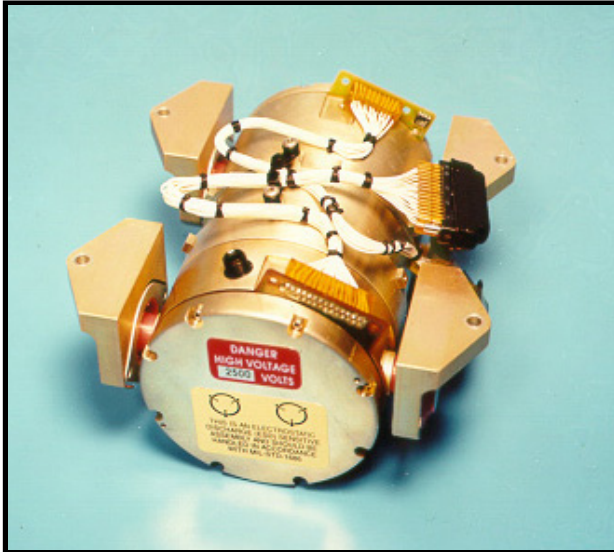




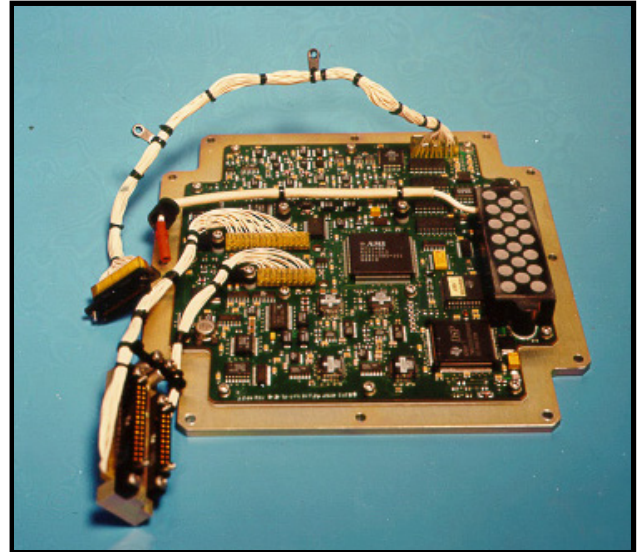
**KI-4920**

**TACTICAL  
IMU**

**MONOLITHIC RING LASER GYRO (MRLG)  
INERTIAL MEASUREMENT UNIT (IMU)  
FOR TACTICAL APPLICATIONS**



**ISA**



**ELECTRONICS CARD**

The MRLG Tactical IMU is available as a Kit, as shown above. The Kit is made up of an Inertial Sensor Assembly (ISA) and an electronics board, which is suitable for integration into specific program application form factors.

Kearfott's Inertial Measurement Unit's (IMU's) are ideally suited for those applications requiring relatively high performance in a compact form factor, and at a cost compatible with large volume tactical programs. They are being produced for a variety of applications spanning the Kearfott land, air and sea market segments.

Cost, performance and size advantages have been achieved by incorporating the T16-B MRLG and a MOD VIIA Accelerometer Triad into an ISA, and developing the associated IMU electronics to fit on a single compact card.

As an alternate, the IMU can be packaged in a chassis and is available as the KI-4801.

**• FUNCTIONS**

$\Delta\theta$ ,  $\Delta V$   
FLIGHT CONTROL DATA RATES  
NAVIGATION DATA RATES  
BIT

- THREE-AXIS RING LASER GYRO
- MOD VIIA ACCELEROMETERS
- SIMPLIFIED ELECTRONICS (1 BOARD)
- HIGH RELIABILITY, LOW LIFE CYCLE COST
- LARGE PERFORMANCE MARGIN  
SIX-SIGMA DESIGN  
REDUCED PARTS COUNT

**FOR FURTHER INFORMATION ON THIS TACTICAL APPLICATION OR ANY OTHER PRODUCT APPLICATIONS PLEASE  
CONTACT OUR BUSINESS DEVELOPMENT GROUP AT: (973) 785-6555 OR FAX (973) 785-5905**

**Visit our website: [www.kearfott.com](http://www.kearfott.com)**

PERFORMANCE SUMMARY*		
PARAMETERS	GYRO	ACCELEROMETER
Random Walk	0.05°/√h	0.05 m/s/√h
Bias Repeatability	0.1 to 0.7°/h	400 μg
Scale Factor Repeatability	120 PPM	500 PPM
Axis Alignment	65 arc-sec	65 arc-sec
Bias Stability	0.3°/h	50 μg
Vibration Rectification	N/A	15 μg/g <sup>2</sup>

Note: All parameter values listed are 1σ

OPERATING RANGES *	
Acceleration	40 g's
Attitude	unlimited
Roll, Pitch and Azimuth Rate	300°/sec
Roll, Pitch and Azimuth Accelerations	10,000°/sec
Cooling	Free convection
Environmental Requirements	Per MIL-E-5400

PHYSICAL CHARACTERISTICS *	
Dimensions - ISA & IMU Elec. w/o chassis	ISA - 3.3" DIA. x 5.2" L, Elec. - 36 in <sup>2</sup>
Weight - ISA & IMU Elec. w/o chassis	3 lb (Includes Elec. @ 0.57 lb w/o heat sink)
Power	+15 V, -15 V, +5 V, and < 25 Watts
Activation Time	< 5 s
Maintenance	BIT, 95% coverage
Calibration Interval	None

- Performance, Operating Ranges, and Characteristics are tailorable for specific applications

