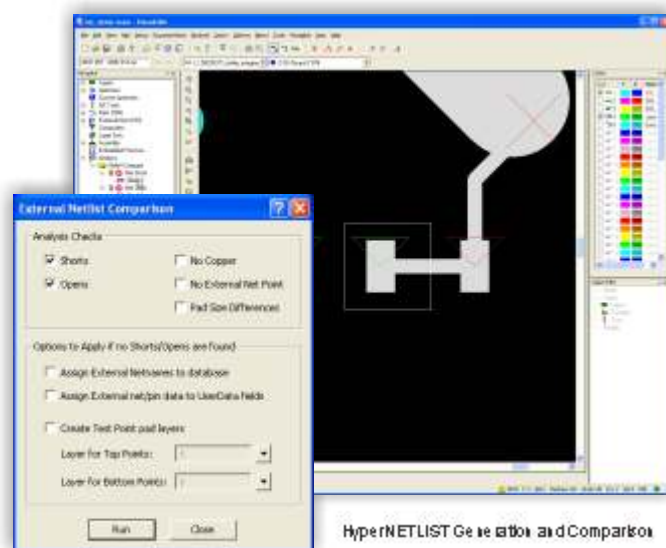


VisualCAM by WISE SOFTWARE

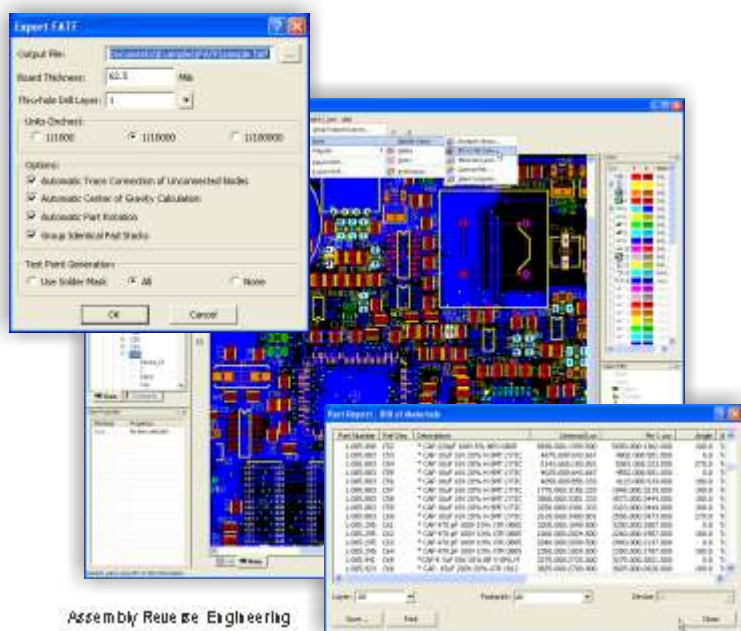
In today's electronic design industry, product complexity is a greater challenge than ever; when you consider that 4mil traces routed on 4mil spaces are now very common and clock speeds are pushing the GHz range on a regular basis. You need a manufacturing engineering tool that is powerful, affordable, and helps — not hinders — your flow of information from design to manufacturing.

Let us introduce you to VisualCAM. Based on WISE Software's 15 years of industry experience, VisualCAM helps designers, manufacturers, and assemblers to cut costs by providing superior Design for Manufacturing capabilities with an emphasis on Intelligent Data Transfer. Below are just a few of the features you can expect to find within VisualCAM.



Feature Highlights:

- ✓ Database Navigator provides quick and easy access to important design data and frequently-used functions. No need to hunt through menus and toolbars.
- ✓ Intelligent Data Transfer with native support of ODB++, ODB++ (X), and IPC-2581.
- ✓ Full support for traditional industry data formats (Gerber, Drill, Mill, IPC-D-356, HPGL, DXF, and more).
- ✓ HyperNETLIST Generation can create netlist information for even the most complex designs.
- ✓ Dynamic DfM Analysis Suite provides 75+ checks that cover Design Information, Design Rules Checks, Manufacturing Rules Checks, Design for Fabrication, and Embedded Passives. Dynamic *checklist* environment allows for *single-pass* analysis of an entire design.
- ✓ HyperNETLIST Comparison provides true graphical verification. Included during comparison is a Pin-Point Error feature, not found in competitive systems, that quickly locates your Shorts and Opens.
- ✓ Advanced Panelization makes quick work of any tooling process. Step *multiple* designs with ease. Powerful Venting, Thieving, and Robber Bars are included.
- ✓ Bare-Board Test Fixturing rounds out any production tooling process with support for bed-of-nails and flying probe test equipment.
- ✓ When working with traditional data formats, Assembly Reverse Engineering creates intelligent part information where none previously existed. Five unique levels of automated footprint/centroid extraction are available, allowing fast and easy processing of even high-density board designs.



VisualCAM will streamline your manufacturing engineering processes by eliminating costly revision spins, improving your time-to-market, and increasing your overall design quality. Visit the VisualCAM Web site today at <http://www.wssi.com/visualcam>, and download a trial copy that lets you take a closer look at the many features that VisualCAM has to offer, as well as evaluate VisualCAM's effectiveness on your own data.

Are you ready to take a more intelligent approach to your manufacturing engineering software needs? Our sales engineers are available for an in-depth consultation about how VisualCAM can meet your requirements.

Basic Features:

Single file, 32-Bit "Intelligent" Database Structure
High Speed Graphics
999 Layers
9999 Apertures
Integrated Printing
Polygon Support (*Intelligent Raster Fill, POEX/POIN, G36/G37*)
Compositing (*Pos & Neg Merging, Paint & Scratch, see also Object Polarity under Advanced Features*)
ODB++ Import & Export (*Support for Valor and Frontline Solutions*)
ODB++XML Import & Export (*Support for Valor and Frontline Solutions*)
OffSpring Import & Export (*Support for IPC-2581*)
DirectCAM Import (*Support for CAM350 Through Version 8.X*)
PADS ASCII Import (*Support for PowerPCB*)
Import Wizard (*Detects Gerber, Drill, Mill, HPGL, DXF, and Other Formats. Converts Aperture Tables and Reads Automatically*)
Automatic Aperture and NC Tool List Converter (*Rules Based, Supports Any System*)
Gerber 274D and 274X Import & Export
MDAAutoPlot Import & Export (*Fire9XXX, Cymbolic Sciences*)
Barco DPF Import & Export
NC Data Import & Export (*Support for Excellon, Sieb & Meyer*)
IPC-D-356 & 356A Netlist Import & Export
IPC-D-350 Export
DXF Import & Export
HPGL, HPGL/2 Import & Export
PostScript Export
Bitmap Output (*Windows BMP, Black and White, Color, up to 1000dpi*)
Editing Capabilities (*Move, Copy, Delete, Rotate, Mirror, Trim, Join, and More*)
Adding Capabilities (*Flash, Line, Arc, Circle, Rectangle, Polygon, Text, and More*)

Information Features:

Query Data (*Objects, D-codes, Nets, Net Length, User Data*)
Measure Data (*Point-to-Point, Center-to-Center, Edge-to-Edge*)
Reports (*Apertures, Drill, Mill*)
Redline Notes (*Document Changes, Problems, and More*)
Dimensioning (*Create Fabrication Drawings, Document Board Size, and More*)
Drawing (*Drill Charts, Balloon Notes, and More*)

Analysis Features:

Browse Errors Directly from Navigator (*Quickly Step Through Violations, Repair, and Check-off*)
Copper Area Calculation (*Fast and Accurate*)
Graphical Find Duplicates (*Quickly Locate and Remove Duplicate Data Objects, such as Flashes, Draws, and More*)
Graphical Layer Compare (*Compare Any Two Layers Quickly and Accurately, Browse Differences Through the Navigator*)
Design Information Queries (*Quickly check Min. Air Gap, Min. Trace Width, Number of Conductive Layers, Number of Drill Hits, and More*)
DRC w/AutoCorrect (*Track-to-Track, Track-to-Pad, Pad-to-Pad, Min. Track, Min. Pad, Board Edge, and More*)
HyperNETLIST Comparison (*Shorts, Opens, No Copper for Net, No External Net for Copper. Errors are Highlighted Using Navigator*)
Pin-Point Netlist Errors (*Quickly Locates Short and Open Errors from Netlist Comparison Results and Highlights the Location*)
DfM/DFI w/AutoCorrect (*Acid Traps, Resist Slivers, Copper Slivers, Starved & Isolated Thermals, Solder Mask Slivers & Bridges, Pin Holes, Registration, and More*)
Embedded Passive Analysis (*Passive Alignment, Bar Overlap, Bar Extension, Bar Width, Passive-to-Copper, Passive-to-Drill, and More*)

Macro Scripting Features:

Powerful Macro Developer (*Drag-and-Drop Capabilities and More*)
Load, Run, and Record (*Support for Start-Up, Shut-Down, and On-Load Macros*)
Support for "Nested" Macros (*Embed Macros within Macros*)
Integrated Debugger (*Watch Points, Stops, Step-Thru, and More*)

Advanced Features:

Database Navigator (*Allows Quick and Easy Access to Layers, Apertures, Netlists, and More*)
Custom Aperture Editor (*Build Special Pads, Logos, and More*)
Object Level Polarity (*Work with Pos & Neg Data on the Fly, Eliminate the Need for Composites*)
Interactive Data Grouping (*Group Objects Together for Fast and Easy Editing*)
Merge Multiple PCB Files
Layer Scaling
Layer Sets (*Define Layer Sets for Blind & Buried Vias and MCM Stack-Up*)
Interactive Draw-to-Flash Conversion (*See Automatic Draw-to-Flash below*)
Automatic Draw-to-Flash Conversion (*Convert All Layers at Once, Use Mask Layer as Guide, and More*)
Draw-to-Custom Conversion (*Convert Drawn Graphics into a Custom Aperture*)
Raster-to-Vector Conversion (*Convert Raster Fill Polygons to Vector Fill for Older Plotters*)
Drawn Text-to-True Text Conversion
HyperNETLIST Generation (*Supports SMT, Thru-Hole, Blind & Buried, and MCM*)
Silkscreen Clipping (*Clips Silkscreen Away From Pads*)
Composite-to-Layer (*Flattens Any Composite Down to a Single Positive Layer*)
Pad Removal (*Isolated or Redundant*)
Tear-Dropping (*True-Shape and Snoman*)
Film Spread (*Tile All Layers to Single Sheet of Film*)
Basic Panelization (*Step and Repeat Your Data Fast*)
Intelligent Step & Repeat Codes (*Gerber and NC Data*)
Automated Stencil Enhancement (*Quickly Enhance Generic Paste Stencils with IPC-7525 Shape Definitions*)
Automatic Solder Mask Generation and Optimization
Automatic Paste Mask Generation and Optimization
NC-Drill Editing (*Create, Add, Edit, Sort, Multiple Tool Tables, Advanced Mfg Features, and More*)
NC-Mill Editing (*Create, Add, Edit, Sort, Multiple Tool Tables, User-Defined Tabs, Advanced Mfg. Features, and More*)
Advanced Panelization (*Step Multiple Design Files, Full Venting/Thieving, Robber Bars, and More*)
Venting/Thieving (*User-Definable Patterns: Solid, Dot, Hatch, Starburst; Integrated with Advanced Panelization*)
Panelize Multiple Data-sets (*Using Advanced Panelization*)

Assembly Reverse Engineering (Optional Module):

Integrated Footprint Library (*Control "Master" Footprints, Device Creation & Association, and Pin Numbering*)
Automated Component Footprint Identification (*Identify Using: Footprint Library, IPC-D-356, Silkscreen, Centroid, or Manual ID*)
BOM Import (*Finalize Reverse Engineering with Part Numbers, Device Descriptions, Values, and Tolerance Data*)
FATF Export (*Support for Industry Standard Tecnomatix/UNICAM*)
Generic ASCII Centroid/COM Export (*Universal Output Support with Full Access to All Data Elements*)