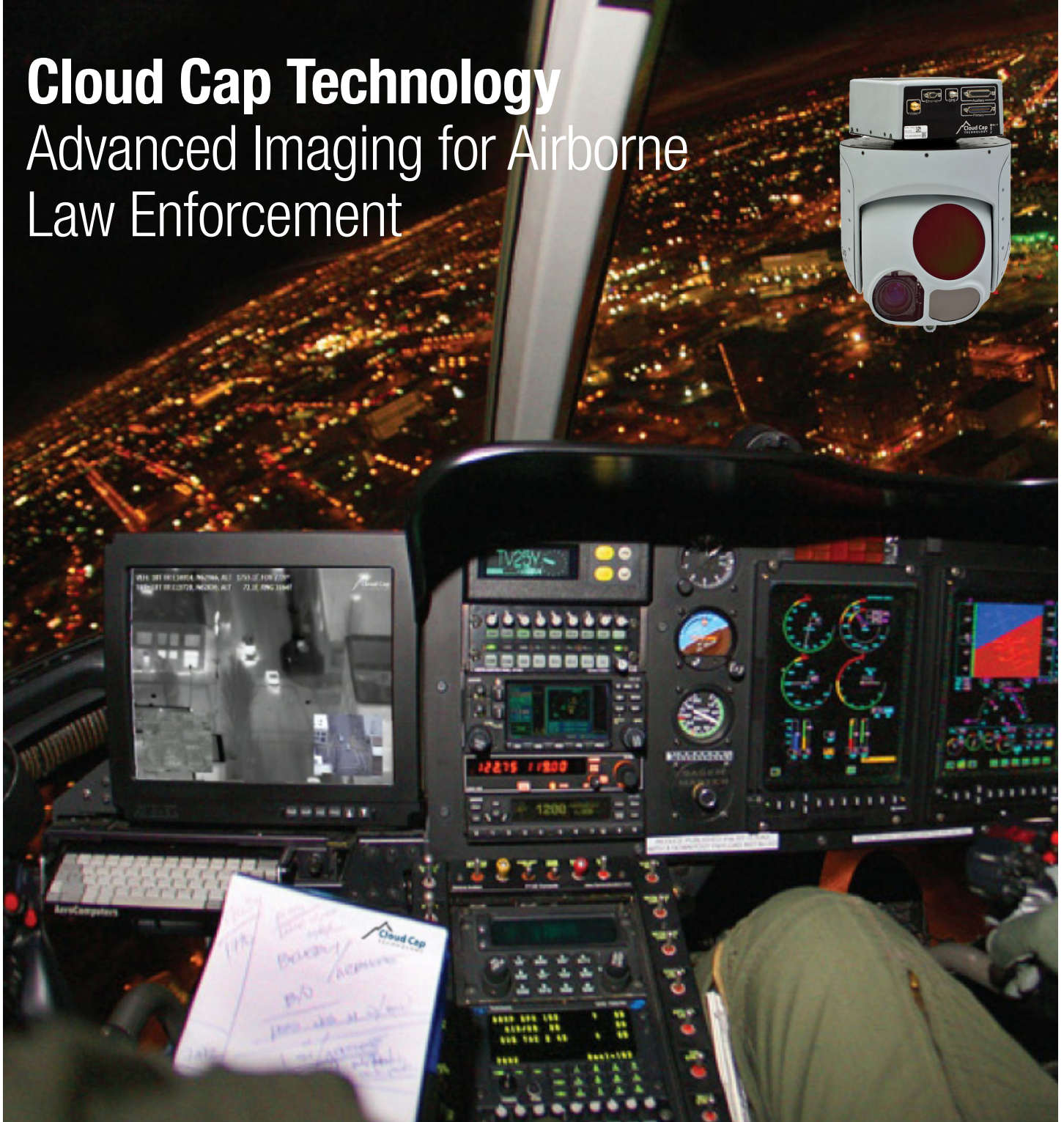


# Cloud Cap Technology

## Advanced Imaging for Airborne Law Enforcement



**UTC Aerospace Systems**



# Cloud Cap Technology

## TASE Operating Environment



### Advanced Imaging and Surveillance Capability

Sensor options include: daylight (EO), thermal (LWIR/MWIR) and low-light (SWIR) cameras

Low SWaP (size/weight and power)

Integrated GPS/IN provides accurate target coordinates and aircraft location

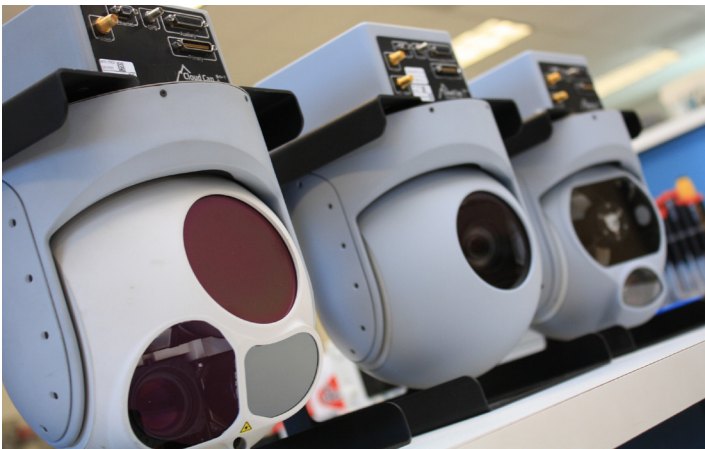
Scene-steering and object tracking

Integrated street-level moving map

Touch-screen control interface

Integrated video recorder

Seamless installation onto a variety of aircraft platforms



### The Next Generation in Stabilized Camera Systems

TASE stabilized camera payloads are designed to support the aerial law enforcement and surveillance mission.

Airborne imaging systems for law enforcement has proven to be an invaluable tool to assist ground-based law enforcement personnel locate suspects or missing persons, document crime scenes, observe and report information on special events, tactical operations and covert surveillance missions.

Cloud Cap Technology's high-quality daylight and thermal imagery is ideal for providing additional situational awareness and increased officer safety.

### Seeing the Invisible

Thermal (with Longwave and Midwave) imagery is ideal for identifying, tracking and documenting the exact locations of subjects or vehicles at night. Short Wave Infrared with (SWIR) camera technology can see thru smoke, fog and haze, giving

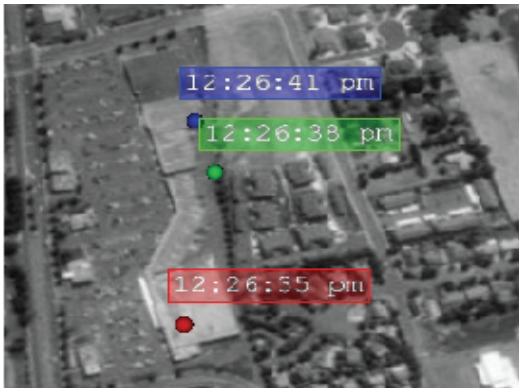
the viewer the ability to better see officers and equipment on the ground, structures or other objects that may be a hazard and not visible due to smoke or haze.





# Cloud Cap Technology

## ViewPoint TASE Payload User Interface



ViewPoint with Geo-Stamp locations (left). Scene Steering with MWIR camera in the desert at night (right).



Vehicle object tracking (left). Daylight subject surveillance city scene with MWIR camera (right).

### ViewPoint Advanced User Interface

ViewPoint is an advanced user interface software application that displays video and command/control for Cloud Cap Technology TASE payloads and is provided with each camera system..

Key features include: video recording and playback with associated payload metadata, real-time display of video and metadata for operational awareness, camera control via joystick, keyboard, and/or touchscreen.

### Feature Rich Software

**Real Time Image Mosaic** The increased information provided by mosaicing displayed in real-time on the payload interface provides a real advantage to the payload operator, showing path history and a wider situational awareness FOV when zooming in on an object.

**Geo-Stamp** allows the operator to designate areas of interest by simply pressing a key or touching the screen. The incident is tagged on a map, a still image is taken and the location is logged in a separate incident folder. The captured still image can be overlaid on Google Earth. This feature is invaluable when a still-image of an object/feature is needed for later reference.

**Object Tracking** The TASE payload autonomously tracks selected objects such as people, vehicles or other objects moving in the scene based on image match within a user adjustable target box.

**Video On Map** Live video geolocated and terrain warped over moving map. This feature greatly enhances the operators ability to identify the exact location of the object or feature the camera image is looking at.



**Interactive map displays location and payload sensor footprint on ground. Satellite, streets and maps, or any user supplied map supported.**

**Electronic Stabilization (E-Stab)** PC-based image stabilization enhances mechanical gyro stabilization.

**Scene Steering (Includes E-Stab)** PC-based scene tracking centers image and corrects for vehicle airspeed.

**VideoSim Plugin** provides training, demonstration, testing and development suport.

# Camera Options

## Long Wave IR Camera

59 mm lens (TASE200)

HFOV: 10.5°

Dual field of view lens TASE350/400)

HFOV: 15.5° - 6.2°

Resolution: 640 x 480

## Daylight Camera

31x continuous optical zoom

HFOV: 55.7° - 1.94°

Video Out: NTSC or PAL

## Mid Wave IR Camera

10x optical zoom with continuous digital zoom up to 4x

MWIR: 3 to 5 µm

Resolution: 640 x 480

HFOV: 22° - 2.2 ° continuous

## HD Daylight Camera

30x Optical Zoom

Resolution: 1280 x 720

HFOV: 39.7° - 1.4°

Video Out:

- SD: NTSC or PAL

- HD-SDI: 720P 30Hz

## Spotter Camera

53x fixed zoom

HFOV: 1.06° (SD) / 2.1° (HD)

Video Out: HD-SDI

## Long Range Daylight Camera

1.6x optical zoom element

HFOV: 7.2° - 1.2°

## Extended Range Daylight Camera

164x fixed zoom

HFOV: 0.34° (SD) / 0.69° (HD)

Video Out: HD-SDI

## Laser Options

Laser illuminator<sup>1</sup> / laser range finder  
(selected payloads only)

## Airborne Imaging

Airborne imaging systems are a proven resource to provide wide area and close-up imaging of an event or incident.

Cloud Cap Technology TASE camera payloads with infrared thermal (LWIR/MWIR), shortwave infrared technology (SWIR), and ViewPoint software combine perfectly to provide the Airborne Law Enforcement community with the tools needed to deliver quality, accurate imaging information.

## Seamless Integration

Cloud Cap's entire line of compact, lightweight camera payloads integrate seamlessly onto a variety of airborne law enforcement aircraft at a fraction of the cost of comparable imaging systems.

## TASE Payload Key Features

Onboard GPS/INS - no external IMU needed for geo-pointing

Fiber Optic Gyro (FOG) stabilization

Common operator interface across TASE family

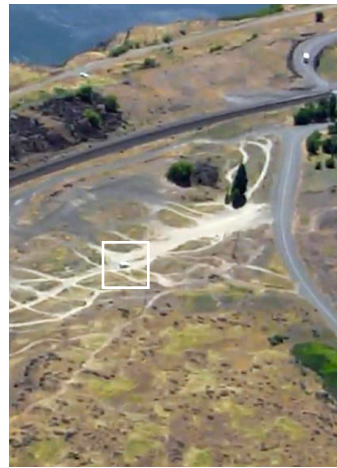
Environmentally sealed

Onboard image processing capable of target tracking, scene steering and electronic image stabilization

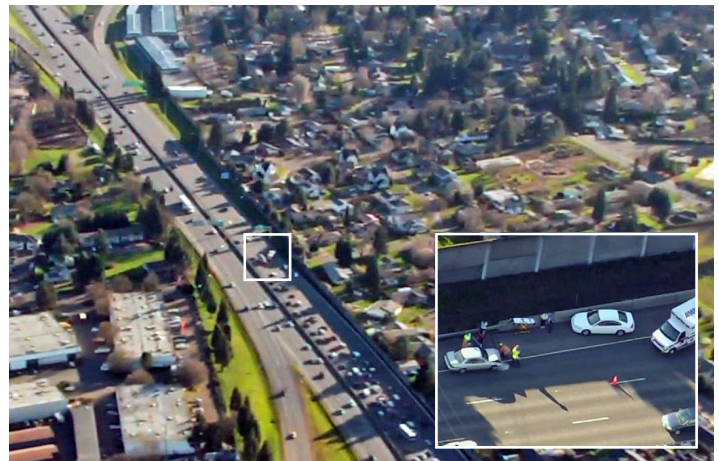
All cameras are available in NTSC or Pal video output formats

Control Interface: RS-232, CAN, Ethernet (with adaptor)

Operating Temperature Range: -20°C to +60°C



## Advanced Day / Night Imaging



## High Definition Daylight Imaging



## Extended and Long Range Imaging



OSR approval nos. 12-S-2757, 13-S-2422



Due to our continued efforts in product improvement, all product specifications are subject to change without notice.

## For additional information:

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Cloud Cap Technology  
TASE Stabilized Imaging  
Payloads



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