

Reduced-Order Configurations Available at Reduced Cost

ADAPTIVE OPTICS MADE EASY

The PTT489 DM system is a high-performance, factory calibrated deformable mirror paired with precision, low-noise drive electronics. Intuitive mirror positioning using piston/tip/tilt values or Zernike coefficients and a USB interface mean you can set precision mirror shapes onto the mirror out of the box within an hour.

HIGH-QUALITY OPTICAL DEVICE

The unique PTT489 design uses robust single-crystal-silicon mirror segments that remain flat over large temperature ranges and incident power of 100W/cm² and higher. Precision linear open-loop piston-tip-tilt positioning enables high-performance adaptive-optics (AO) corrections for atmospheric correction, retinal imaging, and microscopy. Fully independent segment positioning enables the ability to implement AO, phased arrays, beam shaping, fiber coupling, and many other applications. Reduced-order configurations are available for applications requiring less actuators.

PROVEN PERFORMANCE

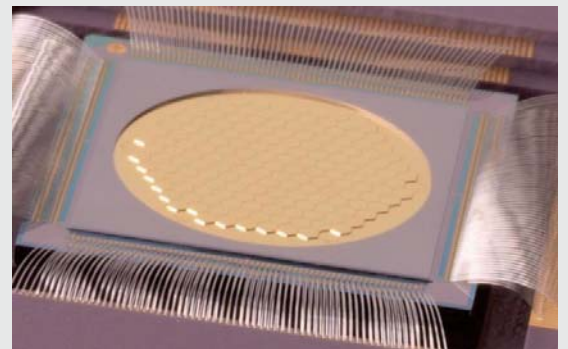
The DM is in use in applications that range from state-of-the-art retinal imaging to high-contrast imaging systems developed by NASA for planet detection. Experience how the PTT489 DM can meet your imaging, microscopy, academic, or industrial needs.



Iris AO, Inc.

PTT489 DM SYSTEM SPECIFICATIONS

- ✓ Precision Linear Open-Loop Positioning
- ✓ DM Type: 489 actuator, 163 piston-tip-tilt segments
- ✓ Stroke: 5 or 8 μm
- ✓ Tilt Angle: ± 4 or ± 6.4 mrad
- ✓ Optical Coating: Gold, protected-aluminum, or protected-silver coating
- ✓ Open-Loop Flat Surface Figure: < 30 nm *rms*
- ✓ Inscribed Aperture: 7.7 mm
- ✓ Mechanical Response: < 200 μs
- ✓ Drive Electronics: Low noise, 14-bit resolution with USB Interface
- ✓ C/C++ Interface Libraries
- ✓ Matlab™ Compatible Functions



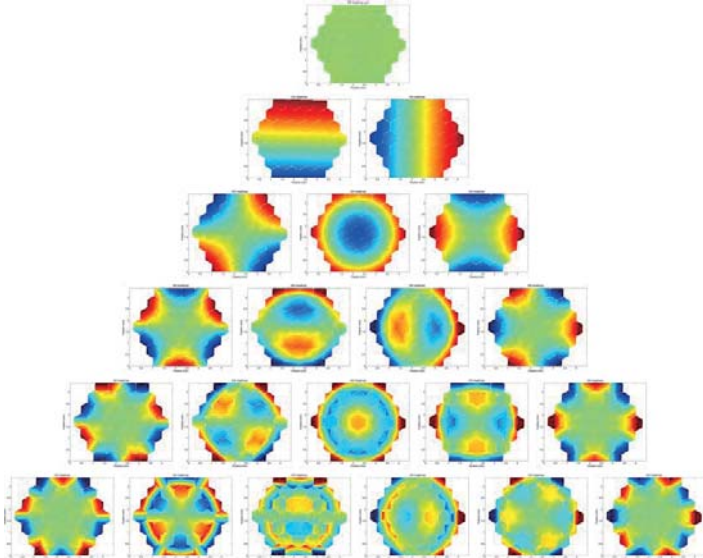
PTT489 DM SYSTEM CONTENTS

- ✓ Factory calibrated PTT489-5 DM
- ✓ Smart Driver II-512 USB electronics
- ✓ Printed-circuit-board interface
- ✓ Mechanical mounting block
- ✓ Interface cables

PTT489 DM OPTIONS

- ✓ High-stroke: 8 μm
- ✓ High-speed computer interface supporting > 6.5 kHz update rates
- ✓ Dielectric coatings from 188-1550 nm
- ✓ Reduced-order configurations: 183, 255, or 363 actuators
- ✓ Geometrically matched hexagonal Shack-Hartmann lenslet array

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



Representative Mirror Shapes for Open-Loop Positioning a PTT111L DM

ADAPTIVE OPTICS MADE EASY

The PTT111L DM system is a high-performance, factory calibrated deformable mirror paired with precision, low-noise drive electronics. Intuitive mirror positioning using piston/tip/tilt values or Zernike coefficients and a USB interface mean you can set precision mirror shapes onto the mirror out of the box within an hour.

HIGH-QUALITY OPTICAL DEVICE

The unique PTT111L design uses robust single-crystal-silicon mirror segments that remain flat over large temperature ranges and incident power of 100W/cm² 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.

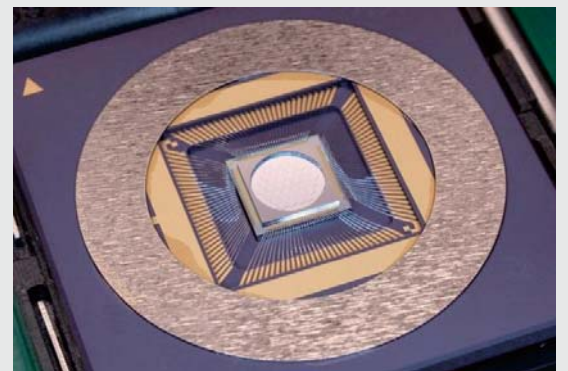
PROVEN PERFORMANCE

Iris AO DM technology is in use in applications that range from state-of-the-art retinal imaging to high-contrast imaging systems developed by NASA for planet detection. Experience how the PTT111L DM can meet your imaging, microscopy, academic, or industrial needs.



PTT111L (LARGE FORMAT) DM SYSTEM SPECIFICATIONS

- ✓ Precision Linear Open-Loop Positioning
- ✓ DM Type: Large format 111 actuator, 37 piston-tip-tilt segments
- ✓ Segment Pitch: 1.212 mm
- ✓ Stroke: 5 or 8 μm
- ✓ Tilt Angle: ± 2 or ± 3.2 mrad
- ✓ Optical Coating: Gold, protected-aluminum, protected-silver
- ✓ Open-Loop Flat Surface Figure: < 30 nm *rms*
- ✓ Inscribed Aperture: 7.0 mm
- ✓ Mechanical Response: < 500 μs
- ✓ Maximum Operating Temperature: 80°C
- ✓ Drive Electronics: Low noise, 14-bit resolution with USB Interface
- ✓ C/C++ Interface Libraries
- ✓ Matlab™ Compatible Functions



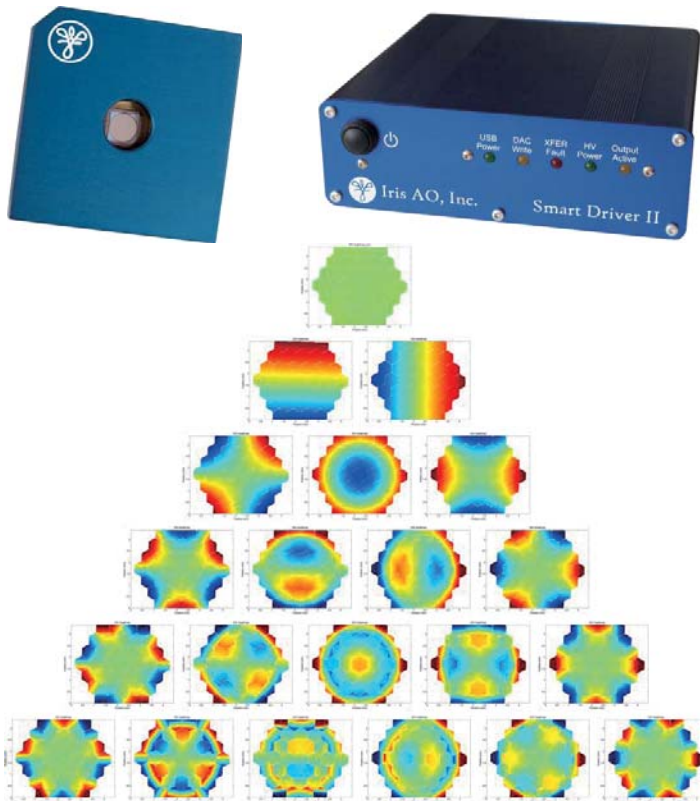
PTT111 DM SYSTEM CONTENTS

- ✓ Factory calibrated PTT111L-5 DM
- ✓ Smart Driver II drive electronics
- ✓ Printed-circuit interface board
- ✓ Mechanical mounting block
- ✓ Interface cables

PTT111L DM OPTIONS

- ✓ High-stroke: 8 μm
- ✓ 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, higher-performance devices, or DM customization. Drive electronics with 128-512 channels sold separately.



Measured Mirror Shape for Open-Loop Positioning a PTT111 DM

ADAPTIVE OPTICS MADE EASY

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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 100W/cm² 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

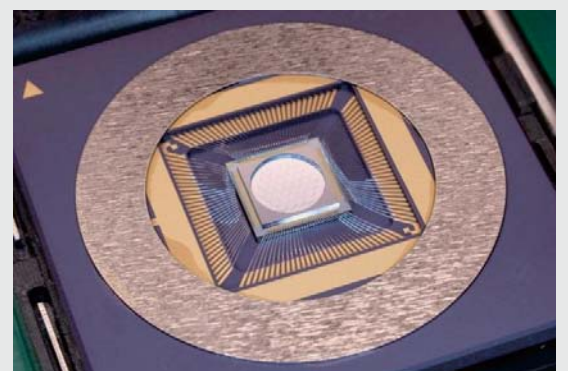
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Iris AO, Inc.

PTT111 DM SYSTEM SPECIFICATIONS

- ✓ Precision Linear Open-Loop Positioning
- ✓ DM Type: 111 actuator, 37 piston-tip-tilt segments
- ✓ Stroke: 5 or 8 μ m
- ✓ Tilt Angle: ± 4 or ± 6.4 mrad
- ✓ Optical Coating: Gold, protected-aluminum, protected-silver
- ✓ Open-Loop Flat Surface Figure: < 20 nm rms
- ✓ Inscribed Aperture: 3.5 mm
- ✓ Mechanical Response: < 200 μ s
- ✓ Maximum Operating Temperature: 80°C
- ✓ Drive Electronics: Low noise, 14-bit resolution with USB Interface
- ✓ C/C++ Interface Libraries
- ✓ Matlab™ Compatible Functions



PTT111 DM SYSTEM CONTENTS

- ✓ Factory calibrated PTT111-5 DM
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PTT111 DM OPTIONS

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