

Slices Unleashed

Designing the slices in the APS3000 program is very easy but needs a thorough understanding of the program and what it actually does.

Imagine a surfboard that consists of perfectly fluent curves where deck, bottom outline and rail are created in total harmony. Lets call it the **CARVER**. The APS3000 program can do that easily.

Maybe your dreamboard is more a techno shape where you change curves at certain positions to influence and direct the curve for a desired purpose. Lets call it a **TECHNO** shape, the APS3000 program can design this very easily too.

Most surfboards will be a mix of the two, just the hardening of the rail in the tail area goes already towards TECHNO, a hip, winger or a S-deck are Techno shapes while often guns and malibus (longboards) tend more towards the Carver.

Rule1: The program needs 3 slices to be able to complete the board

When designing slices, always start from scratch. Delete all slices and leave only the center slice, design the center slice to your liking and.... here starts the expert bit:

When you CREATE A NEW SLICE, the program copies the closest slice and positions it at the defined location. If you followed the above instruction we only have the center slice and if we create a slice around the 1' off position at tail and nose, it will be a copy of the center slice as there is no other slice closer by. Compare it to filling a sausage skin from the center outward, but in the case of the APS3000 program the new slices will be adjusted to the thickness (defined by deck and bottom) and width (defined by the outline) of the board.

Let's do it, open a file (any will do), go to SLICES and delete all slices except the center one. Redesign the center slice with a single concave and create new slices around the 1' mark at nose and tail by going to the menu, SLICES --> ADD NEW SLICES. That was easy, wasn't it? And the result would be a perfect CARVER as the program would connect those slices in a perfect smooth manner. now it is important that you save this board as HARMONY. Go to FILE --> SAVE AS and name it HARMONY. Very good. Now open the file HARMONY, go to FILE --> OPEN --> choose HARMONY and click ok. Now we have the total harmonic board HARMONY on the screen as well as the possibility to control the changes we will make relative to the original (if SHOW ORIGINAL BOARD is clicked under SHOW/HIDE. To keep fluent lines this is an important control tool as we do not want humps and bumps along the rail line.

Now go to the tail slice, zoom in at the right half and design a D-concave by pulling the outer bottom point up to $x=0$ and work the tangents to your desire. You can see the change as the original slice shows grey. Here is a tip from Jim Tomlinson who has designed and machined thousands of boards on the APS3000: remember how many times you hit the arrow key to get to the new position. When you "harden" the tail rail, move all other rail points by the same amounts of clicks and your board will stay "fluent". Listen to him, he knows what he is talking about. For all tricky design questions, e-mail him on jt@aps3000.

Do exactly as before with the far nose and the far tail slice, JT recommends the far tail slice to be around 10mm from the tail (3/8") and the far nose slice around 2" from the nose. These slices need normally only little manipulation according to JT. You can now move through your board (while in SLICE mode) by holding the shift key and clicking on the board outline pic, hold down the left mouse button while moving along inside the board and you see the white slice of that position. To get rid of the white slice, just drag it out of the tail of the board and it will be gone.

The Harmony in this board has now been slightly destroyed but most surfboards will have a technical influence somehow. And keeping Rule 2 in mind will help you make the “perfect” boards.

Rule 2: A slice is like a point a position the program has to bring the curves through. If you manipulate a slice that is between two others, you create havoc with the flow of the curves. Always delete all outward slices first, manipulate the slice you want to change and recreate the outward slices.

The more boards you design with the APS3000 program the more sophisticated your designs will become. To be able to reuse “that perfect slice” we have incorporated an import and export function for slices. Love the tail slice of your last creation? Open the board, go to SLICES, activate the slice you like, go to FILE --> EXPORT --> SLICE and give it a name to be able to identify it later, like Dconvave300 for example. When you import this slice into a new design, it will adjust its shape to the new boards dimension but otherwise be a carbon copy. With this tool you can create a valuable rail library. If you want to import a center slice, delete all slices except the center slice, import the slice you like (FILE --> IMPORT --> SLICE), position it near the center and then delete the original center slice. Then you can move the newly imported slice, if desired and after selecting it, by SLICES --> MOVE CURRENT SLICE.

Want to do something tricky like a concave in the nose area of a malibu? Go about like this: delete all slices in front of the center slice, create a slice where you want the concave or bevel concave to end and design that slice. Create a new slice in front of that slice where the concave is deepest and create the bevel/concave. Create a new slice in front of that slice where you want the concave to end (begin when you look from the nose) and design the slice to your liking. The APS3000 program will do the rest. Use the WALKTHROUGH function to see your creation.

Now that you are the master of slices and in control of the harmony of your board, go a step further and use the GHOST function to compare/copy slices. Remember that if you want to view different slices, or move the slice of the Ghost board, just press G and the action key (arrow, space bar etc.). Play with it and experiment.