

For Immediate Release
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Micro MWIR camera by Sierra-Olympic is a feat in low-SWaP engineering

Hood River, Oregon: Sierra-Olympic Technologies recently introduced an innovative new camera system that represents the smallest mid-wave infrared sensor on the market.

The Ventus Micro features 640 x 512 x 10 um pixel pitch, long-life HOT MWIR core with a custom F3.6 16-180 mm folded optic, all in a miniaturized package designed to fit into a six-inch articulating volume. The project is more than three years in the making; a new sensor and optic had to be custom developed to adhere to the strict size, weight and power constraints of the design.

“The Ventus Micro was conceived for our airborne customers, who are always looking to get the highest performance possible per unit gram,” said Chris Johnston, Sierra-Olympic Technologies President. “The design was motivated by a customer who wanted to fit a mid-wave sensor with approximately a two degree horizontal field of view when zoomed in, into a 6-inch articulating volume. That’s not as straightforward as one might think. We worked on optic and sensor development over a period of years to perfect the design. We’re now at a point where all the elements have come together and are performing very well and very reliably.”

Sierra-Olympic Technologies is an industry leader in compact, high-performance thermal imaging systems. Of the more than 4,000 mid-wave infrared cameras Sierra-Olympic has sold over the last decade, about 90 percent were for airborne applications.

“For our clients in the airborne business, especially in small remotely piloted aircraft, performance per unit gram is everything,” Johnston explained. “We’ve constantly been improving the technology in performance per unit gram, performance per unit volume and, in many cases, performance per unit watt. The Ventus Micro is the leading edge of evolution in smaller, lighter, higher-performance mid-wave infrared camera systems.”

To meet the project’s stringent design challenges, Sierra-Olympic developed a custom 180-degree folded optic that provides a 16-180 mm EFL (22.6 -2.0 ° FOV). On the sensor side, the Micro is built around an innovative new high-operating temperature (HOT) detector that requires less cooling to operate and, as a result, extends the life of the system, decreases time to image, lowers power usage and decreases overall cost of ownership.

The Micro is one of several cameras in the Ventus family of cooled mid-wave infrared systems. The Ventus OGI is a breakthrough optical gas imaging camera designed for visualizing hydrocarbon gasses and the three-camera Ventus HOT series is designed for long-range security and surveillance applications.

“All Ventus cameras, as well as our Vinden family of uncooled long-wave cameras, share commonalities in design, integration and protocols that bring consistency across our product lines,” Johnston said.

For more information or to arrange a demo of the Ventus Micro, or any other Sierra-Olympic camera, visit www.sierraolympic.com or email sales@sierraolympic.com

Ventus Micro key specifications

Resolution: 640 x 512

Pitch: 10µm

Sensor: High operating temperature (HOT) MWIR

Spectral range: 3.6-4.2 µm

Framerate: 30 Hz (ethernet) / 60 Hz (Camera Link)

EFL: 16-180 mm

FOV: 22.6 – 2.0 °

F#: 3.6

Focus: one-touch autofocus

Digital zoom: 4x

L x W x H (mm): 119 x 75 x 121

Weight (approx): 812 g (1.8 lb)