

# C-NAV DGPS

The C-Nav2000 sensor consists of a 10-channel dual-frequency precision GPS receiver, two additional channels for receiving Satellite Based Augmentation System (SBAS) signals and an L-band demodulator for reception of C-Nav correction service. The sensor can output raw data as fast as 50Hz and Position Velocity Time (PVT) data as fast as 25Hz through two 115kbps serial ports.



## THE C-NAV 2000 RECEIVER:

- The **C-Nav2000** GPS receiver unit provides performance of several decimeters at either 1 or 5 updates per second. The receiver is ideally suited for positioning of dynamic and static vessels or vehicles on a global basis.
- The **C-Nav2000** receivers feature 10 channels of continuous GPS satellite tracking contained within a compact, rugged, weatherproof housing. For ease of operation and system integration, the C-Nav GPS unit has a single, rugged, waterproof 8-pin connector that provides RS-232 serial ports, a CAN BUS and DC power. During operation, the C-Nav GPS System can output a subset of NMEA-0183 messages, including QA/QC data. It is also capable of outputting RAW GPS measurement binary data for archiving and post-mission kinematic post-processing analysis.
- The **C-Nav2000** receiver is a single integrated package combining: antenna, geodetic quality dual-frequency GPS receiver, communications link, data demodulator, and control processor, which is rugged, reliable, and able to withstand the offshore environment.

## FEATURES

- "All-in-view" tracking
- Global decimeter-level accuracy using RTG corrections
- Fully automatic acquisition of satellite broadcast corrections
- Configurable for global L-band satellite coverage – StarFire, WAAS, EGNOS
- Single, integrated package - simple installation
- Rugged, waterproof, and dust-resistant housing and connector
- Wide-range (10-40 VDC) power supply
- L1 & L2 full wavelength carrier tracking
- C/A, P1, and P2 code tracking
- User programmable output rates
- Minimal data latency
- 2 separate SBAS (WAAS/EGNOS) channels
- Superior interference suppression
- Patented multipath rejection
- Supports NMEA 0183 v3.01 messages
- Self-survey mode (position averaging)
- CAN bus interface

## PHYSICAL/ENVIRONMENTAL

- Size: D x H: 9.8 x 7.25 in (24.8 x 18.7 cm)
- Weight: 5.5 lbs (2.4 kg)
- Power
  - Input Voltage: 10-40 VDC
  - Consumption: <10 W (normal operating conditions)  
1.2 A max @ 12 VDC
- I/O Connector: Rugged, weather-resistant, and waterproof  
8-Pin connector design
- Temperature
  - Operating: -20° C to +70° C
  - Storage: -40° C to +85° C
- Humidity: 100% non-condensing

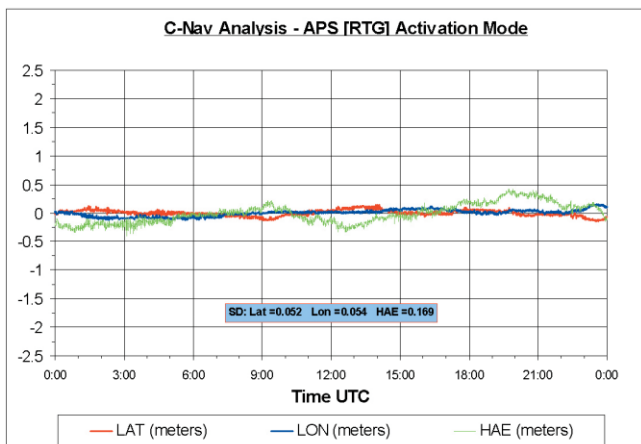
## PERFORMANCE

- L-band receiver frequency
  - Automatically selected: 1525 to 1560MHz
- Real-time StarFire
  - DGPS Accuracy
    - Position (H): 10 cm
    - Position (V): <30 cm
    - Velocity: 0.02 m/s
- Time-to-first-fix
  - Cold Start: 90 sec (typical)
- Reacquisition
  - "Coast" for 30 seconds with GPS lock: < 2 sec
  - L-band loss for more than 30 seconds with GPS lock: < 30 sec

## I/O CONNECTOR ASSIGNMENTS

### INPUT/OUTPUT DATA MESSAGES

- NCT Proprietary Data: PVT
  - Raw Measurement
  - Satellite Messages
  - Nav Quality
- NMEA Messages
  - (Output): GGA, GLL, GSA, GST, RMC, VTG, ZDA, NAVQ, RXQ, SATS
- Code Corrections:
  - RTG (proprietary) – Internal LBM
  - WCT (proprietary) – Internal LBM
  - SBAS (WAAS/EGNOS) – Internal GPS
- Diagnostic Data/Command Serial
  - port data rate is selectable: 4.8, 9.6, 19.2, 38.4 kbaud
- RAW GPS 'Binary' data port is fixed at 38.4 kbaud



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# C-NAV DGPS

The C-Nav CnC DU system complements the C-Nav 2000 RM GPS receiver. It provides a seamless interface to control authorization, enter configuration parameters, and monitor system performance. The C-Nav CnC DU also provides additional serial interface options for greater system flexibility.



### THE C-NAV 2000 RM CnC DU IS AVAILABLE IN TWO MODELS WITH ONE SIMPLE INTERFACE.

- The function of the **CnC DU** is to provide the user with easy menu interface screens for configuring the receiver and to display vital real-time system performance information.
- The **CnC DU** is also used to enter authorization codes that will allow the C-Nav [2000 RM] GPS receiver to track and use the Globally corrected GPS (GcGPS) signals (RTG/WCT) as transmitted by the 'C-Nav' network via the Inmarsat, geo-stationary communication satellites.
- The **CnC DU** is available in two configurations. Users can choose a desktop mount display (shown above) or a 19" rack mount case depending on installation preference.

## DESK TOP DISPLAY

### FEATURES

- High Visibility Backlit LCD Display w/ 4 x 20 character display
- Three (3) RS232 Serial Interface Data Ports
- 12 key membrane button input pad
- Rugged, stainless steel housing
- Wide- range (12- 40VDC) power supply
- RTCM, NMEA and Raw data outputs

### PHYSICAL/ENVIRONMENTAL

- Size: 9.6L x 6.7W x 3.3H in. (24.4L X 17.0W x 3.3 H cm)
- Weight: 3.8 lbs. (1.75 kg)
- Power:
  - Input voltages: 12- 40 VDC
  - Consumption: <1 W average power
- I/O Connector
  - 3 DB9 RS232 Serial
  - 1 Cat 5 Network
  - 1 8- Pin Waterproof
- Temperature
  - Operating: -20C° to +70C°
  - Storage: -40C° to +85C°
- Humidity: 100% non-condensing

## 19-INCH RACK DISPLAY

### FEATURES

- High Visibility Backlit LCD Display w/ 4 x 20 character display
- Three (3) RS232 Serial Interface Data Ports
- 12 key membrane button input pad
- Rugged, Anodized aluminum housing
- AC Power supply with DC backup connection
- RTCM, NMEA and Raw data outputs (with LEDs)

### PHYSICAL/ENVIRONMENTAL

- Size: 8.5L x 19W x 3.375H in. (21.59L x 48. 26W x 8.75H cm)
- Weight: 7.5 lbs. (3.4 kg)
- Power:
  - Input voltages: 100- 240 VAC with 12- 40 VDC backup
  - Consumption: <1 W average power
- I/O Connector
  - 3 DB9 RS232 Serial
  - 1 Cat 5 Network
  - 1 8- Pin Waterproof
- Temperature
  - Operating: -20C° to +70C°
  - Storage: -40C° to +85C°
- Humidity: 100% non-condensing

