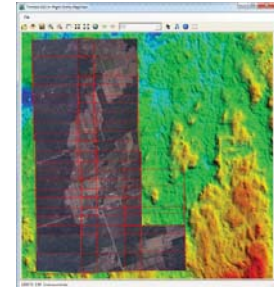
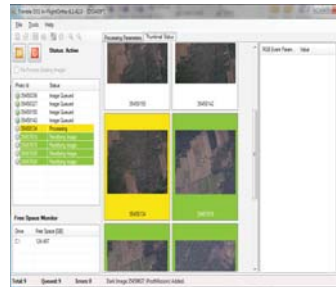


## Trimble DSS 500 with In-FlightOrtho



### DSS 500 with In-FlightOrtho

The DSS 500 is the next generation Digital Sensor System from Trimble. It is a turn-key, flexible, efficient mapping solution that produces directly georeferenced map products using GNSS, Inertial and medium format digital camera technology.

Since its introduction over 10 years ago, the DSS has set the standard for cost-effective mapping. This continues today with the DSS 500:

#### Low-cost Deployment

The DSS 500 uses state-of-the-art computer hardware in an extremely compact, low-power form factor allowing it to be easily deployed in small, low-cost-to-operate aircraft for very cost-effective mapping. With proven pilot-only operation, personnel and fuel costs are greatly reduced.

#### Directly Georeferenced Imagery

DSS is designed and built around the Applanix POS AV Direct Georeferencing technology for maximum productivity and accuracy. It produces Directly Georeferenced map products by default, and fully supports assisted AT for higher accuracy when necessary.

#### Super Efficient Flight Management System

An embedded POSTrack flight management system with full Digital Elevation Model (DEM) support enables the DSS to take each and every image at exactly the right location and overlap.

#### High Reliability

With its new compact design, the DSS 500 can be operated with as few as 3 cables for extra-high reliability: 1 each for power, GNSS and pilot display.

#### “Air-to-Ground” Quality Control

The DSS 500 provides the ultimate in-field Quality Control (QC) through its In-FlightOrtho capability. Full-resolution orthophotos are produced in real-time, immediately following image capture using the GNSS-Inertial solution and onboard DEM. A thumbnail map view allows the pilot or operator to see at a glance how things look and fit together “on-the-ground” - verifying the quality of the imagery, GNSS data, Inertial data and camera interior orientation. If a problem is spotted the mission can be immediately aborted, or images re-flown.

#### Flexible Design

Although simple and compact, the DSS 500 still maintains its original flexible design concept. Its configuration can easily be changed from a single camera solution with multiple lens options to a DualCam system configured for a wide swath width or for 4 band imagery, or to a multi-sensor solution such as LIDAR.

### In-FlightOrtho

In-FlightOrtho, a new feature of the DSS RapidOrtho Software suite, produces full-resolution orthorectified imagery while in the air as it is captured. Images are automatically developed, corrected and orthorectified using a pre-loaded DEM and the Exterior Orientation produced by the embedded POS AV system. They are displayed in thumbnail format and in a map overview to provide “air-to-ground” QC, and are ready for exploitation in the air. All DSS 500 systems include the RapidOrtho Software suite with In-FlightOrtho.

## CONFIGURATION

- Compact camera system with embedded computer, server grade Solid State Drives (SSD), Applanix POSTrack V6
- Ruggedized 7" pilot smart display
- 8.9" operator tablet (not required for pilot only operation)
- Azimuth mount or optional 3-axis SSM270 mount (standard with DualCam)
- In-FlightOrtho software: produce directly georeferenced orthophotos in real-time, in the air
- Size (electronics): ~ 34cm D x 35cm H
- Weight and Power:
  - SingleCam: ~31kg, 28VDC 154W (max) including Azimuth Mount
  - DualCam: ~55kg, 28VDC 412W (max) including SSM270 Mount

The basic DSS 539 model uses a POSTrack 310 with IMU-42, while the DSS 580 uses a POSTrack 510 with IMU-46. The IMUs are not controlled under ITAR and the DSS 500 can be exported without a permit.

## ARRAY SIZES AND FOCAL LENGTHS

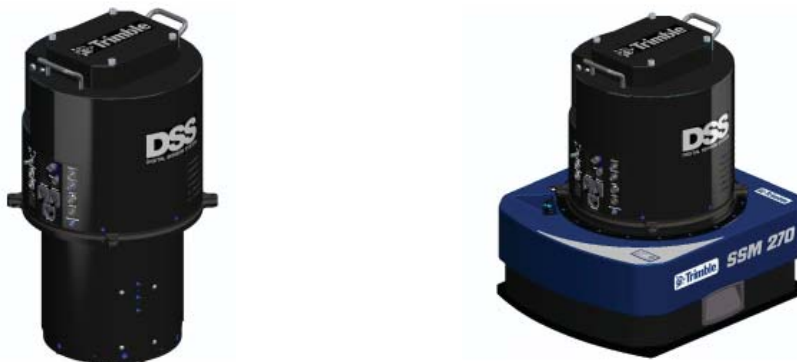
The DSS 500 is currently available with the following standard camera configurations:

SingleCam	DualCam
39 MP 60 mm VIS/CIR	39 MP 60 mm VIS + 39MP 60 mm NIR (4 Band Orthos)
39 MP 40 mm VIS	39 MP 210 mm VIS + 39MP 210 mm VIS (Wide Swath)
39 MP 210 mm VIS	80 MP 55 mm VIS + 80MP 55 mm VIS (Wide Swath)
80 MP 55 mm VIS	

80MP 80,110, 240 mm lenses for Single and DualCam configurations are available upon request.

## DSS 500 DUALCAM

The DSS 500 Electronics Module supports both single camera and dual camera configurations. The DSS 500 DualCam is delivered with a state-of-the-art SSM 270 compact 3-axis mount for maximum efficiency and overlap control. The mount is automatically leveled, steered and controlled by the POSTrack embedded in the DSS.



## AVAILABLE IN OEM FORM

The DSS 500 is also available in a compact boardset form to support custom integration requirements and enable mapping from UAVs. The complete version is comprised of a calibrated DSS camera, IMU, Boardstack c/w POSTrack OEM and Camera Computer boards, and an SSD module. The DSS camera-only version does not include the POSTrack OEM boards or IMU.

### Applanix

85 Leek Crescent  
Richmond Hill, ON, Canada L4B 3B3  
T +1.905.709.4600  
F +1.905.709.6027  
Email: [airborne@applanix.com](mailto:airborne@applanix.com)

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