

## REALIZE YOUR OWN LISA PCB

In order to realize your own LISA PCB, follow these steps:

1. Download the .bmp file (you can choose whether to download the file that contains only one or the one that contains six. I recommend the one with six so that if you make a mistake, you won't need to print it again);
2. Print it on special paper (photo paper for laser printers);
3. Take a copper base, making sure that it is large enough, and clean it with ethyl alcohol (not necessary, but it is preferable);
4. Crop the piece of paper containing one PCB;
5. Place it on the copper base;
6. Put a very thin cotton cloth on top so that the iron does not come into direct contact with the sheet;
7. Place the iron, set at 180°C (which corresponds to just under 3 on the iron's temperature gauge), on top of the sheet. Press it, moving it just a little bit, for about 3 minutes and 30 seconds;
8. Dip it into a bowl containing cold water without touching it directly with your fingers;
9. Carefully remove any remaining pieces of paper;
10. Use an indelible marker to highlight the broken tracks or redraw any pieces that have been removed;
11. Create a solution in a bowl with the following proportions:  
**IMPORTANT: DO NOT LET THIS SOLUTION COME INTO CONTACT WITH YOUR SKIN**
  - 40% oxygenated water / hydrogen peroxide 130 vol;
  - 50% muriatic acid / hydrochloric acid;
  - 10% water;
12. Place the copper base in the solution and wait until all the excess copper is gone;
13. Remove it from the solution and wash it with water, making sure the solution doesn't come into contact with your skin;
14. Clean it with pure acetone;
15. Check that there are no damaged traces or false contacts.