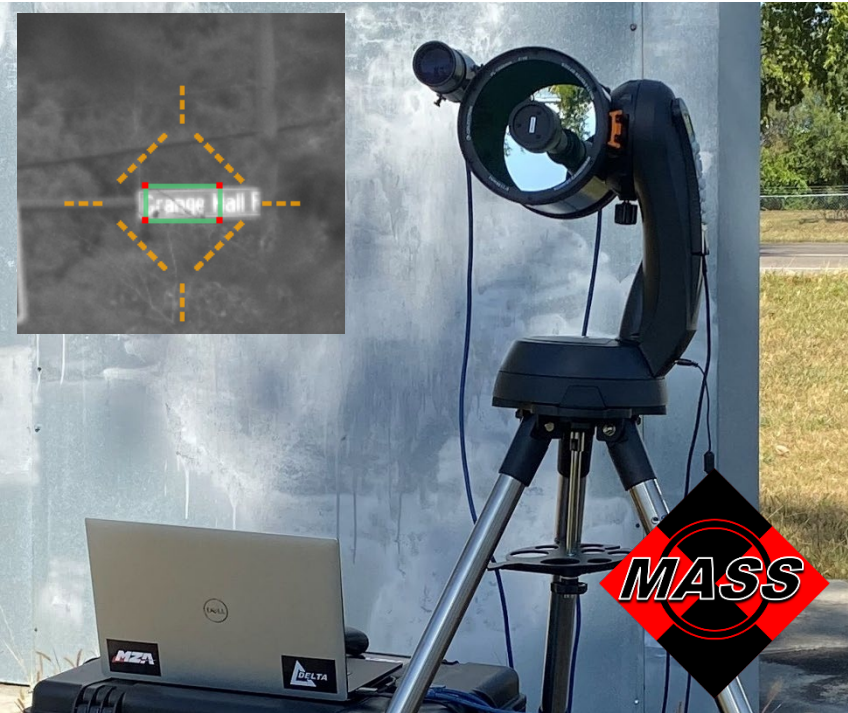




Description

MZA's Delayed Tilt Anisoplanatism (DELTA) Imaging Path Turbulence Monitor measures turbulence strength along a line of sight. The DELTA sensor is placed at one end of the path, with a target or object with multiple, trackable features on the opposite end. Depending on the size of the target and the optics on the telescope, a range of ½ to 2 kilometers can be achieved. As an upgrade to the DELTA sensor, our track control system comes with additional components which enables tracking of targets moving at moderate angular rates. All of the additional components needed to turn an existing imaging system into a tracking mount are delivered in a single pelican carrying case, along with the control software which is integrated into MZA's Modular Atmospheric Sensor Software (MASS) suite for full sensor control and operation.

Operation

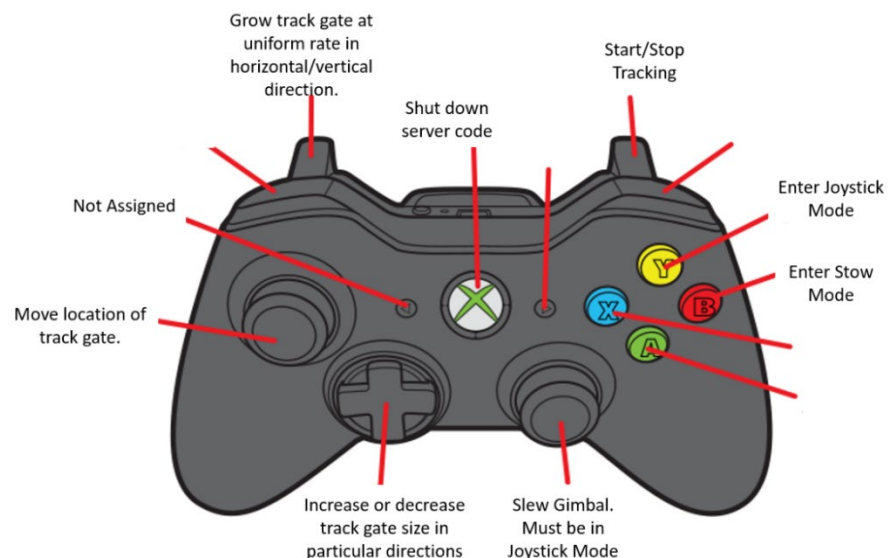
MASS software installs on a laptop computer and integrates with the standard DELTA operator interface. Commands may be issued on-screen or through the provided Xbox hand controller. With the hand controller, the operator may steer the gimbal in any direction to acquire the target. Once acquired, a track box is established and the track loop is closed. The sensor will follow any apparent motion of the target until the operator initiates a break in the track. The track window may be offset from the optical line-of-sight to enable a higher-resolution image of the target in a separate sensor and adjustment of boresight between the sensors.

Applications

- Track moving targets
- Offset motion of moving platform
- Stabilize sensor line-of-sight
- Automatic gimbal control
- Controls mount environmental drift
- Long-term controlled sensor pointing
- Monitoring turbulence conditions
- Compatible with MZA's DELTA sensor
- Compatible with MZA's PROPS profiler
- Laser propagation path characterization
- Atmospheric imaging diagnostics
- Optical communications link performance

Unique Advantages

- Multi-purpose gimbal control
- Corrects image motion of dynamic targets
- Intuitive operator hand controller
- Seamlessly integrates with DELTA and PROPS operator interfaces
- Enables turbulence sensor operation
- Guide scope for telescope integration
- Robust target tracking
- Portable and compact system
- All sensors controlled from single laptop
- Computer interfaces cables included
- Passive operation requires no illuminator
- Output supports analysis with MATLAB

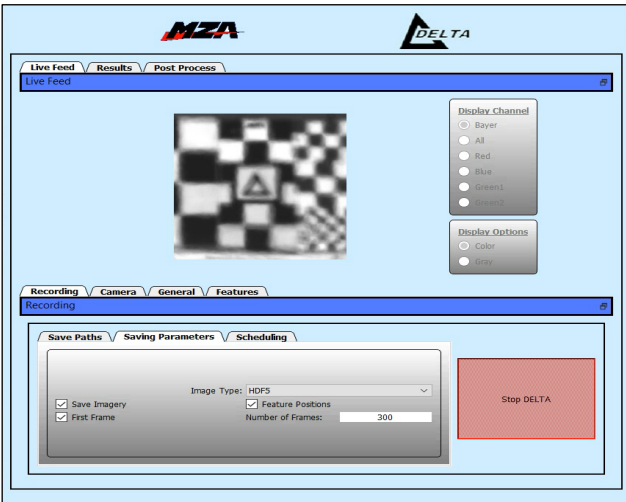




Tracking Upgrade for DELTA Sensor, PM-02-600T

Optical and Atmospheric Sensor Control

Tracker operation is enabled through MZA's Modular Atmospheric Sensor Software (MASS) software. The tracker integrates into the common GUI to enable efficient operator control with several live feeds when using existing DELTA and PROPS licenses. The Xbox hand controller handles all operation of the tracker from acquisition to fine tracking, including boresight adjustments. DELTA operation continues in parallel with the tracker. All hardware is provided to interface with the existing laptop computer for the DELTA sensor.



Acquisition and Track Camera	FLIR camera provided for USB interface to operator laptop. Interface cables included
Guide Scope	50 mm aperture with dovetail attachment to telescope provided motorized mount. Includes camera mount and optics.
Motorized Mount	Gimbal for tracking <10°/sec. Will mount 6" or 8" telescopes for atmospheric sensors.
Additional Hardware	Hand controller for operator interface. Pelican all-weather transportation case for tripod, gimbal, and hand controller.



4900 Lang Ave. NE, Suite 100
Albuquerque, NM 87109
505-245-9970

1360 Technology Ct, Suite 200
Dayton, OH 45430
937-684-4100