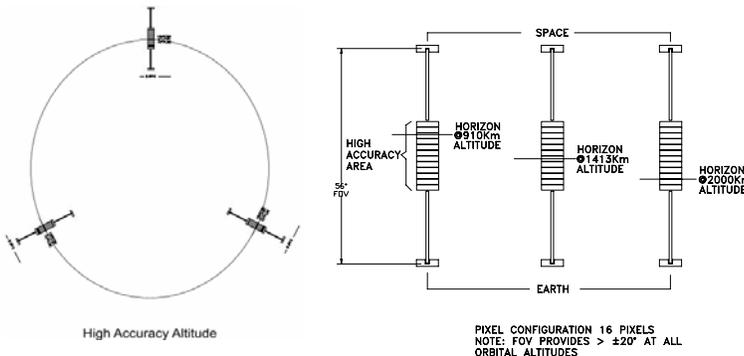


LEO Earth Sensor Assembly (TRIAD)



Description:

The Leo-Earth Sensor Assembly-Triad (LESA-T) combines three independent single axis LEO Earth Sensor Assemblies (LESA) units mounted 120 degrees apart, all containing an identical electronics suite, mounted to a common frame containing signal and power distribution and a common connector to interface with the satellite bus. The mechanical configuration of the LESA unit is the same as our DASH Earth Sensor currently flying on the TOPSAT program. Signals from each LESA units are independently combined on a common interface connector. By keeping the units completely independent, redundancy is maintained for the “any two of the three” principal as Pitch and Roll can be determined with any two units. Each LESA unit has a 48° FOV with two accuracy ranges, $>0.1^\circ$ over 16degrees and $<0.5^\circ$ over the remainder of the FOV.



Contact Information

Servo Corporation of America
123 Frost Street, Westbury, NY 11590, USA
Tel: 516 938 9700 Ext. 352 Email: georger@servo.com
FAX: 516 938 9644 URL: www.servo.com
Cell 516-983-4555

Specifications

- **Performance** : $\pm 0.2^\circ 3\sigma$ ($\pm 4^\circ$ of nadir) At all altitudes within the 910 to 2000 km altitude
- **FOV** 48° 16 Element Array
- **NEA**: $< 0.006^\circ 3\sigma$
- **Operational Range**: from 910 km to 2000 km $^\circ$
- **Spectral Band**: 14 to 16 microns

Environmental

- **Random Vibration**: 25 G rms
- **Temperature**: -20 to +55°C
- **Lifetime**: 7 yr. at 1000K

Physical

- **Weight**: 2.4 Kg
- **Mounting**: Mounting Flange
- **Alignment**: Integral Alignment Cube

Features

- Inherently redundant configuration
- Requires no temperature control, or heater or compensation
- Rad-Hard version to 100Krad
- High-Rel version available

Electrical

- **Power Input**: isolated 22-40VDC independent power on each head
- **Signal Out**: Analog pixel Voltages through MUX control