



VIBRATION CALCULATIONS - 2

- ◆ Spectra Quest, Inc.
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Product Highlights

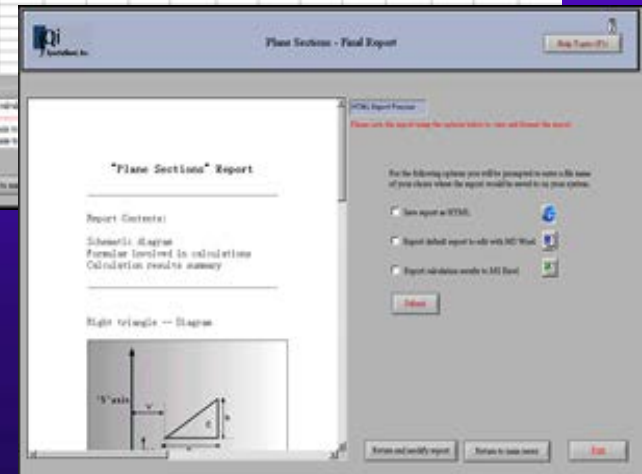
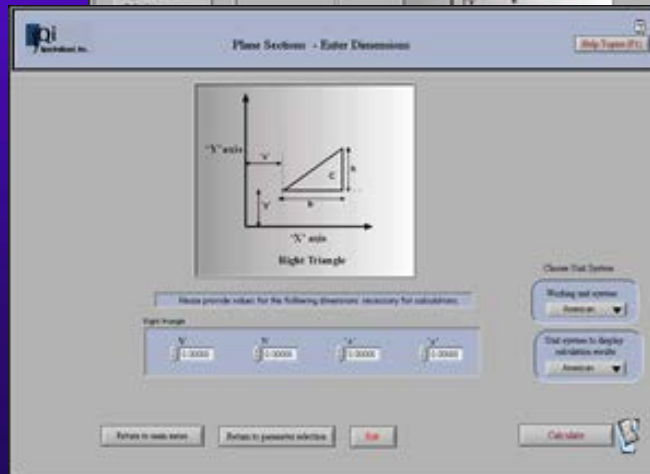
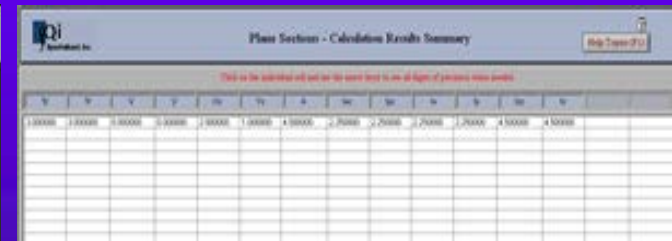
- ◆ *Easy to use graphical interface*
- ◆ *Extensive graphical utilities including figurative representations and animation of mode shapes*
- ◆ *Choice of calculations in American/SI unit systems*
- ◆ *Listing of common Engineering material properties used in calculations*
- ◆ *Report generation and editing utilities including data export to MS Word, MS Excel and HTML formats*
- ◆ *Description of all formulae involved in calculations*
- ◆ *Provides access to saved calculations and reports for viewing at any later time.*

Product Details - Plane Areas

◆ Vibration analysis calculations covering fundamental topics in:

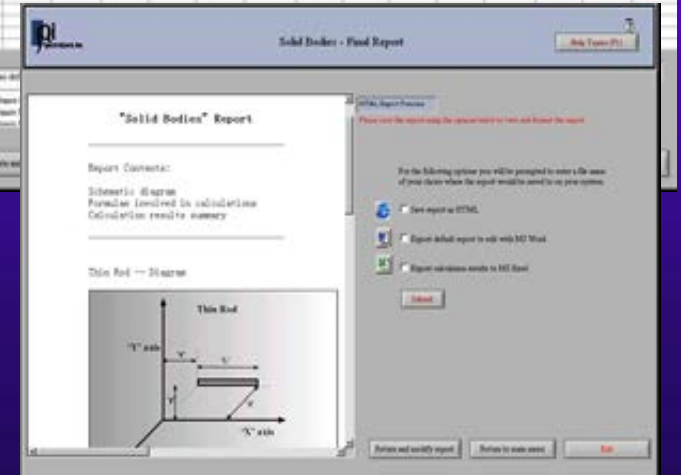
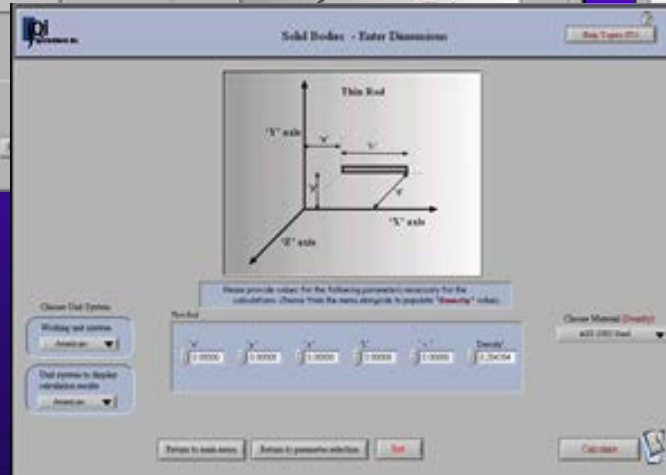
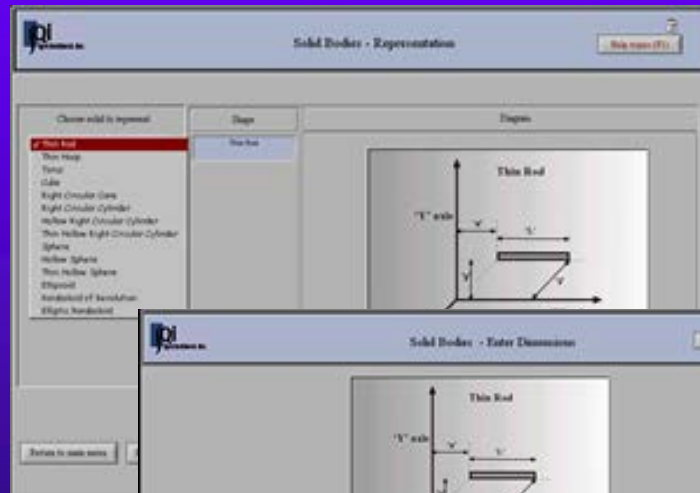
• *Plane area sections*

- Calculation of Area
- Centroid
- Rectangular and polar area moment of inertia about the centroidal and translated parallel 'x' and 'y' axes



Product Details - Solid Bodies

- **Solid Bodies**
 - Calculation of Mass
 - Center of Mass
 - Rectangular and polar mass moment of inertia about the centroidal and translated parallel 'x', 'y' and 'z' axes



Product Details - Torsion Spring Systems

- Torsion Spring Constants**

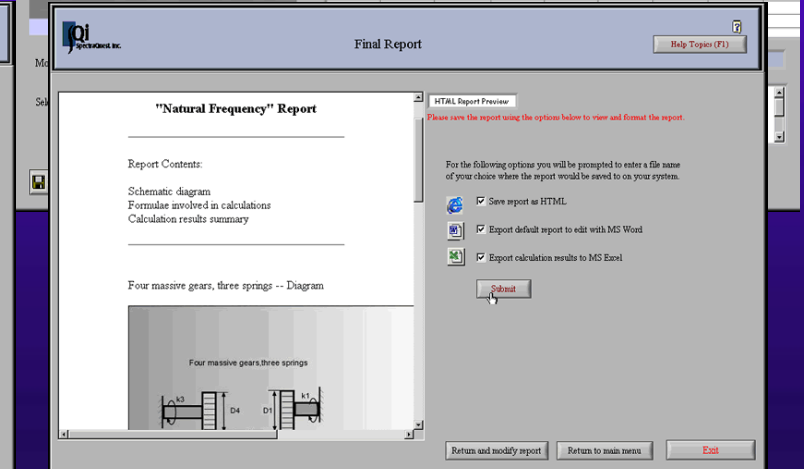
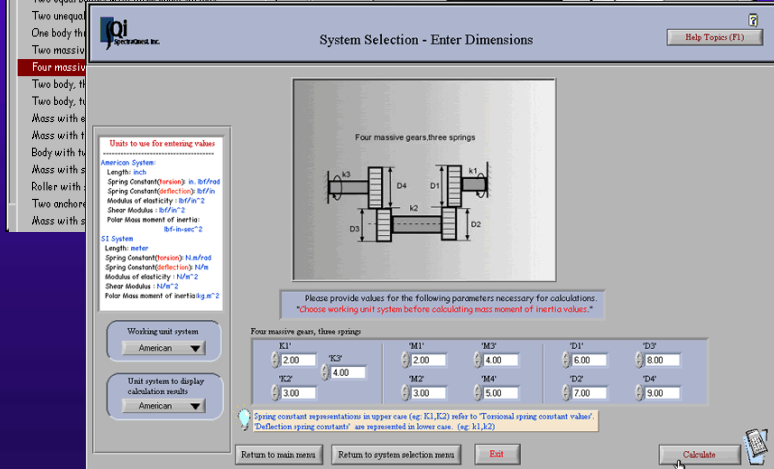
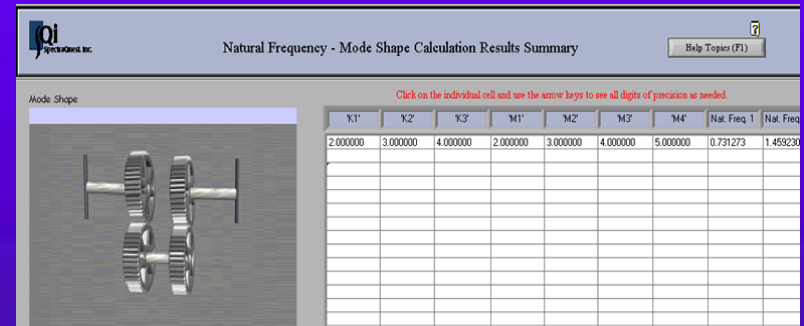
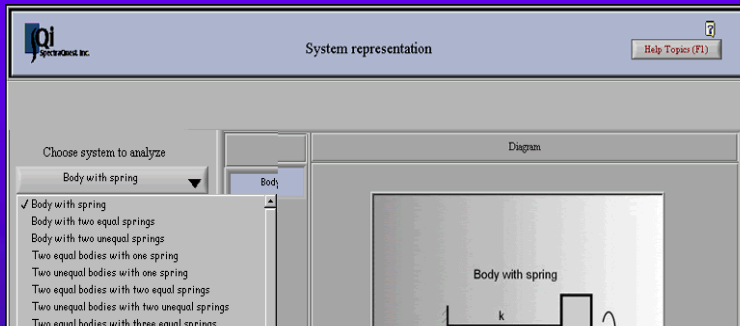
- Evaluation of equivalent spring constants for several single and 2-DOF systems including *Axial Springs, Spiral Torsions Springs, Helical springs, Shafts and Beams*.

L	E	Y	K_Equiv
4.00000	29007540.00000	1.50000	174045240.0000
3.00000	29007540.00000	4.00000	618827520.0000



Product Details- Natural Frequency/Mode Shapes

- **Natural Frequency/ Mode shape estimation and representation**
 - Calculation of natural frequency values for several single and 2-DOF -Torsion / torsion-bending combined systems including torsion spring body, geared shaft, lever and pendulum systems.
 - Animation and representation of associated mode shapes.





Benefits

- ◆ Easy and fast calculation of fundamental vibration properties for commonly encountered mechanical engineering systems.
- ◆ Graphical interface for depicting and understanding different mode shapes.
- ◆ Schematic diagrammatic representation of all systems for enhanced understanding.
- ◆ Easy access to formulae involved in the calculations.
- ◆ Calculations and reports generated kept track through unique session ID's for future reference if needed.
- ◆ Reporting feature with facilities for exporting to popular word processing software's.
- ◆ All in one package that helps to determine the natural frequency of several systems starting from the very *basics or directly* as required.