

Measured Mirror Shape for Open-Loop Positioning a PTT111 DM



Iris AO, Inc.

**PTT111 DM SYSTEM SPECIFICATIONS**

- ✓ Precision Linear Open-Loop Positioning
- ✓ DM Type: 111 actuator, 37 piston-tip-tilt segments
- ✓ Segment Pitch: 0.606 mm
- ✓ Segment Size: 0.7 mm
- ✓ Stroke: 5 or 7  $\mu\text{m}$
- ✓ Tilt Angle:  $\pm 4$  or  $\pm 5.6$  mrad
- ✓ Optical Coating: Protected Silver, Gold, Protected Aluminum, dielectric
- ✓ Open-Loop Flat Surface Figure:  $< 20$  nm *rms*
- ✓ Inscribed Aperture: 3.5 mm
- ✓ Maximum Operating Temperature:  $50^\circ\text{C}$
- ✓ Drive Electronics: Low noise, 14-bit resolution, update rate  $> 2$  kHz with USB Interface
- ✓ .NET, C/C++ & Matlab
- ✓ Windows OS & Linux compatible

**ADAPTIVE OPTICS MADE EASY**

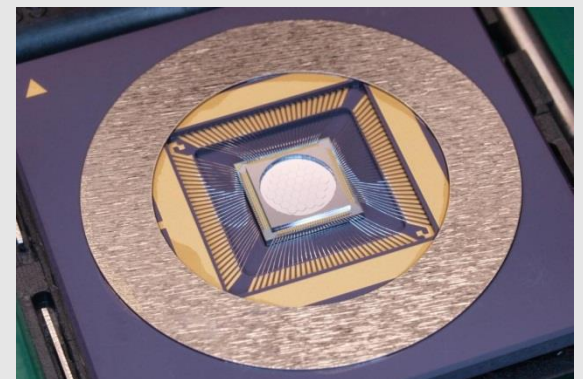
The PTT111 DM system is a high-performance, factory calibrated deformable mirror and precision, low-noise drive electronics. Intuitive mirror positioning commands use piston/tip/tilt values or Zernike coefficients. The USB interface makes setting the system very easy.

**HIGH-QUALITY OPTICAL DEVICE**

The unique PTT111 design uses robust single-crystal-silicon mirror segments that remain flat over large temperature ranges and incident power of  $100\text{W}/\text{cm}^2$  and higher. Precision linear open-loop piston-tip-tilt positioning enables high-performance adaptive-optics corrections. Fully independent segment positioning enables the ability to implement adaptive optics, phased arrays, beam shaping, fiber coupling, and many other applications.

**PROVEN PERFORMANCE**

The DM is in use in applications that range from state-of-the-art retinal imaging and laser-beam correction to high-contrast imaging systems developed by NASA for planet detection. Experience how the PTT111 DM can meet your imaging, microscopy, beam shaping, academic, or industrial needs.



**PTT111 DM SYSTEM CONTENTS**

- ✓ Factory calibrated PTT111-5 DM
- ✓ Smart Driver II drive electronics
- ✓ Compact enclosure
- ✓ Mechanical mounting block & interface cables
- ✓ Controller GUI and libraries

**PTT111 DM OPTIONS**

- ✓ High-stroke: 7  $\mu\text{m}$
- ✓ High-speed computer interface supporting  $> 6.5$  kHz update rates
- ✓ Dielectric coatings from 188-1550 nm
- ✓ Geometrically matched hexagonal Shack-Hartmann lenslet array

Contact Iris AO for additional options or DM customization. Drive electronics with 128-512 channels sold separately as well.

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