STONEX

# S800A GNSS Receiver

Beyond
Imagination


suite cube

# S800A Beyond Imagination

Stonex S800A is a compact, high-performance GNSS receiver with unique features and unmatched in its category. The S800A features the multi constellation 394 channels GNSS board and supports GPS, GLONASS, BEIDOU, GALILEO, including L-Band correction.

The unique internal antenna combines GNSS, Bluetooth and Wi-Fi integrated modules to optimize space and increase performance. This technology provides stronger and cleaner signal monitoring, which means unprecedented results.
Designed for all day use in surveying application, S800A includes several features: Linux Operating System, WEB UI interface, UHF radio modem, high battery capacity and IP67 certification.

Stonex S800A GNSS receiver, thanks to aRTK function and service of Atlas® correction is an ideal solution for any surveying field work and in particular in difficult areas. Atlas® delivers world wide centimetre level correction data through L-band communication satellites and internet.

## MULTI CONSTELLATION

Stonex S800A with its 394 channels, provides an excellent on board real time navigation solution with high accuracy. All GNSS signals (GPS, GLONASS, BEIDOU and GALILEO) are included, no additional cost.

## WEB UI CONTROL

To initialize, manage, monitor the settings of the receiver and to download data using portable or PC, smartphone or tablet with Wi-Fi capability.

## 6800mAh BATTERY CAPACITY

Stonex S800A is delivered with 6800mAh large capacity lithium battery that gives you up to 10 hours working.

## INTERNAL UHF RADIO MODEM

All S800A series models have integrated UHF modem radio. It is possible to order the S800A with the enabled radio or order the receiver without the active radio, and activate it at later time.

## RUGGED RTK

With IP67 Certification Stonex S800A will ensure operations in various kinds of extremely tough environments.


STONEX SURVEYING SYSTEMS

# S800A

## aRTK & Atlas® Correction Service

S800A is new Stonex GNSS Receiver able to automatically select the best combination of GNSS signals with the possibility to receive Atlas® real time corrections when the connection signals are interrupted or not available.
aRTK is an innovative feature available in Stonex S800A GNSS Receiver that greatly mitigates the impact of land-based communication instability.

- aRTK delivered via satellite for uninterrupted centimetre positioning in areas where local RTK communication links are unstable.
- aRTK provides an additional layer of communication redundancy to RTK users, ensuring that productivity is not impacted by intermittent data connectivity.

Thanks to aRTK the receiver is able to continue generating RTK positions in case the land based RTK correction source becomes unavailable for few minutes.
Atlas® is a subscription for S800A aimed to achieve 3 different levels of accuracy depending on subscription type that you need. Atlas® gives the precise positioning centimeters around the world, perfect when working in difficult areas.

## Main features

- No RTK base station or RTK network required
- Correction data is continuously transmitted by satellite L-Band or Internet, delivering global coverage
- Bridging RTK outages for uninterrupted accurate positioning
- Autonomous remote position within centimeter accuracy
- Retain position accuracy during RTK data stream losses
- Keep position accuracy as long as needed


## SureFix Robust RTK Positioning

SureFix is the new processor that runs in combination with GNSS engine to provide high fidelity RTK quality information. The SureFix processor takes several inputs and determines the quality of the RTK solution in the form of "quality indicators". The indicators are then combined with RTK data and provide the user with high fidelity information about the quality of the RTK solution.

# TECHNICAL FEATURES

## RECEIVER

| | |
|---|---|
| Satellite Tracked | GPS: L1 C/A, L1C, L1P, L2C, L2P, L5<br>GLONASS: L1 C/A, L1P, L2C, L2P<br>BEIDOU: B1, B2, B3<br>GALILEO: E1, E5a, E5b<br>QZSS: L1 C/A, L1C, L2C, L5<br>SBAS: L1, L5 |
| L-Band | Atlas H10 / H30 / H100 |
| Channels | 394 |
| Position Rate | 5 Hz, optional up to 20 Hz |
| Signal Reacquisition | < 1 sec |
| RTK Signal Initialization | Typically < 10 sec |
| Hot Start | Typically < 15 sec |
| Initialization Reliability | > 99.9 % |
| Internal Memory | 8 GB |

## POSITIONING[1]

| | |
|---|---|
| HIGH PRECISION STATIC SURVEYING | |
| Horizontal | 2.5 mm + 1 ppm RMS |
| Vertical | 5.0 mm + 1 ppm RMS |
| CODE DIFFERENTIAL POSITIONING | |
| Horizontal | <0.5 m RMS |
| Vertical | <1.0 m RMS |
| SBAS POSITIONING | |
| Horizontal | <0.6 m RMS[2] |
| Vertical | <1.2 m RMS[2] |
| REAL TIME KINEMATIC (< 30 Km) – NETWORK SURVEYING[3] | |
| Fixed RTK Horizontal | 8 mm + 1 ppm RMS |
| Fixed RTK Vertical | 15 mm + 1 ppm RMS |

## INTEGRATED GNSS ANTENNA

High accuracy four constellation micro-strip antenna, zero phase center, with internal multipath suppressive board

## INTERNAL RADIO

| | |
|---|---|
| Type | Tx - Rx |
| Frequency Range | 410 - 470 MHz |
| Channel Spacing | 12.5 KHz / 25 KHz |
| Maximum Range | 3-4 Km in urban environment<br>Up to 10 Km with optimal conditions[4] |

## COMMUNICATION

| | |
|---|---|
| I/O Connectors | 7-pins Lemo and 5-pins Lemo interfaces. Multifunction cable with USB interface for PC connection |
| Bluetooth | V2.0 Class2/V4.1LE |
| Wi-Fi | 802.11 b/g |
| Web UI | To upgrade the software, manage the status and settings, data download, etc. via smart phone, tablet or other internet enabled electronic device |
| Reference outputs | RTCM 2.3, 3.0, 3.1, 3.2<br>CMR, CMR+ |
| Navigation outputs | GGA, ZDA, GSA, GSV, GST, VTG, RMC, GLL |

## POWER SUPPLY

| | |
|---|---|
| Battery | Rechargeable 7.2 V – 6800 mAh<br>Rechargeable 7.2 V – 5200 mAh[5] |
| Voltage | 9 to 18 V DC external power input with over-voltage protection<br>(5 pins Lemo) |
| Working Time | Up to 10 hours<br>Up to 8 hours[5] |
| Charge Time | Typically 4 hours |

## PHYSICAL SPECIFICATION

| | |
|---|---|
| Dimensions | 146 mm x 146 mm x 76 mm |
| Weight | 1.2 Kg |
| Operating Temperature | -30°C to 65°C (-22°F to 149°F)<br>-40°C to 65°C (-40°F to 149°F)[5] |
| Storage Temperature | -40°C to 80°C (-40°F to 176°F) |
| Waterproof/Dustproof | IP67 |
| Shock Resistance | Designed to endure to a 2 m pole drop on concrete floor with no damage |
| Vibration | Vibration resistant |

IP67 CE FC RoHS 2002/95/EC

Illustrations, descriptions and technical specifications are not binding and may change

1. Accuracy and reliability are generally subject to satellite geometry (DOPs), multipath, atmospheric conditions and obstructions. In static mode they are subject even to occupation times: the longer is the Baseline, the longer must be the occupation time.
2. Depends on SBAS system performance.
3. Network RTK precision depends on the network performances and are referenced to the closest physical base station.
4. Varies with the operating environment and with electromagnetic pollution.
5. S800A Polar Version.

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Orbital Geospatial Services
STONEX AUTHORIZED DEALER


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