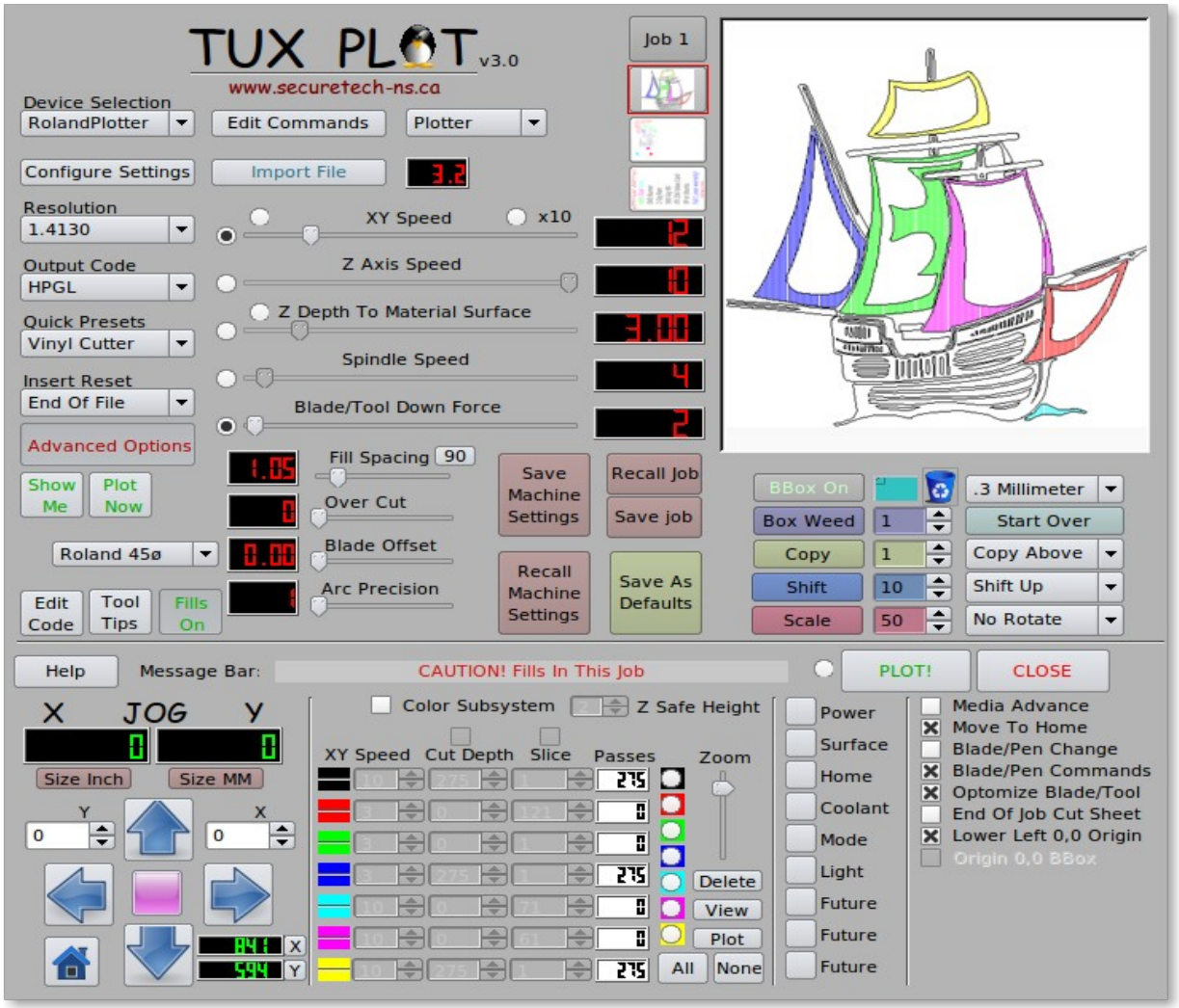
TUX PLOT v3

Ubuntu 10.04 or higher recommended

A highly production oriented interface for your HPGL device allowing high volume output to multiple machines and configurations.



Installation:

Download the tar zipped file, right click on it and select “extract here” open the extracted folder and left click on “install.sh” and select “run in terminal” when asked. You will be prompted for your password to enable the installation of packages needed by Tux Plot if they are not already installed. You must also agree to fonts installation with tab then “ok”. Initial install may take 5-10 min. Subsequent installs take only 1-3 minutes. Read the pop up info window at the end of the installation!

An Uninstall script is also available. See link on web site for help installing usb and other types of cutters/machines.

If you have a fully supported usb cutter like Graphtec make sure it's plugged in and powered up and then add printer via system>administration>printing it will be in the list on the left, select it and install.

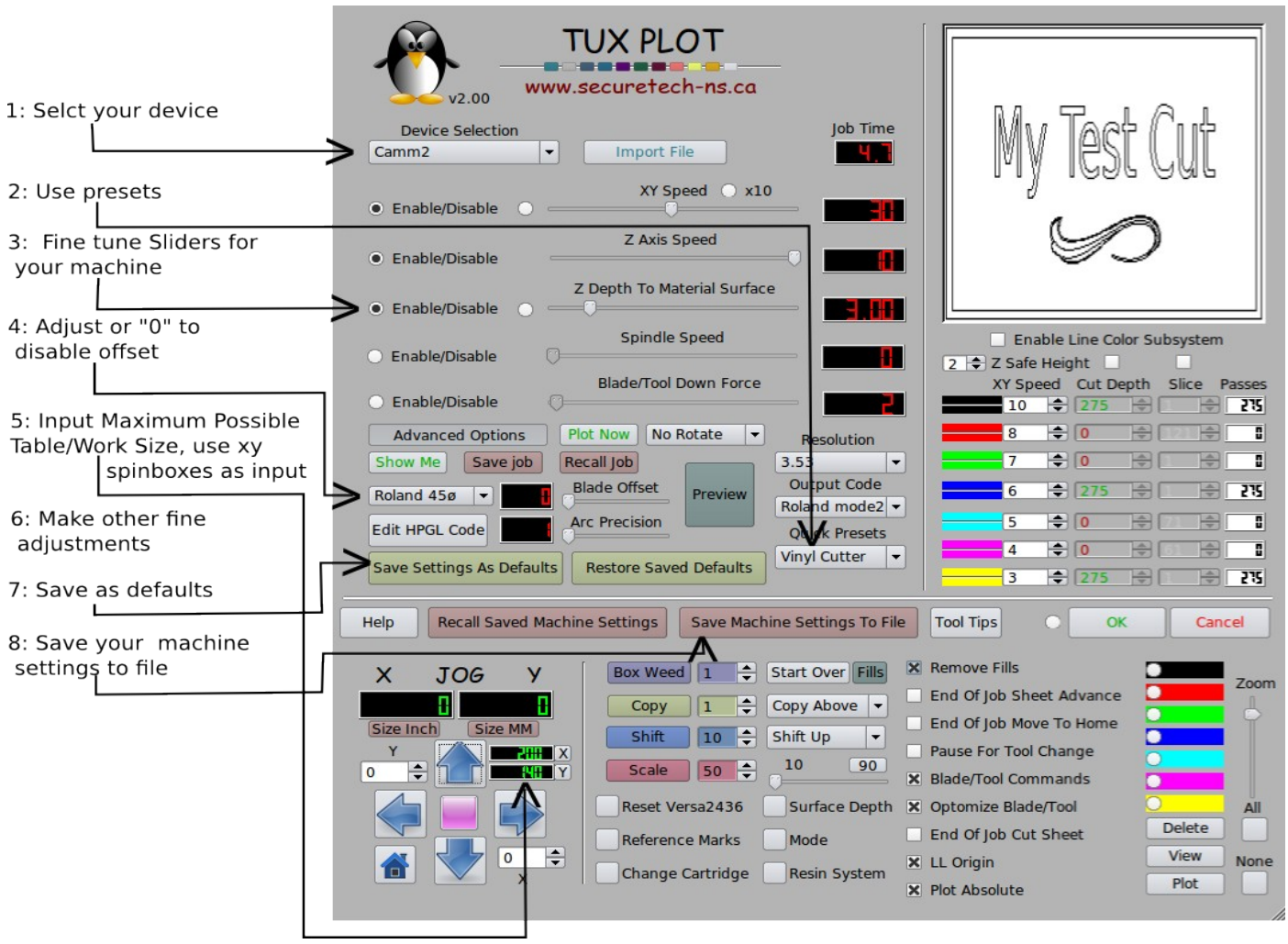
V3.0 will auto update any V2.x saved machine settings and saved job settings on installation.

How it works: A folder is created in your home folder called hpgl-hot-folder, any postscript .ps .pdf .svg or .plt file that ends up there (dragged and dropped, saved from app, redirected print file) is sent through the scripts to be processed into hpgl commands with input options coming from the Tux Plot interface. It is then sent to the output device you selected in Tux Plot. The interface will read your last used settings on start up so commonly used settings will not have to be adjusted each time. The GUI allows manual editing of your hpgl file before the settings generated by Tux Plot get plugged in, also a preview of the job via the hpgl commands are available. A script runs that checks for a .ps/.pdf/ .plt/ .svg/ file in your hot folder, if found Tux Plot is launched. Your hot folder is cleared after sending the job to the device. Only one instance of Tux Plot is allowed at a time. Once the job is engraving/cutting then you are free process another job. A Tux Plot desktop icon has been created at install time, it allows you to manually launch Tux Plot and process saved jobs or import files for processing. An entry in Applications/Graphics has also been created.

File Locations:

All of Tux Plot files are located in your home/bin folder. They are easily customized for your particular needs. When a job is sent to the output device a copy of the finished job is placed in $HOME/hpgl.plt and can be used for troubleshooting. It will be over written on the next job. Also before sending the job you can click "save job" button which will save both your plot file and original .ps .pdf .svg .plt file along with a snapshot of your Gui settings to your tux-plot-jobs folder. The settings and original file are restored when "recall job" is selected. If changing settings in a saved job don't forget to re save the job to make changes permanent.

FIRST TIME SETUP



Depending on your machine your settings may be very different from settings shown!

Setting table work size is optional as it's only used when relocating home.

FEATURES

The Gui window allows for selection of speeds and features that may or may not apply to your particular machine. Make sure you toggle off any features not needed eg: vinyl cutters don't have “spindle speed” or “Z speed” so turn off these features and click “save as defaults” or use the presets button to get a start point then fine tune and save your settings by clicking “save as defaults”. It may or may not harm your job but may result in an error on your machines display readout. Remember to use the spinboxes located near the jog arrows to enter the maximum size media your machine can handle as explained below. Multiple machines are fine just save your settings for each machine to a file name.

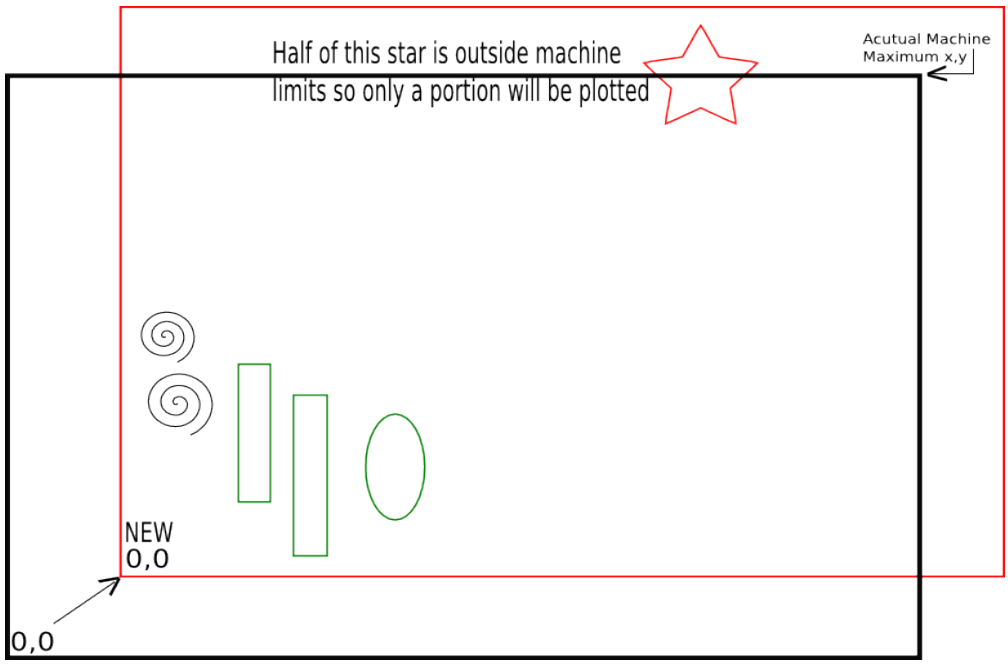
Common Vinyl Cutting Features

Four Jobs Folder Buttons

Four simultaneous jobs can be active red frame denotes active job for tasks such as plot, delete, etc. Jobs are loaded in the first empty job folder from 1-4. If a job folder is emptied the next incoming job will use that job folder.

Home (0,0) Relocation If you wish to relocate the home or 0,0 coordinate from the lower left corner to a new location you must have the maximum possible size in mm's your machine can possibly work with. Use the x and y spinboxes to input your values by typing in the value and click the set button next to the x and y readouts. After setting the values click “save as defaults” and re-save your machine settings to a file if you have need to recall later. To relocate home to a new location use the spinboxes to enter mm's to jog in both x and y direction and click the positive jog arrow (negative jog arrow moves to the left or negative direction). When your new location is set click the “Home” Button and the new position is set. If you have your preview window open it will auto refresh with the new location of “0,0”. These values as ALL settings are saved when saving a job and when job is recalled the settings are restored. This is a nice feature to avoid already cut media sections and use scrap pieces for small jobs and also is used in aligning job with special media before plotting.

Home relocation icon after jogging to new xy coordinates



Quick Presets is as easy way to get fairly accurate start up settings based on your machine. They can then be fine tuned and saved as defaults and also saved to a file name.

Import File allows you open a saved .ps .pdf .svg or .plt file and process it for plotting.

Overcut is the function that completes cutting that small uncut piece of material on each object that occurs due to the blade offset. Done by repeating first cuts of each closed object, selectable from 0-3 cuts.

Blade Offset is the mathematical calculation needed to compensate for the cutting blade offset. Presets are provided and a slider for accurate input. Tools that are not offset such as pens and diamond engraver and end mill bits do not need an offset so set it to “0” and it will be disabled.

Arc Precision is the quality of the line segments when constructing an arc. For best quality set slider to “1” (default). On some course material such as leather and cork using a course cut saves much cutting time.

Preview viewing a preview gives a larger scrollable view. Launch preview by clicking your small integrated preview in Tux Plot. The preview has four job buttons allowing you to switch previews to jobs loaded.

Integrated Preview shows a bitmap rendering of your plot job it is not as accurate as full preview but is less clutter on your desktop click this to launch the above preview.

Shift allows you to move your job in all four directions on your media, this is very helpful after scaling or copying your job.

Rotation allows for 90, 180, and 270 degree rotation each time adding to the last so if you rotate 90 degrees and then the same 90 degrees again your job will be rotated 180 degrees.

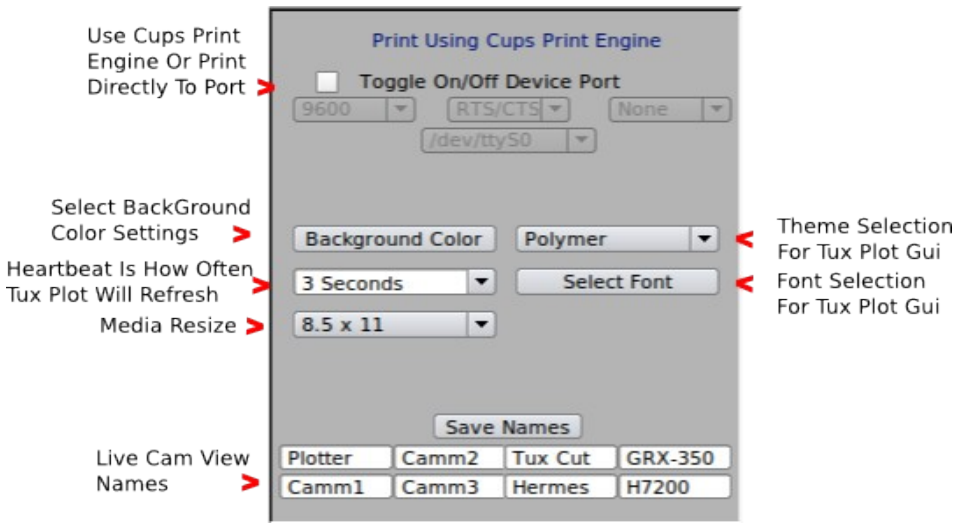
Scale allows sizing of your job based on input in the associated spin box. The numerical sizing inputs are as follows. 50 reduces image 50%, 100 no change, 125 increases image size by 25% and so on.

Tux Cut options will come online in a future release.

Advance Page will move the drawing page size forward either to eject a single page or advance it in preparation to be cut from a roll.

Cut Sheet is used with roll feed media such as large cutters and pen plotters that have a end of job blade cutter to cut the sheet from the roll when job is done. Use this in conjunction with the advance page option.

Configure Settings button shows options in the integrated preview window allowing font, background, theme, cam view names,heartbeat time, media size and print to port or cups selections.



Window Background color is selectable via the “configure settings” button and selection of color from the pop up dialogue window. If no color is selected it defaults to the original gray color.

Fonts are selectable via the “configure settings” button and selection of fonts from the pop up dialogue window. If no font is selected it defaults to the original default font.

Heartbeat refresh is selectable in the “configure settings” panel and sets the time Tux Plot will use to regenerate the preview window and update your Tux Plot Gui. Three seconds is a commonly used setting.

Media Resize is accessible from the “configure settings” panel and allows for the resizing of your media used in relation to your drawing. Eg: if you have a job that was originally done on letter size media and you wish to send to machine loaded with A1 media it will resize drawing and show in preview window the results.

Print to Port allows bypassing the cups print engine and sending your job directly to the selected and configured port. This port can be USB, Serial, or whatever port is available on your computer. The usb and serial port settings like flow control, baudrate etc must match the settings on your machine. The default is to use your cups configured device , installation is explained on “Installing Device” web site help page.

PLOT! Button will send the job from the selected job folder 1-4 and clears that job folder leaving the other job folders intact. The newly emptied folder is now able to load another job.

Plot Now button will send selected job from 1-4 to the selected device and does **NOT** clear that job from the job folder it is in to allow multiple copies from the same job. Other job folders are left intact.

Close button closes Tux Plot NOT sending any job to device and clears your “hot-folder” of all jobs.

Save Settings To File Name if you have more than one machine or want to save the complex settings to a file name to be recalled click the “save settings to file name” this will take a snap shot of the Gui window options and save it to a named file it also will make the current options the default for the next time the Gui is opened.

Read Settings from saved file is recalling your saved settings mentioned above and refreshing the Gui window with the new settings. Both the read file and save to options use the “.set” extension which will be auto added. They are stored in the $HOME/bin/settings folder.

Editing your code is done via the “Edit HPGL Code” button but this code displayed is before your commands are added derived from your Gui selections.

Pen/Tool Change inserts the pen change command for each corresponding color pen/tool used in the drawing. Clear check if not needed and all lines will be one color (black), Vinyl cutters would have no need for pen changes unless using multi color pens or sharpies.

Move To Home moves the head to the “home” position. Some machines like “H;” or “PU0,0;” as the home command , a custom command can be used by clicking edit commands button. The default used is PU0.0

Cam View provides a live cam view of your plot in progress if you have a wireless or wired cam installed. The default video device is /dev/video0 - 7 but may be changed at the end of $HOME/bin/camm2_new3.py file.

Lower Left Origin is checked for machines that have the 0,0 coordinate at the lower left of the page (90% of machines). If your device has 0,0 origin at the center of the page clear the check in this box and click “save as defaults” button. If forced to use center origin Tux Plot will compensate by drawing an invisible box around your media border to allow placement of your drawing in the correct position on your media. Make sure the checkbox is checked for “Origin 0,0 Bbox”. If your machine is Lower Left Origin these options can be ignored. As stated above 90% of all hpgl machines are LL origin!

Optimize Tool changes : will take all the pen movements for pen one eg:(black) group them and all, pen 2 (red) and group them etc. also as to minimize pen/tool changes. It will process pen1-7 in this manner. If “Pen Change” is unchecked this should also be unchecked. This is very useful for cutters/routers that cut out interior pieces before cutting out the perimeters. Cut order based on color choice mentioned above.

XY Speed is the rate at which the tool moves from right and left. With the “x10” box unchecked the lcd readout will max out at more pen plotter speed levels. Some machines use the actual mm/sec as it's xy speed and some like roland plotters use a percentage eg: 15 on the slider = 145mm/sec check your machine docs.

Blade Down Force is the amount of pressure you wish to apply to your media with the cutting blade/pen on a vinyl cutter, if using anything other than a vinyl cutter or pen plotter disable this feature.

Z Axis speed adjust the rate at which the tools descends into the media surface adjust this carefully as your mill bit or diamond engraver may break if set to fast. Used by roland mills/engravers only.

Z Depth to material surface is how far down the surface of your material is from the z axis home position. Used by roland mills/engravers only.

Z Height adjustment is for “safe height” at which the spindle moves during rapid relocation moves as to not collide with your workpiece. Used by roland mills/engravers.

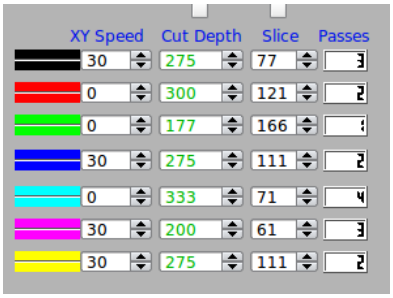
Scaling Factor is based on your machines resolution. Eg: Roland engravers use 3.53 while most vinyl cutters and pen plotters use 1.4130. This feature is not used if exporting a .plt file from corel it's used only on .ps .pdf .svg files. If a scale value is changed your plot file is immediately regenerated using that scale factor you can then use the “preview” to verify the scale.

Fill Spacing is calculated by the slider position. Spacing is a series of parallel lines that replaces the solid fill color in your job. An example would be if you want to engrave a trophy plaque and the lettering does not stand out enough you could use the solid fills from your original .ps .pdf .svg file and convert them to very close parallel line and simulate a fill that would have a distinctive texture. A toggle button allows for 90 or 180 degree fill lines.

Output Code allows you to fine tune your hpgl code suited for roland equipment set to mode2 (engravers) or industry standard HPGL output or enhanced hpgl for the Tux Cut. If your not using roland engraver or Tux Cut use HPGL.

Spindle Speed is the rpm of the spindle set via commands if your machine does not support this command enable slider and set to “0” and it will turn on spindle but the default rpm of the spindle will be from the machine not software. If your machine wants real rpm as it's value you may have to edit hpgl command by clicking the edit commands button.

Color Subsystem is used mainly for situations where you want each line color eg: cyan,blue,magenta to be assigned attributes based on the color. The attributes are xy speeds, total depth of cut into material past the material surface, and if slice is enabled how thick each pass should be to achieve the total depth of cut. The passes window shows approx. How many passes are calculated for the present values for that color. This number may vary by a factor of 1 due to rounding of values. The slice feature is handy if your material is to thick to be cut in one pass as Tux Plot will calculate the depth needed for each pass to accomplish an accurate cut in layers your tool and machine can handle. Toggling this on will auto check “sort pens/tool” and “optimize tool” they can also be toggled off at this point individually but I recommend leaving them on. Pause for tool change can also used in conjunction with the color subsystem to allow tool changes on a per color basis if your machine supports the “not ready” command. This is a good example of when saving your settings to a file name or saving the job is very useful as adjusting so many complex settings for speeds and such are all recalled instantly when saved to a file.



Sync Values will sync the slider values to the corresponding color sub-system vales for easy alignment then the sub-system values can be fine tuned with the spin box up/down buttons or manually typing in a number. The proper order to follow is sync values, adjust with slider your material surface depth, then adjust your cut depth , then your slice depth. If you set you slice thickness greater than your cut depth the cut depth number will turn red indicating you have exceeded the cut depth value.

Pause For Tool Change will issue a pause at each color change allowing you to manually change tools/pen/bits. This feature may not be supported by all machines firmware.

Show Me button sends a dry run copy of your job to the device with the blade/tool in the up position at all times. It's a handy feature to see if your job will fit on the media. This will not work with all machines (depends on manufacturer) if this is the case you have to remove tool/blade run job as normal and replace blade/tool for actual job run. Make sure you enable “move with pen up” in your machines setup menu such as in a graphtec.

Job Time estimate is just that, an estimated time for your job to complete. With many variables involved from scaling factors to different machine XY speed commands it's almost impossible to be totally accurate so treat this as a rough estimate.

Save Job button saves the present job for future recall, it does save the present settings with the job. Your original .ps .pdf .svg file is also saved and renamed to match the saved job file name. Some of the new features in Tux Plot require the original .ps .pdf .svg file to work so when retrieving a saved job the original .ps will be copied to your working hot folder also the settings will be restored for that recalled job. Importing .plt files will disable some Tux Plot features.

Recall Job button reads in a previously saved job and allows you to process and plot the job also the original file and settings as stated above.

Jog allows you to move in a positive or negative direction using coordinates from the xy spin boxes. Your present coordinate location will be displayed in the lcd readout. This is a more complex task if your machine uses center of the page as it's origin (“LL origin” button cleared). If your device has it origin at LL , as most do the is straight forward.

Start Over button will regenerate your job and erase all modifications you have done as in mirroring, weeding, copy, scale, and deletion of layers to allow you to restart if a mistake was made.

Page Size in MM's and Inches will be displayed in the lcd readout. This applies only if the original input file was a .ps .pdf .svg.

Copy allows you to make a duplicate of your job on any side you wish and with a gap specified by the appropriate spin box. The copies are not removable after insertion so the start over button is used in this case.

Box Weed should be the last selection made after all other edits such as copying, and scale of items however it is reversible by toggling off the auto weed button. Weeding draws a box around your job at a specified gap to enable easy vinyl removal.

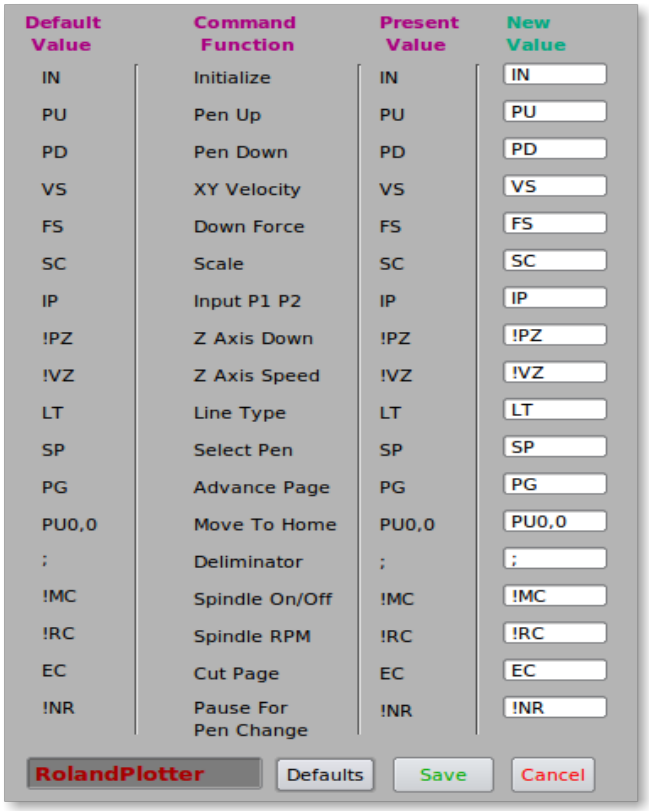
Layers are based on your colors in your drawing and RGB colors. You can manipulate each layer as needed such as delete, view,plot. Toggling on a selected layer first before desired action is taken. Also you may use the handy “All” or “None” buttons which toggle all layers on or off. If plot selected layers is chosen your working plot file is not deleted and your hot-folder is not cleared after your plot job is sent to your device. With the selected layers toggled on you can view at a dpi scale specified by the zoom slider. Again if the window is made very large you can pan by holding down left mouse button and dragging image, right click exits the view window. Each zoom will kill the present view and generate a new one. This procedure of killing present view to generate a new one is used extensively in Tux Plot only if a preview window is already open.

Tool Tips may be toggled on or off after you become familiar with Tux Plot you may wish to turn tool tips off which takes affect on the next instance of the Gui window.

Insert Reset Command “IN;” can be placed at the beginning , end, both ends, or not at all. This may be important in certain cases for eg: if you relocate home to a new position and then send a job if the reset command is at the first of the file it will set home back to power on defaults therefore your new home position is wiped out. This will also reset any changes you have made from the machines control panel back to power on defaults. It maybe beneficial to locate your reset command in this case to the end of the file.

Fills Toggle allows you to toggle on/off the fills , if any, on both an incoming job and an already opened job. When fills are toggled on/off a regeneration of your job from the saved original input file is made. Regeneration will discard any changes such as copy, rotate, shift delete color layer etc. Your preview window will update to show the original file you started with. This is a very handy tool if you forget you have a white fill in your job you can toggle it off. The message bar will warn if a job contains fills.

Customize HPGL Commands for your particular command set for each machine you use. When save is clicked a file is created in $HOME/bin named with the selected cutter device. When sending a plot job if this file is found Tux Plot will use the hpgl commands specified in this file if not found for this printer selection Tux Plot will use the default command set. 95% of pure hpgl machines will use the defaults however some manufacturers customize the commands slightly so this feature will allow for those modifications. All fields must be filled in before you can save them. Start with the defaults button and then edit as needed. Some commands like “!MC” are machine specific so if your output code is HPGL in Tux Plot leave these settings to defaults. The machine you are adjusting commands for is shown in the bottom left corner of window in red letters, a separate command set file is generated for each machine you select from the drop down device selector in Tux Plot. Again MOST vinyl cutters will not need to have the command set edited.



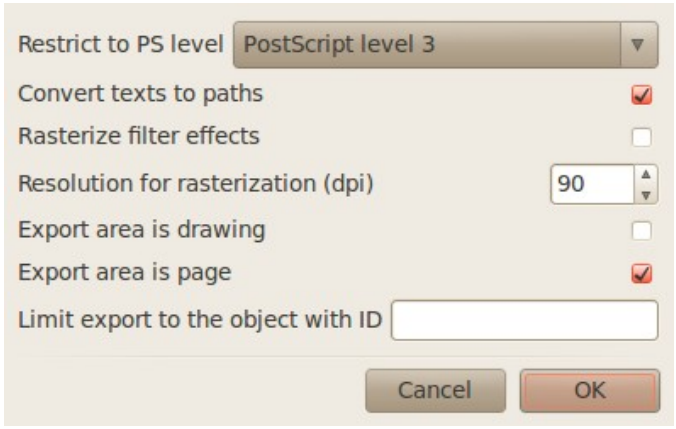
Message Bar will be found at the bottom of the Tux Plot window. It will display informative warnings and messages depending on your task. It may even mention a reminder to DONATE to further the next release. **Donations are IMPORTANT if you wish to have Tux Plot remain free!!**

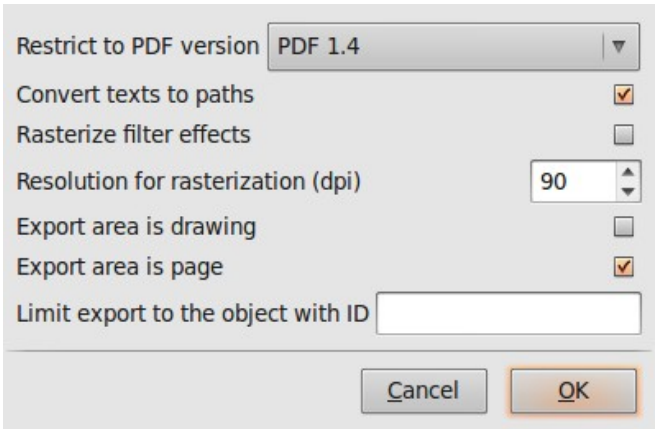
Printing Tips For Inkscape:

From your gnome nautilus window change into your $HOME/hpgl-hot-folder and the bookmark it in nautilus as it makes it easy to find when printing to a file from inkscape and other apps. Use a uniform line width , avoid mixing line widths within your design. Always “save as” in inkscape as .ps .pdf .svg and point to your hot folder as it's destination. The save as pop up should be set as the image on the next page. It will remember your destination hot folder and these settings the next time you run inkscape. Grouped objects are fine without ungrouping before sending to Tux Plot.

If you have object within objects always select all objects and from the “path” pull down menu select “combine”. Eg: In the SETUP picture near the top of this document, the scroll and text are inside the boxes so combine them all and they plot fine.

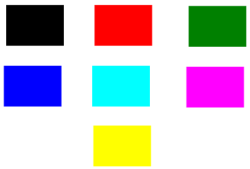
When using “save as” in Inkscape make sure your dialogue is checked as in the images below.





REMOVE ALL FILLS AND WORK WITH ONLY PATHS (OUTLINES) UNLESS FILLS ARE REQUIRED!
See further down in "Working With Fills"

Colors are based on averaging values are are rounded to the nearest value so orange depending on intensity maybe shown as yellow or red etc depending on the color in your drawing. It is always advised to use the true colors in your palette that match the colors in the color subsystem.
If color isn't important to you as in vinyl cutting or some engraving then all colors and pen assignments can be ignored. Below is a sample color drawing from inkscape.



pen/tool1 = Black
pen/tool2 = Red
pen/tool3 = Green
pen/tool4 = Blue
pen/tool5 = Cyan
pen/tool6 = Magenta
pen/tool7 = Yellow

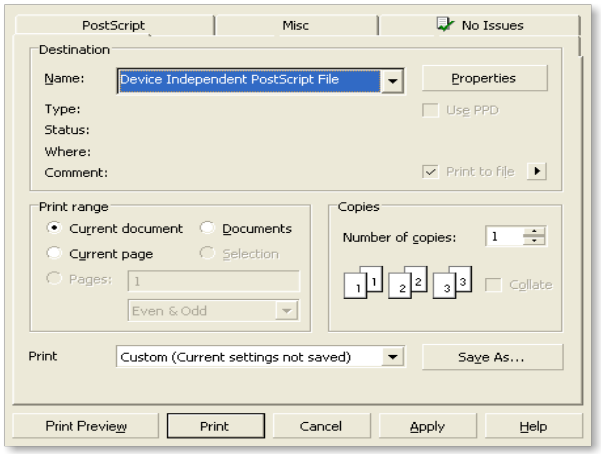
Always use Postscript level 2 or 3 in any application for your output. The default Inkscape palette is a good starting point.

In Inkscape "save as" is recommended over "print to .ps".

If you use the same custom page size a lot create a blank document the size and in page properties select mm's or px or whatever and save it in .svg format and put it in ~HOME/.config/inkscape/templates for easy retrieval. Then to use it in inkscape select file>new and select your saved template.

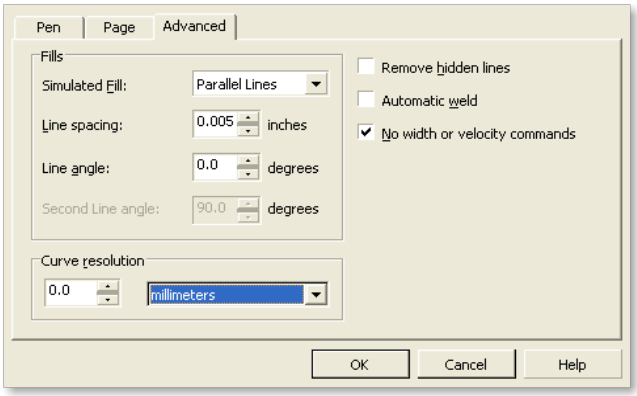
Tips in CorelDraw (wine)

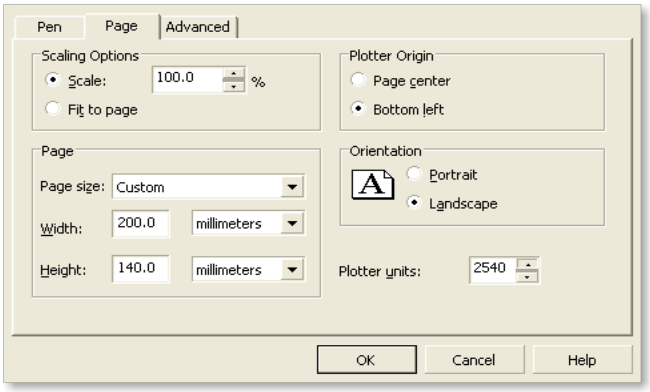
You can print to "device independent postscript" or save as .ps .pdf and point to your hot folder $HOME/hpgl-hot-folder or export your drawing as a .plt file to your $HOME/hpgl-hot-folder it depends on your needs. Coreldraw will remember where you printed/exported last so it makes it easy to find in the future. You may want to experiment with Postscript level2 and 3 and find your best results.When your machine has it's coordinate origin at center of page instead of lower left if you want very accurate plots I reccomend you export as .plt and make sure in the export window you check "center page" as origin and leave the "LL origin" in tux plot checked only one app needs to do the conversion. If you fine tune your printing variables in the below screen create a custom print file at the bottom of the corel window for easy use in the future **Always remember to size your "worksheet" in corel or inkscape to your actual desired output size and select that same size in "printer properties"**. You can create a template from this saved worksheet for easy retrieval. Before saving make sure in "properties" correct page size" is selected. Using the standard palette for colors gives easy access to the seven colors used in the color sub-system. Saved/exported files should have no spaces in them. The standard corel draw palette works fine.



Below are the export windows from coreldraw. Make sure you change measurement system to mm's and you can simulate fills with parallel lines (this will shred vinyl so no fills for vinyl cutters!). Click “No width or velocity commands” Tux Plot will do that.

Pen width and velocity are ignored as mentioned before they are disabled from out putting any commands pertaining to these features by checking “no width or velocity commands”.



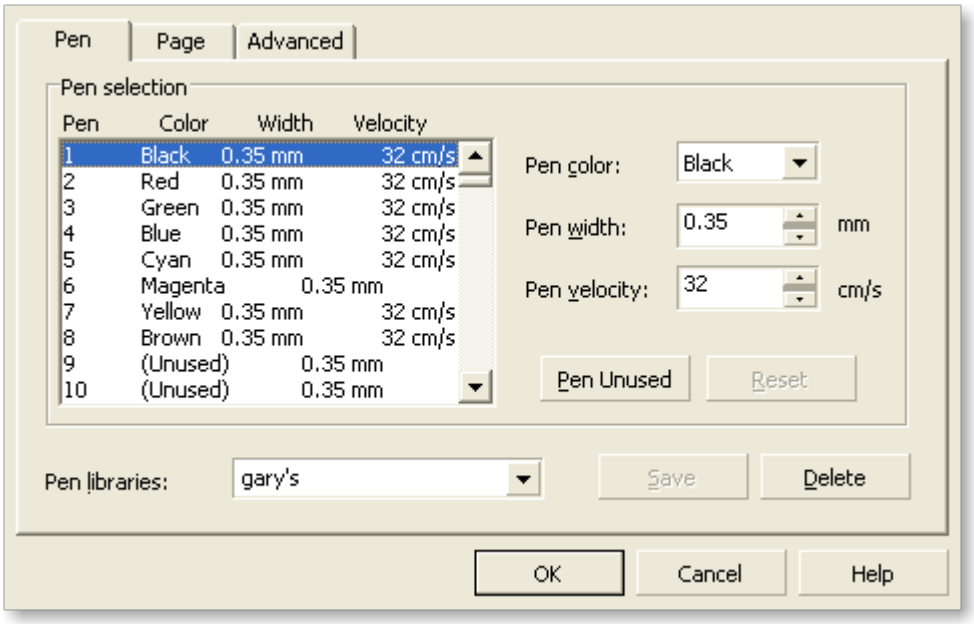


NO FILLS!! If using a vinyl cutter.

If fills are needed for engraving or routing use Inkscape with fills and no outline toggle fills button in Tux Plot but keep in mind your hpgl firmware in your machine must support the hpgl “polygon fill” commands or you will get an error on your lcd screen on your machine and fills will not be done. Some engravers/cutters/routers support this command and all pen plotters do.

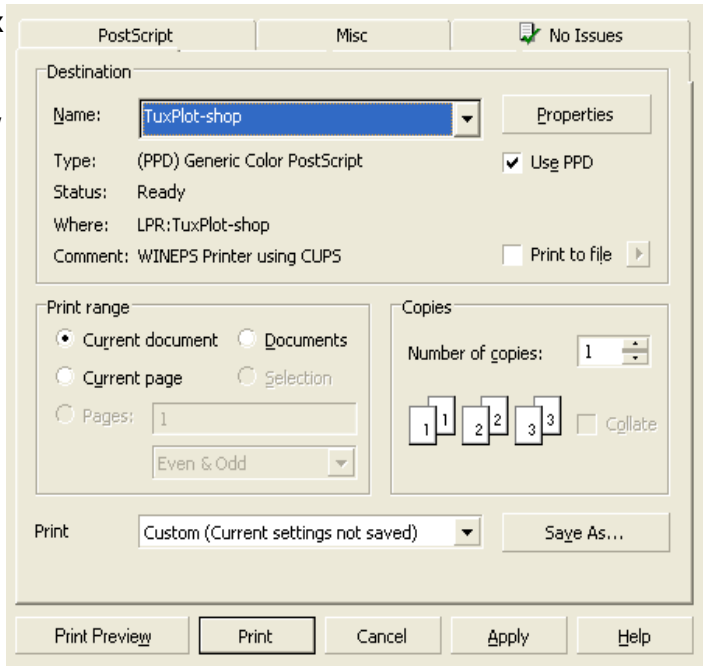
Plotter units are calculated depending on your machines resolution. The camm2 settings are shown, 25.4mm/inch times the camm2 resolution which is 100th/mm. Your custom page size you created in corel should be in the page size value and change measurements to mm's. Plotters and most vinyl cutters use 1016. Some old HP plotters have coordinates 0,0 at centre of page , check in Tux Plot if needed.

On this page you will find the pen color dialogue when exporting hpgl which you can setup any way you like then save the library.
I recommend you copy the assigned pen colors as mentioned previously to match in coreldraw the save the pen library. Coreldraw will remember your choice for next use. Only the first 7 pens are used.



Many machines use pure HPGL or a flavour developed by the manufacturer eg: Roland's series of engravers use the !MC0 and !MC1 to toggle the spindle motor on and off. This command is probably something else if not using a roland so the $HOME/bin/hpgl.sh is easily edited for your command needs. It has comments and is laid out in an easy to follow manner however this new release has many of those features now integrated in the Gui as settings.

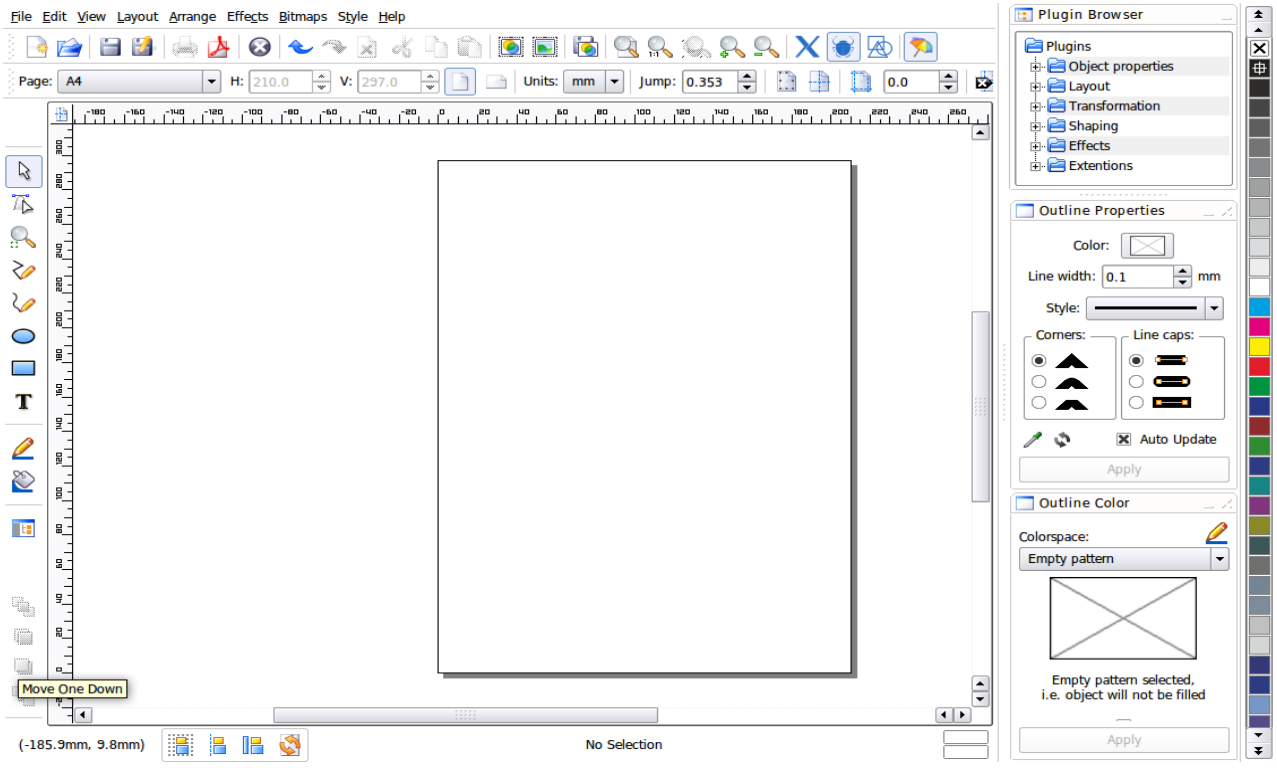
If you use the tux-plot printer device added when tux plot installed to get corel draw or any other wine application to print correctly follow the instructions found on the tux plot website. Also in your corel daw print dialog select “use ppd” as in the picture. The generic-wine.ppd that tux plot installs for you is found at /etc/cups/ppd/generic-wine.ppd from the corel print dialog check “use ppd” and navigate to the mentioned ppd.



Note: If using Roland engraving machines set machine “code output” in Tux Plot to Roland **MODE2.**

Any other hpgl devices eg: Graphtec Roland HP Suma and imported cutters set Tux Plot “code output” to **HPGL**

SK1



This is a wonderful new app called SK1, the link is found at the end of this document.
It is quite Corel Draw like and will import Corel Draw files it will output hpgl but the output is not of much use yet. If your using Gnome the printer is greyed out till next release (uses kde print dialog Kprinter) but the save as .ps or .pdf works great and point it to your hot folder and use the .ps or .pdf extension on your file name. Fills are ok in sk1 as they will be stripped out anyway when sent to Tux Plot. When saving to your hot folder simply use the appropriate file extension eg: .ps and SK1 will save it as that file type.

Final Notes:

Order of processing a job:
Some features such as arc precision and fill spacing uses the original .ps .pdf .svg file to generate these features so if changes such as rotate, copy, scale etc are made before the precision and fill spacing adjustments those changes will be lost so if those features are needed at all start with (1) arc precision (1 is default) (2) fill spacing and then any other adjustments like scale, rotate, copy etc in any order.

Saving a job in Tux Plot is not as simple as it sounds as it takes a snap shot of all the savable settings and saves and associates those settings with that job including sensitive settings such as “auto remove fill”. When the job is “recalled” it recalls those settings also and they remain in effect until another job with different settings is recalled or until you read in a machine settings saved to file that differs from the present settings.

To abort Tux Plot and close the gui window select “CLOSE” button avoid closing with the x in the corner of the gui window, ALWAYS use the close button.

Try to use landscape for your work area.
SK1 will auto remove fills from all drawings when sending to Tux Plot. If fills are required use Inkscape.

Not all options are available if your input file is a .plt I recommend using .ps .pdf .svg for all features of Tux Plot to be available.
A few sample graphic files will be found in your $HOME/bin folder that you can practice with scaling, copying, rotating and fill line spacing etc. Open with the “Import File” button in Tux Plot.

Get into the habit of frequently clicking “save settings as defaults” if any changes are made in the settings you may want on the next run or even better “save settings to file name”.

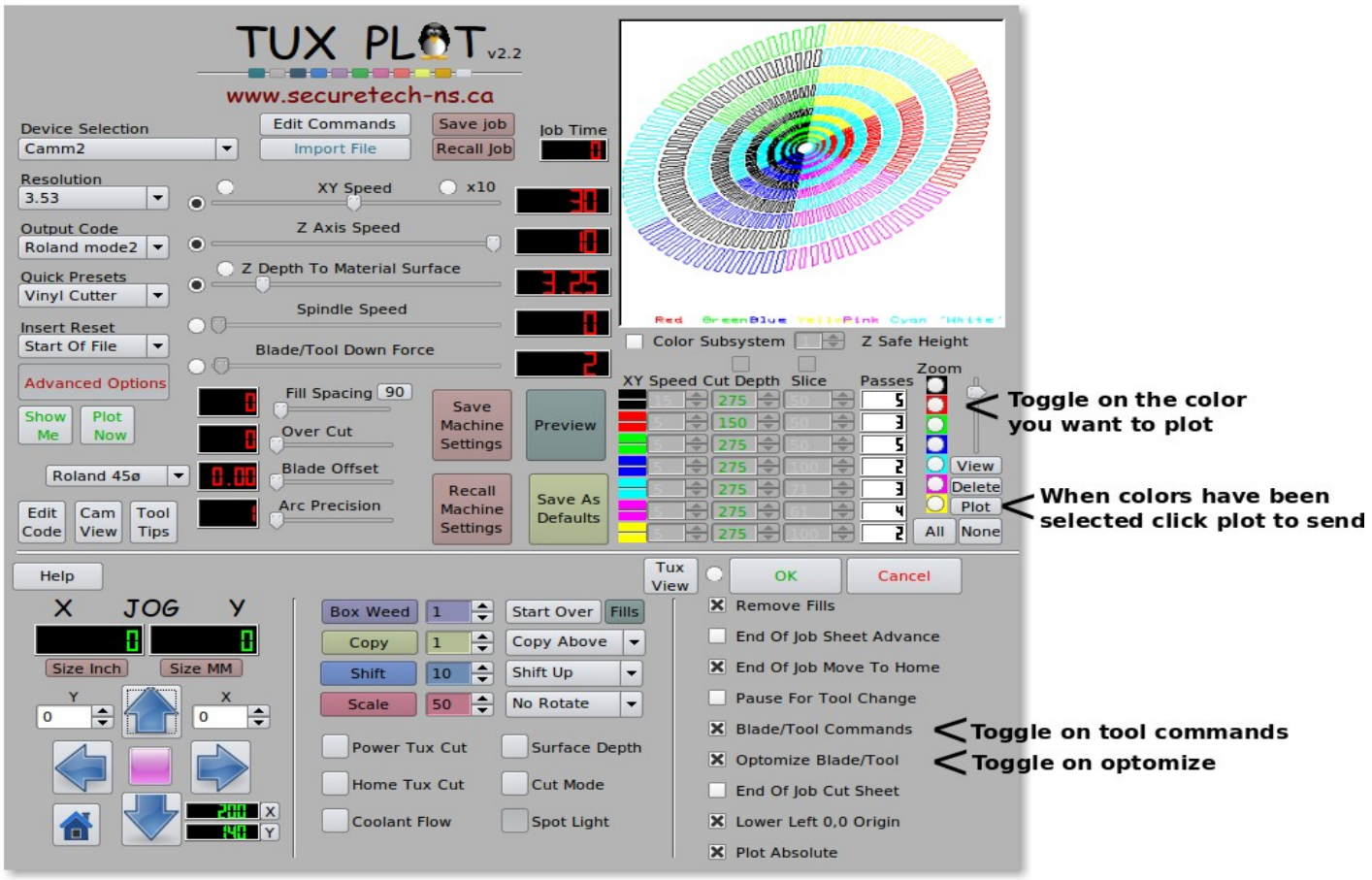
This interface is designed for devices that have their 0,0 coordinate system at the lower left (LL Origin Button) of the drawing some older large format pen plotters have 0,0 at the center of the drawing if you have this system clear the check the LL Origin button in Tux Plot and save your settings as defaults. A good practice to use if your device is center page origin drawing a box at the very edge of your paper or workpiece will register your entire page but because it's outside your hardware margins on your machine it will not plot and be ignored but will place your wanted image in the right location on your media. Note: 99% of all hpgl devices are Lower Left Origin so only in rare cases do you need to be concerned with Center Origin.

Try to avoid Fills in your job as they are not needed in vinyl cutting. If you mistakenly send a job to Tux Plot with fills you can remove them toggling fills off. Fills on a vinyl cutter job will shred your vinyl with line movements. Routing, pen plotting and engraving may find fills useful. A simple filled design can be 300% bigger and add a lot of computing time over just an outline only job!

Nested object fills are now supported. This feature will have benefits to engravers and other situations where fills are important.

Working With Fills And Plotting Individual Color Lines

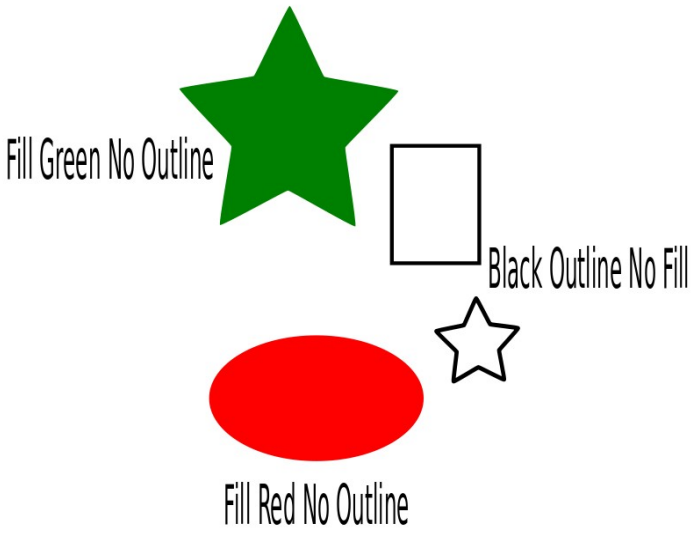
Normally vinyl cutters will have little use for color lines however they can draw with different pen colors with Tux Plot and of course pen plotters are designed for this. Engravers can also take advantage of individual color lines. In the below sample image for example you want to plot only red and blue, just toggle on red and blue in the color bar and then click “plot” button. Make sure you have optimize commands and blade/tool commands toggled on also. Remove Fills checkbox can be either toggled on or off.



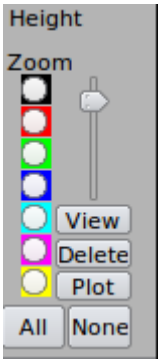
By Selecting one color at a time and changing to the corresponding pen or mini sharpie in your vinyl cutter you can do quite elaborate proofs or designs with or without fills. Your machine firmware must support the complex HPGL fill commands for fills to plot properly..

If you desire to work with fills especially if your engraving or pen plotting your filled object **may or may not** have an outline assigned to it, even an outline of a different color. It's acceptable to mix filled and non filled objects in one job and naturally the non filled objects must have an outline or they will not show up in your job. Your machine must support the series of HPGL commands needed to produce a polygon fill. I recommend you draw a small square and circle fill one object and delete the outline for it and leave the other object as no fill and test plot it with your machine (use black only for your first test) if they plot with no errors on the machine lcd display and the fill is there then your machine supports the command set. You can adjust the density of the fill lines with the fill line slider labelled “Fill Spacing”. A filled object with no outline depending on the fill spacing may have jagged edges unless you apply an outline to it which will give a nice crisp edge. If you desire a different outline color for cutting out objects or whatever reason just create an outline of your desired color. You can use this outline in conjunction with the color subsystem to assign speeds and depths for material cut outs provided your outline of the fill is a different color than the fill then different speeds and depths can apply to that color only and not the filled object.

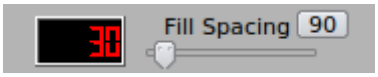
You may also toggle on 90 or 180 degree fill line direction when adjusting the density with the fill spacing slider.
Fills are practically a necessity for engraving to enhance the lettering or accent design work.



Select Individual colors to plot, view, delete.



Adjust fill line Density With this slider.

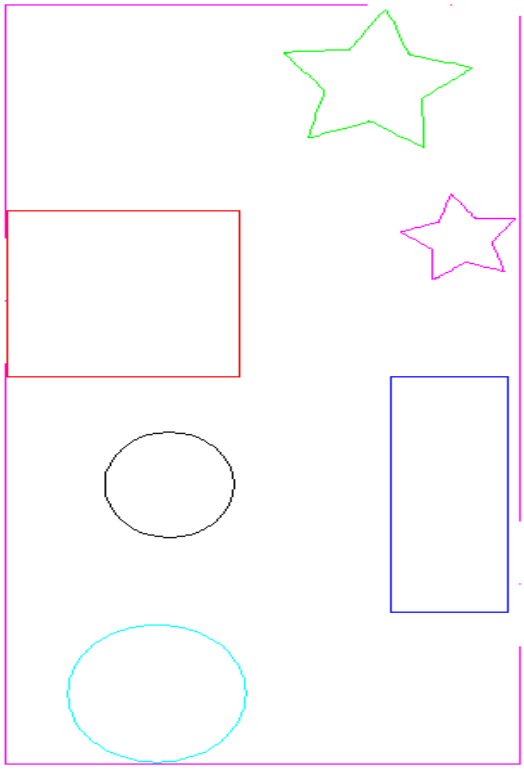


If plotting one or more selected colors toggled on in the color bar your plot job remains in your hot folder to allow one or more color line plotting over and over. When finished click cancel , if you click “OK” at this point Tux Plot will send the entire job (all colors) as a plot job again!

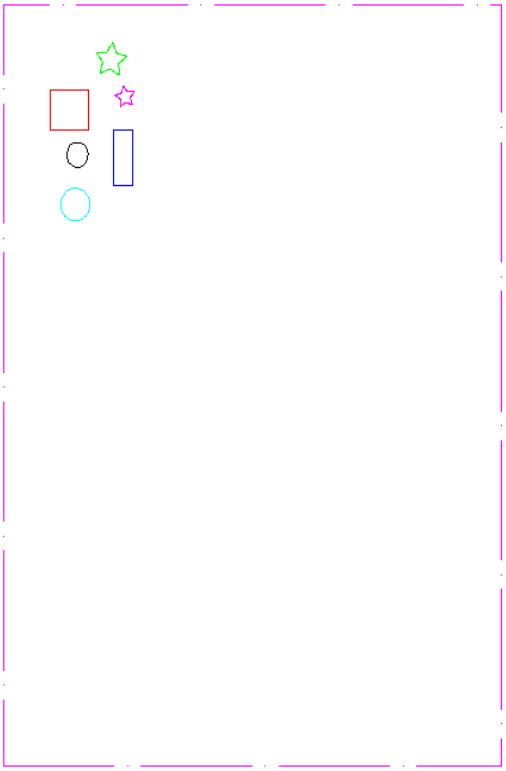
Important Bounding Box Info

Bounding box values are embedded in your postscript/pdf/svg files. It tells an application (tux plot) how large your media is for eg: your sheet of vinyl. Below is an example with and without Bounding Box.

No Bounding Box



With Bounding Box



If you try to plot the job without the Bounding Box it will cut your material in the extreme lower left corner of your media because there is no reference to how big the media is and where to place your cut job on it. The same job with the embedded Bounding Box will place the cut job in the desired position on the media.
Below I have the results of some tests for various applications and embedding Bounding Boxes.

Inkscape:
Save as postscript bounding box YES.
Save as pdf bounding box YES.
Save as svg bounding box YES.
Print to Tux-Plot printer bounding box NO.
Print to file ps/pdf/svg bounding box YES.

SK1:
Save as pdf bounding box YES.

Corel Draw (wine):
Print to postscript device bounding box YES.
Print to tux-plot printer bounding box YES. (use ppd)
Save as svg bounding box NO.

To confirm your bounding box is there click the big green “Preview” button in tux plot and if you see your page border in magenta in relation to the placement of your cut job then the bounding box is there.

When Tux Plot installed it also created a print destination or sudo printer this may be helpful in some cases especially when sharing this printer on a network and the auto-plot option is checked in tux plot as anyone on your network can send a plot job via the shared tux plot printer provided you will want the same settings from your last plot job. Also maybe more importantly it easily allows you to print to your hot-folder from your windows design software running under wine.

To make the Tux Plot gui more attractive in gnome a default qt theme named polymer has been installed and used. You may change it if desired with the theme buttons.

Any comments or support questions please direct to the email address below.

Contact: **securetech@eastlink.ca**

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