VEXCEL
IMAGING

ULTRANAV

Always on track

ULTRANAV

Leading the way

EZRA PHILIPSE
ULTRANAV CUSTOMER

"UltraNav is the perfect all-in-one-solution. It is fully integrated in the camera making system installation simpler and cleaner and minimizes the potential for problems that could be caused by external cables. Less clutter, less weight, less worries."

The UltraNav flight management and direct georeferencing solution optimizes your flight mission for utmost productivity at highest precision.

UltraNav features state-of-the-art GNSS-inertial technology based on the industry leading POSTrack from Applanix. Fully embedded in the UltraCam sensor head, UltraNav manages camera parameter settings, exposure triggering and the automatic mount stabilization, resulting in precise ground coverage and image overlap while reducing airtime. Pilot and operator displays connect directly to the camera head for mission guidance and in-flight quality control. Office software is included for intuitive mission planning with full DEM support and sophisticated GNSS/INS processing.

The solution is available in different performance levels: 310, 410, 510 and 610 accuracy class of the included INS system. All INS systems are ITAR free for a maximum of operational flexibility.

No external computers are required, reducing the number of boxes, cables and connectors, increasing flexibility and making handling much easier.

Specifications & details

PERFORMANCE SPECIFICATION[1] (RMS ERROR)

ULTRANAV 310	SPS	RTX[3]	RTX Post-Processed[4]	SmartBase Post-Processed[4]
Position (m)	1.5 H 3.0 V	<0.1 H <0.2 V	<0.1 H <0.2 V	<0.05 H <0.1 V
Velocity (m/s)	0.050	0.050	0.010	0.010
Roll & Pitch (deg)	0.030	0.020	0.015	0.015
True Heading[2] (deg)	0.10	0.08	0.035	0.035

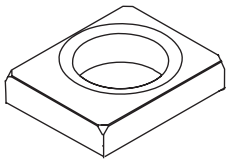
ULTRANAV 510	SPS	RTX[3]	RTX Post-Processed[4]	SmartBase Post-Processed[4]
Position (m)	1.5 H 3.0 V	<0.1 H <0.2 V	<0.1 H <0.2 V	<0.05 H <0.1 V
Velocity (m/s)	0.050	0.050	0.005	0.005
Roll & Pitch (deg)	0.008	0.008	0.005	0.005
True Heading[2] (deg)	0.070	0.040	0.008	0.008

ULTRANAV 410	SPS	RTX[3]	RTX Post-Processed[4]	SmartBase Post-Processed[4]
Position (m)	1.5 H 3.0 V	<0.1 H <0.2 V	<0.1 H <0.2 V	<0.05 H <0.1 V
Velocity (m/s)	0.050	0.050	0.005	0.005
Roll & Pitch (deg)	0.020	0.015	0.008	0.008
True Heading[2] (deg)	0.080	0.040	0.020	0.020

ULTRANAV 610	SPS	RTX[3]	RTX Post-Processed[4]	SmartBase Post-Processed[4]
Position (m)	1.5 H 3.0 V	<0.1 H <0.2 V	<0.1 H <0.2 V	<0.05 H <0.1 V
Velocity (m/s)	0.030	0.030	0.0050	0.0050
Roll & Pitch (deg)	0.005	0.005	0.0025[5]	0.0025[5]
True Heading[2] (deg)	0.030	0.020	0.0050	0.0050

[1] Typical performance. Actual results are dependent upon satellite configuration, atmospheric conditions and other environmental effects.
[2] Typical mission profile, max. RMS error.
[3] Trimble RTX service, typical airborne results, subject to regional coverage and mission profile. Subscription sold separately.
[4] POSPac MMS.
[5] May require local gravity model to achieve full accuracy.

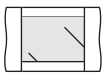
MOUNT INTERFACES



	Drift correction	Levelling control	Stabilization control	Gimbal encoder
GSM 4000	●	●	●	●
SSM 350L	●	●	●	●
SteadyTrack LG	●	●	●	●
Third party mounts[6]				

[6] Please contact our sales team for detailed information.

PHYSICAL CHARACTERISTICS



PILOT TOUCH SCREEN

Size:
40 x 159 x 258 mm

Weight:
1.2 kg

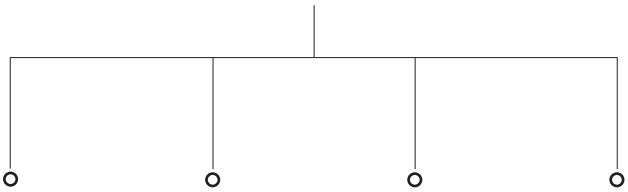
Power:
Supplied by camera

ELECTRONICS

Size:
Internal to camera

Power:
Supplied by camera

INERTIAL MEASUREMENT UNITS (IMU)



IMU-42:
Model UltraNav 310-C
Origin EU
Weight 1.25 kg

IMU-64:
Model UltraNav 410-C
Origin EU
Weight 1.25 kg

IMU-44:
Model UltraNav 510-C
Origin EU
Weight 2.6 kg

IMU-57:
Model UltraNav 610-C
Origin EU
Weight 2.6 kg

MISSION PLANNING AND REPORTING SOFTWARE

snap:VIEW
On screen digitizing

- Import raster data from various sources and formats, including Microsoft Bing Maps and Google Earth
- Simple, intuitive and efficient digitizing of project areas

snap:XYZ
Entering coordinates of areas or photo lines

- Accepts all geographic or grid coordinates formats without conversion or calculation
- Includes a graphic viewer to visually check the correctness of the text input
- Import drawings prepared by other programs in DXF format
- Generate geophysics survey flight plans based on swath width and altitude

snap:PLAN
Flight planning c/w DEM support

- Planning module used to add photo lines to digitized drawings or defined geographic areas
- Worldwide DEM support via ASTER DEM product
- Automatic stereoscopic coverage of blocks
- Prepare flight plans with with hundreds of runs and thousands of photos in one single mouse click
- Interactive drawing of single strips, easily move strips and arrange until the best flight plan is achieved
- Automatically prepare pinpoint flight plans where each photo position has to conform to a given grid (geographical or map)
- Full support for line-scanner and LIDAR flight plans based on swath width and altitude
- Export flight plans via KML and Bing

snap:BASE
Project management database

- Track and update the status and progress of projects
- Check the data and generated during the flight and log accepted or rejected photos
- Maintain an accurate and up-to-date photo index of the project
- Generate film reports, progress reports, etc.
- Export areas flown via KML and Bing

snap:PLOT
Printing and plotting

- Printing and plotting module used to quickly and easily prepare scaled photo indices
- Plot a professional A0 photo-index in less than 2 minutes

POST-PROCESSING SOFTWARE

Applanix POSPac Mobile Mapping Suite (MMS)

- Direct Georeferencing of mobile mapping sensors using GNSS and inertial technology

GNSS-Alded Inertial Tools

- Differential GNSS-Ineratial software featuring Applanix IN-Fusion™ technology and Applanix SmartBase™ post-processed Virtual Base Station module
- Simple intuitive and efficient digitizing of project areas

Photogrammetry Tools

- POSEO and CalQC modules for generation of Exterior Orientation, IMU-Camera boresight calibration, mission-specific quality control

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