STONEX

# S950 GNSS Receiver

Dual camera and
Laser distance meter


suite cube

# S950

## Dual camera and Laser distance meter

The S950 GNSS receiver offers superior positioning and satellite tracking with 1408 channels, ensuring precision in challenging environments. Equipped with GSM 4G connectivity, it supports real-time data transfer, while its integrated 2-watt radio ensures long-distance communication.

The integrated IMU technology automatically compensates for the pole's tilt up to 60°, ensuring greater productivity. Its advanced laser distance meter offers a range of up to 30 meters.

Dual-camera technology boosts efficiency and precision by enabling simultaneous stakeout from two perspectives. Weighing only 810g and offering over 10 hours of battery life, the S950 is portable and durable, with an IP67 rating and the ability to withstand temperatures from -40°C to +65°C.

### MULTIPLE CONSTELLATIONS

With 1408 channels, the S950 ensures accurate positioning and reliable satellite tracking, even in limited signal environments.

### IMU TECHNOLOGY

The integrated IMU allows the receiver to automatically compensate for the pole's tilt up to 60 degrees, increasing survey speed and efficiency.

### ADVANCED LASER DISTANCE METER

The S950 features an integrated green laser distance meter that provides high-precision measurements. The range extends up to 30 meters, seamlessly combining distance measurements with GNSS data for real-time, georeferenced results. It is now possible to measure an inaccessible point using the laser distance meter from a single GNSS position.

### DUAL-CAMERA TECHNOLOGY

With dual cameras, the S950 enables simultaneous stakeout from two different perspectives, boosting efficiency and accuracy in data capture and analysis.

### 2-WATT RADIO

The built-in 2-watt radio delivers strong communication capabilities over long distances, ensuring uninterrupted data transmission.


STONEX SURVEYING SYSTEMS

# **Measure** where you can't go

The S950 is equipped with an integrated laser distance meter that emits a beam toward the target and calculates its GNSS coordinates. The measurement combined with the GNSS + IMU position allows the coordinates of the inaccessible point to be calculated.
Positioned next to the rear camera, the green laser allows precise measurement of the desired point without the need for physical access, ensuring extremely accurate results in any environmental condition.
The laser measurement system adapts perfectly to a variety of environments, from confined spaces to large outdoor areas, making it ideal for complex or hard-to-reach locations. Thanks to fast and accurate readings, the S950 GNSS receiver streamlines workflows, reducing field operation times without compromising precision.


## AR STAKEOUT

The S950 GNSS receiver, equipped with dual cameras (rear and bottom), provides real-time visual feedback from different angles, leveraging laser collimation to enhance stakeout accuracy. This advanced feature simplifies field operations, reducing the time required to complete measurements while significantly improving result quality.
Visual stakeout is supported by the rear camera, which allows users to locate the point to stake out from a distance. As the operator approaches the area of interest, the view switches to the bottom camera for a more precise visualization of the point to measure (this feature is available in the Cube-a software).
The dual-camera system ensures full visibility, enabling high-precision and uninterrupted stakeout.

# S950 TECHNICAL FEATURES

## RECEIVER

| | |
|---|---|
| Satellite signals tracked | GPS: L1 C/A, L2P, L2C, L5 |
| | GLONASS: L1, L2, L3 |
| | BEIDOU: B1I, B2I, B3I, B1C, B2a, B2b |
| | GALILEO: E1, E5a, E5b, E6 |
| | QZSS: L1, L2, L5, L6 |
| | IRNSS: L5 |
| | SBAS |
| PPP | B2b PPP, HAS |
| Channels | 1408 |
| Position Rate | Up to 50 Hz |
| Signal Reacquisition | < 1 s |
| RTK Signal Initialization | < 5 seconds |
| Hot Start | Typically < 15 s |
| Initialization Reliability | > 99.9 % |
| Internal Memory | 64 GB |
| IMU rate | 200 MHz |
| Tilt range | IMU ±60° |
| RTK + IMU | 5 mm + 0.3 mm/° |

## POSITIONING[1]

| | |
|---|---|
| HIGH PRECISION STATIC SURVEYING | |
| Horizontal | 2.5 mm + 0.5 ppm RMS |
| Vertical | 3.5 mm + 0.5 ppm RMS |
| REAL TIME KINEMATIC (< 30 Km) – NETWORK RTK[2] | |
| Fixed RTK Horizontal | 8 mm + 1 ppm RMS |
| Fixed RTK Vertical | 15 mm + 1 ppm RMS |
| PPP Accuracy | < 20 cm RMS |
| SBAS Accuracy[3] | < 60 cm RMS |

## INTEGRATED GNSS ANTENNA

High accuracy multi-constellation antenna, zero phase center, with internal multipath suppressive board

## INTERNAL RADIO

| | |
|---|---|
| Type | Tx – Rx 2 W |
| Frequency Range | 410 - 470 MHz |
| Channel Spacing | 12.5 KHz / 25 KHz |
| Range[4] | 3-4 Km in urban environment<br>Up to 10 Km with optimal conditions |

## INTERNAL MODEM

| | |
|---|---|
| Band | LTE FDD:<br>B1/B2/B3/B4/B5/B7/B8/B12/B13/B18<br>B19/B20/B25/B26/B28<br>LTE TDD: B38/B39/B40/B41<br>UMTS: B1/B2/B4/B5/B6/B8/B19<br>GSM: B2/B3/B5/B8<br>Nano SIM card |

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

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

STONEX AUTHORIZED DEALER

## BELOW CAMERA

| | |
|---|---|
| Resolution | 5 MP |
| Image frame rate | 20 frame/s |
| Field of view | 76° |

## REAR CAMERA

| | |
|---|---|
| Resolution | 2 MP |
| Image frame rate | 20 frame/s |
| Field of view | 52° |

## LASER

| | |
|---|---|
| Color | Green |
| Precision | 2 mm |
| RTK + Laser accuracy | 2.5 cm -5 m / 4 cm -10 m |
| Range | 30 m |

## COMMUNICATION

| | |
|---|---|
| I/O Connectors | Type-C for charging and data transfer |
| Bluetooth | 2.1 + EDR, V5.2 |
| Wi-Fi | 802.11 a/ac/b/g/n |
| Web UI | To upgrade the software, manage the status and settings, and download data. Smartphone, tablet, or other electronic device with Wi-Fi capability can be used. |
| Reference outputs | RTCM 3.x |
| Navigation outputs | NMEA 0183 |

## POWER SUPPLY

| | |
|---|---|
| Battery | Built-in battery, 7000 mAh |
| Power | 12V DC |
| Working Time | Up to 10 hours |
| Charge Time | Typically 4 hours |

## PHYSICAL SPECIFICATION

| | |
|---|---|
| Dimensions | Ø 142 x 59 mm |
| Weight | 810 g |
| Operating Temperature | -40°C to 65°C (-40°F to 149°F) |
| 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 hardwood floor with no damage |
| Humidity | 100% non-condensing |


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