Resonon releases new compact and lightweight NIR hyperspectral imagers

Resonon, a leader in hyperspectral imaging, just released two new NIR range (925 – 1700 nm) hyperspectral imagers: the Pika IR-L and Pika IR-L+.

Pika IR-L+

Resonon Logo

BOZEMAN, MT, UNITED STATES , September 9, 2022 /EINPresswire.com/ -- Resonon, a leader in hyperspectral imaging, just released two new NIR range (925 – 1700 nm) hyperspectral imagers: the Pika IR-L and Pika IR-L+. The new imagers are smaller, nearly three times lighter, and boast improved spectral resolution compared to the current generation of NIR imagers.

“The Pika IR-L and IR-L+ imagers’ compact and lightweight format makes them exceptionally suited for drone-based remote imaging, providing longer flight times, and enabling NIR hyperspectral imaging for smaller UAV platforms such as the DJI M300. Reducing size and weight while increasing spectral resolution was a tremendous achievement by our technical team,” says Resonon CTO Casey Smith.

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>
> *Casey Smith*

The false-colored image on the left was created from data acquired with the new Pika IR-L hyperspectral imager and is overlayed on satellite imaging of an area in Hyalite Canyon, just south of Bozeman, MT. The image is false-colored using Principal Component Analysis, providing clear contrast between the ground cover’s various components by utilizing their distinct spectral signatures, as illustrated in the plot on the right.

Applications

Hyperspectral imagers provide information about the composition and chemical state of imaged objects, parts of objects, or entire landscapes. The new Pika IR-L imagers' NIR spectral range is particularly suited for delineating land/water boundaries, imaging through low clouds and smoke, classifying a variety of minerals and vegetation covers, as well as contrasting dry and wet soils. Noteworthy applications include survey work, scientific research, precision agriculture, and a multitude of commercial applications.

Pika IR-L+ Hyperspectral Imager

While the applications are plentiful for the NIR range, the converse reality is that customers typically come to Resonon with specific needs that ultimately dictate the ideal spectral range and subsequent imager selection. The Pika IR-L and IR-L+ (925 – 1700 nm) complement the Pika L (400 - 1000 nm), providing customers with a suite of compact and lightweight hyperspectral imagers that cover a particularly rich swath of the electromagnetic spectrum.

Airborne system

Airborne Systems can be acquired as a full kit, including a data acquisition unit, the GPS/IMU unit, georectification software, post-processing & analytical software, a system mount for UAVs or piloted aircraft, radiometric calibration, a calibration target, and a rugged travel case. Resonon also offers RTK systems for very precise geo-location, VNIR downwelling irradiance sensors, and training services.

Resonon COO Mike Stebbins points out that the airborne system is compatible with the DJI M300 drone, which is "arguably the most popular professional drone out there." Mounting pucks specifically designed for the M300 dual mount system are available from Resonon.

About Resonon

Resonon is a global leader in the design and manufacturing of hyperspectral imaging systems. Founded in 2002, Resonon is located in Bozeman, Montana, in the heart of the Rocky Mountains. Resonon is a vertically integrated company, with optical design, manufacturing, and software development capabilities. The company sells hyperspectral systems for research and industry all over the world and regularly partners with NASA, the National Science Foundation (NSF), National Oceanic and Atmospheric Administration (NOAA), National Institute of Standards and Technology (NIST), National Institute of Health (NIH), the US Department of Agriculture (USDA), and the US Department of Energy (DOE). Its hyperspectral imagers are rugged, reliable, cost-effective, and provide excellent imaging and spectroscopic performance.

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