

RedStone™

The Right Laser for the Right Application



Reliability. Accuracy. Ease-of-use. All at a low cost of ownership.

The RedStone™ system delivers an optimized FPC manufacturing solution, pairing the appropriate laser and laser control capabilities to efficiently address applications that require more powerful processing capability or more repetitions and a lower cost-of-ownership. The RedStone system is engineered to deliver a robust process flow while delivering high yield, and is especially well suited to large-format UV laser processing of panels and roll-to-roll webs.



Reliability

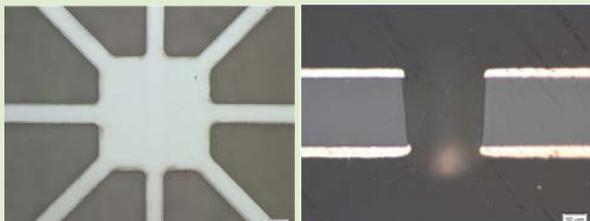
Rest assured that your RedStone system will stay productive with high uptime. RedStone shares over 90% of components in common with the flagship ESI models 5335™ and GemStone™ that are in high-volume 24/7 production at the world's top flex circuit manufacturers.

Accuracy

Don't sacrifice accuracy to meet your cost of ownership targets. The RedStone system benefits from the same accurate frame, precision engineering, and alignment and scaling mechanisms at ESI's top-tier flex drilling systems.

Depaneling

RedStone utilizes a high-repetition-rate / high-average-power laser that is well suited to applications such as through hole drilling and through cutting. The laser minimizes heat affected zones to deliver higher quality cutting with minimal risk of degradation to the material.



Ideal for applications requiring large process windows.

Large process window applications examples include through-cut routing, through via applications, and the removal of easily-ablated materials from a durable substrate. Applications such as these can best utilize the RedStone system's high-accuracy, high-throughput capabilities while ensuring high process yield.

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Laser

Type	Nanosecond UV laser
Pulse Rate	100-200 kHz

Laser Output Power

Laser Output Power	20W @ 100kHz
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Avg Work Surface Power

Avg Work Surface Power	Model XX: >14W @ 100kHz
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Laser Beam Positioning

Type	Cross-axis brushless linear motor with digital galvanometer (Laser beam moves in XY, part moves in Y axis)
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Panel Size

Panel Size	533 mm x 635 mm
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Accuracy

Accuracy	± 20 µm over entire panel area
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Maximum Average Velocity

Maximum Average Velocity	500 mm/s
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Peak Move Speed

Peak Move Speed	2,000 points per second
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Controller

Controller	ESI Custom DSP based controller
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Programmable Z Stage

Resolution	1 µm
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Maximum Average Velocity

Maximum Average Velocity	>10 mm/s
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Repeatability

Repeatability	± 10 µm
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Travel

Travel	25 mm
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Automatic Alignment and Illumination

Coarse Camera Field of View	30 mm diagonal
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Fine Camera Field of View	2 mm diagonal
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Detection Device	CCD, monochrome
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Illumination	LED
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Computer Interface

Computer 4GB	Intel i7 Quad Core with DDR3 RAM and dual 500GB hard drives in RAID1 configuration
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Network Capability

Network Capability	TCP/IP, 10/100/1000GBE
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Drill File Formats	DXF, ASCII, Excellon I and II, Sieb & Meier and Gerber using esiCAM software.
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Automation Capability

Software, mechanical and electrical interfaces provide the capability to attach web and panel material handlers to the system.

Ask an Expert! For facilities guidelines, requirements or more information, please contact your local MKS representative or visit www.esi.com.



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