Getting and flashing Anduril on Win10

Guide updated 2020-06-27

This guide has been tested on a fresh install of Windows 10 feature update 2004, immediately after install. The only other software required is 7zip.

All commands to be typed/copied into **Command Prompt** are `highlighted and in this font.` The implication is that you press Enter after these commands.

INSTALLING SOFTWARE

INITIAL SETUP

Make a new folder under **C:** called **AVRDUDE**. You can name it whatever you like, but for consistency's sake, I'll use **AVRDUDE**. When I refer to this folder from here on, you can replace it if you chose another name.

AVR TOOLS

To get this whole process started, you will need to install AVR Tools. A tested version of the tools are available at https://oweban.org/files/MHV_AVRTools.7z. This is needed to get the tools for flashing.

If you already have another version of **avrdude** installed, please uninstall it and reboot before installing this version.

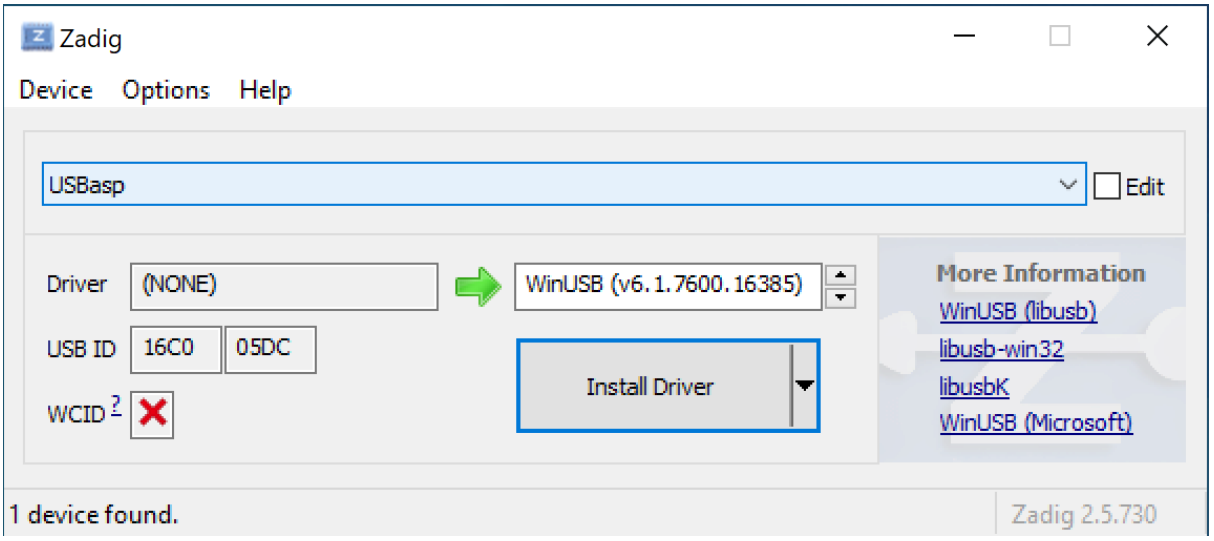
Extract with **7zip** (right-click on the .7z file and choose **7-Zip** → **Extract Here**), and run the .exe.

During the install process, point it at **C:\AVRDUDE**.

ZADIG

Plug your USBASP into your PC; a red light should now be shining. Download Zadig from https://zadig.akeo.ie/ - this will be used to overwrite the driver used.

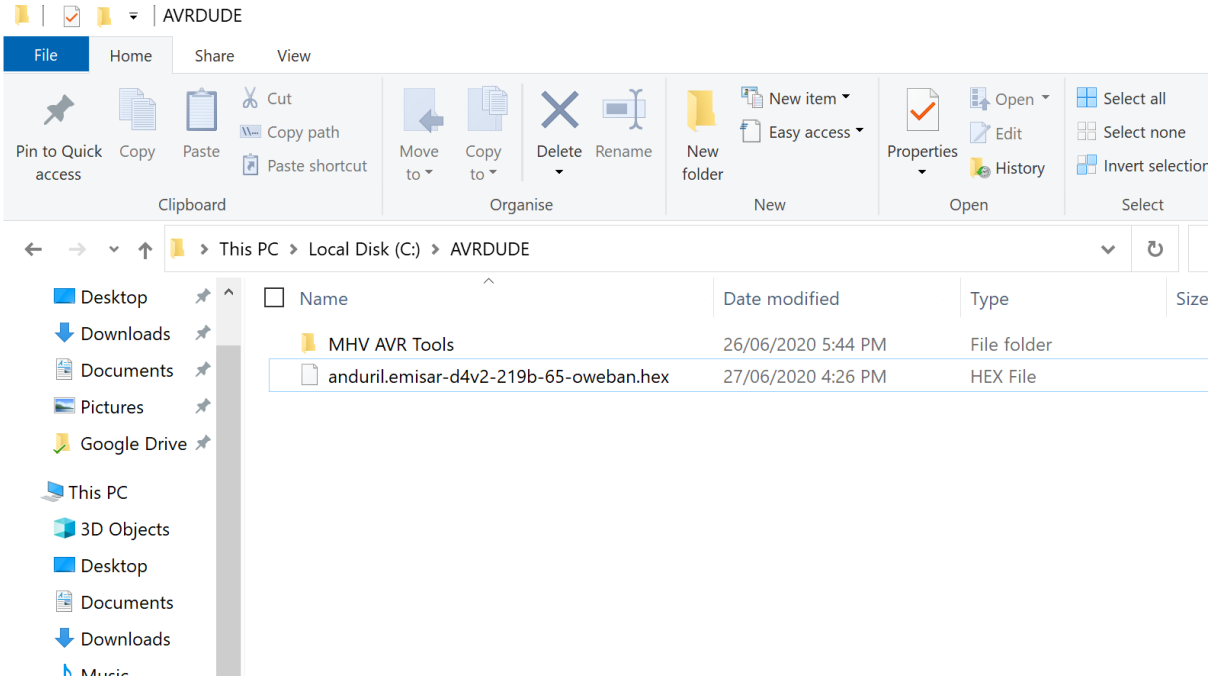
Once you have opened Zadig, click on the Options menu, and then List all devices. You should see **USBasp** as an option; change the option on the right to be **libusbK**. After that, click on **Install Driver**. This took around 2 minutes on my Surface Pro.



Getting Anduril

The official firmware builds are available at http://toykeeper.net/torches/fsm/?C=M;O=D (sorted by newest to oldest). Save the .hex files you need into **C:\AVRDUDE**.

(Note that I have dropped one of my custom builds in here, not an official build)



Flashing Anduril

So now we have the latest versions; if you want to flash, then open **Command Prompt** and type `cd C:\AVRDUDE` . Once there, connect your USBASP to your light and then to the USB port.

Test the connection with the commands

```
avrdude -c usbasp -p t1634 -n
```
OR
```
avrdude -c usbasp -p t85 -n
```

This is dependent on the light; K1, D4V2, and D4SV2 run the **t1634**, whereas a lot of other lights have a **t85**. If you are unsure, please feel free to ask at /r/flashlight.

You should see this:

```
C:\AVRDUDE>avrdude -p t1634 -c usbasp -n

avrdude: warning: cannot set sck period. please check for usbasp firmware update.
avrdude: AVR device initialized and ready to accept instructions

Reading | ################################################## | 100% 0.05s

avrdude: Device signature = 0x1e9412

avrdude: safemode: Fuses OK (H:1F, E:DE, L:E2)

avrdude done.  Thank you.
```

If so, now build your flash command. Don't worry about the warning about not being able to set sck period.

Examples:

`avrdude -c usbasp -p t1634 -u -Uflash:w:anduril.emisar-d4v2.hex`
OR
`avrdude -c usbasp -p t85 -u -Uflash:w:anduril.blf-gt-mini.hex`

This will then show progress:

```
C:\AVRDUDE>avrdude -c usbasp -p t1634 -u -Uflash:w:anduril.emisar-d4v2-219b-65-oweban.hex

avrdude: warning: cannot set sck period. please check for usbasp firmware update.
avrdude: AVR device initialized and ready to accept instructions

Reading | ################################################## | 100% 0.05s

avrdude: Device signature = 0x1e9412
avrdude: NOTE: "flash" memory has been specified, an erase cycle will be performed
         To disable this feature, specify the -D option.
avrdude: erasing chip
avrdude: warning: cannot set sck period. please check for usbasp firmware update.
avrdude: reading input file "anduril.emisar-d4v2-219b-65-oweban.hex"
avrdude: input file anduril.emisar-d4v2-219b-65-oweban.hex auto detected as Intel Hex
avrdude: writing flash (9158 bytes):

Writing | ################################################## | 100% 10.73s

avrdude: 9158 bytes of flash written
avrdude: verifying flash memory against anduril.emisar-d4v2-219b-65-oweban.hex:
avrdude: load data flash data from input file anduril.emisar-d4v2-219b-65-oweban.hex:
avrdude: input file anduril.emisar-d4v2-219b-65-oweban.hex auto detected as Intel Hex
avrdude: input file anduril.emisar-d4v2-219b-65-oweban.hex contains 9158 bytes
avrdude: reading on-chip flash data:

Reading | ################################################## | 100% 6.90s

avrdude: verifying ...
avrdude: 9158 bytes of flash verified

avrdude done.  Thank you.
```

Once this is completed, you can remove the clip or pins from your light.