Multi-Spectral Camera

JAI today announced the release of the AD-130GE, a new 2-CCD multi-spectral camera offering significantly greater resolution and light sensitivity than the company's first-generation models. Like the existing AD-080 series, the AD-130GE incorporates a dichroic prism to provide simultaneous capture of both color and near-infrared (NIR) digital video on a single optical path for efficient multi-spectral inspection and analysis.
As the model number implies, the AD-130GE provides 1.3 megapixel resolution (1296 x 966 pixels) compared to the 0.8-megapixel resolution of the existing AD-080 series. Using two precisely-aligned 1/3" Sony ICX447 CCDs, the AD-130GE maintains a comparable capture rate to the AD-080 series (31 fps), while taking advantage of increased sensitivity, especially in the NIR portion of the spectrum.

Sensitivity to visible light is approximately 20% greater than the AD-080 models, while NIR sensitivity is more than twice that of its predecessors. This leads to higher quality images under typical conditions, with less illumination needed to produce proper signal-to-noise ratios for inspection tasks.

The analysis of multiple images taken using different wavelengths of light has been used in a variety of industries to examine both visible properties, like color, size, and printing, as well as non-visible elements like bruises, scratches, and moisture content. But traditional two-camera solutions have remained costly and difficult to calibrate.

JAI's 2-CCD technology provides a single-camera approach to this challenge that enables multi-spectral analysis to be easily applied to a wide range of inspection tasks. Typical uses include fruit and vegetable inspection, the inspection of blister packs or other plastic film containers, and medical supplies where the two channels can be used to check the integrity of both inner and outer seals on plastic pouches,

bags, or other items.

Output from the AD-130GE is provided via two GigE interfaces on the back of the camera. Color output is available in raw Bayer form (8, 10, or 12-bit) for host-based interpolation, or as 24-bit or 30-bit RGB. NIR output is user selectable 8, 10, or 12-bit monochrome images.

Camera features include multiple shutter modes (including auto shutter), a configurable GPIO module, look-up tables for gamma customization, manual or automatic gain control (AGC), and analog video output to support auto-iris lenses.

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