

# MK20 MOD 1 ELECTRO-OPTICAL SENSOR SYSTEM

Best suited for naval gun weapon system targeting, surveillance and situational awareness

L3Harris' Electro-Optical Sensor Systems (EOSSs) have enabled successful mission execution for over 20 years, possessing unique features and capabilities best suited for naval gun weapon system targeting, surveillance and situational awareness.

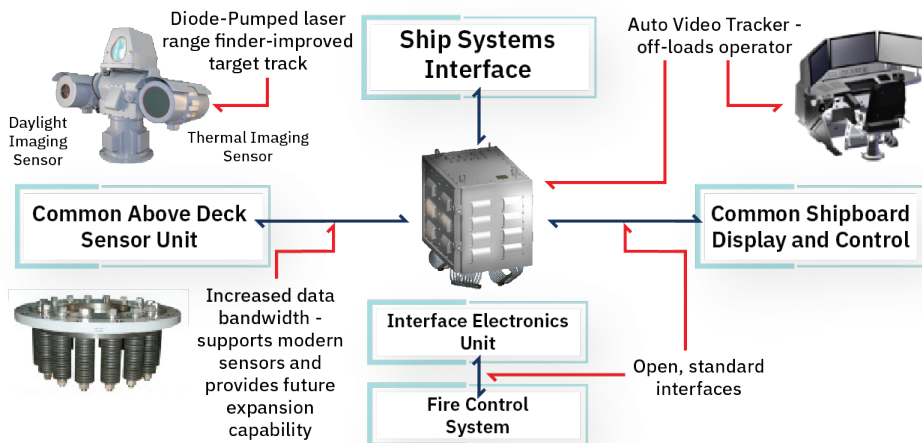
## MK20 DESCRIPTION

L3Harris' next-generation MK20 Mod 1 is a single, affordable, multi-purpose EO/IR solution that is designed from the ground up to provide superior operation and surveillance in a light weight and lower-cost package--supporting both Grade A and Grade B shock requirements. The scalable modular open systems architecture of the MK20 Mod 1 offers a standard interface with bandwidth reserve between director and modules and facilitates mission configurable sensors.

## PRIMARY FUNCTIONS

The MK20 Mod 1 has three primary functions: EOSS/GWS integration, automatic target detection and tracking and day/night video surveillance. These

functions help to effectively support multiple mission requirements for full-spectrum surface detection, identification, surveillance and target assessment. The MK20 Mod 1 supports operations including anti-surface and anti-air warfare, spotting and damage assessment, target detection and identification, naval gun fire support, safety check-sight, location/track of man overboard and channel position and navigation. L3Harris' EOSS position and targeting accuracy provides a 10x improvement over general surveillance EO, putting more rounds on target that result in lower ammunition cost and better ship protection.



## FEATURES

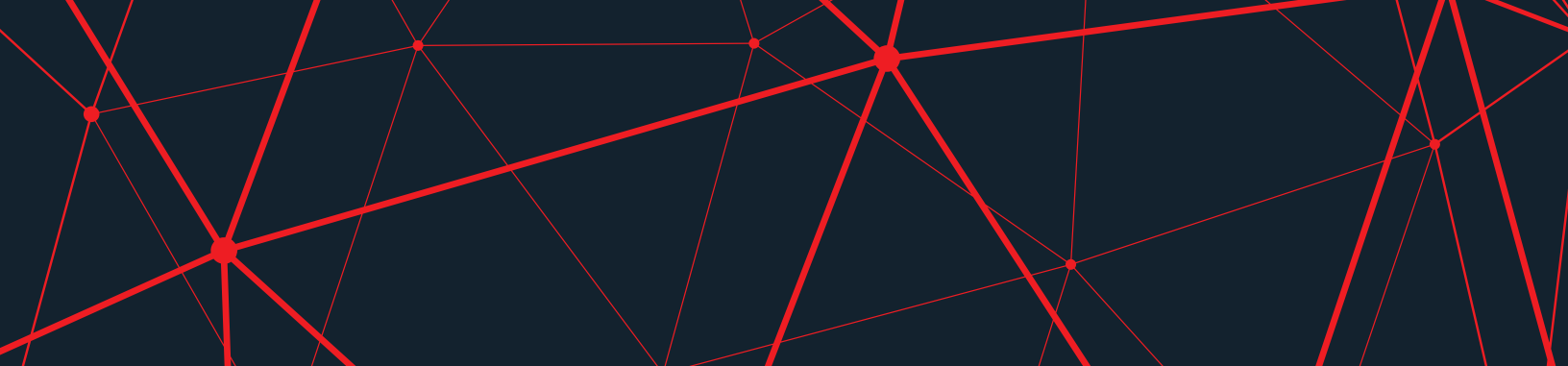
- > Scalable modular open systems architecture (SMOSA)
- > Mission configurable
- > Continuous zoom optics
- > Stabilized director: 2-axis (elevation/azimuth) full-digital stabilization with fiber optic gyros
- > Video processing compression and networking
- > Direct drive bushless DC motors
- > T-Bar design

## CAPABILITIES

- > Targeting data synchronized with combat systems
- > Pointing accuracy and angular resolution
- > Range/resolution to clearly identify potential targets
- > High-accuracy stabilization

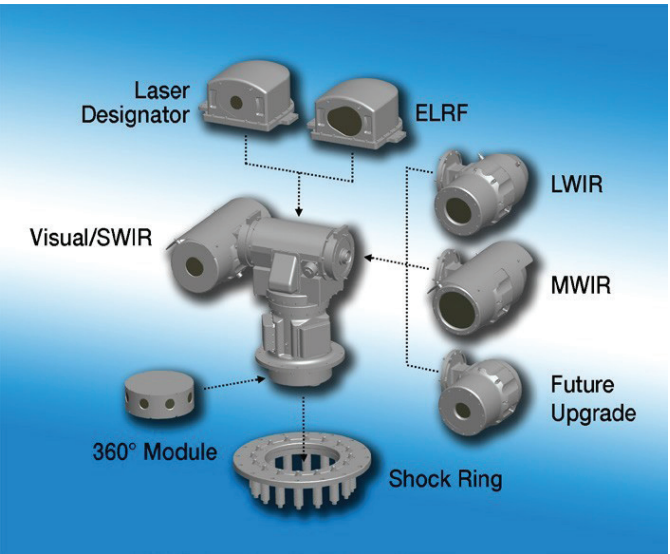
## SPECIFICATIONS

- > MIL-S-901D Grade B
- > MIL-S-901D Grade A (optional)
- > MIL-STD-461F
- > MIL-STD-464
- > MIL-STD-810G
- > MIL-STD167-1A



SPECIFICATIONS	
Temperature	-4 to +149°F (-20 to +65°C)
Humidity	up to 100%
Wind	Full performance up to 75-knot operation
Interfaces	RS-422, RS-485, GIGE over Cat 6, HD-SDI, H.264

ABOVE DECK SENSOR UNIT	
Line of Sight	360° continuous azimuth, -55 to +85° elevation
Field of Regard	-62 to +92° elevation
Acceleration	286°/sec <sup>2</sup> azimuth elevation (5 rad/sec <sup>2</sup> )
Velocity (slew rate)	171°/sec azimuth/elevation (3 rad/sec)
Position Accuracy	< 0.25 milliradian
Stabilization	2 axis
Weight	220 lb (100 kg)



**KEY IMPROVEMENTS**

- > Cost-effective solution
- > 60% lighter than currently fielded systems
- > SMOSA
- > Mission configurable
- > Designed to meet future requirements
- > Multi-platform support
- > Continuous zoom optics
- > Wider field-of-view for increased situational awareness
- > Increased resolution (HD-compatible)

MEDIUM WAVE INFRARED MODULE	
Field of View	20 to 0.8° (H)
Resolution	640x480 (1280x720 - Optional)
Spectral Response	3 to 5 μm
Weight	50 lb (22.6 kg)

EYESAFE LASER RANGE FINDER MODULE	
Wavelength	1.54 nmi
Range	up to 9.32 mi (15 km)
PRF	1 Hz ( 4 Hz/10 Hz Optional)
Weight	30 lb (13.7 kg)

360° MODULE (OPTIONAL)	
Field of View	360°
Weight	40 lb (17.4 kg)

VISUAL/SHORT WAVE INFRARED MODULE (OPTIONAL)	
Field of View	26.7 to 1.07° (H) 20 to 0.8° (SWIR)
Resolution	1920x1080 (V) 640x512 (SWIR)
Spectral Response	0.7 to 1.7 μm
Weight	50 lb (22.6kg)

LONG WAVE INFRARED MODULE (OPTIONAL)	
Field of View	20 to 2.2°
Resolution	640 x 512
Spectral Response	8 to 12 μm
Weight	50 lb (22.6 kg)

LASER DESIGNATOR MODULE (OPTIONAL)	
Wavelength	860 nmi
Modes	Continuous, Pulsed
Weight	30 lb (13.7 kg)

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