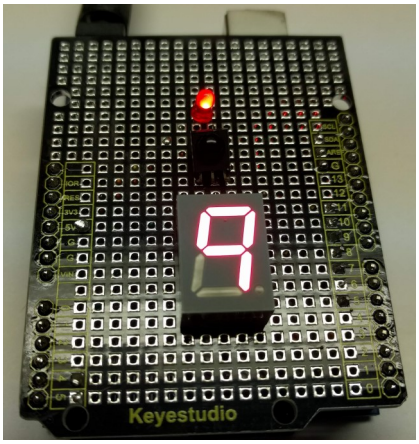
How to Build Pat's "Infrared 7 Segment Display, Arduino Uno R3 Shield".

Pat McMahon– V1– 7/10/2022

Design Brief – You will Build an "Infrared 7 Segment Display Shield", to piggy back on to an Arduino Uno R3 Microcontroller.

Infrared 7 Segment Uno Shield

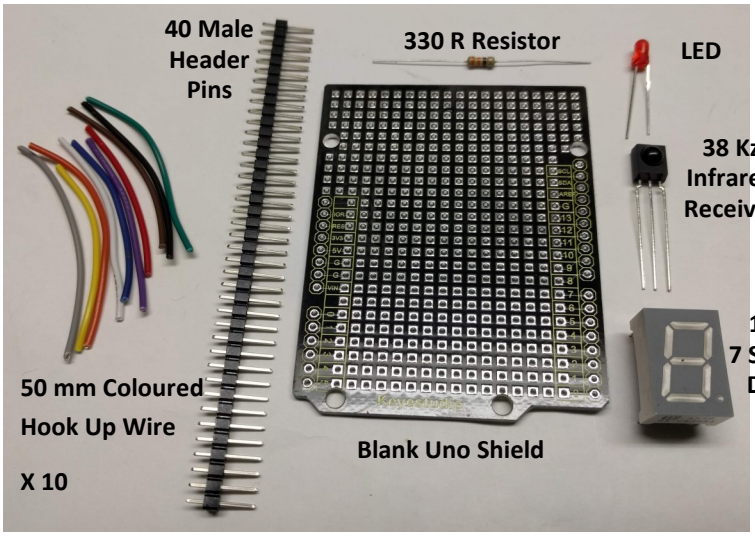


Analog Pins

Digital Pins

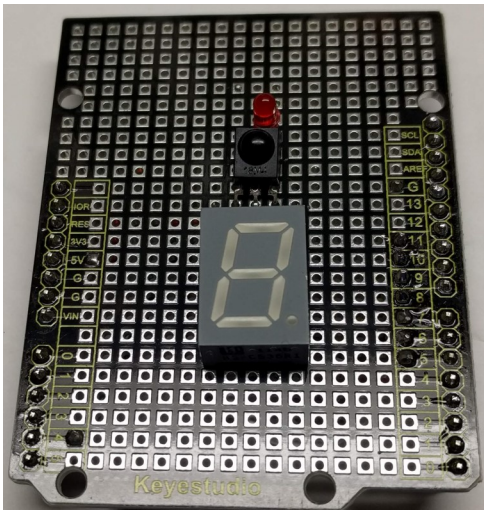
Note—If using the large Common Cathode 6V Jumbo 7 Segment Display, insert the LED & IR Receiver on the side and use the different pins as below. Some Jumbo's require an extra 9V supply to Vin with a common Gnd. Contact Pat if you have a Common Anode 7 Segment Display.

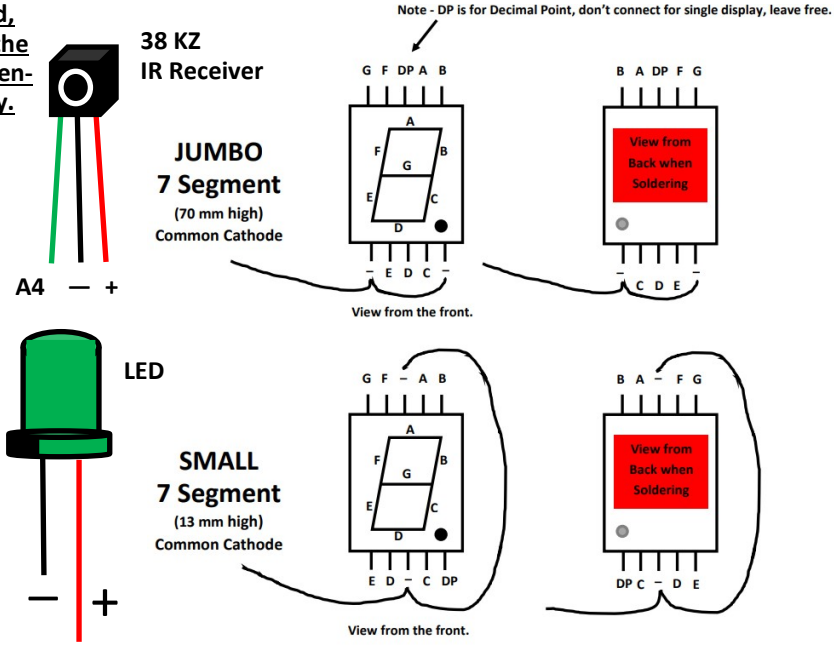
Components List of Build



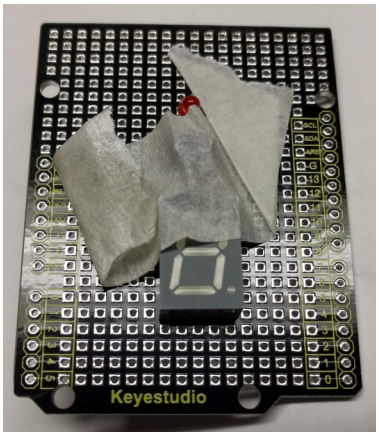
Below are some of the Production Steps, for the small 7 Segment Display. Tick off each box as you complete a task and Document it.

☐ **Place the components on the front of the Shield, aligning the negative short leg of the LED with the centre negative leg of the IR Receiver and the centre negative legs of the Small 7 Segment Display.**



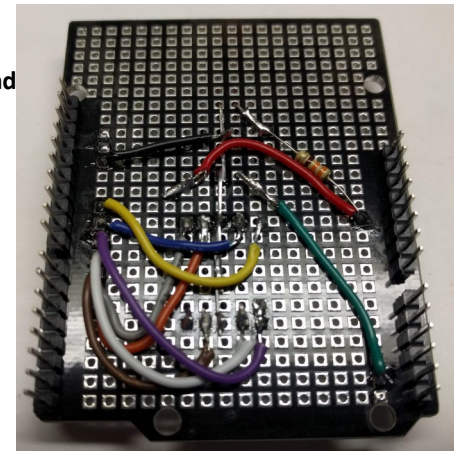


☐ **Place a piece of masking tape over the components, so you can flip the shield over for soldering.**



☐ **Flip and Solder the components, using the info below & the full page photo following for clarity.**

-LED positive to 330R to +5V
-LED negative to common Gnd
-7 Seg A to Pin D5
-7 Seg B to Pin D6
-7 Seg C to Pin D7
-7 Seg D to Pin D8
-7 Seg E to Pin D9
-7 Seg F to Pin D10
-7 Seg G to Pin D11
-7 Seg —'s to common Gnd
-IR Rec + to shared +5V
-IR Rec — to common Gnd
-IR Rec Signal to A4



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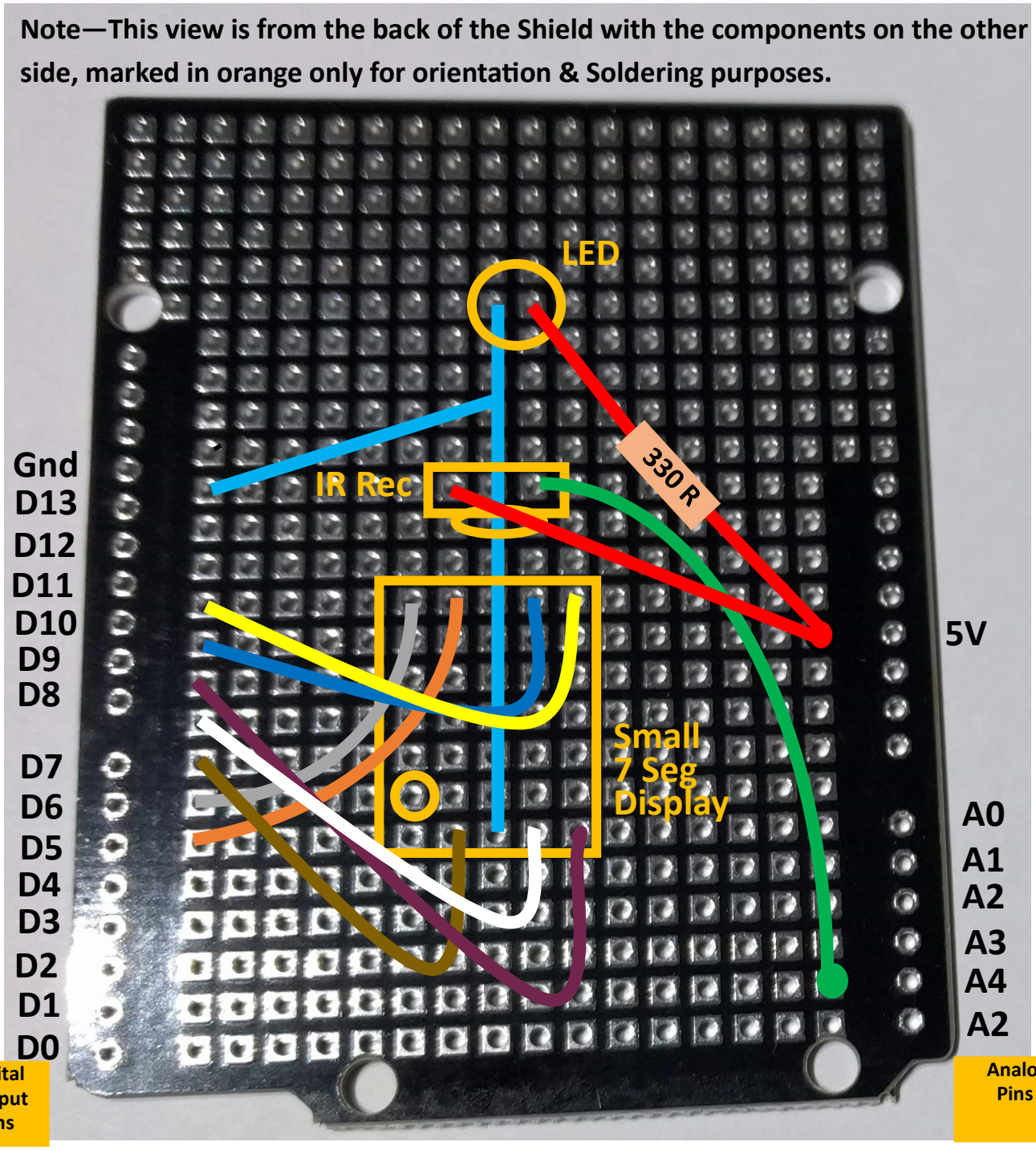
☐ Use this larger diagram and the hook up info below, to carefully solder your components.

Note—This view is from the back of the Shield with the components on the other side, marked in orange only for orientation & Soldering purposes.



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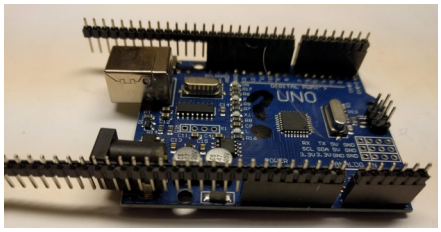
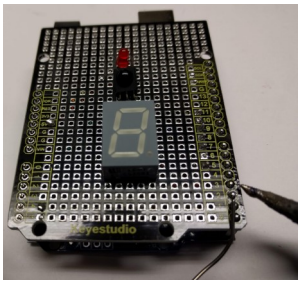
-7 Seg G to Pin D11
-7 Seg —'s to common Gnd
-IR Rec + to shared +5V
-IR Rec — to common Gnd
-IR Rec Signal to A4

☐ Use the 40 pin header, placing the long legs in the Uno and then snap them to length.



☐ Place the completed Shield on top of the uno & solder the short pins.



☐ Go to patsrobots website > Infrared 7 Segment Display Shield > A064 > Code

Copy & Paste it in to the Arduino IDE, Upload & Test. CONGRATULATIONS!