

Flashing the SHIELD Device

In order to update the Shield OS, the user must have an existing copy of the Android SDK installed. This provides the commands `adb` and `fastboot`, which are used in the following tutorial.

Also, the user must have the **Android Composite ADB Interface** already installed before proceeding with the `fastboot` flashing instructions. This is because the `adb` command is used to switch the device into `fastboot` mode.

NVIDIA recommends obtaining the Android SDK through the [Tegra Android Development Pack](#), which provides users with a hassle-free download, and installs a wide range of important SDKs and other tools that are recommended for a SHIELD developer.

To flash your SHIELD device, do the following:

1. Download and unzip the image package on your host system.
2. Turn on your NVIDIA SHIELD device and boot it to the Android home screen.
3. Connect the device to your host system with the provided micro-USB cable.
4. From a command prompt, type:

```
adb reboot bootloader
```

Here you will see a list of options starting with **Continue**. At this point you should not do anything, as you have reached `fastboot` mode.

5. Check that you have the drivers installed for `fastboot bootloader` mode. You can do this simply by checking that your device appears in the device list. From the command line, type:

```
fastboot devices
```

6. At this point, if you see your device, you can skip this step. However, if you do not see your device:
 - a. Go to your Control Panel > **Device Manager**.
 - b. As the device should have changed from SHIELD to `fastboot`, click **Rescan**.
 - c. Right-click and select to update the driver.
 - d. Select **Browse my computer for driver software**.
 - e. Select **Let me pick from a list of device drivers on my computer**.
 - f. Select **Have Disk...**
 - g. Select **Browse** and navigate to the `...\win_usb_driver` subfolder where the SHIELD OS image is located.
 - h. Select `android_winusb.inf`.
 - i. Select **Android Bootloader Interface**.
 - j. Repeat step 2 to verify.

If this does not work, we suggest that you uninstall the device, rescan, and try again

7. Your device may have shipped with a locked bootloader. The device must have an unlocked bootloader to flash the image. You can unlock the bootloader by doing the following steps:
 - a. `fastboot oem unlock`
 - b. Press the **Home** button on the device to highlight **Unlock**.
 - c. Press the **SHIELD** button to confirm the unlock.

Your device's bootloader is now unlocked.

8. Flash with the following commands, in sequence, from the directory where files were unzipped:

```
fastboot flash recovery recovery.img
fastboot flash boot boot.img
fastboot flash system system.img
fastboot flash userdata userdata.img
fastboot flash staging blob
fastboot flash dtb tegra114-roth.dtb
```

9. Reboot your device by using one of the two following methods:
 - a. `fastboot reboot`
 - b. Hold the **SHIELD** button down until the device turns off. Once it is powered down, release the **SHIELD** button, then press and hold for a few seconds to power it back up again.

Congratulations, you have flashed the SHIELD device to the downloaded OS image.