

## Aeri™

**B**ased on the Unifi™ Deformable Mirror System, the Aeri™ ATS is a complete unit consisting of an AgilOptics' deformable mirror and a specially modified D64USB driver. Control circuitry within the driver can store a 3-D pattern representing arbitrary turbulence patterns and rapidly display the pattern on the mirror surface.

Using the provided software tool, the user can create the desired aberrations on his computer and then download the pattern file to the Aeri™ over a USB cable. The ATS will then start driving the mirror to generate the specified aberrations.

## Atmospheric Turbulence Simulator

### Features

- Fits in standard 4" optical mounts
- Includes 61-actuator Deformable Mirror (50mm–61 actuators) (typical)
- Uses USB 2.0 Interface (Type B Connector)
- 4 kHz Mirror Bandwidth (updates in 50  $\mu$ secs cycles)
- System sends one actuator every 0.8  $\mu$ sec with a 1.2  $\mu$ sec overhead per pattern
- 61 actuators update in 51 $\mu$ sec, and a 37 actuator DM will be even faster!



# AGILOPTICS

### **What Aeri™ Can Do For You:**

- **Create a dynamic atmospheric optics simulation based on your predictions or measurements**

#### **Ordering Information**

UATS – 50/61 – HR1064

Series Name    A    B    C    D

Series Name: Unifi™ Deformable Mirror System

A: Mirror Diameter in millimeters (mm)

B: Actuator Count

Standard Mirror Diameter/Actuator Count Combinations:

- 10/4                    · 25/61
- 10/8                    · 30/37
- 16/37                   · 50/37
- 25/37                   · 50/61

Custom diameter/actuator counts available to user's specifications. Contact AgilOptics for delivery and pricing.

C: Coating Type

- HR – High Reflectivity
- AR – Anti-Reflective (Window)

D: Wavelength

Standard Wavelengths

#### **Multi-Wavelength Coatings**

- Vis – Broad-band visible spectrum
- Al – Standard Aluminum
- AgProt – Protected Silver

#### **Single Wavelength Coatings**

- 1315nm
- 1064nm
- 800nm
- 633nm
- 349nm
- 266nm

Custom coatings can be added to any mirror.

Contact AgilOptics for delivery and pricing.

#### **Driver Specifications**

##### **Absolute Maximum Ratings**

Output Voltage per Channel: 295V

<u>Parameter</u>	<u>Test Conditions</u>	<u>Min</u>	<u>Typ</u>	<u>Max</u>	<u>Units</u>
Power			2.5		W, quiescent
Actuator Bandwidth	Small Signal Full Swing, all channels from 0-295V-0		782	4 790	KhZ Hz
Current Output per channel			550		µA
Output Voltage per channel		280	290	295	V

#### **Other Specifications**

##### **Communication**

USB 2.0

##### **Enclosure Dimensions**

Tube: 3.5" (88.9 mm) x 3" (76.2 mm) OD

Mirror Housing: 4.157" (105.6 mm)

OD at widest point x 1.46" (37mm)

Total Enclosure Length: 4.5" (114.3 mm)

##### **Weight**

Total Weight with 4" Optical Mount: 2.625 lbs. (1191 g)

Total Weight without mount: 1.75 lbs. (794 g)

Electronics: .25lbs. (114 g) [3 boards]

