

# Optopro™ 622-A

DYNAMIC 3D MEMS PROFILER

## Long Working-Distance MEMS Profiler

Provides 33.5 mm working distance at 10X magnification for plenty of probe clearance

### Applications

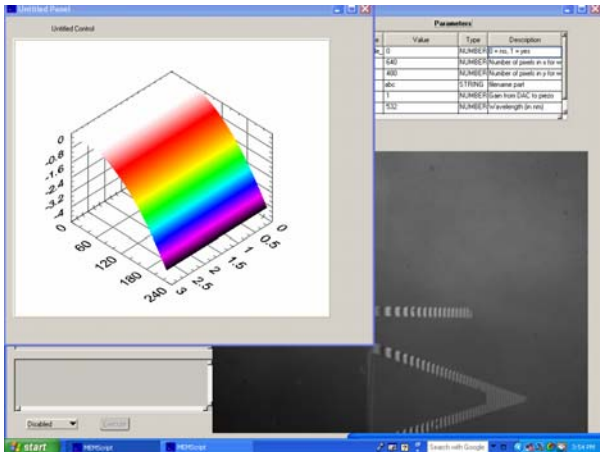
Static & dynamic testing of MEMS devices  
Phase shifting interferometry (PSI)  
Vertical scanning interferometry (VSI) option  
Step height measurements with VSI option

### Main Features & Benefits

Long working-distance for probe clearance  
Ability to make measurements through windows  
Uses standard 5X, 10X and 20X microscope objectives  
Premium-quality measurements at an affordable price  
Flexible configurations  
Designed by and for microsystems researchers



**MEMScript™** software, which is an interpretive scripting environment, is provided with each **Optopro™ 622-A** 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 autosetting
- GPIB 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**

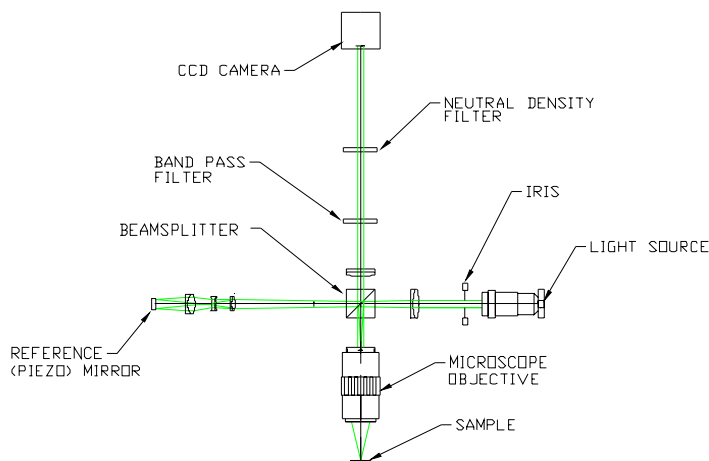
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## Optopro™ 622-A SPECIFICATIONS

## Optopro™ 622-A 3D MEMS PROFILER

<b>Technology</b>	Patented Long Working-Distance Interference Microscope		
<b>System</b>			
Test Beam	532 nm incoherent light source		
Magifications	5X, 10X, 20X		
Camera	1/2" B&W Digital Camera		
Probe Micropositioners	Signatone (QTY:4)		
Voltage Amplifier	EMOpto 4-channel		
Vibration Isolation	Vibraplane		
Vacuum/Shutter	VacPak		
Part Viewing	Live video on computer screen		
<b>Objective Lenses</b>			
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 <sup>1</sup> - V x H (mm)	1.32 x 1.80	0.66 x 0.88	0.33 x 0.44
Note 1: for 2/3 inch CCD.			
<b>Electrical</b>			
Power	Powered from Computer		
<b>Mechanical</b>			
Dimensions	762 mm x 610 mm x 762 mm (30" x 24" x 30")		
Weight	68 kg (150 lb)		
<b>Environmental Req.</b>			
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			
<b>Control</b>			
Computer	Dell PC		
Interface	National Instruments		
Software	MEMScript™		



Voltage Amplifier



Vacuum Source & Shutter Control



Optional 4-Position Objective Lens Turret



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

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