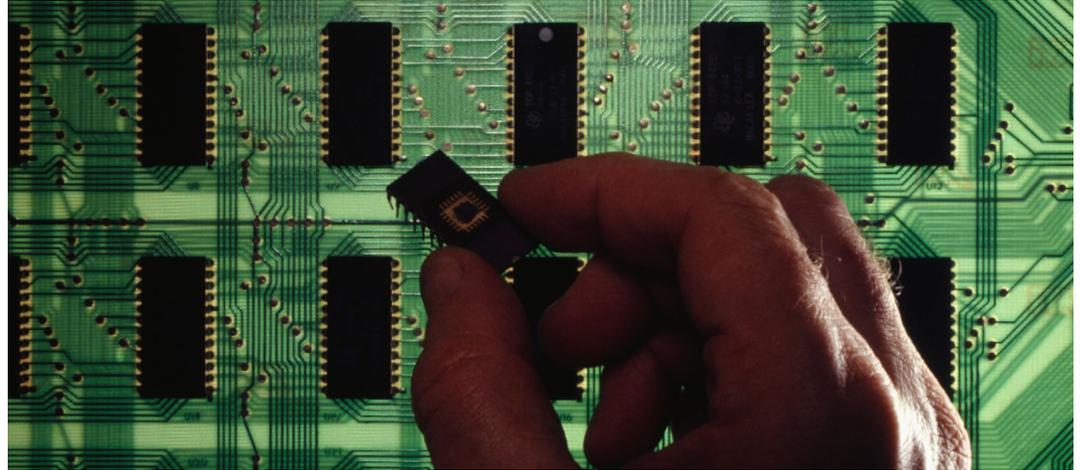


EMA Customer Success

First-hand user experiences from the trenches

Testimonial

“These features save hours, if not days, in manual placement time for our team per design. With the click-of-a-button, I practically eliminate the process of manually placing and grouping parts together by schematic association.”



Improving Design Time with CircuitSpace

By Joe Mignano, Marketing Specialist, EMA Design Automation

CircuitSpace offers advanced component placement and design reuse capabilities that expedite the PCB design process. Fully interoperable with Cadence OrCAD and Allegro PCB design technology, it allows designers and engineers to significantly improve their cycle times and increase overall design quality, all with a solution that fits their budget.

PCB designers have relied on CircuitSpace to expedite their design process for several years. One such customer is **Troy Snow**, Senior PCB Designer with an Original Equipment Manufacturer (OEM) located in Austin, Texas, who has been using this software throughout his career.

EMA: What are the end products your company creates, and what software do you use for your PCB design work?

Troy: Our company designs high performance semiconductor test equipment for all kinds of memory products, such as USB drives, flash products, and other digital technologies. Our PCB designs range in size from a few square inches to

over a square foot, and in complexity from 4 to as many as 18 layer stack-ups. Some of our smaller designs might have 100 or fewer parts, and some of the larger boards might have as many as 6,000 parts. We have used Cadence products exclusively for PCB design, including schematic capture, layout, and routing, for over ten years, and have recently upgraded to Cadence Allegro version 16.3. We had an outdated version of CircuitSpace at the time, and EMA helped us with an upgrade to that tool as well.

EMA: Can you describe your overall experience with CircuitSpace?

Troy: I have really enjoyed using CircuitSpace because of the increase in productivity it creates for myself and our design team as a whole. Different features help us eliminate manual, error-prone tasks, making the team more productive and significantly reducing the length of our design cycle. We use CircuitSpace on over half of our designs.

“For a small company like us, being able to tap into EMA’s technical resources and personalized support is invaluable. EMA provides support for our entire design flow, all in one place.”

EMA: How does CircuitSpace augment your Allegro design flow?

Troy: Once I receive my net list from Allegro Design Entry HDL, I use CircuitSpace’s AutoCluster feature to automatically group all my parts into functional, connected groups of components called clusters and place those groups on my board. Within minutes, all my chips, de-coupling capacitors, series terminations, and pull up/down resistors are linked together. I can then open a PDF of the schematic and see all my parts both grouped into their appropriate clusters and organized by schematic page. CircuitSpace will take all the components and then organize them by schematic sheet, which is a huge time-saver, especially when considering a design with four to five thousand parts and 80 to 100 or more schematic pages. These features save hours, if not days, in manual placement time for our team per design. With the click-of-a-button, I practically eliminate the process of manually placing and grouping parts together by schematic association.

EMA: What other features of CircuitSpace are useful to you and your design team?

Troy: The Replicate Cluster command has also been particularly useful to our team. Right now I have a 5,000 component design with several sections of the board that use similar circuitry. Once I have one circuit placed I am able to replicate the placement of the rest of these circuits automatically with CircuitSpace and then place those circuits like building blocks around a central FPGA. Analyzing the path of the rats nest, I am able to swap out the clusters until I get the arrangement that is the most efficient for routing. In some cases I can combine two clusters to build a larger circuit or merge clusters together before replicating. In many cases, I am able to combine groups of components into larger clusters with the push of a button and then replicate the placement and etch in similar clusters in a very short period of time.

EMA: How much time has this feature saved you?

Troy: There is no telling how much time I’ve saved with this feature. Being able to replicate clusters with two or three clicks, all in a matter of seconds, will probably save me days working on this particular design. Overall, the time savings offered by the various CircuitSpace capabilities are invaluable to our design time because much of the

repetitive manual process can be eliminated. For example, I can swap the clusters of components around like building blocks, decide if I like the results, and then swap them back to their original positions if necessary. How do you quantify that capability? I don’t know. All I can say is that CircuitSpace capabilities give the designer a lot of power to manipulate the placement of the components and the replication of etch with a speed and precision that would otherwise not be possible, saving countless hours in what would normally be duplicated manual effort for each individual circuit.

EMA: Are you satisfied with the support provided to you on this product from EMA?

Troy: For a small company like us, being able to tap into EMA’s technical resources and personalized support is invaluable. EMA provides support for our entire design flow, all in one place. We were very impressed with the assistance they provided with our latest Allegro upgrade. Janine, an EMA Application Engineer, provided me with tutorials that were especially helpful during the migration process to version 16.3. It is refreshing to be a phone call away from immediate assistance, as opposed to filtering through online forums or working with support centers halfway across the world.

EMA: Would you recommend CircuitSpace to other PCB designers?

Troy: ABSOLUTELY. In fact, several years ago I recommended CircuitSpace while employed with a different company. The lack of access to CircuitSpace’s automated component placement and circuit replication capabilities had a very negative impact on my productivity. CircuitSpace is well worth the additional investment for any engineering team with moderate to complex PCB designs.

For more information on the latest features and pricing for CircuitSpace, please visit www.ema-eda.com/circuitspace. An on-demand demo is also available on this webpage that will demonstrate CircuitSpace’s capabilities.

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