

# Rigid, Rigid-flex and Flex Panel Drilling and Cutting Systems



ProVia™  
Laser Drilling and  
Cutting Systems

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**PPI**  
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# ProVia Dual (UV/CO<sub>2</sub>) Laser Drilling System



ProVia FP-UC laser drilling and cutting systems incorporate both UV and CO<sub>2</sub> lasers and scan heads. The CO<sub>2</sub> laser is appropriate for high speed drilling, cutting and skiving of dielectrics, while the UV laser is able to machine copper and provide higher process quality in many dielectrics.

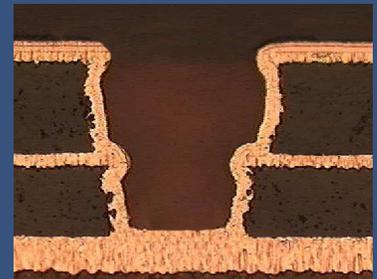
Combining both laser sources (UV + CO<sub>2</sub>) into one system allows a simple, reliable process with a large process window

Openings in the top copper are created with high accuracy using the UV laser

CO<sub>2</sub> lasers remove the dielectric without damage to the top or bottom copper surfaces

Each process step may be optimized independently

Multistep processing allows automatic drilling of two-layer vias



Stepped Via

ProSys software allows for automated drill file conversion and job generation and provides a vision display of the job features and process status. All machine setup and calibration controls, job and process settings, vision and process map, status and diagnostic information are easily accessible with the intuitive layout of the UI. PPI offers a complete selection of automation options.

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# ProVia CO<sub>2</sub> Laser Drilling System



The mid-infrared wavelength of the CO<sub>2</sub> laser is strongly absorbed by common dielectric materials and strongly reflected by copper. As a result a large CO<sub>2</sub> spot can over-fill an opening in the copper (created by a UV laser or chemically etched) without risk of damage to the top layer of copper surrounding the hole (the capture pad). An optional high magnification inspection microscope is available.



Skive Fiducial

Intuitive Graphical User Interface with ProSys software.

Advanced Beam Positioning and Laser Pulse Control provide high throughput, accuracy, and process stability

Auto-Calibration functions ensure repeatable quality.

Extensive System Diagnostics continuously monitor all critical components and machine performance

Optional homogenizer optics for CO<sub>2</sub> beam

Active Pulse Shaping to provide precise control on a pulse-by-pulse basis

PPI partners with its customers to create innovative and adaptable solutions to simplify day-to-day operations, maximize return on investment, and provide advanced production capability to meet the demands of next generation electronic components. PPI offers a complete selection of automation options.

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# ProVia UV Laser Drilling System



UV laser system, providing high speed processing of copper, and high quality drilling and cutting of dielectric material. ProVia FP-U laser drilling systems are able to machine copper and provide higher process quality in many dielectrics.

Features include:

Sealed beam delivery protects optics from process debris, extending component lifetimes

Auto-calibration functions ensure repeatability quality

Active pulse shaping to provide precise control on a pulse-by-pulse basis

Automatic run-time calibration means no operator intervention is required for an entire batch

Touchscreen operation (full HD size)



Flex Circuit

ProVia systems are configured for all applications including blind via drilling, cutting, routing, skiving / cavity formation as well as defect repair. Systems include ProSys drilling software with an intuitive graphical user interface with extensive systems diagnostics which continuously monitor all critical components and machine performance. PPI offers a complete selection of automation options.

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