VUESTAR™

gps products

NavCom's VueStar™ is the only complete global aerial survey navigation system. Survey an area, a country or even the globe with VueStar, a self-contained system providing real-time accuracy over large areas previously attainable only by post processing. Gone are the costs and logistical difficulties of establishing multiple reference station sites.

PERFORMANCE

Photogrammetry, LIDAR, SAR and other Remote Sensing Aerial Survey applications can rely on the real-time, decimeter results provided by VueStar. VueStar delivers precise navigation by combining NavCom's leading edge, dual frequency GPS receiver with NavCom's StarFire™ Network, a Global Satellite Based Augmentation System (GSBAS).

BENEFITS

The VueStar aerial survey package is the only system of its kind providing a reliable, cost-effective solution for aerial surveyors. Maximizing the advantages of the global StarFire Network, the system eliminates the range limitations of terrestrial communication links as well as the dependency on post-processing with ground based reference stations. Not only does VueStar provide surveyors with the ability to return customer surveys in days rather than weeks, but it also frees ground based survey crews to work on other projects.

The VueStar package comes complete with NavCom's SF-2050M dual frequency receiver providing position and velocity up to 25 times a second, all necessary cabling, a combined GPS/StarFire aircraft FAA certified tri-band antenna, internal data logging, event input, 1pps output and a one-year global StarFire license. Detailed Installation and User manuals are included as well as NavCom's commitment to excellence in customer support. VueStar can optionally be supplied with the Event Latch Interface to facilitate integration with your airborne sensors.

STARFIRE™ NETWORK

StarFire utilizes a network of more than 50 GPS reference stations around the world to compute GPS satellite orbit and clock corrections. Two completely redundant processing centers and multiple communication links ensure the continuous availability of StarFire GPS corrections. These corrections are broadcast via three geostationary satellites providing worldwide coverage and enabling precise real-time navigation without the need for local ground base stations. StarFire is a global subscription service providing real-time accuracy typically better than 10cm (4inches). The StarFire signal is available virtually anywhere on the Earth's surface on land or sea from 76°N to 76°S latitude.

STARPAC™ UTILITY SOFTWARE

Included with the VueStar package is the StarPac Utility Software, a subset of Waypoint's GrafNav Utilities tailored for StarFire users, providing data analysis tools for aerial survey applications. StarPac can automatically parse through logged mission data containing StarFire positions for export in a format appropriate for use by post-mission tools such as mapping software.

StarPac can extrapolate positions based on airborne sensor triggered event records. Additional features include mission planning, RINEX conversion, datum conversion, trajectory plotting and Quality/ Figure of Merit association for each position.StarPac has the flexibility for upgrade to a complete GPS post-processing suite.

FEATURES

- Ruggedized Dual Frequency GPS receiver
- FAA certified StarFire / GPS aircraft antenna
- One year all area StarFire license
- Decimeter-level accuracy using StarFire corrections
- Real-time navigation at up to 25 times per second
- Geodetic quality measurements
- RTK base/rover (optional software upgrade)
- Event input for minimal data latency
- 64 MB for internal data logging
- One pulse per second output
- Outputs standard NMEA messages
- Dual WAAS/EGNOS channels
- Event Latch Interface (Optional accessory)

World's first global, real-time Aerial Survey navigator providing decimeter accuracy without a base station

NAVCOM

A John Deere Company

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VUESTAR™
TECHNICAL SPECS

GPS RECEIVER PHYSICAL/ENVIRONMENTAL

- Size (L x W x H): .....8.18in x 5.67in x 3.06in (208mm x 144mm x 78mm)
- Weight: .....4lbs (1.81 kg)
- External Power:
  Input Voltage: .....10 VDC to 30 VDC
  Consumption: .....< 8 W
- Connectors:
  I/O: .....2 x 7 pin Lemo
  DC Power: .....4 pin Lemo
  RF Connector: .....TNC
  (with 5 VDC bias for antenna/LNA)
- Temperature (ambient):
  Operating: .....-40° to +55°C (-40° to +131°F)
  Storage: .....-40° to +85°C (-40° to +185°F)
- Humidity: .....95% non-condensing
- Tested in accordance with MIL-STD-810F for:
  low pressure, solar radiation, rain, humidity, salt fog, sand & dust, and vibration

GPS ANTENNA PHYSICAL/ENVIRONMENTAL

- Size (diameter): : 5.75in (14.6mm)
- Weight: .....1lbs (.45kg)
- Temperature (ambient):
  Operating: .....-40° to +85°C (-40° to +185°F)

PERFORMANCE [1]

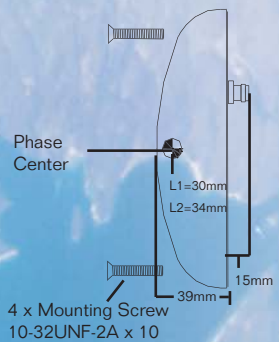
GPS Receiver Performance

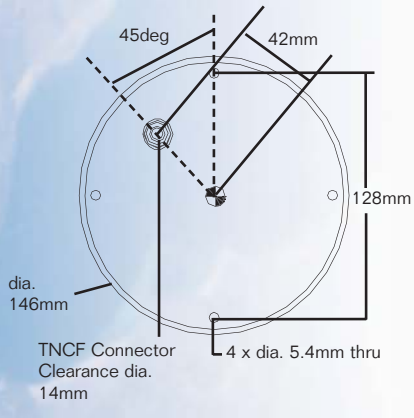
- Pseudo-range Measurement Precision (RMS):
  Raw C/A code: .....20 cm @ 42 dB-Hz
  Raw carrier phase noise: .....L1: 0.95 mm @ 42 dB-Hz
  L2: 0.85 mm @ 42 dB-Hz
- Velocity: .....0.01 m/s
- Enhanced SBAS (WAAS/EGNOS) Positioning Accuracy (RMS):
  Horizontal: 0.5m
  Vertical: 0.7m
- Real-time StarFire Accuracy (RMS):
  Position (H): .....<10 cm
  Position (V): .....<15cm
- RTK Positioning <10kms (RMS):
  Horizontal: .....1 cm + 1ppm
  Vertical: .....2 cm + 1ppm
- Data Latency:
  Position Velocity Time: .....< 20 ms at all nav rates
  Raw measurement data: .....< 20 ms at all rates
- Time-to-first-fix:
  Cold Start, Satellite Acquisition: .....< 60 seconds (typical)
  Satellite Reacquisition: ..... < 1 second
- Dynamics: (Speed & Altitude restricted by export laws)
  Acceleration: .....up to 6g
  Speed: .....< 1,000 knots (515 m/s)
  Altitude: .....< 60,000 ft (18.3km)
- 1PPS Resolution: .....12.5ns relative accuracy

[1] *Performance dependent on location, satellite geometry, atmospheric conditions and GPS corrections.*

COMMUNICATIONS

- Messages:
  Data/Control: .....NCT Binary Messages
  NMEA: .....ALM, GGA, GLL, GSA, GST, GSV, RMC, VTG, ZDA
- Corrections: .....RTCM Code (Msg. 1, 3 & 9)
  SBAS (WAAS/EGNOS)
  StarFire™
- RTK Corrections (Optional): .....NCT Proprietary
  RTCM (Msg. 18/19 or 20/21)
  CMR (Msg. 0, 1, 2)
  CMR+





Technical specifications are subject to change at NavCom's discretion.
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