

Trackpoint IIMP

GeoAcoustics Acoustic Tracking System



KONGSBERG

Powerful Ultra Short Baseline Acoustic Tracking System

Description

The Trackpoint IIMP is a powerful microprocessor-based ultra short-baseline acoustic tracking system, which is mainly used for tracking mine counter measures vehicles. The system can track up to six independent targets, and even in its most basic configuration, the Trackpoint IIMP incorporates all the features and capabilities required to easily handle a wide range of subsea navigation and relocation tasks.

The compact hydrophone has a separate vertical reference unit that corrects the tracking display for vessel pitch and roll, or alternatively data can be input from the user's existing Motion Reference System. Calibration is simple and rapid. All hydrophone offsets and corrections can be entered via the RS232, or the Remote Access Unit. Environmental conditions can be entered by the RS232 and Remote Access Unit to ensure high tracking accuracy. The displayed target information is available via a standard RS232 port for easy integration with a wide range of surface navigation systems and external display peripherals. This information is also available on the Remote Access Unit.

The Trackpoint IIMP Acoustic Tracking system is currently in use by the Navies of the United Kingdom, Saudi Arabia, Italy, Japan, South Korea and Turkey..



Features

- Military style housing and construction with minimal ferrous parts
- Easy to operate controls
- Acoustic depth telemetry capability
- Six target tracking
- Simple installation by pre-programmed initial commands
- Tracking information supplied on RS232 output.
- 70 mm integral hydrophone and interrogation transducer assembly
- Responder with automatic pinger mode when umbilical cut
- Compatible with other Responders/Transponders
- Vessel pitch and roll correction by a Vertical Reference Unit or via user supplied Motion Reference System

Input Power

230/115 VAC 47-63 Hz < 200 W

Mechanical

Control Console

Weight: 15 kg

Size: 483 W x 604 D x 267 H mm

19" Rack mountable.

Hydrophone with Interrogation Transducer

Weight: 3.6 kg

Size: 70 D x 578 W mm

Vertical Reference Unit (VRU)

Weight: 4 kg

Size: 200 W x 150 D x 300 H mm

Environmental

Temperature

Processor, VRU and Junction
Box Hydrophone and Transponder/
Responder
Operating: 0 to 50 °C
Storage: -40 to +70 °C
Humidity: 0 to 95% non-condensing
Shock: 30 G
Vibration: 1.5 G 10-60 Hz

Control Interface

Data output and command input
via RS232 port, or optional display
and keyboard.

Software Control Features

- Filtering and smoothing control
- Frequency assignment
- Operating parameter review

Maximum Range

Limited by acoustic, source level
and noise.

Transmitter Interrogate

Frequency: 4.5 - 30 kHz in 500 Hz
increments

Pulse length: 1 to 15 ms in 0.1 ms
increments

Output power: 100 W or 500 W into
300 Ω user selectable

Repetition rate: 1 - 20 s

Source pressure (Hydrophone level:
interrogator: 17-20 kHz at 500 W
nominal 193 dB re 1 μ Pa at 1 m
(horizontal plane).

Receiver

Frequency: 22-30 kHz in 0.5 kHz
steps.

Minimum pulse length: 1.33 ms

Depth telemetry: 2 acoustic pulses
separated by interval proportional
to depth (second pulse 1 kHz less
than first).

Vertical Reference Unit

Pitch and roll sensors are identical.

Range: $\pm 40^\circ$.

Accuracy: 0-10° 0.1%, 10-45° \pm
1% of angle.

Relative Accuracies

Horizontal position accuracy: 0.5%
RMS of slant range (+40dB signal
to noise ratio-not including effects
of heading, pitch & roll)

Slant range 0.5 meter (with known
accuracy: sound velocity)

Target position repeatability: Better
than 0.25% RMS of slant range.

Calibrated accuracy: Better than 0.3%
RMS of slant range.

System Resolution

Range resolution: 0.3 m

Bearing: 0.1° (Better than 0.2% of
slant range)

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