



SF-2110M SF-2110R

gps products

Using StarFire™, the world's first global satellite based augmentation system for use with L1 and dual GPS frequency receivers, NavCom's SF-2110M and SF-2110R modular single GPS/StarFire receivers provide up to 50 cm instantaneous accuracy, anywhere in the world, anytime.

APPLICATIONS

The rugged and reliable SF-2110 series is designed for productivity with minimal setup time. The SF-2110 series is ideal for vehicle mounting to suit a wide variety of machine guidance and control applications as well as for use in backpack GIS and mapping applications. The primary operating mode uses the StarFire service, and offers up to 50cm accuracy for immediate results in the field; great for navigation and location of existing assets. Alternatively, the onboard WAAS/EGNOS channels provide free GPS corrections. Coupled with NavCom's enhanced SBAS navigation algorithm, the corrections typically provides sub-meter real-time accuracy.

Simply connect your controller solution to the serial port and receive NMEA format position information, or use a NavCom Partner controller solution for additional configuration and monitoring capabilities.

BENEFITS

The SF-2110M utilizes a compact dual-band antenna capable of receiving GPS and StarFire signals. This antenna provides excellent phase center stability in a small, robust, lightweight format.

The SF-2110R includes a separate L-Band antenna for enhanced StarFire signal reception in challenging environments such as high geographic latitude.

Coupled with NavCom Technology's StarFire subscription service, the SF-2110 delivers up to 50 cm position fixes without the use of a second receiver serving as a base station.

The SF-2110 series offers an enviable price-to-performance ratio, delivering NavCom's high quality performance at a fraction of the cost.

FLEXIBLE INTERFACE

The SF-2110 receivers are easily configured by the provided Windows®-based utility program. For system integrators needing maximum flexibility, the receivers offer a binary user interface that allows for complete command and control of the GPS and L-Band Module, thus enabling customization of the interface and receiver operation.

FEATURES

- Fully integrated receiver in robust housing
- "All-in-view" tracking on 16 channels (L1 GPS + SBAS)
- Up to 50 cm accuracy using Global StarFire™ corrections*
- Fully automatic acquisition of StarFire broadcast corrections
- State-of-the-art GPS signal acquisition and tracking
- L1 C/A code with carrier phase smoothing
- User programmable measurement and navigation data rates
- Minimal data latency
- NMEA 0183 or NavCom binary output format
- 1PPS Output
- Accessories Included: AC/DC adapter, Antenna, Antenna cable, Data cable, Mounting Brackets, Documentation/Software
- Software included: Command and Control Utility, RINEX Conversion Utility
- Certification: FCC Part 15 Class B, CE
- Indicator LEDs: Power/GPS status, Augmentation status, Interface status

* Performance dependent on Ionospheric corrections (as defined within the RTCA SC 159 DO-229D), location, satellite geometry, atmospheric conditions and GPS signal quality.

UPGRADES

- Raw measurement data rates up to 10Hz
- Positioning rates up to 10Hz



Modular GPS and StarFire™

receiver provides up

to half-meter level

worldwide accuracy

anywhere, anytime

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A John Deere Company

SF-2110 Series

TECHNICAL SPECS

PHYSICAL/ENVIRONMENTAL

- Size (L x W x H):8.11in x 4.94in x 2.56in
(206mm x 126mm x 65mm)
- Weight:3.30lbs (1.50 kg)
- External Power:
Input Voltage:9 VDC to 36 VDC
Consumption:< 5 W
- Connectors:
I/O:2 x 9 pin Circular
DC Power:1 x 9 pin Circular
GPS Antenna/L-Band Antenna:TNC-F
L-Band Antenna:TNC-F (SF-2110R Only)
- Temperature (ambient):
Operating:-30° to +70° C (-22° to +158° 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, shock and vibration

PERFORMANCE ¹

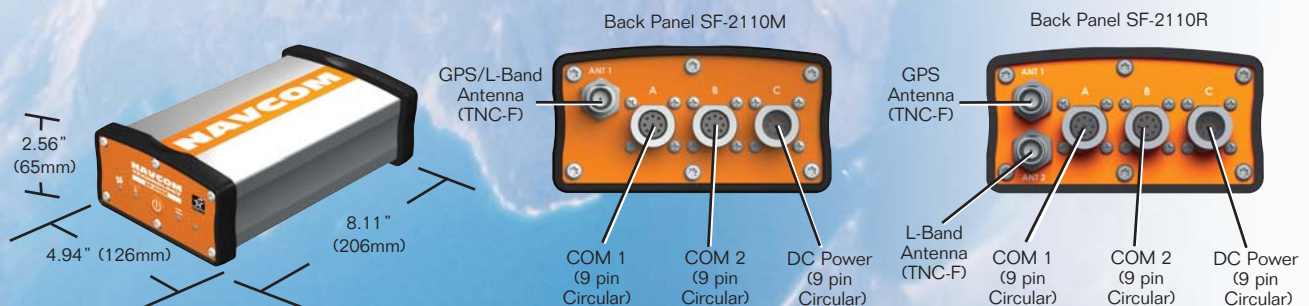
- Velocity:0.03 m/s
- Real-time StarFire Accuracy (RMS):
Position (H):≤0.5 m
Position (V):≤1.0 m
(<1.0m H and <1.5m V without WAAS IONO)
- Enhanced SBAS (WAAS/EGNOS) Positioning Accuracy:
Horizontal:≤1.0 m
Vertical:≤2.0 m
- Code Differential GPS Positioning <200kms (RMS):
Horizontal:<1.0 m
Vertical:<2.0 m
- User programmable output rates:
Position Velocity Time:1Hz (5Hz, 10Hz Optional)
Raw measurement data:1Hz (5Hz, 10Hz Optional)

- Time-to-first-fix:
Cold Start, Satellite Acquisition:<45 seconds (typical)
Satellite Reacquisition:<1 second
- Dynamics: (Speed & Altitude restricted by export laws)
Acceleration:up to 4g
Speed:< 1,000 knots (515 m/s)
Altitude:< 60,000 ft (18.3km)
- 1PPS Accuracy:50ns RMS

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

COMMUNICATIONS

- Ports:
Serial Ports:two full duplex RS-232,
one configurable to RS-422
- Messages:
Data/Control:NCT Binary Messages
NMEA:ALM, GGA, GLL, GSA, GST, GSV,
RMC, VTG, ZDA, GBS, GRS
- Corrections:RTCM Code (Msg. 1, 3 & 9)
SBAS (WAAS/EGNOS)
StarFire™



Technical specifications are subject to change at NavCom's discretion.
NCT-SF-2110/080219-1