

# Model 339ir 4-inch aperture 3392 nM Phase Interferometer



The 4-inch aperture Model 339ir features a Silicon collimator and reference surface which is flat to  $\lambda/10$  (measured at 632.8 nM). An internal 2 milliwatt Helium-Neon Laser source operates at 3392 nM. The Model 339ir produces high contrast live images on the computer monitor.

Equipped with an Electrophysics broadband camera featuring a 320 x 240 focal plane array, this Phase-shifting Fizeau interferometer utilizes piezo-electric phase shifters and Durango Universal Interferometry Software to allow the operator to achieve highly accurate and repeatable measurements at 3392 nM. A two-spot alignment system is provided to facilitate quick test piece alignment.

## NOW AVAILABLE FOR DEMONSTRATION AT OUR FACILITY... BRING YOUR SAMPLES!

The Model 339ir interferometer has been designed to provide maximum power output at 3392 nM wavelength. However, because of the high losses that may be encountered in the evaluation of an extended optical assembly at 3392 nM, the user may wish to consider selecting Option "A" which replaces the internal 2 mW Helium-Neon Laser with an external 8 mW laser.

## COMPUTER AND DURANGO SOFTWARE INCLUDED

The Model 339ir interferometer is provided complete with Durango Universal Interferometry Software\* installed in a fully configured 3 GHz Pentium 4 Computer with a 17-inch TFT flat screen monitor.

## FEATURES

- 4-inch aperture (101.6 mm)
- Operating wavelength 3392 nM
- Reference surface flat to 1/10 wave at 632.8nM (1/50 wave infrared)
- Spherical measurement requires transmission sphere – not included
- Intensity control
- Mode Selection: Align / Measure
- Two spot alignment feature
- Live interferogram on computer monitor.
- Broadband Camera (320 x 240) uncooled focal plane array
- Piezo-electric phase shifters
- Approximately 8 fringes shift at 3392 nM
- Warm-up time: 30 minutes
- Test beam axis height 5.25 inches (13.3 cm)
- Image Acquisition boards and data acquisition board installed
- Software configured for this interferometer.
- 50 mm Focal Length Lens
- OPTION "A" Replacement of 2 mW laser with an 8 mW 3392 nM laser
- OPTION "B" Upgrade to 4X ZOOM Lens (50 mm to 200 mm) with remote control.



MODE SELECT SWITCH



INTENSITY ADJUST



REAR PANEL



IR CAMERA CONTROLS

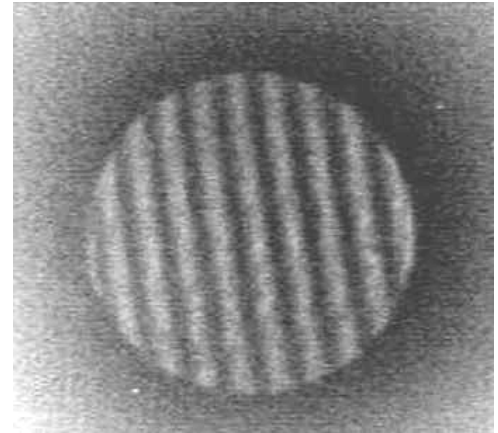
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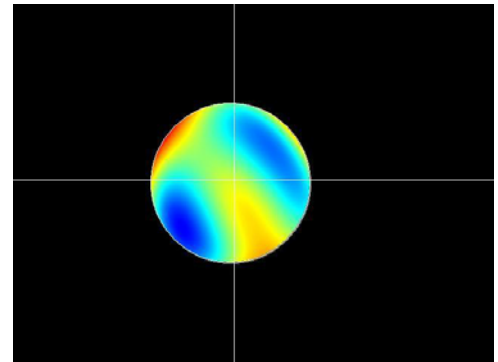
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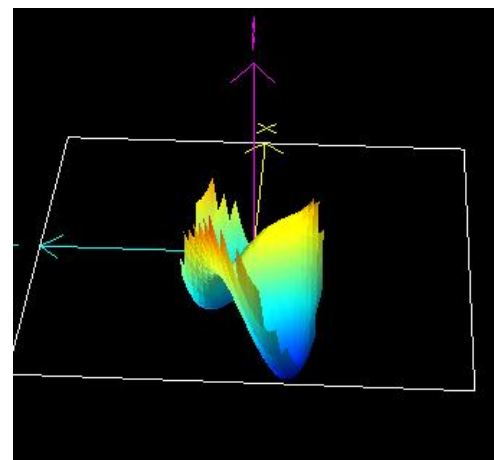
<b>System Specifications</b>	
<b>Aperture</b>	4 inches (101.6 mm)
<b>Imaging Lens</b>	Standard Model 50mm lens Option "B" 4X ZOOM 50 mm to 200 mm
<b>Operating Wavelength</b>	3392 nM
<b>Collimator / Reference Surface</b>	Silicon
<b>Accuracy (uncalibrated)</b>	$\lambda/50$ at 3392 nM $\lambda/10$ at 632.8 nM
<b>Accuracy (calibrated)</b>	$\lambda/250$ at 3392 nM $\lambda/50$ at 632.8 nM
<b>Repeatability</b>	$\lambda/300$ PV $\lambda/1000$ rms
<b>Laser (infrared)</b>	2mW Helium Neon at 3393=2 nM ( 8mw option "A' )
<b>Dimensions (L x W x H)</b>	23.625 x 18.0 x 9.125 (inches) 60.0 x 45.7 x 23.2 (centimeters)
<b>Weight</b>	75 pounds (34 kg) approx.
<b>Software</b>	Durango Universal Interferometry Software*
<b>Phase Shifter</b>	Piezo Electric
<b>Data Acquisition Time</b>	30 milliseconds (typical)
<b>Data Reduction Time</b>	< 3 seconds (typical)
<b>Computer</b>	3GHz Pentium 4
<b>Monitor</b>	17 inch TFT Flat Screen
<b>Power</b>	117/240 volts 50/60 Hz



**TYPICAL INTERFEROGRAM**



**OPD PLOT**



**3D PLOT**

\*Durango is a Trademark of Diffraction International Inc.