

Newbie Instructions for flashing White Panda from a USB-based Linux installation

What:

Flashing a White Panda from comma.ai

Why:

On some vehicles, open pilot / comma 2 will not operate under a certain speed limit. Installing a White Panda can “trick” Open Pilot to think it never goes below the cutoff limit, and has the capability to do lots more.

What you need:

PC or Mac

USB flash drive

White Panda from comma.ai

USB A to A cable (buy one online or make one yourself if you have some old cables around - 4 wires required)

Notes:

1. The author is totally unqualified to provide this information; this is more a recount of my experience in hopes that it will save someone a bit of time. I had no prior experience with linux, so this is about as simple as I can make it.
2. These instructions are for installing the xps_wp_chrysler_basic fork of the XPS project. If you want to learn more or compare the different versions, see: <https://docs.google.com/document/d/1CBxd3fxn166gXPfXKI6qJtZjRGOR8-BmCqq-Ndx1Tyk/edit>
3. Thanks to mog, Nish, and others on the comma.ai discord who led me through the whole process.

Steps:

1. Download Ubuntu: <https://ubuntu.com/download/desktop>
2. Follow instructions to flash to USB: <https://ubuntu.com/tutorials/try-ubuntu-before-you-install>
3. Boot up on your Mac or PC - note, some Macs have a feature called Startup Security that may need to be disabled before you can boot a non-apple OS. More here: <https://support.apple.com/en-ca/HT208198>
4. Once Ubuntu is up and running, connect to Wifi and open a terminal window (Ctrl-Alt+T).
5. Run the following commands in order

```
sudo nano /etc/apt/sources.list
```

```
## on the three bottom lines, add the word “universe” to the end, so each of them  
end with “restricted universe”
```

```
## Then write out and exit (Ctrl-O, then Ctrl-X)
```

```
sudo apt update
sudo apt install git
sudo apt-get update
Sudo apt-get install python3-pip
sudo pip install libusb1 pycryptodome requests
sudo apt-get install gcc-arm-none-eabi
sudo apt-get install dfu-util
```

```
git clone https://github.com/xps-genesis/panda.git
```

```
cd panda
git checkout xps_wp_chrysler_basic
cd board
./get_sdk.sh
```

```
## Plug in your panda
```

```
sudo make recover
```

```
## You're done!
```

```
## If you want to verify your flash, use the following command:
```

```
Sudo PYTHONPATH=./ python3 -c "from python import Panda; print('flash succeeded')
if Panda().get_signature() == Panda().get_signature_from_firmware('obj/panda.bin')
else print('flashing failed')"
```

Install the White Panda in your vehicle and off you go!