

## **INTRODUCTION & INSTALLATION**

### **WORKING MODEL - FAST AND POWERFUL ENGINEERING ANALYSIS FOR DESKTOP PC'S**

Working Model is a powerful tool for engineering analysis, animation, and prototyping. It saves time and money in the design process by allowing you create and analyze dynamic physical systems on the computer prior to building costly prototypes.

### **OPERATING CONCEPT**

The operating concept of Working Model is straight-forward. First, define a set of rigid bodies and constraints (e.g., motors, springs, and joints) by drawing them with a mouse. Then set your system into motion by selecting "RUN" -- there is no pre-processing or post-processing. You immediately receive accurate results.

With Working Model, you create systems that are driven by physical laws. You can test, re-design, and re-test your mechanical system, speeding your time to market by seeing which designs work better before you build them.

Working Model allows you to fine-tune simulation parameters. You can define controllers to adjust properties of objects. You can create meters to plot the data that is taken during a simulation. You can design a model in your CAD program and import the data into Working Model. You can even use another application such as Excel or MATLAB to control your simulations.

### **DESIGNED WITH EASE-OF-USE IN MIND**

Working Model was designed to be an integral tool in the design and analysis process for engineers of all types. Its highly intuitive interface makes it useful for engineers of all levels. An engineer can quickly test the performance of a shock absorber with a simple model, or create a highly complex dynamic model of an automobile engine. With its high degree of accuracy, Working Model can simulate almost any mechanical system.

### **SMART EDITOR**

Working Model features the unique Smart Editor. The Smart Editor shortens the design process by making it extremely easy to build and maintain complex designs as well as check for clearances, mechanism functionality, and tolerances. Interconnected objects can be moved by simply clicking and dragging-the Smart Editor automatically moves each object based on existing constraints.

### **IMPORT / EXPORT**

Working Model includes import/export options. With Working Model, users can import CAD drawings in DXF format from popular applications such as AutoCAD, CADKEY and Vellum and use them immediately in simulations.

### **INTER-APPLICATION COMMUNICATION**

Working Model uses Dynamic Data Exchange (DDE) on Windows and Apple Events on Macintosh to communicate with other applications during a simulation. With this feature, users can specify physical models of real-life mechanical designs and then control them externally through other programs. For example, Microsoft Excel can be used to calculate control signals. Data from Working Model is sent to the spreadsheet which calculates the control signals based on the current state of the system. New control information is then received by Working Model and used to calculate the next simulation frame.

## **ABOUT THE DEMONSTRATION VERSION**

These demonstration disks include a limited version of Working Model along with numerous example files. You will be able to build models, simulate their behavior, make measurements and interact with systems using the revolutionary Smart Editor.

Several features, however, have been disabled in the demonstration version. In particular, file saving functionality has been removed (Save, Save As, Print, Export, Cut, Copy, Paste and Duplicate). This version also limits the number of measurements and bodies that can be created to one meter and five bodies per document.

## **THE DEMONSTRATION GUIDE & TUTORIAL**

The guide will provide you with information you will need to evaluate Working Model. It covers the Working Model tool palette, its menus, and a short overview of its powerful function language.

Also included are two tutorials that will step you through how Working Model can be used to analyze real-world problems. The tutorials will show you how to build and analyze a mechanism and import geometries from a CAD file.

## **SYSTEM REQUIREMENTS**

Working Model versions are available for both Macintosh and Windows personal computers. The following system configurations are needed to run Working Model:

Windows: A 486 microprocessor or better is required, Windows version 3.1 or greater, minimum of 8 megabytes of RAM and 8 megabytes of available hard disk space. More than 8MB of memory is strongly recommended for optimum performance. We also recommend a floating-point math co-processor.

Macintosh: A 68020-based computer or higher (Mac II or above) is required. Macintosh Plus, SE, Portable, Classic and Powerbook 100 are not supported. Working Model requires System 7 or later, approximately 8 megabytes of RAM and 8 megabytes of available hard drive space. A floating-point math co-processor is highly recommended. Working Model is compatible with PowerPC-based Macintosh computers.

## **INSTALLATION**

The demonstration disk contains an automatic installer. To install:

On Macintosh: simply double-click on the icon named Double-Click Me to Install.

On Windows: run SETUP from within Windows.

## **ORDERING INFORMATION**

We hope you enjoy the demonstration version. To order your full copy of Working Model:

1. Call TOLL-FREE at (800) 766-6615 or (415) 574-7777 (8:00AM to 5:00PM Pacific Time),
2. E-mail to us (internet) via [info@krev.com](mailto:info@krev.com), or
3. Print out the order form in the README file included on the demonstration disks and fax or mail it to Knowledge Revolution at:

FAX: (415) 574-7541

MAIL: Knowledge Revolution  
66 Bovet Road, Suite 200  
San Mateo, CA 94402

Working Model comes with a 30-day money-back guarantee!