

Seakeeping Predictions Software

ShipmoPC is a widely used and extensively validated seakeeping software package that provides comprehensive ship motion and load predictions and analysis for ALL shapes and sizes of monohull ships in regular or irregular seas.

Comprehensive Analysis

ShipmoPC is compatible with all major operating systems offering a wide range of features and reporting capabilities. Analysis capabilities include:

- prediction of ship motions and loading in regular and irregular seaways with six degrees of freedom supporting a variety of wave spectra
- equipped with algorithms to predict deck wetness, slamming occurrence, and slamming pressures and accelerations
- extensive wave spectra selection human tolerance factors - MII, tipping and sliding and sea sickness indices
- predictions of motion and acceleration at user specified locations
- still water and wave induced hull girder moment shear torsional load assessment
- consideration of hull appendage and vessel stabilization features

Customizable and User Friendly

Software enhancements have improved the ShipmoPC user-friendly interface with plotting capability and HTML output. Context sensitive on-line help for all fields on the user interface is provided. Users can specify vessel features and environmental factors in order to predict monohull ship motions.

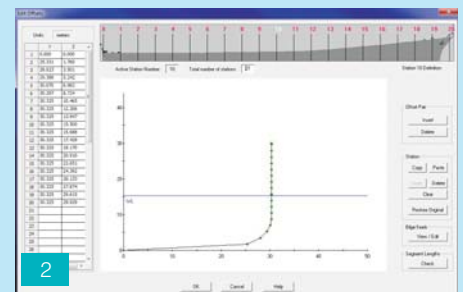
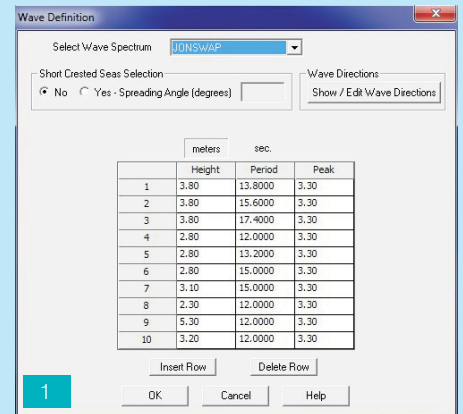
ShipmoPC allows user-defined input on waves, mass/weight distribution, stabilizing systems, ship features, sea directions, seakeeping information and more.

The program can also be customized by the BMT Fleet Technology development team in consultation with end users to provide additional functionality.

Demonstration Version

A demonstration version is available for download from our web site at www.fleetech.com.

ShipmoPC v.3.0.x



1. ShipmoPC includes an interactive user interface allowing users to input data such as wave frequency.
2. A user can define up to 60 offset pairs for each station.
3. Applicable to all monohull ships, ShipmoPC helps to make the unpredictable predictable.

Research Supported by Proven Expertise

ShipmoPC software is based upon extensive research and validation against a wide variety of ships ranging from offshore supply vessels to container ships, FPSOs and naval ships.

Extensive Reporting Capabilities

ShipmoPC provides a comprehensive choice of reporting capabilities with both graphical and tabular presentation of results. It can generate speed-referenced polar plots of any of the motion response parameters. The program also produces HTML output and X-Y plots of results.

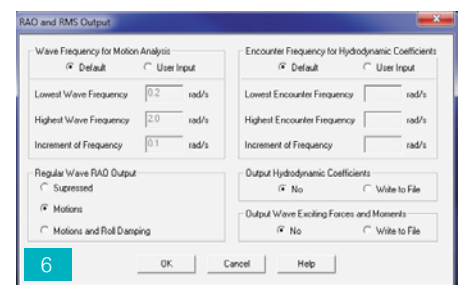
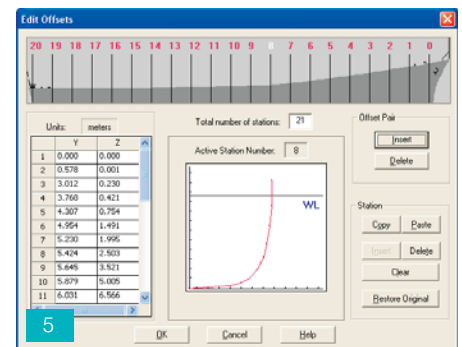
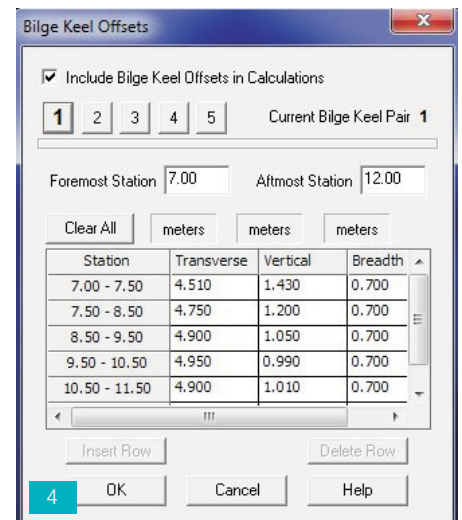
The software is compatible with a variety of other Windows based applications for post processing analysis. A comprehensive user manual and on-line help are included.

Technical Features

ShipmoPC is a derivation of the SHIPMO 7 seakeeping predictions code developed by Defence Research and Development Canada (DRDC).

- SHIPMO is a strip-theory based frequency domain seakeeping code capable of computing the six degree-of-freedom motions of a monohull with forward speeds in regular as well as irregular seas of arbitrary headings.
- Response Amplitude Operators (RAOs) for the longitudinal (heave, pitch and roll) and the lateral (sway, roll and yaw) motions are derived for the complete range of frequencies using the hull geometry input for the specified speeds and headings.
- The ship dynamics model of Shipmo is capable of accounting for the hydrodynamic effects from rudders, bilge keels and other appendages as well as tank roll stabilizers.
- Motions in an irregular seaway may be calculated either by specifying a theoretical spectrum or by a set of measured spectral ordinates input by the user. Several theoretical spectral formulations are built into the code: the Bretschneider spectrum, the JONSWAP spectrum, the Quadratic Regression spectrum, and six-parameter and ten-parameter spectra.
- Both unidirectional and short crested seas can be specified, the latter being represented by cosine-squared spreading.

Computed results such as RAOs (amplitudes and phases) and the significant (single amplitude) motions in all six modes are generated. For any specified location on the hull, computed output includes parameters such as accelerations, probability and frequency of incidence of deck wetness, keel emergence and slamming, as well as slam pressures and forces.



4. ShipmoPC permits the user to define the hull by defining hull offsets.
5. Existing offsets can be edited to accommodate "What If" scenarios.
6. ShipmoPC users can choose what data to output.



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