



The Applanix, APX-15 UAV GNSS-Inertial System and Phase One iXU 150 Direct Mapping Solution for Small UAVs



capture everything. precisely.

PHASE ONE
INDUSTRIAL

Applanix, known for its highly-accurate POS (position and orientation) technology, has brought together its long-established and proven POS expertise for aerial mapping with small-form-factor hardware to produce solutions for improving the accuracy and efficiency of aerial mapping on UAVs. These solutions are called Direct Mapping Solutions for UAVs, or DMS for UAVs.

The recently announced **APX-15 UAV GNSS-Inertial System** is designed to enable small UAV's to produce highly accurate, directly georeferenced aerial images for any imaging payload (visual, LiDAR, infra-red, multispectral imaging, even video). Measuring just 6 cm x 6.7 cm and weighing only 60 grams, the Applanix APX-15 UAV provides unparalleled performance in an

extremely small package. And with the included POSPac UAV post-mission software, it produces an even higher accuracy position and orientation solution for direct georeferencing.

Working with Phase One, Applanix has integrated the APX-15 UAV with the Phase One iXU 150 Camera to produce a Direct Mapping Solution that produces highly efficient directly georeferenced colour or NIR imagery and meets the size, weight and power of small UAV's. Available as an OEM solution, the iXU 150 and APX-15 UAV can be easily packaged and configured to fit into virtually any UAV payload space.



APX-15 UAV –
Survey-grade GNSS and
MEMS inertial sensors on
a single board.



Applanix has recognized the need to provide the growing UAV mapping market with the same highly efficient solutions that it pioneered for airborne mapping over 15 years ago. We are offering a cost-effective solution that meets the size, weight, power and cost requirements of small UAVs, and maintains the Applanix pedigree for quality and performance.

A Direct Mapping Solution with the PHASE ONE iXU 150 camera system

When every gram in a payload counts, Phase One created what is seemingly impossible – an extremely light camera with a small footprint, built around a powerful medium format CMOS sensor. With a camera barely wider than the diameter of its lens, the iXU 150 weighs in at just 750 grams and uses a CompactFlash card for internal image storage.

The Phase One iXU 150 camera is the smallest and lightest integrated digital medium format aerial camera. Phase One developed this new aerial camera to answer the needs of users looking for a dependable, small, light-weight, aerial sensor. Milled from magnesium, the iXU 150 is 30% lighter than an aluminum design. Its light weight and small footprint make it perfectly suited for small UAV integration, mapping and multiple camera configurations for oblique or wide coverage.

Oblique Imaging, Near Infra-Red

An iXU 150 can operate as a standalone camera, daisy chained with other cameras or integrated with a LiDAR system. The iXU 150, with its small footprint and 0.8 second per frame capture rate, is ideal for oblique photography, especially where space and weight limits demand a small integrated package. The Phase One iXU 150 is offered as an NIR version as well.



A COMBINATION DESIGNED FOR DIRECT GEOREFERENCING ON A SMALL UAV

APX-15 UAV

Low weight – 60 grams (board only)

Small footprint:
60 x 67 x 15 mm

POSPac UAV Differential GNSS-Inertial post-processing software for highest accuracy of data

Applanix IN-Fusion™ GNSS-Inertial and SmartCal™ compensation technology for superior position and orientation performance

Reduces Sidelap and Endlap

Reduce /eliminate GCP's

Accurate LiDAR georeferencing

Phase One iXU 150 Camera System

Low weight – 750 g, 1.25 kg with an 80 mm lens

Small footprint:
97.4 x 93 x 110 mm

50 MP CMOS sensor

8280 pixels in cross track coverage

68% more capture area than any DSLR



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