

Vinyl Cutting

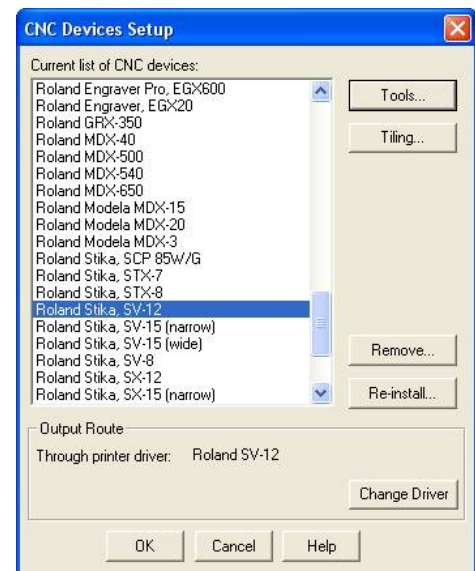
Task: Produce a Technology Room Sign using the Roland Stika SV-12

Open the TechSoft Design Tool – 2D Design V2. This is the same program used with the CNC Router.

We will be using the Roland Stika SV-12 pictured here so we must first select that device from the list of CNC devices available for this program.

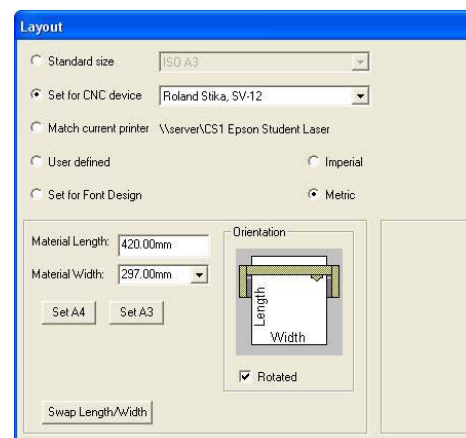
Setting up the Program

To do this, go to the **Setup** menu and select **CNC Devices**. From the list, select the vinyl cutter Roland Stika SV-12. Make sure at the bottom of the dialog box that the Output Route is also set to the Roland SV-12. If it isn't, select **Change Driver** to select it.



Now go to **Setup, Drawing, Layout** to set up the size of the vinyl you will be using.

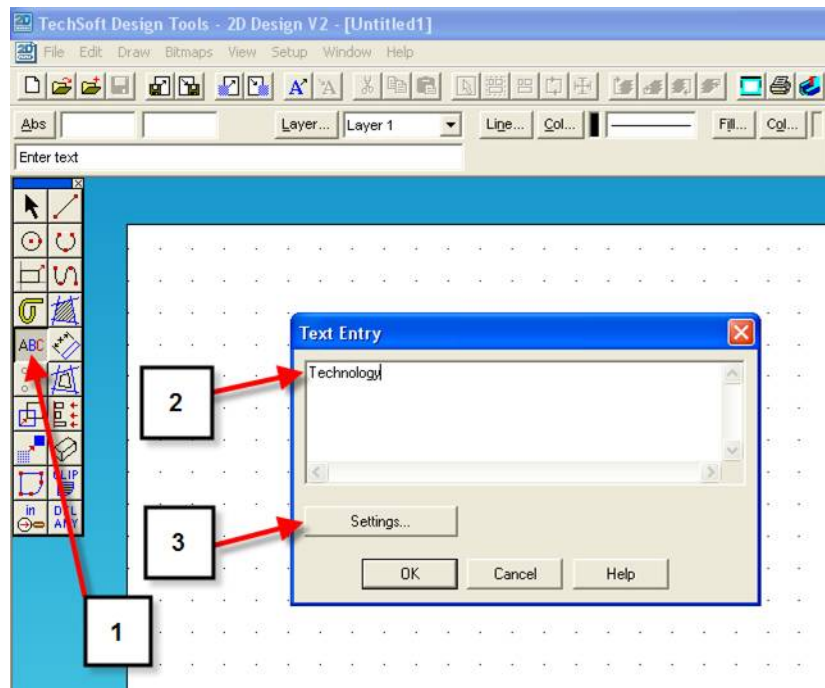
It is a good idea to limit the length of vinyl that students can use. For this project, set the length to 150mm.



Creating Text

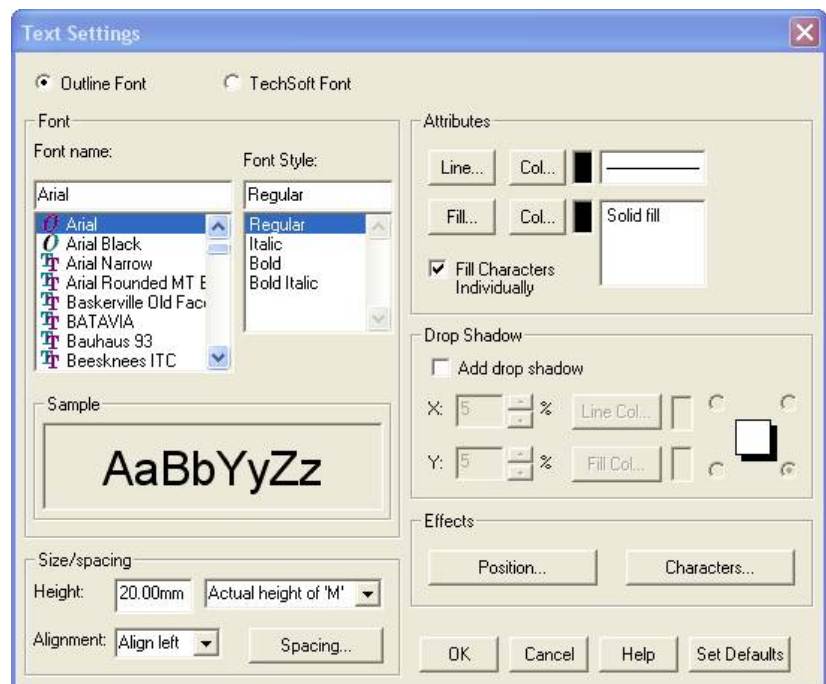
Select the Text button on the toolbar, click where you want the text to appear and type the word Technology in the box.

To change the font and size, press the Settings button.

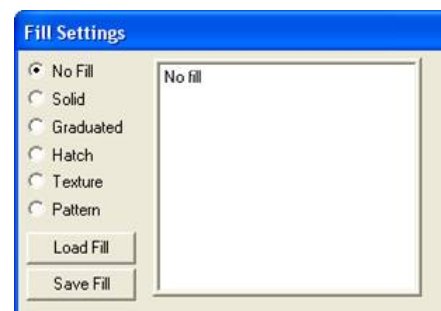


Select a font

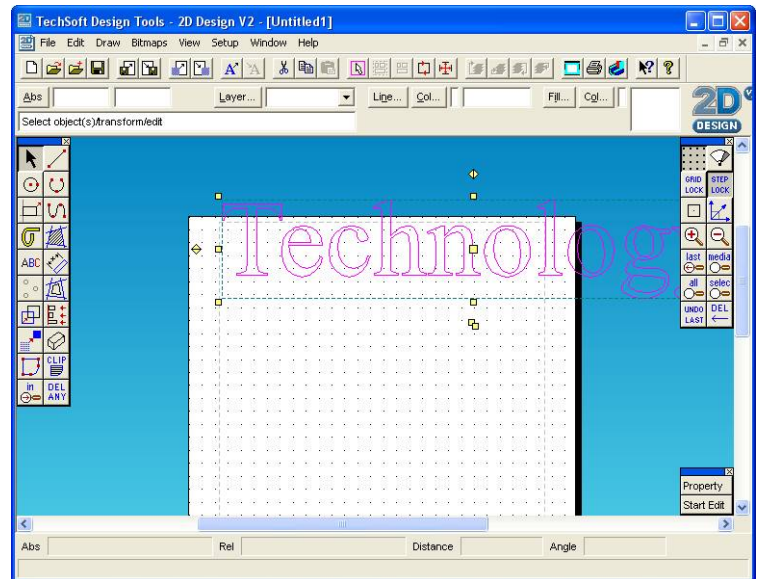
You can set the height of the text here. If the text is too large, you can come back into these settings and change it later.



It is important to turn off the Fill while in these settings. Press the **Fill** button and select the **No Fill** option.

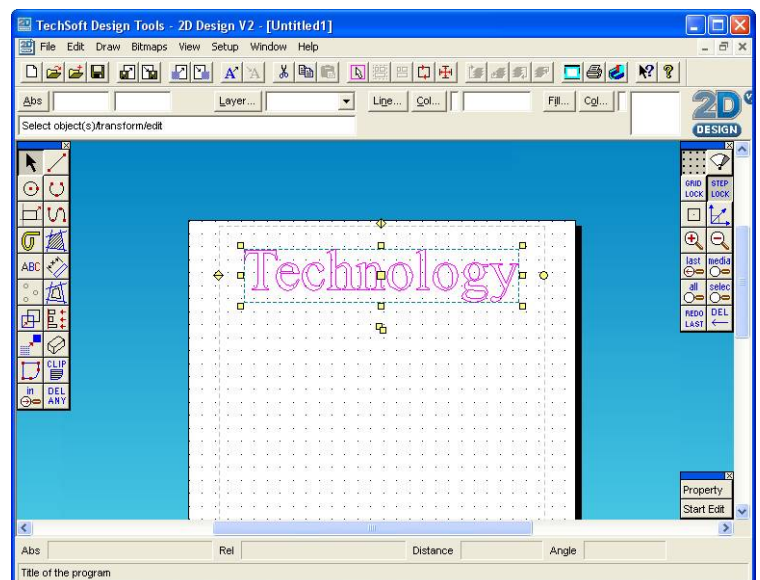


In this screenshot, the word Technology is too large and will not fit onto the vinyl. To change the size of the text, click on the pointer icon and click on the text so it turns purple. Two buttons appear in the bottom right of the screen. To change the size of the writing or even to change the text itself, press the Property button.



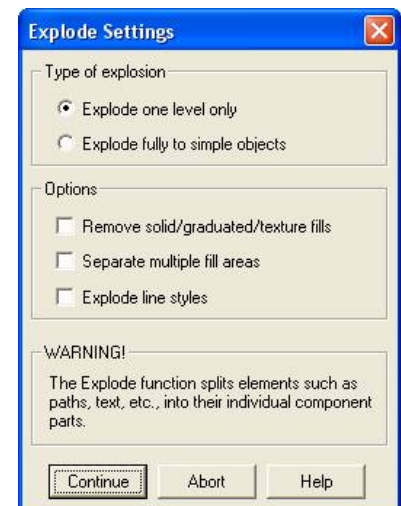
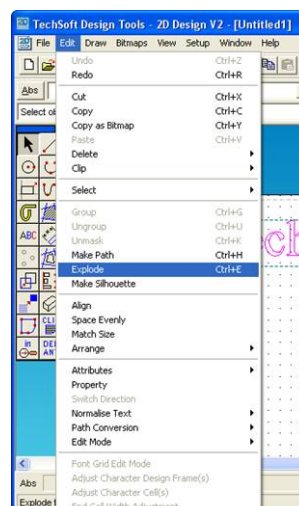
Change the size of the text so that it fits between the grey lines as anything outside that area will not be cut.

Leave some extra space as well for a border.



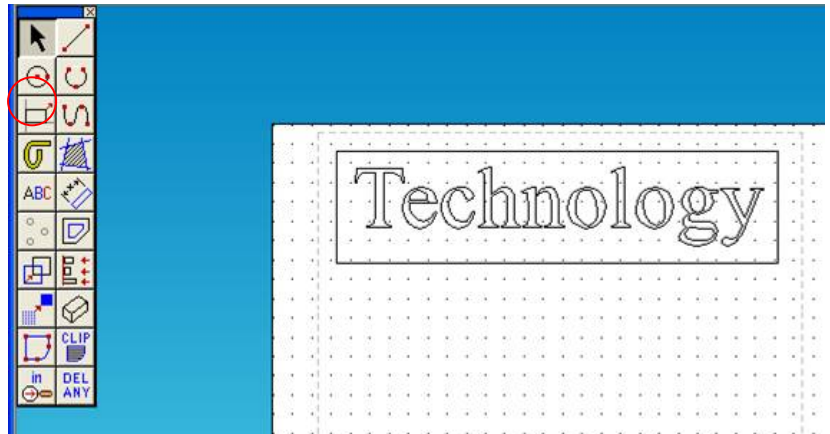
For the cutter to follow the outline of the text, it needs to be Exploded. To do this, go to the **Edit** menu and select **Explode**.

Choose **Continue** from the dialog box that appears.

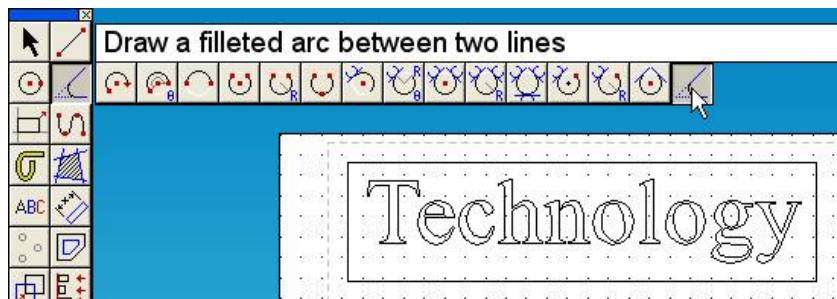


Drawing the Outline

Use the Rectangle setting on the Shapes toolbar and draw a rectangle about the text.



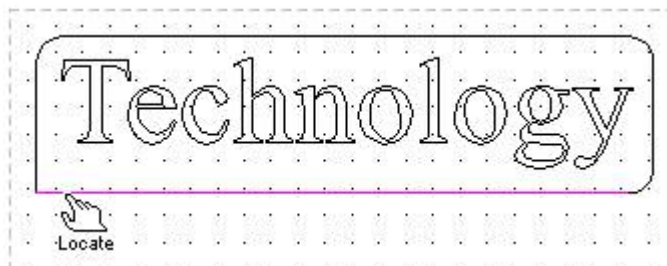
To fillet the corners of the box, select the fillet option.



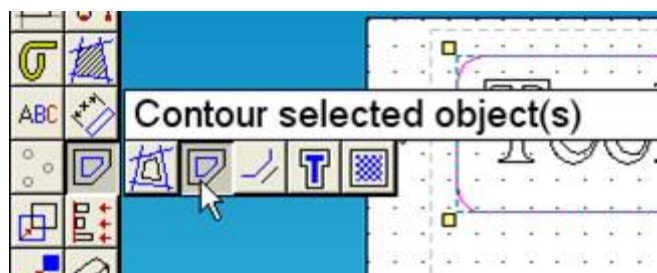
Type in an appropriate fillet radius.



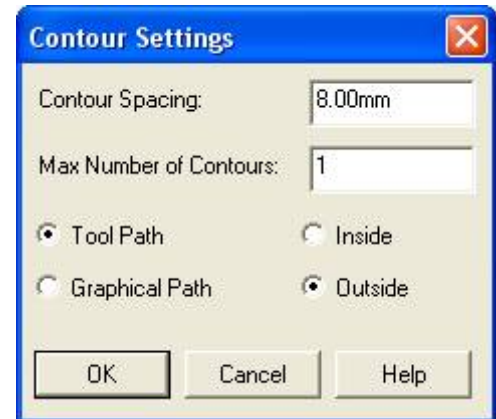
Select the corners to fillet.



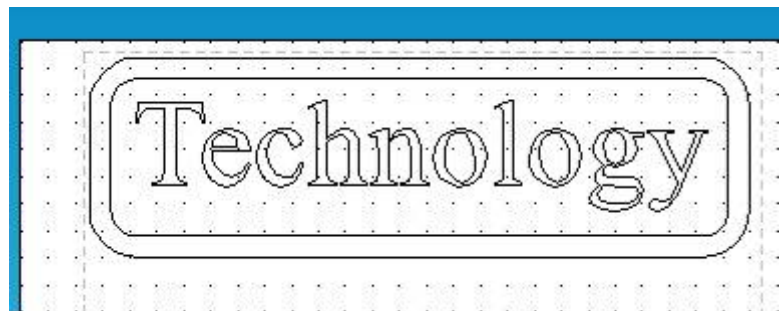
The easiest way to draw a second line around the outline is to select **Contour**



Set the contour spacing to 8mm and select **Outside** from the dialog box. This will draw an 8mm line around the outside of the existing outline.



The finished sign should look sometime like this. Note that the drawing does not go outside the grey lines as mentioned earlier.



To cut this sign out, go to the **File** menu and select **CNC Output**.

Make sure the CNC device is the Roland Stika SV-12 and that the Output Range is set to All.



Before selecting Output, ensure that the Vinyl is loaded into the Stika from the front and that the blade is set to the correct depth.

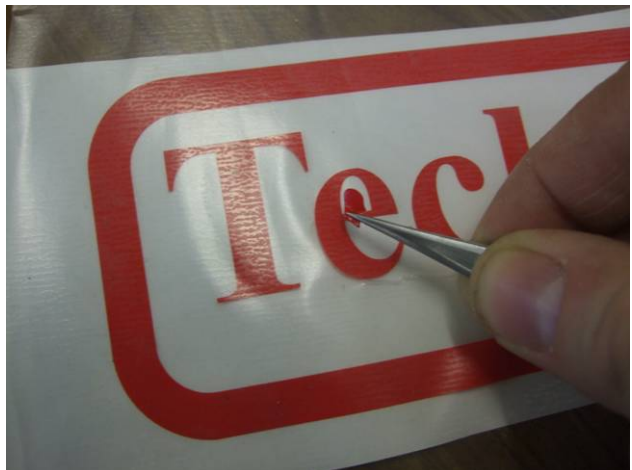
Once the sign has printed and you have cut the piece you need from the roll, the excess vinyl needs to be removed in a process known as “Weeding”.



This involves placing the sheet flat on a surface and peeling back the extra vinyl.



When the extra vinyl has been removed, use a tweezers to remove the small pieces that remain.



Next stick the application tape across the sign.



Use the squeegee to attach the application tape firmly to the sign.



To apply the vinyl to the material you are using for the sign, (called a substrate), put the application tape down on a flat surface and peel off the backing page.



Put the vinyl on the substrate and use the squeegee to attach it firmly,

Finally, remove the application tape.

