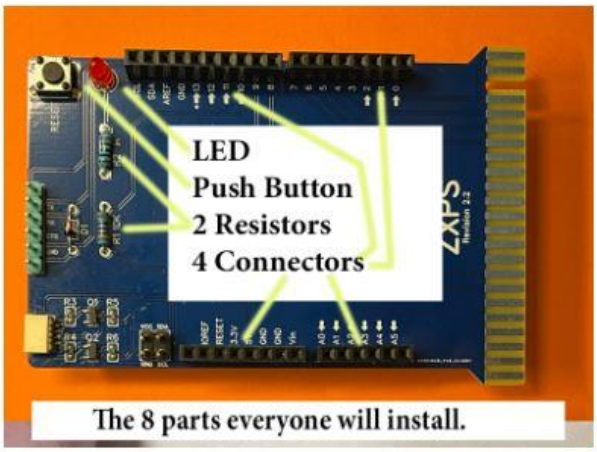
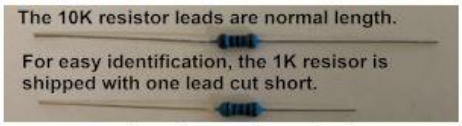
ZXPS Assembly Instructions

Version 0.9 October 24, 2024



8 components for Arduino to Printer functionalily

STEP 1: R1 10K 1/8w axial lead resistor



NOTE: Yes there is a color code, but to make it easier to identify, the 1K resister shipped with this kit has one lead cut.

STEP 2: R2 1K 1/8w axial lead resistor

STEP 3: SW1 Push Button Switch Match the orientation shown below.

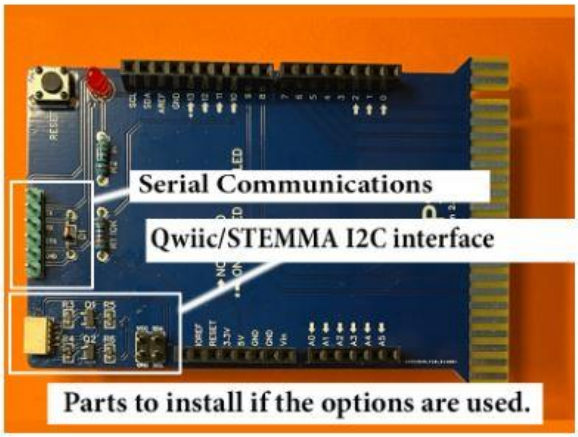
STEP 4: LED The shorter lead, which is the flat side fo the LED base is the cathode. Insert this in the PCB hole marked minus -

STEP 5: Decide which Arduino connectors you want to use.

Most people will want to install the 4 stackable Arduino headers to be able to stack additional shields such as breadboard shields or LoRa shields, or you might want to use the female header connections for project jumper wires. It is also possible to install simple non-stackable headers instead, if for some reason you want a low-profile. Decide which set you want to use and put the set you do not want to use in your parts collection for other projects.

Solder your 4 header connenctors.

This completes the installation of all the components most people will need to use the ZXPS.



Components for Arduino Serial Communication

There are holes on the PCB for J1 which some people might want to use for certain serial connection applications. A 6-pin simple header is supplied as one options if you choose to use these signals. The ZXPS ships with a 6 pin header for use as J1.

STEP 1: D1 1N4148 axial lead diode (match cathode orientation)

STEP 2: Install 6-pin header

If you are going to interface to a 3.3 or lower voltage I2C sensor you may want to use the optional Qwiic/STEMMA circuit on the ZXPS.

IMPORTANT NOTE: The ZXPS Qwiic/STEMMA is implemented with Arduino pins A4 and A5, which are not the standard Arduino I2C pins and requires the use of an I2C software library. Depending upon your Arduino programming skills, you may find this easy or difficult. Additional ZXPS support documention for this is being developed.

Qwiic/STEMMA I2C Interface Assembly

The ZXPS Qwicc/STEMMA interface uses 8 SMD components, but to install it requires good eyesight and surface mount device soldering skills and tools.

I personally have have assembled these components at times solely with a soldering iron, at at other times with a hot air gun. Both ways, I found it challenging.

Notice that the JST connector has two solder areas other than the 4 connector pins for anchoring to the PCB optimized for solderpaste and a reflow oven, but a challenge otherwise.

Assembly recommendations for this Optional Qwiic/STEMMA I2C Interface, probably including a video, will be released soon.