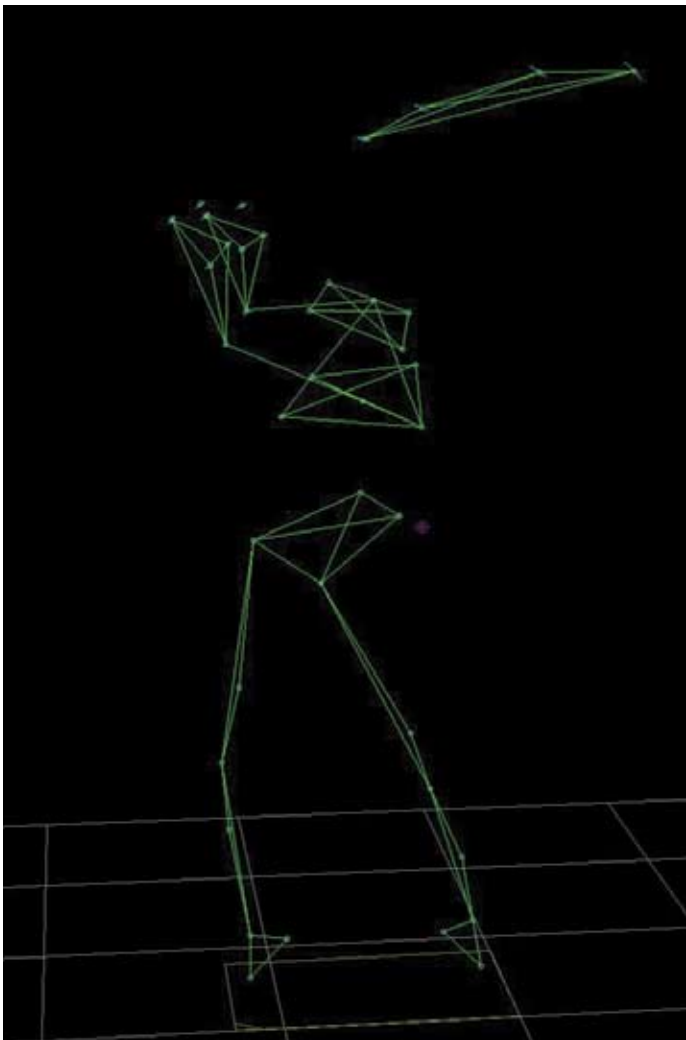


# VICON BODYBUILDER

- \_ EASY TO USE
- \_ POWERFUL SCRIPTING LANGUAGE
- \_ EXTENSIVE MODEL LIBRARY
- \_ AUTOMATIC MODEL PROCESSING
- \_ FULLY INTEGRATED WITH THE VICON SOFTWARE SUITE

VICON BODYBUILDER IS A FLEXIBLE TOOL DESIGNED FOR KINEMATIC AND KINETIC MODELING.



# VICON BODYBUILDER

## BODYBUILDER KEY BENEFITS

- \_ SIMPLE KEYWORDS FOR KINEMATIC AND KINETIC MODELING
- \_ FLEXIBLE AND POWERFUL SCRIPTING LANGUAGE INCLUDES CONDITIONAL STATEMENTS AND MACROS
- \_ EXTENSIVE LIBRARY OF EXISTING MODELS – AND A THRIVING USER COMMUNITY
- \_ AUTOMATIC MODEL PROCESSING IN THE VICON NEXUS PIPELINE
- \_ FULLY INTEGRATED WITH THE VICON LIFE SCIENCE SOFTWARE SUITE

### OVERVIEW

BodyBuilder™ is a flexible modeling application designed to reduce the complexities of 3D vector algebra to a simple scripting language. Vicon BodyLanguage™ uses high-level expressions to represent advanced concepts such as vectors, segments and reactions. This allows you to concentrate on the biomechanics rather than the language syntax or details of the mathematics and develop your own biomechanical models much faster.

BodyBuilder can be used to analyze any captured motion, and is routinely used in the analysis of human gait, ergonomics, sports, movement of mechanical objects, animal and detailed single joint studies. A repository of existing BodyBuilder models is available for download on the Vicon website.

### INTEGRATED

As an integrated part of the Vicon software suite you can seamlessly incorporate BodyLanguage model processing into Vicon Nexus as well as visualize the outputs using Vicon Polygon – the world's leading package for producing research and clinical reports. BodyBuilder also integrates with the Vicon Eclipse Data Management System, enabling you to access data quickly and easily through a standard user interface, regardless of which application you're working with.

### NO NEED TO START FROM SCRATCH

Take advantage of hundreds of users from around the world who are happy to share experiences and models with you. If you are faced with a fresh modeling problem, chances are that someone has done something similar in the past and you can get an excellent flying start. The Vicon website contains a wide selection of models and other freely available information to assist you.

### KINEMATIC MODELING

Kinematic modeling is the process of transforming 3D points obtained from reflective markers to biomechanical measurements such as joint angles. BodyLanguage makes this process quick and easy by presenting you with a choice of simple expressions rather than complex algebra calculations to establish segments, angles and offsets. By creating segments aligned with anatomical axes, you can generate accurate joint angles either between two segments or relative to the laboratory coordinate system.

### KINETIC MODELING

BodyLanguage contains built-in expressions to make kinetic analysis simply a matter of specifying the mass and inertial properties of the model's segments and output the results – all the advanced mathematics are done for you. A single keyword is enough to ensure that joint moments or powers are added to the list of model results. If you are using force plates the ground reaction force will be automatically included in the calculations.

### PLUG-IN MODELER

Plug-in Modeler gives you the flexibility of BodyBuilder inside the user-friendly, one-click processing pipeline of Vicon Nexus. Once you have a model to use for routine processing, Plug-in Modeler will process the BodyLanguage script that is seamlessly integrated with your other processing steps. Unlike other products, there is no need to use separate software to complete the task the as Plug-in Modeler does it automatically.

### MACROS

Macros are powerful tools in the BodyLanguage script that allow you to encapsulate several functions in a single call. This is especially useful when the model needs to carry out repeated calculations where, only the marker names change between each step. Macros are also transferable from script to script, meaning you can create your own repository or you can download a selection from the Vicon website.

### COMMUNICATE

For further information on Vicon BodyBuilder and other Vicon products please contact your nearest office or email [info@vicon.com](mailto:info@vicon.com)

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