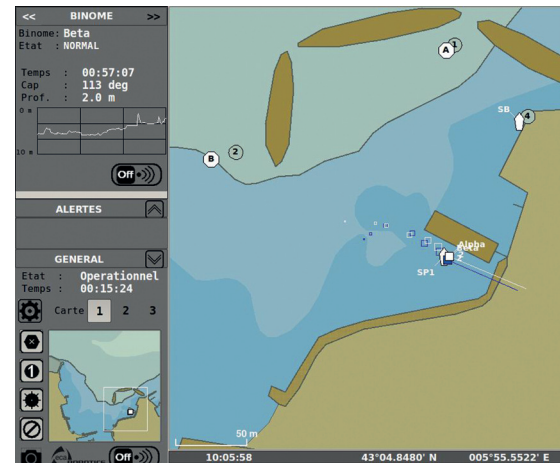
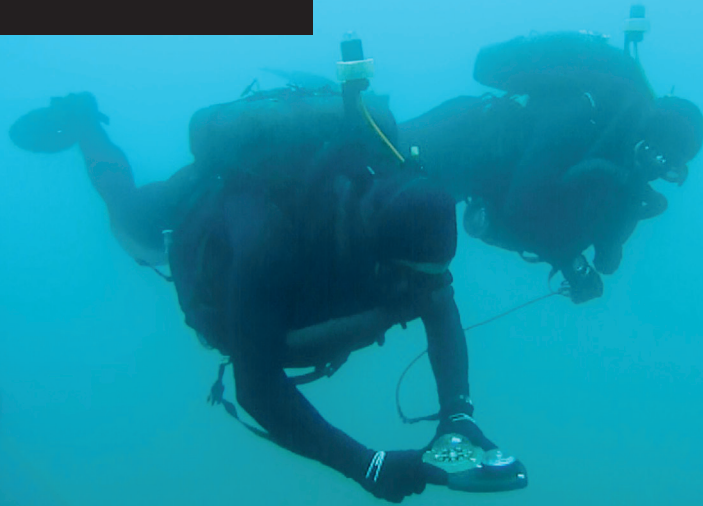


OSEAN

UNDERWATER TECHNOLOGY



UNDERWATER & SURFACE POSITIONING SYSTEM

System designed to track Divers, AUVs and to monitor underwater works.

Lightweight and easy to deploy, system composed of buoy-mounted transceivers, emitter/receiver beacons, command display units and monitoring portable units.

SYSLOC system combines subsea acoustics and surface GPS positioning technologies. Bi-directional communication between target beacons and command units.

FEATURES

- Suited to shallow (from 1-meter depths) and obstructed water zones
- Optimized for horizontal positioning
- Tracks simultaneously up to 12 targets
- FPGA real-time signal processing
- DSP positioning process
- Compact beacon device
- Autonomous system with long operating life
- Large zone covered by the radio network of interconnected buoys/transceivers
- Portable command display unit
- Easily deployable from small vessels
- Position accuracy increased by combination of USBL and LBL calculations

OSEAN SAS - ZAE La Bayette - 83220 Le Pradet - France
Tel: +33 (0)4 94 03 65 84 - Fax: +33 (0)4 94 66 62 32 - www.osean.fr - info@osean.fr

Simplified joint stock company with registered capital of 77000€
451 128 755 R.C.S. TOULON - SIRET 451 128 755 00035 - APE 2612Z - TVA CEE FR 82 451 128 755

TECHNICAL SPECIFICATIONS

SURFACE POSITIONING

RADIO

ALL DEVICES

Surface position accuracy: 2,5m RMS
(GPS WAAS / EGNOS compatible)

ACOUSTIC

BEACONS -> BUOYS

Max range USBL: 500 m
Max range LBL: 850 m
Slant range accuracy: 10 cm RMS
Position accuracy (horizontal plane): 0.6 % RMS of slant range
Position accuracy (depths): 35 cm RMS
Frequency: 20 – 36 kHz
Vertical Coverage: 225°
Horizontal Coverage: 360°

CARTOGRAPHY & TRAJECTOGRAPHY

Based on S57 format and using KALMAN filter
Trajectography software developed by ECA Robotics

COMMUNICATIONS

RADIO

BUOYS <-> BEACONS

Technology: Point to point
Range: ≥ 250m
Frequency: 868 MHz

BUOYS <-> BUOYS

Technology: Mesh Network
Range: ≥ 500m
Frequency: 2,4 GHz

BUOYS <-> COMMAND UNIT

Technology: Mesh Network
Range: ≥ 2000m
Frequency: 2,4 GHz

COMMAND UNIT <-> MONITORING PORTABLE UNIT

Technology: Mesh Network
Range: ≥ 1000m
Frequency: 2,4 GHz

ACOUSTIC

UP LINK (RESCUE SIGNAL) BEACONS -> BUOYS

Number of code: 12
Range: ≥ 1000m
Frequency: 23 - 30 kHz
Type: Manual / Max depth or dive duration
Constant false alarm rate (CFAR): 0% up to 6dB SNR

DOWN LINK (ACOUSTIC RECALL) BUOYS -> BEACONS

Number of code: 12+1 for common recalls
Range: ≥ 1000m
Frequency: 11 - 16 kHz
Constant false alarm rate (CFAR): 0% up to 6dB SNR