



## Customer Success

### First-hand user experiences with OrCAD Library Builder

#### Introduction

Interconnect Design Solutions (IDS) is a Printed Wiring Board (PWB) and Mechanical Engineering (ME) consulting firm that provides engineering solutions throughout the aerospace, automotive, telecom, and consumer electronics industries. The company principles bring a lifetime of PCB, Mechanical, and general product design knowledge with them including owner Mike Brown who has spent 25 years in the PCB design industry holding various design and management roles.

When Mike started IDS he set out with the goal of providing top quality design services and consulting at the best possible pricing he can offer. This means making sure his team is always maximizing their time and avoiding manual repetitive tasks.

To help keep his team at optimal efficiency Mike recently went looking for a better way to build PCB symbol and footprint libraries for their clients. Mike was kind enough to speak with us about his search, why he selected OrCAD Library Builder, and the results he has seen so far.

#### The Challenge

The IDS team often found itself needing to create and/or manage part libraries for their customers. Creating and managing these client libraries was a very manual process that could take up a significant amount of time during a project.

The average time to create a part without using OrCAD Library builder can exceed an hour per part. IDS engineers would need to manually build symbols and footprints from component datasheet specs and then manually verify the footprint and symbols match. With so many manual steps not only was a lot of time being used but the opportunity for error was greatly increased. Furthermore the effort spent on these tasks was not usually accounted for in the overall project timeline. "Library management is not typically something customers have

**"Library management is not typically something customers have budgeted time or money for. We needed an effective way to ensure the libraries were correct without impacting our customer's timeline and budget"**

**- Mike Brown, President, IDS**

budgeted time or money for," said, IDS President, Mike Brown, "We needed an effective way to ensure the libraries were correct without impacting our customer's schedule and budget."

#### The Solution

After a thorough search, IDS selected OrCAD Library Builder to streamline and improve their library creation process for a number of reasons:

##### Quick Standards Based Library Creation

OrCAD Library Builder provides a dramatic reduction in library creation times. IDS engineers were able to quickly build up complete symbol and footprint libraries that can be used for their client projects. With OrCAD Library Builder a part that used to take over an hour to build was finished in just 10 minutes. Features like automated padstack creation and built-in support for IPC-7351 as well custom footprint specifications ensures the physical symbols are correct and they are using are in compliance with their target manufacturing tolerances and guidelines.

##### Automated Symbol and Footprint Verification

Often the IDS team is provided with an OrCAD Capture schematic to bring into PCB layout. This gives them a list of parts and symbols to use which they will need to associate with

footprints and then check to ensure the footprint and symbol match. Since company standards on library creation vary wildly this can be quite a challenge. Typically the solution would be lots of manual effort visually inspecting the parts to ensure they match which adds up quickly in time and money. OrCAD Library Builder includes automated checks to identify mismatches and makes it easy to fix errors saving the IDS team time while ensuring the parts are error free.

Similarly, if IDS is handling both the schematic and PCB design OrCAD Library Builder allows both the logic symbol and footprint to be built at the same time eliminating common naming issues that are not often identified until packaging the netlist.

### Savings for the Customer

Overall OrCAD Library Builder was able to help IDS in their mission to provide best-in-class design services at a value that can't be beat. By applying OrCAD Library Builder to their process the IDS team is able to control costs and schedule overruns due to unexpected library issues. "With OrCAD Library Builder we are able to reduce our library creation time will improving our overall quality." said Mike Brown, "This is a savings we can pass right back to our customers."

**"With OrCAD Library Builder we are able to reduce our library creation time while improving overall quality. This is a savings we can pass right back to our customers."**

**- Mike Brown, President, IDS**

Manual errors are virtually eliminated. Should a value inadvertently be keyed into the component parameters, the package can be re-opened within the OrCAD Library Builder, modified then re-output for use within minutes. With the manual methods, such an error would result in reviewing all dimensions mathematically, correcting the found error and possibly rebuilding the part from scratch.

### Future Work

While OrCAD Library Builder is already providing an immediate benefit for IDS and their customers, they are evaluating some additional features to further improve their workflow and provide value added services to their clients. One of the areas being explored is the ability to generate 3D STEP models as part of the PCB footprint generation process. This capability is especially

useful for IDS as they also provide a full set of mechanical design services including 3D design and analysis making them truly a one-stop-shop for product development.

As the lines between electrical and mechanical design blur the need to be able to review the board design in a 3D space is increasing. Automated generation of these 3D PCB component models from OrCAD Library Builder make it easier for the IDS team to spot fit issues early in the process without spending a lot of time building models in their mechanical CAD tools. "Generating the 3D component models makes it easier for us to provide fully accurate fit studies for our customers. It also aides us in areas like thermal analysis where the true component shape and size is critical to producing accurate real world results. We look forward to exploring this capability further."

### About IDS

Interconnect Design Solutions is a Printed Wiring Board (PWB) and Mechanical Engineering (ME) consulting firm that provides engineering solutions throughout the aerospace, automotive, telecom, and consumer electronics industries.

Interconnect Design Solutions can help you achieve your design goals as a complete outsource solution, an extension of your in-house design team in periods of peak demand or as a sub-contractor to be called upon as needed without added overhead costs of having a full time staff. Learn more about IDS at: [www.ids-pwb.com](http://www.ids-pwb.com)

### About EMA Design Automation

EMA Design Automation offers leading product development solutions including electrical and mechanical CAD software, engineering data management, reliability analysis, consulting services, training, and support. EMA is a Cadence® Channel Partner supporting OrCAD®, PSpice®, and Allegro®.

Learn more about OrCAD Library Builder at: [www.ema-eda.com/OLB](http://www.ema-eda.com/OLB)

### Sales, Technical Support, and Training

For more information, please contact EMA Design Automation, a Cadence channel partner.

877.362.3321  
[info@ema-eda.com](mailto:info@ema-eda.com)  
[www.ema-eda.com](http://www.ema-eda.com)