

Redefining 3D Reality Capture



The most flexible Reality Capture System

The UltraCam Panther enables your business to meet even the most demanding mobile mapping challenges: indoors, outdoors, everywhere!

Take advantage of the industry-first capabilities of the portable UltraCam Panther with its unrivaled flexibility and versatility. With 172 megapixels per full-spherical image, the camera head provides photogrammetricgrade imagery with an unprecedented resolution and image dynamic while always on the move. Combined with complimentary orientation-, LiDARand odometry-modules, the system simultaneously captures full-spherical imagery, precision LiDAR 3D data, and highly accurate geo-positioning information in both indoor and outdoor environments. Even without GPS reception, the visual odometry sensor provides uninterrupted and accurate positional information, especially indoors or underground.

Document, extract and model with a portable and ruggedized system that is easy to deploy, operate and maintain for use in areas such as mobile mapping, facility & asset management to natural resources and safety & security. Its versatility is also evident in the functional design of the UltraCam Panther: The camera unit as well as each individual module are factory adjusted for high geometric accuracy to ensure long-term stability and reliability. Combined with its high accuracy and flexibility, in term of handling and range of usability, the UltraCam Panther defines a new class of 3D capture systems.

The UltraCam Panther offers outstanding flexibility for numerous applications through its technical performance in the areas of image quality, accuracy and ease of use.



Technical changes, printing errors, mistakes and amendments reserved

Specifications & details [Preliminary]

PANORAMIC HEAD CAMERA Imaging sensor CMOS Sensor size 3,088 x 2,152 pixels Field of view: Maximum frame rate: B Æ <u>360°</u> 1.5 frames 0 n Pixel pitch 1.4 x 1.4 µm full spherical coverage per second Ш m Color filtering type Baver Pattern Focus type Fixed focus Number of Camera Focal length 3.24 mm cameras: resolution: 0 O F-number 2.00 172 Megapixels <u>26</u> Depth of field 1.5 m to infinity Optical format 1/3.6 inch COMPUTER AND DATA STORAGE BATTERY SYSTEM ò Ò Ò Ó 0 0 Capacities & weight: Type: Operating time at continous Type: Storage capacity: Interface: <u>294 Wh, 1.4 kg</u> V-Mount Li-Ion high data capture: Industrial PC Core i7 <u>4 TB SSD</u> Ruggedized 155 Wh, 1.0 kg load battery 14.4 V Several hours USB3 & Ethernet hot-swappable tablet PC depending on application <u>89 Wh, 0,8 kg</u> interface available MODULES Orientation Applanix APX-15L Stereo camera system for indoor localization and enhanced Odometry outdoor localization in dense cities and covered areas Weight: LIDAR Velodyne VLP-16 <17 kg with battery ACCURACY Relative accuracy (outdoor and indoor) cm range 1 Absolute accuracy (outdoor) cm to dm range Accuracy depends on scene structure, Absolute accuracy (indoor) loop closures and track length 116 cm Dimensions: ¹Accuracy depends on location and user compliance with walking regulations based on application area 116 x 38 x 32 cm APPLICATION AREAS ULTRACAM DOCUMENT EXTRACT MODEL Visual Documentation Feature Extraction Feature Measurement 0 & Exploration & Classification & Reconstruction Material: Clearance measurements Mobile mapping Forest management Robust industrial Disaster response Topographic mapping Volumetric analysis <u>fabric</u> Progress documentation Object detection As-built verification Risk analysis Asset inventory Quality control 38 cm Damage inspection OPERATIONAL SPECIFICATION DATA FORMATS JPEG, TIFF 0 Camera images ۲ \cap Image 360° x 180° equirectangular panorama Cube-face panorama IP protection Operating Storage temperature: temperature: level: Trajectory Various formats - position and orientation for each cube

IP52

Point cloud

Laser File Format (LAS) - coordinates, reflectivity, color images

² For optimal accuracy, an operating temperature from 5°C to 35°C is recommended.

-20°C to +50°C

non-condensing

0°C to +40°C2

non-condensing



STREAMLINED EFFICIENCY

UltraMap Terrestrial, the raw data processing software, leads to optimal output in all of the numerous applications.

Ability to export to standard file formats allows data to be easily plugged into existing workflows and business processes.

O EXCEPTIONAL QUALITY

Capture the world in more detail, superior sharpness and in higher fidelity than ever before.







O IMPRESSIVE EFFICIENCY

Even images with high variations in luminance are exposed perfectly and provide detailed information in every part of the image.





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