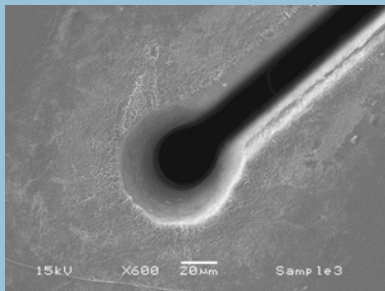


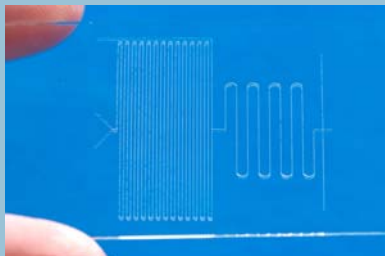
RS MP100

Laser Micromachining Platform

*Micromachining systems
Development,
Instrumentation,
Software & Control*



*20 micron wide slot and well
scribed on 150 um polyimide ,
using a 266nm DPSS laser
(Application Microfluidics)*



*Microfluidic circuit
in borosilicate glass machined
using a picosecond laser.*

RIDEO SYSTEMS

Rideo Systems Ltd
Cherwell Innovation Centre
77 Heyford Park
Upper Heyford
Bicester OX25 5HD
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The RSMP100 micro machining platform fitted with a 355 nm Vanadate laser

The **Rideo systems** Laser Micro Processing Platform is a fully functional micro machining subsystem designed to integrate into custom platforms and machinery. It combines all of the optics, instrumentation and control systems of a state of the art laser machining system into a compact and affordable package.

A range of laser processes can be carried out on a wide variety of materials, including hole drilling, scribing, cutting, and grating writing. Application areas include biomedical device processing and microfluidics for research or small scale production.

The platform can be configured with a variety of stage , laser and beam handling options including air bearing stages and XY galvanometer scanners

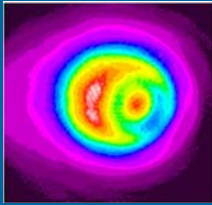
A comprehensive software package integrates all machine functions into a user friendly environment.

Machine vision functions for part alignment and image analysis for laser beam profiling are included as standard together with autofocus height sensing and in chuck power monitoring

A optional CAD/CAM interface is available, supporting a wide range of file formats for 2D laser profiling and hole drilling.

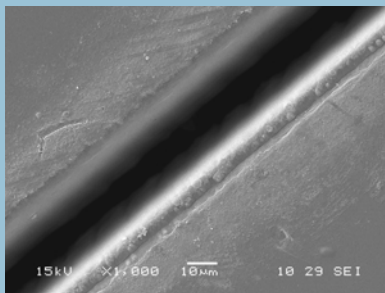
Customised vacuum chucks and part handling for non planar devices can also be fitted, including a rotary lathe for machining tubes.

Contact Rideo Systems for more details.

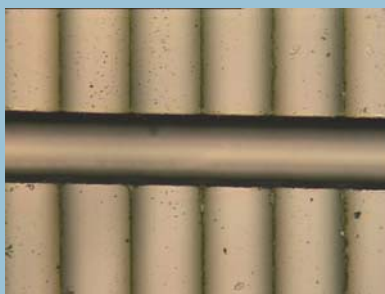


RS MP100 Laser Micromachining Platform

*Micromachining systems
Development,
Instrumentation,
Software & Control*



*20 um slot cut through 150 um
polyimide, 266 nm DPSS
(Application
Biomedical devices)*

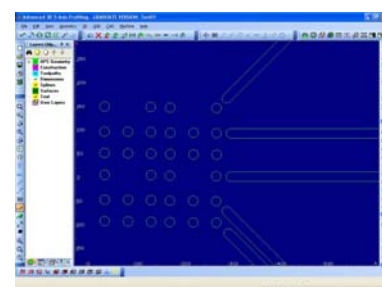
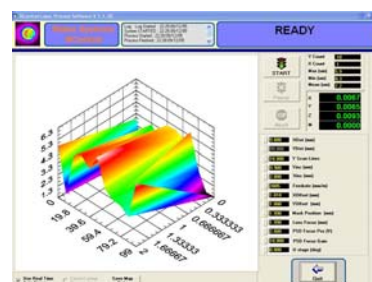
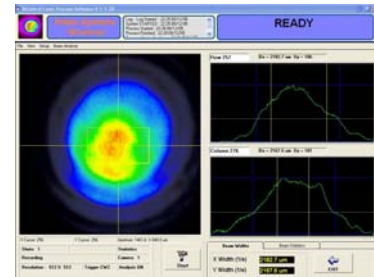


*50 um channel scribed in
200um thick polymer on glass
266nm DPSS
(Application Display devices)*

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The software includes an integrated Vision system for alignment & inspection, Beam profiling, Surface height mapping, Motion control and CAD/CAM interface

Specifications:

Laser :Configurable for a wide range of solid state lasers, including DPSS 266/355/532nm and 1064nm. Nanosecond and Picosecond . With options for beam shaping and mask imaging optics.

Translation stages : Can accommodate a wide range of Aerotech linear stages up to 600 x 600 mm travel. Typically 4 axes of servo controlled motion, X,Y,Z and Theta with 0.1 um resolution. Option for air bearing stages

Optics : Choice of multi element focussing lenses with beam expander and safety shutter. Integrated inspection microscope with vision system, x5 to x50 magnification. Optional Gas assist nozzle and debris extract.

Control & Diagnostics : Vision system for automatic alignment and shape analysis for process control.

Dynamic Autofocus and Height mapping
On line beam profile and energy monitoring
Vacuum chuck with levelling
Class 1 interlocked enclosure
PLC Control interface

Complete software control via a user friendly GUI , customisation options and programming toolkits available in VB and Labview.

Options :

Optional : Galvanometer XY (Z) scan head with a choice of Telecentric lenses for high speed, high resolution micro patterning
Optional : Focal plane beam profiler
Optional : Piezo control of lens focus and beam deflection
Optional : Rotary lathe for machining tubing