

Optopro™ 622-X

DYNAMIC 3D MEMS PROFILER

Modular MEMS Profiler

Modular design allows profiler to be built into custom or user furnished setups

Applications

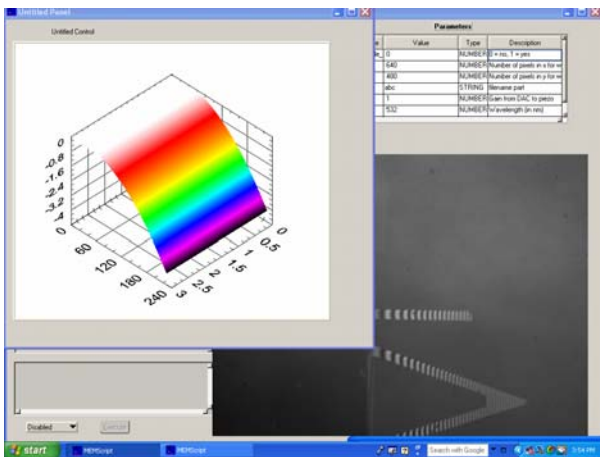
MEMS manufacturing process & quality control
Static & dynamic testing of MEMS devices
Phase shifting interferometry (PSI)
Vertical scanning interferometry (VSI) option
Step height measurements with VSI option

Main Features & Benefits

Modular design for installation versatility
Long working-distance for probe clearance
Ability to make measurements through windows
Uses standard 5X, 10X and 20X microscope objectives
Flexible configurations
Designed for microsystems functional testing



MEMScript™ software, which is an interpretive scripting environment, is provided with each **Optopro™ 622-X** 3D MEMS profiler. **MEMScript™** has several unique features. In addition to analysis features, **MEMScript™** also has the ability to control MEMS devices and make real time measurements of performance.



MEMScript™ Software Features

- Phase shifting interferometry (PSI)
- Arbitrary waveform output
- Decision making capability (full logical branching)
- Stroboscopic imaging capabilities
- Concise user interface
- Light source brightness autsetting
- GPIO capabilities to interface with external equipment
- Serial port capabilities to interface with external equipment
- Compatible with **Intelliwave™** Software
- Interface with MATLAB™, IDL™, MS Excel™, and LabVIEW™

“MEMScript™” is a trademark of Sandia Corporation in the United States. Used with the permission of Sandia Corporation, and its licensee E M Optomechanical, Inc.

EMOpto.com™ nano-tools

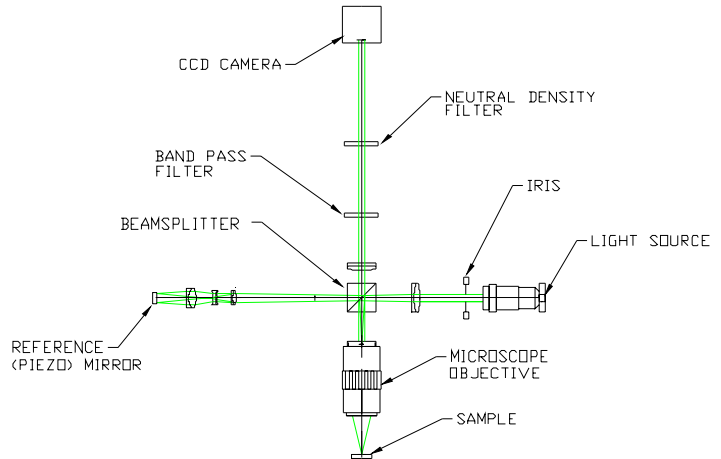
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Optopro™ 622-X SPECIFICATIONS

Optopro™ 622-X 3D MEMS PROFILER

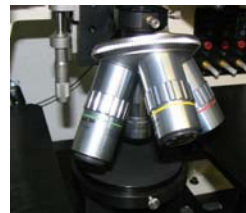
Technology	Patented Long Working-Distance Interference Microscope		
System			
Test Beam	532 nm incoherent light source		
Magifications	5X, 10X, 20X		
Camera	1/2" B&W Digital Video Camera		
Probe Micropositioners	None		
Voltage Amplifier	EMOpto 1, 2 or 4-channel (optional)		
Vibration Isolation	None		
Vacuum/Shutter	VacPak (optional)		
Part Viewing	Live video on computer screen		
Objective Lenses			
Magnification	5x	10X	20X
Numerical Aperture	0.14	0.28	0.42
Working Distance (mm)	34.0	33.5	20.0
Focal Length (mm)	40	20	10
Resolving Power (µm)	2.0	1.0	0.7
Depth of Focus (µm)	14.0	3.5	1.6
In-Plane Resolution (nm)	20	10	5
Focus Resolution (nm)	+/- 5	+/- 5	+/- 5
Field of View ¹ - V x H	1.32 x 1.80	0.66 x 0.88	0.33 x 0.44
Note 1: for 2/3 inch CCD.			
Electrical			
Power	Powered from Computer		
Mechanical			
Dimensions	762 mm x 610 mm x 762 mm (30" x 24" x 30")		
Weight	68 kg (150 lb)		
Environmental Req.			
Temperature	15 to 30°C (59 to 86°F)		
Rate of Temp. Change	<1.0°C per 15 min		
Humidity	Relative 5% to 95%, no condensing		
Vibration Isolation			
Control			
Computer	Dell PC		
Interface	National Instruments		
Software	MEMScript™		



Optional Voltage Amplifier



Optional Vacuum Source & Shutter Control



Optional 4-Position Objective Lens Turret



Optional VSI Controller with long-travel, Closed-Loop Piezo Actuator

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