

## Manufacturing a Printed Circuit Board

1. Lightly polish the copper foil side with fine steel wool.
2. Flush the copper surface with water.
3. Hold the pcb by the edges.
4. Use a dental tool to place a one millimetre diameter dab of glue stick adhesive on a blank area of the mask.
5. Position mask on the copper foil side and press the glue firmly.
6. Set the temperature of the Lancer LT 1500 thermal clamshell press (T-shirt transfer press) to 270° F. Set the timer to three minutes.
7. Run the press through two heat cycles.
8. Place the pcb paper side down between two Teflon sheets.
9. After three minutes remove the pcb.
10. Place the pcb paper side up on a small block of wood.
11. Roll the paper tightly around a chopstick. PCB should be warm.
12. Replace any missing parts with resist ink.
13. Set the resist ink with a heat gun (low heat).
14. Use a dental tool to remove any blobs of resist ink.
15. Etch in Kepro etcher using a solution of ammonium persulphate.
16. *Wear safety goggles and ensure good air circulation.*
17. Remove the mask with fine steel wool under running water.
18. Dry the pcb and seal the copper side with a thin layer of conformal coating (acrylic aerosol).
19. Lightly awl to establish the centre of each pad.  
No white dots should be visible on the reverse side.
20. Drill with a No. 68 twist drill bit.
21. *Wear safety goggles when drilling.*