

# How to flash external drive SATA on AVerAI NX213B device

**Applies to: Jetson Xavier NX213B with JetPack4.6 version.**

## **A. Hardware setup - Prepare Host linux PC(amd64)**

A-1. Install the disk to host Linux PC or AVerAI device.

A-2. Find out the sectors count of the disk.

```
$ sudo fdisk -l
```

e.g. SATA SSD

Disk /dev/sda: 119.2 GiB, 128035676160 bytes, 250069680 sectors.

Remember the sectors count 250069680.

## **B. Prepare Host linux PC(amd64)**

B-1. Install dependencies.

```
$ sudo apt install libxml2-utils simg2img network-manager abootimg sshpass device-tree-compiler
```

B-2. Download BSP file (R32.6.1)

B-3. Decompress the file with super user authority.

e.g. `sudo tar xvf EN713-NX-R1.0.18.4.6.tar.gz`

B-4. Download SecureBoot package for R32.6.1

(URL:[https://developer.nvidia.com/embedded/l4t/r32\\_release\\_v6.1/t186/secureboot\\_r32.6.1\\_aarch64.tbz2](https://developer.nvidia.com/embedded/l4t/r32_release_v6.1/t186/secureboot_r32.6.1_aarch64.tbz2))

B-5. Decompress SecureBoot package into BSP directory

```
$ tar -xvf secureboot_R32.6.1_aarch64.tbz2 -C <BSP_DIRECTORY_PATH>/JetPack_4.6_Linux_JETSON_XAVIER_NX_TARGETS
```

B-6. Modify the value of "num\_sectors" in configuration file, the num\_sectors value is from A-2 step.

e.g. `$ num_sectors=250069680`

```
$ sed -i "s|num_sectors=\"[^\"]*\"|num_sectors=\"$num_sectors\"|g"
```

<BSP\_DIRECTORY\_PATH>/JetPack\_4.6\_Linux\_JETSON\_XAVIER\_NX\_TARGETS/Linux\_for\_Tegra/tools/kernel\_flash/flash\_l4t\_nvme.xml

B-7. Go to kernel\_flash folder directory to check flash\_l4t\_nvme.xml num\_sectors.

### C. Prepare AVerAI NX213B device

C-1. Install the disk to NX213B SATA port.

C-2. Insert micro USB to NX213B and connect to host linux PC(amd64) USB connector.

C-3. Enter the recovery mode

power off -> press recovery button -> power on -> wait 2 seconds -> release recovery button

### D. Prepare Host Linux PC(amd64) - Flash the device

D-1. Automount must temporarily be disabled for the new external storage device during flashing. The tool uses USB mass storage during flashing.

On most Debian-based distributions of Linux, you can accomplish this with the following command:

```
$ sudo systemctl stop udisks2.service
```

D-2. Enter to BSP's Linux\_for\_Tegra directory

```
e.g. cd JetPack_4.6_Linux_JETSON_XAVIER_NX_TARGETS/Linux_for_Tegra
```

D-3. Find out the board name

```
$ ls -1 jetson-xavier-nx-en713.conf | sed 's/.conf//'
```

D-4. Execute flash process

```
$ board_name=jetson-xavier-nx-en713
```

```
$ APP_PARTITION_SIZE=116GiB
```

\* APP\_PARTITION\_SIZE is depend on the capacity of drive you use.

For example, using 128GB SATA SSD should be smaller than 116GiB. (1 gb = 0.931322575 gib, and need to reserve some space.)

```
$ DEVICE=sda1
```

```
$ sudo ./install.sh --no-flash
```

```
$ sudo ./tools/kernel_flash/l4t_initrd_flash.sh --external-device $DEVICE -c ./tools/kernel_flash/flash_l4t_nvme.xml -S $APP_PARTITION_SIZE --
```

```
showlogs $board_name $DEVICE
```

D-5. Wait the flash process success. If it shows failure, please read the steps and try again.

D-6. Enable automount once again if needed

```
$ sudo systemctl start udisk2.service
```

### Reference:

Flashing with initrd

<https://docs.nvidia.com/jetson/l4t/index.html#page/Tegra%20Linux%20Driver%20Package%20Development%20Guide/flashing.html#wwpID0E0PIOHA>