

Thermal Solutions

Sauna™ V4.55 Release Notes

Welcome to Version V4.55 of the Sauna thermal modeling package.

About Sauna V4.55

Sauna V4.55 includes a series of enhancements which primarily target circuit board modeling. Key changes include improved trace and pad drawing in shade mode, library additions (14 packages), easier modification of copper weight, direct specification of the number of vias (as opposed to specifying via density), and more. Also, several bugs related to circuit board modeling were fixed. So if you are modeling circuit boards, you should definitely install this update. To learn more about the changes, please see "Sauna V4.55 New Features" on the next page.

Sauna V4.55 vs. V4.51, V4.52

Sauna V4.51 and V4.52 were mostly bug-fix releases and were provided to just a limited number of users. There was no V4.53 or V4.54. Since the new release does have a number of improvements, it was decided to use V4.55 to signify that this is more than a minor release.

These release notes assume that the user is upgrading from V4.50.

Revisions to user manual exercises

If you are learning Sauna for the first time, it helps to have exercises where you can enter all commands exactly as shown. So the Sauna installation includes the latest version of these exercises (available through the Start Menu):

- *Introductory Exercise 5: Basics Of Circuit Board Modeling*
- *Introductory Exercise 6: Multi-Plate Box With Internal Board*
- *Intermediate Exercise 3: More On Circuit Board Modeling.*
- *Intermediate Exercise 11: Surface Assemblies And Metal Core Boards.*
- *Supplemental Exercise 1: Transient And Duty Cycle Analysis*

For everything else, the exercises in the Sauna V4.35 User Manual are current.

Installation

To install or update Sauna, see the "Installation" chapter in the Sauna User Manual. The method is the same as for previous Sauna releases. The password is the same as for Sauna V4.50.

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Thermal Solutions Inc., 3135 S. State St., Suite 350C, Ann Arbor MI 48108 www.thermalsoftware.com 734-761-1956

Sauna V4.55 New Features

Improved trace and pad drawing in shade mode

To understand the pad drawing enhancement, please see Figure 1:

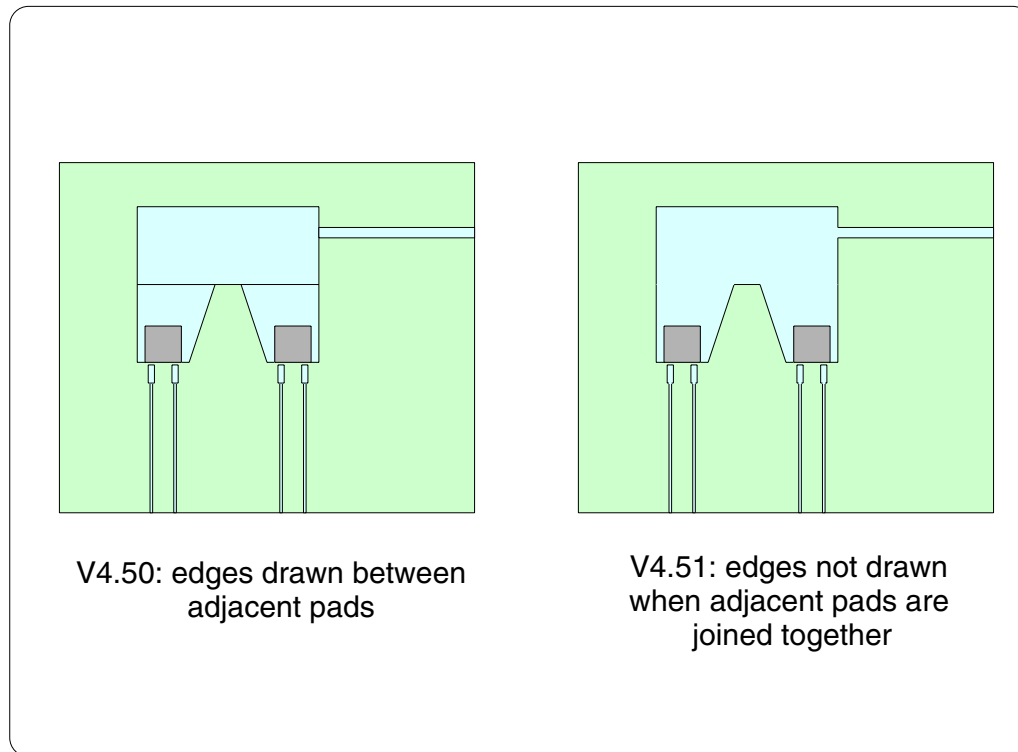
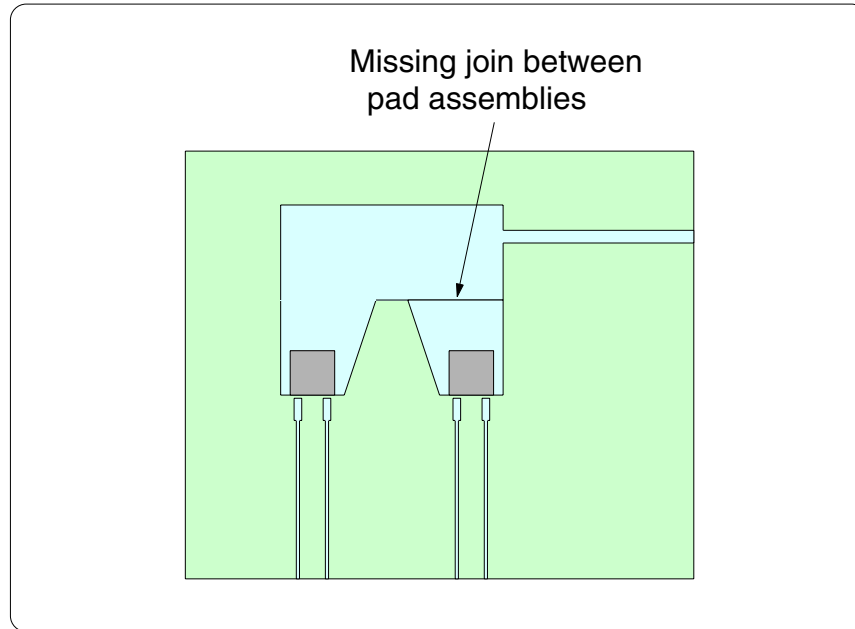


Figure 1: Improved pad drawing for V4.55

During shade mode drawing, Sauna now checks to see if a pad is adjacent to another pad. If so, Sauna then checks for edge joins. If a join is found, the edge is not drawn because the copper is continuous. The result is a more physically realistic image which is more pleasing to view.

The change goes beyond cosmetics. Since Sauna is checking for joins during shade mode drawing, you will quickly notice when you have forgotten to create a join (see Figure 2 on the next page).

After installing, please open one of your existing circuit board models and enter shade mode. You will notice the difference right away.



Component library additions

- Standard SMD resistor packages (2512, 2010, 1812, 1210, 1206, 0805, 0603, 0402)
- Long side terminated SMD resistor packages (1225, 1218, 1020, 0612, 0406)
- On Semiconductor Power 88 package (8 mm x 8 mm with heat slug)

Directly specify number of vias (not via density)

- Specify number of vias for a group of nodes or an entire assembly
- Use **Setup** → **Display** → **Node** → **Via Density** → **Vias/Node** to show actual number of vias assigned to each board node
- Report for board indicates both via density and total number of vias

Easy move or copy of pads between layers

- In previous versions, layer numbers were not updated when moving or copying pads between layers
- Sauna V4.55 updates layer numbers automatically

Easier modification of copper weight for internal layers

- Modification of copper weight for outer layers has always been a simple one-step process
- Modification of copper weight for internal layers is more difficult, Sauna V4.55 includes refinements to make the process easier
- See the new Tech Note for recommended procedure:
www.thermalsoftware.com/tech_notes/Tn2.pdf

New "solder mask" surface type

- Solder mask surface type has emissivity of 1.0
- Provides a way to compensate for extra area found on circuit boards due to pins, connectors, passive components which are not modeled, etc.

Misc changes

- Can edit the surface type for an enhanced source
- Several bugs were corrected

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