

# SABRE (Surveillance and Battlefield Reconnaissance Equipment)



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## VENDOR DESCRIPTION

SABRE is a platform-independent, remotely controlled, stabilized reconnaissance, surveillance and precision targeting system designed for ground vehicle applications. It provides precision sensor pointing, automatic video target tracking and payload capacity in excess of 150 lbs. With stabilization accuracies of  $<35 \mu\text{rad}$ , generic mechanical and electrical interfaces, wide payload capacity, and menu-driven control algorithm tuning capabilities, SABRE accommodates most modern sensor systems with emphasis on current performance and future technology growth.

The centerpiece of SABRE is the SCG-100 series of heavy-duty, stabilized sensor gimbals. The SCG-100 is a patented, SEI-proprietary technology for the stabilized mounting and effective employment of state-of-the-art, high-performance sensors. An SCG-100 gimbal system in its basic configuration consists of a two-axis (elevation and azimuth) gimbal, an Axes Control Unit (ACU), and a Common Control Panel (CCP). Platform mounts developed for the SCG-100 are direct vehicle mount, shock isolated vehicle mount, and mast mount. An alternative yoke gimbal concept also exists for large, self-contained sensor packages such as the Long Range Advanced Scout Surveillance System (LRAS3) or similar large unitary sensors.



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Business Category: Large Business

EOIR

System Hardware		Gimbal
TLE: $< 40\text{m CEP at } 10 \text{ km (demonstrated)}$	Operating Temp.: $-32^{\circ}\text{C to } +52^{\circ}\text{C}$	Height: $< 18 \text{ in}$ Weight: $< 150 \text{ lbs}$
Pointing Accuracy: $< 3 \text{ mrad w/ INU}$	Storage Temp.: $-51^{\circ}\text{C to } +71^{\circ}\text{C}$	LOS Stabilization: $< 35 \mu\text{rad (nominal)}$
Pr / Pd: (sensor dependent)	Interface: RS-422/485 Serial Link	Power: 300 watts (nominal)
Auto Video Tracker: Optional	IP-enabled sensor suite	Stab Payload Capacity: 150 lbs
Auto Target Queuing	MTBF: (sensor dependent)	Fixed Payload Capacity: 65 lbs
Cooling: Natural convection	MTTR: (sensor dependent)	Azimuth Coverage: $\pm 250^{\circ}$
Image Stabilization	Maintainability: 2-level BIT to LRM level	Elevation Coverage: $\pm 45^{\circ}$
Weight: (sensor dependent)		Min Track Rate AZ/EL: $100 \mu\text{rad/sec}$
Dimensions: (sensor dependent)		Max Slew Rate AZ/EL: $60^{\circ}/\text{sec}$
Power: (sensor dependent)		Acceleration: $> 200^{\circ}/\text{sec}^2$

Electro-Optical (EO)	Optional Ground Surveillance Radar
Type – CCD ??	Type classification: AN/PPS-5C
Resolution –	RF Frequency: Ku Band
Range –	Detection Ranges: Personnel 12+ km Vehicles 22+ km
Angular Coverage –	Accuracy: Range $\pm 10 \text{ m}$ Azimuth $\pm 5 \text{ mils}$
Zoom Rate –	Artillery Impact Detection: 15 km
Modes –	Auto-Target Classification
Target –	Minimum Detectable Radial Velocity: $< 1.25 \text{ m/s}$
Field of View –	MTBF: $> 2,000 \text{ hrs}$ MTTR: 0.5 hrs
Sensitivity –	
Color or B/W –	

**Sensor Dependent**