

Polaris Bridge Simulator



KONGSBERG

Desktop Bridge Simulator

Flexibility and scalability

The world's most flexible bridge simulator just got even more adaptable. Our unique panel concept has been taken one step further. We can now offer a desktop simulator with the same panels and functionality as our larger bridge simulators. The simulator is targeted as a single and limited task system and will heighten your training efficiency. This PC-based desktop system is designed to be a low cost way to increase available training capacity. Should your training requirement change the simulator can at any time be upgraded with additional functions or features.

Instructor Station

Much effort has gone into the design of our instructor and debriefing facilities. This has resulted in the most user-friendly and flexible workstation available. The desktop simulator uses the same instructor station as found in our ship-handling systems.

Student Workstation

The student workstation consists of one or a number of monitors showing bridge instrumentation, conning display, Radar/ARPA, ECDIS and a visual scene. The instrumentation has the same accuracy and fine detail as found in our ship-handling simulators. Operation is done through keyboard and mouse. All systems are fully configurable to a customer's specific requirements, and can freely be combined with any standard Polaris equipment either in the same student workstation or in a separate own ship.

Exercise Areas

We have a large library of exercise areas. New areas are continuously



added. All our exercise areas include all vital and important details one expects from a shiphandling simulator; these include, but not limited to urban objects, terrain, a range of texture elements, light houses, bridges, piers, navigation marks, radar coverage, depths etc.

Simulation models

Our success as a simulator supplier is in part due to the high quality of our hydrodynamic and target ship models. These are the same as used with our full mission simulators.

Student Evaluation

The SEA system™ allows structured and objective student assessment. Parameter limitations, position(s), course lines against tracks enables a weighting during and/or after the exercise. The feature may also be combined with e-Coaching "online" messages during the exercise for guidance and ruling.

Available configurations

Polaris desktop can freely be configured to a customer's specific requirement, and can freely be combined with any standard Polaris equipment. In the following pages we have outlined three (3) possible configurations to give you some ideas. Contact our sales department for any other requirement and configuration.

Simulator classification

The IMO STCW-95 Convention requires that simulators used for training and as a means to demonstrate competence, shall be approved by a maritime administration. Det Norske Veritas (DNV) has established a standard for carrying out such approval. The Polaris ship's bridge simulator is type approved by DNV for class A, B, C and S categories of simulators.



Available configurations

Polaris desktop can freely be configured to a customer's specific requirement, and can freely be combined with any standard Polaris equipment. In the following we have outlined three possible configurations to give you some ideas.

Simulator classification

Det Norske Veritas (DNV) has established a standard for carrying out simulator approval. The purpose of the standard is to ensure that the simulations provided by the simulator include an appropriate level of physical and behavioural realism in accordance with recognised training and assessment objectives. Polaris desktop is designed to meet this standard.

Example 1

Workstation equipment

Polaris desktop simulator with one monitor and one PC.

Simulator class

This configuration meets the requirements of DNV Class S (NAV) Special task bridge operation simulator. It is capable of simulating operation and maintenance of particular bridge instruments, and defined navigation and manoeuvring scenarios such as the requirements for Radar/ARPA training or those of a navigation laboratory.

The STCW reference

- i) Table A-II/1.3 Use of Radar/ARPA to maintain safety of navigation
- ii) Table A-II/1.8 Manoeuvre the ship.

The configuration

- Hydrodynamic ship models (>6)
- Target images (>10)
- Effects of weather
- Tidal stream and current

Simulated instruments

The workstation may include the following instruments:

- Radar/ARPA
- Throttle & Thrusters
- Log, distance, time
- Wind direction & force
- Gyro compass
- Magnetic compass
- Sound signal system
- VHF
- Steering system/Autopilot
- DGPS
- Echo sounder



Instruments examples



Example 2

Workstation equipment

Polaris desktop simulator with two monitors and one PC.

Simulator class

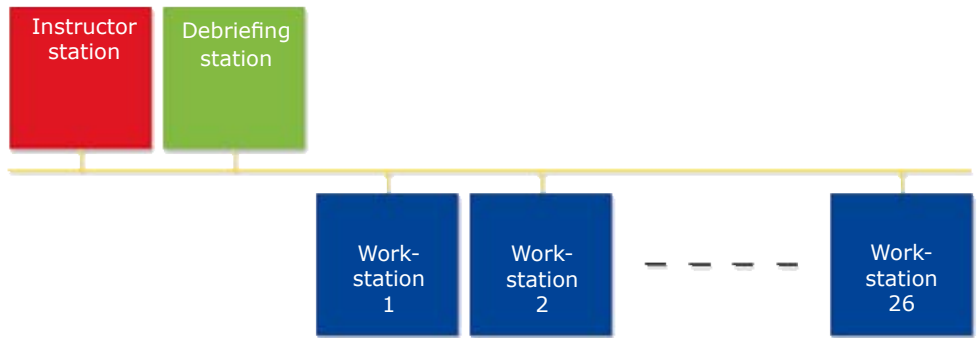
This configuration and the example #3 on the following page, meets the requirements of DNV Class S (NAV) limited task bridge operation simulator. It is capable of simulating operation and/or maintenance of particular bridge instruments, and/or defined navigation manoeuvring scenarios.

STCW reference

- i) Table A-II/1.3: Use of Radar/ARPA to maintain safety of navigation.
- ii) Table A-II/1.4: Respond to emergencies.
- iii) Table A-II/1.5: Respond to a distress signal.
- iv) Table A-II/1.8: Manoeuvre the ship.
- v) Table A-II/2.6: Maintains safe navigation through the use of radar/ARPA and modern navigation systems to assist command decision making.

The configuration

- Hydrodynamic ship models (>6)
- Target images (>10)
- Effects of weather
- Tidal stream and current



Simulated instruments

The workstation may include the following main instruments:

- Polaris Radar/ARPA
- Throttle & Thrusters
- Log, distance, time
- Wind direction & force
- Steering system/autopilot
- Gyro compass
- Magnetic compass
- Sound signal system
- DGPS
- Echo sounder
- ECDIS
- Engine alarms
- VHF
- VHF DSC
- MF/HF
- MF/HF DSC
- Intercom



Example 3

Workstation equipment

Polaris desktop simulator with three monitors and one PC. The system is expanded with a visual system channel - the SeaView R5 with scaleable view embedded along with other the ship instruments. The system will require a additional high-end graphic adapter card in order to support 3D graphics in the visual scene.



Main specifications

General

Instructor data

- Configurable qty. 1 to 8
- Target ships, up to 100 per exercise
- Chart view, up to three (3)
- Target waypoints, >1000
- Recording time, > 24 hours
- Playback time, > 24 hours
- Assessment system
- E-coach messages (three levels)
- Graphic and alphanumeric logging

Exercise data

- Buoys, qty. >1000 per exercise
- Outline up to 221 x 221 nm
- Depths, exceed 150 000 points
- Visual data (incl. sun/moon, stars, all seasons, day and night)
- Radar data (incl. noise, clutter etc.)
- Terrain and urban structure(s)
- Navigation data
- Lights and lighthouse(s)

Own ship

Bridge instruments

- Typical nine (9) per screen
- Hands-on or screen based
- Touchscreen systems
- Basic instruments
 - Engine Throttle
 - Steering System/Autopilot
 - Time/Log/Distance
 - Wind direction and force
 - DGPS
 - Echo Sounder
- Range of instruments:
 - Thruster
 - Gyro repeater
 - Magnetic compass
 - Doppler Log
 - Engine alarms
 - Watch responsibility
 - Sound system control
 - Distress and SSAS
 - Clinometer
 - Conning systems
 - Radio system (VHF & DSC)
 - Short wave radio (MF/HF)

- Radiotelex
- Inmarsat systems
- Intercom
- Day shapes and flags
- Winch control

(Please contact us for a full list of available instruments and panels).

Bridge system

- Radar/ARPA (COTS based)
 - Polaris Radar/ARPA
 - Kelvin Hughes Nucleus 5000
 - DataBridge-10 and SeaMap-10
 - K-Bridge (ARPA and ECDIS)

(Some units may require dedicated operators panels, tracker balls etc. for relevant and correct operation).

- OEM systems (ARPA)
 - Litton Marine
 - Furuno
 - Tokimec
 - STN Atlas

- Kelvin Hughes
- OEM systems (ECDIS)
 - Litton Marine
 - Transas
 - Maris

(Some units may require dedicated operators panels, tracker balls etc. for relevant and correct operation).

Radar parameters

- Resolution down to 3,33 meter
- Range resolution 0,09°

Ship/student data

- 6-DOF Ship models (library)
- Radar Coastlines (library)
- Visual Areas (library)
- Own Ship Bridges, up to 26
- Up to ten tugs (10)
- Winches, up to eight (8)
- Hydraulic Winches - two (2)
- Mooring lines, up to ten (10)
- Up to 500 fenders

Hardware

- High-resolution TFT (min. UXGA res.)
- Personal Computers (Intel®)
- Printer (A3 size)
- High-end NVIDIA® Graphics adapter
- Keylock
- Server with LAN switch
- Interconnection cabling

Software (S/W)

- Licenses for Windows®XP Professional
- Polaris and SeaView S/W

The contents, descriptions and specifications within this document are subject to change without notice. Kongsberg Maritime AS accepts no responsibility for any errors that may appear in this document.

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