Fusion Drive assembly instructions.

Enclosed you will find the following components

1 board

1 - 1 ohm resistor (bands – brown black gold gold)

2 – 2.7k resistors (bands – red purple red gold)

1 – 100k resistor (bands – brown black yellow gold)

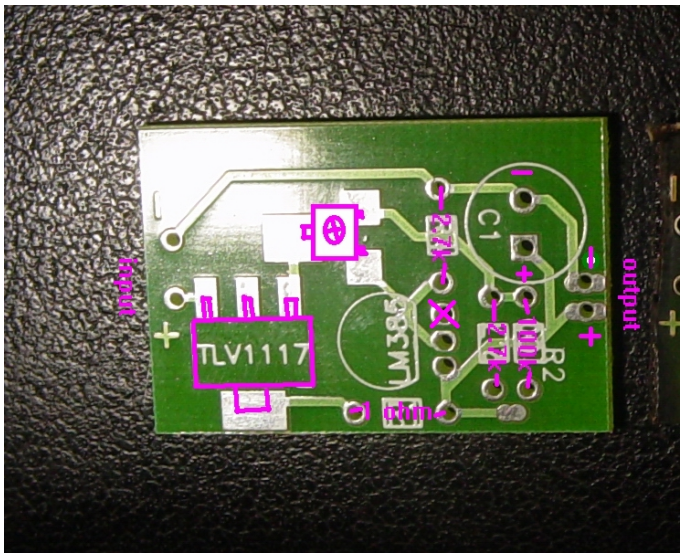
1 – Capacitor

1 – Voltage regulator (TLV1117)

1 – Lm385

1 – potentiometer

Most of the component locations are labeled on the board and are pretty straight forward. There are 2 changes from the layout that need to be addressed.



The output on the laser diode and capacitor's placement is backwards. Where it is labeled + it should be negative. So, your capacitor will be placed opposite the way that it is labeled.

2nd, the lm385 pictured to the side is correct in its placement from the top of the board with the hole below the "5" and "8" not used at all. Only the holes below the "lm3" will be used. If you place the lm385 on the bottom side(unprinted side) the orientation will rotate 180 degrees. Pictured above is what I call top of the board and will forever understand this is the top. So when top is mentioned I will be referring to the top of the board in the picture. I.e. left, right, top, bottom - not the unprinted side of the board. There are two components that have to be mounted on the top section and that is the regulator (TLV1117) and the potentiometer. I will also include this on the forum threads so that the images can be viewed larger.

R2 is the resistor you choose to select either bluray mode or Red mode. The 100k resistor is used for bluray mode, and the 2.7k resistor is used for Red mode. You will need to jumper between the 1 ohm resistor and whichever mode you would like to select. You will see a pad specifically designed for this purpose right next to the mounting of R2 on the bottom of the board. The trace goes right to the 1 ohm resistor. I would recommend NOT installing the resistor that you are NOT going to use. So, if your going to want bluray mode, do NOT solder on the 2.7k resistor on R2. Vice versa, if you are using Red mode, do Not solder on the 100k resistor. This will prevent any accidental shortings to the trace below it from excess solder.

Once the driver is assembled, you can hook in your load (preferred is the diode method for load), to the output, and hook the driver to power. Anywhere from 5.5v - 9v. and read voltage across R1 (1 ohm resistor) to get direct representation of output

current in milivolts. If you are reading 300mv across R1, your output current is 300ma. You can then adjust the potentiometer to adjust current to the desired level. Once you have reached your desired current, you can remove your load and swap out for your laser diode.