

L-3 Sonoma EO

MODEL 14 SKYBALL™

TRI, QUAD OR PENTA SENSOR TURRET

SONOMA MODEL 14 SKYBALL STABILIZED IMAGING SYSTEM

Extensively deployed on Unmanned Aerial Vehicles (UAVs) and other high-performance aircraft for high-risk reconnaissance missions, the Sonoma Model 14 Skyball™ is the only actively gyro-stabilized system in its class with the capacity to accommodate up to five sensor payloads for total imaging and tracking capability.

The Model 14 Skyball's active gyro-stabilization and vibration isolation provides better than 35 microradians rms line of sight (LOS) jitter, enabling detection and recognition of people, objects and vehicles over long distances — day or night. The Skyball system is manufactured to military specifications and backed by L-3 Sonoma's worldwide reputation for "rock solid" stability, reliability and low maintenance requirements.

KEY FEATURES

- Compact multi-sensor gyro-stabilized gimbal
- Combat-proven surveillance capability
- Available in three configurations: tri, quad or penta sensor
- Exceptional infrared optics with 150 mm aperture
- DLTV spotter with full 90 mm aperture
- Optional laser employs full spotter aperture for max. range
- Plug and play SmartLink interface



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SENSOR #1 - THERMAL IMAGER

Type of Detector	3-5 µm InSb staring array	
Resolution	Midwave	
Field of View	1x	2x (optical)
Wide	40.9° x 40.9° @11 mm	20.1° x 20.1° @22 mm
Intermediate	6.3° x 6.3° @70 mm	3.1° x 3.1° @140 m
Narrow	1.6° x 1.6° @280 mm	0.8° x 0.8° @560 mm

SENSOR #2 - COLOR DAYLIGHT CCD

Camera Type	1/3CCD
Format	NTSC or PAL
Resolution	470 TV lines/460 TV lines (PAL)
Minimum Illumination	0.2 lux @ f1.6
Zoom Lens Type	20x continuous zoom with 2x extender
Focal Lengths	11.2 mm to 224 mm
Lens Field-of-View	Wide 22.2°(H) x 16.7 °(V) @ 11.2 mm Narrow 1.1°(H) x 0.8°(V) @ 224 mm

SENSOR #3 - COLOR DAYLIGHT CCD CAMERA WITH ZOOM SPOTTER LENS

Camera Type	SONY XC-999 1CCD
Focal Length	955 mm
Lens Field of View	0.4° (H) x 0.3° (V)

SENSOR #4 - EYESAFE LASER RANGE FINDER (QS ONLY)

Laser Type	Erbium glass, 1.54µm wavelength
Pulse Rate	1 Hz
Range/Accuracy	49,995 m ±5 m (15 km typical)

SENSOR #5 - LASER ILLUMINATOR (PS ONLY)

Laser Type	Diode
Wavelength	860 nm
Modes	Continuous or pulsed (4-5pps)
Beam Power	Up to 800 mW
Range (Typical)	10 km

TURRET PHYSICAL CHARACTERISTICS

Gimbal	34 kg (74 lbs) 36 cm (14 in) D x 42 cm (16.5 in) H
SmartLink Interface Unit (SIU)	4.1 kg (9 lbs) 33 cm (13 in) D x 25 cm (10 in) W x 10 cm (4 in) H
Hand Controller	0.7 kg (1.6 lbs) 20 cm (8 in) x 10 cm (4 in) x 8 cm (3 in)
Cables	Standard cable kit: control cable 6 m (19.7 ft) Hand controller ext: 7.6 m (25 ft) Power cable: 4.6 m (15 ft)
Power (nominal)	28 Vdc, 10 amps (with no ancillary equipment operating)
Active Gyro-Stabilization	2-axis inner (pitch/yaw) 2-axis outer (azimuth/elevation)
Vibration Isolation	3-axis passive isolation (x/y/z)
Line-of-Sight Jitter	<35 µrads rms
AZ/EL Slew Rate	Max. >90°/sec.
LOS Range	Continuous 360°
LOS Tilt Range	Thermal/DLTV zoom: +10° to -120°
DLTV Spotter/LRF	+30° to -120°



OPTIONS AVAILABLE

SmartLink Upgrades	Auto-tracker; RS-232/422; ARINC 429; GPS; video enhancer; microwave TX; MIL-1553; moving map; radar slave and more
Video Equipment	CRT or LCD monitors; 8mm/VHS/SVHS/DV/Betacam; video recorders
Microwave Equipment	OMNI-ADU, Skypod V; Skypod LC air-to-ground microwave systems
Installation	FAA-certified installation brackets, quick disconnect

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428 Aviation
Santa Rosa, CA 95403
Tel: 707.568.3000
www.L-3Com.com/SonomaE0



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L-3. Headquartered in New York City, L-3 Communications employs over 64,000 people worldwide and is a prime contractor in aircraft modernization and maintenance, C³ISR (Command, Control, Communications, Intelligence, Surveillance and Reconnaissance) systems and government services. L-3 is also a leading provider of high technology products, subsystems and systems. The company reported 2007 sales of \$14 billion.