

# Populating the boards - General information

## Soldering components to the boards

To avoid damaging the boards, i recommend to use only a temperature controlled solder iron. Set the temperature not higher than 300° C. Also use modern PB free solder tin to avoid injuring yourself. Keep the PCBs clean before you begin to solder anything to them. Dirt and dust also as liquids may affect the soldering procedure adversely. If you solder many components to the boards in one single job at your flat, keep at least one window open.

Always begin the solder job with the connectors and the IC sockets. Then go on with the resistors and the capacitors. The last job is to solder the transistors and placing the ICs to the sockets.

**Keep the small electronic components away from little children and pets. They could easily swallow up these small items.**

An additional statement: Not all capacitors are allways available in the required shape/case. So some of the capacitors at the kit are not axial but radial. This does not affect the function at all. Just angle the radial capacitors leads and cut them to the right length. It is possible to place them in standing or lying position. Always take care to the polarity!

**Because there are some errors in the schematics, always follow the population guide, the bag lists and the kit diagrams. Don't get confused by any of the available schematics on the internet. A serious number of working Cloneys proof these instructions.**


## Additional hints to the population of the PCBs:

The shipped 330pF capacitors are too narrow to place them from the front side. Solder them between the related two traces on the back side. This was not spotted whilst packing, sorry!

### X board

**R74, R75** (at the 47 Ohm resistors bag) are printed R297 and R298 at the X board.  
**R77** at the X board is R311 at the schematics (Just to let you know, follow the 470k bag).  
**C81** is wrongly printed C82 at the X board. But both C82 are the same value (10pF).

### Y board

**C47** has to be placed this way:  (narrow caps leave pad 1 empty)  
**C46** (1µF Tantal type) is packed as a Z-board component. It has to be placed on the Y-board!  
**D28** is wrongly named twice at the bags. The correct one is the 1N270/1N34A Germanium type.  
 Leave **D60** and **R400** empty - it is just an option, but not used at the Cloney  
**Q40** - leave the middle leg unsoldered. Bend it up like an antenna and cut its length down to the top of the transistor's case.

### Z board

**Q63, Q78, Q94, Q106** = same as Q40 on Y board, the antenna thing ;-)

### Parts not to be placed to the PCBs (see the panel wiring diagrams therefor)

<b>C103</b> > Lower Panel	<b>C105</b> > Conn. Panel	<b>D50</b> > Upper Panel
<b>C104</b> > Lower Panel	<b>C106</b> > Conn. Panel	<b>D51</b> > Upper Panel
<b>R302</b> > Lower Panel	<b>R307</b> > Conn. Panel	<b>R306</b> > Upper Panel
<b>R303</b> > Lower Panel	<b>R308</b> > Conn. Panel	
<b>R304</b> > Lower Panel		
<b>R305</b> > Lower Panel		