



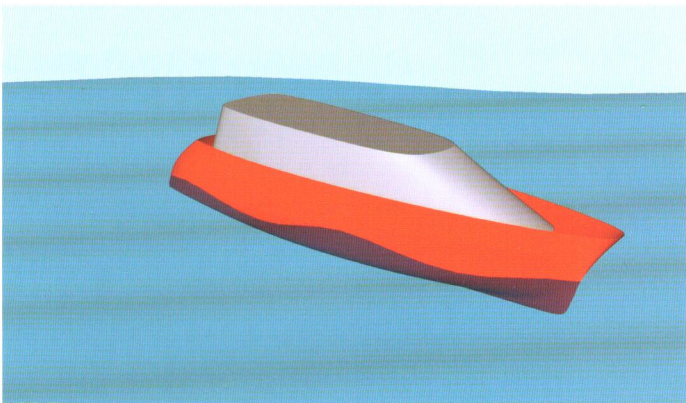
# MAXSURF NEWS

*Integrated Naval Architecture & Ship Construction Software*

*March 2001 Newsletter*

## **Maxsurf Version 8.5 Released**

Formation Design Systems is pleased to announce the release of Maxsurf v8.5. This upgrade is part of our ongoing program of enhancements to the entire suite of Maxsurf software. If you are a member of our subscription program, you will automatically be receiving your upgrade CD. Should you wish to join the subscription program, please see the details listed on the back page of this newsletter.



Version 8.5 adds seakeeping visualisation to Seakeeper

Version 8.5 of Maxsurf contains a number of significant enhancements to the software including an innovative new technique for fitting surfaces to existing tables of offsets, display of background images, use of assemblies for grouping together sets of surfaces, tanks inside compartments, new seakeeping displays and lots more.

### **Surface Fitting**

This version adds a new surface fitting function to Maxsurf which will be automatically activated inside Maxsurf when Prefit is installed. This function differs from the previous method used in Prefit in that it uses a Genetic Algorithm to optimise both the surface fit and net fairness. Although the new technique takes some time to run (usually overnight) it does result in very accurate fits and most importantly, much

better quality control point nets.

The Genetic Algorithm (GA) is an advanced optimisation method based on a simulation of the process of evolution. GAs are excellent for solving problems with large numbers of dimensions and constraints. The surface fitting problem falls into this category, as it is not sufficient to simply create a surface that is a close fit to the data points provided, it is also desirable that the surface be fair and that the control point net be smooth and regular. Formation is the first company that we know of to apply this technique to this problem and the results show a dramatic improvement over other methods we have reviewed.

### **Managing Markers**

To assist in preparation of data prior to fitting, we have also added a range of improved tools for managing markers, even though with the new method there is no need to sort data prior to fitting. Included in these tools are functions for fitting a surface edge to a selected group of markers, snapping control points to markers, associating markers with particular surfaces and measuring surface errors from markers. The new Markers toolbar provides shortcuts to some of these functions.

### **Background Images**

Maxsurf now has the ability to display background images in each of the design views. Those in the Plan, Profile and Body

