



## C-Nav3050

- 66-channel combined GPS / GNSS / L-Band receiver.
- Full constellation tracking, GPS, GLONASS, C-NavC<sup>1</sup>, C-NavC<sup>2</sup>, other SBAS (WAAS / EGNOS) signals, and accepts external RTCM input.
- C-Nav Corrections Service Over-The-Internet (CCS OTI) - reliable high latitude solution. A choice of data rates make corrections via the internet affordable, and using iridium delivery, reception at any latitude is possible.
- MBRTK - range and bearing solutions.
- Small and lightweight for fast and hassle-free setup.
- Easily configured utilizing C-Nav proprietary PC-based controller software application.
- Easily monitored with intuitive front-panel LEDs or a C-NaviGator III control/display unit.



## Features

- "All-in-view" parallel tracking with 66-channels.
- SBAS (WAAS / EGNOS / MSAS / GAGAN) tracking.
- Built-in C-NavC<sup>1</sup> and C-NavC<sup>2</sup> L-Band receiver.
- C-NavC<sup>2</sup> operating mode with automatic fail-safe to C-NavC<sup>1</sup>.
- L1, L2, L5, G1 & G2 full wavelength carrier phase tracking. Low look angle L-Band antenna. Easily installed in series with the existing GNSS antenna, extends satellite delivered coverage area.
- C-Nav corrections over the Internet.
- C/A, P1, P2, L2C, L5, G1, and G2 code tracking.
- High sensitivity / low signal level tracking.
- Fast signal acquisition / re-acquisition.
- Superior interference suppression (both in and out of band) using custom tuned antennas.
- Patented multipath rejection.
- RTK Extend.
- C-Nav over-the-air activation capabilities.
- Configurable as RTK base or rover.
- High accuracy range and bearing data.
- Programmable output rates.
- Event marker input / 1 PPS output.
- 2GB internal data storage.
- C-Setup PC control software included.

## Physical / Environmental

- Size (L x W x H): 6.47" x 4.60" x 2.37" (164 x 117 x 60 mm)
- Weight: 1.1lbs (0.5 kg)
- Front Status Indication: Power / GPS Status, Correction Service Status, Interface Status, and Bluetooth Status
- External Power:
  - Input: AC / DC Adapter 110 / 220VAC  
12VDC Nominal 0.5A  
(9.0V to 32VDC)
- Connectors:
  - I/O Ports: 2 x 9 pin Positronic
  - DC Ports: 1 x 9 pin Positronic
  - RF Connector: TNC (with 5VDC Bias for Antenna / LNA)
- Temperature (Ambient):
  - Operating: -40°C to +70°C (-40°F to 158°F)
  - Storage: -40°C to +85°C (-40°F 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, and vibration.

## Compliance / Approvals

- Compliant to the following standards:
  - IMO performance standard for GPS: IEC 60529.
  - IMO performance standard for GNSS: IEC 61108-1:2003.
  - NMEA-0183 compatibility up to V4.1.
  - FCC Part 15 Class B, CE .
  - QC message strings comply with the recommendations OGP 373-19 and IMCA S015 (July 2011).

## Performance

### GNSS Receiver Performance

- Accuracy (RMS):
  - RTK (<40km): Horizontal / Vertical  
1cm + 0.5ppm / 2cm + 1ppm
  - C-Nav Services (95%): 8cm / 15cm
  - Code DGNSS (<200km): 45cm + 3ppm / 90cm + 3ppm
  - Velocity: 0.01ms
  - RTK Extend (<15mins): 3cm + 1ppm / 6cm + 2ppm
- User Programmable Output Rates:
  - Position / Velocity / Time: 1, 5, 10, 25, 50, & 100Hz
  - Raw Data: 1, 5, 10, 25, 50, & 100Hz
- Data Latency:
  - Position / Velocity / Time: 10ms at all rates
  - Raw Data: 10ms at all rates
- Time-to-First-Fix:
  - Cold / Warm / Hot: <60s / <50s / <20s  
(Typical values measured per ION-STD 101)
- Dynamics:
  - Acceleration\*: Up to 6g
  - Speed\*: <515m/s (1000 knots)
  - Altitude\*: <60,000ft (18.3km)

*\*Restrictions due to export control laws.*

### I/O Connector Assignments

- Data Interfaces: 2 x RS232 (1-changeable to RS422, 4800-115200 baud rates)  
1 x USB 2.0 (host or device)  
Bluetooth  
Ethernet (10T / 100T)

### Input / Output Data Messages

- NMEA-0183: ALM, GBS, GGA, GLL, GRS, GSA, GST, GSV, RMC, RRE, VTG, ZDA, NCT
- Differential Correction: RTCM 2.3 and 3.0, SBAS and C-Nav (proprietary)
- RTK Correction: CMR / CMR+, RTCM, NavCom Ultra RTK
- Receiver Control: NavCom proprietary commands (ASCII)

### MBRTK - Range and Bearing Option

- High accuracy range and bearing data between vessels.
- Multiple remotes can use a common master C-Nav3050.
- RTK levels of accuracy for range, irrespective of differential correctors.
- Converter available to emulate a "Fanbeam" output.
- Heading accuracy (degrees, at 1 sigma) = 0.6/baseline length in meters.
- Baseline horizontal accuracy = 1cm + 1ppm.

### C-Monitor

- Control and quality assurance software, Windows based software.

### C-NaviGator III® Control Display Unit Option

- Dimensions (W x H x D): 13.97" x 9.78" x 2.24" (35.5 x 24.8 x 5.7 cm)