

MDA INFORMATION SYSTEMS LLC

Imaging Through Volume Turbulence (IVT)



turbulence mitigation



snow mitigation



IMAGING THROUGH VOLUME TURBULENCE (IVT)

Get clearer electro-optical and infrared imagery when imaging through turbulence and snow

Electro-optical and infrared (EO/IR) imagery collected over long distances can be degraded by atmospheric turbulence. Other conditions such as low light and snowfall can also degrade imagery. Such degradations limit a user's ability to detect, recognize and identify objects from a safe distance. Using specialized image-processing algorithms, MDA's Imaging through Volume Turbulence (IVT) capability removes these degradations and provides a clearer image from greater distances, enabling improved character and facial recognition.

Image clarity in real time

To achieve the best performance, MDA provides an integrated sensor and processor solution. Good performance can also be achieved with a processor-only option that can be used with most existing video sensors. Real-time processors are available in server-based and small form factor configurations to meet specific size, weight and power (SWaP) requirements. IVT can be integrated into stationary structures or mobile platforms on the ground, at sea or in the air. By increasing a sensor's operational range, we enable the user to remain unobserved and accurately identify and classify objects at long-range with greater confidence.

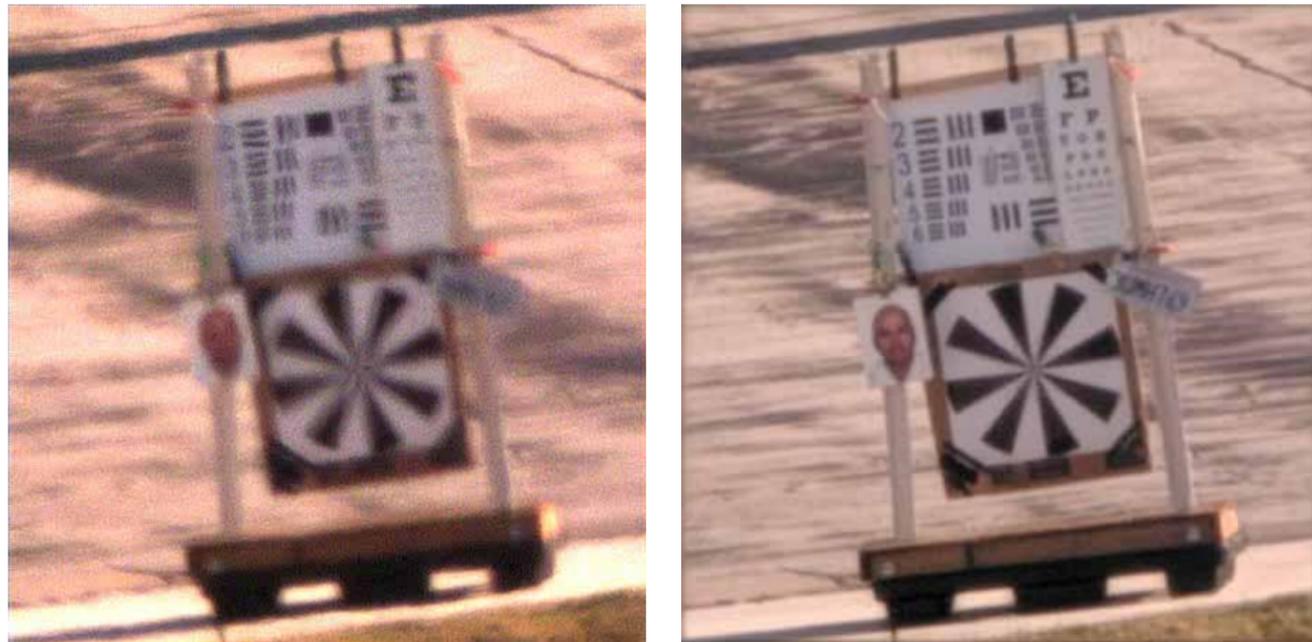


Figure 1. Real-time IVT processing improves resolution for clearer facial recognition and the ability to read text as shown in this rooftop-to-ground scenario at a range of 1 kilometer.

Benefits

- ❑ Real-time enhancement to video data collection
- ❑ Reduces image distortion and blur caused by atmospheric turbulence to provide a true image of an object
- ❑ Improves image clarity through electronic stabilization
- ❑ Enhances contrast
- ❑ Extends the operational range and effectiveness of a sensor for unmatched range performance
- ❑ Increases situational awareness and improves response time
- ❑ Maximizes performance of existing sensor systems
- ❑ Integrates easily with most camera systems

Applications

Ideal for long distance optical surveillance and targeting where enhanced resolution is needed, including:

- ❑ Law enforcement (border patrol, surveillance, traffic control)
- ❑ Defense and Intelligence (land, air and sea based ISR)
- ❑ Nature enthusiasts



Figure 2. The IVT system processor uses proprietary algorithms to mitigate turbulence-induced blur, apply image stabilization, and enhance contrast (IR imagery shown).



Figure 3. IVT can mitigate turbulence-induced degradations even in low-light conditions.



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About MDA Information Systems LLC

For over forty five years MDA Information Systems LLC has provided essential software applications, information products, and technical expertise to enable smarter decision making while mitigating risks.

Whether for the commercial or government/public sector, MDA knows Big Data—from real-time data acquisition and tracking to advanced data and imagery fusion, exploitation, and analysis.

Whether we are:

- Designing and enhancing high performance Intelligence Surveillance, and Reconnaissance (ISR) solutions
- Developing innovative and efficient geospatial solutions
- Developing secure, market-leading ground system technologies or
- Providing the most accurate, cleaned, and enhanced weather data

you can rely on MDA as a trusted partner. At MDA we are committed to delivering quality products and outstanding service, the first time—every time.

Customer Satisfactor

For over four decades MDA has worked around the world to provide advanced information solutions that leverage cost-effective technologies to enable more efficient business operations for its customers.

We foster a culture of commitment creating extraordinary results.

- We are passionate about our work
- We provide innovative solutions
- We are dedicated to our customers' success

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