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PC Board CAM Workflow

Rev0

Use this document to create toolpaths in PC Board CAM

Open File

You will have to make sure that you save out your Gerber file in the correct format so that you can load it into the Board cam software. Here is some additional file types that PC board game will open.

For our example we will open up sample file 2

We get a prompt on the screen that the highlighted track defines the card Contour path choose yes. This basically tells the software that this line is the cut out line of the board

Board dimensions

Check to make sure the board dimensions are correct.

The thickness for the PC boards I include in the kit are 1.32 mm so enter the thickness is 1.4 so the drills will go all the way through.

Alignment

We can then use some of the alignment features to align our board to a point on the design as well as rotate the board if needed

Set up tools

We will now go in and set up our tools the first time we use the software

Engraving Tool

We will set the engraving tool to tool number one for engraving the circuit layer.

Cut out tool

We will set tool number two as our cut out tool and we will use a 1/16 inch flat in mail

Drills

We will set up the drills for each of the drill holes.

We can use different size of drills for each hole or we can let the drill route out the holes to do the exact size that it is specified in the design.

If we let the drill route out the holes then we can use one drill for all the hole sizes.

Or we can use each individual drill size.

Set tools

We will now go in and tell it which tools to use for which operations. We will choose how we want it to drill out the holes.

Create Tabs

Create tabs for the cut out/Contour cutting
Machine>Card Contour>Add cutting tabs....

We are going to add taps to the contour cut out so the board will stay in the material and then we can break it out. This will be when it uses tool number two the 1/16 inch tool to cut out the board. We do this at the last step in the cutting process.

Calculate contours

We can then generate the tool paths that will be used to isolate all of the circuits.

When the set contours dialog box open it allows you to set the number of tool pass that it will create around each circuit I typically only choose one.

Drills

Choose drills to use for each hole size

We will open up the Drills List and set the parameters for which drills to use for which hole size range.

We can now preview the cut

Output Parameters

We will set the output parameters and choose the machine we're going to use to cut out the board with and make sure all of the settings for that machine are correct.

We will choose what file name the software will give the toolpath file

We could choose to have the file sent direct to the machine. If the machine is hooked up.

Create the toolpath file

Choose Mill Icon or Machine>Mill

We will now create the toolpath that we will send to the machine.

In the Final output dialog box choose

Section #1 Engraving layer #1

Section #2 Drilling Tool 1

Section #3 Drilling Tool 2

Section #4 Drilling Tool 3

Section#5 Cutting out

We will now select the origin point we are going to use on the milling machine

One sided board

If you are cutting a one-sided board then you can use the lower left-hand corner

Two sided board

If you are going to cut a two sided or you need to use the center of the board and the origin point after you have added the centering holes go back to File>Origin and set origin to center by dividing board size/2. To find board size go to File>Dimensions

Select Ok - To Start Cutting

Board either starts cutting or you have created a text file with the toolpaths. Send the text file to the machine through the V Panel software.