

## Kit Assembly tips

We have this series of inexpensive, simple kits that might include something you could use and develop some practical soldering and construction experience:

<http://www.paia.com/extras.asp>

## Kit Assembly.

Set-up in an area with space with good light to sort out all the pieces. Take care when handling the parts as static charges can damage or compromise them. Touch a metal desk or lamp before handling them and don't shuffle across a carpeted floor with them in hand. Inventory the contents of your package against the parts list for the kit and for multiple kit orders, check all the kits so any discrepancy can be corrected with one report. Match multiple wall-mount power sources with their kits.

For soldering of wiring or other connections to the board, use only a good quality rosin-core solder for printed-circuit-board work (60/40 or 63/37 alloy in a 0.031 inch diameter). Silver solder, lead-free solder, or water soluble flux are not recommended features for our kits. Do not use paste flux.

I like to recommend Kester "44" solder, 60/40 alloy and in a 0.031" diameter. It readily wets and flows making joints on our kits. Check places like Mouser.com, Jameco.com, DigiKey.com, Wassco.com, or elexp.com for soldering equipment and supplies.

## Tools

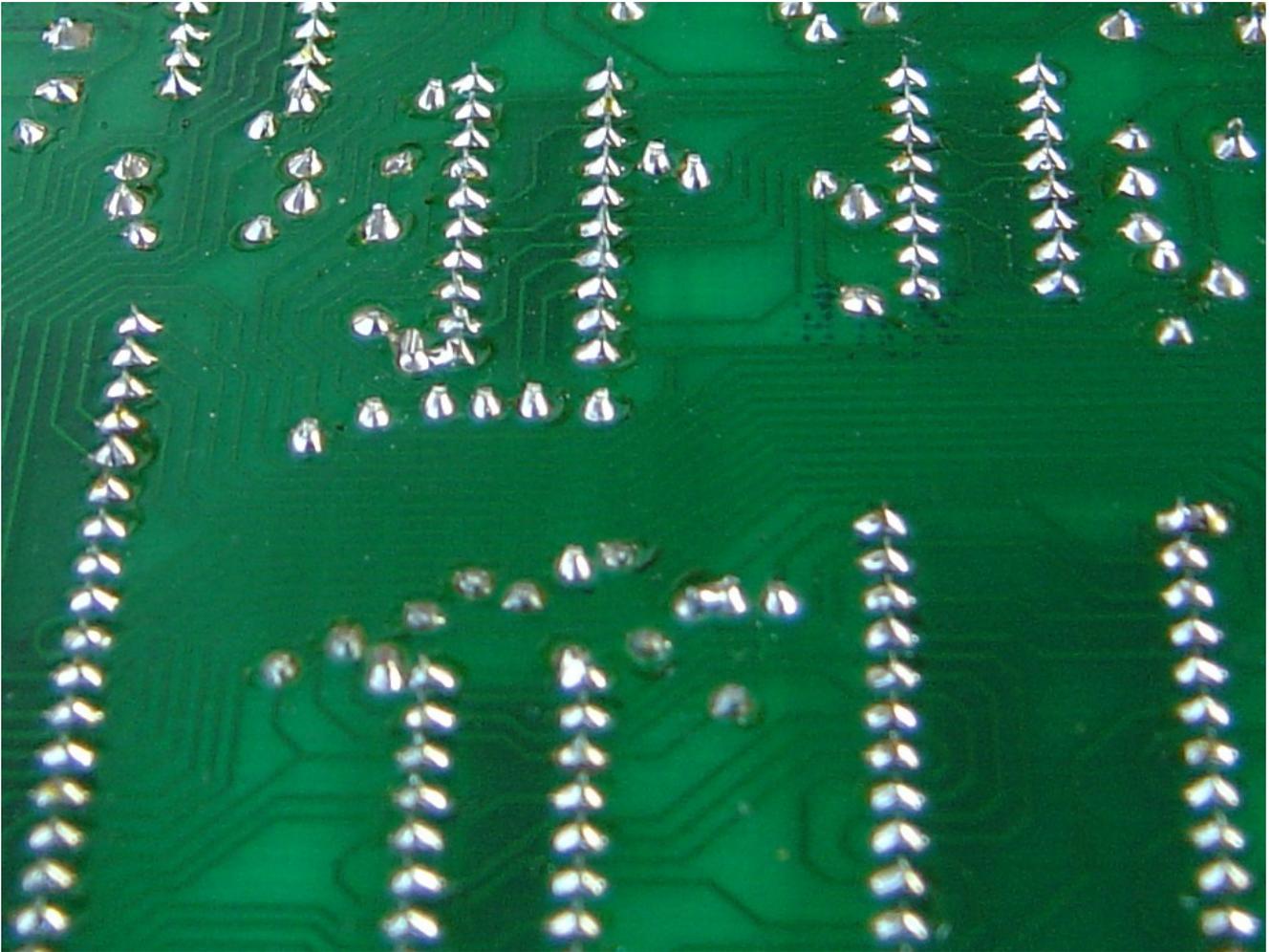
A pencil-type soldering iron with a pointed tip (25-35W), diagonal cutters, needle-nose pliers, screwdrivers, wire-stripper, knife and a ruler for measuring wire lengths. Possibly you may need a desoldering tool or bulb. A dvm is useful for dc voltage testing and adjustments.

## Soldering

Soldering involves using the tip of the iron to heat the metal or multiple pieces of metal and feeding in an amount of solder that will flow to join strands of wire or fill printed-circuit solder pad. There is a balance between the heating of the joint and the feeding of the solder to the joint. Touch the tip of the iron to the wire/pads and feed in a bit of solder. It will help with the heat transfer as it melts, then as it begins to flow to the wire or the pad and the wire feed in enough to fill the strands (tinning the wire) or the solder pad. Avoid too much heat or feeding in too much solder, but heat enough that the solder flows and not globs.

When soldering parts to a board, do them one at a time and avoid bending the legs over against the pad.

If there are many legs extending through they can get in the way of the iron tip and solder. If the legs are bent over all the way against the board the solder will not flow as readily as when they are just slightly splayed. A damp sponge works to keep the iron tip clean. This is an example of soldering on a PAiA FatMan printed-circuit-board.



Successful completion and operation of the kit is a lot more likely you use the pieces we supply and can complete the kit according to the steps in the assembly manual, ie order the circuit board and parts kit, and, and case or panel accessories. Then you can take the working unit and adapt and modify it from there, or start with another kit only.

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