
WHITEPAPER

Factory Authorized OEM Repairs

Advantages of factory authorized repair services compared to third party



Market demands of today

In the demanding market of today, staying ahead of the competitors requires your production machinery running at peak efficiency. Regular preventive maintenance and service helps to ensure machinery continues to operate. When something goes awry, the machine fails, and the production line is down. Let us face the facts, it will happen! Now what do we do? The system (circuit cards) needs evaluation and repair. Now the climb begins! You must decide which repair shop brings you the best value and fast, or whether to use a third-party repair or the Factory Authorized OEM.

Choose wisely

A dozen or more third-party shops vs. Factory Authorized OEM can be found, making the choice more difficult. More than likely, you're prioritizing the following when making your decision: Repair Costs, Downtime, Quality, Reliability.



First, let us look at the advantages of the Factory Authorized OEM service and repairs

Original Factory Engineering documentation

Original Factory authorized files and documents contain a ton of information. These documents contain data from the design stages to functional operation of each card, and finally to a complete system. These documents are necessary to evaluate and repair customers' units back to their original factory specifications.

When circuit cards are sent to the Factory Authorized repair center, having access to Original Factory Engineering documentation is vital for high quality service. ONLY the factory authorized repair centers will have access to this data.

These documents include:

1. Original Factory Engineering documentation
 - B. Factory test- Exp: Bench, ATE and functional/system test
 - C. Schematics
 - D. Engineering Change Notification's
 - E. Data-Production Release to current revisions, repair data, tech notes, RCA, FA reports
 - F. Bill of Materials-BOM's
7. Approved Vendor List-AVL
8. Factory Authorized OEM training and personal training



Schematics & Engineering Change Notifications

Schematics and Engineering Change Notification (ECN's) and drawings are created throughout the life of a running system or circuit board when a failure occurs. Schematics are essential to aid the factory technicians in troubleshooting and repairing the circuit boards.

Factory engineers will perform a root cause analysis (RCA) or failure analysis (FA) of the failed circuit board. ECNs are created by the engineers through analyzing the data and providing a solution to fix the error in the card. These ECNs provide instructions on the retro fit to remove faults thus improving the reliability, robustness, and quality of the circuit board.

Our factory authorized repair technicians will review all returned boards for repair and will incorporate the ECNs in the repair procedures. Not only does the customer get a high-quality repair they also get an improved, more robust card returned to their system.

Trending data from Production Release to latest revision card- repair data, tech notes, Root Cause Analysis, and Failure Analysis reports will aid in testing and repair of your product.



Bill of Materials (BOM)

The circuit boards Bill of Materials aids in a higher quality repair due to the fact when defective components are found during troubleshooting, the replacement components are to the exact factory specifications called out in the original factory engineering documentation.



Approved Vendor List-AVL

The approved vendor list is particularly important to the repair and service of your product. This list ensures replacement components are approved components only from the approved manufacturer.

The new replacement component per the factory documentation should meet specifications that the OEM Factory engineers approved for that product. The approved vendor lists ensure these specifications are in place with the Vendor and manufacturer that designed the equipment.

Different vendors may manufacture components that are remarkably like one another but not approved for use in this product and could cause premature failures in the equipment. It is for this reason the factory will only use approved components and approved suppliers in our repairs.

Factory Authorized OEM training



Factory technicians have access to classroom training for the systems and the training continues with senior technicians on the lab floor at their workstations. This training improves the competency and skills of our personnel to a higher standard in our repair process for continuous improvement and customer satisfaction.

Quality

If one chooses to send their product to a third-party for service, testing and repair is not to the same high standard as the factory authorized center. Third parties will not have the support documentation necessary to repair to factory original specifications.

The limitations in aftermarket support are:

1. Approved component replacement documentation and specifications data
2. Approved Vendor(s) list for components
3. Engineering Change Notifications

When a third party performs repairs of circuit cards, and defective components are replaced not having the OEM technical documentation, they will try to match the components installed on the circuit card to their inventory of parts (the "Best Guess" approach).

This method has its problems: trying to repair without the Schematics, Bill of Material and Approved Vendor List for the circuit boards in for service makes selecting the correct components exceedingly difficult and complex. The Bill of Material indicates the approved parts numbers of all the components installed on the circuit card. These parts numbers are the factory numbers assigned to the vendor/manufacturer of the component.

Another method incorporated by third-party repair shops is to replace the defective component pulled from a scrap card and install this (condition unknown) component on the customer's card in the repair process. This second repair method has pitfalls such as using old used components leads to mediocre repairs.

Customers do not understand the significance of the poor practice used by non-authorized repair centers installing used components from old scrap cards on their circuit cards. Third parties do not have access to the ECN documentation that gives details why this component failed and are disqualified for use. These repair shops are mistakenly replacing a bad component with the same defective part.

Attempting to match replacement parts and using old components without the Original Factory Engineering documentation for the product can not only cause the individual card to fail but could create a catastrophic event in the entire system.

Therefore, the only "perceived" advantage is that the 3rd party may be able to offer services at a lower cost, however, you get what you pay for. Most companies do not realize the amount of risk they are taking when these types of repair methods are used by third-party service shops.

If your company wants to have the utmost confidence that your circuit cards are repaired with factory engineering processes, then only the Factory Authorized OEM can perform this type of service.

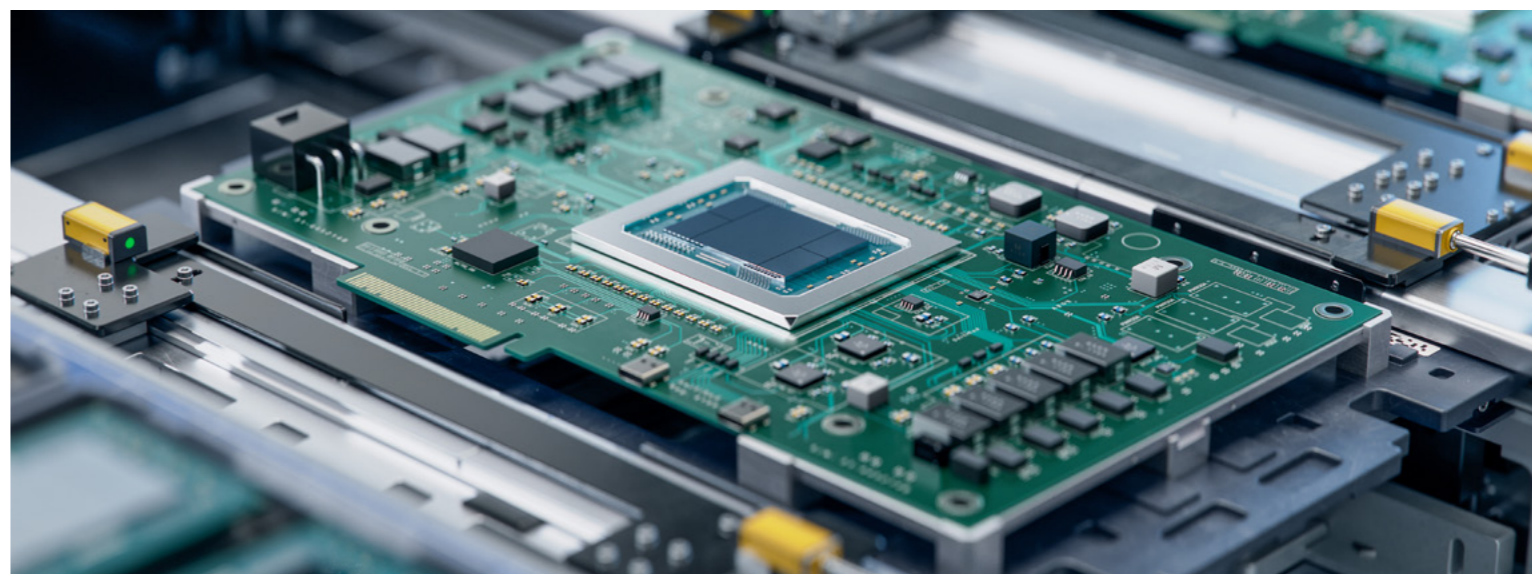




ABB Ltd.

240 Production Court Bluegrass
Corporate Center Louisville, KY 40299

abblouisville.com