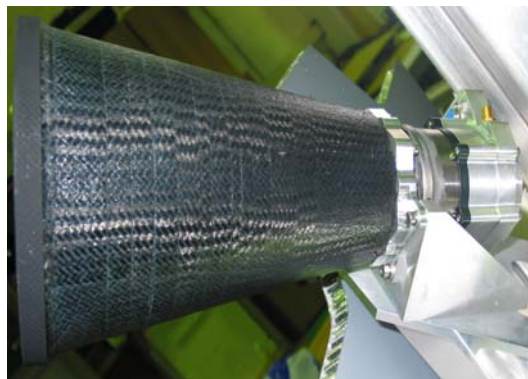


Star Tracker

ALTAIR HB+

Applications

- LEO missions and constellations
- Targeted at cost effective missions requiring high performance
- 3-axis attitude determination
- Agile spacecraft



CHU and Baffle

Heritage (more than 10 units flown)

- BILSAT-1 (2003)
- BEIJING-1 (2005)
- CFESAT (2007)
- RapidEye (2008)

Interfaces

- Dual-redundant RS422/RS485 TM/TC interface
- 16-50V Power

SSTL is ISO9001:2008 certified

Subsystems are manufacture to:

- ECSS Q-ST-70-08C
- ECSS Q-ST-70-38C
- All work overseen by ESA-trained assembly staff

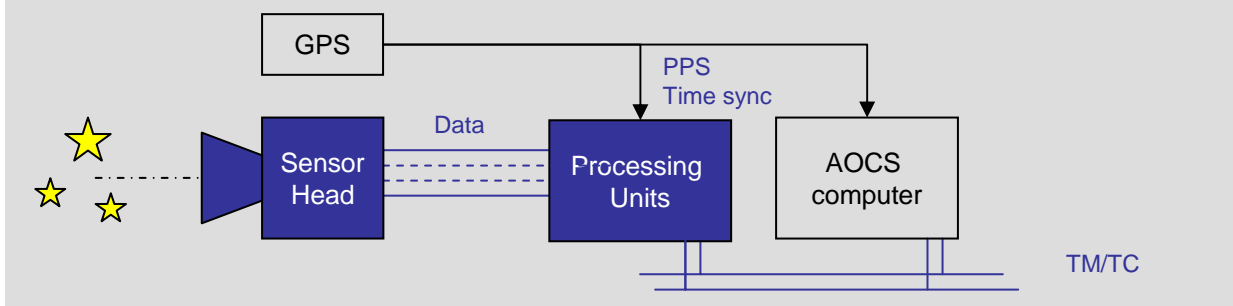
The ALTAIR HB+ is a third generation star tracker, designed specifically in support of cost-effective missions requiring accurate, reliable and autonomous 3-axis attitude estimation.

The camera head unit (CHU) is based on CCD sensor technology, delivering a cost effective solution, while keeping mass and power to a minimum. The Star Tracker outputs bore sight vectors in the J2000 frame as a quaternion with an associated time stamp.

Features

- Autonomous
- Modular design with separate CHU and processing electronics (DPU & CCE)
- 7.5 year design life

Typical use





Star Tracker

ALTAIR HB+

Options

- CAN TM/TC interface

Other ADCS products

- Next Generation High Performance RIGEL Star Tracker
- Complete ADCS suite
- Magnetometers & Sun Sensors
- Magnetorquer Rods
- Reaction Wheels
- GPS Navigation Receiver

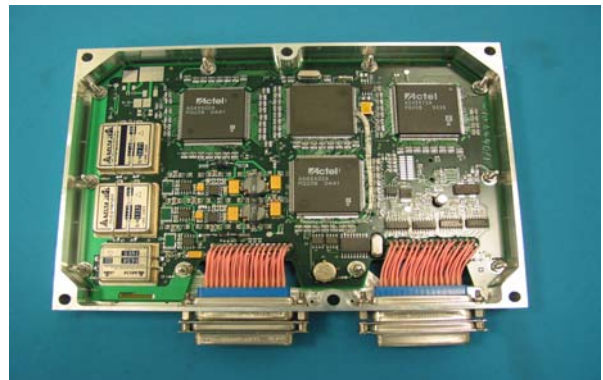
Availability

- 12 month lead time

Standard delivery service includes:

- compliance testing
- vibration test
- thermal cycling
- user manual
- electrical, mechanical & environmental ICDS
- test results
- export license and shipping
- thermal vacuum testing available

Attitude accuracy (1-σ)	
Relative Accuracy	X/Z < 10 arcsec Y < 60 arcsec
EOL for a single CHU, DPU & CCE operating at 0.5Hz update rate	Tracking 10 or more stars with the CHU temp < 10 degC
Update Rate	0.5 Hz – 1Hz
Maximum tracking rate	0.2 deg/s, 0.05 deg/s ²
Exclusion Angles	Sun: 60 deg Earth: 45 deg Moon: 45 deg
Interface	CAN/RS422/ RS485
Mass / Volume	DPU 33 x 178 x 316 mm, 1.0 kg CCE 22 x 135 x 190 mm, 0.45 kg CHU 77 x 104 x 104 mm, 0.85 kg Baffle 150 (D) x 185 (L) mm, 0.30 kg CHU length with Baffle 275 mm
Power	Single CHU with CCE & DPU Supply 16-50V 12W at 28V
Vibration	DPU 15 grms CHU 15 grms
Operating Temperature	DPU 0 to +50 degC CCE -20 to +50 degC CHU -20 to +50 degC
Radiation	< 10kRad



Processing Unit (DPU)

Surrey Satellite Technology Limited

SSTL has launched over 34 satellites gaining almost 200 years in-orbit experience. SSTL draws on its world-class expertise in both small satellite platform technology and high and medium resolution optical instruments. SSTL provides complete turn-key system solutions; spacecraft, ground station, launch, operations and image processing.

SSTL is unique in the space industry; able to design, manufacture and integrate multiple satellites in-house.

Changing the economics of space
www.sstl.co.uk