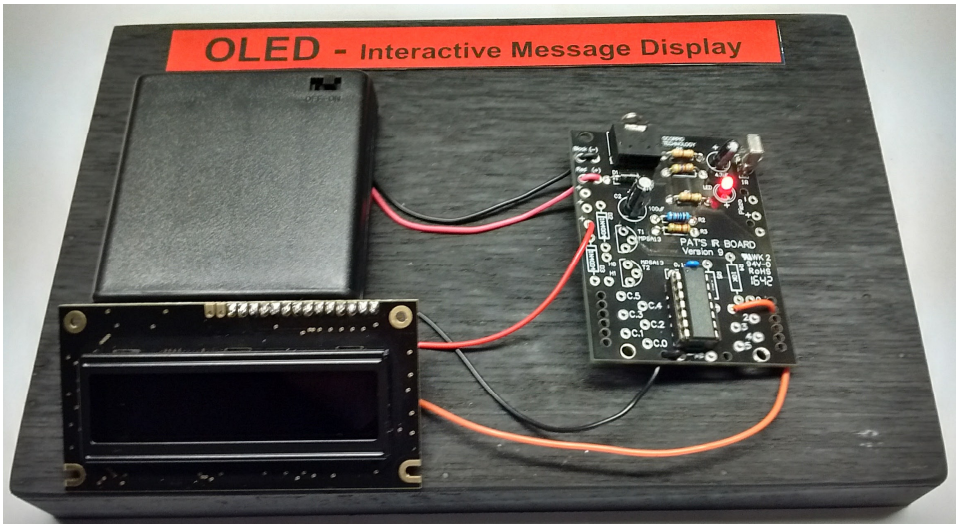
How to Build an Infrared Interactive OLED

Pat McMahon– V1– 22/3/2017

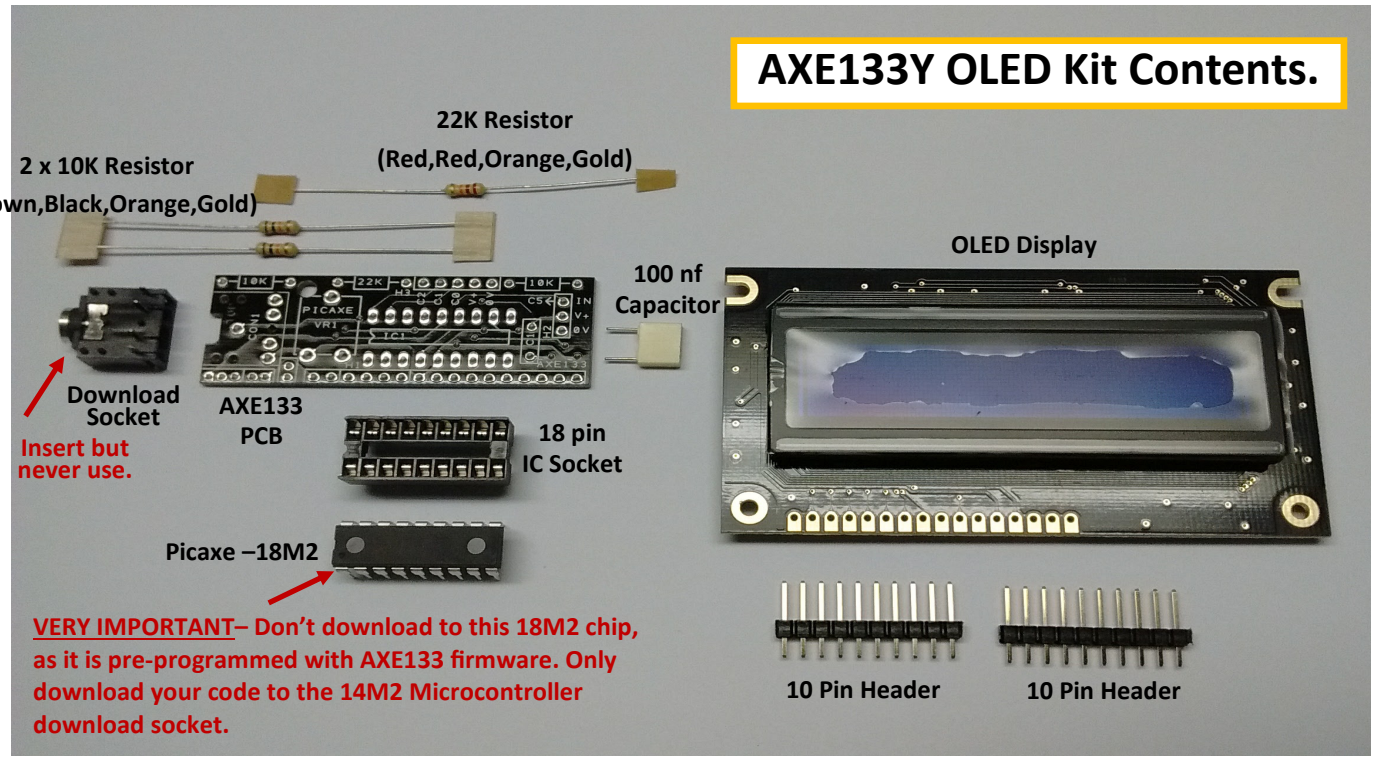
Design Brief – Build an AXE133Y Serial OLED Display to make an Infrared Interactive Display run and coded from your Picaxe 14M2 Microcontroller.

Note – The photos taken in this "How to Build" are using the Revolution Education AXE133Y Serial OLED Display

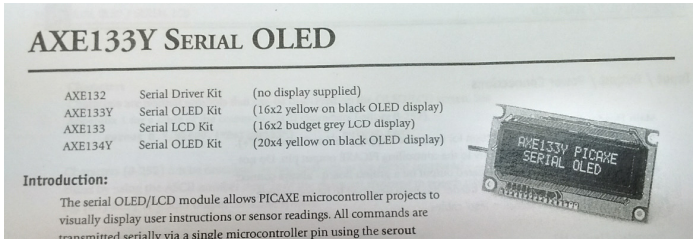


Below are some of the Production Steps for the above model, or you can use your own mounting design.
Tick off each box as you complete a task and Document it.

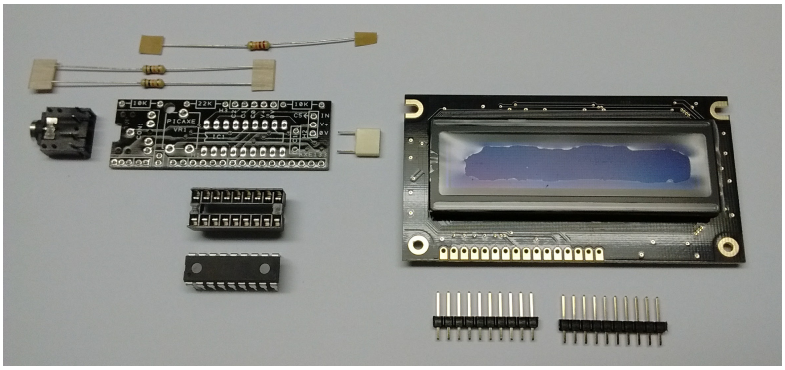
Below are the main parts required to construct your AXE133Y Serial OLED Display.



☐ **Note– Use in conjunction with the Revolution Education instructions supplied.**



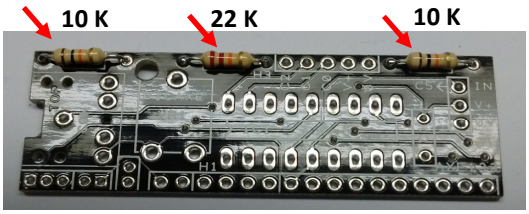
☐ **Open the AXE133Y serial OLED package and lay out the parts for Identification.**



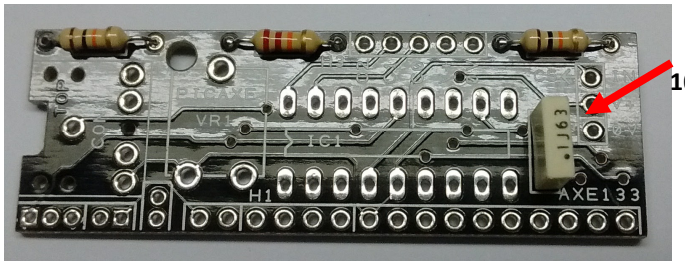
☐ **Solder 2 x 10K Resistors (Brown,Black,Orange,Gold) and 1 x 22K Resistors (Red,Red,Orange,Gold) into PCB.**

Insert from Artwork side & solder underneath.

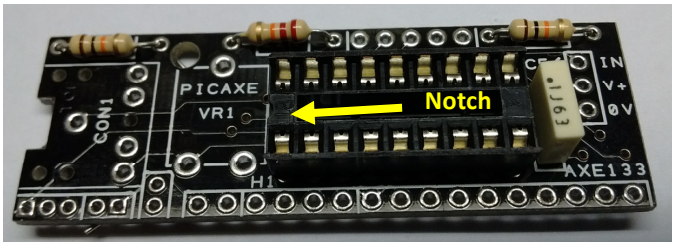
Note – No polarity with Resistors, insert either way.



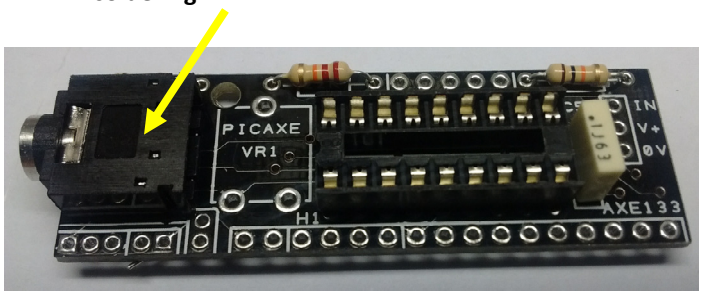
☐ **Solder White 100 nf Capacitor in C1.**



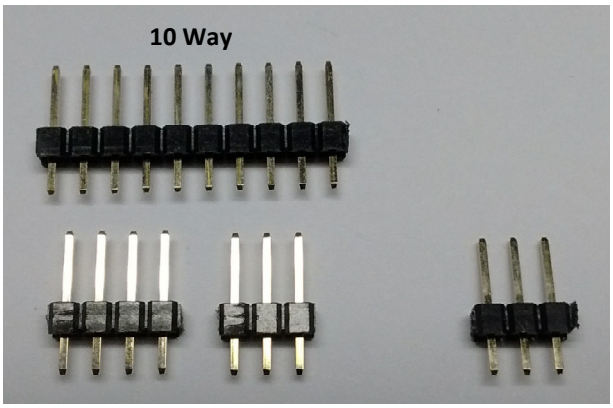
☐ **Solder 18 pin IC Socket in IC1. Ensure the notch is to the left as per Artwork. Hint– Hold in position & bend over the legs to stop it moving, before soldering.**



☐ **Fully snap in & solder the 3.5 mm Stereo Socket.**
Note– The two pairs of pins are connected, so don't worry if the two have solder between them when soldering.

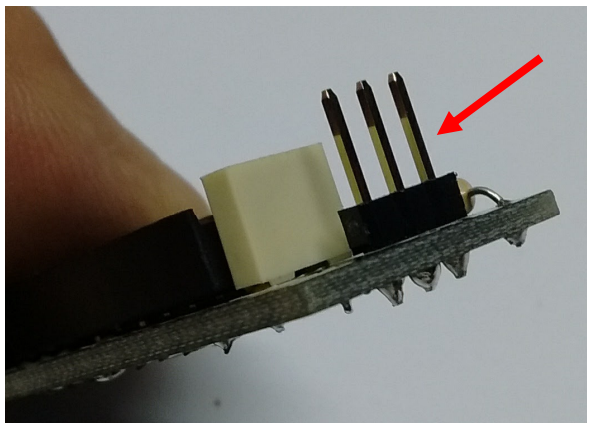


☐ **Snap one only of the 10 way Headers into a 4 way & 3 way section.**
You will have a 3 way section extra which won't be needed.

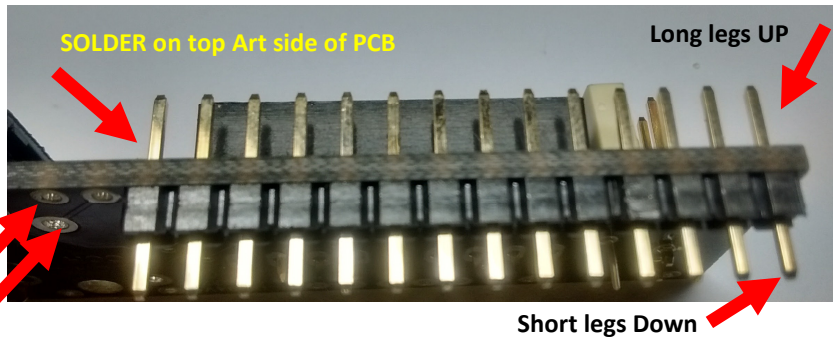


☐ **Mount the 3 Way section on the top side into H2.**

Ensure the long leg side of the header is facing up.



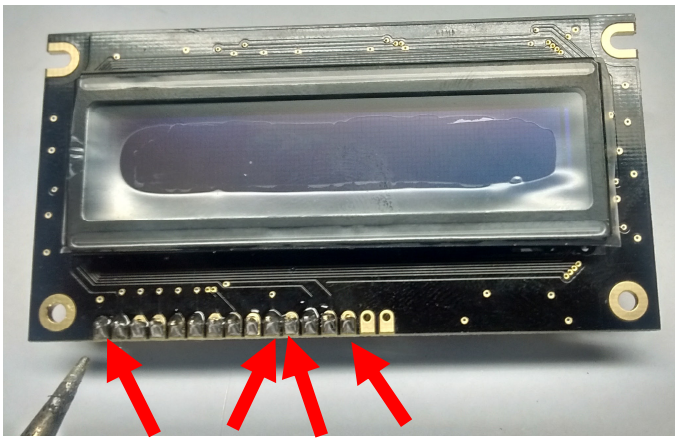
☐ **Fit the 14 way Header (10 + 4 way) into H1.**
VERY IMPORTANT NOTE– Insert from under neath the PCB to the far right, with the long legs facing up & the small legs facing down. Leave the 2 doughnut pads on the left free. Solder H1 on top Artwork side of PCB.



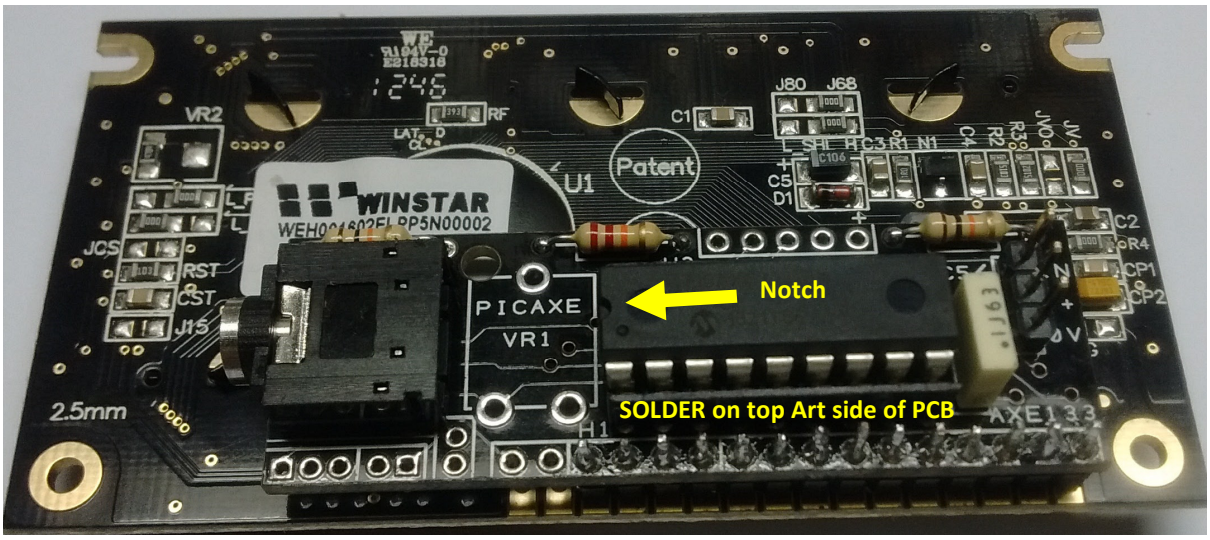
☐ **IMPORTANT– Double check all the solder joints on the PCB to ensure they are correctly soldered. It is not possible to adjust once the OLED Display has been fitted to the PCB.**

☐ **Place the OLED Display onto header H1 and ensure it is parallel to the PCB & solder.**

Hint– Solder each end of the 10 & 4 way header first to get parallel then solder the rest.

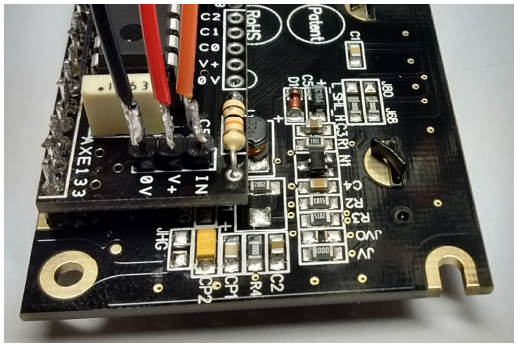


☐ **Carefully insert the 18M2 chip into the IC socket. Ensure that the 1/2 notch is facing to the left, as per the Artwork.**

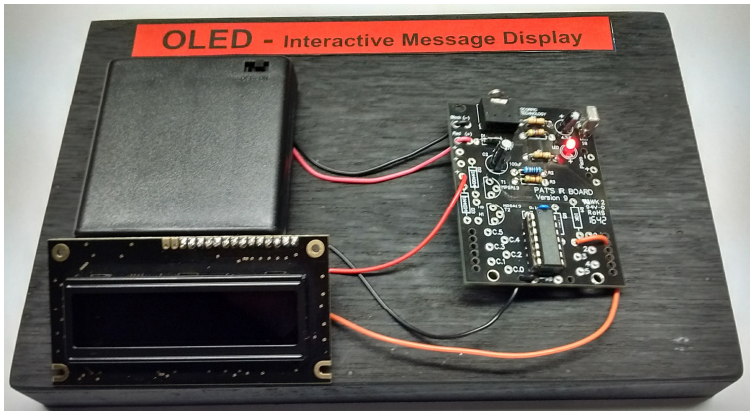


☐ **Solder 3 x 200 mm long coloured wires, as connections to the 3 pin header (H2) on the OLED PCB.**

Black to 0V, Red to V+ and Orange to IN.



☐ **Build Pat's 14M2 Microcontroller as below and connect the 3 coloured wires & battery Pack wires as below. Then attach it, the Battery Pack and the OLED Display with 2.5 mm Metal Threads to your Mounting Plate. Attach any operational Artwork instructions to your Model.**

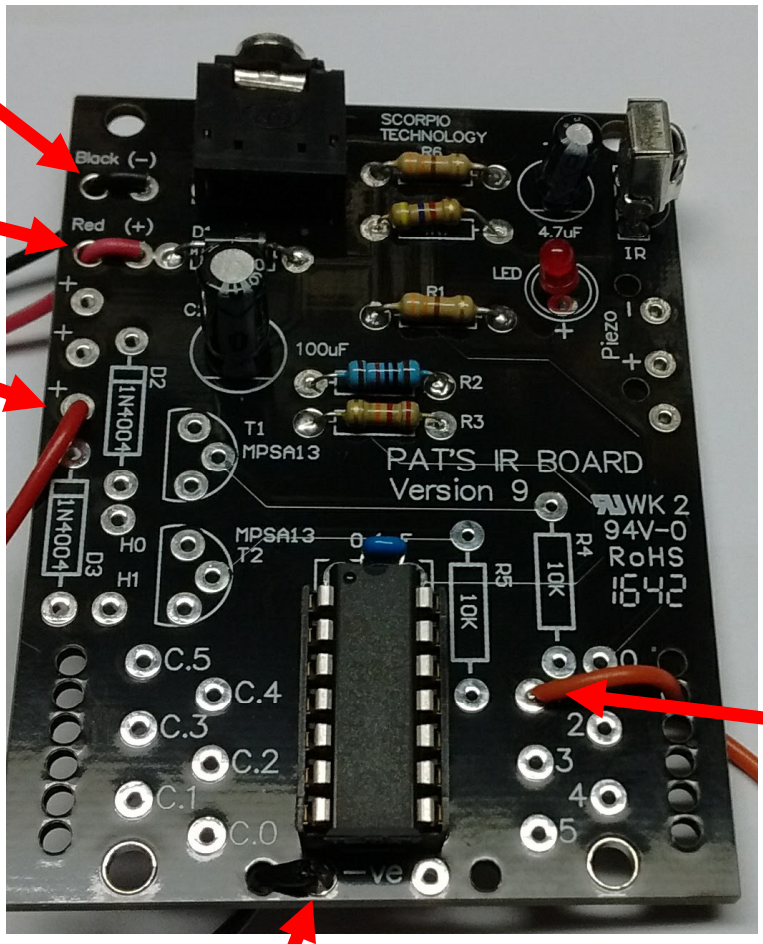


How to Connect to your 14 M2 Microcontroller

Battery Pack Black Negative

Battery Pack Red Positive

Red OLED wire Positive to +



Orange OLED Signal Wire to Pin 1

Black OLED wire Negative to -

Note - Insert the download cable from your computer into the 14M2 Microcontroller to Program or Code your model to the desired text, NOT into the pre programmed 18M2 chip on the OLED.

Congratulations on Building & Coding your own Infrared Interactive OLED Display, Well Done!