Microsoft®

UltraCam-Lp
Technical Specifications

Image Product Specification

Image format	Analogous to an aerial film image at a format of 23 cm x 16 cm, scanned at 20 μm
Image data formats	JPEG; TIFF with options for 8 and 16 bits, standard tiff format
Color at level 3	Full resolution R, G, B, Near-IR channels, planar or pixel-interleaved

Digital Camera Technical Data (Sensor Unit S-Lp)

Panchromatic image size	11,704 * 7,920 pixels
Panchromatic physical pixel size	6 μm
Physical format of the focal plane	70.22 mm * 47.52 mm
Lens system	Linos Vexcel Apo-Sironar digital HR
Panchromatic lens focal distance	70 mm
Lens aperture	f= 1/5.6
Total field of view, cross track (along track)	52° (37°)
Color (multi-spectral capability)	True color & NIR
Color image size	5,320 * 3,600 pixels
Color physical pixel size	6 μm
Lens system	Linos Vexcel Apo-Sironar digital HR
Color lens system focal distance	33 mm
Color lens aperture	f = 1/4.0
Total color field of view, cross track (along track)	52° (37°)
Shutter system	Prontor magnetic 0 – Vexcel
Shutter speed options	1/500 to 1/32
Forward-motion compensation (FMC) for PAN, RGB and NIR	TDI controlled
Maximum FMC-capability	50 pixels
Pixel size on the ground (GSD) at flying height of 900 m (at 500m)	8 cm (4.3 cm)
Frame rate per second (minimum inter-image interval, normal mode)	1 frame per 2.5 seconds
Frame rate per second (minimum inter-image interval, turbo-mode)	1 frame per 2.0 seconds
Analog-to-digital conversion at	14 bits
Radiometric resolution in each color channel	>12 bit
Physical dimensions of the camera unit	45 cm x 45 cm x 80 cm
Weight	~ 55 kg
Power consumption at full performance	~220 W

Integrated In Flight Data Storage System

In Flight Data Storage	Exchangeable Data Unit, consisting of Solid State Devices
In-flight storage capacity	Unlimited with use of multiple data units; per data unit 1 TB
Configuration of each data unit	Four Solid State Devices, packed in two boxes, combined onto one plate for easy exchange
In-flight capacity to collect uncompressed frames	Unlimited with multiple data units; per data unit ~ 2,500 images
Method of exchanging data units in-flight	In less than 3 minutes
Data transfer into office environment	Removable data unit; docking station (optionally mobile)

Operational Specification

Data collection period at 70% & 20 % overlap, at 20 cm GSD, 140knts	~6 hours per single data unit
Post-processing of collected raw images	UltraMap, UM/AT extension, PC network or Laptop
Data transfer from aircraft to office	Shipping of Data Unit, or transfer by high capacity storage medium
Mounting of the camera	Using adapter ring for all current film camera mounts (PAV-30, -80, Z/I T-AS, GSM3000)
Operation of the camera	External operator panel consisting of a display and control buttons, connects to the camera
Flight planning support	Compatible with commercial systems (CCNS-4, Trackair, Vega, ….)
Exterior orientation support	Compatible with DGPS/IMU systems (IGI's Aero-Control, Applanix POS-AV)
Photogrammetric Production	TIFF-output compatible with Customer's photogrammetric production software
Image geometric accuracy	Better ±2 μm