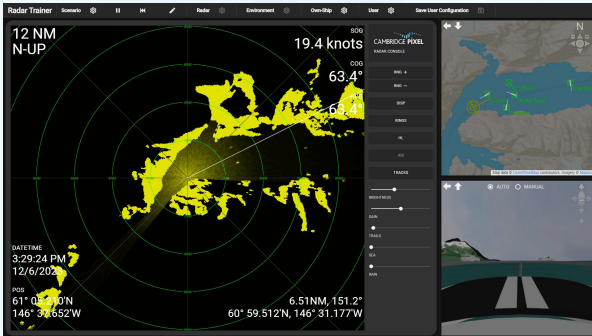


SPx Radar Trainer



Key Features:

- Highly-customisable 3D virtual training platform for small boat radars
- Computer-based training package for configuration and deployment by course instructors
- Simultaneous multi-view browser-based GUI
- Realistic PPI radar picture with fading/rotating sweep line
- Supports display of overlay track symbols and background charts/maps
- Realistic 3D rendered world view
- On-demand access to worldwide mapping via built-in Mapbox plugin (uses OpenStreetMap data)
- Environmental settings for time of day, fog level and weather conditions
- Instructor mode supports customisation and creation of realistic scenarios
- Two-level access control: "Instructor" and "Student"

Cambridge Pixel's SPx Radar Trainer is a modern, customisable, 3D virtual training platform for use by radar training course instructors and their students. It can simulate the operation of small boat radars, such as those from Furuno, JRC, Raymarine & Simrad and can be used as a computer-based training (CBT) package for PPI-display familiarisation and basic user training for marine radar operators.

The use of compact, low-cost dome radars on small boats and sailing yachts as an aid to navigation and for collision avoidance is now commonplace. The proper use of the various features of a marine radar system can greatly assist in situations of restricted visibility and help to reduce the risk of collision. Put simply, the proper use of radar helps ensure the safety of lives at sea.

Whilst primarily designed to assist with the training of skippers of small leisure craft, SPx Radar Trainer may also be deployed for the training of masters and bridge crews operating larger vessels in coastal, offshore and open-water ocean environments.

Browser-Based GUI

SPx Radar Trainer has a comprehensive browser-based graphical user interface (GUI), which includes three simultaneous views of the simulation: "Radar View", "World View" and "Ship View". The GUI has a tiled layout, with a large primary view window and two, smaller, secondary view windows. Any of the views may be swapped or selected as the primary, through simple GUI controls.

Radar View Window

The trainer's Radar View displays a highly realistic PPI (plan position indicator) radar picture with a fading/rotating sweep line. It closely mimics a typical small boat radar display with similar layout, controls and functionality. As a scenario is run, information is updated in real-time and controls are provided to allow the student to toggle overlay graphics such as range rings, heading line, AIS symbols/track labels and trail dots. The GUI also presents controls for range scale, display mode (North-Up, Heading-Up and Course-Up), brightness and gain, as well as for sea clutter and rain clutter suppression, providing a realistic user experience.

World View Window

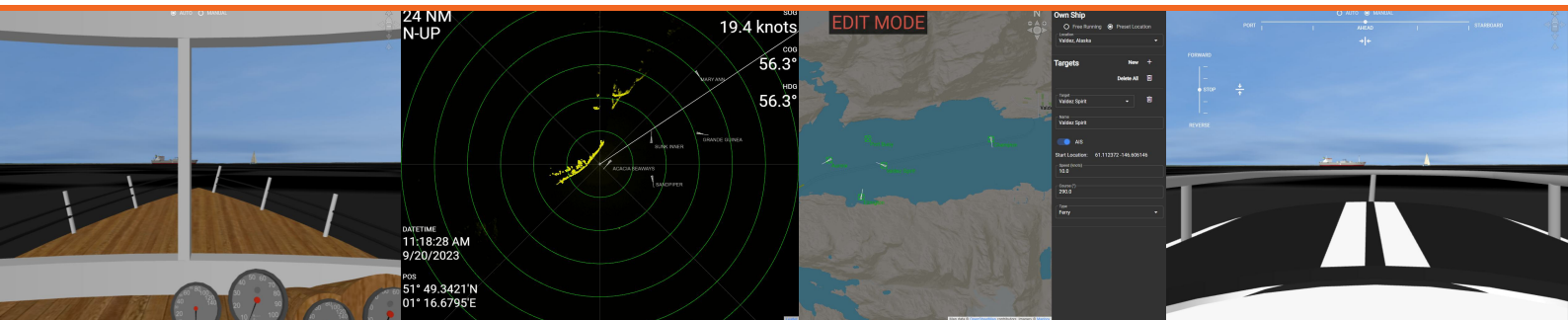
World View displays own ship and track symbols on top of a background map/chart. The view centre and zoom level can be adjusted by using the mouse. Mouse-clickable view control buttons are also provided. Instructors have access to a hidden sidebar menu, which is used to determine own ship behaviour for the simulation.

Ship View Window

SPx Radar Trainer's Ship View shows own ship in a fully 3D rendered scene. Switchable views are provided, with the default view being the view to fore, which closely mimics the Skippers view from bridge. The view can be changed to show the rendered scene from the port and starboard sides, as well as the view to aft. A bird's-eye view from a point behind own ship, facing the rear of the vessel (stern) and looking ahead is also selectable.

The Ship View window allows the student to select Auto or Manual for how own ship is controlled. In Auto mode, the vessel's movement is determined by the scenario configured by the course instructor. In Manual mode, the student is able to use on-screen controls to pilot the boat. An overlaid, on-screen helm is provided for the student to steer the boat. Alongside this is a virtual throttle slider, which is used to adjust forward or reverse thrust, as well as back to idle/stop.

DATASHEET



Menu Bar

The training platform has an easy to access top-level menu bar that is used to select between pre-configured scenarios and to play, pause and rewind the current training session. Additional controls are accessible by the course instructor for editing the content of scenarios. The instructor can adjust radar period and beam width and environmental conditions such as time of day, fog level and weather (e.g. fair weather vs. poor weather).

The simulation's realism is further enhanced by the automatic linking of the selected weather conditions to the level of radar clutter returns that are visible in the Radar View window. The menu bar also allows the course instructor to select between three types of own ship: Fishing boat, speedboat and sailing yacht. Each type of vessel is rendered from a comprehensive 3D model that is included with the software package.

Training Environment

SPx Radar Trainer provides a simple top-level login control to select between "Instructor" and "Student" which can optionally be password controlled. If required, the software can be configured and deployed by the instructor to multiple student PCs in a training room. Each student then has access to their own training platform and can watch and interpret the scenario simulations and learn how to take appropriate action to avoid collisions or near misses as part of an instructor designed training course.

Training Software

View support:	Simultaneous Radar View, World View and (3D) Ship View
Radar View controls:	Range rings, heading line, AIS symbols/tracks, trail dots, range scale, display mode, brightness, gain, sea clutter suppression and rain clutter suppression.
World View controls:	View centre and zoom level. Instructor-only controls for own-ship behaviour.
Ship View controls:	View to fore, aft, port, starboard and bird's-eye view. Auto or manual control (with helm and throttle controls in manual mode).
Overall simulation controls:	<ul style="list-style-type: none"> • Radar settings: Period and beam width • Environment settings: Time of day, fog level and weather • Own ship: Fishing boat, speedboat and sailing yacht
Access control:	Supports "Instructor" or "Student" login with optional password control

Training Computer

Platform: A recent, mid-range to high-end Intel/AMD-based PC running Windows 10/11 is recommended.

Browser Support: Chrome, Safari, Edge or Firefox

Software Licensing

- Individual licences:**
- P/N 548-500 - SPx Radar Trainer (Course Instructor version) runtime licence (switchable between Instructor and Student logins)
 - P/N 548-501 - SPx Radar Trainer (Student-only version) runtime licence (allows Student login only)
- Discounted multi-licence bundles:**
- SPx Radar Trainer Bundle 1: Qty 1 548-500 & Qty 3 548-501
 - SPx Radar Trainer Bundle 2: Qty 1 548-500 & Qty 6 548-501
 - SPx Radar Trainer Bundle 3: Qty 2 548-500 & Qty 12 548-501

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