



**Headaches? Waking up in the middle of the night Sweating? Gone off of your food?**

**Let us at *Turnkey Manufacturing* help with YOUR Lead Free / RoHS problems.**

**Are you anxious about "Lead Free" production, for your company?**

**How long have you been worrying how to answer any of these questions.....?**

**How will you fit in all that new equipment you require, what about the clean areas, what flux should you use, will the components be available, will the PCB be RoHS compliant, HOW MUCH WILL IT COST?**

**We can help now!**

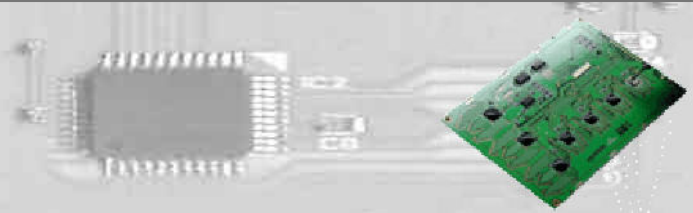
**Our manufacturing facility has all the equipment required. Housed in the most up to date clean areas and what's more it is new, purchased especially for the purpose. Not a re-fit of existing surface mount production line.**



(The above picture shows two of the recently purchased machines available for "Lead Free" manufacturing)

## Frequently Asked Lead Free Questions & Answers

1. Is a preference for the type of board finish that is being used on the lead free line ?
  - The preference is Gold Finishing as it has longer storage properties. The alternatives are "Entek or P-FAST" but storage time is reduced to 3 months.
2. What solder paste alloy is being used, and who is the manufacturer ?
  - The paste currently used is S3X58-M301. Data sheet can be provided on request.
3. Have you developed your reflow profiles yet and if so, are you planning to use just one or two to cover all products they assemble ?
  - There are very many different profiles depending on the components used and the size and shape of the PCBA. Records are being kept as the learning process continues.
4. Assuming the profiles have developed, can a printout be made available so that a analyse the various aspects including the maximum temperature used ?
  - See point 3. However we are willing to provide a profile print out when an order / batch has been completed.



## Frequently Asked Lead Free Questions & Answers (continued)

5. Does the oven use pin conveyor for transport of the boards ?
  - Pin conveyer is normally used, but again it will depend on the parameters of the PCBA. If a belt is used there will be no contact with the PCBA and the belt.
6. What is the typical component range that you can place on the P & P machines ?
  - 0201 up to ++++ 0.5 mm pitch
7. Is there any advanced quality planning on the process for lead free including failure mode effects analysis and process capability ie CPK values ?
  - Control and failure analysis is in place. There are no CPK at this early stage but figures are available but not enough to be analysed.
8. Are there any problems assembling PCBAs using free issue kits ?
  - No problems with free issue kits of parts. We would normally check the specification of parts with manufacture data sheets.
9. Is there any solder paste robotic dispensing facilities ie an X, Y and Z needle dispenser for line dispensing ?
  - All paste is dispensed with an auto screen dispenser with the use of a stencil.
10. Are the antistatic facilities approved to the appropriate national electro-static regulations etc ie BS EN 61340-5-1:2001 or similar ?
  - Antistatic facilities are throughout the entire factory, from goods inwards through to dispatch. Quality assurance readings are taken twice a day and recorded.
11. What is the preferred batch sizes ie will it be possible to take on work that entails building less than 100, 500, 1000 etc ?
  - Because of set up time the most economical quantities are batches of 5000pcs - 10,000pcs. We will always consider smaller quantities, but it will depend on the size of the PCBA.
12. Has the lead free line just been installed or have you been running with it for some time ?
  - The lead free production line has been operational for over two years.
13. Do you have the necessary controls in place to ensure there is no contamination of lead free product with lead containing materials.
  - To eliminate all contamination there are two completely separate production lines and stores. One for lead free production and one for conventional components. Both have clean room doors and are self contained.
14. Are they actually running separated dedicated lead free lines and separated dedicated lead material lines (62SN or 63/27 alloy) or are they running both lead containing and lead free assemblies down the same line ?
  - See Point 13.

**YOU have only until 1st July 2006 to be RoHS compliant, will YOU be ready?  
Ask Turnkey Manufacturing Limited to help!**