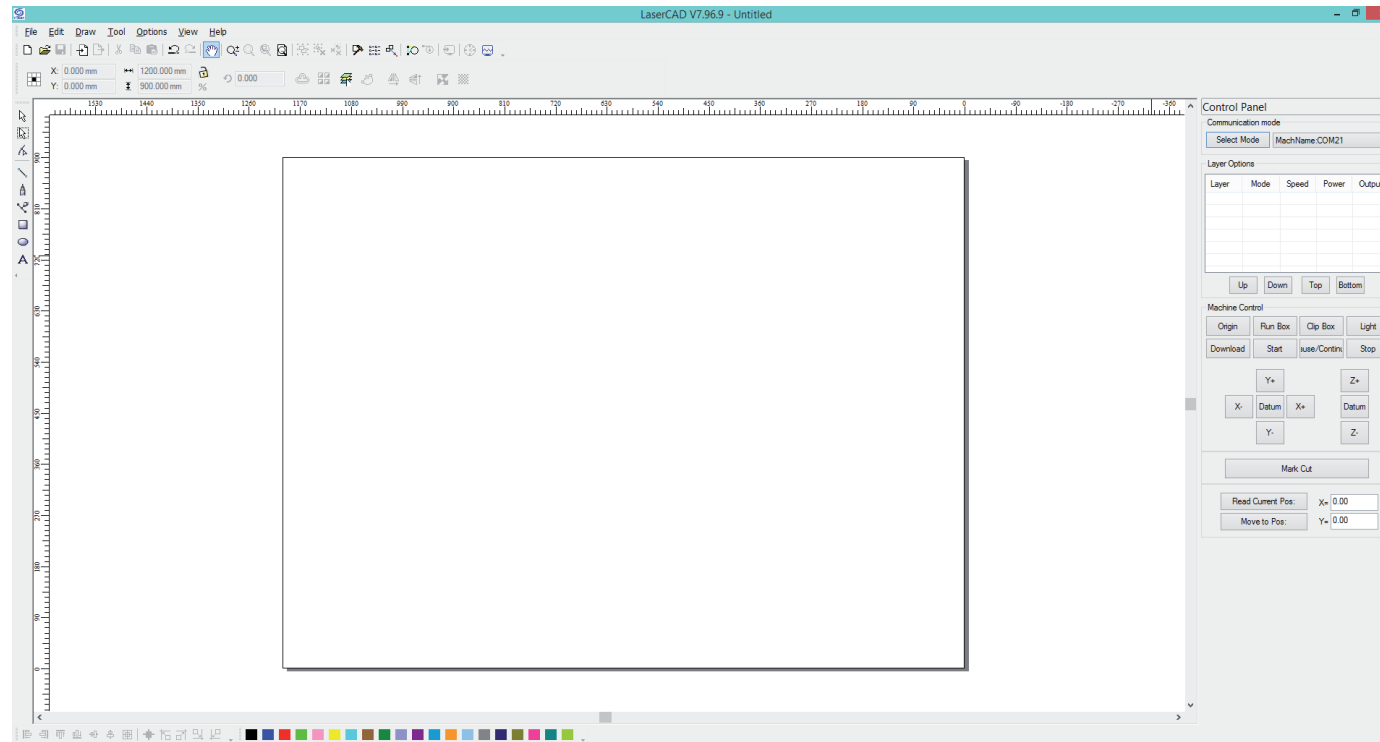


IAM Universal Cutter - Software LaserCAD



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1 General Information

We want to introduce you to the new cutting Software LaserCAD that is used for the Universal Cutters of the Institute of Architecture and Media. Please read this Manual carefully and get familiar with the use of LaserCAD.

If you have any questions please do not hesitate and contact our institute.

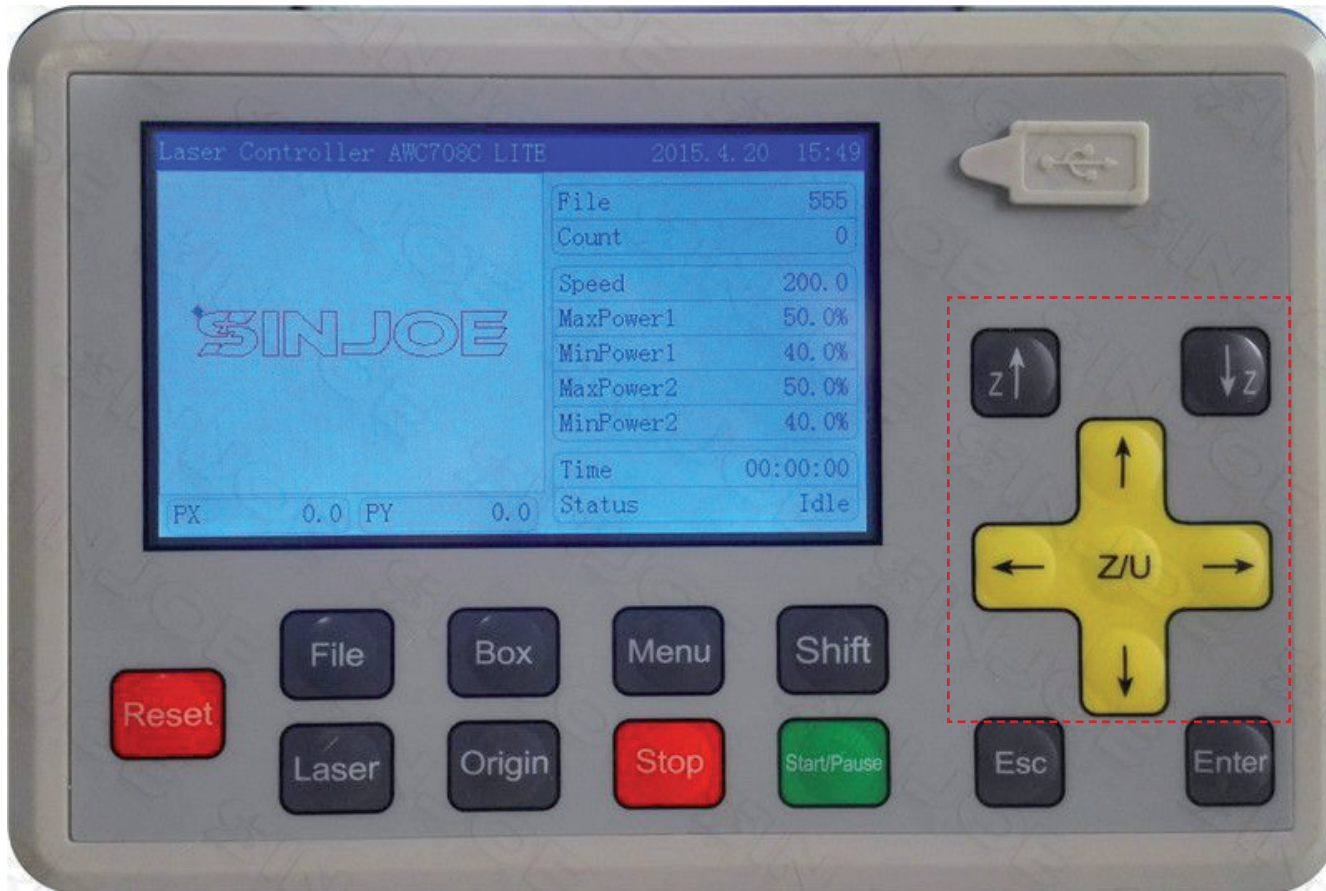
1.1 Changes

Still the same ...

- Turn on the ventilation before using the lasercutter
- Switch on the lasercutter
- cleaning the lense before and after use
- use the same distance tool to set the focus
- test your cut parameters with a rectangle / circle to make sure it is okay

What's new ...

- instead of AutoCAD the software LaserCAD is used
- different buttons to set the focus
- last file appears on the cutter panel
- origin point is top on the right side



Universal Cutter Panel

1.3 FOCUS SETTING

Step 1

Place your material on the cutting plate in the lasercutter

Step 2

Use the yellow cursor buttons to move the cursor away from the origin

Step 3

Use the distance tool and set the height with the **Z↑** **Z↓** buttons

Step 4

DONE - No Reset necessary

1.2 Universal Cutter Panel Buttons Function Introduction

Reset

Pressing this button will make it enter the resetting state.

File

Browsing the files stored in the controller main board.

Box

Testing the working area and origin point of the current file.

Menu

To present the main menu

In case the laser does something wrong of you want to stop your cutting job!



Stop

The machine will be stopped and the cursor moves back to the origin point.



Start/Pause

Pauses the machine- cursor remains on the same position

To Set the focus, use the distance tool and set the focus to the right height



Z↑ Z↓

Directly control the upward, downward, left and right movement in the main menu

When not covered by cursor, it can be used for parameters changing

When Cursor covered the ↑↓←→, it could be used for moving the cursor

↑ ↓ ← →

For moving the XY Axes. Also could be used for the current cursor in current view. What's more, you may use it to change the options in the current view.

Z/U

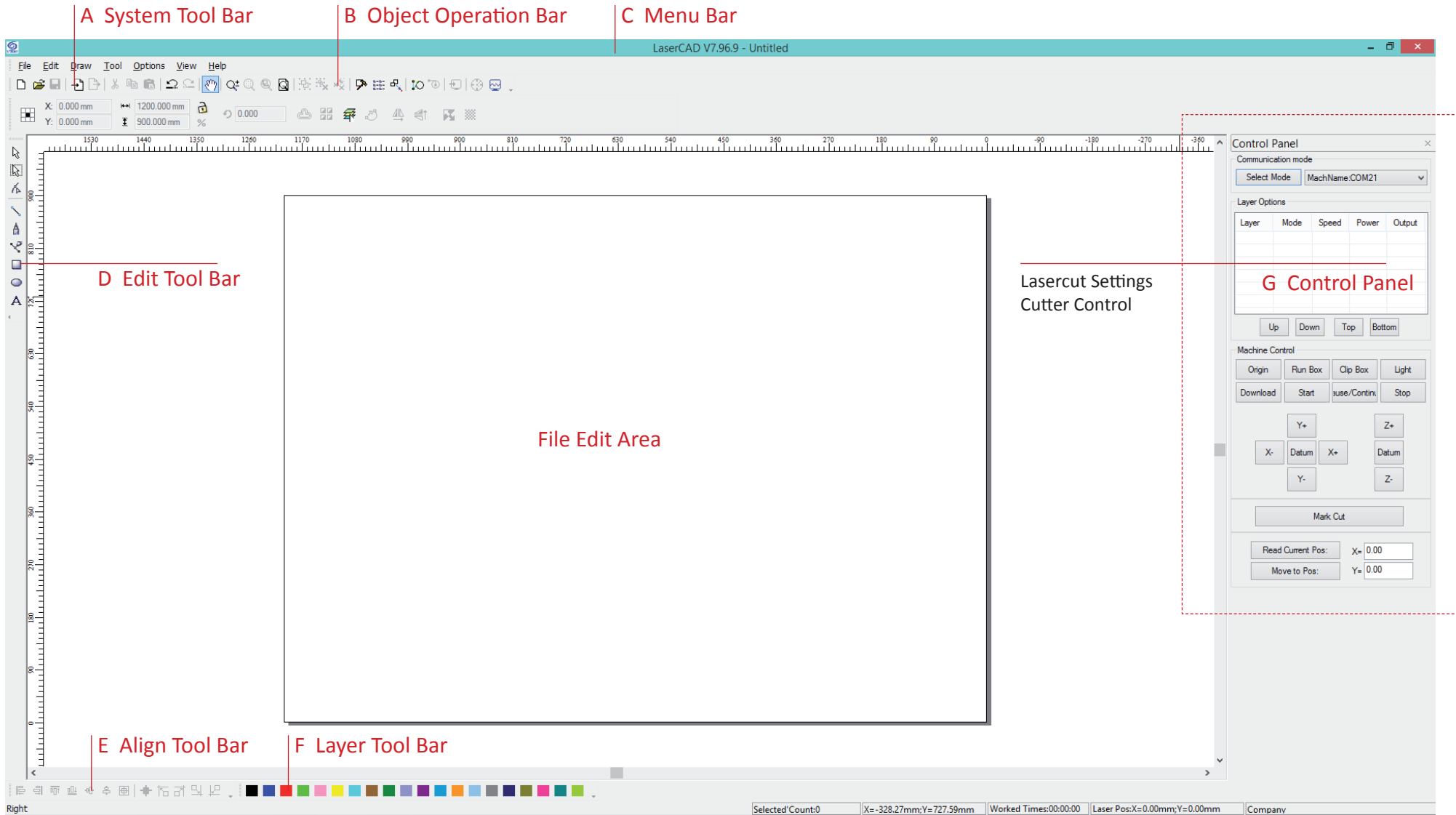
Z axis with auto focus. And Z,U,V,W axes movement functions.

ESC

Exit edit mode (Exit cursor). Return to previous menu

Enter

Enter edit mode start cursor). Confirm the current operation.



A System Tool Bar

B Object Operation Bar

C Menu Bar

D Edit Tool Bar

File Edit Area

E Align Tool Bar

F Layer Tool Bar

Lasercut Settings
Cutter Control

G Control Panel

User-Interface Description

2.1 LaserCAD User-Interface

A System Tool Bar

some of most frequently used options are placed in system tool bar and presented by command buttons.

B Object Operation Bar

providing relative properties of objects selection and tools application; By setting the related Properties bar,the relative changes of the objects could be controlled.

C Menu Bar

all main functions could be finished with command options in menu bar.It is the basic operation way;Menu bar includes file, edit,draw,tool,options,view and help,7 options with different crafts.

D Edit Tool Bar

Defaulted located in the left of working area.All regular edit tool are placed in edit bar to make operation more easier and flexible.

E Align Tool Bar

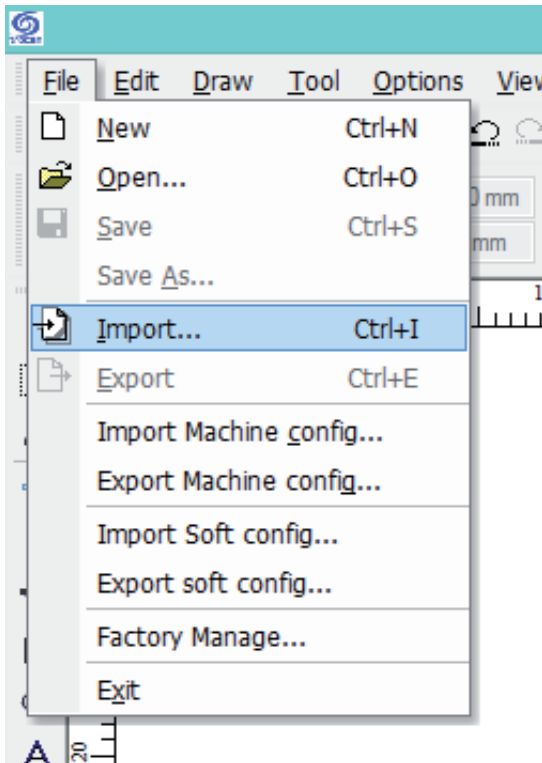
To make multi selected objects aligned and improve the layout of page.

F Layer Tool Bar

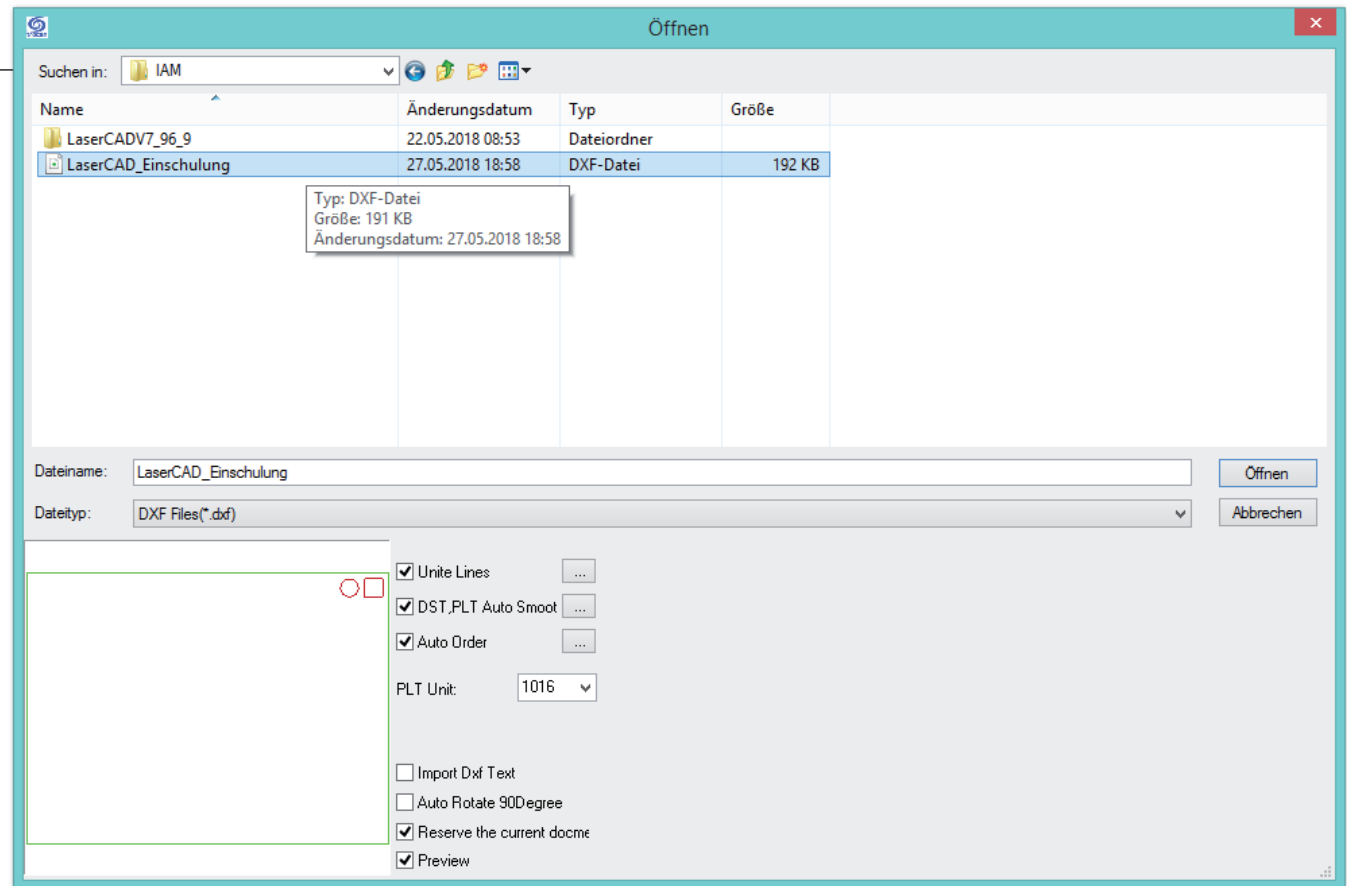
Change the color of the selected object if you want to change the layer

G Control Panel

use it to finish multi tasks of laser processing, such like setting the communication port, setting layer parameters, loading graphic...



FILE | IMPORT



DXF - FILE SELECTION

2.2 File Management

STEP 1

Prepare your files as always in Rhinoceros 3D, AutoCAD, Archicad, ... including a good Layerstructure

FRAME - 600 mm x 450 mm Rectangle

CUT - all objects you want to cut

ENGRAVE - all objects you want to engrave

Please be aware that all objects are in a 600 / 450 mm frame - Origin point top right

Save your geometry as 2004 dxf

If you have any objects outside the 600 / 450 mm frames your cutting frame will be moved!

IMPORT

Click File menu and select "Import" option or click system tool bar icon to find file saving category.

Double click the file needed to be imported to finish it.

This software support files with the following suffix:

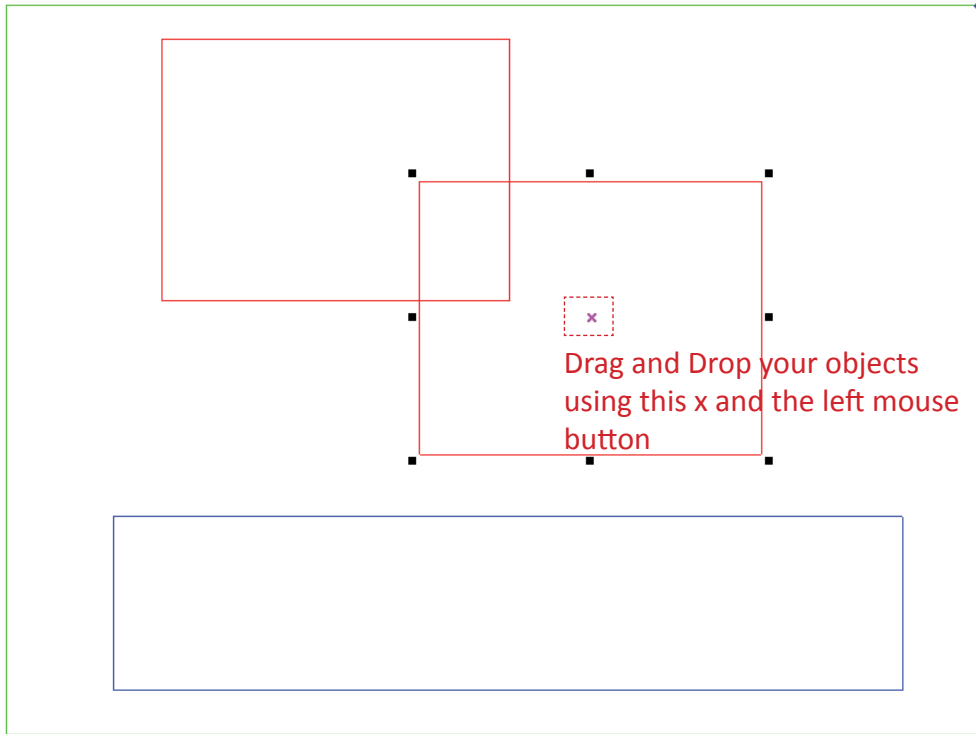
AI **DXF** PLT DST DSB BMP GIF JPG PNG MNG ICO TIF TGA PCX JBG JB2 JBC PGX RAS PNM SKA RAW

SAVE / SAVE AS

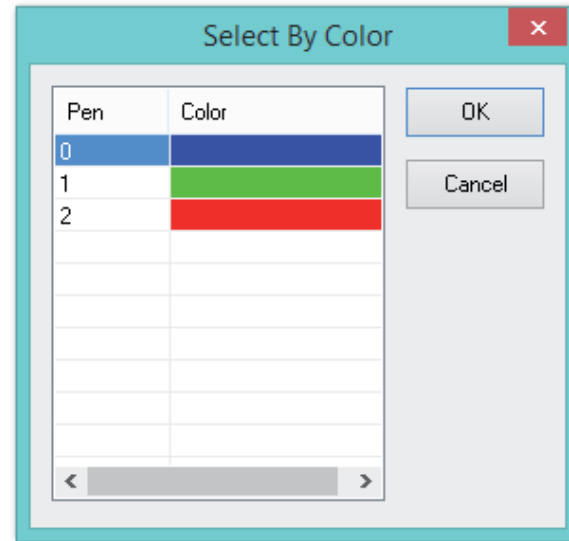
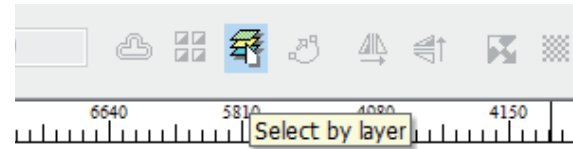
Click File menu and select "save as" option to find file saving category then import files name and click save it. The saved file suffix is pwj5.

OPEN

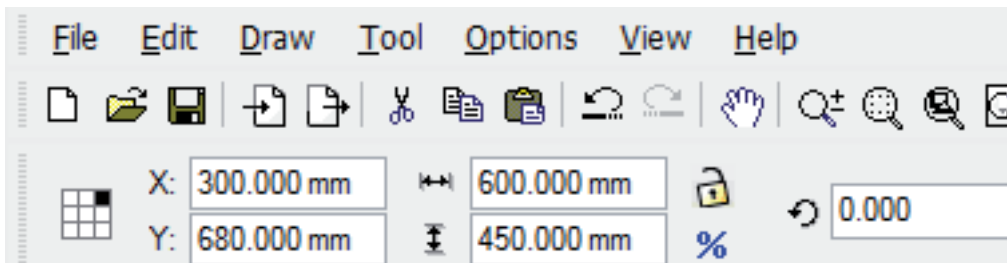
Click File menu and select "Open" option or click system tool bar icon to find file category then select the file and double click. The opened file suffix is pwj5.



Select your objects with a selection frame



Select your objects by color



Control your overall frame to the dimension of 600 / 450 mm

2.3 Object Selection And Conversion

MOVE	to move your objects use the x in the middle of the selected object and your left mouse button
COPY	CTRL + C
PASTE	CTRL + V
ZOOM	Mouse wheel

2.3.1 Object Selection

- 1) Click Edit - All Select (Shortcut Ctrl+A) to select all objects
- 2) Click to select single object

Click object with mouse as follow:

3) Frame selection

Hold down the mouse and move. All objects touched by the cursor will be selected.

4) Add /Reduce selection objects.

Add: Firstly select the first object and hold down shift. Then click (or frame select) other objects which you need to add.

Reduce: Press shift and click (or frame select) the selected graphic files.
Then the clicked (or frame selected) object will be reduced from selected objects.

5) Select object by layer color

Click object operation bar and a dialog as follow:

Select the object color and press „OK“ - It means all objects with this color layer will be selected.

2.3.2 Change Object Color

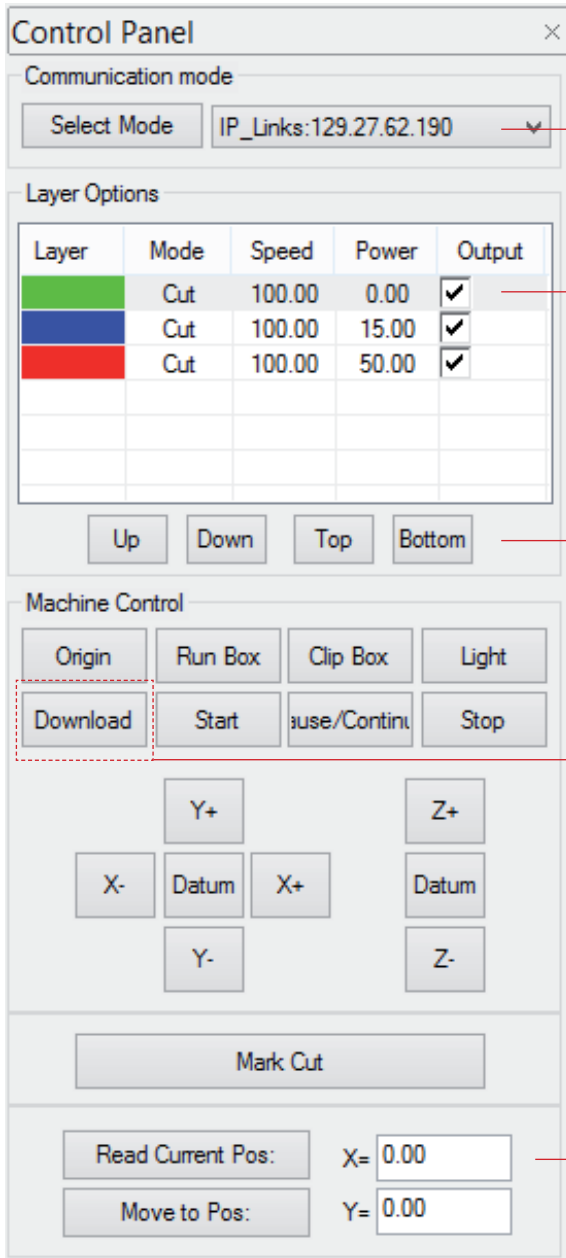
Object color is the outline color of object.

It can be changed by clicking random color tool button in the layer tool bar.



2.3.3 Estimate Work Time

To estimate the time of your selection click Tool- Estimate Work Time.



Control Panel

LINKS / RECHTS

Name of the Universal Cutter

FRAME

tick output to activate the layer
set speed and power for each color

Layer Structure

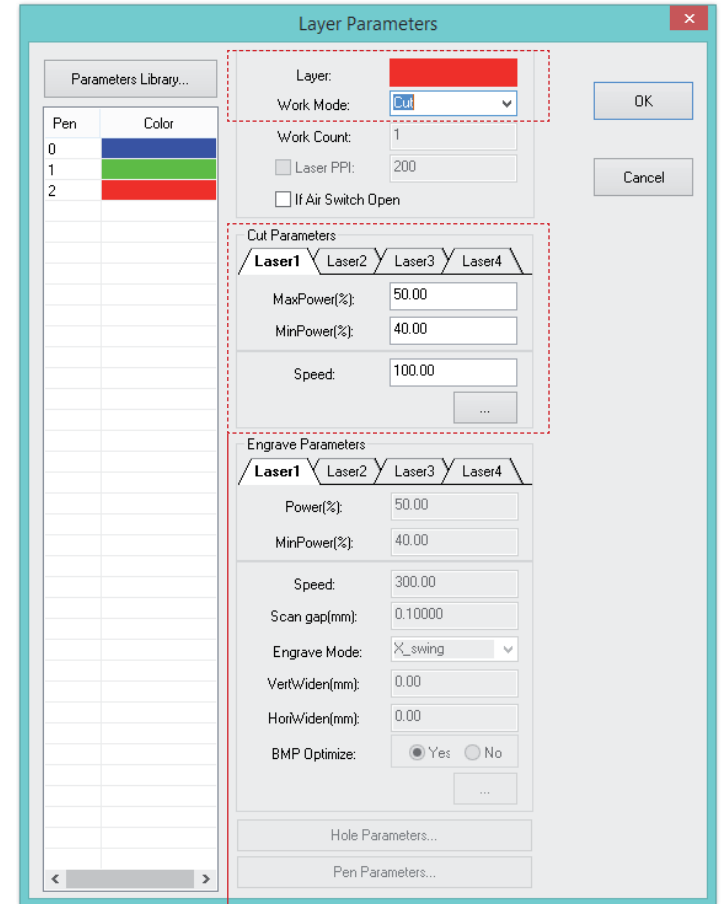
sort your layers in a logical order

Download - SEND

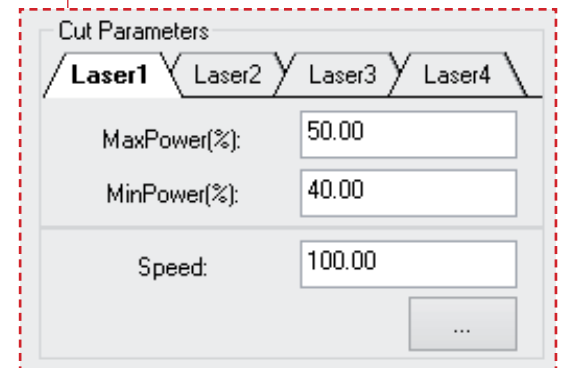
you can send your cutting job via this button
to the universal cutter

Cutter Position

reads the current position of the cutter
moves the laser to the given position



Layer Parameters



Cut Parameters

2.4 Setting Layer Parameters

2.4.1 Layer parameters

Tick “Output” to select if this layer will be used for processing.

Double click any row of parameters list and this window on the left shows up.

Layer

means the current layer which need to change parameters.could click layer bar in the left side to exchange them.

Work Mode

Includes “Cut”, “Engrave”, “Cut after engrave”, “Hole”, “Pen Run”.

CUT cuts the vector lines

ENGRAVE = RASTER the surface inside the vector border

2.5 Cut Parameters

Select “Cut”or “Cut after engrave” in drop down of Work Mode, cut parameters would be enable.

Speed

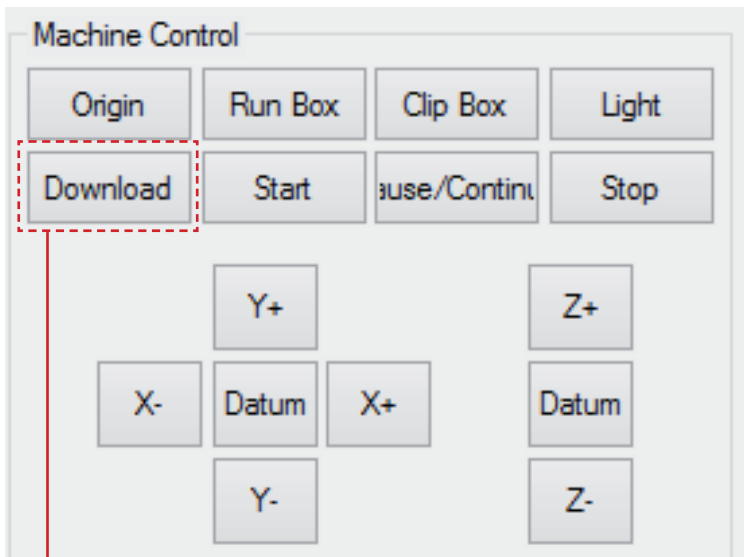
working speed of laser head during cutting

Max Power(%)

Machine working power (unit is percent).Related to awc controller panel Laser 1 power.

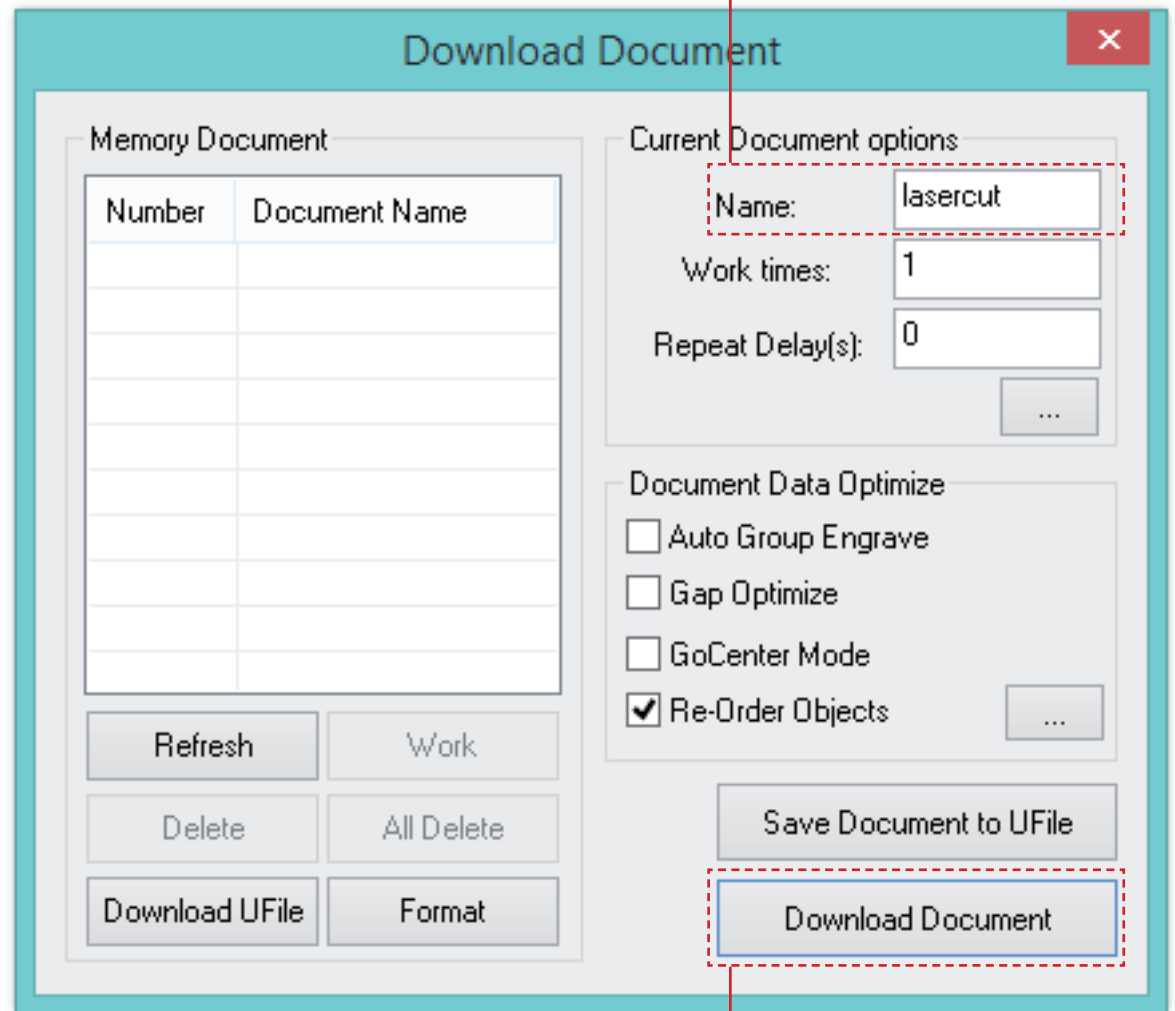
MiniPower(%)

In variable motion,the power in the lowest speed.Related to awc controller panel Laser 1 power.



Machine Control

Click this button to open the Download Document window



Download Document

Name your cutting job - this name shows up on the cutter panel

Click this button to send your job to the cutter

2.6 Lasercut Procedure

2.6.1 Current Document options

Name

name of file downloaded to main board.

Work times

processing time of file downloaded. After it's started, system could do repeat processing on this file parameters

Repeat Delay(s)

delay time after one processing program is finished during repeat processing

2.6.2 Lasercut Job Sent

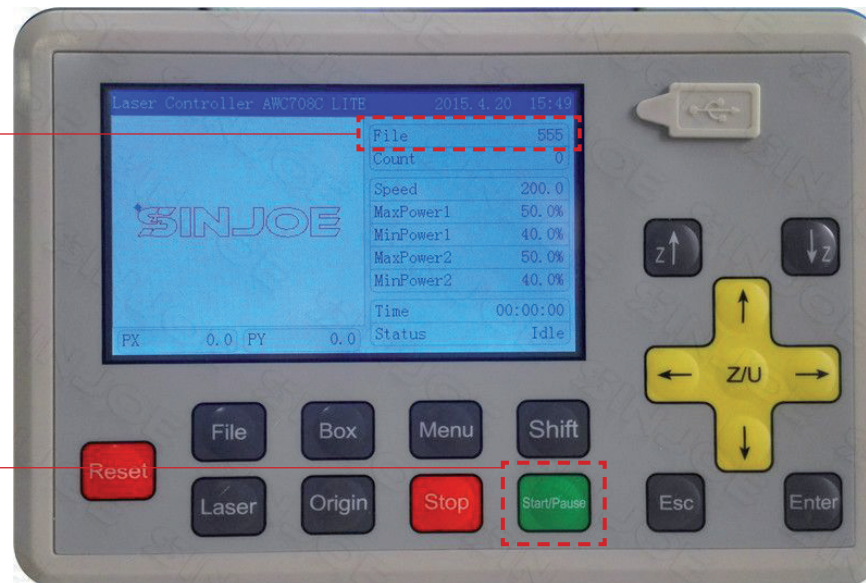
After sending the lasercut job we move the the Universal Cutter

The job name shows up on the panel preview- click the **Start** button to begin the job.

Watch the lasercutter, check if you're setting are fine and start to get comfortable with the new software.

Check the name of your cutting job

START your cutting job



Happy Lasercutting!

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