

DIGICAM[®]

DigiCAM is a medium-format airborne digital camera system for professional, but affordable digital aerial photography. By employing IGI's core competence in airborne developments, this digital camera is built for airborne conditions and aerial survey applications. Combined with IGI's flight management system CCNS4 and the *AEROcontrol* GPS/IMU system, *DigiCAM* forms a complete solution for an extremely rapid and automated workflow for the generation of directly georeferenced images.

Sensor Management Unit

Fitting into IGI's Modular System Concept one camera unit can be extended with multiple cameras to e.g. a *Quattro DigiCAM* or *Penta DigiCAM* system at any time. For upgrading a *DigiCAM* system only one *DigiControl* SMU for each camera is needed. Sharing the new graphical user interface, all cameras can be controlled within one TFT display.

DigiControl Sensor Management Units come with hot swap Solid State Drive storing units. With no moving parts SSD storing units guarantee the safety of image data and facilitate no limits in altitude. The system provides online flight information e.g. preview, histogram, GSD and remaining images. An online adjustment of shutter, aperture and ISO values is possible. IGI offers a variety of different lenses. Lenses with: 28, 35, 50, 80, 100, 150, 210 and 300 mm fixed focal length are available. Two filters are available for color mode (RGB) and color-infrared mode (CIR).



TFT display, *DigiControl* SMU with *DigiCAM*, camera filters and SSD hot swap storage unit

Modular System

DigiCAM is a modular designed system. Two cameras can be used to get RGB and CIR images of the same area in just one flight. Following arrangements are in operation:

DigiCAM

1x *DigiCAM* with 60 Mpixel

Dual DigiCAM

2x *DigiCAM* with 118 Mpixel

Triple DigiCAM

3x *DigiCAM* with 172 Mpixel

Quattro DigiCAM

4x *DigiCAM* with 235 Mpixel

Dual DigiCAM Oblique

45° images for 3D City Modelling

Quattro DigiCAM Oblique

45° images for 3D City Modelling

Penta DigiCAM

4x *DigiCAM* oblique

1x *DigiCAM* nadir

DigiCAM® - Digital Aerial Modular Camera System

Lenses



Example of lenses: 3.5 / 35 mm 3.5 / 50 mm 2.8 / 80 mm

The lenses for each *DigiCAM* are thoroughly selected in order to fulfill all demands of digital aerial photography. All lenses are of high precision and high luminous intensity.

For operations combined with a LiDAR system such as the *LiteMapper*, the lens can be adjusted to the corridor width of the laser scanner.

Complete Solution:

IGI offers a complete solution for a modern digital aerial camera system. Components are:

- Mission Planning Software
IGIplan
- Aircraft Guidance & Sensor Management
CCNS4
- GPS/IMU System for direct georeferencing
AEROcontrol with *AEROoffice*
- Postprocessing Software
Support of common photogrammetric software packages

RGB and CIR Images



Place: Siegen, Germany
Aircraft: Cessna 207

Highlights

- Affordable medium-format aerial modular camera
- 60, 50 or 39 megapixel resolution
- Single touch screen for multiple systems
- Ethernet connection for further SMU's
- Frame rate up to 1.6 sec
- Rugged, compact and lightweight design
- Hot swap storage unit for unlimited flying time
- RGB or CIR images possible
- Compatible with stabilized mounts
- Combination with *LiteMapper* LiDAR system possible
- Combination with *DigiTHERM* aerial thermal camera system possible
- Multiple sensor head configurations possible to acquire e.g. faster flying speed or oblique images

