POSEIDON

Brochure

PHAROS

GMDSS SIMULATOR

2025 Edition

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POSEIDON

Table of Contents

Introduction

Poseidon Simulation is a leading provider of maritime training solutions with over three decades of experience in the industry. Founded in 1988 in Norway, Poseidon has been at the forefront of innovation in the field of maritime simulation.

Our Company

In 1990, Poseidon installed the world's first PC-based and networked Radar navigation simulator, and since then, has continuously developed and launched a number of cutting-edge simulators.

With a strong presence all over the World, Poseidon is dedicated to providing its customers with user-friendly and cost-efficient training solutions.. Our products are designed to meet the latest industry standards and regulations, and are specifically adapted with maritime education in mind.

Poseidon is committed to advancing the maritime training industry through continued research and development. Our products are regularly updated to ensure that they remain at the forefront of technology, providing students with the most realistic and effective training experience possible.

Today, with over 35 years of experience, our team is still dedicated to helping our customers achieve their goals in the maritime industry.

Pharos GMDSS Simulator

Ensuring a safer future at sea

Pharos Overview

The Poseidon GMDSS Simulator has been the market leading networked simulator for GMDSS training since its introduction in 1992, and has been continuously improved and adapted to the needs of the GMDSS market.

Introduction

Cooperating with Telenor (Norwegian Telecom authority), MCA/AMERC (UK) and several customers, we have designed a total training solution for GMDSS which is effective in giving trainees required knowledge to achieve their certificate, and get the necessary skills to handle procedures and equipment correctly in distress situations.

The STCW compliant Poseidon Pharos GMDSS simulator is a highly suitable tool for GMDSS training according to IMO model courses: 1.25 (GOC) and 1.26 (ROC).
In June 2020 we received the Statement of Compliance letter from DNV GL for the simulator to be in accordance with Class A- Standard for Certification of Maritime Simulators No. DNVGL-ST-0033 2020, Issued statement No: 001/200625 for DNVGL certificate.

The advanced instructor module with Coastal Radio Station simulation and the option to assign several stations and Rescue Coordination Stations to one exercise makes the Poseidon Pharos GMDSS simulator also an excellent tool for training CRS Operators and MRCC personnel.
Poseidon has introduced a module for Automatic Assessment that can be used for practical tests and examination for the ROC or GOC level.

In 2021 Poseidon implemented the Lars Thrane LT-3100S Iridium GMDSS to Pharos GMDSS Simulator.

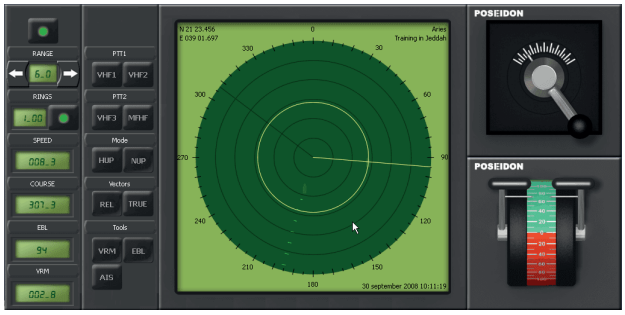
Features

In-simulator Capabilities

The simulator accurately reflects the physical limitations of real-world instruments, including constraints like VHF line-of-sight communication, wattage limitations on VHF/MF/HF, MF ground wave propagation, and HF skip zones. All instruments can be active simultaneously, allowing students to, for example, receive a VHF distress call in one ear while communicating or writing on another instrument.

Search and Rescue (SAR) training is supported through features such as radar screens, virtual maneuvering panels, and relevant communication tools like portable VHF and VHF AIR. These tools allow students to respond to distress situations and locate SART signals. When integrated with our navigation simulator Borealis, activated SARTs also appear on the radar within the navigation system, enhancing realism.

To support independent learning and ease of use, both instructor and student stations provide access to manuals and documentation for each instrument and simulator feature, making it simple to reference during exercises.



ROC and GOC

Our GMDSS simulator is designed with full flexibility to meet the requirements of both ROC (Restricted Operator's Certificate) and GOC (General Operator's Certificate) training

The system complies with the relevant IMO Model Courses

- Model Course 1.26 for ROC
- Model Course 1.25 for GOC

GMDSS requirements vary depending on the ship's area of operation. Whether you're training operators for coastal voyages or long-range polar expeditions, our simulator covers the full range of Sea Areas A1 to A4. The table below highlights the key differences in coverage, equipment, and certification needed for each zone.

	Sea Area 1	Sea Area 2	Sea Area 3	Sea Area 4
SOLAS Definitions	VHF coverage from coast stations	MF coverage (approx 100-150 NM offshore)	Satelite coverage	High-latitude areas outside A3 coverage
Required equipment	VHF DSC, NAV-TEX, EPIRB, SART	MF/HF DSC, regional distress traffic	INMARSAT or Iridium	HF DSC or Iridium
	ROC	GOC		

Pharos ROC Instruments

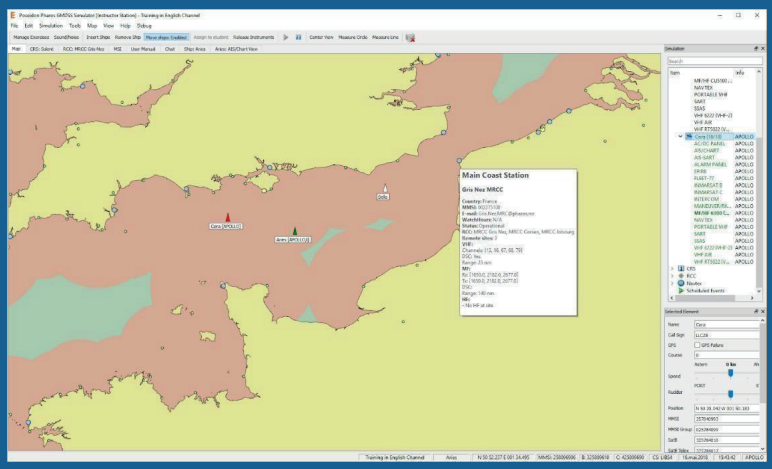
- INMARSAT C Ship Earth
- VHF DSC
- Portable VHF
- Navtex
- EPIRB
- SART
- AIS SART

Pharos GOC Instruments

- IRIDIUM LT-3100S
- MF/HF DSC
- MF/HF NBDP with MSI
- INMARSAT C Ship Earth
- MF/HF NBDP with MSI
- VHF DSC
- Portable VHF
- Navtex
- EPIRB
- SART
- AIS SART

Instructor Station

The simulator is usually set up with one instructor either acting as a costal station or a ship, and a number of student stations also acting as ships. It is fully possible to reconfigure the set-up so that there are two or several instructor stations. This means that several instructors can work together in one exercise or on several exercises in the same simulator network.

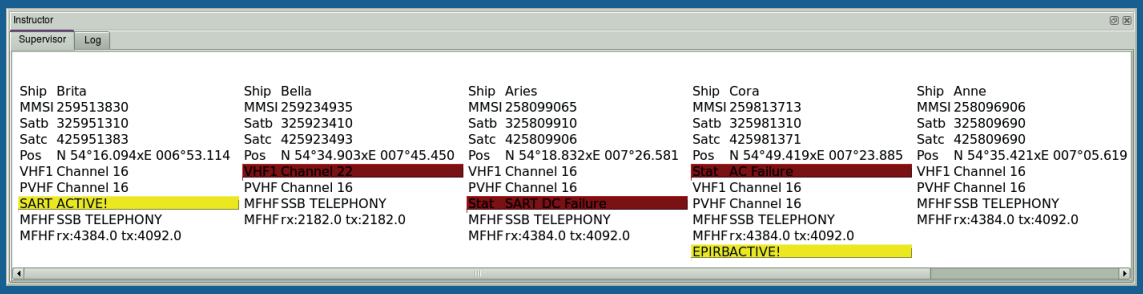


Using the instructor station interface, it is possible to make training scenarios in multiple sea areas around the world. When an area is selected, the instructor can navigate the excerice using the interactive chart.
Coastal Radio Stations and their monitors are represented in the chart, in accordance with the Admiralty List of Coast Stations.

Features

- Configure the simulator and type of instruments for each ship
- Create exercises with a predefined exercise and time
- Introduce background noise
- Set instrument configuration and geographical position for all stations
- Operate all GMDSS instruments/ act as traffic ship
- Introduce failure for SART, EPIRB, GPS and AC/DC power-supplies
- Send MSI messages via Navtex and SafetyNET
- Add or remove students during exercise
- Create subscribers with numbers where the students can send telex messages
- Pre-defined exercises with the option to edit and make new exercises
- Monitor all student actions in a control window
- Instructor can act as harbor master
- Take over communication from students (for demonstration and guidance)
- The instructor can switch between several exercises/sessions that run simultaneously
- One instructor can act as several coast stations from a dedicated Coast Station window

The instructor(s) have full overview over all the students from the interactive chart. All events, calls and messages are logged and can be shown in the log window in the bottom part of the instructor's view. The Monitoring functionality gives the instructor a collected view of instrument status for the ships participating in the exercise.



From the Monitoring window the instructor can observe the status and give instructions to students that are using their instruments incorrectly. Colour codes help the instructor to capture the fl ow of information.

Debriefing Module

All voice communication is logged and can be replayed in the Debriefing Module. Advanced Filter functionality and Forward- and Rewind functions makes it easy for the instructor to focus on wanted part of the exercise.

Instruments

Iridium LT-3100S

Type: Simulated
Category: Satellite Communication

Fully SOLAS-compliant Iridium terminal with 100% global coverage for GMDSS operations in Sea Areas A1, A2, and A3. Includes advanced MSI, safety communication, SSAS support, and GNSS receiver

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SAILOR VHF DSC 6222

Type: Simulated / Hardware integration
Category: VHF DSC Radio

VHF DSC with Dual Watch, standard and US channels, Squelch, DSC testing
Menu based on LED-screen.
Dynamic update of addresses to the ships participating in the same exercise.
GPS input or manual update of position

SAILOR MF/HF DSC CU5100 / 6301

Type: Simulated / Hardware integration
Category: MF/HF DSC Radio

Simulated MF/HF radios with support for radio telex in a separate interface. Includes LED screen menu navigation, DSC test calling, scan tables, and area call functions. GPS/manual position input is supported.

Instruments

T&T CAPSAT INMARSAT C

Type: Simulated
Category: Satellite Communication Terminal

INMARSAT C terminal simulation with telex/fax support,
Enhanced Group Call (EGC), and Maritime Safety Information (MSI) reception. Allows use of service codes.

SAILOR 6103 ALARM PANEL

Type: Simulated / Hardware integration
Category: Alarm Panel

Alarm panel simulation for LT-3100S, VHF DSC, MF/HF DSC, and Inmarsat C. Supports distress alert functions.

SAILOR SP3520 PORTABLE VHF / TRON VHF AIR

Type: Simulated
Category: Portable Radios

Portable VHF radios supporting dual watch, squelch, scanning, and simplex channels.

Instruments

BATTERY PANEL

Type: Simulated / Hardware integration
Category: Power Management

Instructor-controlled DC power and AC failure simulation. Students can switch battery banks and monitor instrument power usage.

SAILOR FLEET 77

Type: Simulated
Category: Satellite Communication System

Simulates Fleet 77 digital communication for voice, fax, ISDN, and MPDS. Email client operates within virtual desktop environment.

McMURDO NAV7 NAVTEX RECEIVER

Type: Simulated
Category: NAVTEX Receiver

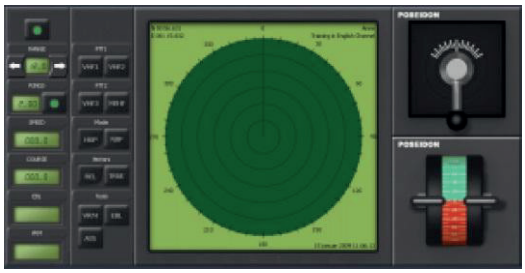
Receives MSI on 490, 518, and 4209.5 KHz. Supports program message types with options to save and print messages.

TRON 40S EPIRB / TRON SART / AIS SART

Type: Simulated
Category: Emergency Beacons

Emergency devices with activation, test functions, and instructor-defi ned expiry dates. Includes AIS and radar transponders.

Instruments



RADAR AND MANEUVERING CONSOLE

Type: Simulated
Category: Navigation Console

Includes radar functions (range, rings, VRM, EBL, AIS info) and maneuvering controls for Own Ship simulation. Supports true/relative vectors and multiple radar display modes.

ELECTRONIC CHART SYSTEM

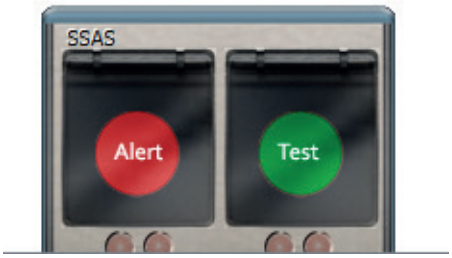
Type: Simulated
Category: Chart Plotter

IIntegrated electronic chart system for navigation, AIS ship tracking, and distress signal display. Available on all student stations.

INTERCOM

Type: Simulated / Hardware integration
Category: Internal Communication

Enables internal ship communication between students and instructor. Voice traffi c is monitored and can be simulated by instructor as crew response.



SSAS (Ship Security Alert System)

Type: Simulated
Category: Security

Ship Security Alert System simulation notifi es instructor upon activation. Enables practice of GMDSS security protocols.

Hardware options

Pharos GMDSS simulator will at minimum include high quality headsets for each student station, and a high quality headset plus goose neck microphone for the instructor station.

CONSOLE

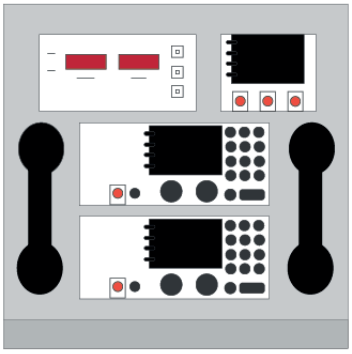
To meet AMERC's requirement for hardware radio equipment and for realistic installations on Bridge Simulators, we can deliver original, integrated hardware units of:

- Sailor VHF 6222
- Sailor MF/HF 6300
- Sailor Alarm Panel 6103
- Generic battery indicator
- Tipro Gooseneck
- Tipro Handset

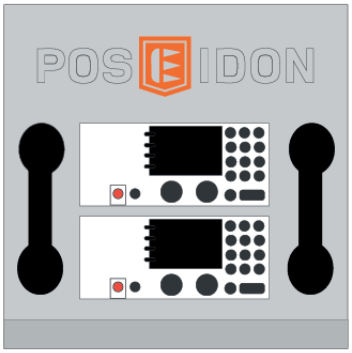
The hardware radio equipment is fully integrated with the simulator software and controlled by the instructor like the on-screen simulated instruments. The instruments can either be acquired separately or as a ship-like cabinet solution.

CONSOLE ALTERNATIVES

Our hardware console is fully customizable, and you can choose to include some of, or all of the components.



PHW-01: GMDSS CONSOLE A



PHW-02: GMDSS CONSOLE B