

DayCor® ROM



AERIAL WIDE SPECTRUM INSPECTION SYSTEM



A powerful high speed remote inspection solution for aerial scanning, equipped with outstandingly high sensitive sensors and up to date technological implementations. ROM system integrates UV & IR optical sensors with HD video and frame cameras in a gyro stabilized gimbale payload. DayCor® ROM is a premium choice for detecting faulty electrical components, fire mapping, oil spill detection and pipelines inspections. The collected data includes both imaging and radiometric readings of corona discharge as well as hot spots with GPS data.

Findings are used for predictive and preventive maintenance. ROM is light in weight, simple to install and configured for gyro stabilized gimbale payloads of sizes and mounts that match most helicopters and UAVs.

- >> Outstanding high sensitivity to corona & hot spots
- >> High performance under flight conditions
- >> Gyro stabilized gimbale cameras
- >> Set for high speed inspection
- >> Data Management Generator

- >> HD video recording and storage
- >> UV and Hot spots radiometric readings
- >> GIS and auto tracking
- >> Fit for most mounts configurations
- >> Fit for most sizes/types of payloads

HIGH SPEED UV INSPECTION

High sensitivity to UV enables 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. Other selected deployed sensors perform well in high speed flights.

FULL CONTROL

System is operated through a Hand-Control-Unit (HCU) that controls the Turret-Camera-Unit (TCU) and the mounted cameras.

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.

EASY INSTALLATION & LOW WEIGHT

Gimbals are designed and manufactured using a lightweight structure and composite covers. Installation is simple and standard.

VIDEO RECORDING & STORING

Recorded video clips have radiometric data of: corona, hot spots, geographic positioning, date & time and text and/or voice annotations.

DAYCOR® TECHNOLOGY INSIDE

Implementing DayCor® technology, ROM's UV camera performs as a fully solar blind camera allowing operation in daylight conditions [Registered Patent EP1112459B1].

STABILIZED PAYLOAD

A fully digital 4-axis active gyro stabilization system compensates for the aircraft movements and provides smooth stable imaging. ROM's payload is fit for installation in various locations on helicopters.

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 customizable per specific customers' needs and can include various combinations of inspection technologies targeting at achieving comprehensive diagnostics capabilities.

TECHNICAL SPECIFICATIONS

TCU - TURRET CAMERA UNIT & CONTROL UNITS (ACCOMODATED TO CUSTOMERS' REQUIREMENTS)

Type	Four-axis active steerable gyro-stabilized gimbal
Stabilization	<10 µRad
Dimensions	Ø 400 mm Ø 300 mm
Weight	Approx. 30 kg (66 lbs.) 20 Kg (44lb) (depending on configuration)
Power Requirements	20-30 VDC, 300W
Environmental Specs	RTCA – DO160 E
Coverage Az Coverage El	Full 360° Continuous +20° to -120°
Hand Control Unit & Interface Unit	With TCU operation controls, power distribution, serial communication, video tracking & video overlay functions.
Storage and Operation Temp	Storage -20°C - 60°C -4°F - 131°F Operation -15°C - 40°C 5°F - 104°F

UV - VISIBLE BISPECTRAL CAMERA

Minimum Discharge Detection	1pC @ 10 meters (RWE certified: IEC 60270:2000)
Minimum RIV Detection	7.7dBµV (RIV) @1MHz (RWE certified: NEMA107-1987)
Minimum UV Sensitivity	2.2x10 ⁻¹⁸ watt/cm ²
Field of View H x V	8° x 6°
Detector Life Span	No degradation
Focus	Autofocus, 3m to infinity
UV/Visible Overlay Accuracy	Better than 1 mRad
Zoom	10 optical x 12 digital, attained within 1 second

IR CAMERA (ACCOMODATED TO CUSTOMER'S REQUIREMENTS)

FOV	16°x 12°
Array Size	1024x768 pixels
Thermal Sensitivity	Better than 50mK @ 30°C
Spectral Range	7.5-14µm
Digital Zoom	Yes
Focus	Manual & autofocus
Temp. Range	-40°C to +1,200°C
Temp. Accuracy of Reading	+/-1.5°C, +/- 1.5% of reading

VIDEO CAMERA (ACCOMODATED TO CUSTOMER'S REQUIREMENTS)

Image Sensor	1/2.8 CMOS type
Picture Quality	2.38 Megapixels (PAL, NTSC)
Resolution	1920x1080p
Lens	30x Optical
Digital Zoom	12x (360x with optical zoom)
Min. Illumination	0.35 Lux (F1.6, ICR off); 0.095 Lux (F1.6, ICR on)
Viewing angle	63.7°(wide end) to 2.3°(tele end)

FRAME CAMERA (ACCOMODATED TO CUSTOMER'S REQUIREMENTS)

Detector	CMOS sensor
Resolution	36 mega pixels
Lens	AF DC Nikkor 135mm, FOV 15°x10°
Continuous Shooting	Up to 6 fps including GPS tagging
Focus	Autofocus

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