Title: WHAT HAPPENS TO HIGH VALUE COMPONENTS ON SCRAP/DAMAGED/OBSOLETE BOARDS?

Everyday millions of dollars of brand new and high value components are scrapped by manufacturers because they are attached to faulty/obsolete PCB's. Current forecasts suggest that there will be approximately $62.5 Billion in E-waste annually worldwide. If these high value components could be safely removed, companies would save huge amounts of money in recovered scrap, provide much needed "allocated" components and reduce the amount and cost of landfill. A bonus is that it would also seriously damage the counterfeit industry, whose raw material supply would be reduced.

Is the chip you want to re-use the reason that the PCB failed?

It's been well proven over time that very few of these failed PCB's are caused by bad silicon. At least 70% of scrap is created by solder paste issues alone. The amount of money wasted on scrapping faulty boards is large and often accounts for a few percent of the total production cost.

Time for a mindset change.

For a market dominated by technological advancements, the electronics sector is also an industry with some outdated institutional ideas. There is a seam of *"but that's how we have always done it"* running through a lot of companies, and that does not allow them to take advantage of new services and options.

This is partly due to the many steps that need to be taken to make changes in some companies. The *"too much of a risk"* and *"why change..?"* attitude does have a place…

'But not at the expense of progress, cost savings and overcoming obsolescence issues. Some of the company procedures that influence these decisions may be 10+ years old and have not been reviewed regularly with regards to new developments in the industry.'

What Retronix offer is a full scale recover, test, re-life (re-tin/ball, leg straightening) re-package service. This means you can receive back the valuable, obsolete or long lead time devices knowing these have been recovered using our innovative solution and they have been tested to datasheet specifications.

The following two examples of recovery projects that we have done shows there is a move towards more companies starting to re-think their strategies for recovering high value devices.

Note – both companies operate in the high reliability sectors of Space and Avionics and only went ahead with the project after careful consideration. Today both companies are completely on board with Retronix and regularly work with us for recovery projects and more.

Case Study 1 – Space Application

A company operating in the space sector had a few boards which were over €65,000 in value each. When they tested these populated boards, they discovered that there was a fault on them. Since the board was due for a space application they had to scrap all the boards and start by making a new revision of the board to ensure they cleared the fault in the PCB design.

'The problem was all these faulty boards had a perfectly functional, new and unused Xilinx Kintex Part on them worth over €43,000 each. – all about to be

scrapped just because they were on a faulty PCB.'

Retronix's advanced, precise and safe component recovery service was used to recover the high value part from the faulty boards. There was no room for error because of the overall value of the component and the critical application. Retronix successfully recovered, laser reballed, tested (electrically and mechanically), vacuum packed and sealed the parts and shipped them to the customer. With positive feedback –

'I can confirm that the device was successfully fitted to an assembly and the recovery proved to be very successful. Thanks for implementing this safe recovery process which has saved us scrapping off this expensive device'

Case Study 2 – Avionics Application

One of the top companies operating in the avionics sector were struggling to get specific component types for their new assembly. When their team had a look internally they discovered over 20,000 scrap populated boards in the storage. Upon examining these boards, they identified 10 different component types that were hard to source and were exactly what they were looking for and they wished to re-use them.

They approached Retronix for the project to recover these 10 component types from all the 20,000 boards.

Combining our rework, re-tinning, re-balling, ICOS coplanarity testing, electrical testing and repackaging services we applied a full suite of services to enable us to safely recover, re-align, re-tin/ball and test the devices, and the project was classified as a success.

"...we really value the high quality work that you have completed..."

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