

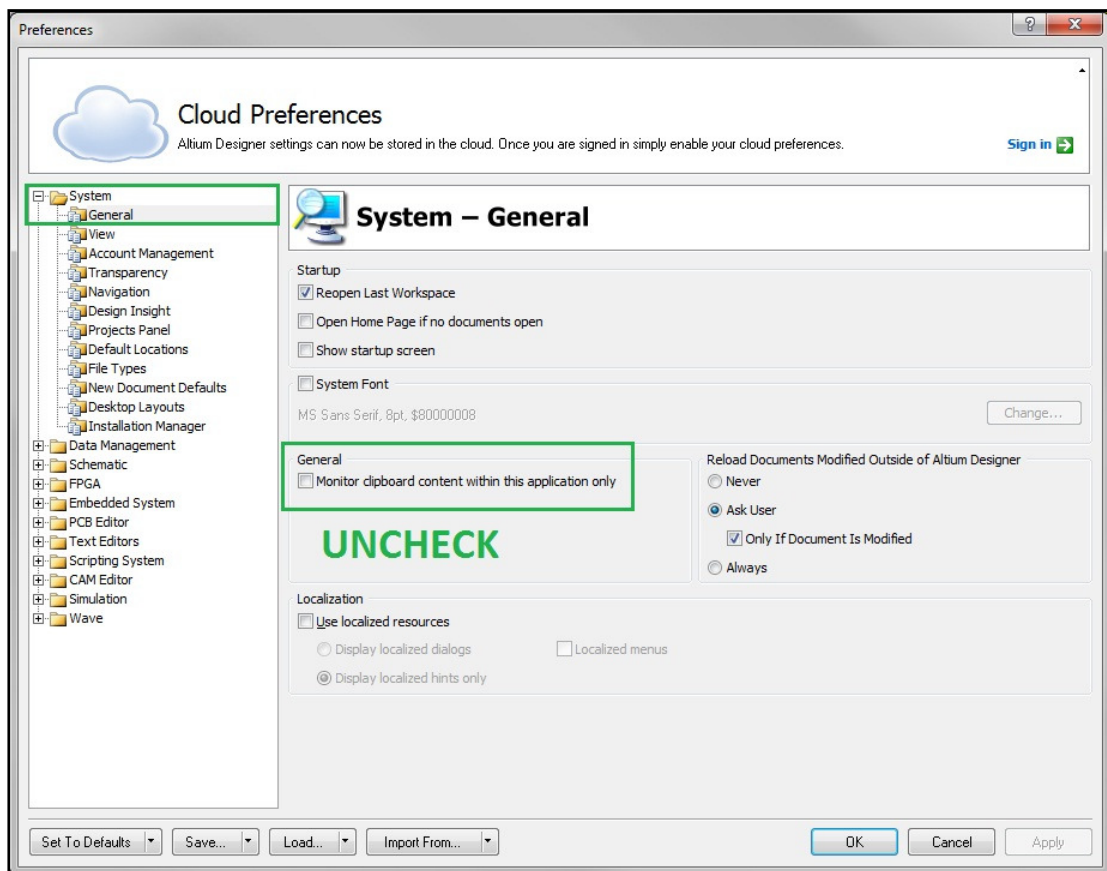
2 Importing Bitmap Graphics to PCB

There are several ways to get bitmaps into Altium designer so that you can take a logo or graphic and use it directly on a PCB. This is fantastic to provide great looking graphics in copper, silkscreen, solder mask or any other layer and really customize your boards. This works best if you optimize the image in a black and white drawing, though generally the process will distinguish between black and non-black pixels.

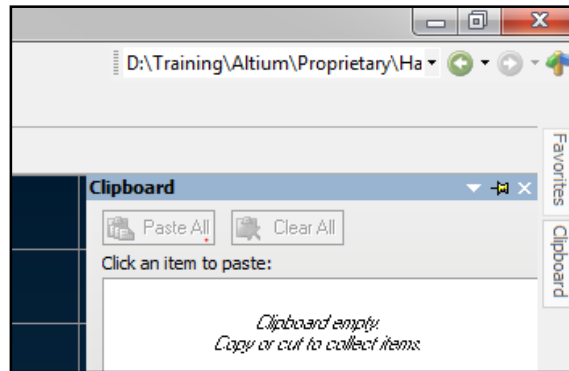
2.1 Importing a Logo Using Windows Clipboard

A very easy way is to use a program like Word or WordPad to put the image you want on the Windows clipboard which Altium can access. This method does not appear to work properly to create the part in a PCB library such that it can be resized, but it should work to put the image directly on the PCB and be resizable. Here's the process:

1. Open Altium preferences to System > General and uncheck "Monitor clipboard content within this application only" so that Altium will look at any data that goes on the clipboard.



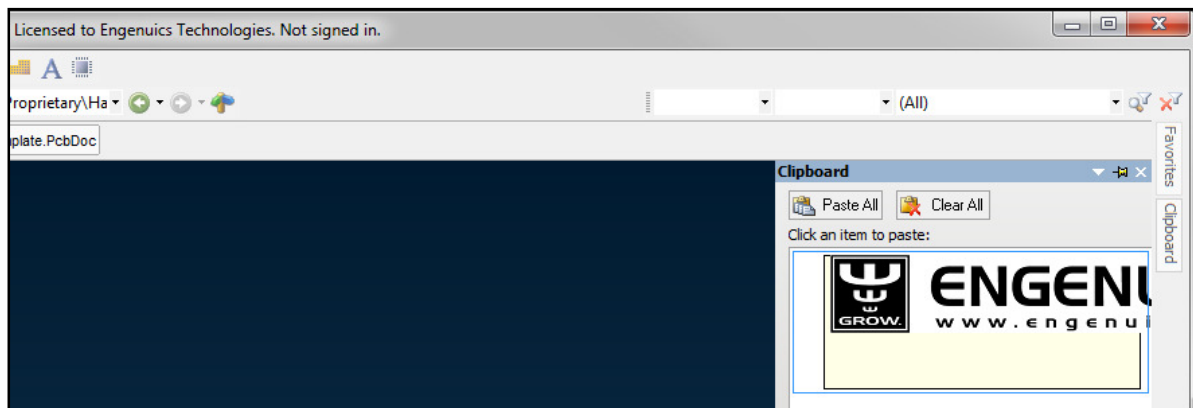
2. Open the PCB file where you want to use the logo.
3. Click "Clipboard" in the top right corner to expand the clipboard viewer.



4. Open Word or WordPad and insert the image you want into a document.
5. Highlight the image as you would select a line of text. Do not just click the image which gives you the resizing boxes as this does not appear to put the image on the clipboard that Altium can access. The picture below shows the incorrect and correct selection in Word.



6. Press Ctrl-C with the image highlighted. If you have Altium open, you should immediately see the image appear in the Clipboard window.



7. Activate the layer tab on which you want the image and left click the image on the clipboard (or right-click and choose Paste).
8. Depending on the size and complexity of the image, wait some time while the bitmap is processed. Eventually the image will appear on your cursor for you to drop down.



9. As soon as you drop it, the cursor will remain as crosshairs and you can resize the image. Note that in our Altium version (Platform 24352), there was some strange behavior with the resized image as if the program kept a copy of the original size image to reference and displayed an artifact if any of the primitives were selected. This does not appear to impact the Gerber file output.



10. To resize the image at another time, right-click somewhere on the image and select Unions > Resize Unions. Click again on the image with the crosshairs cursor that appears and this will bring back the resizing nodes.
11. To change the layer, use a selection box to highlight the entire image and then use Inspector to make the layer change.

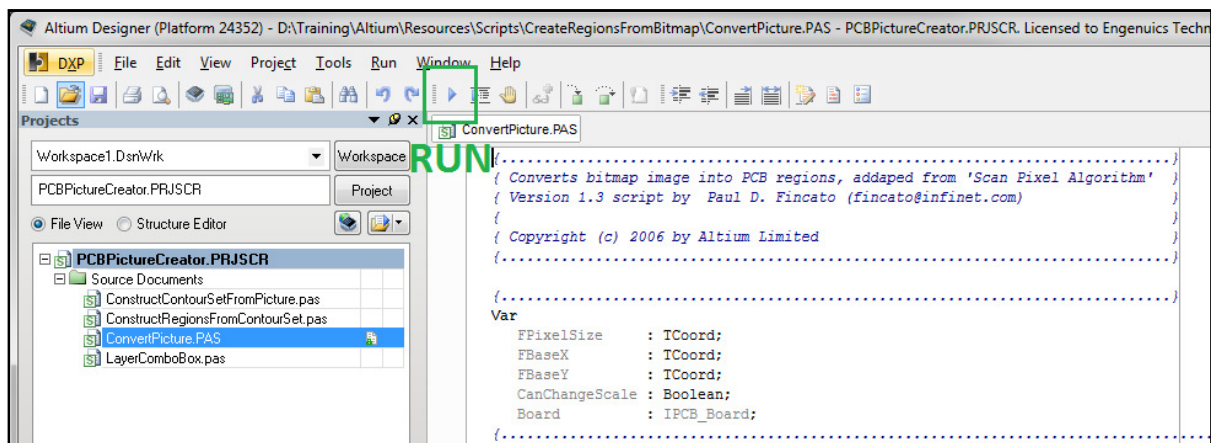
2.2 Importing a Logo Using the PCBPictureCreator Script

A slightly more complicated way to get a drawing in to Altium is with a script. This seems to create a better quality image, though the clipboard method gives it a pretty good run for the money and is much faster. Running the script provides more options for scaling the image.

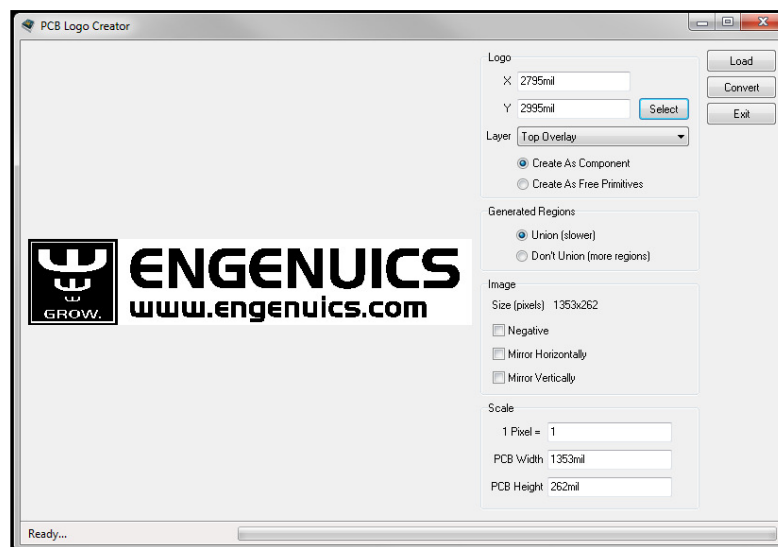
The PCBPictureCreator script is superior to another common script used for this purpose called PCBLogoCreator. PictureCreator creates the image as regions, whereas LogoCreator uses tracks thus moving the image around is substantially slower as thousands of tracks have to render. Both scripts used to come from Altium with the software, but it seems they no longer do even though the Altium Wiki still talks about them. Fortunately, there are copies of both in the course Resources folder thanks to a helpful user at www.edaboard.com.

The image generated with the script can be scaled as the script is set up to run, but not afterwards. Sizing is entirely based on pixels, so the optimum source image will be exactly the size you want the result to be.

1. Open Altium and choose File > Open. Make sure "All Files (*.*)" is selected.
2. Navigate to \Resources\Scripts\CreateRegionsFromBitmap and open PCBPictureBox.PRJSCR. The file will open like a regular project in the Projects workspace panel.
3. Left-click "ConvertPicture.PAS" which will open the script.
4. Click the "Run current script" button or press F9. A new PCB document will open, and the PCB Logo Creator dialog box opens.



5. Click "Load" and navigate to your image file.



6. "Logo" is the X,Y position of where the logo will be placed.
7. Set "Layer" to the desired layer for the output graphic (this can be changed later).



8. Select whether you want the logo as a component or as primitives. You likely want primitives so different parts of the logo can be edited.
9. Set “Generated Regions” to “Union” – the logo creation process will be slower, but the resulting image will render faster as you move it around.
10. Set image and scale options as required. We found that the regions the script creates are the non-black colors. We want the black part of the image in the example shown to be in copper, so the “Negative” box must be checked.
11. Click Convert and wait patiently while the script executes. It can take minutes depending on your computer and complexity of the logo. The wait is worth it, as you will end up with a great looking image where all continuous copper sections are complete regions making for a relatively fast rendering part.



12. Copy the part to a PCB library component if you wish. Once in the library you can change layers or adjust the image as you want.
13. Close the script file and project.