Board – Chassis Integration Part 1

Wall of Sound.ca DIY all tube phono preamp project

Tools and supplies required:

Soldering Iron

Various screw drivers and pliers

1.5mm and 3mm hex (Allen) keys

5-minute epoxy

Clear nail polish

Heat gun for shrink tubing

I have an ancient Weller but a buddy has an SMT rework heat gun that works well for shrink tubing. Available from Amazon for about $70 CDN.

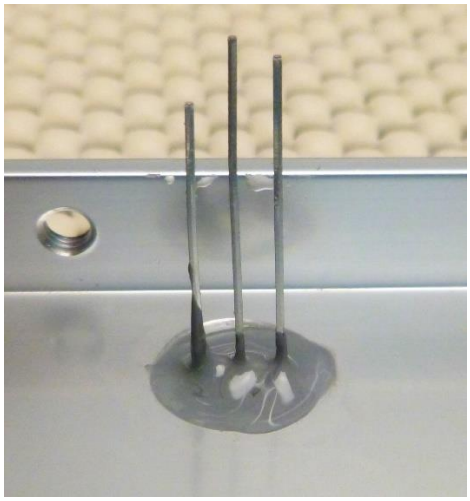
https://www.amazon.ca/Sigma-Desoldering-Station-Digital-Displays/dp/B00UH90G9Y/ref=sr_1_2?s=hi&ie=UTF8&qid=1540386625&sr=1-2&keywords=wep+858d&dpID=513NBo-JdfL&preST=_SX300_QL70_&dpSrc=srch

Clean the chassis front panel all over with solvent paying special attention to the bevelled hole for the LED.

Clean the plastic body of the LED with alcohol.

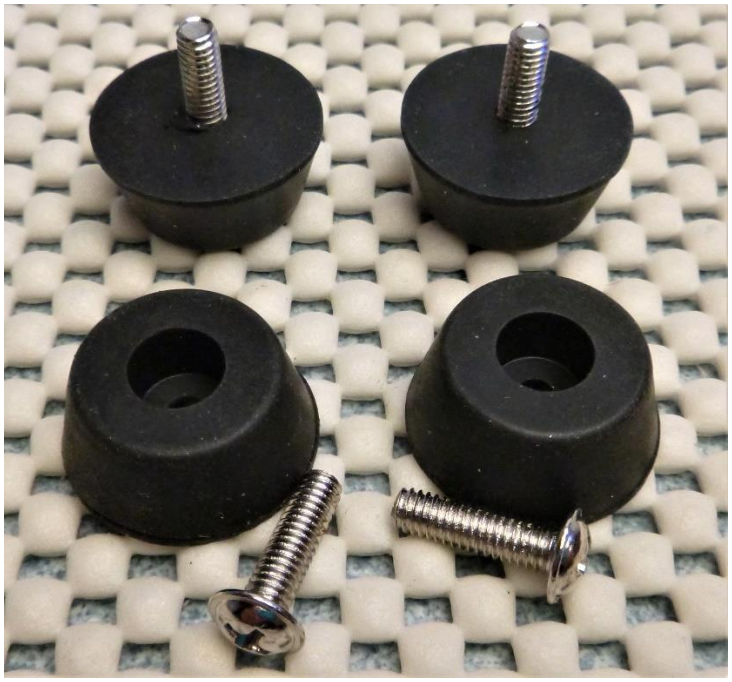
Assemble the LED to the beveled hole as shown below.

Mix some 5 minute epoxy and apply around the LED as shown.



Even though it’s 5 minute (or ten minute or what ever is available) I like to let the epoxy cure for several hours.

Assemble the four flange-head M4 screws to the four rubber feet included with the chassis.

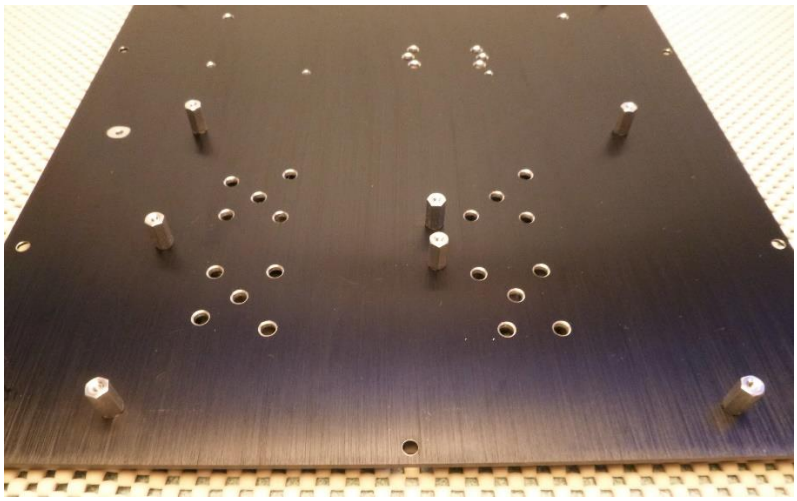


Wipe the bottom plate all-over with solvent.

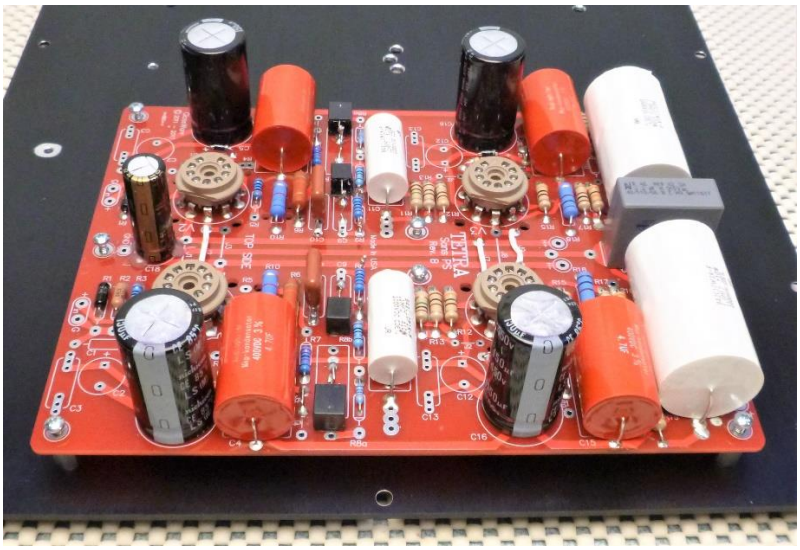
Assemble the four, foot-screw assemblies to the corner holes. Put a drop of nail polish on the thread part of the screws protruding through the chassis bottom and assemble the nut.

Locate the bag containing the seven spacer-screw assemblies included with the amplifier board kit.

Assemble the seven short 4-40 screws, one at a time, to the chassis bottom putting a drop of nail polish on the thread each. Thread a spacer over the screws, finger tight.



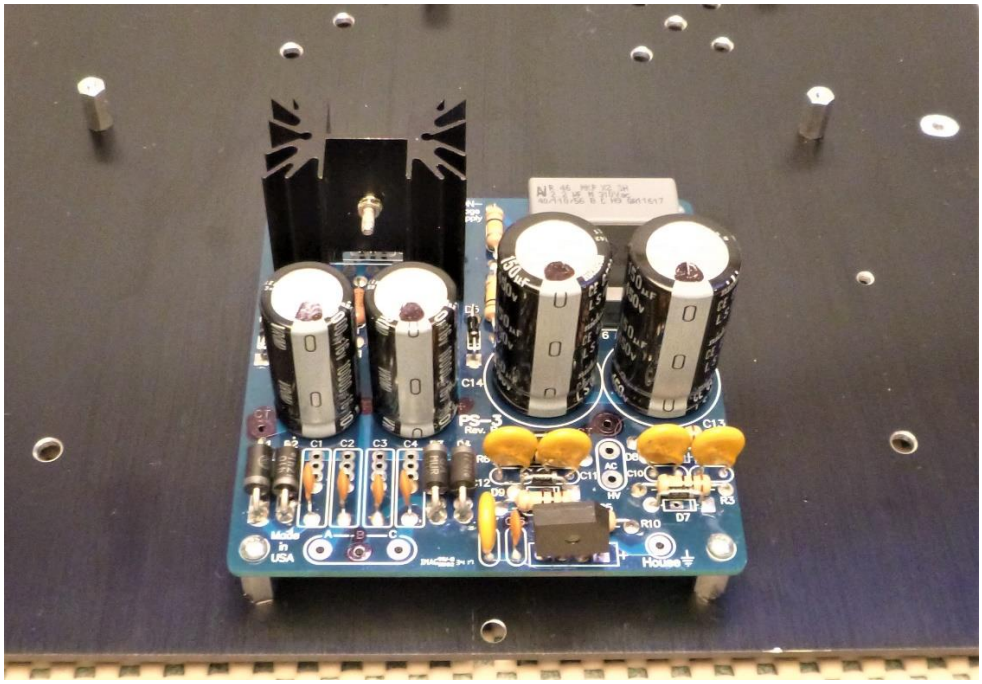
Place the amplifier board on the spacers and start seven 4-40 screws into the spacers as shown below.



Securely tighten the screws securing the spacers to the chassis bottom.

Remove the screws securing the board to the spacers and set the board aside.

In the same manner attach the four spacers for the power supply board to the chassis bottom as shown below. Note that the edge with the heatsink is closest to the amplifier board location.

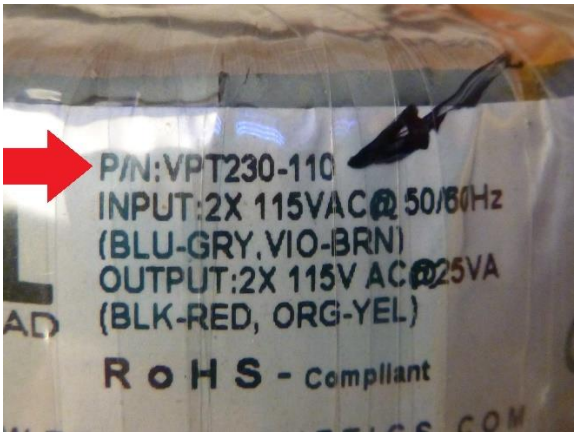


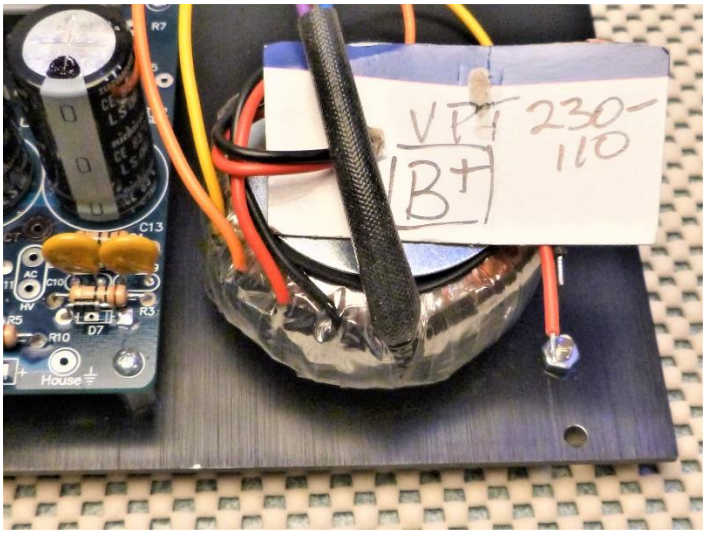
Leave the power supply board in place temporarily to assist with placement of the transformers.

Assemble the hex bolt included with the transformer up through the bottom of the chassis to the **right** of the power supply board as shown below.

Assemble one of the rubber washers over the bolt.

Drop the **B+** transformer, VPT230-110, over the bolt so that it is roughly centered on the bolt and the wires are oriented as shown below.





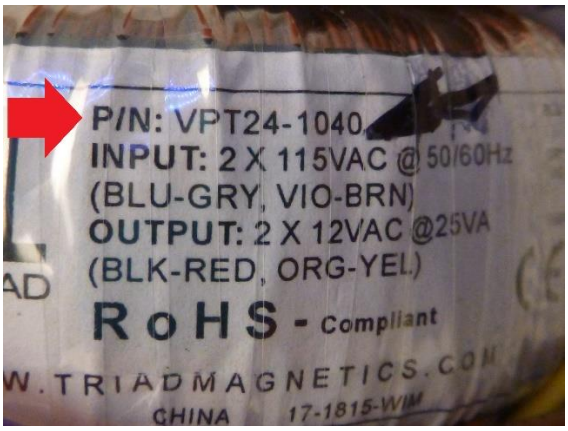
Assemble another rubber washer, the dished metal plate, the flat washer, the lock washer and the nut to the bolt.

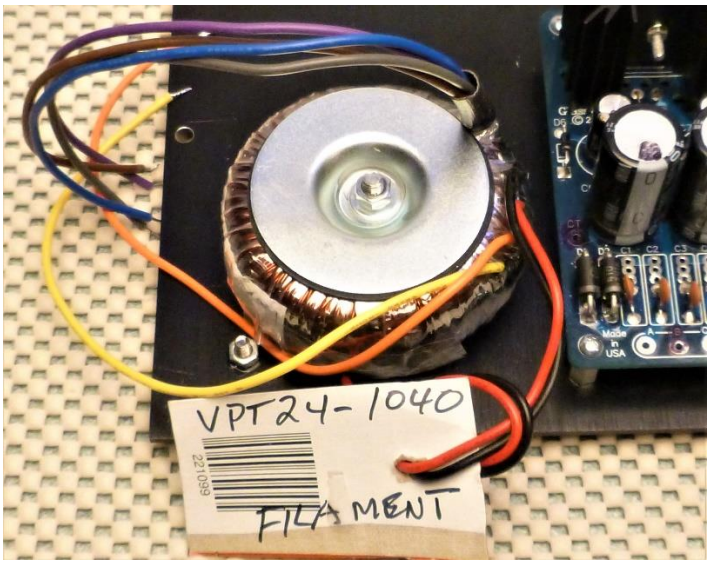
Slide the transformer side to side as required so there is a 3/8” (10mm) gap between it and the board.

Tighten the nut and bolt securely.

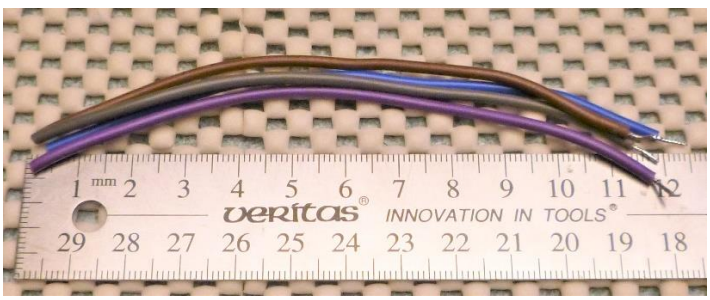
Apply a drop or two of nail polish across the bolt, nut, washers and dished plate.

In the same manner that you assembled the B+ transformer, assemble the **Filament** transformer, VPT-24-1040, to the **left** of the power supply board as shown below. Position it 3/8" (10mm) away from the board with the wires oriented as shown.



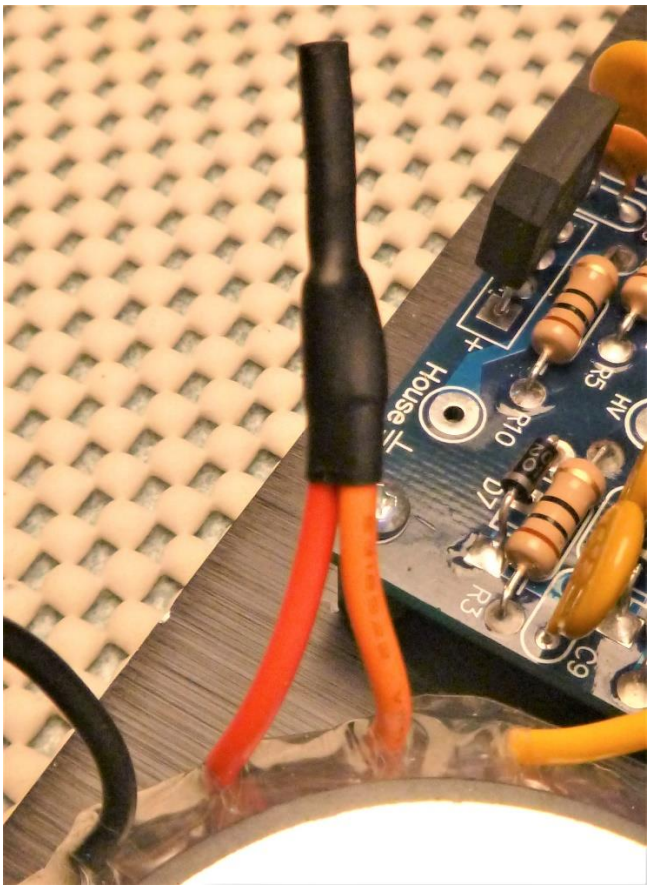


Cut 4¾" (120mm) from the blue, gray, violet and brown leads (these are the two primaries) off of the **FILAMENT** transformer. This should leave about 3¼" (82mm) remaining on the transformer.

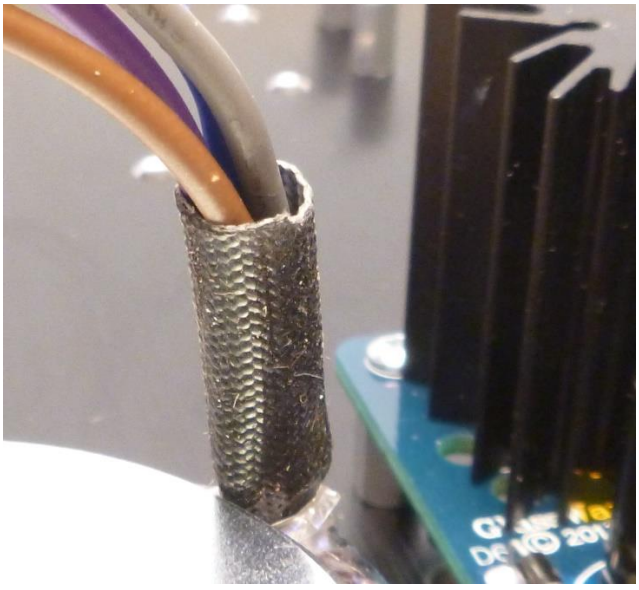


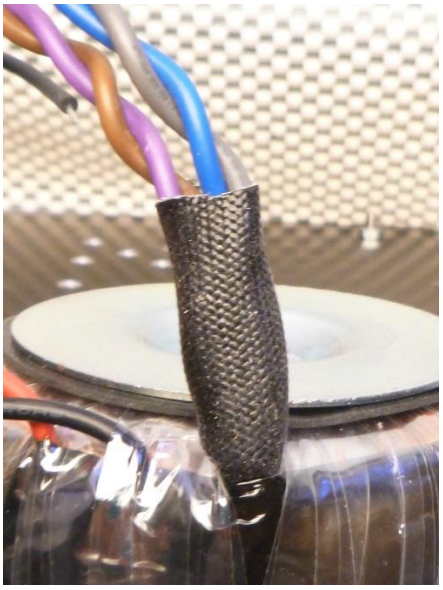
The offcuts are spliced to the same coloured wires on the B+ transformer. Solder the connections and cover with heat shrink, see below.

Cut the red and orange wires on the **B+** transformer to 1¼” (30mm) long. Strip the ends, twist together, solder and cover with **2** layers of heat shrink, see below.



Trim the black sleeves of both transformers to about 1” (25mm) long being careful not to cut the wires inside.





Cut the black and yellow leads on the **B+** transformer to 3½” (90mm) long.

Cut the black, red, orange and yellow leads on the **Filament** transformer to 4” (100mm) long.

Remove the power supply board from the chassis and set aside.

Strip 3/8” (10mm) from the ends of all the transformers leads (except from the red and orange already soldered together).

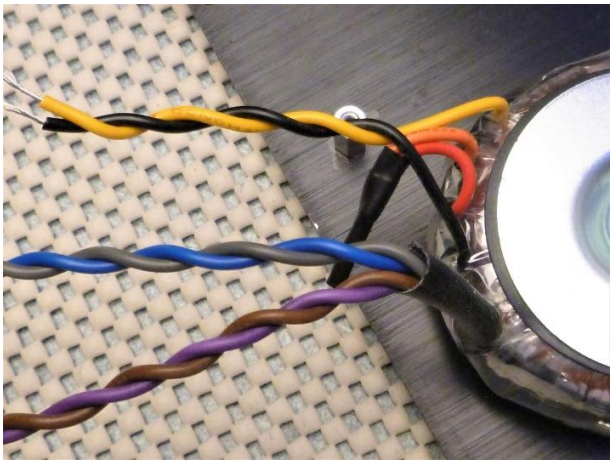
Twist the blue and gray wires together on both transformers. See below.

Twist the violet and brown wires together on both transformers.

Twist the black and yellow wires together on the **B+** transformer.

Twist the black and red wires together on the **Filament** transformer.

Twist the orange and yellow wires together on the **Filament** transformer.



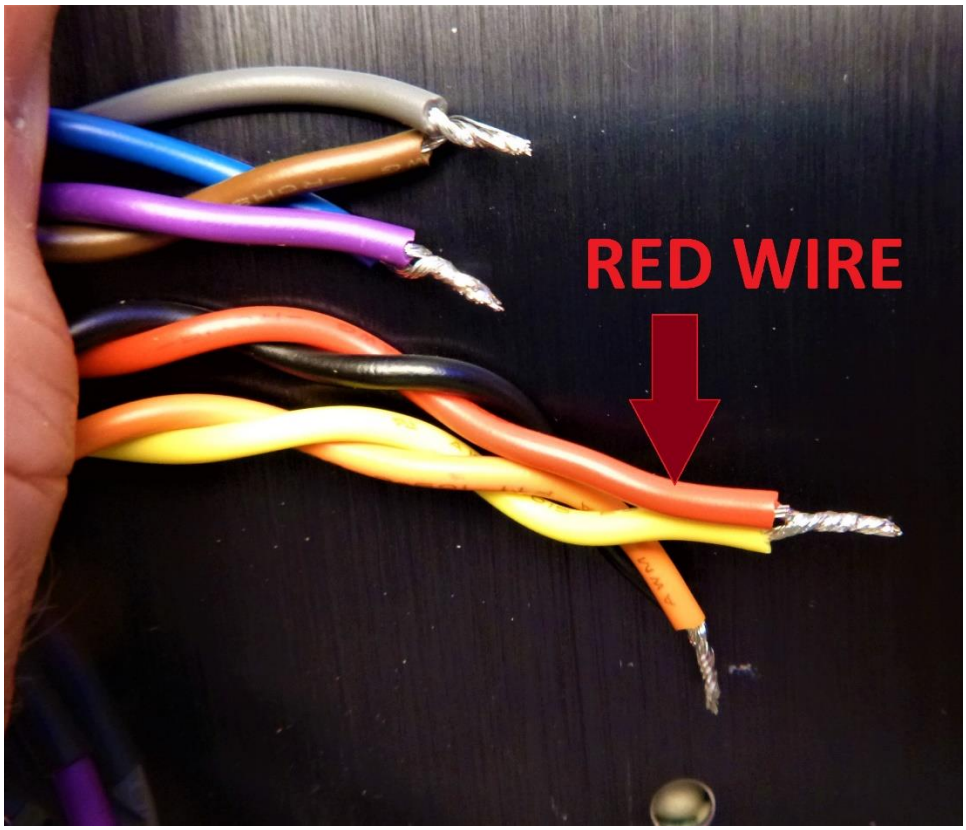
B+ transformer ↑ ↑ Filament transformer

On the **Filament** transformer twist the stripped ends of the blue and violet wires together. Melt a very small amount of solder on them just to keep the strands together. See below.

On the **Filament** transformer twist the stripped ends of the gray and brown wires together. Melt a very small amount of solder on them just to keep the strands together.

On the **Filament** transformer twist the stripped ends of the black and orange wires together. Melt a very small amount of solder on them just to keep the strands together.

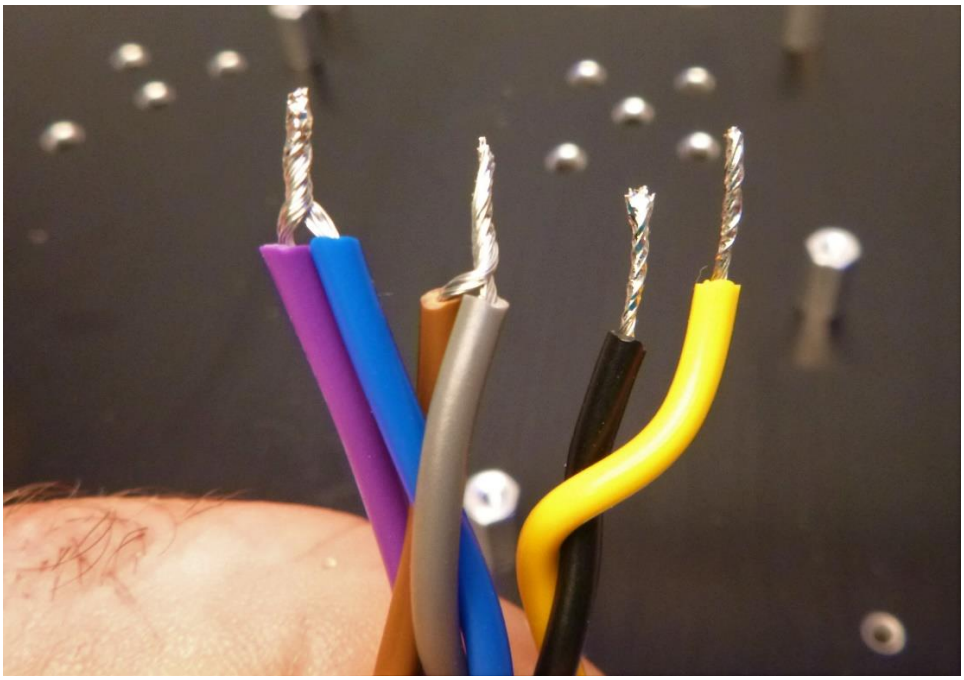
On the **Filament** transformer twist the stripped ends of the red and yellow wires together. Melt a very small amount of solder on them just to keep the strands together.



On the **B+** transformer twist the stripped ends of the blue and violet wires together. Melt a very small amount of solder on them just to keep the strands together. See below.

On the **B+** transformer twist the stripped ends of the gray and brown wires together. Melt a very small amount of solder on them just to keep the strands together.

On the **B+** transformer melt a very small amount of solder on the yellow and black wires individually just to keep the strands together.



Continue with Part 2 of the Board Chassis Integration.