

The MAI-SS Space Sextant is a low-cost Star Tracker intended for CubeSat and SmallSat missions. The unit is completely self-contained and features 'Lost in Space' star identification. Just apply power and begin receiving quaternions accurate to about 5.7 arcseconds.

The system has been extensively rate tested and shown to have 96.4% availability of solutions at rates in excess of 2°/sec. The electronics have been radiation tested to 75krad while an optional baffle provides 45° Sun rejection. The MAI-SS is available in either vertical or horizontal mounting.



Because this product was developed under NASA SBIR funding, U.S. Government customers may purchase this product on a non-competitive basis as follows: "In accordance the SBA Policy Directive Sec 4 (c) (2), any procurement by US Government Entities is an SBIR Phase III award that is derived from, extends, or completes efforts made under prior SBIR funding agreements and is authorized under 10 U.S.C. 2304(b)(2) or 41 U.S.C. 3303(b) with no further competition pursuant to FAR 6.302-5."

PARAMETERS	
Accuracy (Cross Axis / Boresight)	5.7 arcsec / 27 arcsec
Acquisition Time	130 ms Acq, 105 ms Track (typical)
Max Tracking Rate	>2.0°/sec
Update Rate	4 Hz
Star Catalog	Hipparcos
Lens	0.9in f1.2 BK7 Glass
Sun Exclusion w/wo Baffle	45° / 90°
Operating Temperature	-40 to 80 °C
Weight	170g (282 g w/ housing)
Dimensions wo / w case (mm)	50 x 50 x 47 / 55 x 65 x 70
Baffle Dimensions, Wt.	100 x 90 x 195, 135 gm
DC Voltage	5.0 V
Radiation TID (outside of case)	75 krad
Average power consumption	2.0W LIS, 1.5 W Track
Serial Interface	UART TTL / I2C

COMPANY HERITAGE

Founded by Addison Cole in 1957, the sun sensors designed by Adcole have flown on numerous space exploration missions, including all Mars Rovers, New Horizons, Juno, and the Parker Solar Probe. An engineer by trade, Cole invented a sun angle sensor that enables rockets and satellites to maintain their orientation in space. Cole's invention, which is in use by space agencies today, provided the impetus behind the launch of Adcole Corporation.

