EMCoS Consulting and Software

Harness Studio Basic

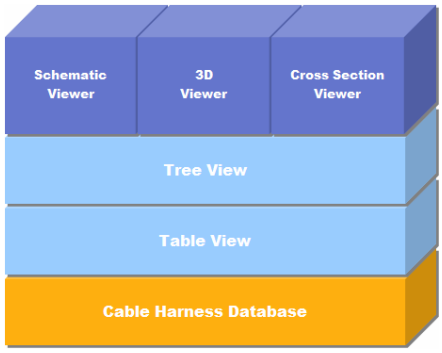
A Powerful Cable Harness Navigator

Harness Studio Basic brings together electrical and mechanical CAD-data into one program. The program gives the user all features to navigate through large cable harness data sets. Data sets can be visualized and checked. Any arbitrary information contained in the data set can be extracted in multiple ways.

Harness Studio can bring you into a new area of cable harness handling. Paper plans, difficult to keep up to date, too large, and only with limited information were yesterday. Today electronic data, as it can be processed with **Harness Studio**, can easily be maintained, configured to your special needs and gives you more information than any paper plan can do.

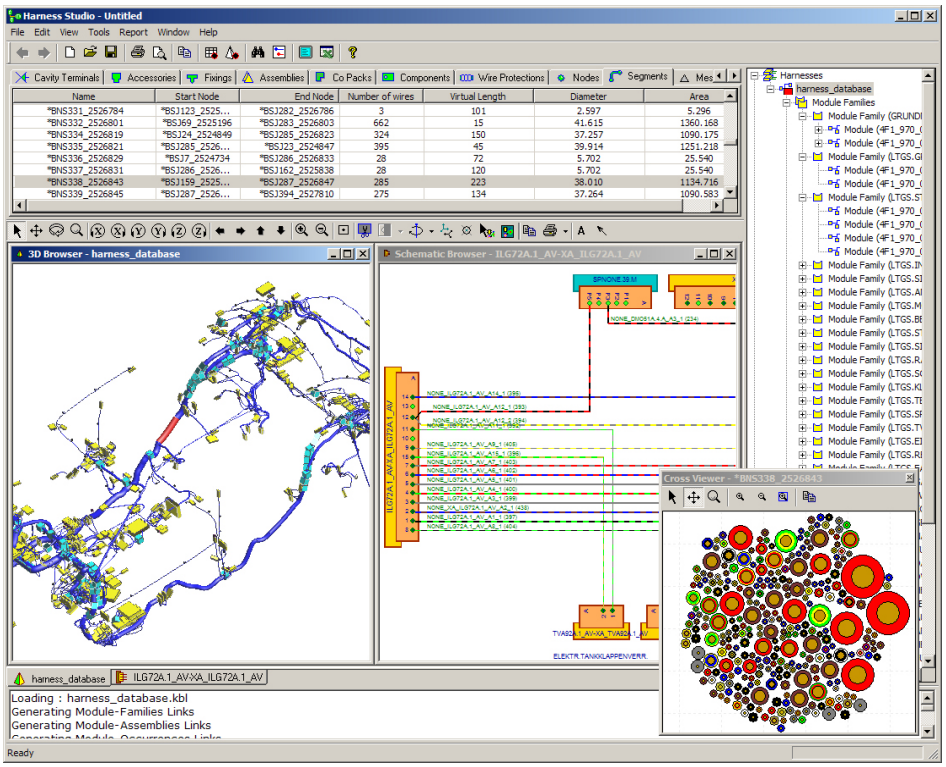
Harness Studio includes different tool-sets for visualization and checking of harness data and allows comfortable data processing.

Harness Studio can solve data visualization problems just with some mouse clicks that usually are very time consuming and require expensive hard- as well as software.



Structure of Harness Studio Views

Ideology of **Harness Studio** is very easy to understand and at the same time it is extremely flexible. The function set can be easily extended, we are always open to realize customer requests.



The Harness Studio user interface

EMCoS Harness Studio Basic 4.0 is packed with many new features and program improvements.

An extremely user-friendly interface allows the user to view, check, search, filter, group, or do further operations on data of extended cable harnesses.

Arbitrary views of selected sub data sets make even extremely large harnesses very simple to visualize and check.

EMCoS Overview

The work of EMCoS Ltd. focuses on the generation of special simulation software for electromagnetic field calculation and data visualization as well as on consultation on EM problems.

We help our customers with simulations of complex EMC problems by offering appropriate tools, or we support them with processing of, in most cases, complex data.

We see our mission in the generation of special methods and programs that are on the cutting edge of science and provide the most appropriate solution for each specific problem.

Company Background

EMCoS Ltd. was founded as a spin-off of scientists of the Laboratory of Applied Electrodynamics of the Tbilisi State University of Georgia. The Laboratory of Applied Electrodynamics has more than 20 years of experience in the field of data visualization and simulation of electromagnetic problems.

The fields of interest cover a wide range. Starting from the simulation of the non-linear arc resistance as generated by ESD or electrical switches to the calculation of field coupling, or radiation of complex cable harness systems in automobiles.

Harness Studio Main Features

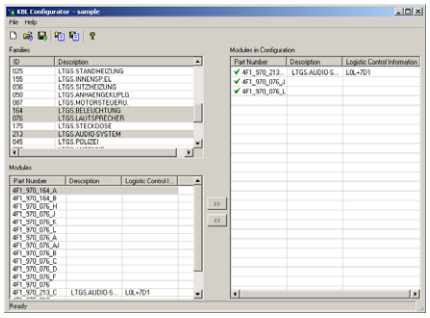
- Visualization of complex cable harnesses. Capability to handle even very large data sets
- Import and export of data, different file formats like STEP AP 212 (*.kbl, *.xls, *.asc) supported
- Multiple database support
- Import and visualization of surrounding geometry in NASTRAN and ASCII STL formats
- Table, 3D, Schematic, and Cross Section View
- Linked functionality between the different views
- Comfortable navigation in any view
- Detailed information about each object and object group
- Reporting and BOM
- Powerful search
- Comfortable printing functions
- Labeling functions
- Browsing functions with browsing history
- Cable and signal tracing within the harness
- Macro support gives to user possibility to automate frequently used sequences of actions
- Conflict tables for displaying conflicts in cable harness databases
- Project Notes editor for adding comments to project
- Cable Harness Configurator
- Harness comparison functions
- Configurable and customizable workspace
- 64-bit version

The Modules of Harness Studio

Database Engine stores and optimizes the internal arrangement of data for very fast processing of large data sets even on slow computers.

Converter performs bi-directional conversion of data between different data formats. Direct export of data to Excel table calculation program can be done with just a mouse click.

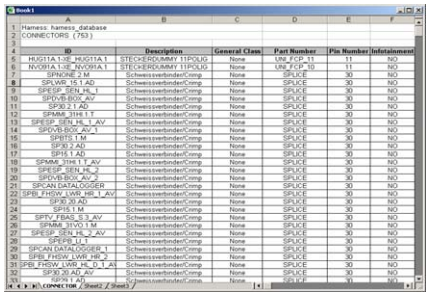
Configurator Engine gives access to modules within module families. Individual cable harnesses can be generated.



KBL Configurator

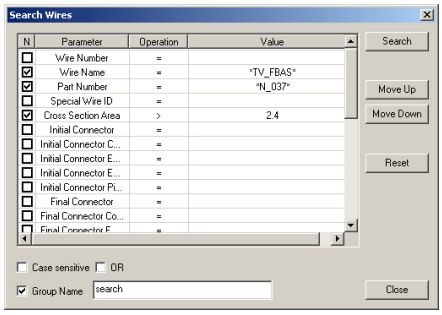
Visualizing Engine is a database and geometry data viewer for cable harness data. 2D, 3D, and schematic views are supported. The visualization engine allows direct interaction with the Table- and Tree-Views.

Reporting Engine creates fast and flexible reports on a harness. BOM can be created with a mouse click.



Excel report contains detailed information about harness objects

Search and Group Engine allows comfortable and powerful manipulation as well as filtering of the harness data.



A search template

Product Features Summary

- Visualization of complex cable harnesses
- Import and export of data, different file formats like STEP AP 212 (*.kbl, *.xls, *.asc) supported
- Multiple database support
- Import and visualization of surrounding geometry in NASTRAN and ASCII STL formats
- Table, 3D, Schematic, and Cross Section View
- Linked functionality between the different views
- Reporting and BOM
- Powerful search functions
- Comfortable printing functions
- Labeling functions
- Browsing functions with browsing history
- Detailed information about each object and object group
- Cable and signal tracing within the harness
- Macro support
- Conflict Tables and Project Notes for making fast notes on harnesses
- Cable Harness Configurator
- 64-bit version
- Configurable and customizable workspace

Graphical User Interface

The Graphical User Interface (GUI) allows easy interaction with any object of the underlying data base. Harness Studio is intuitively to use even for very complex data sets. The GUI includes following main modules:

- Tree View
- Table View
- 3D Viewer
- Schematic Viewer
- Cross Section Viewer
- Formboard View

Table View

The Table View module shows information of a harness data file in table format. This module gives to you a free configurable view of all objects available in the harness database.

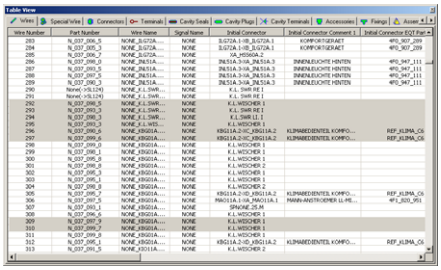
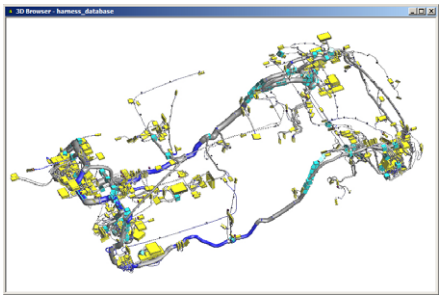


Table View

3D Viewer

3D Viewer for harness visualization has a large number of features for database previewing and selection of elements directly from the graphical window.



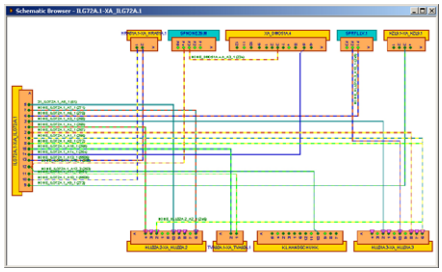
3D Viewer

Schematic Viewer

The Schematic Viewer shows schematics configured by the user just by selection of connectors. The STEP 212 routing data is sufficient, there is no need for additional data.

All connectors belonging to a selected connector or a module are extracted and visualized automatically. The schematic can be extended interactively by a mouse click on any connector.

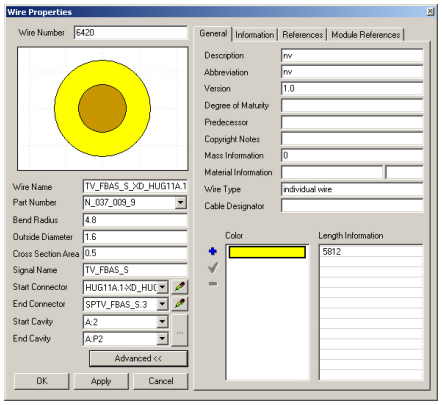
A maximum of data is shown in the Schematic Viewer window by applying multiple colors.



Schematic Viewer

Property Viewer

Property Viewer shows detailed information about each data base object. Any property of any object can be shown in the object dependent property windows.



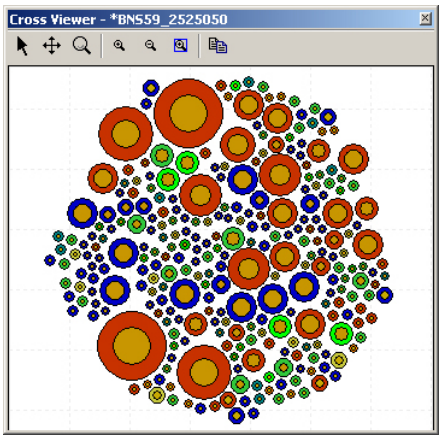
Property Viewer

Cross Section Viewer

The Cross Section Viewer shows the cross-section of any segment interactively. User can click on any cable and the appropriate selection in the cable table will be shown. Colours are shown according to a customizable colour list, this way realistic view of cable bundles is possible. Cable objects are linked to data base. With mouse click on cable additional information will be provided.

Research Topics of EMCoS

- Specialized software for EMC calculations
- Method of Moments (MoM)
- Transmission Line Methods (MTL)
- Method of Auxiliary Sources (MAS)
- Geometry pre processing, meshing and re-meshing software
- Data visualization software for complex cable harnesses
- Device modelling with behavioural models



Cross Section Viewer

High Flexibility by Customizable and Expandable Interfaces

Harness Studio is a powerful cable harness CAD program that can satisfy numerous requirements. Nevertheless if special demands make additional functions or program changes necessary, Harness Studio can be customized and adapted to fulfil nearly any requirement.

Please contact us for further information.

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