

# Building Petitboot

## Background

The Petitboot image is a complete set of minimal Linux system, and its software modules are ported to Buildroot. Therefore, Petitboot image can be built with the same instruction as Buildroot when its build configuration is selected.

## Buildroot

The Buildroot source tree can be downloaded with the same branch of ODROID-N2's release branch, `aml64_buildroot_master`. This page, [Buildroot](#), introduces how the Buildroot source tree can be downloaded and set up the building environment.

## Build configuration for Petitboot

`odroidn2_spibios_release` the build configuration to build Petitboot image in the Buildroot source tree.

```
$ source buildroot/build/setenv.sh odroidn2_spibios_release
$ make
```

## Installing Petitboot Image

Once the building is completed, many files are dropped into the directory `output/odroidn2_bios/images`, but only two files `sdcard.img` and `spiboot.img` will be used to boot and update Petitboot.

```
$ ls output/odroidn2_bios/images/
Image.gz      boot.ini      boot.vfat     rootfs.cpio
rootfs.cpio.u-boot
rootfs.ext4   rootfs.tar.gz spi-update.img spiboot.img   u-
boot.bin
boot.cmd      boot.scr      meson64_odroidn2.dtb rootfs.cpio.gz
rootfs.ext2
rootfs.tar    sdcard.img    spi-update.vfat spiupdate.cmd  uImage
```

### sdcard.img vs spiboot.img

- The image `sdcard.img` is the bootable SD card image on ODROID-N2, this image is aimed to fully update the SPI flash memory on the board. As soon as the bootloader from SD card is

loaded, ODROID-N2 will start to update the SPI flash memory and reboot once updating is completed.

- Another file `spiboot.img` is the file which is to be flashed into the SPI flash memory. Its size is always 8MiB which is the same amount of the SPI flash memory on ODROID-N2.

If SPI flash memory is empty or corrupted, even you are not sure, the flash memory can be updated with `sdcard.img`. In this case, boot selector switch must be placed to MMC in order to select the first boot media as SD card.

If SPI flash memory is already running and needs to be updated with a newer version, simply copy `spiboot.img` to the file system of the first partition on SD card. Then Petitboot in SPI flash memory will load and update it by itself.

```
Petitboot (1.6.6) Hardkernel ODROID-N2
[Disk: mmcblk1p2 / e139ce78-9841-40fe-8823-96a304a09859]
USB
*System information
System configuration
System status log
Language
Rescan devices
Retrieve config from URL
Plugins (0)
Exit to shell

Enter=accept, e=edit, n=new, x=exit, l=language, g=log, h=help
```

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