Video Camera and Sensor Network

The Avaak AV-18 ultra-miniature, wireless full color imager is a wireless color digital camera designed to operate as a node in a wireless sensor network. The unit is a self-contained, autonomous, wireless video sensor platform, comprised of a digital video imager camera, radio, controller, antenna and battery. The device communicates with basestations that use the AV-20 radio module. The AV-20 is available in a Compact-Flash form factor and uses a standard Pocket PC to manage the network and display/store images received from the nodes.

Wireless Imaging Technology

The device combines wireless radio processing and imaging technology to provide real time imaging in diverse lighting and environmental conditions. The imager has low power requirements, maximizing battery life through the use of JPEG image compression and smart processing. The AV18 is designed for commercial and government applications, including supply chain management, process monitoring, industrial monitoring, building and home automation, homeland security, reconnaissance, situational awareness, container security and monitoring, asset protection, first responder support, law enforcement and various other applications.

Performance Details

Specifications for the imager include the following:
&#149 Dimensions of ~ 1 cubic inch and weight of less than 25 grams
&#149 Communications range: &gt 250 feet for BER &lt $10^{\&\#150\ 3}$ at heights above 100 feet, estimated range &gt 3000 feet
&#149 Communications protocol: packet switching, frequency hop
&#149 Frequency operating range: 2400 MHz ISM band
&#149 Modulation type: FSK, GFSK
&#149 Frequency step: 1 MHz
&#149 Frequency accuracy: &#177 30 ppm
&#149 Frequency switching speed: &lt 200 usec
Avaak offers a family of compatible sensor and data acquisition boards for this device. These boards are connected to the unit via a modular expansion connector. This connector allows boards to be stacked above AV-18 Communications and Processing Motherboard. Custom sensor and data acquisition boards are also available.

Avaak, Inc.
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