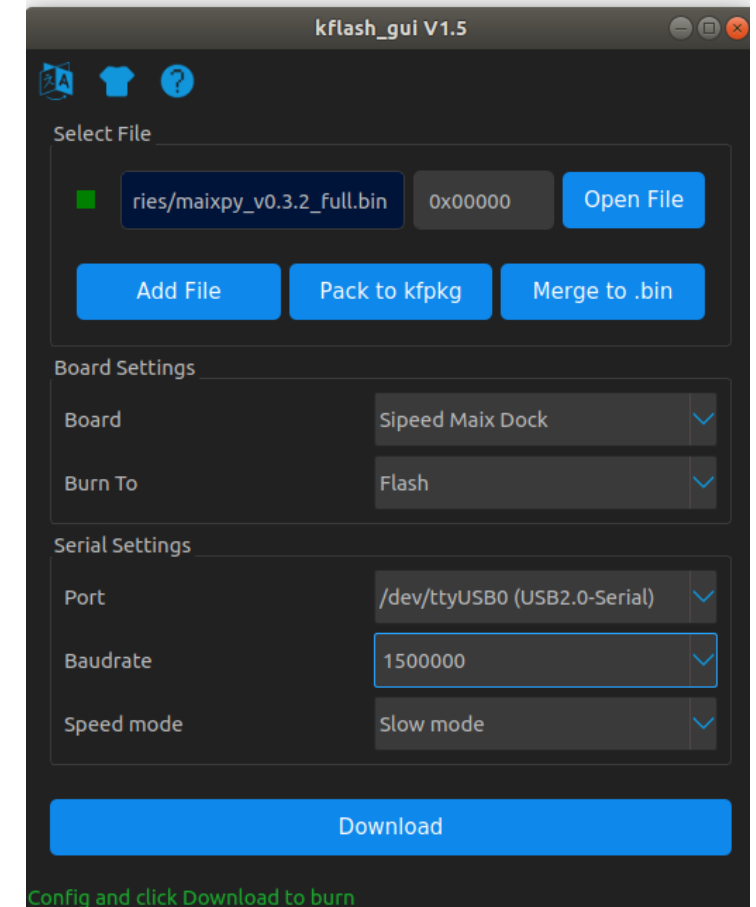
Step 7.5: On “Baud Rate” select:

150000

Step 7.6: On “Speed Mode” select:

Slow Mode

Step 7.7: Click Download to flash the firmware to the board.





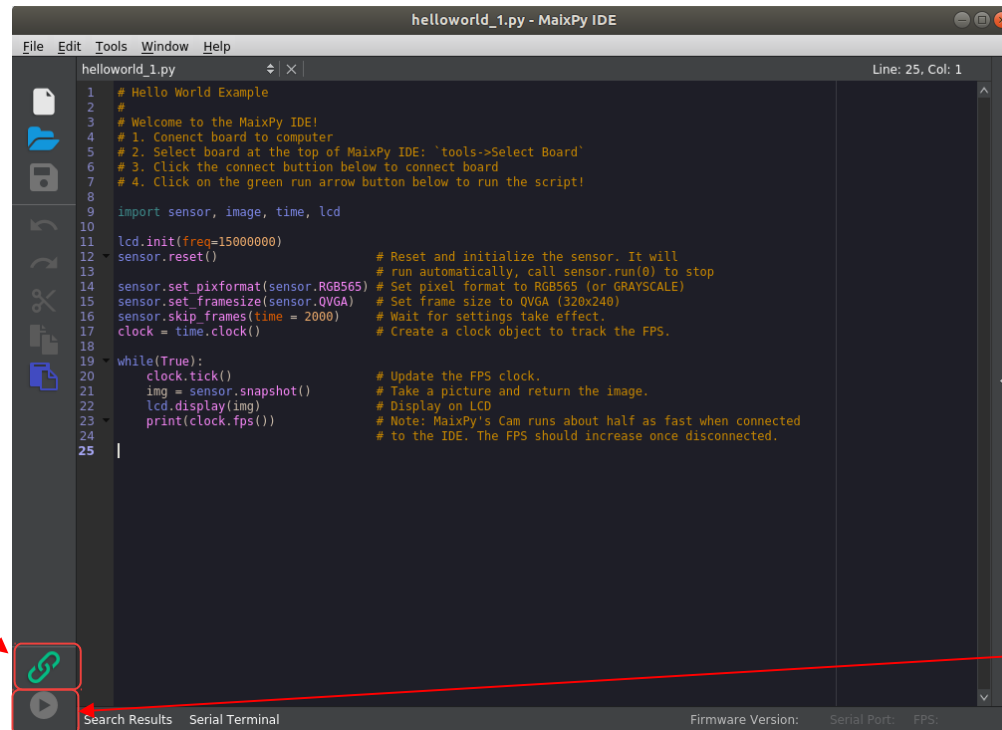
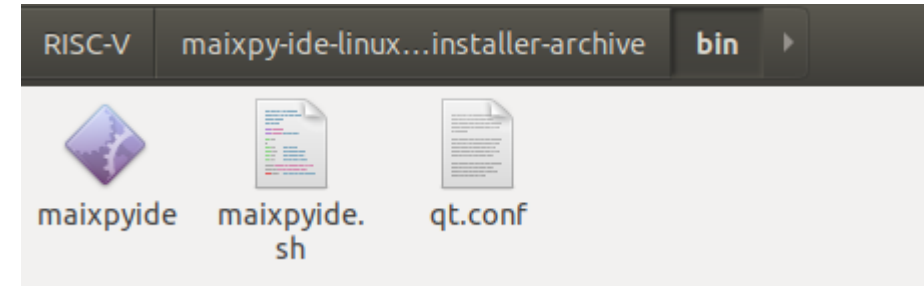
MaixPY IDE program

Step 8: Go to <http://dl.sipeed.com/MAIX/MaixPy/ide/v0.2.2> and download

maixpy-ide-linux-x86_64-0.2.2-installer-archive.7z

Step 8.1: The decompress, go to
./maixpy-ide-linux-x86_64-0.2.2-installer-archive/bin:

Open Terminal Window and run: `sudo ./maixpyide`



Click this to link to the board

Click this to run the program



MaixPY Face Detection Result

After flashing the `face_model_at_0x30000.kfpkg` by the `kflash v1.5` program, and run the face detection program , we have the result as shown:

