

UltraCam-Lp Preliminary Technical Specifications V5

Image Product Specification

Image format Analogous to an aerial film image at a format of 23 cm x 16 cm, scanned at 20 μ m
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-X)

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| Panchromatic image size | 11704 * 7920 pixels |
| Panchromatic physical pixel size | 6 μ m |
| Physical format of the focal plane | 67.9 mm * 47.5 mm |
| Panchromatic lens focal distance | 70 mm |
| Lens aperture | f= 1/5.6 |
| Angle-of-view from vertical, cross track (along track) | 52° (37°) |
| Color (multi-spectral capability) | True color & NIR |
| Color image size | 5320 * 3600 pixels |
| Color physical pixel size | 6 μ m |
| Color lens system focal distance | 33 mm |
| Color lens aperture | f = 1/4.0 |
| Color field of view from vertical, cross track (along track) | 52° (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 900 m (at 500m) | 8 cm (4.3 cm) |
| Frame rate per second (minimum inter-image interval) | 1 frame per 2.5 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 80 cm |
| Weight | ~ 55 kg |
| Power consumption at full performance | ~350 W |

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| In Flight Data Storage SSD cartridges | Unlimited with use of multiple data units; per SSD unit 1 TB |
| In-flight storage capacity SSD cartridges | Unlimited with multiple SSD units; per SSD unit ~ 2500 images |
| In-flight capacity to collect uncompressed frames | In less than 3 minutes |
| Method of exchanging SSD units in-flight | Tablet PC and 4 SSD Memories |
| Configuration of Storage SSD and Computer | Removable SSD units; docking station (optionally mobile) |
| Data transfer into office environment | |

Operational Specification

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| Data collection period at 70% & 20 % overlap, at 20 cm GSD, 140knts | ~6 hours per single SSD unit |
| Post-processing of collected raw images | UltraMap Platform, UMP/AT, Office PC Network, Laptop |
| Data transfer from aircraft to office | Shipping of SSD Unit, 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 $\pm 2 \mu$ m |



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