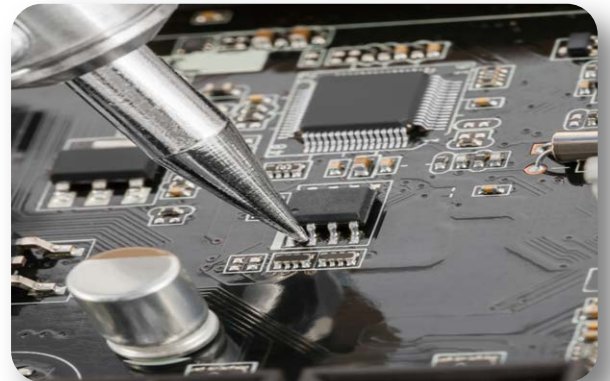


## PCB SERVICES: REPAIR, REWORK, INSPECTION

Retronix offers a suite of PCB repair & rework services that is fully controlled and ESD compliant. Our facilities are ISO 9001:2008 accredited and we use the latest software controlled circuit board repair stations and work to recognised IPC and JEDEC workmanship standards to ensure accurate profile settings for the most complex reworks.

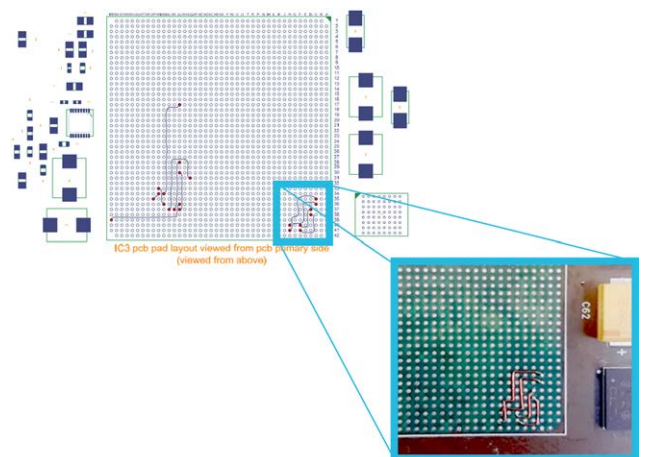
### KEY FEATURES:

- Pad & Track Repair / Laminate Repair
- Rework / Engineering Change Notices
- Component Level Debug
- Inspection / Verification
- PCB Debug
- Changing a PTH device using an individual desoldering tool or miniwave.



### APPLICATIONS INCLUDE :

- An alternative to costly investment in rework equipment and a 'turn on turn off' solution to your PCB requirements.
- Skilled workforce trained and continually assessed by our own on-site trainers.
- Offer troubleshooting teams of debug technicians/repairers who can go into a customer's facility and work on their bone pile of PCB's



## CAUSES OF FAILURE :

- The raw PCB could be faulty
- There could be a paste problem, causing a short to open.
- Each time an IC is removed and replaced by a new one.

The failed PCB generally goes into a debug area where the fault is diagnosed, repaired, and the PCB is re-tested, if it passes, it ships; if it fails, it goes back around the debug loop. After three attempts the PCB is often classed as unreliable and scrapped.



## PCB REPAIR SOLUTIONS:

As product life cycle becomes shorter, the debug techs are given less time to learn a new product, so often they wrongly diagnose the fault, leading to an increase of 'end of line' failures.

As part of the PCB service, if the IC's are recovered using our IC recovery service that also includes electrical & mechanical test for further authenticity - these IC's can then be :

- Put onto a new assembly
- Used in a debug area to repair a failed assembly
- Used in a field return repair in the future
- Sold in the marketplace as 'zero hours' good IC's



## TEST CAPABILITIES:

Retronix offer a suite of tests to authenticate and verify - Visual Inspection, Key Functions, XRF, Solderability, 3D X-Ray Inspection, Memory Programming, Curve Trace, Decapsulation, Ionic Contamination, Extreme Temperature Test