# UltraCam-Xp
# Technical Specifications

## Image Product Specification

| | |
|---|---|
| Image format | |
| Analogous to an aerial film image at a format of 23 cm x 15 cm, scanned at 13 μm | |
| Image data formats | JPEG; TIFF with options for 8 and 16 bits, standard tiff format |
| Image storage format in level 2 | Full resolution panchromatic, separate color channels at color resolution |
| Color at level 3 | Full resolution R, G, B, Near-IR channels, planar or pixel-interleaved |

## Digital Camera Technical Data (Sensor Unit S-X)

| | |
|---|---|
| Panchromatic image size | 17,310 * 11,310 pixels |
| Panchromatic physical pixel size | 6 μm |
| Input data quantity per image | 624 Mega Bytes |
| Physical format of the focal plane | 104 mm * 68.4 mm |
| Panchromatic lens focal distance | 100 mm |
| Lens aperture | f= 1/5.6 |
| Angle-of-view from vertical, cross track (along track) | 55° (37°) |
| Color (multi-spectral capability) | 4 channels -- RGB & NIR |
| Color image size | 5,770 * 3,770 pixels |
| Color physical pixel size | 6 μm |
| Color lens system focal distance | 33 mm |
| Color lens aperture | f = 1/4.0 |
| Color field of view from vertical, cross track (along track) | 55° (37°) |
| Shutter speed options | 1/500 to 1/32 |
| Forward-motion compensation (FMC) | TDI controlled |
| Maximum FMC-capability | 50 pixels |
| Pixel size on the ground (GSD) at flying height of 500 m (at 300m) | 2.9 cm (1.8 cm) |
| Frame rate per second (minimum inter-image interval) | 1 frame per 2 seconds |
| Analog-to-digital conversion at | 14 bits |
| Radiometric resolution in each color channel | >12 bit |
| Physical dimensions of the camera unit | 45cm x 45cm x 60 cm |
| Weight | ~ 55 kg |
| Power consumption at full performance | 150 W |

## In Flight Data Storage D-X and Data Processing C-X

| | |
|---|---|
| In-flight storage capacity | Unlimited with use of multiple data units D-X; per D-X unit ~4.2 TB |
| In-flight capacity to collect uncompressed frames | Unlimited with multiple D-X units; per D-X unit ~ 6600 images |
| Method of exchanging D-X units in-flight | In less than 3 minutes |
| Configuration of Storage D-X and Computing C-X | C-X with 14 Pentium-M CPUs; each D-X with 14 disks |
| Redundancy | Storing mirror images of the data on two DX units |
| Data transfer into office environment | Removable D-X data units; docking station (optionally mobile) |
| Physical dimensions | Width 50cm x Depth 36cm x Height 65 cm |
| Weight of C-X + 2 D-X | < 92 kg |
| Weight of C-X | ~ 65 kg |
| Weight of single D-X | ~ 16 kg |
| Power consumption at full performance | 700 W |

## Operational Specification

| | |
|---|---|
| Data collection period at 70% & 20 % overlap, at 20 cm GSD (film scale 1:10,000), 140knts | 11 hours per single D-X unit |
| Post-processing of collected raw images | OPC Software, Mobile Server, Office PC Network, Laptop, C-X |
| Data transfer from aircraft to office | Shipping of D-X, or transfer to high capacity storage medium via Mobile Server |
| Mounting of the camera | Using adapter ring for all current film camera mounts (PAV-30, Z/I T-AS, GSM3000) |
| 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 | Approximately ±2 μm |

**For more Information, contact:**

Vexcel Imaging GmbH| a Microsoft company
Anzengrubergasse 8
A-8010 Graz, Austria
mpsinfo@microsoft.com | www.ultracamx.com