Laser Depaneling

Inline Laser Depaneling

Description:

With the advent of new and high power plus lower cost UV lasers there is greater adoption of cutting of materials like printed circuit boards. This boards may be produced from fiber glass materials like FR4 or for thin flexible circuits they may be fabricated from polyimide or kapton. This process can now be handled easier and at higher throughput with lasers. Previous issues like jutting metal tracks can be minimized and there is minimal charring or heat affected zone. This provides a new method to the industry and is especially useful for low volume, high mix production and also for prototyping or engineering production as there is no need to invest in making mechanical die sets. As the laser is far more stable and durable then mechanical punch or cutter it is easier to ensure long term good product cut quality. And the laser can be programmed easily to cut infinite patterns so there is no mechanical die making cost and lead time is almost instantaneous.

With thicker materials like FR4 high power UV laser can cut thicker boards with minimal charring and HAZ. As laser cutting does not induce mechanical stress or disturbance

compare to mechanical cutting, drilling, routing and other contact type methods, path can be cut nearer to active areas besides reducing board thickness thus shrinking PCBs. Other advantages are no constrain on board complex shapes, less likely manufacturing defects, easier fixturing and lending the process to automation.

With our laser integration expertise and material handling experience we can design the tool customised to fit your exact need. Please contact us today to discuss your requirement.

Capable of cutting different shapes and easily setup with our powerful software. Free of thermal and mechanical stress depaneling process, the Hylax PCB laser depaneling system is design to cater for the latest trends in the PCBA industries. No more die set fixtures conversion and router bits changes.

It is a cost effective, yet fully featured and highly reliable equipment for the laser PCB cutting and depaneling industry. Besides PCB it can also singulate or cut flex circuits of materials like polyimide. It is able to cut PCB of thickness up to 1 mm well with no charring. The machine can mark the PCBs at the same time. This is made possible by the powerful, flexible and user friendly software developed in-house.

Features:

- **Pre-camera vision product position registration and model check**
- **Optowave UV laser head**
- **High capacity dust collector**
- **User friendly Window based software**
- **PCB flexible product jig adjustable for different board size**
- **High resolution and accurate Z stage with auto-focus function**
- **Large area low friction front loading platform for sliding multiple product jigs**
- **Fully covered class 1 safety enclosure**
- **Able to do cutting and marking together**
- **Compact size**

Specification:

Laser	Q-Switched diode-pumped all solid-state UV laser
Laser Wavelength	355nm
Laser Power	10W/12W/15W/18W@30KHz
Positioning Precision of Worktable of Linear Motor	±2μm
Repetition Precision of Worktable of Linear Motor	±1μm
Effective Working Field	400mmX300mm(Customizable)
Laser Scanning Speed	2500mm/s (max)
Galvanometer Working Field Per One Process	40mmx40mm