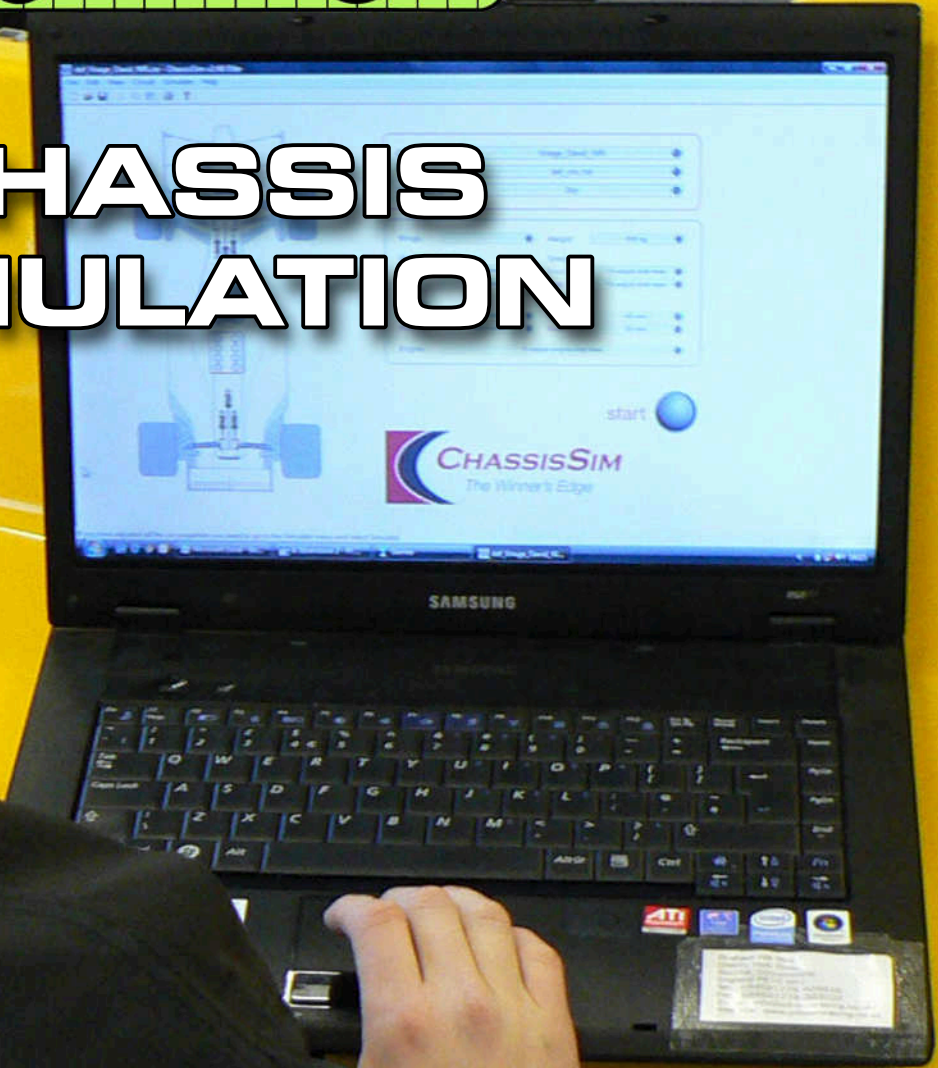




CHASSIS SIMULATION



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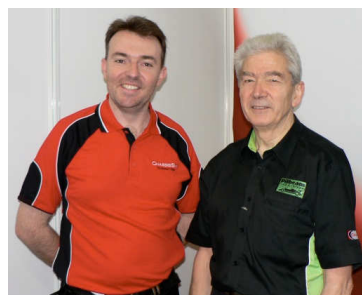
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This is a brief outline of ChassisSim and Pilbeam’s involvement with ChassisSim Technologies.

Pilbeam Racing Designs are European distributors of the ChassisSim. We have sold to clients, in series such as GP2 and F3. Danny Nowlan, the director of ChassisSim Technologies, is a former Pilbeam vehicle dynamist, who utilised the software on our cars before it became commercially available. Impressed with the results, Mike Pilbeam decided to actively support Danny in promotion and sales.



Features of ChassisSim Elite include:

Vehicle Dynamics	Change roll bars, springs and dampers
Vehicle Design	Suspension points, masses, track and wheel base
Data Analysis	Analyse simulated data side by side with actual in Pi Toolbox, Motec, Bosch, Mat lab and Excel
Aerodynamics	Generate an entire aerodynamic map from actual car data
Tyre model generation	Generate an accurate tyre model from actual car data
Damper Generation	Generate damper curves from actual car data
7 Post Rig	Carry out a full frequency analysis of your chassis
Automatic Optimisation	Find the ideal settings for dampers, springs, roll bars and aerodynamics

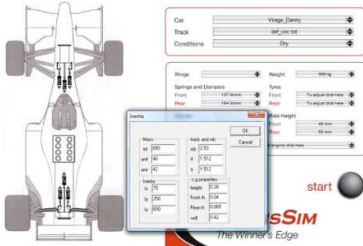


ChassisSim allows any car model to be created. This has enabled it to be used in formulae ranging from V8 supercars, GP2, Porsche Carrera Cup and Le Mans.

ChassisSim ‘drives’ the car at the limit of its performance, allowing driver skill to be analysed. Whether your driver is an amateur or pro, ChassisSim will show where he is losing time.

ChassisSim's simulations are transient, so they are particularly accurate. This also enables bump modelling for damper and spring analysis. In fact the latest Pilbeam MP98 racecar has dampers specified purely from ChassisSim simulations.

As a racing manufacturer we also use ChassisSim to suggest set ups at the track. It was used on our LMP2 car at Le Mans to analyse a problem with our



dampers. More recently we knew our car's lap times around Snetterton, before it had even been assembled!

ChassisSim outputs into most data analysis packages, allowing simulated data to be compared to actual data from the car. It is easy for a race engineer to analyse, as it can be displayed in a program he is already familiar with.

Real data from the car can be input to create track maps. Damper movement is analysed to create a bump profile of the track, including kerbs. Further track detail can be added with road gradients and cambers. This allows any track in the world to be simulated with ChassisSim, all from the comfort of your armchair!

ChassisSim is supplied in a number of different versions, depending on your budget and needs:

ChassisSim express - This is limited to one car template, and the options for the springs and bars are set. This is geared to the driver and his driving technique.

ChassisSim club - While the options for the springs and bars are limited, multiple car templates are allowed.

ChassisSim Lite - The user can add springs and bars to their templates, and they are also free to define their own templates.

ChassisSim standard - This does everything that Lite does, but the user can now look at advanced dialogs. This opens up the possibility of looking at third springs and non-linear spring arrangements.

The ChassisSim toolboxes - These are added on top of the standard. There are toolboxes to generate bode plots, generate tyre models and aero maps and toolboxes to optimise setup options.

ChassisSim Elite - The standard ChassisSim program with all the toolboxes included

Pilbeam would be very happy to talk about ChassisSim and how it can benefit your team. Please give us a call and we can discuss your options. Further information can also be found at www.ChassisSim.com.

