1300 Series Camera

Overview

Spectral Instruments' 1300 Series camera is designed to match the resolution of aerial imaging cameras with multiple CCDs in a smaller and more economical system. A single CCD with 110 million pixels and 16 individual read-out ports deliver high resolution color images at the speeds necessary for demanding aerial applications. Advanced electronics and thermoelectric cooling allow true 12-bit digitization for great detail in shadows and highlights.

Key Features

- Simultaneous read-out from 16 ports
- True 12-bit digitization at 2MHz per port read rates fully utilize the 54dB dynamic range of the sensor
- Thermoelectric cooling keeps the CCD at a constant -20°C
- Sensor can be monochrome or color for maximum flexibility
- Unmatched frame resolution
- Electronic forward motion compensation allows high flight speeds and dynamically corrects motion blurring at sub-pixel levels
- Very low readout noise (< 30e-) through MPP mode CCD read-out

Example Applications

- Strip mapping
- Forest and crop disease monitoring
- City, county, state municipal development
- Environmental impact
- High altitude surveillance
- Construction site planning
- All aerial imaging applications requiring high resolution with high speed

Continued other side.

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1300 Series

CCD

The 10580 X 10560 9µm pixel CCD in the 1300 Series camera is available with or without a Bayer mask for color imaging. True 12-bit digitization takes advantage of the full dynamic range of the CCD. Maximum flight speed is allowed by sub-pixel forward motion compensation, eliminating digital post-processing. Sixteen high speed read-out ports allow the 1300 Series camera to effectively eliminate the trade-off between resolution and flight speed.

Camera Size

The CCD and its associated electronics are housed in a rugged aluminum casing designed for aerial applications. The camera itself measures just 15" high by 7" wide.

CCD Cooling

True 12-bit acquisition is possible through our advanced proprietary electronics and thermoelectric cooling to a constant (+/- 0.1°C) temperature of –20°C. Aerial photographs acquired with this capability can truly retain detail in the highlights and shadows of the image.

Computer Interface

The 1300S camera runs on Spectral Instruments' proprietary software that will control image acquisition and processing. The data stream from the camera runs through a gigabit fiber optic into a proprietary PCI express card. Forward compensation corrections are performed directly on the camera head electronics.

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