

Submeter Guidance with NT300D

All your navigation needs in a single package

Key features and benefits

- Easy installation
- Cost effective
- 5Hz output rate
- Low latency
- Flexible
- Dual Head capability

The NT300D™ DGPS receiver targets professional mariners in need of sub-meter navigation and positioning during applications such as dredging, echo sounding, tug and workboat duties, precise navigation, research and much more.

The rugged and waterproof unit includes a high resolution LCD display, a 12-channel GPS receiver and a built-in dual-channel radiobeacon receiver.

Combined surveyor & navigator

The NT300D receiver is fully featured as a stand alone DGPS navigator. The display presents accurate navigation guidance both graphically and numerically.

Custom navigation screens can also be created for maximum flexibility.

The receiver includes a large waypoint database where up to 500 positions can be stored. An optional Trimble PC Card reader/writer, SCR, can be installed with the receiver for extended data logging and uploads of routes and waypoints.

Dual Head Station

A fully functional Dual Head Station can also be added to the NT300D. More than just a remote display, it operates independently and shares GPS, waypoint, route and navigation data.



Simple to operate

The NT300D DGPS receiver is very easy to use. It has single key operations for quick access to important navigation functions and it provides the ability to plan missions ahead of time. These features make the receiver a real time saver.

Easy integration

The NT300D receiver can also be part of an integrated system. It provides a simple interface to a large variety of equipment onboard, such as radars, autopilots, computers and gyros. Any one of its two serial ports can transmit sub-meter positions up to 5 times per second, with a maximum latency of 0.2 seconds.

Other information such as configuration control messages, beacon receiver status and GPS status can also be transmitted.

High performance

The NT300D receiver utilizes Trimble's latest technology to achieve sub-meter position accuracy. The built in dual-channel radiobeacon receiver allows for intelligent and seamless switching between radio beacons resulting in maximum performance and availability.

The unit also accepts externally received corrections and allows the user to prioritize between those corrections and the corrections received by the internal beacon receiver.

Trimble

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FEATURES

- 12 channel DGPS receiver with an integrated beacon receiver
- Dual-channel beacon receiver with intelligent selection of reference station
 - Two automatic modes
 - One manual mode
- External RTCM SC-104 input
- Combined L1 GPS and beacon H-field loop antenna
- Sub-meter accuracy
- Positioning based on carrier-phase filtered L1 pseudoranges
- Full Dual Head capability
- Velocity derived from differentially corrected Doppler
- Two programmable RS-422 serial ports, 1200 - 38400 baud
 - NMEA-0183 input/output
 - RTCM SC-104 input/pass through
 - TSIP interface protocol input/output
- Speed output, 200 PPNM contact closure (150 mA max)²
- External alarm, contact closure (150 mA max)²
- High resolution LCD display
- Graphical and numerical presentation of navigation data
- Position resolution: 4 decimal places (lat/lon)
- 3 user configurable screens
- 500 waypoints
- 50 reversible routes
- 183 datums
- User defined 3 or 7 parameter datum
- Output local datums directly on the serial port
- Supports English, French, German, Spanish, Icelandic
- Beacon receiver control and monitoring
- Operation manual
- 35m (105 ft) antenna cable
- One year warranty

OPTIONS AND ACCESSORIES

- 50m (160 ft) antenna cable
- Smart Card Reader, SCR, for data logging and waypoint storage only.
- Extended warranty (1 year)
- Firmware update service (1 year)
- TSIP development kit

¹ To achieve differential speed and position, the unit must be operating within the broadcast area of a reference station conforming to the International Association of Lighthouse Authorities Standards. All non-differential GPS receivers are subject to degradation of position and velocity accuracy under U.S. Department of Defense-imposed Selective Availability (S/A). Positions may be degraded up to 100 meters 2D RMS.

² The receiver may be configured to either a speed log output or an external alarm.

³ Assumes beacon almanac stored in battery backed RAM.

Trimble follows a policy of continuous product improvement. Specifications are thus subject to change without notice.

PHYSICAL CHARACTERISTICS

NT300D

Size	26cm W x 18cm H x 5cm D (10" x 7" x 2") Waterproof to IEC 529 IPX5 Meets IEC945
Display	15cm (6") diagonal, high resolution, 320 x 240 pixels, backlit LCD
Operating Temperature	0°C to +55°C (+32°F to +131°F)
Storage Temperature	-20°C to +60°C (-4°F to +140°F)
Power	12 and 24 Volt systems, 12 Watts max.

Smart Card Reader

Size	10cm W x 18cm H x 5cm D (4" x 7" x 2")
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GPS/Beacon antenna

Size	15cm H x 15cm D (6" x 6"), 35m (105') cable
Operating Temperature	-40°C to +65°C (-40°F to +149°F)
Storage Temperature	-40°C to +100°C (-40°F to +212°F)

TECHNICAL SPECIFICATIONS

GPS receiver

General	12 channel, parallel tracking, L1 C/A code with carrier phase filtered measurements.
Velocity	Derived from differentially corrected Doppler
Update rate	5 Hz position updates, latency <200 ms
Differential speed accuracy	0.2 km/h (0.1 MPH, 0.1 knot, 5.6 cm/s) ¹
Differential position accuracy	Less than 1 meter RMS ¹ At least 5 satellites, PDOP <4 and RTCM SC-104 standard format broadcast from a Trimble 4000RS or equivalent reference station.
Time to first fix	<30 seconds, typical
NMEA messages out	ALM, APA, APB, BOD, BWC, BWR, CFG, DTM, GGA, GLL, GRS, GSA, GST, GSV, HSC, MSS, RMC, VDR, VTG, WCV, WPL, XTE, ZDA, ZLZ
NMEA messages in	MSK, HDG, VHW

Built in Dual Channel Beacon Receiver

Frequency range	283.5 kHz to 325 kHz
Channel spacing	500 Hz
MSK modulation	50, 100 and 200 bits/second
Signal strength	10 µV/meter minimum @ 100bps
Dynamic range	100 dB
Acquisition time	2-5 seconds, typical ³



Trimble Navigation Limited
Corporate Headquarters
645 North Mary Avenue
Sunnyvale, CA 94086
+1-408-481-8940
+1-408-481-7744 Fax
www.trimble.com
e-mail: nt300d@trimble.com

Trimble Navigation Europe Limited
Trimble House,
Meridian Office Park
Osborne Way
Hook, Hampshire RG27 9HX U.K.
+44 1256-760-150
+44 1256-760-148 Fax

Trimble Navigation
Singapore PTE Limited
79 Anson Road #05-02
Singapore 079906
SINGAPORE
+65-325-5668
+65-225-9989 Fax

