

Cadence SPECCTRA for OrCAD

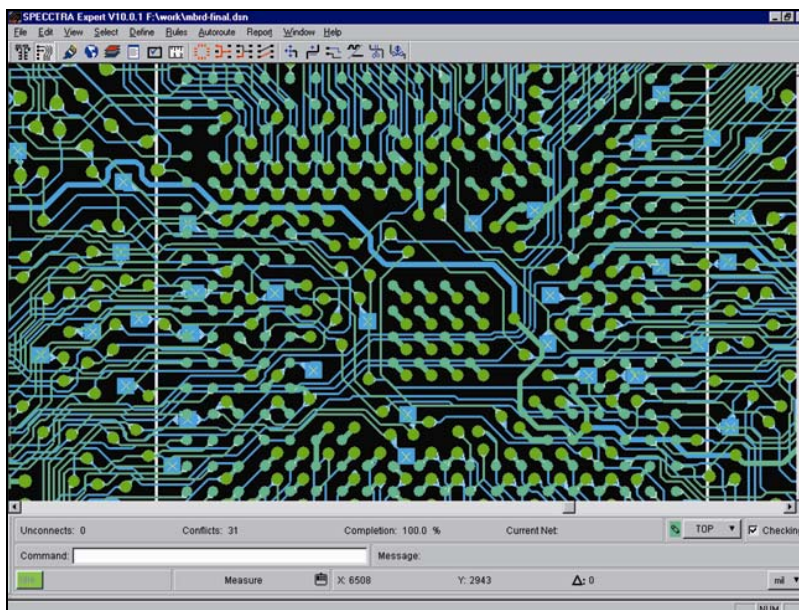
For robust PCB interconnect routing

Cadence® SPECCTRA® for OrCAD® solves the challenges of complex interconnect routing with powerful, automated technology. This robust, production-proven autorouter includes a batch routing mode with extensive user-defined routing strategy control as well as built-in automatic strategy capability. SPECCTRA for OrCAD achieves faster, more efficient routing using algorithms that look at the design and draw from a library of proven strategies based on the design's content. It then configures and executes the router as required.

An interactive routing environment, SPECCTRA for OrCAD features realtime interactive trace pushing and shoving aids to make quick manual edits to traces. An interactive placement environment with extensive floorplanning functionality and complete component placement features eliminates the need to switch applications to make placement changes to optimize routing. By using the auto-interactive floorplanning and placement capability designers can improve routing quality and productivity, which are directly related to component placement. The autorouter's extensive rule set can control a wide range of constraints from default board-level rules to rules by net /net class and regions.

BENEFITS

- Provides a cost-effective, scalable, proven interconnect solution
- Offers a complete interconnect environment
- Includes floorplanning and routing
- Enables faster, more efficient design with automatic routing
- Includes a comprehensive feature set
- Reduces route-fix-route iterations
- Allows shape-based, 45-degree, interactive, and automatic routing



Advanced autorouting technology effectively handles dense, highly constrained designs

FEATURES

FEATURE SUMMARY

6 signal layer limit	Interactive via search
Shape-based or gridded autorouting	Interactive routing with shoving and plowing
SMD fanout	Interactive floorplanning
Trace width by net and net classes	Online design rule checking
Staggered pin support	Flip, rotate, align, push, and move components
45-degree ECO routing	Placement density analysis
Memory pattern routing (SMD or through-hole)	

AUTOROUTING

SPECCTRA for OrCAD provides powerful, shape-based autorouting with fast, high completion rates. Its routing algorithms are designed to handle a wide range of PCB interconnect challenges—from simple to complex, low density to high density—as well as the demands of high-speed constraints. These powerful algorithms make the most efficient use of the routing area. To find the best routing solution for each case, the router uses a multi-pass, cost-based, conflict resolution algorithms. An extensive rule set provides the capability for physical and electrical constraint control. The extensive rule set has the flexibility to handle specific rules on various routing elements in a design. Users can define rules required to meet common physical/spacing net rules and class rules.

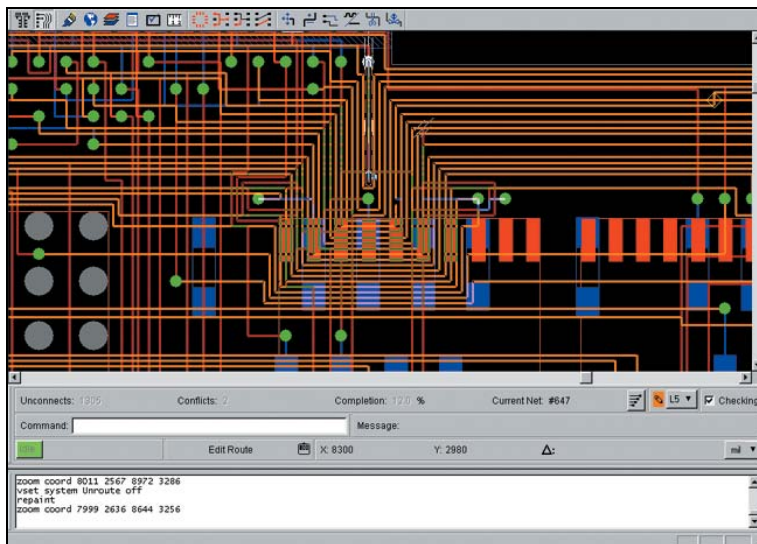
INTERACTIVE ROUTE EDITING

The SPECCTRA for OrCAD route editor simplifies and streamlines the etch editing process. As new conductors are routed, the plowing feature automatically pushes aside existing conductors and routes around pins. Using the shoving feature, designers can move conductor segments or vias against existing traces and push ahead over other pins and vias if necessary. A ghosting feature makes it easy to evaluate “what if” scenarios. As a conductor segment or via is moved under cursor control, the surrounding conductor is shoved and displayed dynamically so the adjusted routing can be evaluated before accepting a final configuration.

The route editor is ideal for dense, multilayer boards where legal via sites can be difficult to find. Vias are positioned by simply clicking twice at a chosen location. If possible, the chosen site is made available by shoving conductors aside on layers as needed. If not, the route editor displays a design rule violation and shows the legal via sites nearby. In addition, the copyroute feature, which allows an existing route to be copied to complete unrouted bus connections, simplifies bus construction.

PLACEMENT EDITING

The placement editor allows designers to quickly place components while simultaneously evaluating space, logic flow, and congestion before beginning the route or as needed during the routing process. The *Move* mode allows components to be flipped, rotated, aligned, pushed, and moved either as individual components or as a group. The location can be accepted or rejected by the user. Components can be placed by directly entering their X-Y locations. This capability is particularly useful for placing connectors and components with fixed locations. Density analysis graphically displays circuit congestion by overlaying the PCB with a color map showing a range of areas—from highly congested areas to lightly congested. This helps determine where placement adjustments could be made to relieve congestion and improve routing completion.



Placement editor allows you to evaluate space, logic flow, and congestion at all stages of the routing process

PCB EDITOR INTEGRATION

The PCB routing technologies are tightly integrated with the PCB editor. Through the PCB editor interface, all design information and constraints are automatically passed to the router. Once the route is completed, all route information is automatically passed back to the PCB editor.

SYSTEM REQUIREMENTS

- Pentium 4 (32-bit) equivalent or faster
- Windows XP Professional, Vista Enterprise
- Minimum 512MB (1G or more recommended for XP and Vista Enterprise requirements)
- 300MB swap space (or more)
- CD-ROM drive
- 65,000 color Windows display with minimum 1024 x 768 (1280 x 1024 recommended)

SALES, TECHNICAL SUPPORT, PRICING AND TRAINING

The OrCAD product line is owned by Cadence Design Systems, Inc. and supported by a worldwide network of Cadence Channel Partners.

For sales, technical support, pricing, or training information contact EMA, a Cadence Channel Partner:

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