



DayCor® ROM HD

Advanced fiber optic gyro stabilization | Multiple sensors

A powerful high-speed inspection solution for aircraft, equipped with combinations of outstandingly highly sensitive, high definition (HD) sensors in a gyro stabilized payload platform. ROM meets the need for stability, accuracy, functionality, convenience and qualitative data collection. The system incorporates a selection of HD sensors in the ultraviolet, infrared & visible spectral ranges, with a photo camera and LRF. Designed by the RTCA DO 160G environmental standard, DayCor® ROM is a premium choice for aerial inspections to remotely detect faulty electrical components. The collected data includes imaging and radiometric readings of all installed sensors with detailed meta data. ROM can be used for fire detection and with some adjustments for oil spill mapping.

APPLICATIONS: Predictive maintenance | Overhead transmission & distribution lines | Fire detection and mapping | Oil spill detection and mapping

- » Fiber Optic Gyro
- » High sensitivity to corona
- » High flight performance
- » Set for high speed
- » FAA | EASA conformity
- » HD video & stills
- » Radiometric readings
- » Auto tracking
- » Geo pointing
- » Geo Lock
- » RTCA DO 160G avionic std.

HIGH SPEED UV INSPECTION

High sensitivity to UV enables the detection and capture of distant corona discharge during high speed flight of 100 km/h without smearing the output image and without missing corona events.

STABILIZED PAYLOAD

Uniquely designed, the payload has high precision 4-axis fiber optic stabilizing gyro and passive vibration to ensure superior stabilization. Special care is taken to ensure noise-free, crystal clear image transfer. Fits for most FAA or EASA approved aircraft mounts.

GIMBAL REMOTE CONTROL

Ergonomically designed with integrated high resolution (HR) touch screen and an intuitive menu to control both the sensors and the turret. Extra fine tuning and saved preset setup profiles add flexibility and agility.

SUPERIOR PERFORMANCE

With high accuracy, excellent image quality and long wave solar reflection immunity ROM provides an outstanding performance for most applications. The system is customized per specific customers' needs and can include various combinations of inspection technologies.

EASY INSTALLATION & LOW WEIGHT

Gimbals are made of a lightweight structure and composite covers. Installation is simple and standard.

VIDEO RECORDING & STORING

Throughout the flight videos from the sensors are displayed on a split-windows monitor and recorded onto findings can be recorded and stored onto a portable memory. Recordings may include radiometric readings of: corona strength, hot spots temperatures, GPS, date & time, pressure gauge and humidity. Audio narration & annotations can also be added.

DATA MANAGEMENT SYSTEM

Data Management System provides pinpointed information about the scanned grid such as identity of each installation, past performance, past recorded events, failures, route, etc. Data is retrieved during flight and displayed synchronized with geographical and/or topographical maps.

DAYCOR® TECHNOLOGY INSIDE

With DayCor® inside, the UV camera is fully solar blinded allowing operation under all daylight conditions [Registered Patent EP1112459B1].

TECHNICAL SPECIFICATIONS (ACCOMMODATED TO CUSTOMERS' REQUIREMENTS)

TCU - TURRET CAMERA UNIT & CONTROL UNITS (ACCOMMODATED TO CUSTOMER'S REQUIREMENTS)

Type	Four (4)* axis active steerable gyro-stabilized gimbal
Stabilization	<10 µRad
Weight	Approx. 32.5Kg (71.7lb) (depending on configuration)
Power Requirements	20-30 VDC, 395W (depending on configuration)
Environmental Specs	RTCA – DO160 G
Coverage Az Coverage El	Full 360° Continuous +9° to -189° (can be increased for final)
Gimbal Remote Control - GCU	One unit for the gimballed turret and sensors with integrated 7" high resolution touch screen, extra fine tuning knob and preset setup profiles
Storage and Operation Temp	Storage -20°C up to 60°C -4°F up to 140°F Operation -20°C up to 55°C -4°F up to 131°F

ROM-EYE HD UV - VISIBLE BI-SPECTRAL CAMERA

Minimum Discharge Detection	1pC @ 15 meters (DIN EN 60270 (VDE 0340):2001-08)
Minimum RIV Detection	3.6dBµV (RIV) @1MHz @10m (NEMA107-1987)
Minimum Sensitivity to UV	1.9x10 ⁻¹⁸ watt/cm ²
Field of View H x V	H: 10° - 1.6° V: 5.6°-0.9° Synchronized with UV channel, optic & digital, continuous
Detector Life Span	No degradation
Focus	Auto focus, 3m to infinity
UV/Visible Overlay Accuracy	Better than 1 mRad
Video Resolution & Interface	HD (1280x720px), 60Hz, HDMI

IR CAMERA (ACCOMMODATED TO CUSTOMER'S REQUIREMENTS)

FOV	16° x 12°
Detector Array Size	1024x768 pixels
Temperature Resolution @ 30°C	< 0.02K (*)
Spectral Range	7.5-14µm
Digital Zoom	Yes
Focus	Manual & auto focus
Temp. Measuring Range	(-40 ... 2,000) °C (*)
Temp. Accuracy of Reading	+/- 1°C or +/- 1% (*)

VIDEO CAMERA (ACCOMMODATED TO CUSTOMER'S REQUIREMENTS)

Image Sensor	1/2.8 Exmor R CMOS type
Picture Quality	2.13 Mega pixels (PAL, NTSC)
Resolution	1920x1080p
Lens	30x Optical Zoom, f=4.3 mm to 129mm (tele) F1.6 to F4.7
Digital Zoom	12x (360x with optical zoom)
Min. Illumination	0.1 Lux (shutter speed 1/30 s)
Viewing angle	63.7° (wide end) to 2.3° (tele end)

PHOTO CAMERA (ACCOMMODATED TO CUSTOMER'S REQUIREMENTS)

Detector	Exmore R CMOS sensor
Resolution	Approx. 42.4 mega pixels (effective), Apporx. 43.6 (Total)
Lens	Zoom 70-200mm F2.8 GM OSS
Continuous Shooting	Up to 10 fps including GPS tagging
Focus	Fast Hybrid AF (phase-detection AF/contrast-detection AF)
Focal Length	70-200 mm

(*) Depending on Model