

R&D Fast Mover 'Really Killer Systems' Hails CADSTAR

C A S E S T U D Y



Really Killer Systems, is a Research and Development firm based in Fayetteville, Georgia USA, specializing in control units for a wide variety of products such as coin operated pool tables and remote control model airplanes. Their business is based on offering highly specialized designs for small volume production that can be quickly placed into full production.

In 2006, Really Killer Systems, better known as RKS, came to the realization that their current desktop PCB design tool could potentially be holding back their opportunities for growth. With so much weighing on making the 'right choice', they embarked on an extensive evaluation considering approximately eight different software packages readily available in the market place. As part of this process, they tested each of the tool's 30-day trials to the maximum, and for CADSTAR, they also worked through the step-by-step Do-It-Yourself Manual.

Over the course of the evaluation period, RKS worked closely with Tropical PCB Design Services, a major USA CADSTAR distributor. By attending CADSTAR training run by Tropical, RKS was able to get up and running with the tool in record time.



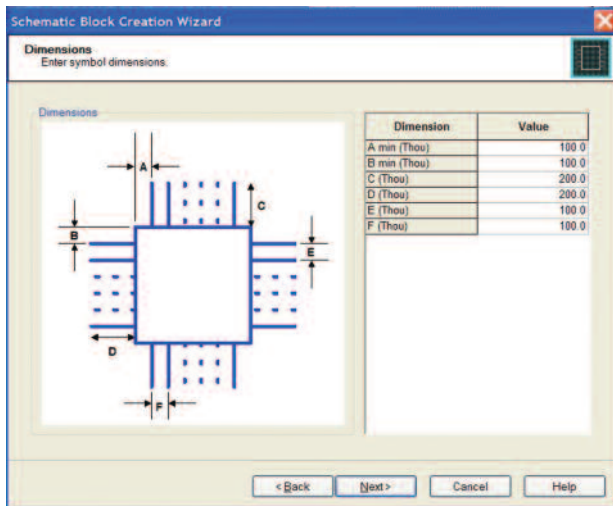
Goose-it Voucher Printing System

"The guys at Tropical and Zuken have been really great; they went out of their way to work with us and were always on hand to answer any questions or resolve issues," said James Beck, System Engineer from RKS, Inc.

Ease of Use Delivers Quick Turnarounds

CADSTAR is a powerful desktop PCB design solution with capabilities such as 3D Design, interactive and high-speed routing and variant management as well as a host of other features. By combining this with an easy-to-use integrated approach, CADSTAR enables companies like RKS to design leading-edge technology while delivering the quick turnaround and high quality demanded by their customers.

James Beck explained how important ease of use is to them. *"We work on many small projects that have tight delivery cycles, so we need to be able to create components or symbols very quickly and have the ability to go back and forth between schematic entry and board layout. CADSTAR's advanced design functionality and ease-of-use allows us to design more rapidly - assisting us in maintaining our reputation as one of the fastest R&D firms available!"*



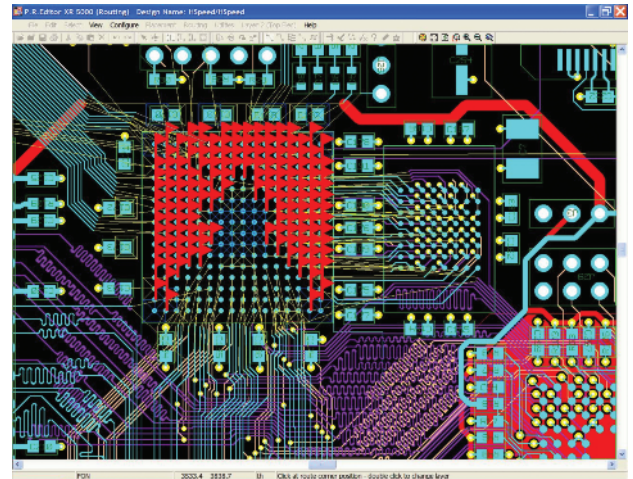
Schematic Symbol Wizard

Cutting Edge Routing

In terms of cutting edge technology, RKS was particularly impressed with the routing functionality in CADSTAR.

"The P.R.Editor router is just unbelievably cool! After fighting with our old router - to have a tool that does more than I need is a breath of fresh air," said Beck.

P.R.Editor XR is the most advanced high-speed routing solution available in the CADSTAR environment. It is an auto-interactive routing tool that combines refined technology that comes from Zuken's pioneering bloodhound routing algorithm, with the latest innovations being Trunking, H-Tree Routing, and Interactive Lengthening.



P.R.Editor XR 5000

Trunking addresses issues associated with handling different routes, busses, or differential pairs collectively as one entity, enabling users to quickly sketch routes; facilitating fast up-front planning and manipulation of a collection of signals as a one group.

Designing for tightly constraint balanced H-Tree topologies within P.R.Editor XR is a straight forward process using the H-Tree router, which provides an efficient interactive routing solution for this commonly used topology.

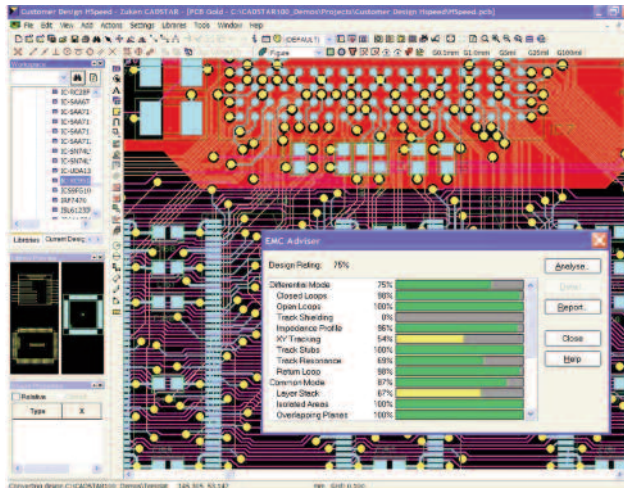
Handling length and skew control is also a quick and easy process using a new interactive lengthening tool that maximizes exploitation of available real estate.

3D Environment

For RKS, whose projects are largely based on backfilling an existing unit where they are required to work with strictly defined form factors and connectors, a robust 3D PCB layout environment is essential. By using CADSTAR 3D for visualization, measurement and design rule checking, RKS can guarantee a correct fit before a prototype is manufactured. Being fully integrated within the design tool means that any component placement changes on the board within the 3D environment will be back annotated to the PCB, delivering yet more time saving advantages.

EMC/SI Analysis

The diversity of the design projects that RKS is commissioned to complete implies that on a regular basis they are involved with complex PCB designs where electromagnetic compatibility (EMC) is an issue. To enable full control analysis and verification of design constraints that affect EMC, RKS uses CADSTAR EMC Adviser. This add-on allows the design team to identify potential EMC or signal integrity problems at the earliest stage possible, which in turn minimizes the effects of design changes, reducing the overall development cost and speeding up the design cycle.



EMC Adviser

Designing a Gaming Network with CADSTAR

One of RKS's biggest projects since the implementation of CADSTAR is a product known internally as Mutha Goose and Gaggle. This is officially a gaming network that has been created for small to medium gaming rooms to manage the bookkeeping and voucher systems used in applications such as slot machines and computer games. The main network control unit (known as the Mutha Goose), pulls together the individual machines (or gaggle of goslings). Traditionally the small to medium sized gaming houses could only network up to ten machines together, this meant that multiple control units would have to be installed. There was clearly a demand in the marketplace for a single unit that would be able to network a more sizable group of machines.

After spending several weeks writing the product specifications, it called for the company to kick it into high gear and deliver the rapid development that they are so famous for. By using CADSTAR, RKS was able to turn this project around in three months and overcome the critical design factors that demanded a compact physical size while delivering a competitive price. The result was a master PC (Mutha) that would fit in an off the shelf enclosure with individual slave PCBs acting as the universal slaves (goslings); a solution that can handle up to 63 machines, while being totally self contained and tamper proof.

"Having replaced our PCB design tool with CADSTAR, our performance has rocketted. The intelligence and auto-interactive capabilities combined with being easy to use, allows us to be even more responsive and flexible to meet our challenging customer needs. The super fast P.R.Editor router is a revelation and the integrated 3D environment speeds up things even more; and with complexity breading more EMC issues, we can now create designs right-first-time using CADSTAR EMC Adviser. Time, quality and innovation under pins what we do, and CADSTAR enables us to achieve this!" said Beck.