Third-party board + USB drive to start the car

If you purchased the ROSMASTER-A1 car without a board and are using a third-party NANO board with a USB drive, you will need to follow the instructions below.

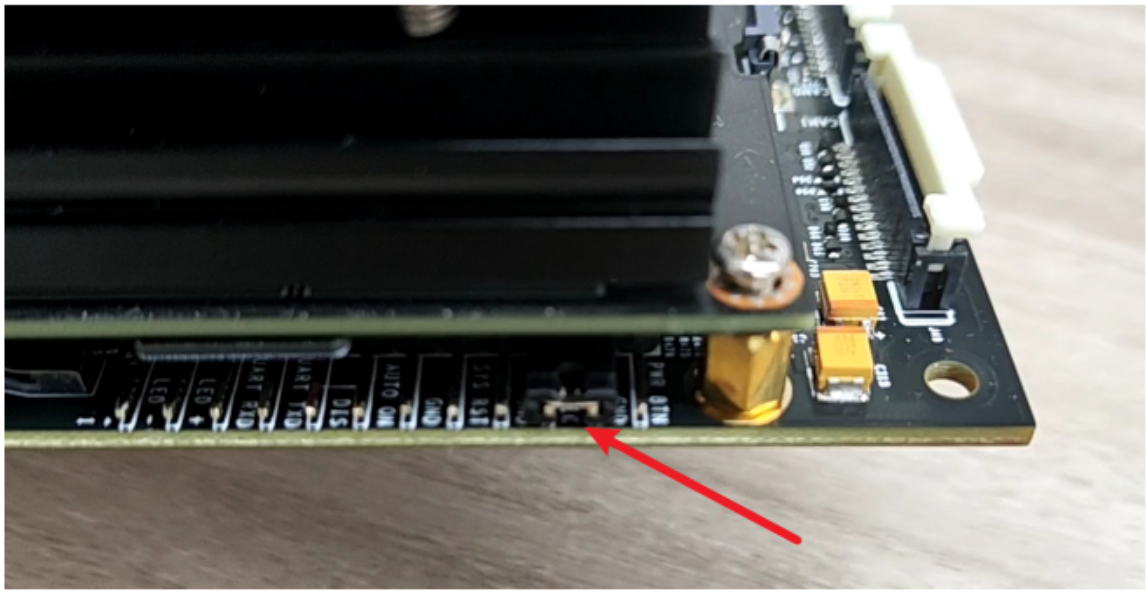
Those who did not purchase a third-party board can skip this step.

1. Flashing the USB Drive

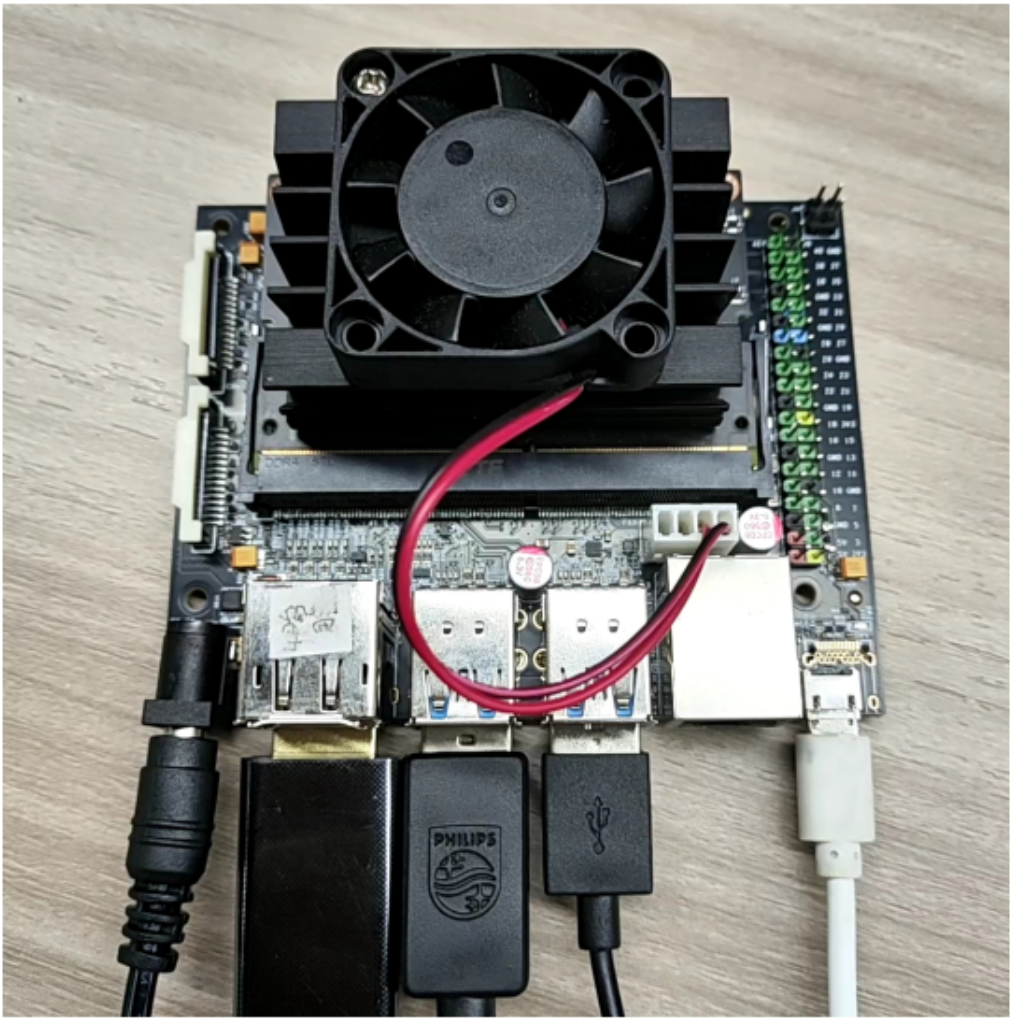
After flashing the EMMC bootloader, you can directly boot the system from a USB drive with the modified extlinux.conf configuration file. There is no need to specify the JetPack version for the EMMC and USB drive systems.

1.1 Connecting the Jetson Nano B01 to a Virtual Machine

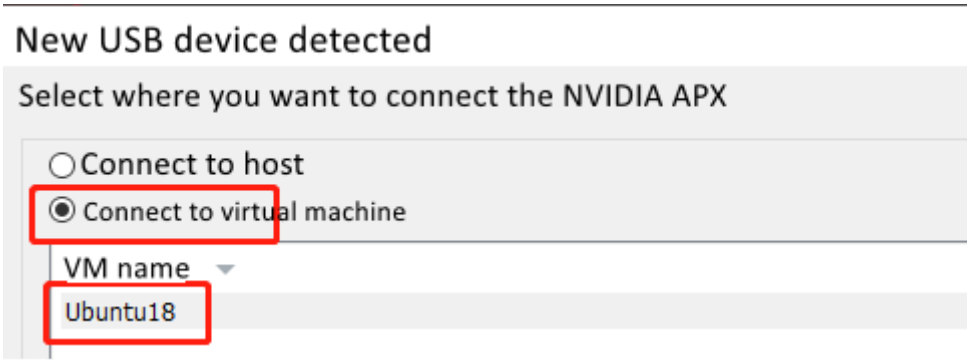
- Prepare the Jetson Nano B01 board, jumper caps, display, mouse and keyboard.
- Enter the Jetson Nano B01 into the system REC flashing mode. Connect the jumper cap to the FC REC and GND pins, which are the second and third pins on the carrier board below the core board, as shown below:



Connect the HDMI display, mouse, and keyboard to the Jetson Nano B01, plug in the power cord, and finally, plug in the microUSB cable. Since the jumper cap was connected to the FC REC and GND pins in the previous step, the system will automatically enter REC flashing mode after powering on.



Normally, the following window will pop up after plugging in the microUSB cable. Note that when using a virtual machine, you must set the device to connect to the virtual machine.



1.2 Start Flashing

Note: It is recommended to use the virtual machine specifically for flashing, which is available in Baidu Cloud Drive. This already contains the Jetson_Boot_USB file, allowing you to directly run the flashing process.

- Transfer the Jetson_Boot_USB.tar.gz file from Baidu Cloud Drive to the **Ubuntu 18.04 system** and open a terminal to run the decompression command.

```
tar xzvf Jetson_Boot_USB.tar.gz
```

```
yahboom@YAB:~$ tar xzvf Jetson_Boot_USB.tar.gz
./Jetson_Boot_USB/
./Jetson_Boot_USB/jetson-nano-devkit.conf
./Jetson_Boot_USB/jetson-nano-devkit-emmc.conf
./Jetson_Boot_USB/jetson-tx1-devkit.conf
./Jetson_Boot_USB/nv_tools/
./Jetson_Boot_USB/nv_tools/scripts/
```

- After unzipping, navigate to the Jetson_Boot_USB folder, then

```
cd Jetson_Boot_USB/
ls
```

```
yahboom@YAB:~$ cd Jetson_Boot_USB/
yahboom@YAB:~/Jetson_Boot_USB$ ls
apply_binaries.sh              p2597-0000+p2180-1000-24x7.conf
bootloader                     p2597-0000+p2180-1000.conf
build_l4t_bup.sh               p3448-0000.conf.common
flash.sh                       p3448-0000-max-spi.conf
hybrid-qspi.conf               p3448-0000-max-spi-sd.conf
jetson-nano-2gb-devkit.conf    p3449-0000+p3448-0000-qspi.conf
jetson-nano-devkit.conf        p3449-0000+p3448-0000-qspi-sd.conf
jetson-nano-devkit-emmc.conf   p3449-0000+p3448-0002.conf
jetson-nano-emmc.conf          p3450.conf
jetson-nano-qspi.conf          p3542-0000+p3448-0003-qspi.conf
jetson-nano-qspi-sd.conf       p3542-0000+p3448-0003-qspi-sd.conf
jetson-tx1.conf                p3542.conf
jetson-tx1-devkit.conf         README_Autoflash.txt
kernel                         README_Massflash.txt
l4t_generate_soc_bup.sh        rootfs
nvautoflash.sh                 source
nvmassflashgen.sh              source_sync.sh
nv_tegra                       tools
nv_tools                       TX1_boot-firmware-redundancy.txt
p2371.conf
```

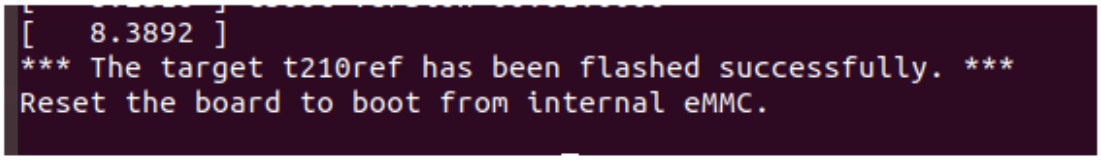
- Run the following command to burn the EMMC boot file.

```
sudo ./flash.sh -r jetson-nano-devkit-emmc mmcblk0p1
```

```
yahboom@YAB:~/Jetson_Boot_USB$ sudo ./flash.sh -r jetson-nano-devkit-emmc mmcblk0p1
[sudo] password for yahboom:
###############################################################################
# L4T BSP Information:
# R32 , REVISION: 5.2
###############################################################################
# Target Board Information:
# Name: jetson-nano-devkit-emmc, Board Family: t210ref, SoC: Tegra 210,
# OpMode: production, Boot Authentication: ,
# Disk encryption: disabled ,
```

- Finally, wait for the file to be burned into the EMMC. A prompt will appear if successful:

"The target t210ref has been flashed successfully. Reset the board to boot from internal eMMC."



If an error message appears, please confirm that the Jetson Nano B01 is properly connected and in flashing mode, then reconnect according to the first step.