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)

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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

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SPECIFICATIONS

PERFORMANCE[1]

- 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
  - (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: -40º to +70º C (-40º to +158º F)
  - Storage: -40º to +85º C (-40º to +185º 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

Rear Panel of the SF-3050