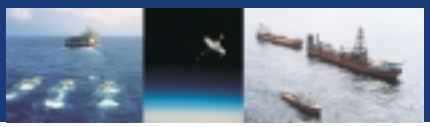
Kongsberg Maritime

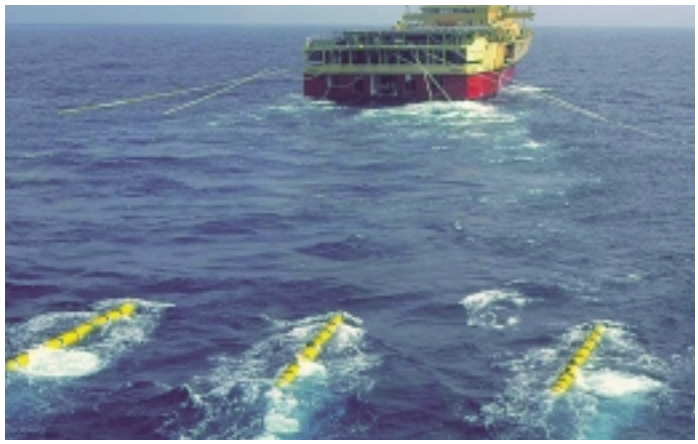


KONGSBERG

Seatex Seatrack 220

High Performance GPS Transponder System for Marine Tracking Operations

The Seatrack 220 represents the next generation in relative GPS (RGPS) tracking systems. Utilizing the latest in state-of-the-art GPS technology, the Seatrack 220 transponders is tailored to applications demanding extremes in reliability and accuracy.



At the Edge of the Technology

Seatex has been developing and manufacturing GPS based marine tracking systems for nearly a decade. The Seatrack 220 combines this continually growing base of experience and innovation with the latest GPS technical advances to offer an ideal tracking solution for today's increasingly sophisticated marine data acquisition systems.

Tracking with Seatrack 220

Seatrack 220 is designed to accurately track the position of distributed objects relative to a vessel in real time. Each transponder captures GPS carrier and phase code and transmits it to the host vessel via UHF radio signals or a cable. One or more Seatrack 200 vessel control units are used on board to communicate with the transponder's while the Seadiff RNAV software accurately processes the data and calculates relative positions. Data transmitted allows either pseudorange or RTK processing onboard the vessel, providing meter to centimeter level position accuracy.

Robustness and intelligent functionality

The Seatrack 220 is self contained with all electronics and antennas integrated in the same physical unit. Only one cable (power) is connected to the unit; operation starts automatically upon power up. Both the polyethylene housing and the electronics are designed to withstand the challenging environments of marine seismic operations. A low power UHF radio and a TDMA (Time Division Multiple Access) protocol provide efficient communication between the vessel and the transponder. Up to 24 units can share the same frequency. Key configuration parameters can be transmitted to each individual transponder using the Seatrack 200 vessel control unit or a handheld controller.

Performance

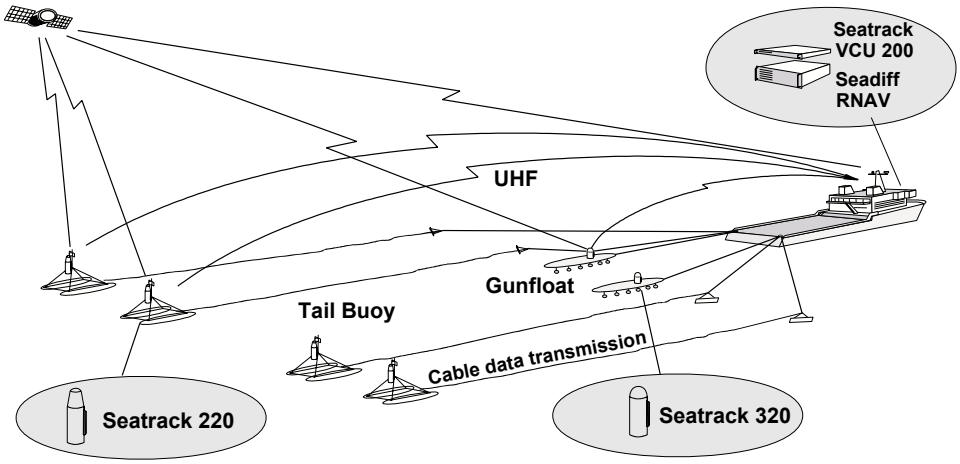
The built in 12-channel GPS receiver has a sophisticated anti-multipath feature for maximum accuracy and minimum signal degradation. The UHF radio in the Seatrack 220 transponder has a typical range of 15-20 km. Erroneous data is detected and removed by utilizing a reliable data protocol, protecting the RGPS processing against invalid results.

Compatibility

The TDMA technique makes it possible to allocate time slots for other systems operating at the same frequency, such as the Seatrack 320.

Features

- Rugged GPS transponder with integrated GPS and UHF antenna
- High accuracy relative GPS solution using code and carrier phase data
- Transmission of GPS data to vessel via UHF radio or cable
- TDMA (Time Division Multiple Access) functionality for multiple units using a single UHF frequency
- Remotely configurable
- Continuous voltage monitoring
- Power efficient
- Up to 3 serial I/O ports for interface to other equipment
- Up to 2 relay outputs for control of external equipment
- One year hardware warranty



Technical specifications

General
- Polyethylene cylinder with mounting bracket adapter
- Up to 1Hz update rate

GPS
- 12 channels L1 C/A code and carrier phase, multipath mitigation

UHF
- 450-470MHz synthesized, two-way radio
- Channel separation 25KHz
- 0.5W transmitted power
- 9600 bps data transmission
- Typical range 15-20 km (line-of-sight)

I/O
- Remotely configurable baud rates for serial I/O ports, TDMA slot number, UHF radio mode and GPS update rate
- Remote reset command and polling of status message
- RTCM corrections can be received and utilized by the transponder
- Transmission of raw-data, position and status parameters from transponder
- 3 serial I/O lines with baud rates up to 19200 baud
- Interface to handheld terminal for local status and control
- Different connector options available (contact Seatex for further information)

Physical characteristics

Size	150 mm (d) x 800 mm (h)
Weight	4.5 kg
Power	Nominal 9-32V DC, 6.5W
Operating temp	-10° to +55°C
Storage temp	-30° to +70°C
Humidity	IP 68, 10 m

Ordering information

Seatrack 220	Part number G710-03/G710-04
Seatrack 320	Part number G720-03
Seatrack handheld terminal	Part number G700-04/G700-45
Seatrack 200 VCU	Part number G700-02
Seadiff RNAV	Part number G701-01

Specification subject to change without further notice

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DATASHEET SEATEX SEATRACK 220, APRIL 2001. Grafisk Design AS, Trondheim