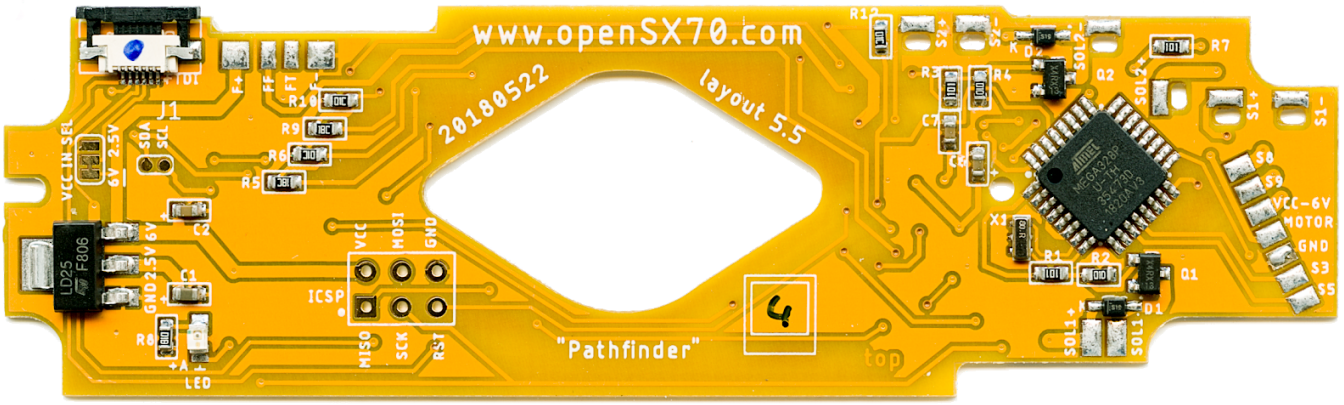
opensx70 software upgrading

version 2.0

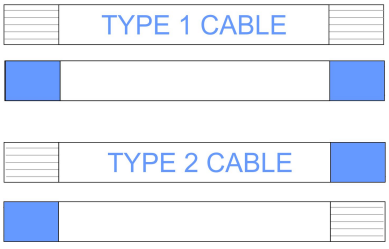
Why do I have to program my camera?
The quick answer is that you don't have to, but you probably want to upgrade to a more up-to-date version of the microcode running in your camera, especially* now that the system is highly experimental.

What do I need?
You need the openSX70 pcb, normally already mounted in the camera.



you need the cable, it can only be either type 2:

FPC cables types

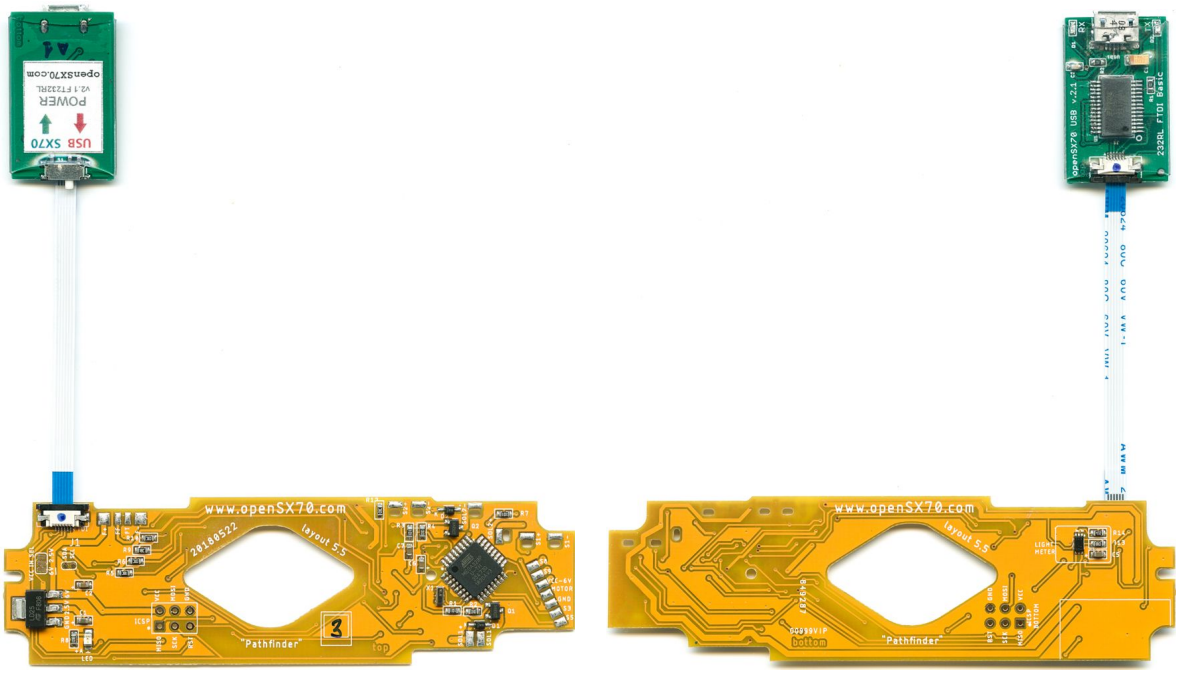


And of course the FTDI-USB adapter, now standard is type D based on the FT232RL FTDI chip:

in the "in camera" configuration getting power from SX70.

The adaptor has a switch once the main PCB is in the camera it has to be in “SX70” position. Then it will get the power from the pack on the camera.

BUT if you want to program the PCB BEFORE is installed in the camera it can be USB powered selecting “USB” in the POWER SWITCH:



How do I connect the FTDI USB adapter?
Please read the assembly instructions as how to connect and different options depending on the connectors installed in the adapter and the camera.
You do not have to leave a FPC cable connected, but I guess it is a good idea initially as to be able to test new sketches or firmware. You can also try different things that are very simple to change on the code.

What about the software needed?
The software is not only compatible with both PC and Mac but also with Linux.

You need to install the “Development Enviroment”

https://www.arduino.cc/en/Guide/HomePage
https://learn.sparkfun.com/tutorials/installing-arduino-ide

Also the FTDI driver
https://learn.sparkfun.com/tutorials/how-to-install-ftdi-drivers/all

-installing the needed libraries
https://www.arduino.cc/en/Guihde/Libraries

The libraries you need are in the main openSX70 arduino Github repository:

https://github.com/openSX70/openSX70-Arduino-main/archive/master.zip

The code (once unzipped) will be in the 1_openSX70_WORKING-EEPROM folder.

Setting all up
You need the camera with an empty cart, the FPC cable properly connected to both the camera and the USB adapter and the USB cable connected to the PC. The IDE must be running and the openSX70 should be opened.
In the IDE menu, *tools* you have to check the port. A new port shoud appear once it is connected a powered. This is good. You can also test the port on your PC by only connecting the adapter without FPC. The port should appear. If it does not check that you have the proper FTDI drivers.

Then also in the *tools* menu you select *board* and then "***Arduino Pro or Pro Mini***"
Next to that in tools is *processor:* choose the option "**Atmega328P 3.3V 8 mhz"**
(Note, you might know that we are running the board at 2.5V, that is alright)

Uploading a new sketch
Just like in a regular Arduino you have to press the right pointing arrow or simply CTRL-U. Of course, as mentioned, you need to have the sketch open in the ide.

Do I need to be a programmer?
Of course you don't, you just have to follow the steps outline before and you will easily upgrade you camera to the latest software.
But there are some things that you might want to test once the sketch is open in the IDE.
You can for example, easily change the shutter speed, or the time you have to keep the red button pressed for the timer delay or things like that.
But that I will explain in a different tutorial document.
V.20180817