# 240 Solder Kit Instructions & Techniques

## A: Preparation and Jumpers
- Write your name in the white space in the bottom left hand corner of the board.
- Cut a 6” piece of non-insulated wire into ½” pieces to be used for the ground jumpers (12 total). For the other jumpers follow the color convention of the chassis.
- Solder the 16, (12+4) total jumpers.
- To help components stay in place while you solder, you may want to bend its leads over once it is in place, then solder, and finish by trimming the leads.

## B: Resistors (6)
- Read the resistor’s color codes and place it in the correct locations.
- The flat resistor locations *(R1, R2)*, bend the *820 Ω* near both sides of the resistor 90⁰ and place as shown.
- There are four 1 Meg Ω “stand up” resistors for the Treble (R18, R22, R23, & R27). For these, bend the wire so the resistor can stand vertical and both leads are about 1/8” apart.

## C: LEDs (2)
- Match each LED’s flat side to the printed circuit boards flat side.

## D: IC Sockets (5)
- When installing the IC socket, make sure that the notch is in the same direction as marked on the PC board.

## E: Headers and Shorting Blocks (3)
- There are 3 different sizes and they go in the spots marked with *(E)*.
- Place the 4 Shorting Blocks over the 2 set of “Out” and the 2 sets of “Vol/Buf”. One block determines where the input of the balance comes from (This will move as you complete more labs) and the other bypasses the power amp until you build it into the stereo. (These are here to make it easy for you to test the chassis as you progress through the labs!)

## F: Testing
- Have a TA check your power inputs and then sign your soldering project off.

## G: If You Want To Do More Today
- You may want to start with bigger pads. If this is the case you can start with the fuse holder. The potentiometers (pots) are also a great place to start. The pots have solder tabs which you wrap the wire around then solder to the tabs. The wire will then be run to the printed circuit board (PCB). Pots for volume and balance will be soldered after you get the case. **Balance 3” wires for the left channel and 2.5” for the right. All others about 2.5” long. See Model.**

## H: For the Rest of the Labs
- Headphone jacks will be the next main thing you will solder. They have a hole in each lead that you can wrap a wire through. Below is how they are wired. The mic input is mono so the ring is not going to be used.
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<table>
<thead>
<tr>
<th>For the <strong>Power Amp Lab</strong> we have a few new parts to solder.</th>
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<tbody>
<tr>
<td>Starting with the TDA2050s (TO-220 package) we put the heatsink compound on the IC, mount it to the heatsink and then solder both to the PCB. Be sure hole on the PCB line up with the IC before you tighten it down.</td>
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<tr>
<th>Capacitors are similar to resistors in the way they are soldered into the PCB.</th>
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<td>For the <strong>Power Supply Lab</strong> we have a few new parts to solder.</td>
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<tr>
<td>Starting with the fuse. Solder the holder if you have not and then insert the fuse and install the cover over it.</td>
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<th>The transformer, make sure that the transformer is flush with the PCB. This allows for the weight of the transformer to be off the leads and transferred to the case that is holding the stereo.</th>
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<tr>
<td>When Soldering the FWB (Full Wave Bridge Rectifier) make sure the chamfer is on the same side as is on the PCB artwork.</td>
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![Solder Kit Diagram](image)
Place the **tip** on **Both** the **LEAD** and **PAD**.
Lay the Tip on the Pad and the side of the Tip against the Lead at the same time.
This will heat up lead and pad at the same time and allow solder to stick to both properly and quickly.

When the Solder melts, feed a small amount into the joint, then pull the solder away.

Apply **solder** at the junction of the iron, lead, and pad.
It should melt almost immediately.
You should use no more than ¼” of solder for most joints.