

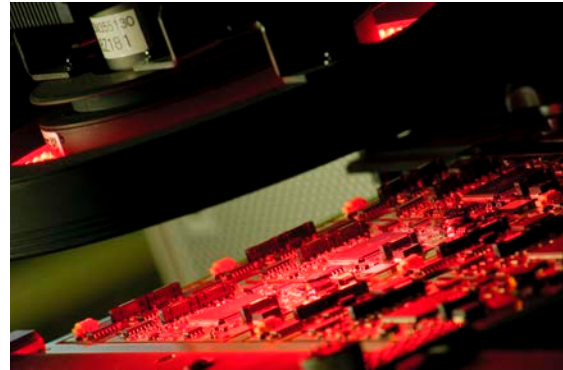


Automatic Optical Inspection

Faced with demands to increase flexibility whilst reducing tooling costs, CT Production favours high quality Automatic Optical Inspection over In Circuit Test (ICT).

AOI detection capabilities include:

- Misplaced or missing parts
- Device type / marking
- Device polarity
- Bent / lifted leads
- Shorts / opens
- Insufficient or excess solder
- Solder balls or slivers



Consistent high quality is paramount in the drive to deliver zero defects on PCB assemblies. CT employs the latest in AOI systems to confirm that the parts and assembly are correct. The latest generation multiple camera machines are also capable of reliably inspecting solder joint quality!

With today's demands for flexibility and low tooling costs, CT favours high quality AOI over In Circuit Test (ICT) solutions, for interim inspection. The basis behind interim inspection, whether electrical or optical, is to detect any manufacturing defects in real time to ensure quality and minimise time and material wastage.

AOI is a contact-less visual method, which can be performed at any stage of the assembly process (pre- or post-soldering). It delivers consistently high performance inspection with low cost 'soft' tooling, requiring only programming, so it can even be used for prototypes.

By contrast, ICT is costly and requires contact via a costly 'bed-of-nails' fixture dedicated to each PCB, and needs test pads to be added at the design stage to run electrical tests after soldering. Whilst ICT is useful in some applications, a typical result covers only 60% to 80% of the PCB and does not inspect solder joint quality. Set up can take several weeks.

AOI therefore offers faster set up, higher quality, more flexibility and lower cost. For these reasons it is a winning solution for CT's customers.

