



SF-3050

- Sapphire™ GNSS Engine
 - 66 Channel GNSS Receiver
- Multi-Constellation Support
 - GPS & GLONASS
- Software Upgradeable Receiver
- Integrated StarFire™ with 5 centimeter global accuracy
- Ultra RTK™ (GPS + GLONASS)



NAVCOM

A John Deere Company

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NavCom's SF-3050 family of integrated StarFire™ /RTK Extend™ Receivers provide 5cm-level position accuracy, anywhere in the world, anytime.



Powered by the new Sapphire™ Engine, the SF-3050 provides 66 channel tracking, including multi-constellation support for GPS and GLONASS. It also provides patented interference rejection and anti-jamming capabilities.

Offering the "freedom to choose," the SF-3050 is fully upgradeable allowing users to upgrade from an autonomous receiver to a variety of augmentation capabilities with just a software bundle upload. This flexible framework makes the SF-3050 ideal for any application.

FEATURES

- "All-in-view" parallel tracking with 66 channels
- SBAS (WAAS/EGNOS/MSAS/GAGAN) tracking
- Built-in StarFire receiver
- L1, L2, L5, G1, & G2 full wavelength carrier phase tracking
- C/A, P1, P2, L2C, L5, G1 & G2 code tracking
- High sensitivity / low signal level tracking
- Fast acquisition / re-acquisition
- Superior interference suppression (both in-band & out-of-band)
- Patented multipath rejection
- StarFire Over IP delivery (Optional)
- RTK Extend™
- StarFire Over the Air (OTA) Licensing Capable
- Minimal data latency
- Data message formats
 - NMEA-0183: ALM, GBS, GGA, GLL, GRS, GSA, GST, GSV, RMC, RRE, VTG, ZDA, NCT proprietary
 - Differential Correction: RTCM 2.3 and 3.0, SBAS, and StarFire (proprietary)
 - RTK Correction: CMR/CMR+, RTCM, NavCom Proprietary UltraRTK™
 - Receiver Control: NavCom Proprietary commands (ASCII)
- Configurable as RTK base or rover
- Programmable output rates
- Event marker input
- 1 PPS output
- Communication Ports: 2 x RS232 (1 - Changable to RS422), 1 x USB 2.0 (Host or Device), Bluetooth™ and Ethernet (10T/100T)
- 2GB Internal Data Storage

SPECIFICATIONS

PERFORMANCE¹

- | | |
|---------------------|---------------------------|
| • Accuracy (RMS) | Horizontal / Vertical |
| RTK: <40km | 1cm + 0.5ppm / 2cm + 1ppm |
| StarFire | <5cm / <10cm |
| Code DGPS: <200kms | 45cm + 3ppm / 90cm + 3ppm |
| Velocity: | 0.01ms |
| RTK Extend (<15min) | 3cm + 1ppm / 6cm + 2ppm |
- User programmable output rates:

Position Velocity Time:	1Hz, 5Hz, 10Hz, 25Hz, 50Hz, 100Hz
Raw data:	1Hz, 5Hz, 10Hz, 25Hz, 50Hz, 100Hz
 - Data Latency:

Position Velocity Time:	< 10ms at all rates
Raw measurement data:	< 10ms at all rates
 - Time-to-first-fix:

Cold / Warm / Hot	< 60s / < 50s / < 20s
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 (typical values measured per ION-STD 101)
 - Dynamics (Speed & altitude are restricted by export laws):

Acceleration:	up to 6g
Speed:	< 515 m/s (1000knots)
Altitude:	< 18.3 km ^{2,3} (60,000ft ^{2,3})

PHYSICAL/ENVIRONMENTAL

- Size (L x W x H): 164mm x 117mm x 60mm (6.47in x 4.60in x 2.37in)
- Weight: 0.5kg (1.1lbs)
- Power:
 - Input: AC/DC Adapter 110/220VAC, 12VDC Nominal 0.5A (9.0V to 32VDC)
- Temperature (ambient):
 - Operating: -40° to +70° C (-40° 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, humidity, salt fog, shock and vibration
- Rated IP67 (dust tight/waterproof) in accordance with IEC 60529
- Tested in accordance with FCC/CE regulations for electromagnetic interference
- Connectors:

Port	Antenna	COM1/LAN	COM2/USB	Power
Connector Type	TNC (female)	9 pin female circular	9 pin female circular	9 pin male circular
I/O Function	Antenna Input	Ethernet COM1 (RS232)	USB 2.0 COM2 (RS232/RS422)	PWR Input

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

² Restricted by USA export laws.

³ Supported in software. The receiver hardware must be placed in a pressurized environment for altitudes > 12.2km (40,000 ft.)

Technical specifications subject to change at NavCom's discretion

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Rear Panel of the SF-3050