

FREQUENTLY ASKED QUESTIONS



Q. What does Tanner EDA do?

A. Tanner EDA provides easy-to-use, PC-based electronic design automation (EDA) software solutions for the design, verification and layout of analog/mixed-signal integrated circuits, ASICs and MEMS. Its tools automate and simplify the design process.

Q. How long have you been around?

A. Tanner's first product, L-Edit, was launched in 1988 shortly after Dr. John Tanner realized the need for cost-effective and easy-to-use EDA tools that would give the engineers the performance and flexibility to handle complex design flows and help speed their design concept to silicon.

Q. What products do you provide?

A. Tanner Tools includes:

- **L-Edit®**, an integrated line of products for layout editing, verification, and placement and routing of analog/mixed-signal ICs, ASICs and MEMS. An intuitive and programmable interface minimizes the user's learning curve. Support for industry-standard file formats such as GDSII, CIF, DXF, SPICE, and EDIF allows for convenient interfacing with other tools.
- **HiPer Verify®**, which automates design rule checking for deep submicron manufacturing. Foundry-compatible rule support allows it to run Calibre® and Dracula® foundry files natively, without conversion or modification.
- **T-Spice®**, which enables schematic entry, waveform analysis and circuit simulation of IC designs.

Q. Who are your customers?

A. Our 4,000-plus customers include a number of leading integrated circuit providers worldwide as well as a number of publicly and privately held fabless chip companies. Most of these companies are developing circuitry for biomedical, imaging, power management, RF, wireless and Bluetooth applications. Specific users include Catalyst Semiconductor, Honeywell, Jet Propulsion Laboratory, NEC, Sarnoff Corporation, Ricoh Company, Xerox Corporation and many others.

Q. How do your products compare to those from Mentor and Cadence, for example?

A. Our tools are compatible industry-standard data interchange formats, including GDS-II, EDIF and CIF. Many customers enjoy the price-performance advantage of our tools and integrate them into a multi-vendor flow. Other customers find that the Tanner Tools meets their needs completely and prefer the simplicity of working with a single vendor with integrated support.

Q. Do you have relationships with foundries so that our design can be manufactured more easily?

A. Yes. As our product line has evolved, we heard from customers that compatibility with foundries is very important. Tanner's HiPer Verify program, for example, includes support for foundry rules and can run industry-standard Calibre® and Dracula® files without conversion or modification. Tanner has a long-standing relationship with MOSIS, enabling customers to create prototype silicon or small amounts of silicon cost-effectively.

Tanner also has established a collaborative arrangement with X-Fab to provide Tanner Process Development Kits for mixed-signal devices to enable a faster path from concept to product. The kits can be mixed with standard digital parts for CMOS process technology.

Finally, Tanner also has a relationship with EuroPractice and CMP.

Q. What does it cost to start using Tanner Tools?

A. A designer can get started with Tanner Tools for around \$7,200 U.S. The Tanner EDA sales team can provide more details.

Q. I think I might have used Tanner Tools for a university project. What's different about them today?

A. Tanner Tools have come a long way since our first programs were sold in 1988. Tanner Tools initially ran under DOS, were limited to 16 layers and orthogonal geometry, had CIF output only and no schematic front end, simulation, or verification backend tools. Today, Tanner Tools offer designers a complete integrated solution to get from initial concept to silicon including schematic entry, Spice simulation, schematic driven layout, programmable cells, all angle geometry, interactive DRC, hierarchical Calibre-compatible DRC, extraction, LVS, standard-cell place-and-route, and a host of productivity features. If you haven't used our tools recently, about the only thing you will recognize in our latest suite is how quick to learn and easy to use they still are, even with a tremendous amount of new functionality.

Q. Can I use Tanner Tools for part of my project, then use other tools for other parts?

A. You can use Tanner Tools for your entire design flow, or use them for part of it. Our products are complementary to those from other vendors.

Q. What kind of customer support do you offer?

A. We provide in-depth and personalized customer service, which sets us apart from the typical software company. Our in-house designers and specialists spend a significant amount of time working with customers to maximize the capabilities of Tanner Tools for their unique designs. We also have, over the years, used input from customers to shape new versions and capabilities for our tools.

Q. What is the learning curve to use Tanner Tools?

A. Tanner Tools were intended to be very easy to use, because our founder, John Tanner, found other vendors' solutions to be exceedingly complex and difficult to use. Some customers have told us they are up and running with Tanner Tools in a half hour or less out of the box. The tools use a simple interface and since they are Windows-based, the look and feel is intuitive to PC users.

Q. What parts of the IC design flow do you cover?

A. Tanner Tools provide a full design tool suite for IC design, including schematic capture, analog simulation, mask layout, standard-cell place and route, and verification, including design rule checking, circuit extraction and comparison of layout versus schematic netlist. See the Tanner IC Design Flow diagram for more information.

Q. How often do you release new versions of the tools?

A. We have major releases every 12-18 months with other updates provided several times yearly.

Q. As a current user, do I receive updates of the tools?

A. Customers with the maintenance program receive updates in addition to the telephone and electronic customer support provided.

Q. How are your tools sold?

A. We sell our tools through a direct sales force in North America, Japan, and Taiwan and through distributors in Europe, Singapore, Malaysia, China, India, Korea and the Middle East.