

## What is PCB depaneling?

PCB depaneling is the process of removing numerous smaller, individual boards from a larger panel during manufacturing.

The laser process used keeps delicate components, soldered connections, and fragile substrates from any mechanical stress. Due to minimal space between the boards, there is more value per panel. In addition, components can be placed adjacent to each other to minimize unnecessary bulk and weight.

PCBs are usually manufactured in large panels with multiple boards, but can also be produced as single units. The depaneling process can be fully automatic, semi-automatic, or manual. This brings lower throughput, along with eliminating the added cost of tooling and waste removal associated with mechanical methods.

### **REDUCE PRODUCTION COSTS WITH A FAST AND EASY SET-UP.**

Laser depaneling is a non-contact process, which means standard SMT carriers can be used throughout the production process. No special clamping or fixtures are needed because the only mechanical-dynamic forces acting on the boards are due to the handling equipment. Laser depaneling also is capable of processing boards with assembled components on both sides.

Our lasers cut substrates right next to delicate components without causing any mechanical stress. This allows small applications with populations right up to the edge of the printed circuit board to be expertly handled. The occurrence of discard products is also minimized due to tight tolerances.

The A-Laser depaneling system has very little waste, negating pollution in the workplace. Particles are also kept clear of the laser, which reduces maintenance frequency. The built-in exhaust system removes all the material vaporized by the laser, leaving a residue-free service.

The software in our PCB depaneling machines allows the user to operate the machine at the touch of a button. The specialized laser source and a compact, touchscreen control panel make a user-friendly system. The optimal focus of the laser beam adjusts automatically, and a security glass enclosure prevents accidents by absorbing laser reflection.

Due to the trend toward smaller and smaller components in current technology, laser depaneling meets the demands of any project. The focus spot of the laser beam is ideal for very narrow channel cuts, saving space and material.

## **When to Use A-Laser Depaneling**

A-Laser depaneling is ideal for micromachining metals, plastics, ceramic materials, and material combinations. Some of the specific applications include drilling of microvias in HDI circuit boards, structuring of TCO/ITO, laser removal of tin-resist, drilling of flex material, the opening of solder-resist, as well as laser repair and rework of printed circuit boards.

A-Laser systems can work as a stand-alone unit or as components of fully integrated production lines.

## **TIME-TO-MARKET & CHANGEOVER TIMES ARE GREATLY REDUCED**

The need for complicated tools or adaptors is eliminated and only the layout data has to be uploaded. Small, sensitive PCBs with narrow spaces on the panel are ideal applications and result in increased operational capacity and better quality.

As the technology community continues to innovate and create smaller and more advanced devices, A-Laser offers the latest in precision part manufacturing to meet this demand. The reduced size and intricate design of new technology requires smaller PCBs. Since there is no standard set for PCBs, every board is design-specific. This results in the need for depaneling.

A-Laser employs laser PCB depaneling to ensure production factors such as stress, precision, and cleanliness are kept at an unparalleled industry standard. Let us work with you today to ensure the premier, most cost-efficient product.

[PCB Depaneling - A-Laser Precision Laser Cutting](#)

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