

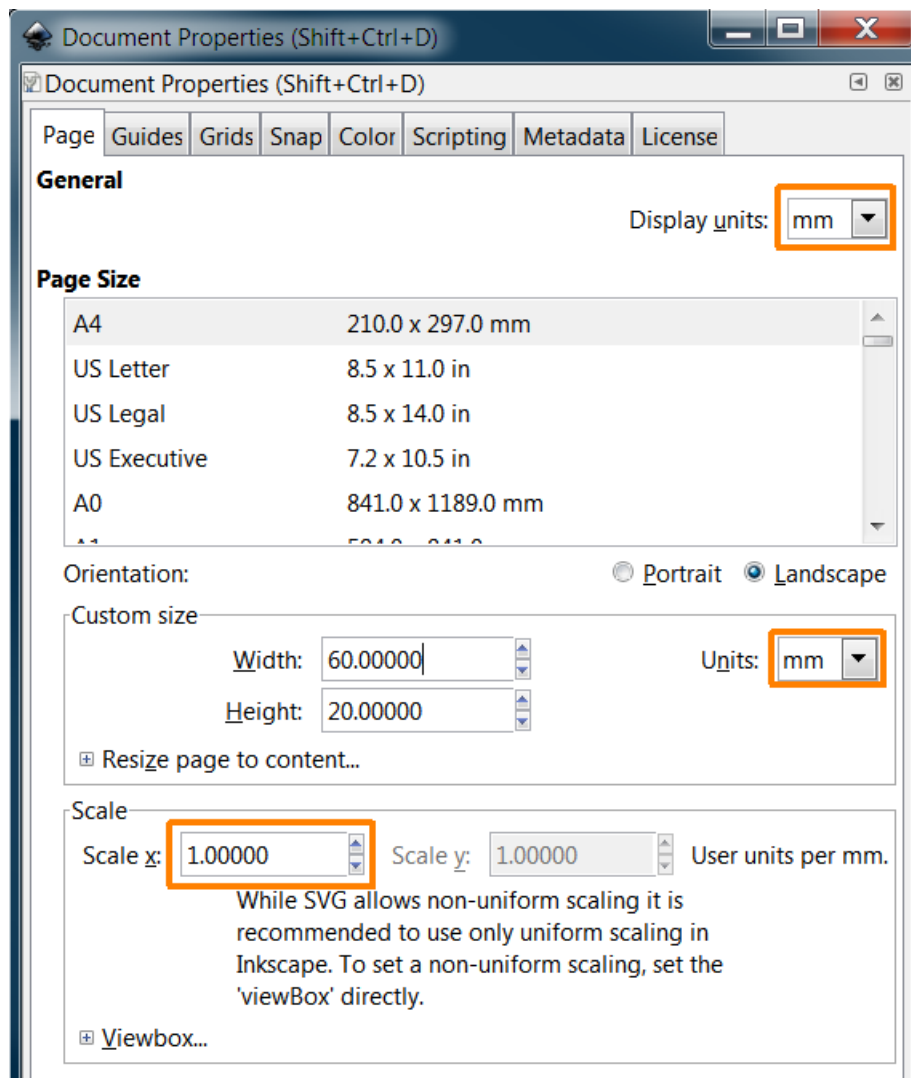
T2 Laser - DXF Conversion

Importing Vector Graphics from Inkscape, TurboCAD & Illustrator

Note: This is not a guide to using CAD; it only covers the method to export a DXF file that can be imported to T2Laser

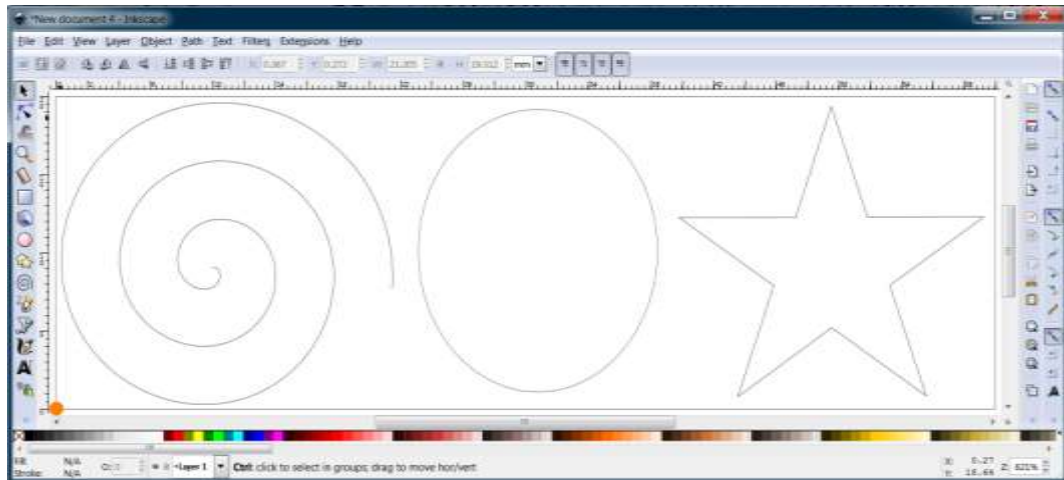
1. Inkscape 0.92

- a. Setup your drawing
 - i. Select File / Document Properties
 - ii. Set the width and height to your desired output size
 - iii. In this example I used width 60 and height 20
 - iv. Make sure you select mm for the units
 - v. Display units should also be set to mm (this is used for the rulers)
 - vi. The scale value should be 1.000



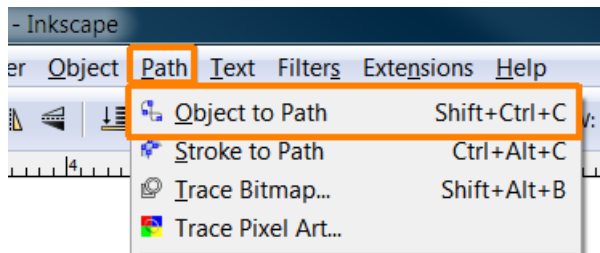
b. Create your drawing

- i. Keep in mind that the 0,0 (origin) is important, it will be your start position (home)



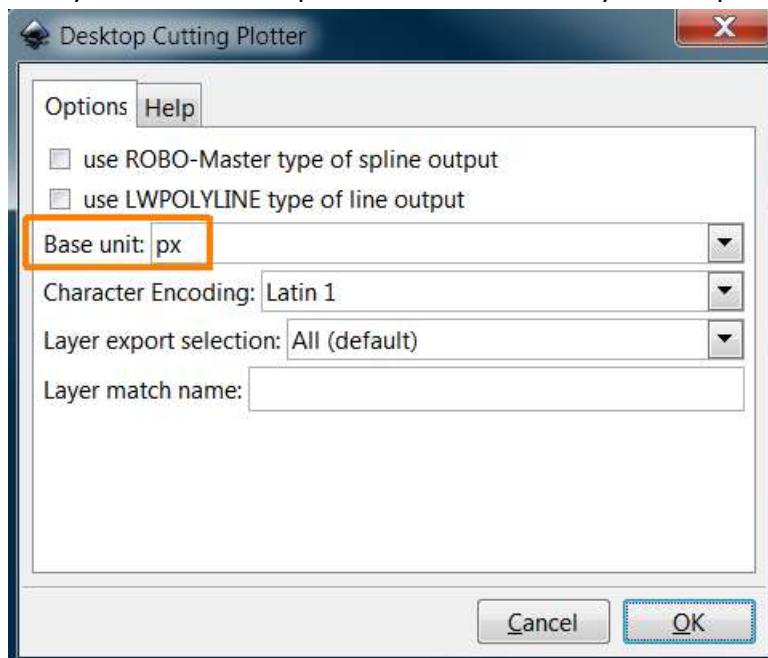
c. Convert text to paths

- i. This step is only required for text objects
ii. Select each text object separately and choose Path / Object to Path



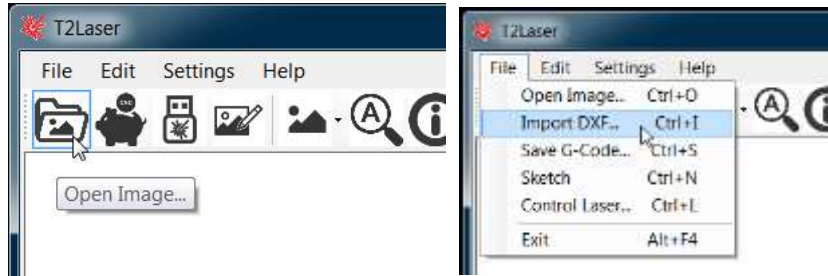
d. Save the DXF file

- i. Choose File / Save As
ii. Change the Save as type to Desktop Cutting Plotter (AutoCAD DXF R14)
iii. Enter a name and save the file
iv. Verify the base unit is px and do not select any other options, click OK

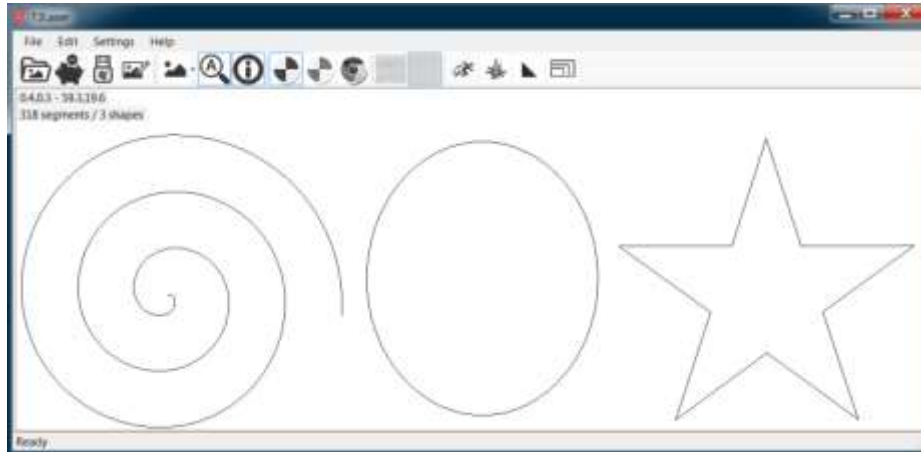


e. Load the DXF into T2Laser

i. Right click the Open Image tool bar icon or select File / Import DXF



ii. The DXF is accurately imported and converted to G-Code



f. Example with Text

i. Filled Text



g. Convert the text to paths

i. Select the text using the arrow tool and choose Path / Object to Path

h. Load the DXF into T2Laser

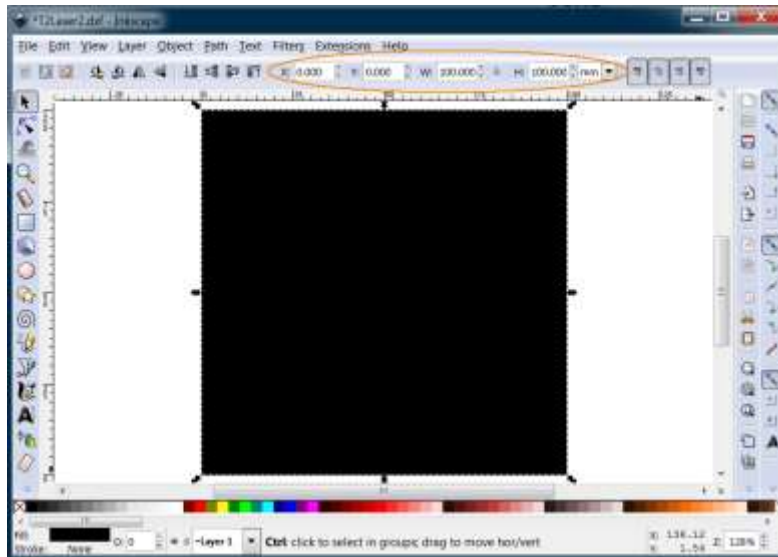
i. The text is accurately imported and converted to G-Code

ii. This example shows 9 shapes, 7 outlines and the centers of the "a" and "e"



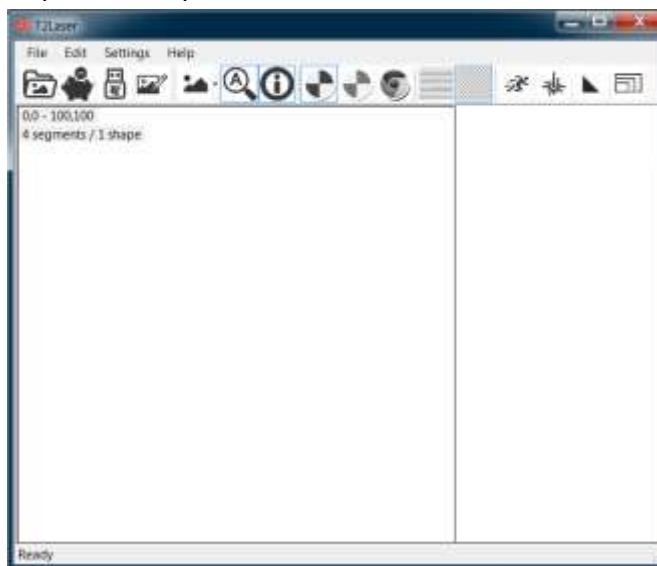
i. Accuracy (Dimensions)

- i. Example using a 100mm x 100mm square (lower left corner is placed at 0,0)

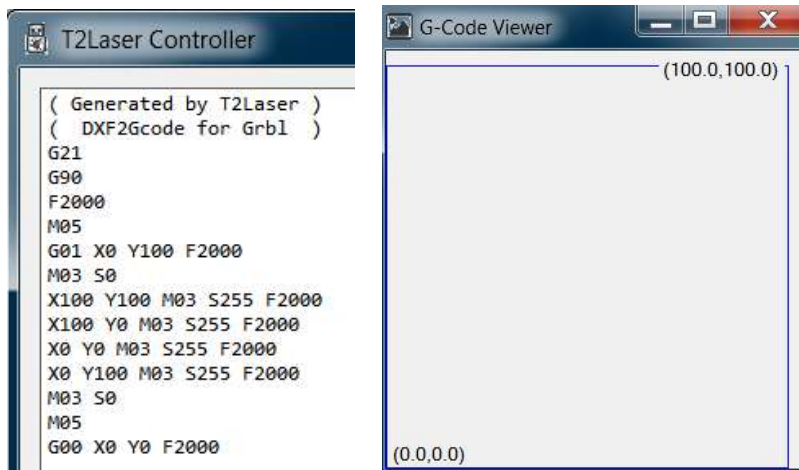


j. Load the DXF into T2Laser

- i. Imported shape starts at 0,0 and ends at 100,100 (exact size was maintained)

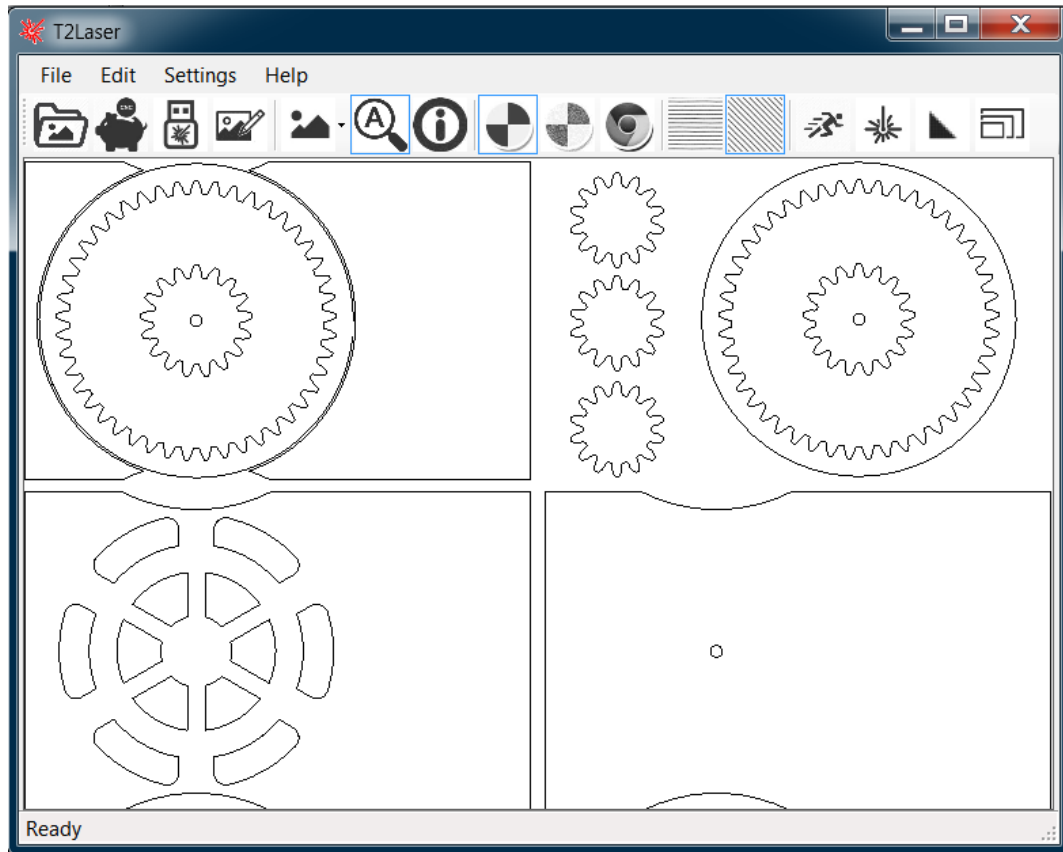


- ii. The generated G-Code is also exact, as is the simulated result in the G-Code viewer



k. Complex Drawing

- i. All objects are accurately imported and converted to G-Code
- ii. This example has over 4,100 segments



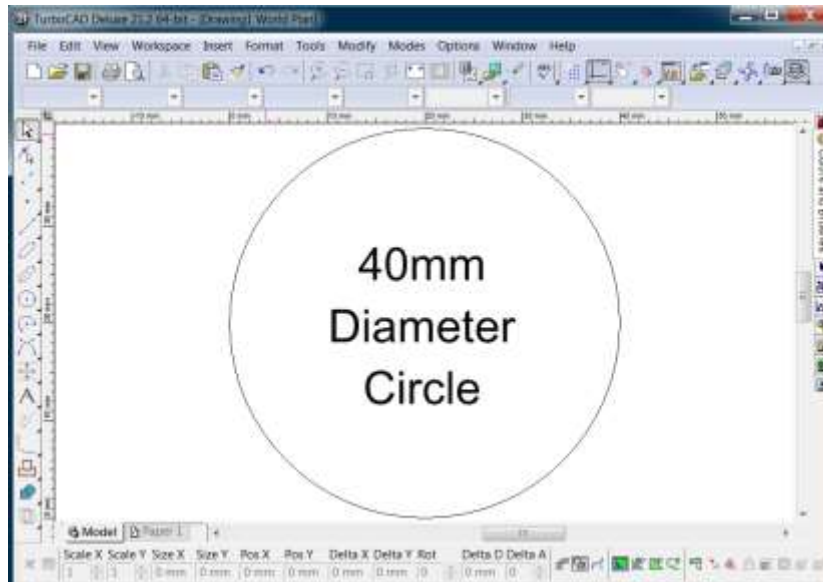
l. Use colors to define laser power levels or feed rates (customizable)

- i. A T2Laser palette is available or you can select the colors from the Inkscape defaults

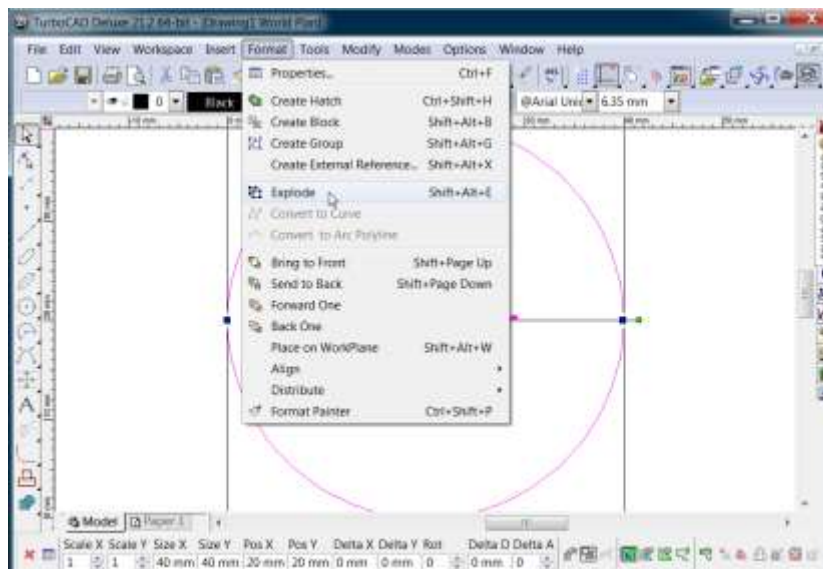


2. TurboCAD 21 2D/3D

- Create your drawing in mm (T2Laser will automatically convert inches if you prefer)

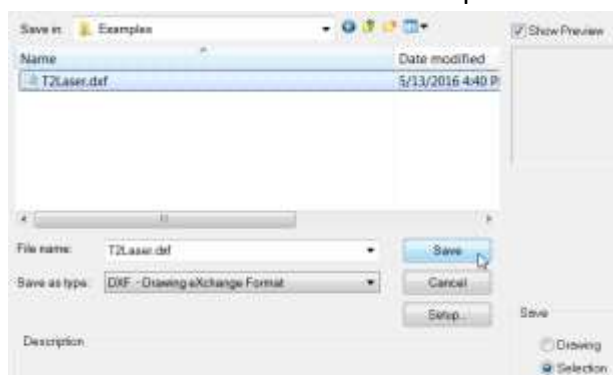


- Do not use blocks – if necessary explode them before exporting
 - Select objects and choose Format / Explode

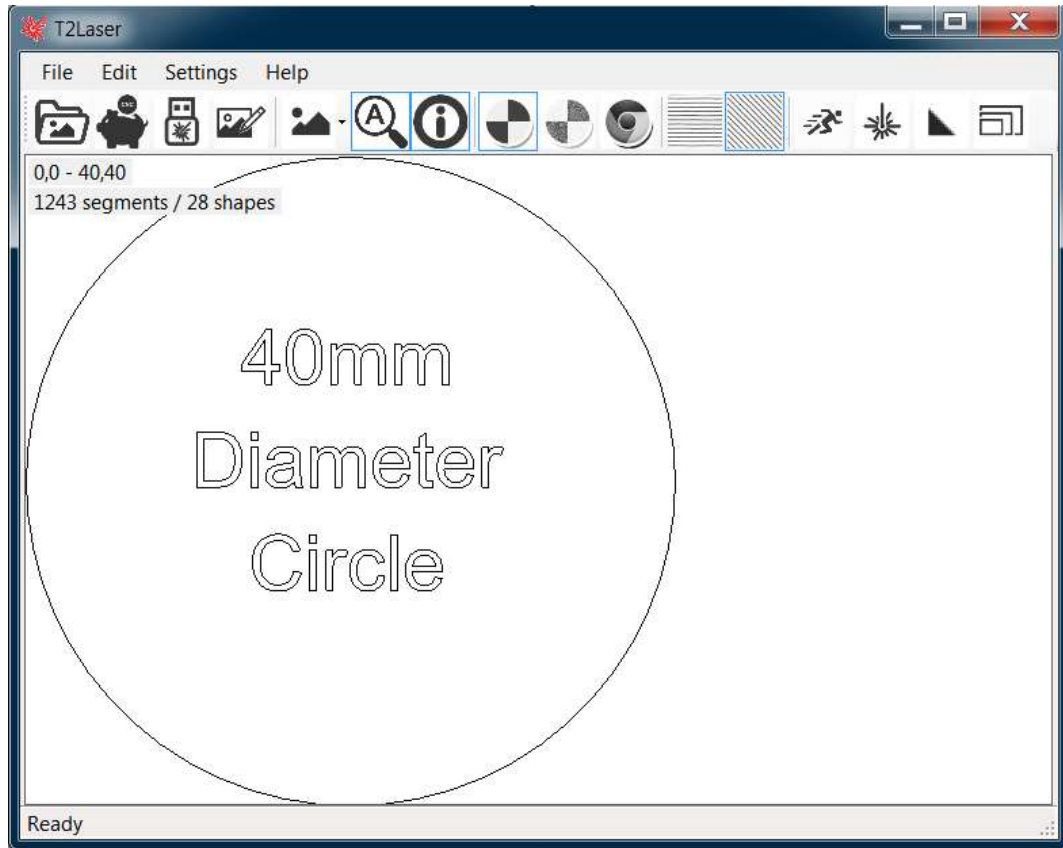


c. Export the DXF

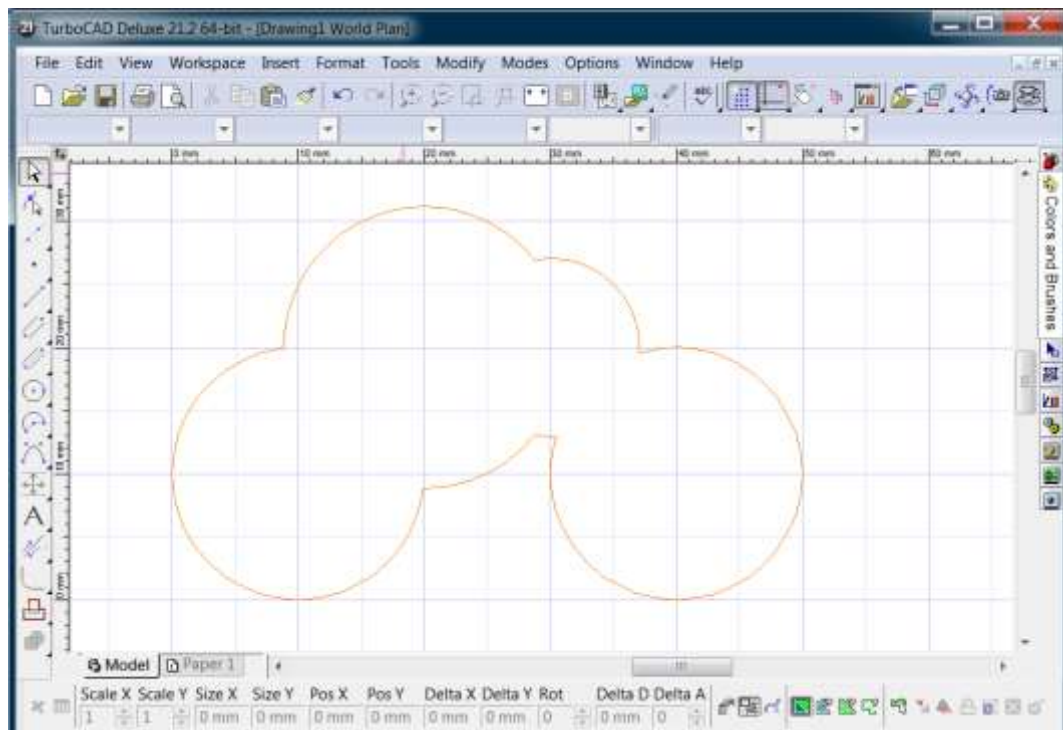
- Save Drawing will use the drawing origin 0,0
- Save Selection uses the lowest left point as the origin 0,0



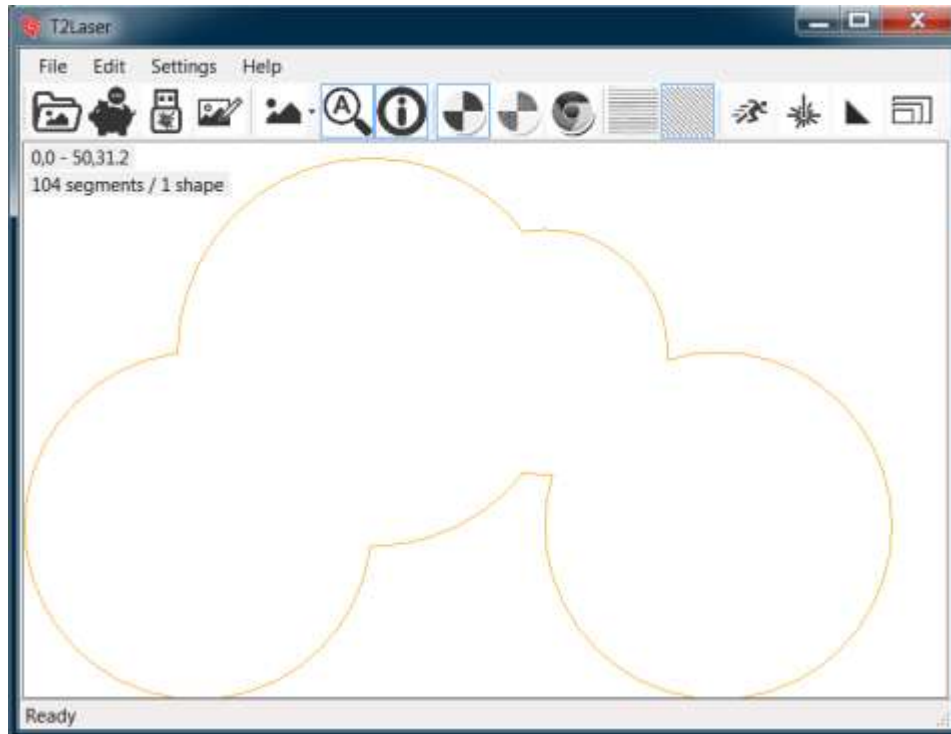
- d. Load the DXF into T2Laser
 - i. All objects import correctly and are sized accurately



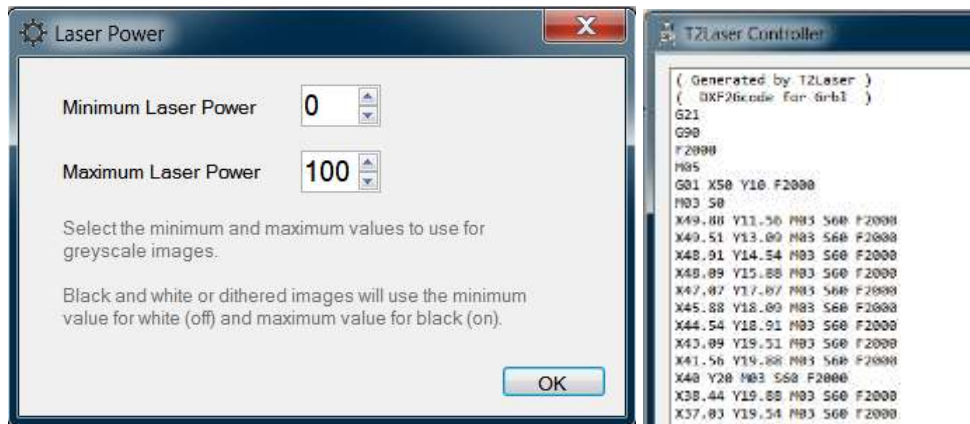
- e. Using colors to determine laser power
 - i. Black 100%, Red 80%, Orange 60%, Blue 40%, Green 20%, Yellow 0%



- f. Imported to T2Laser
 - i. Orange is translated to 60% of maximum power

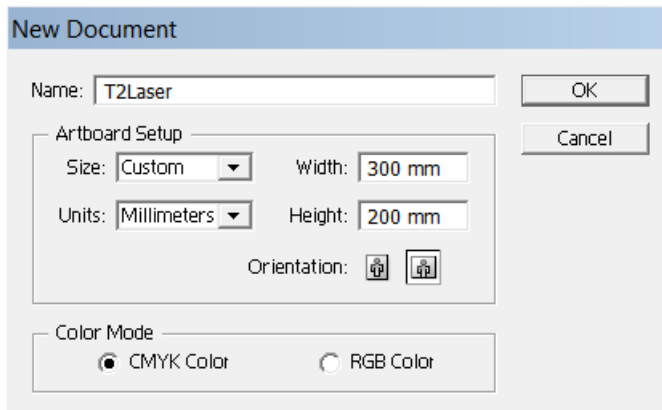


- ii. Maximum laser power was set to 100, so orange resulted in a laser power of 60



3. Adobe Illustrator CS2

a. Create your document in millimeters (mm)

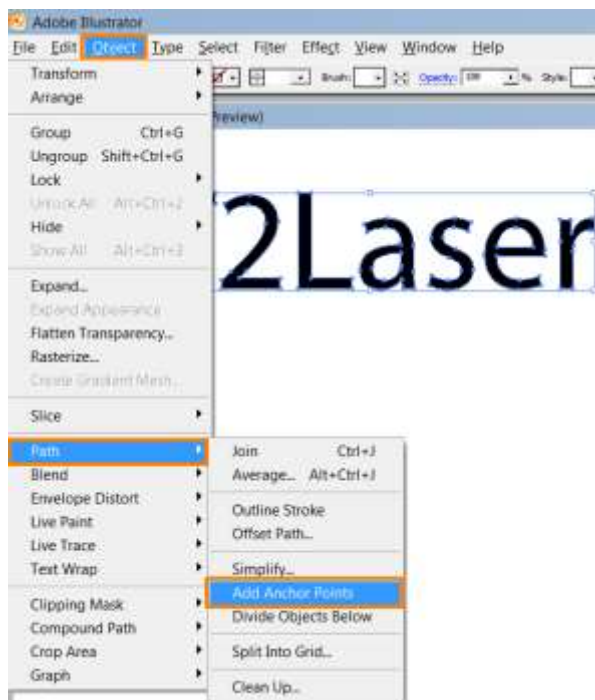


b. Text must have a stroke (0.25pt recommended) and will need to be converted to outlines (paths)

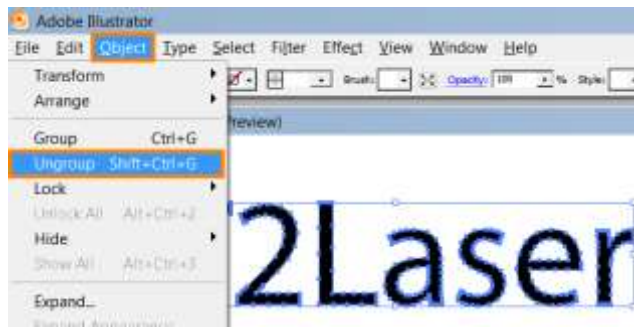
i. Right click the text and select Create Outlines



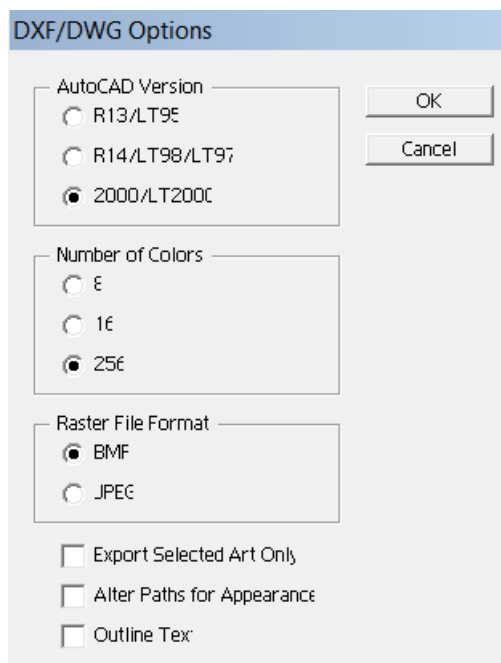
ii. To improve the output quality it is recommended to add anchor points, repeat this as necessary to ensure the output curves match the original text (twice is usually sufficient). Select the text and click Add Anchor Points from the Object / Path menu



- iii. Finally, ungroup the text. Select the text and click Ungroup in the Object menu



- c. Export the DXF
 - i. Select Export from the File menu
 - ii. Enter a file name and select the AutoCAD DXF file type
 - iii. AutoCAD version R14 and LT2000 are acceptable



- d. Load the DXF file into T2Laser
 - i. Sizes and positions are imported correctly

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