# Telekom Speedport W504V --> Openwrt

## Quele(n)

- OpenWRT - Speedport W 504V
- Bootloader

## Terminalschnittstelle

Pin-Header - FTDI Kabelverbindung

Pin 1 - n.c.
Pin 2 - Gelb
Pin 3 - Orange
Pin 4 - Schwarz

## Firmware Austauschen

Replace Bootloader:

We have to replace the bootloader (brnboot) with u-boot, afterwards we can flash OpenWrt onto the device. In order to do that, attach a USB-to-TTY-Adapter to the Speedport, start up minicom (on Linux) and then power on the Speedport. Press the space bar 3 times (as soon as the device is powered on) to access the bootloader. You are prompted for a password, the password is basically the first 4 digits of your “Gerätepasswort” (see the label on the back of your device) –> „8472“
Press ! to enter the “Administrator Mode” and the U to upload data to the flash. Select Area 0 (Bootlaoder). Press “Ctrl + A + S”, select xmodem and choose the u-boot image you've previously downloaded.

https://io.pinterjann.is/public/openwrt/spw504v/OpenWrt-Images/openwrt-lantiq-arv8539pw22_nor-u-boot.img
–> openwrt-lantiq-arv8539pw22_nor-u-boot.img

The image is going to be uploaded to the device and then written to flash. After the process is done, power cycle the device and press any key to skip autoboot.
Okay, we have U-Boot running on the Speedport 🙂 Let's install OpenWrt now. In U-Boot, we can use the command flinfo the get some information about the flash chip. We want to

```
erase everything between B0040000 and B07EFFFF.
# erase B0040000 B07EFFFF
```

Afterwards we want to upload our OpenWrt image to the device, type loadx, press “Ctrl + A + S”, select xmodem and navigate to the OpenWrt image you've previously downloaded. The image is going to be written in RAM.

https://io.pinterjann.is/public/openwrt/spw504v/OpenWrt-Images/openwrt-lantiq

-xway-ARV8539PW22-squashfs.image

```
# enable XMODEM
loadx
--> openwrt-lantiq-xway-ARV8539PW22-squashfs.image
.....
## Ready for binary (xmodem) download to 0x81000000 at 115200 bps...
## Total Size      = 0x00440004 = 4456452 Bytes

# Once the image is uploaded, we can write it to the flash chip.
cp.b 0x81000000 0xB0040000 440004

#Restart the device and you're done! :-)
reset
```

Bootloader überschreiben:

```
# Enable XMODEM
loadx
#--> xmodem --> u-boot.img auswählen --> upload
#
protect off 0xB0000000 +$filesize && erase 0xB0000000 +$filesize && cp.b
0x81000000 0xB0000000 $filesize
```

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