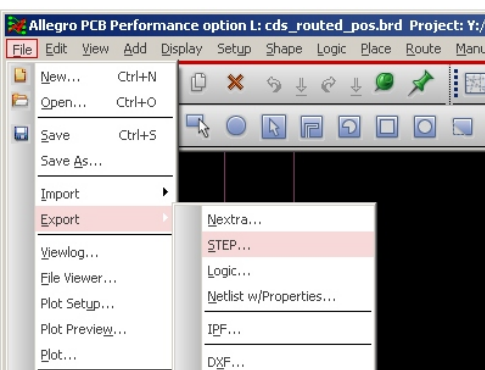


The NEXTRA® Allegro STEP Translator is a translator integrated into Allegro and OrCAD to export Allegro and OrCAD printed circuit board layouts into the STEP format to be imported into 3D mechanic CAD systems.

NEXTRA - ALLEGRO STEP TRANSLATOR



APPLICATIONS

The NEXTRA® Allegro STEP Translator allows exporting Allegro printed circuit board layouts as STEP (AP203/AP214) Files. These files may be imported into 3D mechanical CAD systems using their STEP import filter.

All elements of the printed circuit board are transferred into the receiving CAD system. This includes both geometric features of the printed circuit board like inner and outer contours of the board, mounting and via holes and the thickness of the board. Furthermore all elements of the circuitry are transferred as one or as multiple shapes of an electrical net.

The shape of the electronic components may be conveyed as simple swept contour shapes or as detailed 3D shapes by supplied 3D shapes. The structure of the printed circuits design in the STEP file is multi-level according the manufacturing process steps of the manufactured and assembled board. Using the imported printed circuit board design data in the 3D mechanical CAD systems any downstream application for further analysis and post-processing can be derived from there. Possible applications include thermal analysis and 3D wave simulation.

ADVANTAGES

The transfer of printed circuit board layout data from the electronics department into the mechanical design department using the NEXTRA® Allegro STEP Translator improves the communication between the departments that participate in the printed circuit board design or its integration into a mechanical housing or a mechanical assembly. Competing exchange formats like IDF do not convey all necessary information like footprints and circuitry shapes and are highly bound to vendor specifics.

Beside the fact to do collision checks of the board respectively the electronic compo-

nents to the surrounding mechanical assembly in mechanical CAD systems by transferring the entire printed circuit board geometry, the transfer of the circuitry shape may allow to identify electrical shorts to mechanical elements. Furthermore the transfer of the structured printed circuit board product data may allow managing the overall electro-mechanical product structure in the mechanical PLM system.

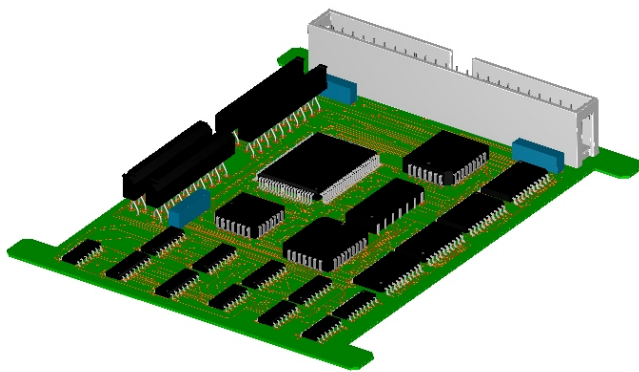
In the receiving 3D mechanical CAD system more formats like 3D PDF can be created from the printed circuit board geometry data.

NEXTRA - ALLEGRO STEP TRANSLATOR

INTEGRATION

The NEXTRA® Allegro STEP Translator is integrated into the graphical user interface of Allegro and OrCAD respectively. It is called on the currently loaded Allegro design and creates a STEP file using the name of the Allegro design. The selection of the STEP application protocol (AP203 or AP214)

to be used is done via a settings file. In that settings file it can also be controlled, if the geometric circuitry elements of a net shall be united into one shape or be transferred as individual elements.



FUNCTIONS

The NEXTRA® Allegro STEP Translator creates STEP files from Allegro printed circuit board designs as STEP application protocol 203 (Configuration Controlled Design) or AP214 (Automotive Design) for importing into 3D mechanical CAD systems. All geometric elements of the Allegro board are transferred into the STEP file. This includes:

- Board outline and inner contours (cutouts)
- Mounting and via drill holes
- Laminate layers of the printed circuit board
- Circuitry shape elements including all copper elements (pads, traces, copper areas,

teardrops and vias) as individual shapes or as one united shape for each net.

- Electronic and mechanical components as swept contour shapes or detailed shapes.
- Keep-in and -out areas for components, traces, vias and text.
- Property texts of electronic components like reference designators or part numbers on conductive layers

SYSTEM REQUIREMENTS

Minimum:

- Intel Pentium IV/AMD Athlon
- MS Windows XP SP3
- 1 GB MB RAM
- 500 MB free hard disk storage
- network interface card

Recommended:

- Intel Core 2/AMP Phenom
- MS Windows XP SP3 (32 or 64 bit) or higher
- 3 GB MB RAM
- 1 GB free hard disk storage
- network interface card

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