Updating Atmel based ADL-1 OTP Printer Firmware on Windows

These instructions are for updating the ADL-1 firmware for Atmel based systems only. For ESP based systems see the instructions here :

https://partisanlabs.com/adl-1-otp-printer-firmware-downloads/

We are using Windows for this, if you are using Linux please see these instructions.

https://partisanlabs.com/wp-content/uploads/2025/01/ADL-1_ATMEL_UPDATE.pdf

Please read all these instructions before beginning.

In images where a file name is displayed, substitute the firmware file you have downloaded for the file name shown.

WARNING:

Make sure you are using an external 12vdc power source. If the batteries die during the update you may have to send the unit back to us for repair.

Prerequisites

You will need a 3.3v USB to TTL Serial cable with a 6 position header on the end that matches this FTDI cable: https://ftdichip.com/products/ttl-232r-3v3/ Failure to use the correct cable will damage your device.

You will need a 1/16 inch hex key to remove the panel screws.

Download and extract the avrdudess package from github.

https://github.com/ZakKemble/AVRDUDESS/releases/download/v2.18/AVRDUDESS-2.18-portable.zip

Right click on the downloaded zip file and choose ‘Extract All’. Once it is complete, keep the window open where the files were extracted.

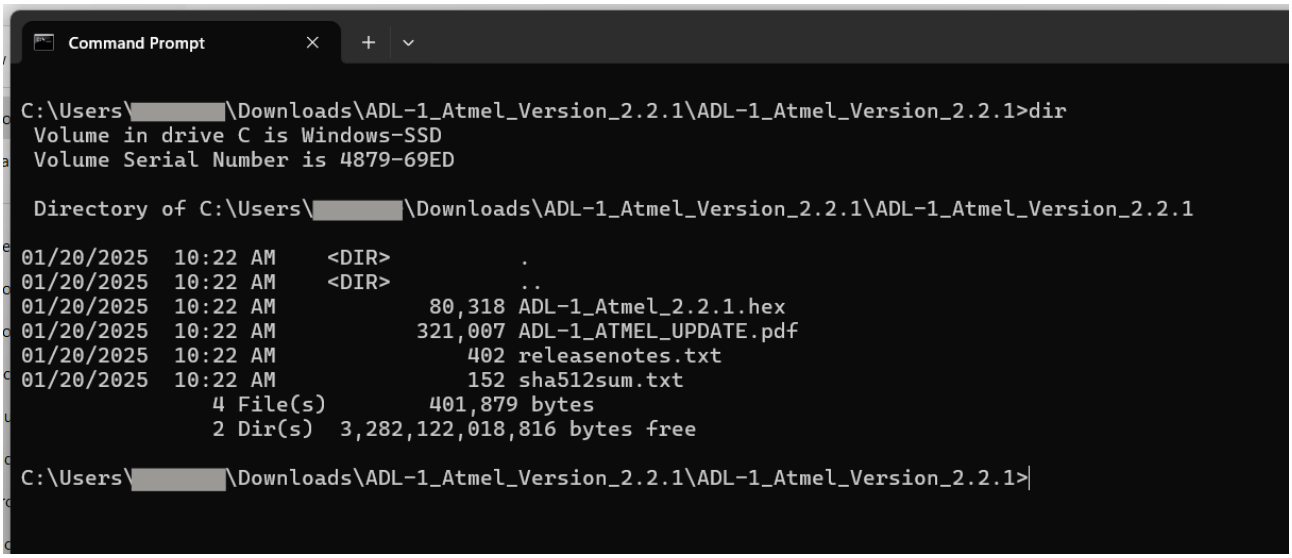
1. Download firmware package from

   https://partisanlabs.com/adl-1-otp-printer-firmware-downloads/

   following the instructions on the page.

2. Right click on the downloaded firmware zip file and choose ‘Extract All’. Once it is complete, keep the window open where the files were extracted. You can get the path from the Explorer bar for the next step.

3. Open a command window and change directory to where the firmware zip file was extracted.



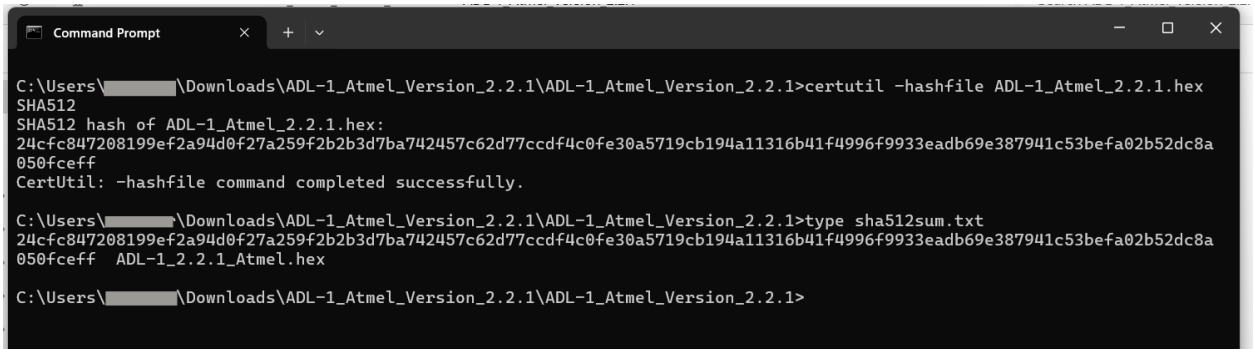
4. In the open command window, check SHA512 hash values for the firmware binaries.

```
C:/<path>> certutil -hashfile  ADL-1_Atmel_2.2.2.hex SHA512
```

The SHA512 hash value will be printed to the screen. Then verify against the hash value in the sha512sum.txt file

```
C:/<path>> type sha512sum.txt
```

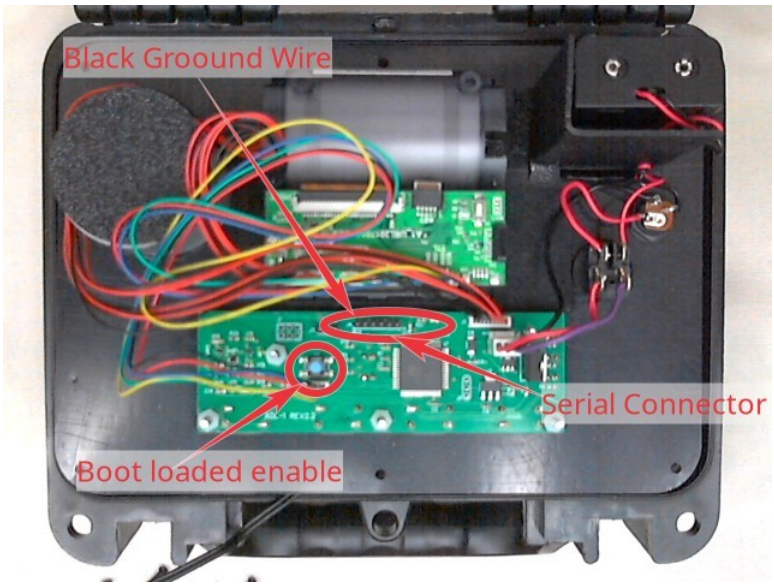
Compare the output from both commands, the hash values must match.



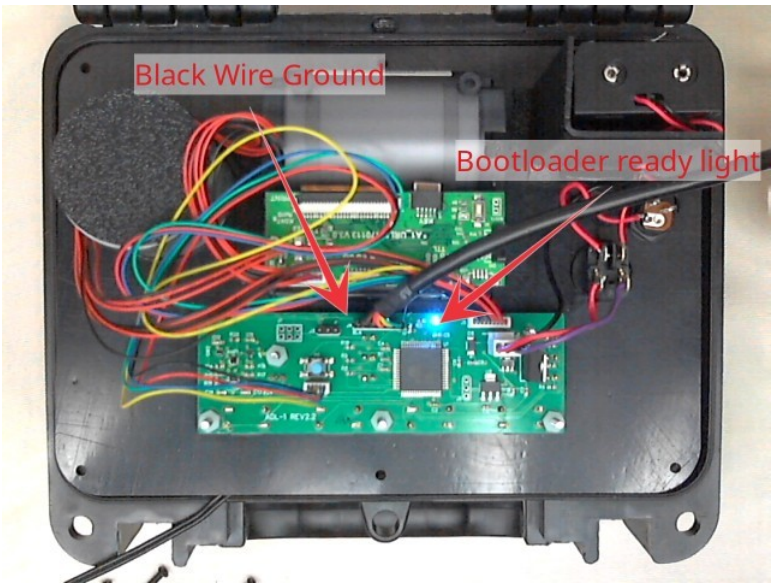
5. Using the 1/16 inch hex key, remove the 6 panel screws.



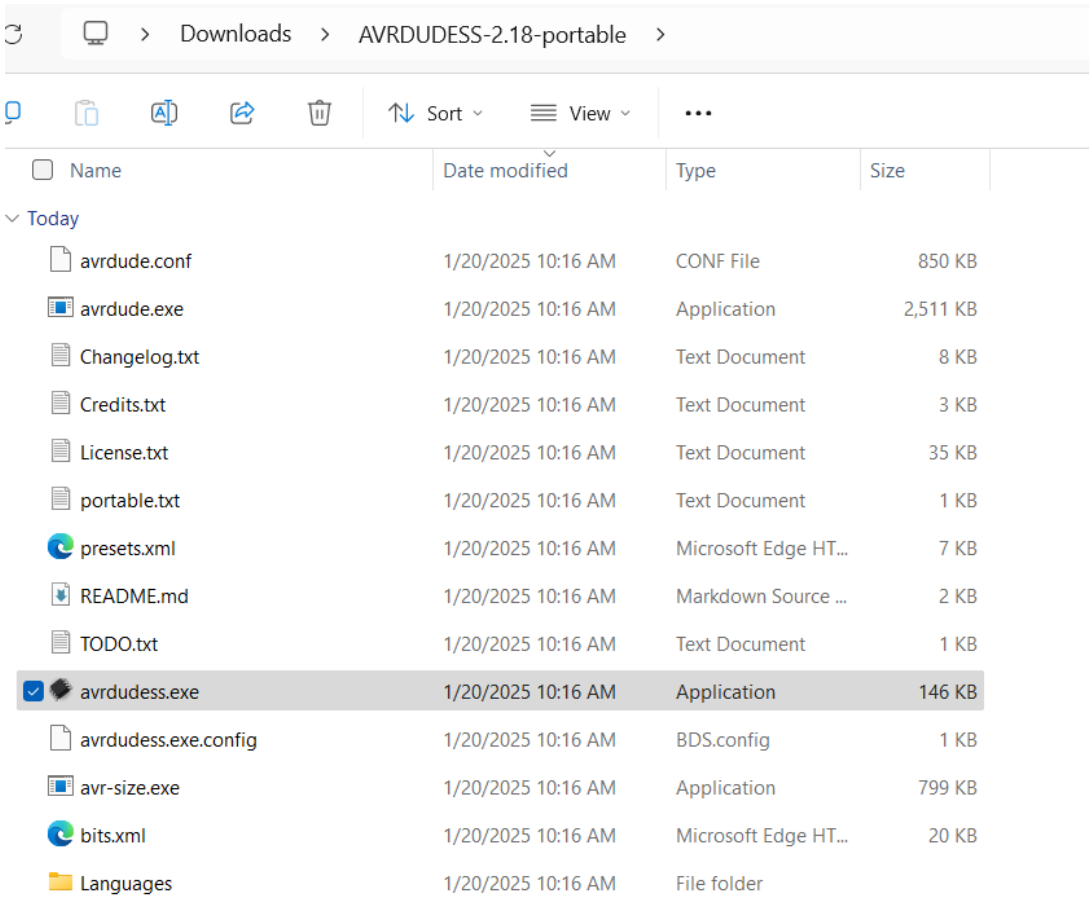
6. Plug in a 12vdc power supply keeping the unit turned off. Flip the panel over and set it back in the case.



7. Plug in the USB to 3.3v TTL Serial cable, making sure to get the ground (black wire on the FTDI cable) to the left as in the picture. Hold down the boot loader enable button and reach under and turn the unit on. The blue boot loader ready light should light up.



8. Once the serial cable is connected, go to the Explorer window where avrdudess was uncompressed. Double click on the file ‘avrdudess.exe’ Windows will probably complain about it, run it anyway.



9. In the window that just opened select the following options:

Programmer: avr911

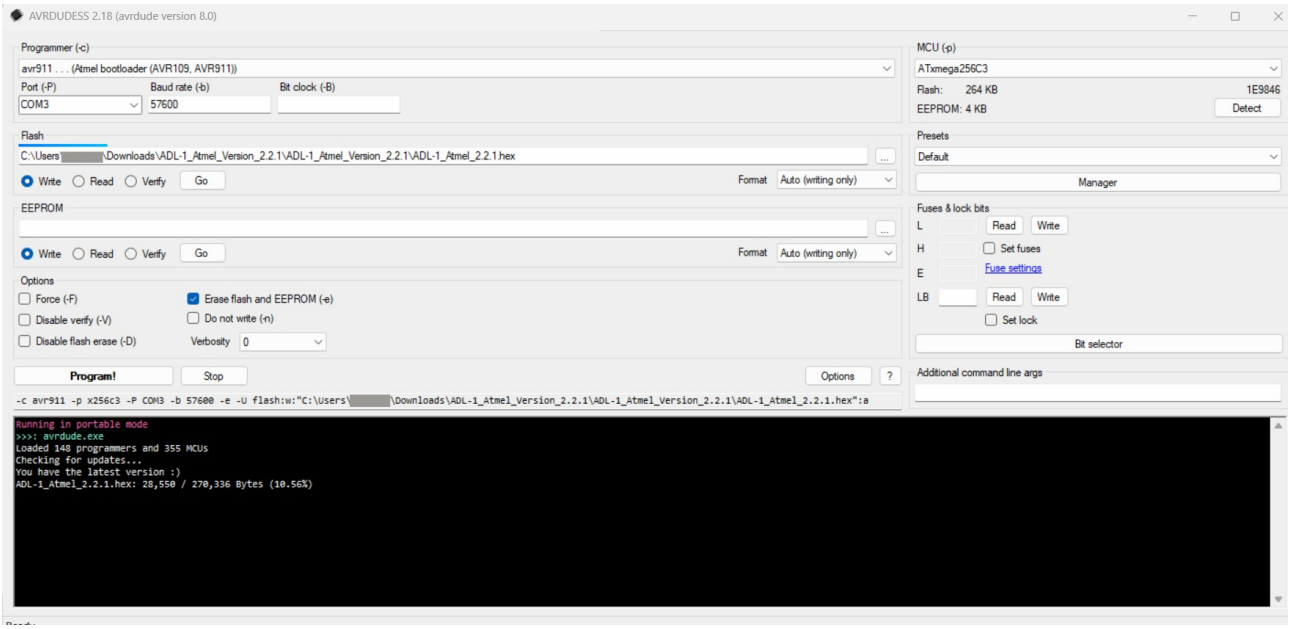
Port: <Whatever port windows assigned the serial cable>

Baud Rate: 57600

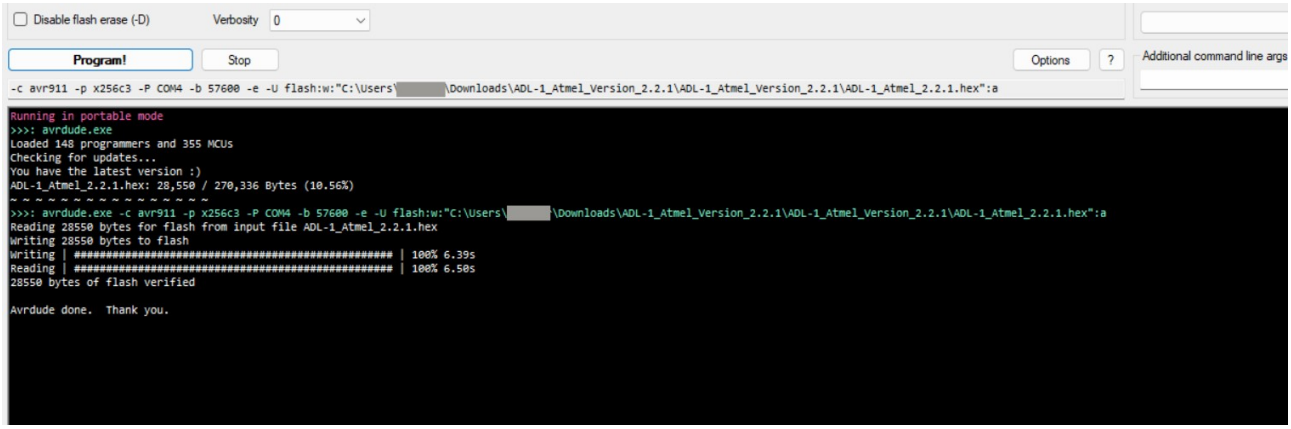
MCU: ATxmega256C3

Flash: <The firmware image path and file>

Options: ‘Erase flash and EEPROM (-e)’ check this.



10. Press the program button, The command output will scroll by in the black area of the window. When it completes it will look like this.



If you get an error about the chip not being a atxmega256c3, turn off the unit and repeat step 7, then go to step 9, replacing atxmega256c3 with atxmega192c3 in step 9. Both chips were used.

11. Turn off the unit, unplug the serial cable and flip the panel back over. Check the firmware version number by holding down the “Generate” button and turning the power on. It will print the currently flashed firmware version. It should be the new version, 2.2.2.

12. Put the panel screws back in, you are finished.

If you have any problems with these instructions, please email us at support@partisanlabs.com