

SplitBox Series

COMPLEMENTARY EQUIPMENT Splitter & GNSS Receiver



Easy Installation
and Positioning



for Apogee and Ekinox

SPLITBOX SERIES makes integration easier. Installation is made simple thanks to connections between several equipment and SBG inertial sensors. Highly versatile, it delivers position data with a large choice of positioning services.



SplitBox Series - Simplified Integration



SplitBox



SplitBox GNSS



Connection to External Equipment

The SplitBox provides a simplified interface with standardized connectors for easy connection with external aiding equipment (GNSS receiver, Odometer, DGPS corrections), computers, or survey instruments (multibeam sonar, LiDAR, etc).

GNSS Positioning

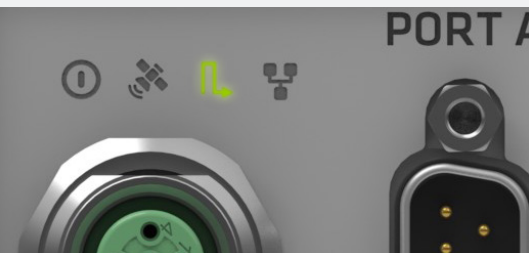
The SplitBox GNSS model additionally integrates a tri-frequency GNSS receiver which supports RTK and Precise Point Positioning (PPP). It also provides raw data for Post-Processing. This SplitBox pairs with two survey-grade antennas for robust and accurate heading.

Synchronization, Time Stamping, and Triggering

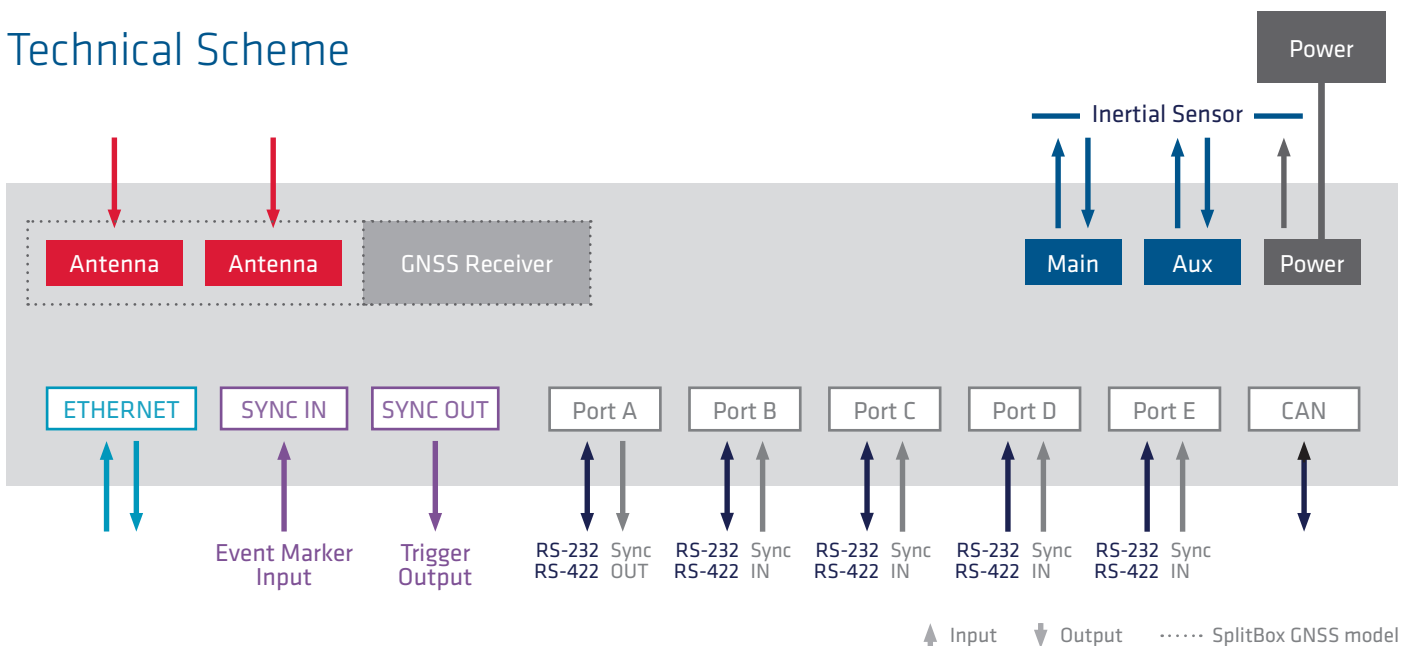
Splitbox makes synchronization and time stamping easier than ever. Up to 5 different input event sources can be perfectly time-stamped with 1 micro second accuracy, and up to two output PPS signals (or configurable clocks) can be generated.

LED Status Indicators

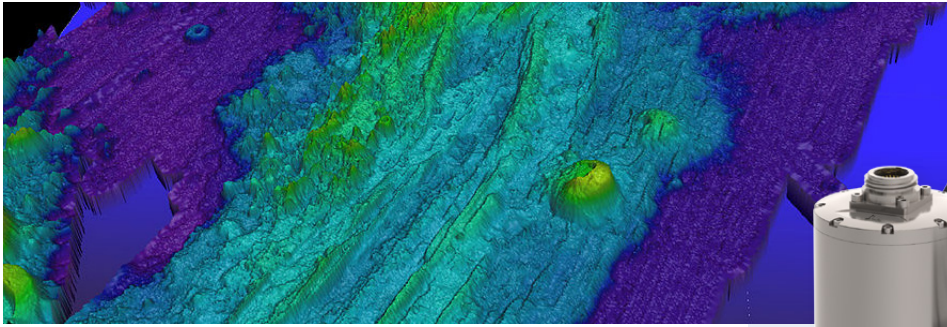
Key indicators are enlightened to give the user information on power, valid GNSS position and reception of corrections, time synchronization, and network activity.



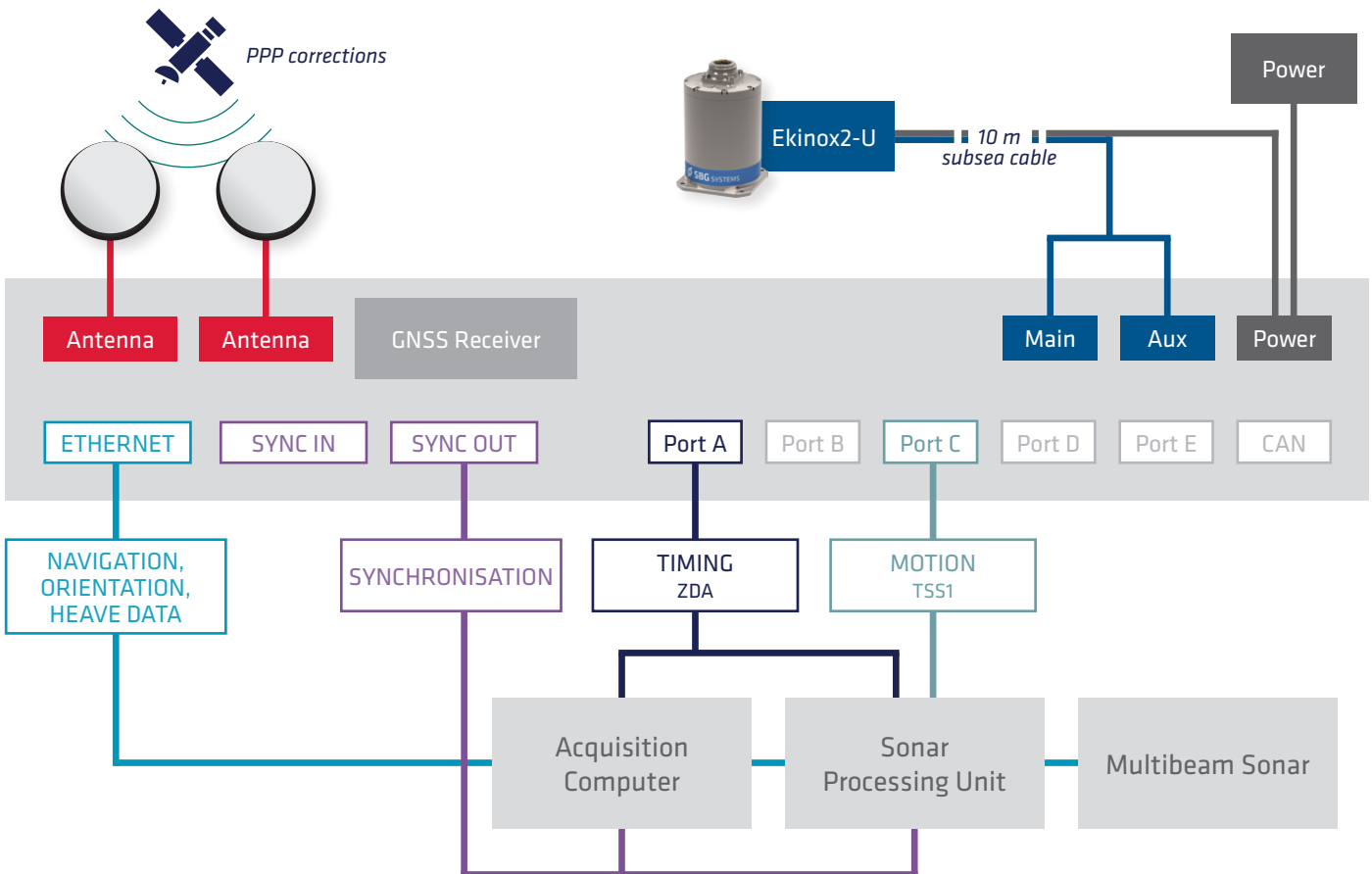
Technical Scheme



SPLITBOX GNSS ⊕ EKINOX2-U



In this example, the titanium made Ekinox2-U is mounted close to the multibeam Sonar head for the best performance. The SplitBox GNSS is connected to two antennas and receives PPP corrections (Marinestar, TerraStar, etc). Position, Orientation, and Heave data are fused by the Ekinox2-U, and imported directly into the hydrographic acquisition software for an optimal workflow.



Specifications

MODELS

| | |
|------------------------------------|--|
| SplitBox | Connection and synchronization |
| SplitBox with GNSS Receiver | Connection and synchronization, GNSS positioning |

POSITIONING PERFORMANCE - SPLITBOX GNSS

| | Feature | Accuracy |
|--------------------------------|---------|----------------------|
| Single Point L1/L2/L5 | ✓ | 1.2 m |
| DGPS | ✓ | 0.4 m |
| OmniSTAR* / Marinestar* | ✓ | 0.1 m |
| TerraStar* / Veripos* | option | 0.1 m |
| RTK | option | 1 cm + 1 ppm |
| RTK 10/10 | option | 0.1 m |
| RTK 30/30 | ✓ | 0.3 m |
| Raw Data | option | 1 cm (X,Y), 2 cm (Z) |

*Subscription available from third party PPP service provider
RMS values for typical survey trajectories. Performance may be affected by atmospheric conditions, signal multipath, and satellite geometry.

GNSS RECEIVER FEATURES

| | |
|-------------------------------|--|
| GNSS receiver | Dual-antenna L1/L2/L5 GPS + GLONASS Option: GALILEO, BEIDOU |
| Velocity | 0.8 cm/sec |
| Cold Start / Hot Start | 45 s/20 s |

CONNECTORS

| | |
|---------------------------------|-------------------------------------|
| Serial Ports | DB9 (RS-232 / RS-422) |
| Ethernet | M12/RJ45 (3 m RJ45 cable provided) |
| Synchronization (IN/OUT) | SMA (TNC and BNC adapters provided) |

PRODUCTS



Ekinox 2 Series



Ekinox 2 Subsea Series



Apogee Series



Apogee Marine Series

PHYSICAL CHARACTERISTICS

| | |
|----------------------|--|
| Size | 190.4 X 143.5 X 58 mm / 7.5 x 5.65 X 2.28 in |
| Weight | 1.4 kg / 3.08 lb |
| Input Voltage | 9 - 36 |
| IP Rating | IP65 |
| Cable length | Surface: 5 / 10 m Subsea: 10 / 20 m |

SUPPORTED INERTIAL SENSORS

SplitBox and SplitBox GNSS can be used with Ekinox and Apogee sensors.



| Accuracy RMS RTK/ PP | Ekinox 2 & Ekinox 2 Subsea | Apogee & Apogee-U |
|-----------------------------|----------------------------|-------------------|
| Roll, Pitch | 0.02° / 0.015° | 0.008° / 0.005° |
| Heading 2 m baseline | 0.1° / 0.03° | 0.04° / 0.02° |
| Heading 4 m baseline | 0.05° / 0.03° | 0.025° / 0.02° |
| Real-time Heave | 5 cm | 5 cm |
| Delayed Heave | 2.5 cm | 2 cm |

All specifications subject to change without notice.

SBG Systems is a leading supplier of MEMS-based inertial motion sensing solutions. The company provides a wide range of inertial solutions from miniature to high accuracy. Combined with cutting-edge calibration techniques and advanced embedded algorithms, SBG Systems products are ideal solutions for industrial & research projects such as unmanned vehicle control, antenna tracking, camera stabilization, and surveying applications.